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# PERMIT VIC/L21 OFFSHORE GIPPSLAND BASIN VICTORIA AUSTRALIA

# PATRICIA-2

# WELL COMPLETION REPORT BASIC DATA

**VOLUME 1** 

Prepared by: Ross Tolliday October, 2002

CONFIDENTIAL



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#### PATRICIA-2 BASIC DATA REPORT Volume 1A

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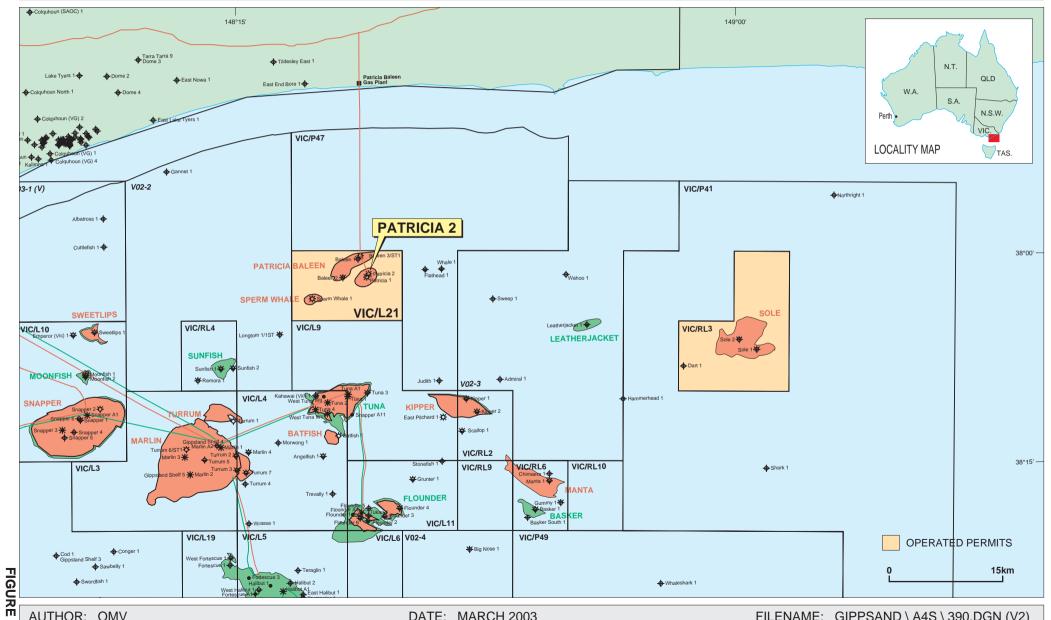
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#### **LOCATION MAP**

#### **GIPPSLAND BASIN**



AUTHOR: OMV

DATE: MARCH 2003

FILENAME: GIPPSAND \ A4S \ 390.DGN (V2)



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#### **WELL SUMMARY CARD - PATRICIA-2**

WELL	PATRICIA-2	SPUD	16:00 hrs, 20 <sup>th</sup> June, 2002
WELL TYPE	Horizontal Development	TD REACHED	01:00 hrs, 28 <sup>th</sup> June, 2002
BLOCK/LICENCE	VIC/L21	<b>RIG RELEASE</b>	00:45 hrs, 9 <sup>th</sup> July, 2002
RIG	Ocean Bounty	COMPLETION	Excluder 2000 sand screen from 896.9 m (-701.0 mTVDSS) to 1384.51 m (-701.0 mTVDSS)
WATER DEPTH	52.5 m (LAT)	STATUS	Suspended Gas Production Well
RT	25.0 m above LAT	TRAP TYPE	Structural Anticline
TD	1385.0 m (-676.2 mTVDSS)	OPERATOR	Basin Oil Pty. Ltd.

SURFACE LATITUDE	38° 01' 39.95" S	SURFACE Y coord	5 790 098.7 mN
SURFACE LONGITUDE	148° 26' 57.78" E	SURFACE X coord	627 207.7 mE
OBJECTIVE (heel) Y co-ord	5 789 889.1 mN	OBJECTIVE (toe) Y co-ord	5 789 566.5 mN
OBJECTIVE (heel) X co-ord	626 942.6 mE	OBJECTIVE (toe) X coord	626 533.0 mE
SEISMIC REFERENCE		Spheroid/Datum	ANS/AGD 66
	Objective: Inline 417, Xline 3552 (Baleen 3D 2000)	ZONE	AMG Zone 55 (CM 147° East)

#### **REMARKS**

Patricia-2 was drilled as a horizontal gas development well located within the Patricia gas field in permit VIC/L21. The main objectives of the well were to drill horizontally through the reservoir and complete a 500 m production interval. The well was tested over the interval 896.9 mMDRT to 1385.0 mMDRT and flowed 28.2 MMscf/d gas.

HOLE SIZE	CASING SIZE	SHOE DEPTH	TYPE	LOT
mm (inch)	mm (inch)	mMDRT (mTVDSS)		Sg (MWE)
914 (36)	762x508 (30x20)	111.5	X-52	N/A
444.5 (17 ½)	340 (13 3/8)	327.1 (-300.7)	K-55	1.73 (FIT)
311 (12 1/4)	244.5 (9 5/8)	872.4 (-675.9)	L-80	1.4 (FIT)
216 (8 ½)	168 (6 5/8)	1384.51 (-676.1)	Production liner (Excluder 2000 sand Screen)	N/A

MUD DATA			
LWD RUN	1	2	3
TYPE	Seawater/Hi vis	KCI/PHPA/GLYCOL	FLO-PRO
DENSITY (sg)	1.06	1.08	1.12
VISCOSITY(sec/qt)	100.0	54.0	60.0
FLUID LOSS(mptm)		5.6	4.8
PH		8.7	9.5
Rm (ohmm)		0.18 @ 21.0°C	0.10 @ 19.4°C
Rmf (ohmm_		0.12 @ 21.0°C	0.09 @ 19.4°C
Rmc (ohmm)		0.28 @ 21.0°C	0.06 @ 19.4°C
Chlorides (ppm)		35000	72000
KCI (%wt)		5.0	3.0
Glycol (%vol)		3.0	-

<b>PERFORATIONS:</b> Excluder 2000 sand Screens from 896.91mMDRT (676.3 mTVDSS) to 1385mMDRT (676.2 mTVDSS)					
DRILL STI	DRILL STEM TESTS				
DST	OST Flow rate Choke mm (in) GOR				
1	28.2 MMscf/d Dry Gas	No choke, Max flow	N/A		



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#### **NO CORES WERE CUT IN PATRICIA-2**

#### **NO WIRELINE LOGS WERE RUN IN PATRICIA-2**

#### **LWD LOGS**

LOG TYPE	RUN	INTERVAL mMDRT	BHT °C , DATE, TIME	COMMENTS mm (inch)
DGR/EWRP4/DM/DDS	1	111.5 – 334.0	17, 21/6/02, 1432 hrs	444 (17 ½) hole
DGR/EWRP4/DM/DDS	2	334.0 - 884.0	53, 25/6/02, 1842 hrs	311(12 1/4) hole
DGR/EWRP4/SLD/CNP/PM	3	884.0 – 1385.0 (total depth)	47, 28/6/02, 1144 hrs	216 (8 ½) hole



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#### 1.0 WELL SUMMARY

#### 1.1 OPERATIONAL SUMMARY

The semi-submersible Ocean Bounty was towed a short distance from the previous well, Baleen-3/ST1, to the Patricia-2 location. The rig arrived on location and dropped the first anchor (# 6) at 03:40 hrs, 20th June, 2002. After all anchors were run and tensioned, the well was spudded at 16:00 hrs on the 20<sup>th</sup> June, 2002.

The final Thales Geosolutions GPS surface rig position (Appendix 1) for Patricia-2 is

Datum: AGD 66

Latitude: 38° 01' 39.95" S Longitude: 148° 26' 57.78" E

Projection: AMG Zone 55, (CM 147° E)

Easting: 627 207.7 mE Northing: 5 790 098.7 mN

This position was 1.6 metres on a bearing of 304° (T) from the intended location. The final rig heading was 260° (T).

The final rig elevations were:

RT – SL: 25.0 m

Water Depth (LAT): 52.5 m (Note: MSL is approximately 0.6 m above LAT)

RT - Sea bed: 77.5 m

Patricia-2 was drilled as a horizontal gas development well and was located within the Patricia gas field in permit VIC/L21, which is approximately 285 Nautical Miles from Geelong and 140 Nautical Miles from Port Welshpool (Figure 1). The Patricia-2 surface location was NW of Patricia-1 and the final bottom hole (toe) location was SW of Patricia-1 (Figure 2).

The main objectives of the well were to drill horizontally through the reservoir and complete a 500.0 m production interval. The plan was to test the well and determine well deliverability, estimate initial reservoir pressures, acquire flowing pressure data and obtain representative gas samples. This was achieved.

After spudding, the 36" (914 mm) hole was drilled from the seabed at 77.5 mMDRT to 111.5 mMDRT where a 30"x20" (762 mm x 508 mm) conductor was run to 111.5 mMDRT and cemented. The 20" (508 mm) shoe track was drilled out and a 17  $\frac{1}{2}$ " (444.5 mm) hole was drilled riser less from 111.5 mMDRT to 334.0 mMDRT. This section was drilled with seawater and hi vis mud sweeps with returns to the sea floor. The 13  $\frac{3}{8}$ " (340 mm) casing was run with the shoe set at 327.0 mMDRT and then cemented. A production xmas tree was run and pressure tested successfully. The BOPs and marine riser were then run.

The 12  $\frac{1}{4}$ " (311 mm) BHA was made up and run in the hole. New formation was drilled from 334.0 mMDRT to 337.0 mMDRT and a Formation Integrity Test (FIT) was performed to an equivalent mud weight of 1.73 sg. The 12  $\frac{1}{4}$ " (311 mm) hole was then drilled and the well deviated from 337.0 mMDRT to 884.0 mMDRT (-676.2 mTVDSS) (section TD). The last survey taken at 884.0 mMDRT (-676.3 mTVDSS) was 85.2° with an azimuth of 229.0°. After a wiper trip and circulating the hole clean, the 9  $\frac{5}{8}$ " (244.5 mm) casing was run and cemented with the casing shoe at 872.0



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mMDRT (-675.9 mTVDSS). Next the 8  $\frac{1}{2}$ " (216 mm) drilling assembly was made up and run in the hole. The shoe and 3.0 m of new formation from 884.0 mMDRT to 887.0 mMDRT were then drilled. An FIT was performed up to an equivalent mud weight of 1.4 sg. The well was then drilled horizontally to a total depth of 1385.0 mMDRT (-676.2 mTVDSS), which was reached at 01:00 hrs, 28<sup>th</sup> June, 2002.

A 6 5/8" (168 mm) production liner consisting of Excluder 2000" sand screens and a 5" (127 mm) completion string were run and landed. The well was tested and a maximum flow of 28.2 MMscf/d was recorded. The well was suspended, anchors were pulled and the rig was released at 00:45 hrs,  $9^{th}$  July, 2002.

Furthers details are included in the Drilling Operations End of Well Report (Appendix 2).

#### 1.2 CASING

Three casing strings and a production liner were run in the Patricia-2 well. The 30"x20" (762x508 mm) casing was set at 111.5 mMDRT on  $20^{th}$  June, 2002 after the 36" hole was drilled. The 17 ½" hole was drilled to 334.0 mMDRT (-307.5 mTVDSS). The 13 3/8" (340 mm) casing was set at 327.0 mMDRT (-300.6 mTVDSS) on 21st June, 2002 and the BOPs run and landed on  $22^{nd}$  June. The hole was drilled and deviated in the next 12 ¼" (311 mm) section to a depth of 884.0 mMDRT (-676.3 mTVDSS). The 9 5/8" (244.5 mm) casing was landed at 872.0 mMDRT (-675.9 mTVDSS) on  $26^{th}$  June, 2002.

The well was completed at a total depth of 1385.0 mMDRT (-676.2 mTVDSS) with 6 5/8" (168 mm) production liner. The liner shoe was set at 1384.5 mMDRT (-676.2 mTVDSS) on 30<sup>th</sup> June, 2002.

A summary of casing run in the well is in Figure 3 and is shown below in Table 1.

TABLE 1 - CASING SUMMARY					
Hole Size mm (inch)	Casing Size mm (inch)	Shoe Depth mMDRT (mTVDSS)	Туре	LOT Sg(MWE)	
914 (36)	762x508 (30x20)	111.5	X-52	N/A	
444.5 (17 ½)	340 (13 3/8)	327.0 (-300.6)	K-55	1.73 (FIT)	
311 (12 1/4)	244.5 (9 5/8)	872.0 (-676.3)	L-80	1.4 (FIT)	
216 (8 ½)	168 (6 5/8)	1384.5 (-676.2)	Production liner (Excluder 2000 sand screen)	N/A	

#### 2.0 SAMPLING

#### 2.1 DITCH CUTTINGS

Five sets of cuttings were collected over the intervals 334.0 mMDRT to 1385.0 mMDRT in Patricia-2 (see Table 2). The sample intervals were varied from 5 m to 10 m according to the drilling rate of penetration and section depths.

The cuttings were described and the report is included in Appendix 3.



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TABLE 2 – Cuttings Samples Interval summary		
Depth (mMDRT)	Interval	
334 - 340	6m	
340 - 350	5m	
350 - 360	10m	
360 - 370	5m	
370 - 400	10m	
400 - 430	5m	
430 - 500	10m	
500 - 620	5m	
620 - 640	10m	
640 - 670	5m	
670 - 850	10m	
850 - 890	5m	
890 - 1380	10m	
1380 - 1385	5m	

The cuttings were packed in boxes and distributed as per Table 3. For more details see the Final Mudlogging Report in Appendix 4.

TABLE 3 - Cuttings Sample Distribution Summary							
Sample type	No. Sets	Quantity per sample (g)	Distributed to:-				
Washed & dried-samplex trays	1	5	OMV				
Washed & dried-A	1	100	OMV				
Washed & dried-B	1	100	AGSO				
Washed & dried-C	1	100	VDNRE				
Washed & dried-D	1	100	TRINITY				
Washed & dried-E	1	100	SANTOS				

#### 2.2 SIDEWALL CORES

No sidewall cores were shot during Patricia-2.

#### 2.3 CONVENTIONAL CORES

No conventional cores were taken in Patricia-2.

#### 2.4 FORMATION FLUIDS

Three 20 Litre surface gas samples were recovered from the separator gas line during testing and were analysed by Core Laboratories in Perth. The compositional analyses report is in Appendix 5.

No wireline formation tests or samples were attempted in Patricia-2.



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#### 2.5 WELL TESTING

The Patricia-2 well was production-tested between 3rd - 5th July 2002 in order to clean the well up prior to suspension and to determine key well and reservoir parameters from the bottom hole pressure response. The actual test duration was 58 hours (excluding operational downtime and time waiting on daylight), as compared to the pre-test programme of 52 hours. A short initial flow and pressure build-up was conducted to determine the static reservoir pressure prior to testing.

The well was beaned-up to maximum choke to promote effective clean-up of the entire horizontal production interval. A coiled tubing-conveyed temperature logging pass was conducted to investigate any potential flow anomalies within the horizontal section.

At maximum choke, a maximum flow rate of 28.2 MMscf/d was measured (upstream choke pressure of 632 psia) through the test separator.

See Appendix 6 for DST report by Expro.



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#### 3.0 GEOLOGY

#### 3.1 GEOLOGICAL SUMMARY

Patricia-2 penetrated a sedimentary sequence which included the following Gippsland Basin stratigraphy as described from cuttings:

Marine argillaceous limestones and limestones with minor lime muds: 334.0 - 700.0 mMDRT Marine lime muds, clays and very fine muddy limestones: 700.0 - 770.0 mMDRT Marine green clays, lime muds, clays and very fine muddy limestones: 770.0 - 819.0 mMDRT Very fine to fine silty sandstones and minor lime muds: 819.0 - 885.0 mMDRT Very fine to fine silty and sideritic sandstones and sandstones: 885.0 - 1290.0 mMDRT Sandstones and argillaceous sandstones: 1290.0 - 1385.0 mMDRT

Interval summaries are presented in the Daily Geological Reports in Appendix 7. More detailed descriptions of the Patricia-2 stratigraphy were made from drill cuttings and are included as Appendix 3. Returns above 334.0 mMDRT were to the sea floor.

High gas readings were recorded while drilling through the reservoir with a maximum of 12.5% while drilling at 843.0 mMDRT. No hydrocarbon fluorescence was observed in the well.

A summary of the lithologies penetrated in Patricia-2 appears below.

Seafloor – 334.0 mMDRT No samples taken – returns to seabed

334.0 to 400.0 mMDRT Sequence of interbedded ARGILLACEOUS CALCILUTITE and ARGILLACOUS CALCISILTITE

**ARGILLACEOUS CALCILUTITE:** (40 - 100%) white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, sticky in part, 10 to 15% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 10 to 25% siliceous clay content, 10 to 20% calcisilt, grades to **argillaceous calcisiltite** in part, trace fine dark green glauconite.

**ARGILLACEOUS CALCISILTITE:** (0 - 60%) white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, 10 to 15% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 15 to 30% siliceous clay content, 5 to 10% micrite, trace to 5% very fine to fine calcite grains, trace fine dark green glauconite, grades to **argillaceous calcilutite** in part.

400.0 to 490.0 mMDRT Interbedded ARGILLACEOUS CALCISILTITE and CALCILUTITE grading to ARGILLACEOUS CALCILUTITE

**ARGILLACEOUS CALCISILTITE:** (50-90%) light to light medium grey, light to medium olive grey, trace orange, soft, dispersive in parts, firm in parts amorphous, 5 to 10% fossil fragments (coral debris, bryozoa, spicules, shell fragments, forams), 20 to 35% siliceous clay content, recrystallised calcite



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in parts, 5 to 10% fine, clear to orange calcite grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to **argillaceous calcilutite**.

**CALCILUTITE:** (10-50%) very light to light medium grey, light to medium olive grey, soft, dispersive in parts, amorphous, trace to 5% fossil fragments and forams, 15-20% siliceous clay content, 5 to 10% calcisilt, trace very fine dark green glauconite, grades to **argillaceous calcilutite**.

490.0-520.0 mMDRT

#### ARGILLACEOUS CALCISILTITE with interbedded MARL

ARGILLACEOUS CALCISILTITE: (60-90%) light to light medium grey, light to medium olive grey, trace dark grey, soft to occasionally firm, dispersive in parts, firm in parts, amorphous, 5% fossil fragments, 20-35% siliceous clay content, 5 to 10% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to argillaceous calcilutite.

**MARL:** (10-40%) very light to light medium grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30-40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to **argillaceous calcilutite**.

520.0 to 590.0 mMDRT

# Predominantly a CALCISILTITE sequence with interbeds of CALCARENITE and MARL

**CALCISILTITE:** (40 - 75%) very light to light medium grey, light to medium olive grey, soft to occasionally firm, amorphous, 5% fossil fragments, 10 to 15% siliceous clay content, 10 to 20% fine clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to **calcarenite**.

**MARL:** (20 - 40%) very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30 to 40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to **argillaceous calcilutite**.

**CALCARENITE:** (0 - 30%) very light to light medium grey, white in parts, soft to firm, amorphous, silt to very fine clear to very light grey calcite grains, 5% fossil fragments, 10 to 15% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.

590.0-700.0 mMDRT

Sequence of ARGILLACEOUS CALCISILTITES interbedded with CALCARENITE and MARL



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**ARGILLACEOUS CALCISILTITE:** (45 - 70%) very light to light medium grey, light to medium olive grey, soft to occasionally firm, trace to 5% fossil fragments, 10 to 25% siliceous clay content, 10 to 20% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated pyrite, grades to **calcarenite**.

**CALCARENITE:** (5 - 30%) very light to light medium grey, white in parts, soft to firm, silt to fine clear to very light grey calcite grains, 5% fossil fragments, 5 to 10% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.

**MARL:** (10 - 45%) white to very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, trace to 5% fossil fragments and forams, 20 to 30% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, trace disseminated and rare nodular pyrite, commonly grades to **argillaceous calcilutite.** 

700.0-770.0 mMDRT

#### MARL with interbedded ARGILLACEOUS CALCISILTITE

**MARL:** (40-90%) light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, 5 to 10% fossil fragments and forams, 20 to 40% siliceous clay content, trace to 5% calcisilt, trace to 5% fine to medium dark green glauconite, trace disseminated and nodular pyrite. Grades to **calcareous claystone**.

**ARGILLACEOUS CALCISILTITE:** (10-60%) very light to medium grey, light to medium olive grey, soft to occasionally firm, blocky, trace to 5% fossil fragments, 15 to 25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to **calcarenite**.

770.0-819.0 mMDRT

Interbedded CALCAREOUS CLAYSTONE, MARL and GREENSAND with minor ARGILLACEOUS CALCISILTITE

**CALCAREOUS CLAYSTONE:** (40-70%) light to medium greyish brown, light grey, light brownish yellow in parts, soft, amorphous to blocky, 15 to 25% calcareous content, 0 to 5% calcisilt, 1 to 10% fine to medium dark green glauconite, trace to 5% siderite(?) nodules.

**MARL:** (10 - 60%) light grey, light to medium olive grey, minor dark grey, soft amorphous to blocky, 5% fossil fragments and forams, 20 to 35% siliceous clay content, trace to 5% calcisilt, 1 to 3% fine to medium dark green glauconite, trace disseminated and nodular pyrite. Grades to **calcareous claystone**.



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**GLAUCONITIC SANDSTONE (GREENSAND):** (0 - 30%) medium to very dark green, firm, soft in parts, very fine to medium glauconite, sub angular to sub rounded. Increasing towards base of interval.

**ARGILLACEOUS CALCISILTITE:** (0 - 10%) very light to medium grey, light to medium olive grey, soft to occasionally firm, blocky, trace to 5% fossil fragments, 15 to25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to **calcarenite**.

819.0-885.0 mMDRT

### SILTY SANDSTONE with minor CALCAREOUS CLAYSTONE

**SILTY SANDSTONE:** (50 - 95%) light to dark yellowish brown, loose and friable, minor firm, clear to translucent quartz grains, very fine to fine, poorly to moderately sorted, sub angular to sub rounded, 15 to 25% quartz silt, 5 to 15% argillaceous content, 1 to 3% glauconite, trace to 1% mica, trace to 5% siderite nodules, trace multicoloured lithics, fair to good inferred porosity, no fluorescence.

**CALCAREOUS CLAYSTONE:** (5 - 50%) light to medium greyish brown, light grey, light brownish yellow, soft, firm in parts, amorphous to blocky, 10 to 25% calcareous content, 5 to 10% calcisilt, 5 to 15% fine to medium dark green glauconite. Grades to **claystone**.

885.0-960.0 mMDRT

#### Massive SILTY SANDSTONE

**SILTY SANDSTONE:** (100%) light to dark yellowish brown, greyish brown, loose and friable to hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 15 to 30% quartz silt, 5 to 15% argillaceous content, trace to 2% glauconite, trace to 1% mica, trace to 3% siderite nodules, trace multicoloured lithics, nil to trace forams, fair to very good inferred porosity, no fluorescence.

960.0-1060.0 mMDRT

#### SILTY SANDSTONE grading to SANDSTONE

**SILTY SANDSTONE:** (100%) light to dark yellowish brown, greyish brown, loose and friable to rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 15 to 25% quartz silt, 5% argillaceous content, trace to 1% glauconite, trace to 1% mica, trace siderite nodules, trace multicoloured lithics, nil to trace forams, fair to good inferred porosity, no fluorescence. Grades to **sandstonl**.

1060.0-1180.0 mMDRT

Massive ARGILLACEOUS and SILTY SANDSTONE



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**ARGILLACEOUS / SILTY SANDSTONE** (100%): light to dark yellowish brown, medium greyish brown, 5 to 10% friable to hard cemented siderite aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, angular to sub rounded, 20 to 30% quartz silt, 15 to 25% argillaceous content, trace to 1% glauconite, trace to 1% mica, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair inferred porosity, no fluorescence.

1180.0-1290.0 mMDRT

## SILTY SANDSTONE grading to (Argillaceous) SIDERITIC SANDSTONE

**SILTY SANDSTONE:** (80%) light to dark yellowish brown, medium greyish brown, dominantly loose and friable, trace hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 15 to 25% quartz silt, 10% argillaceous content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 2% mica, trace to 2% siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.

SIDERITIC / ARGILLACEOUS SANDSTONE: (20%) light to commonly dark yellowish brown, dark greyish brown, dominantly loose and friable, common hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, rare medium, poor to moderately sorted, angular to sub rounded, 15 to 20% quartz silt, 15 to 30% argillaceous content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 1% mica, 15 to 25% siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair inferred porosity, no fluorescence.

1290.0-1385.0 mMDRT

# Massive SANDSTONE grading to ARGILLACEOUS SANDSTONE

**SANDSTONE:** (70%) light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 10 to 15% quartz silt, 10% argillaceous content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 2% mica, trace siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, good inferred porosity, no fluorescence. Grades to **argillaceous sandstone**.

**ARGILLACEOUS SANDSTONE:** (30%) light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine,



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moderately sorted, angular to sub rounded, 10 to 15% quartz silt, 15 to 30% argillaceous content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 2% mica, trace to 5% dark yellowish brown siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.

#### 3.2 BIOSTRATIGRAPHY

No palynology or micropaleontology was undertaken in Patricia-2.



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#### 4.0 HYDROCARBON SHOWS

#### 4.1 OIL FLUORESCENCE SHOWS

No oil fluorescence shows were observed in Patricia-2.

#### 4.2 GAS SHOWS

Mud gas was first recorded from 334.0 mMDRT; however, it was not until below 400.0 mMDRT that the gas readings rose above zero. The maximum gas recorded was 12.5% at 843.0 mMDRT. Only methane  $(C_1)$  was recorded throughout the drilling.

The mud gas is plotted on the Formation Evaluation Log (Enclosure 1). No Gas Ratio log was plotted as only  $C_1$  was ever recorded.

A summary of drilled gas is presented in Table 4.

TABLE 4 - Summary of Drilling Gas							
INTERVAL (mMDRT)	Total Gas (%)	C₁ (ppm)	C <sub>2</sub> (ppm)	C <sub>3</sub> (ppm)	iC <sub>4</sub> (ppm)	nC <sub>4</sub> (ppm)	C <sub>5</sub> (ppm)
334 - 400	Nil						
400 - 496	0 – 0.02	0 - 155					
496 – 762	0.01 - 0.16	47 - 1529					
762 – 815	0.06 - 0.26	554 - 2355					
815 - 884	0.29 – 12.47	2309 - 99532					
884 - 1385	0.12 – 7.95	1583 - 60017					



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#### 5.0 LOGGING AND SURVEYS

#### 5.1 MUD LOGS

Baker Hughes Inteq provided conventional mud logging services integrated with a computerised data logging and processing system.

The BHI unit was operated continuously throughout the well. The following logs were provided and are included as Enclosures: a Formation Evaluation Log (Enclosure 1), a Drilling Data Log (Enclosure 2), a Pressure Evaluation Log (Enclosure 3) and a Pressure Summary Plot (Enclosure 4). No Gas Ratio Log is enclosed as only C1 was recorded.

The BHI Daily reports are included in Appendix 8 and the final BHI Logging report is included in Appendix 3.

#### 5.2 WIRELINE LOGS

No Wireline Logs were run in Patricia-2.

#### 5.3 WIRELINE FORMATION TESTS

No wireline formation pressure tests were run in Patricia-2.

#### 5.4 VELOCITY SURVEY

No Velocity Survey was undertaken in Patricia-2.

#### 5.5 LWD

A summary of LWD runs is in Table 5 and the LWD operations report is in Appendix 8. Mud data for log analyses is in Table 6.

TABLE 5 - LWD LOG SUMMARY							
TOOL	LOG TYPE	DATE	RUN	INTERVAL mMDRT	COMMENTS		
8" tools	DGR/EWRP4/ DM/DDS	21/6/02	1	111.5 – 334.0	444mm (17 ½") hole size		
8" tools	DGR/EWRP4/ DM/DDS	23-25/6/02	2	334.0 – 884.0	311mm (12 1/4") hole size		
6 3/4" tools	DGR/EWRP4/ SLD/CNP/PM	25-28/6/02	3	884.0 – 1385.0	216mm (8 ½").hole size		



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TABLE 6 - MUD DATA							
LWD RUN	1	2	3				
TYPE	Seawater/Hi vis	KCI/PHPA/GLYCOL	FLO-PRO				
DENSITY (sg)	1.06	1.08	1.12				
VISCOSITY(sec/qt)	100.0	54.0	60.0				
FLUID LOSS(mptm)		5.6	4.8				
pH		8.7	9.5				
Rm (ohmm)		0.18/21.00°C	0.10/19.4°C				
Rmf (ohm)		0.12/21.00°C	0.09/19.4°C				
Rmc (ohmm)		0.28/21.00°C	0.06/19.4°C				
Chlorides (ppm)		35000	72000				
KCI (%wt)		5.0	3.0				
Glycol (%vol)		3.0	-				

#### 5.6 WELLHEAD LOCATION and TRAJECTORY

The Thales rig positioning report is included in Appendix 1. The Sperry Sun borehole trajectory surveys are in Appendix 9.

#### 5.7 SITE SURVEY

A site survey was undertaken by Thales Geosolutions (Australasia) Limited between 15th to 19<sup>th</sup> March, 2002 to investigate the suitability of the Patricia-2 location for the positioning of a semi-submersible drill rig prior to drilling. The resultant report is presented in Appendix 10.



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#### 6.0 SAMPLE ANALYSES

#### 6.1 OIL ANALYSES

No oil was observed, recovered or analysed from Patricia-2.

#### 6.2 GAS ANALYSES

Three 20 Litre surface gas samples from the separator line were submitted to Core Laboratories for analyses and the report is contained in Appendix 5.

A summary of the average gas composition analyses is presented in Table 7.

Table 7 - Summary of Average Gas Composition											
Component $H_2S$ $CO_2$ $N_2$ $C_1$ $C_2$ $C_3$ $iC_4$ $nC_4$ $iC_5$ $nC_5$ $C_{6+}$											
Mol %	0.00	1.38	0.69	97.59	0.33	0.01	Trace	Trace	0	0	0

Trace = detected but less than 0.005mol%.

#### 6.3 WATER ANALYSES

No water was recovered and no analyses were conducted.





# THALES

# Patricia-2 Positioning Report of the Ocean Bounty

Prepared for OMV Australia Pty Ltd

Report No: 3382A3

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#### **Prepared for**



DOCUMENT TITLE : PATRICIA-2 POSITIONING REPORT OF THE

**OCEAN BOUNTY** 

CLIENT : OMV AUSTRALIA PTY LTD

LOCATION : GIPPSLAND BASIN, BASS STRAIT

PERMIT : VIC/L21

REPORT REF. : 3382A3

REPORT REV NO. : 0

REPORT ISSUE DATE: 26 JUNE 2002

**SURVEY DATE** : 13 – 21 JUNE 2002

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- A FINAL DIFFERENTIAL GPS DRILLSTEM POSITION AT PATRICIA-2
- B GNS2 STATIC DIFFERENTIAL GPS FIX GRAPHS
- C RUN LINE GRAPHICS OF ANCHOR HANDLING VESSELS
- D OCEAN BOUNTY ANCHOR PATTERN DETAILS AT PATRICIA-2
- E OCEAN BOUNTY ANCHOR CATENARY CALCULATIONS
- F GYROCOMPASS CALIBRATION REPORT
- G DIFFERENTIAL GPS CHECK
- H OCEAN BOUNTY OFFSET DIAGRAM
- PACIFIC SENTINEL AND PACIFIC CONQUEROR OFFSET DIAGRAMS
- J GNS2 CONFIGURATION FILE PRINTOUT
- K DAILY REPORT SHEETS

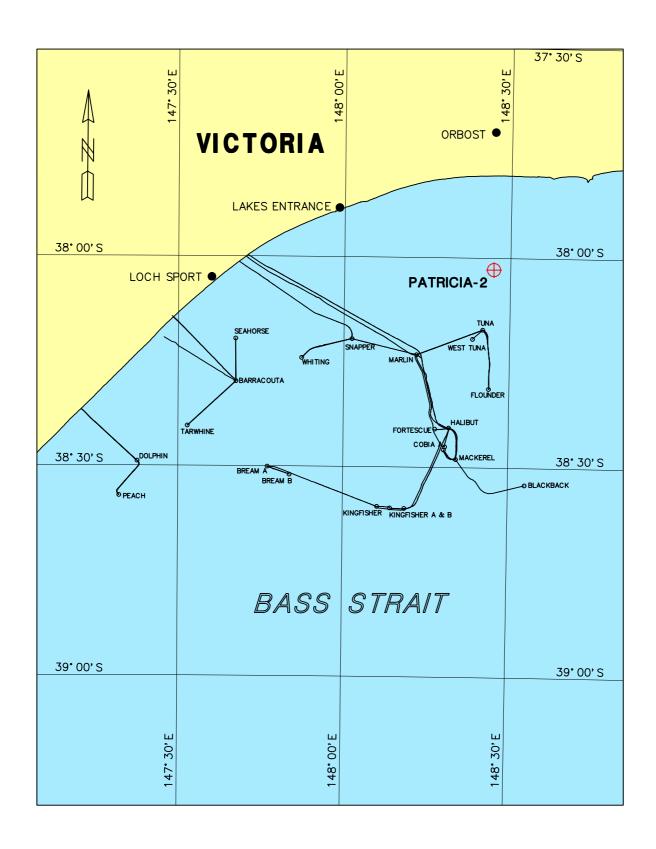
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# LOCATION DIAGRAM



#### **ABSTRACT**

This report details the positioning services provided by Thales GeoSolutions (Australasia) Limited (Thales), prior to and during the positioning of the semi-submersible drilling rig Ocean Bounty at the Patricia-2 location for OMV Australia Pty Ltd (OMV).

Positioning of the Ocean Bounty during the approach to and at the Patricia-2 location was provided by Thales' SkyFix Spot Differential GPS (DGPS) interfaced to Thales' Multifix 3 multiple reference station positioning software and Thales' GNS2 rig move software. The two anchor handling vessels (AHVs), Pacific Sentinel and Pacific Conqueror were positioned using Thales' Tracs/TugNav Vessel Tracking System (VTS). The Ocean Bounty was positioned at the Patricia-2 location at 0420 on 20 June 2002.

#### Intended Patricia-2 Location

The co-ordinates of the intended Patricia-2 location were provided by OMV as follows:

Datum: AGD66

Latitude : 38° 01' 39.975" South Longitude : 148° 26' 57.831" East

Projection: AMG Zone 55, CM 147° East

Easting : 627 209.00m Northing : 5 790 097.80m

Rig Positioning Tolerance: ± 5m

Intended Rig Heading : 257.0° (T)

#### Final Differential GPS Drillstem Position at the Patricia-2 Location

The final Differential GPS Position of the Ocean Bounty drillstem at the Patricia-2 location was computed from data observed between 0602 and 0702 on 21 June 2002. The final position was as follows:

Datum: AGD66

Latitude : 38° 01' 39.946" South Longitude : 148° 26' 57.777" East

Projection: AMG Zone 55, CM 147° East

Easting : 627 207.69m Northing : 5 790 098.71m

The final Differential GPS drillstem position is 1.59m on a bearing of 303.9° (T) from the intended Patricia-2 location.

All times quoted in this report are Eastern Standard Time (UTC + 10.0 hours).

: 260.1° (T)

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Final Rig Heading

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#### 1. RESULTS

### 1.1 FINAL DIFFERENTIAL GPS POSITION OF THE OCEAN BOUNTY DRILLSTEM AT THE PATRICIA-2 LOCATION

The Ocean Bounty was positioned at the Patricia-2 location at 0420 on 20 June 2002.

The final Differential GPS position of the Ocean Bounty drillstem at the Patricia-2 location, was determined using Thales' MultiFix 3 positioning software interfaced to a Trimble 4000 DS GPS receiver, with differential corrections being provided by Thales' SkyFix Spot Differential GPS services.

The final fix routine, within Thales' GNS2 rig move software version 2.35, was used to compute the final Differential GPS position of the drillstem at the Patricia-2 location. A total of 720 position fixes were recorded at 5 second intervals between 0602 and 0702 on 21 June 2002.

Refer to Appendix A for the GNS2 final Differential GPS position printouts at the Patricia-2 location. Associated graphs are located in Appendix B.

Differential corrections from the SkyFix reference stations in Melbourne, Sydney and Adelaide were used in the MultiFix 3 software computations to derive the Differential GPS position.

The final surface co-ordinates for the Patricia-2 Ocean Bounty drillstem location, determined from Differential GPS observations were as follows:

Total number of samples used = 720.

The computed antenna position was as follows:

#### **GPS Antenna Position**

Datum: WGS84

Latitude : 38° 01' 34.600" South (S.D. 0.26m)
Longitude : 148° 27' 00.928" East (S.D. 0.46m)
Ellipsoidal Height : 42.40m (S.D. 0.65m)

Transforming the above WGS84 co-ordinates to AGD66 co-ordinates using the parameters in section 6, gives the following antenna co-ordinates:

#### **GPS Antenna Position**

Datum: AGD66

Latitude : 38° 01' 40.127" South Longitude : 148° 26' 56.406" East Ellipsoidal Height : 49.32m

By applying a distance of 33.90m on a bearing of 80.6° (T) from the antenna position, the following drillstem co-ordinates were calculated:

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#### Final Differential GPS Position of the Drillstem at the Patricia-2 Location

Datum: AGD66

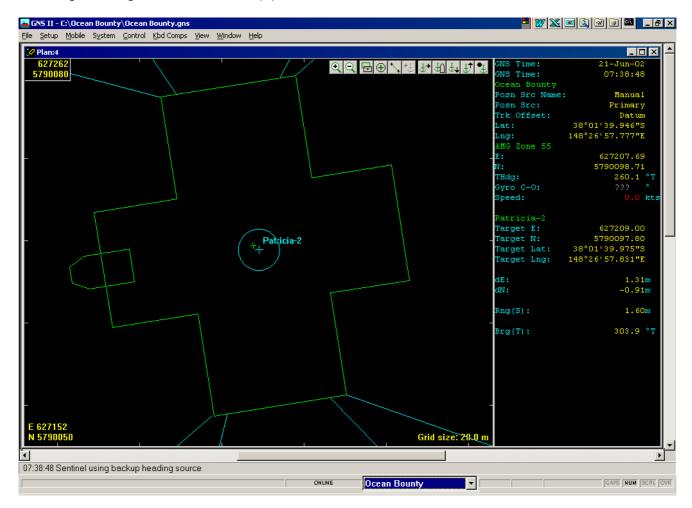
Latitude : 38° 01' 39.946" South Longitude : 148° 26' 57.777" East

Projection: AMG Zone 55, CM 147° East

Easting : 627 207.69m Northing : 5 790 098.71m

This final Differential GPS position of the drillstem is 1.59m on a bearing of 303.9° (T) from the intended Patricia-2 location.

Final Rig Heading : 260.1° (T)



Skyfix Spot Differential GPS Position and Intended Position at the Patricia-2 Location

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#### 1.2 OCEAN BOUNTY ANCHOR POSITIONS

Deployed anchor positions were derived from the computed anchor function within the GNS2 software. The function takes into account the length of anchor chain out, water depth, anchor tension and the wet weight of anchor chain to compute the deployed anchor positions. The final anchor positions are tabulated below:

Datum: AGD66 **Projection: AMG Zone 55, CM 147° East** 

Anchor	Intended Ar	nchor Position	Final Anchor Position		
	Easting (m)	Northing (m)	Easting (m)	Northing (m)	
Anchor 1	626 785	5 788 756	627 015	5 789 358	
Anchor 2	626 187	5 789 139	626 540	5 789 484	
Anchor 3	625 884	5 790 553	626 321	5 790 362	
Anchor 4	626 272	5 791 148	626 730	5 790 799	
Anchor 5	627 633	5 791 440	627 630	5 790 919	
Anchor 6	628 231	5 791 056	628 269	5 791 087	
Anchor 7	628 534	5 789 643	628 059	5 789 774	
Anchor 8	628 146	5 789 048	627 785	5 789 486	

#### Difference of final anchor positions from the intended anchor positions.

Anchor	Dropped by	Eastings (m)	Northings (m)
Anchor 1	P.Sentinel	+230.2	+602.3
Anchor 2	P.Conqueror	+353.7	+344.4
Anchor 3	P.Conqueror	+437.6	-190.9
Anchor 4	P.Conqueror	+458.1	-348.6
Anchor 5	P.Conqueror	-3.4	-521.2
Anchor 6	Ocean Bounty	+37.6	+30.5
Anchor 7	P.Sentinel	-475.1	+130.8
Anchor 8	P.Sentinel	-360.8	+437.9

#### Horizontal distance and bearing from the Ocean Bounty fairleads to the final anchor positions.

Anchor	Easting (m)	Northing (m)	Bearing (T)	Horizontal Distance (ft)
1	627 015.06	5 789 358.05	194.0°	2377
2	626 540.43	5 789 483.61	228.0°	2862
3	626 321.15	5 790 361.85	283.8°	2931
4	626 729.85	5 790 799.27	324.4°	2649
5	627 629.74	5 790 918.68	27.2°	2898
6	628 268.89	5 791 086.91	47.1°	4642
7	628 059.36	5 789 773.64	108.3°	2881
8	627 785.48	5 789 485.62	135.0°	2635

Ocean Bounty anchor details are located in Appendices C, D and E of this report.

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#### 2. SAFETY

A pre-rig move meeting was held at Thales' Perth offices on 7 June 2002. Thales personnel N. Mackay, P. Malatzky and S. Bradley were present. During the meeting safety procedures were discussed including correct operation and handling of equipment. It was also confirmed that personnel had been issued with the appropriate safety equipment.

All Thales personnel attended DOGC's daily pre-tour meetings and the weekly safety meeting on 19 June 2002.

A fire and abandon rig drill was held onboard the Ocean Bounty on 16 June 2002, all Thales personnel participated and reported promptly to their stations, remaining there until the all clear was given.

Should an incident occur, Thales' procedures require the incident to be recorded on the appropriate forms and Thales' QA & Safety Manager to be notified immediately. The QA & Safety Manager will initiate a full and thorough investigation with corrective action being introduced to prevent further incidents.

There were no incidents involving Thales personnel during this project. Thales personnel carried out their duties at all times in accordance with Company and Statutory Regulations and Guidelines.

When demobilising the Ocean Bounty, all equipment was packed securely in the designated area where they would not cause obstructions. All heavy or fragile boxes were clearly labelled to avoid accidents during handling.

A project debrief was also held at Thales' Perth offices on 24 June 2002. During the meeting the safety procedures that had been undertaken were discussed and reviewed. It was noted that all personnel had taken due care and as a result there had been no incidents.

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#### 3. SUMMARY

#### 3.1 REQUIREMENTS

Thales GeoSolutions (Australasia) Limited were contracted by OMV Australia Pty Ltd to provide personnel and positioning equipment consisting of Thales' SkyFix Spot Differential GPS for the rig move of the Ocean Bounty to the Patricia-2 location.

The project requirements were as follows:

- (a) Provide real-time positioning of the semi-submersible drilling rig Ocean Bounty and the anchor handling vessels Pacific Sentinel and Pacific Conqueror during the anchor recovery at the Baleen-3 location.
- (b) Provide real-time positioning of the semi-submersible drilling rig Ocean Bounty and the anchor handling vessels Pacific Sentinel and Pacific Conqueror, during transit to the Patricia-2 location.
- (c) Differential GPS Positioning of the Ocean Bounty at the Patricia-2 location.
- (d) Real-time positioning (including GNS2 fixing/logging/streaming) of the Ocean Bounty and the Pacific Sentinel and Pacific Conqueror during anchor deployment operations at the Patricia-2 location.
- (e) Determine the final Differential GPS position of the Ocean Bounty drillstem at the Patricia-2 location using a Multiple Reference Station Differential GPS solution.
- (f) The provision of a comprehensive positioning report containing the final Differential GPS position of the Ocean Bounty drillstem and anchors at the Patricia-2 location.

The positioning requirements were as follows:

(a) Intended Patricia-2 location was supplied by OMV as follows:

Datum: AGD66

Latitude : 38° 01' 39.975" South Longitude : 148° 26' 57.831" East

Projection: AMG Zone 55, CM 147° East

Easting : 627 209.00m Northing : 5 790 097.80m

(b) Positioning tolerance :  $\pm 5m$ 

(c) Intended rig heading : 257.0° (T)

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#### 3.2 SUMMARY OF EVENTS

All times quoted are in Eastern Standard Time (UTC + 10.0 hours).

#### 13 June 2002

- O915 Thales personnel Paul Malatzky (PM) and Steve Bradley (SB) depart Perth Domestic Airport for Melbourne.
- 1600 Advised by Thales operations in Perth, transfer to rig delayed until Saturday 15 June 2002.

#### 14 June 2002

Stand by for transfer to Ocean Bounty at Baleen-3 location.

#### 15 June 2002

- 1205 Depart Essendon airport for the Ocean Bounty at the Baleen-3 location.
- 1315 Arrive onboard the Ocean bounty at the Baleen-3 location.
- 1600 Confirm with client representative Bill Edmonds, intended Patricia-2 location to be AGD66 co-ordinates 38° 01' 39.97" South 148° 26' 57.83" East, AMG Zone 55, 627 209.00m East 5 790 097.80m North.
- 1800 Commence mobilisation of Thales equipment.
- 1930 Thales equipment operational.

#### 16 June 2002

- 0720 Commence solar azimuth observations.
- 0730 Conclude solar azimuth observations.
- 0800 Calculate gryocompass C-O value of +0.5 and enter into GNS II.
- 0930 Thales systems including TRACS in fully operational. Flux gate compass on Conqueror faulty.
- 1230 PM and SB attend the pre-rig move meeting onboard the Ocean Bounty. Procedure of the move discussed. Anchor 6 confirmed as run in anchor, distance of 2nm. All advised of location of Patricia-1 well head. Anchor recovery expected to commence 1800hrs
- 1800 Anchor recovery delayed.
- 2230 Thales personnel participate in the fire and abandon rig drill onboard the Ocean Bounty.

#### 17 June 2002

Standby for anchor recovery to commence.

#### 18 June 2002

Standby for anchor recovery operations to commence. ROV to complete subsea work, weather marginal and affecting operations.

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#### 19 June 2002

- 0422 Commence anchor recovery operations.
- 0855 # 2 PCC parts from wire.
- 1005 Conqueror collects # 2 chain with "J" hook and chases out.
- 1155 Anchor recovery operations temporarily halted. ROV to return to water.
- 1235 Ocean Bounty manoeuvres near Baleen-3 to assist ROV operations.
- 1300 PM attends the weekly safety meeting onboard the Ocean Bounty.
- 1944 Recommence anchor recovery operations.

#### 20 June 2002

- 0030 Ocean Bounty departs the Baleen-3 location.
- 0200 Ocean Bounty commences 2nm run in to Patricia-2 location.
- 0340 Anchor deployment commences.
- 0420 Ocean Bounty over the Patricia-2 location.
- 1115 Anchor deployment completed.
- 1130 Ocean Bounty positioning over the Patricia-2 location.
- 1500 Rig position accepted by client representative Bill Edmonds, spud in commences.
- 2020 Commence final fix at the Patricia-2 location. GNS II Streaming activated.
- 2027 STOP final fix, rig maneuvering to stab back in.

#### 21 June 2002

- 0602 Commence final fix at the Patricia-2 location.
- 0702 Conclude final fix at the Patricia-2 location. The datum is 1.59m @ 303.9° T from the intended Patricia-2 location. Position accepted by client representative Bill Edmonds.

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# 4. EQUIPMENT ANALYSIS

### 4.1 EQUIPMENT PERFORMANCE

During the positioning of the semi-submersible rig Ocean Bounty from the Baleen-3 location to the Patricia-2 location, no significant problems were encountered with Thales' equipment or software.

An intermittent fault was experienced with the Fluxgate Compass onboard the Pacific Conqueror, this was overcome by the vessel heading being entered manually during anchor recovery and deployment.

Thales personnel were transferred to the Pacific Conqueror and this fault was corrected prior to the completion of the project.

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# 5. EQUIPMENT CHECKS AND CALIBRATIONS

#### 5.1 DIFFERENTIAL GPS CHECK FIX

A Differential GPS check fix of the drillstem position of the Ocean Bounty at the Baleen-3 location was computed using SkyFix Spot Differential GPS. 120 fixes were taken. Appendix G contains the results of the check fix of the Ocean Bounty drillstem position at the Baleen-3 location.

The published Differential GPS co-ordinates of the Ocean Bounty drillstem position at the Baleen-3 location are as follows:

Datum: AGD66

Latitude : 38° 00' 20.986" South Longitude : 148° 26' 34.415" East

Projection: AMG Zone 55, CM 147° East

Easting : 626 675.86m Northing : 5 792 541.30m

The computed Differential GPS check fix co-ordinates of the Ocean Bounty drillstem position is as follows:

Datum: AGD66

Latitude : 38° 00' 20.884" South Longitude : 148° 26' 34.394" East

Projection: AMG Zone 55, CM 147° East

Easting : 626 675.39m Northing : 5 792 544.46m

The Differential GPS check fix of the Ocean Bounty drillstem position is 3.20m on a bearing of 350.7°(T) from the published Ocean Bounty drillstem position at the Baleen-3 location.

The client representative queried the Differential GPS check fix result. Further investigation revealed the rig had heaved in 15ft of chain on winches 3 and 4 which mirrored the indicated position of the Differential GPS check.

The client representative reviewed all geodetic parameters an antenna offsets at which time Thales' equipment was accepted as operating correctly.

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#### 5.2 GYROCOMPASS CALIBRATION

The S.G. Brown 1000S gyrocompass installed onboard the Ocean Bounty was calibrated on 16 June 2002 using a marine sextant. A series of measurements of the horizontal angle between the centreline of the rig and the sun was observed while accurately recording local time at the instant of each observation. The gyrocompass heading was simultaneously recorded within GNS2 data files.

Thales' Solar Observation software was used to determine the azimuth of the sun for each observation. The observed horizontal angle was applied to the sun's azimuth to determine the true heading of the rig. Each Computed (C) true heading was then compared with the Observed (O) gyrocompass heading to determine the Computed minus Observed (C-O) value for the gyrocompass. The C-O value in GNS2 was set to zero prior to conducting the gyrocompass calibration.

Observation Date: 16 June 2002

Average Local	Average	Azimuth Sun	Azimuth RO	Calculated (C)	Observed (O)	C-O
Time (HMS)	Horizontal Angle	(DMS)	(DMS)	True Heading	True Heading	(D.D)
	(DMS)			(D.D)	(D.D)	
7:20:05	163° 25' 12"	060° 39' 32"	257° 14' 20"	257.2°	256.7°	0.5°
7:20:35	163° 17' 12"	060° 34' 58"	257° 17' 46"	257.3°	256.8°	0.5°
7:21:00	163° 13' 48"	060° 31' 09"	257° 17' 21"	257.3°	256.8°	0.5°
7:21:45	163° 02' 36"	060° 24' 17"	257° 21' 41"	257.4°	256.8°	0.6°
7:22:25	163° 19' 48"	060° 18' 10"	256° 58' 22"	257.0°	256.7°	$0.3^{\circ}$
7:23:05	162° 37' 24"	060° 12' 02"	257° 34' 38"	257.6°	256.2°	1.4°
7:23:35	163° 01' 48"	060° 07' 26"	257° 05' 38"	257.1°	256.8°	0.3°
7:24:00	162° 26' 36"	059° 59' 46"	357° 33' 10"	257.6°	257.0°	0.6°
7:25:10	162° 50' 12"	059° 52' 51"	257° 02' 39"	257.0°	256.7°	0.3°
7:25:52	162° 37' 12"	059° 46' 23"	257° 09' 11"	257.2°	256.8°	0.4°

#### Mean C-O = $+0.5^{\circ}$

The mean C-O of +0.5° was input into the GNS2 navigation software. See Appendix F for the gyrocompass calibration results.

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#### 6. GEODETIC PARAMETERS

Co-ordinates listed in this report are referenced to the Australian Geodetic Datum 1966 (AGD66). The Global Positioning System (GPS) is referenced to the World Geodetic System 1984 (WGS84).

#### 6.1 DATUMS

Datum : AGD66

Spheroid : Australian National Spheroid

 Semi-major Axis (a)
 :
 6 378 160.000m

 Semi-minor Axis (b)
 :
 6 356 774.719m

 Eccentricity Squared (e²)
 :
 0.006 694 542

Flattening  $\binom{1}{f}$  : 298.25

Datum : ITRF 92 (Epoch 1994.0) WGS84 G730

Spheroid: WGS84

Semi-major Axis (a):6 378 137.000mSemi-minor Axis (b):6 356 752.314mEccentricity Squared ( $e^2$ ):0.006 694 380Flattening ( $^1/_f$ ):298.257 223 563

#### **6.2 PROJECTION**

Projection Name : Australian Map Grid 1966 (AMG66)

Projection Type : Universal Transverse Mercator

AMG Zone : 55

Central Meridian (CM) : 147° East
Scale factor on the CM : 0.9996
False Easting : 500 000m
False Northing : 10 000 000m
Latitude of Origin : 0° (Equator)

Unit of Measure : International Metre

#### **6.3 DATUM TRANSFORMATION**

The following 7-parameter datum transformation was used by the GNS2 software to convert WGS84 co-ordinates to AGD66 co-ordinates:

Dx +123.314m +47.223m Dγ = - 136.594m Dz = Rx +0.264" Ry = +0.322" Rz = +0.270" Scale +1.384 p.p.m.

The sign convention in Thales' GNS survey software used is that used by the US Department of Defense and by Higgins, where a positive rotation about the Z axis is an anti-clockwise movement of the X and Y axes (when viewed from the North Pole looking towards the center of the Earth).

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## 7. EQUIPMENT DESCRIPTIONS

#### 7.1 GNS2

GNS2 (General Navigation System) is Thales' third generation of On-line Navigation Survey Control software. It has been written by Thales' Software Support Group in C++ for operation under Windows® 95 or Windows® 98 or Windows® NT. GNS2 adheres to the operation and dialogue conventions of the Microsoft Windows® environment. Attention has been paid to preserving a consistent operator interface, while at the same time modifying individual dialogue boxes to reflect specific logical circumstances. It has been designed for operation with a pointing device such as a mouse or a tracker ball but control can still be effected in case of the absence or failure of such a device.

The program has the ability to accommodate a large number and variety of mobiles, including surface vessels/ships, anchor handling vessels, tugs, barges, ROVs, towfish, aircraft, vehicles and submersibles etc. The only limiting factors on the number of mobiles that can be tracked in GNS2 are the number of input/output serial communication ports available on the computer and the computer's memory.

For the input/output (I/O) of navigation and sensor data, GNS2 employs intelligent multi-channel serial communications boards to expand a computer's serial input/output facility. Currently GNS2 can support up to 26 communication (Comm) ports, which would consist of the computer's two internal Comm ports and three 8 channel serial communications boards fitted in the computer's internal expansion slots.

If Least Squares Computations (LSCs) are employed for positional calculations, whether two-dimensional (2D), three-dimensional (3D) or altitude aided, GNS2 uses standard iteration routines for the minimisation of residuals using 'variation of co-ordinate' algorithms. The number of positioning systems/computations that GNS2 can handle, is only limited by the number of I/O serial communication ports available on the computer and the computer's memory.

All input observables are accepted on interrupt. Screen updates and other internal triggers are paced to once per second but time critical activities occur at discrete moments as required.

The GNS2 application workspace can extend beyond the display area, which is normally restricted to a single monitor connected to the computer. By using one or more multiple VGA cards, an enlarged display area can spread across multiple monitors.

Currently GNS2 can display 14 different types of view windows. Several copies of the same type of view window can be invoked at any one time. This may be required when several mobiles are being tracked and a Plan, Helmsman's or Bullseye display are required for each one or when the data on several Comm ports are to be viewed simultaneously. Each window can be individually sized to optimise use of the available display area.

GNS2 can be operated in 2 modes; GNS2 Master or GNS2 Remote. GNS2 Master has the full functionality of GNS2. GNS2 Remote is run on a separate computer and allows independent configuration of the graphics display and its associated numeric information. GNS2 Remote is operated on Anchor Handling Vessels or anywhere where positional information is required. (eg. Vessel Masters, ROV Pilots, Winch Control Stations). The link between GNS2 Master and GNS2 Remote can be via a telemetry link or hard wired cable.

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# 7.2 GLOBAL POSITIONING SYSTEM (GPS)

## **System Description**

The NAVSTAR GPS (Navigational Satellite Timing and Ranging Global Positioning System) is a USA Military all-weather, space-based positioning system that transmits signals from a constellation of satellites orbiting the Earth. It is capable of providing suitably equipped users worldwide with accurate three-dimensional positions on, or near, the Earth's surface. The accuracy of these determined positions can vary from a few millimetres to several 10's of metres depending on the GPS receiver and on the method of data acquisition and processing. System design consists of three integrated parts: the Ground Control Segment, the Space Segment and the User Segment.

The operational space segment consists of 24 production satellites and 3 active spares; the term Space Vehicle (SV) is used as a synonym for satellite. The satellites are in high orbits, at approximately 20,200km, having an orbit period of 12 hours. They are arranged in 6 orbital planes, inclined at 55 degrees with near circular orbits. The configuration provides complete 4-satellite (3D) coverage worldwide.

### **GPS Observations**

There are two important types of GPS observations (observables): Pseudo-range and Carrier Phase. Carrier phase is sometimes also referred to as carrier beat phase. Pseudo-range techniques are generally used for navigation. In high-precision baseline surveying the carrier phase is used. Although the (undifferenced) phase can be used directly, it has become common practice, at least in surveying applications, to process certain linear combinations of the original carrier phase observations (double differences and triple differences).

## **Pseudo-ranges**

The pseudo-range is a measure of the distance between the satellite and the receiver at the epochs of transmission and reception of the signals. The transit time of the signals is measured by comparing (correlating) identical pseudo-random noise (PRN) codes generated by the satellite and by the receiver. A code-tracking loop within the receiver shifts the internal replica of the PRN code in time until maximum correlation occurs. The codes generated at the receiver are derived from the receiver's own clock, and the codes of the satellite transmissions are generated by the satellite system of clocks. It follows that unavoidable timing errors in both the satellite and the receiver clock will cause the measured quantity (pseudo-range) to differ from the geometric distance.

Where instantaneous positions are required, pseudo-range is the preferred observable. Given the satellite ephemeris (i.e. the position of the satellite at the epoch of transmission), there are seven unknowns: two clock errors, three receiver co-ordinates and the ionospheric and tropospheric delays. The effect of the satellite clock error is negligible for the typical navigation solution, particularly considering that the time errors are indistinguishable from the ionospheric and tropospheric delays. The satellite clocks are constantly monitored and synchronised with GPS time as maintained by the control centre. Actual offsets of the satellite clocks are approximated by polynomials in time and transmitted as part of the navigation message to the user for the correction of the measured pseudoranges. The ionospheric and tropospheric delays can be computed on the basis of ionospheric and tropospheric models, thus there are four unknowns left X, Y, Z and receiver clock error. These can be determined from four pseudo-ranges measured simultaneously to four GPS satellites.

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# **Carrier Phase**

The phase observable is the difference between the phase of the carrier signal of the satellite, measured at the receiver, and the phase of the local oscillator within the receiver at the epoch of measurement. This can be regarded as a biased range measurement of the satellite-receiver distance with the integer number of carrier waves being unknown. The wavelength of the L1 carrier is about 19cm. Because of the fraction of the carrier phase is measured, the term "interferometry" is often used to describe carrier phase techniques.

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# 7.3 SKYFIX/SKYFIX SPOT DIFFERENTIAL GPS (DGPS)

# **Differential GPS (DGPS)**

GPS is primarily a USA Defence space-based positioning system capable of operating worldwide and in all weather conditions. The USA Military can degrade the accuracy of GPS with the use of Selective Availability (SA) to control the accuracy of Pseudo-range measurements. Essentially, the user is given a false Pseudo-range for each satellite so that the resulting measurement is in error by a controlled amount. On the 1 May 2000 SA was discontinued conditionally and coincided with the successful demonstration of the ability to selectively deny GPS signals on a regional basis. SA has been set to zero and can be reinstated during periods of heightened global tension.

GPS signals are affected by several sources of positional bias, the largest of which was SA. The remaining biases of the ionosphere, the troposphere, time, satellite ephemeris and inherent reciever noise also give rise to substantial bias of position.

Differential GPS is a means by which the civil user can improve the accuracy and quality of GPS to the 1-3 metre level. It requires a receiver be located at a precisely known point from which pseudorange corrections for each satellite can be determined and monitored. These pseudo-range corrections are then communicated by means of a telecommunications link to users at unknown locations. In the relative mode, most of the important systematic errors common to the known station and at the unknown location cancel out to improve the accuracy of the computed position.

# SkyFix/SkyFix Spot Differential

# SkyFix

Thales GeoSolutions (Australasia) Limited introduced its SkyFix Differential GPS System in Australia in February 1991, using the Inmarsat Pacific and Indian Ocean marine communications satellites as the differential data broadcast link. Extensive performance trials and projects undertaken to date have shown SkyFix to meet the best industry expectations in terms of quality of service and accuracy.

Satellite communications systems, particularly at the Inmarsat L-band frequencies of 1.5 GHz are reliable and free of the interference associated with the crowded MF/HF bands. This high data integrity gives users confidence that the corrections will be continuously received without interference.

The SkyFix Australian network comprises of reference stations at Dampier, Broome, Perth, Adelaide, Melbourne, Sydney, Cairns and Darwin.

### SkyFix Spot

The SkyFix Spot Differential GPS System was launched in Australia in December 1994, using the OPTUS high powered focused communications satellite as the differential data broadcast link. Projects undertaken to date have shown SkyFix Spot to meet the industry expectations in terms of quality of service and accuracy.

The SkyFix Spot system has a link capacity of 1200 bits per second, similar to the SkyFix system but because it is only transmitting corrections from the Australian network an update rate of better than five seconds is achieved.

The OPTUS satellite uses the L-band frequencies of 1.5586 GHz and are very reliable and free of interference avoiding data loss associated with the crowded MF/HF bands.

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The SkyFix Spot network comprises of reference stations at Dampier, Broome, Perth, Adelaide, Melbourne, Sydney, Cairns, Darwin, Alice Springs and also Ujung Pandang and Jakarta in Indonesia and Wellington, New Zealand.

The differential corrections generated at each reference station are brought via landline links to the data hub and control centre in Singapore, where the system is monitored for performance and quality. From there, a composite message containing full RTCM 104 version 2 formatted data from all reference stations are sent via dual redundant links to Satellite Earth Stations at Sentosa Island, Singapore, O.T.C. Perth, Western Australia and OPTUS, Perth, Western Australia, for uplink and broadcast over the Inmarsat Pacific and Indian Ocean Region satellites and the OPTUS Satellite.

The SkyFix/SkyFix Spot system includes a 24 hour monitoring facility to ensure the validity of data received at the control centre from the Differential GPS reference stations, and that the same data are received over the SkyFix/SkyFix Spot satellite data link.

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#### 7.4 TRIMBLE SERIES 4000 GPS RECEIVER

The Trimble Series 4000 GPS receiver is designed for moderate precision static and dynamic positioning applications. The GPS receiver provides time and three-dimensional station co-ordinates at a once-per-second update rate.

The receiver receives the civilian coded signal (C/A) from the GPS NAVSTAR satellites. The receiver automatically acquires and simultaneously tracks GPS satellites and precisely measures code phase and computes position and velocity.

Latitude, longitude and height values are output on the World Geodetic System (WGS84) Earthcentred, Earth-fixed co-ordinate system.

The receiver is designed to measure the following observables:

- Coarse/Acquisition (C/A) code Pseudo-ranges
- Rate of change of Pseudo-range
- Integrated Carrier

C/A code correlation techniques measure the propagation time of the signal from the satellite to the antenna. Latitude, longitude, height and time can be determined from measurements made from at least 4 satellites, by a process similar to triangulation.

To determine speed and heading, the receiver calculates the rate of change of Range (the range-rate) by measuring the Doppler shift of the carrier.

It is capable of receiving and processing differential corrections from other reference sources using the standard format of the Radio Technical Commission for Maritime Services, Special Committee 104 (RTCM SC-104), Version 1.0 or 2.0 protocols.

The Trimble Series 4000 GPS receiver has several options available, including internal data logging memory, event marker logging etc. and therefore may be used alone or as part of a more extensive navigation system.

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#### 7.5 MULTIFIX 3

# **System Overview**

MultiFix 3 is Thales GeoSolutions third generation *multiple reference station* differential GPS (DGPS) real time position computation and quality control program. It is an integral part of the Thales SkyFix Premier service but can also be used with the standard SkyFix service. MultiFix 3 has more advanced features than its predecessor, MultiFix 2, including being able to use dual frequency receivers and form real time 'lono-Free DGPS position solutions'.

MultiFix 3 is one of a series of programs available under the group name Zero, which includes other tools and utilities with a similar user interface and layout structure, like static and dynamic position comparison programs, a correction monitor program, a terminal program and a replay utility.

MultiFix 3 takes in Almanac, Ephemeris and Raw Code and Carrier measurements from a single or dual frequency GPS receiver (or, for replay, from logged files). It takes in RTCM SC104 Version 2 differential correction messages from one or more RTCM correction delivery systems. It also takes in RTCM Type 15 or Thales Proprietary RTCM Type 55 Ionospheric range corrections generated at selected SkyFix Premier reference stations and broadcast via the Thales global network of high (SkyFix Spot-Optus) and low (SkyFix-Inmarsat) power satellite based L-Band beams.

Key features of the program are:

- No limit on the number of RTCM correction delivery systems (data links)
- No limit on the number of RTCM differential reference stations
- No limit on the number of computations (solutions)
- Each computation can employ corrections from any combination of reference stations available
- Computations are weighted least squares with statistical evaluation based upon the UKOOA recommendations
- No limit on the number of outputs
- No limit on the number of view windows
- View windows can be customised
- Extra NMEA outputs can be defined
- TCP/IP communication via sockets for GPS, RTCM and position data transfer between networked computers

MultiFix 3 has been designed in a modular fashion such that data is passed between modules as if over a computer network. The core module MultiFix 3 performs the computation of position. Additional modules are available and more will be made available in the future. While a single computer can be used, the various modules will equally be able to be run on different computers, provided there is a network interconnection.

MultiFix 3 uses the EGM96 geoid/spheroid separation model.

The RTCM corrections that are generated at reference stations are contaminated by a variety of error components, one of which is lonospheric delay. The lonospheric delay is currently more variable because of greater sun spot activity. MultiFix 2 and MultiFix 3's standard computation uses the Klobuchar lonospheric delay model. This model is updated periodically but is not responsive to the current short-term variability. MultiFix 3 has an additional calculation option when working with dual frequency receivers and in receipt of Type 15 or 55 RTCM messages. With dual frequency receivers, estimates can be made of the lonospheric delay by examining the differences between the measurements from the two frequencies. If the same procedure for estimation of lonospheric delay is performed at the reference stations and on the mobile, both the RTCM corrections and the pseudoranges can have the lonospheric delay removed, effectively providing an lono-Free DGPS position solution.

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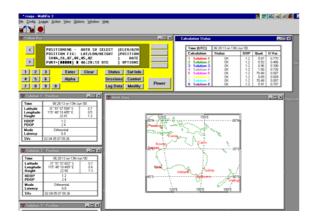
# 7.5.2 Hardware Requirements

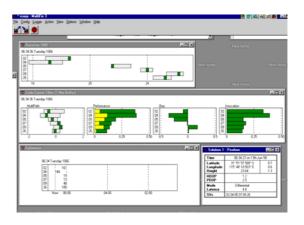
Optimum requirements for MultiFix 3 are:

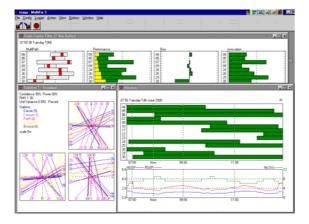
- 350 MHz Pentium II computer
- 32 Mb RAM
- Windows 95, 98 or NT operating system
- Graphics resolution of at least 800 x 600 pixels
- Intelligent multi-port serial I/O board

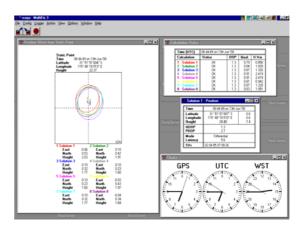
# 7.5.3 Positioning and Quality Control Displays

MultiFix 3 has a large number of features to accommodate the user requirements of highly accurate positions with quality control (QC) information and outputs in different formats. MultiFix 3 runs in a Windows environment, which allows the user to design a preferred screen layout by opening, sizing and placing the numerous displays that are available. Examples of the various displays can be found below.







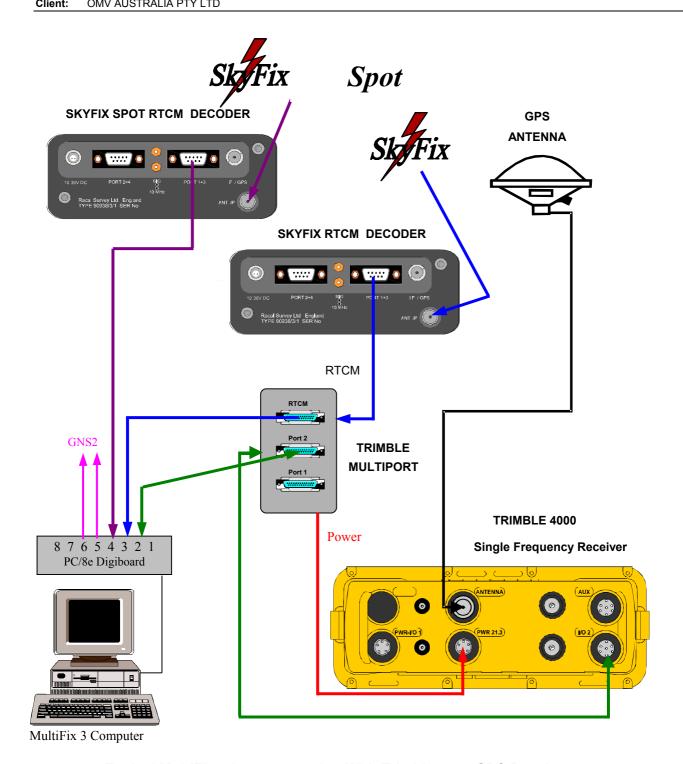


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Typical MultiFix 3 Interconnection With Trimble 4000 GPS Receiver

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#### 7.6 TRACS TDMA

Tracs TDMA (Time Division Multiple Access) is a high speed, intelligent network radio datalink which can operate in the VHF or UHF bands to provide an addressable network with integrated position reporting from an integrated/internal GPS receiver. The standard Tracs units are fitted with a Trimble SK8 GPS receiver, or a Trimble DSM GPS receiver.

Each unit in the network is assigned a unique address (1 to 255) enabling messages can be specifically addressed to that unit. A broadcast address (0) is provided to allow multiple units to receive a message, for example RTCM corrections. The system manages the data bandwidth by dividing it into timeslots synchronised by means of GPS 1PPS (pulse per second) timing pulse from an internal GPS receiver.

The standard Tracs system has a frequency band of 455.0MHz to 465.0MHz (frequency module 53R). The channel frequencies can be selected in 25kHz steps and the units are equipped with the facility to pre-store 10 selected frequencies within the 10MHz band. Units for use in Australia are fitted with 471MHz radios.

There are four types of messages that can be transmitted in a Tracs network.

- Position Reports automatically generated from the SK8 or DSM GPS receiver as a NMEA type or Raw Pseudo Range information.
- Transparent messages used to send unformatted data across the network eg. RTCM corrections.
- Open messages used to provide a general-purpose data link between units. This format is used by GNS to transfer information.
- Configuration messages used for remote configuration of units using the Destination ID to identify which unit is being configured.

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#### 7.7 S.G. BROWN 1000S GYROCOMPASS

The S.G. Brown 1000S Gyrocompass is a compact, simple-to-operate master heading reference instrument employing the effect of gravity and the earth's rotation to produce a True North reference. This reference may be read off the compass card or from a digital display and can be interfaced to the GNS2 navigation system.

The normal starting cycle of the instrument is fully automatic and is initiated when the system power supply is switched on. A fail safe control circuit is incorporated which ensures that the compass is not damaged after a power failure when power is restored; the compass will restart automatically and carry out its normal settling program.

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# 8. PERSONNEL AND EQUIPMENT

# 8.1 PERSONNEL

The following personnel were employed on this project:

For: Thales GeoSolutions (Australasia) Limited

P. Malatzky Surveyor/Team Leader

S. Bradley Senior Engineer

For: OMV Australia Pty Ltd

W. Edmonds Client Representative

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### **8.2 EQUIPMENT**

The following equipment was provided for this project:

# **Ocean Bounty**

- 2 x Compaq Computer, inc monitor, keyboard (for GNS2 / MultiFix 3)
- 1 x Thales SkyFix Mini Rig Portable
- 3 x SkyFix/SkyFix Spot MK II Receivers
- 1 x Compaq Computer, inc. monitor, keyboard (for GNS2 Remote)
- 1 x S.G. Brown 1000S gyrocompass
- 1 x Uninteruptable Power Supply (UPS)
- 2 x Epson LX300 Printers
- 2 x SkyFix Spot Whip Antennae
- 1 x SkyFix Spot Antenna 90962/3/1
- 2 x Trimble 4000DS GPS Receivers
- 2 x SkyFix Spot Antennae
- 2 x Tracs Bricks
- 2 x Tracs Multiplexer
- 2 x UHF Antennae
- 1 x Marine Sextant

# **Pacific Sentinel and Pacific Conqueror**

- 1 x Tracs Geopod
- 1 x Fluxgate compasses
- 1 x Tracs Box and Interface Box
- 1 x Compaq computer, inc. monitor, keyboard (GNS2 Tug Display)
- 1 x Uninteruptable Power Supply (UPS)

plus all associated software (GNS 2 version 2.32, MultiFix 3 version 1.24) c/w cables, consumables, software dongles etc.

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# 9. DISTRIBUTION

Copies of this report have been distributed as follows:

OMV Australia Pty Ltd : 3 copies

Attn: Mr Ron King : 1 electronic copy

Thales GeoSolutions (Australasia) Limited : 1 copy

Anthony Kerr Survey Manager

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# **APPENDIX A**

FINAL DIFFERENTIAL GPS DRILLSTEM POSITION AT PATRICIA-2

# THALES Thales GeoSolutions Group Ltd

# FINAL POSITION FIX - DIFFERENTIAL GPS

**Job Description:** Ocean Bounty to Patricia-2

Job Number: 3382A3
Thales Surveyor: P.Malatzky
Client: OMV Australia
Client Representative: W.Edmonds

**Sampling started:** 21 Jun 2002 06:02:38 **Sampling end:** 21 Jun 2002 07:02:35

## **Ocean Bounty**

# **Intended datum location**

Datum: AGD 1966

Latitude: 38°01'39.975"S Longitude: 148°26'57.831"E

Projection: AMG Zone 55

Easting: 627209.00 m Northing: 5790097.80 m

# Final Antenna Position (T1 Thales UKOOA):

**Sample size:** 720 fixes used out of a total of 720.

Antenna offset

X: 0.28m Y: 33.90m Z: 20.00m Range: 33.90m Rel Brg from datum to antenna: 0.5°

Datum: WGS 84

Latitude: 38°01'34.600"S Longitude: 148°27'00.928"E Spheroidal Ht: 42.40m

Datum: AGD 1966

Latitude: 38°01'40.127"S Longitude: 148°26'56.406"E Spheroidal Ht: 49.32m

Projection: AMG Zone 55

Easting: 627174.17 Northing: 5790093.66 Spheroidal Ht: 49.32m

#### Standard deviations

 Long or E:
 0.46m

 Lat or N:
 0.26m

 Height:
 0.65m

 Position:
 0.53m

### **Final Datum Position**

Datum: AGD 1966

Latitude: 38°01'39.946"S Longitude: 148°26'57.777"E

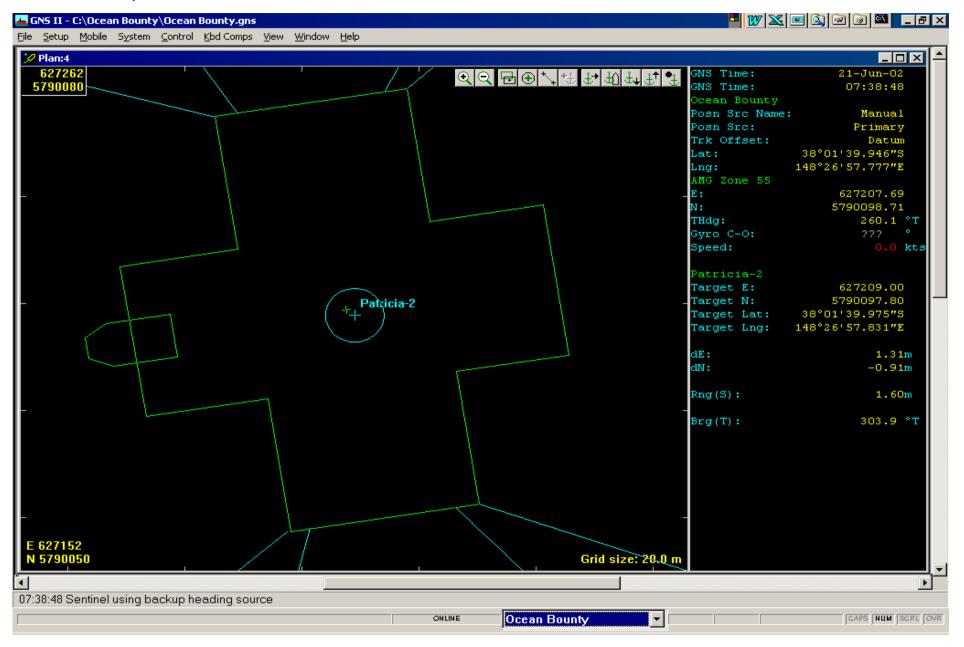
**Projection: AMG Zone 55** 

Easting: 627207.69 m Northing: 5790098.71 m

Mean corrected heading: 260.1°T SD heading: 0.1°T Intended heading: 257.0°T Difference from intended: 3.1° Gyro C-O: 0.5° Convergence: -0.89°

Final Datum Position is 1.59m on a bearing of 303.9°T (304.8°G) from the intended location.

Project: Patricia-2 Positioning Report of the Ocean Bounty



# APPENDIX B

**GNS2 STATIC DIFFERENTIAL GPS FIX GRAPHS** 

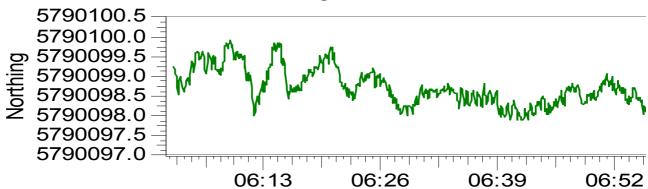
# THALES Thales GeoSolutions (Australasia) Limited Project: Patricia-2 Positioning Report of the Ocean Bounty

Client: OMV Australia

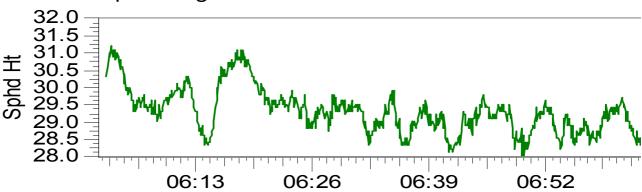




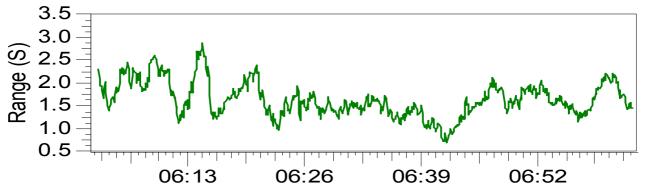
# **Datum Northing**



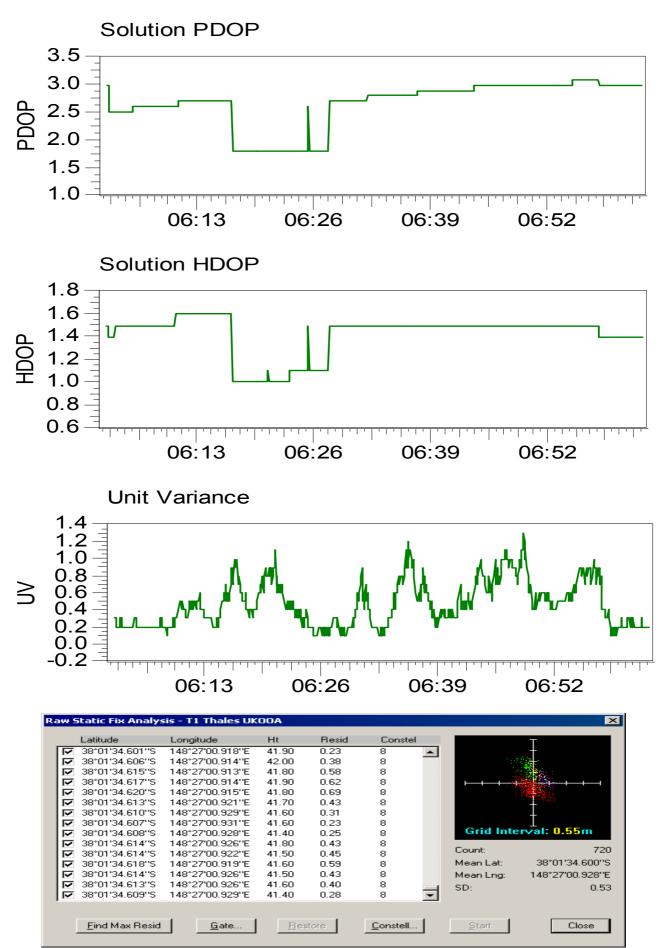
# Sphd Height



# Location Range



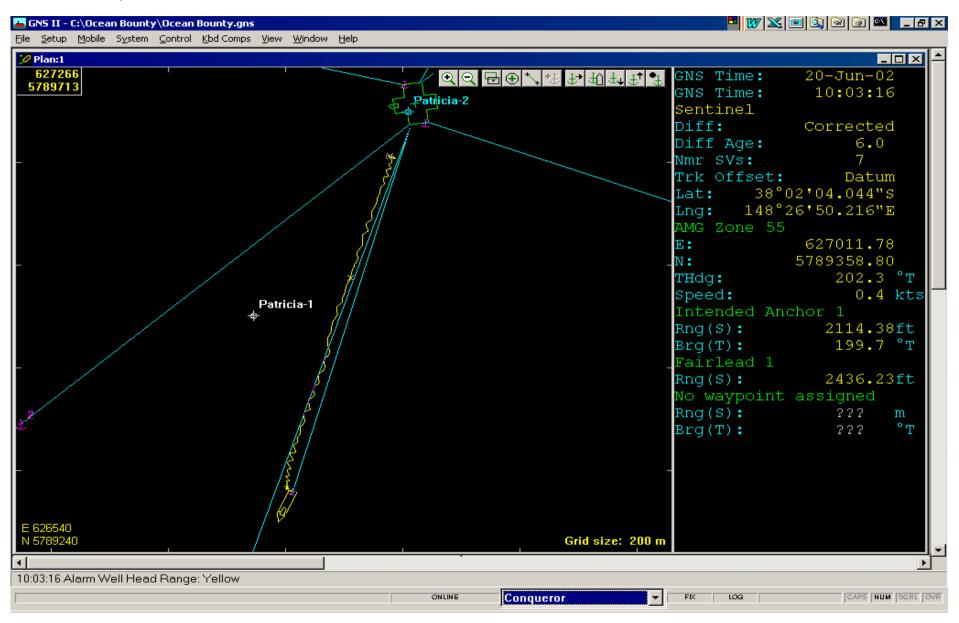
# THALES Thales GeoSolutions (Australasia) Limited Project: Patricia-2 Positioning Report of the Ocean Bounty



# **APPENDIX C**

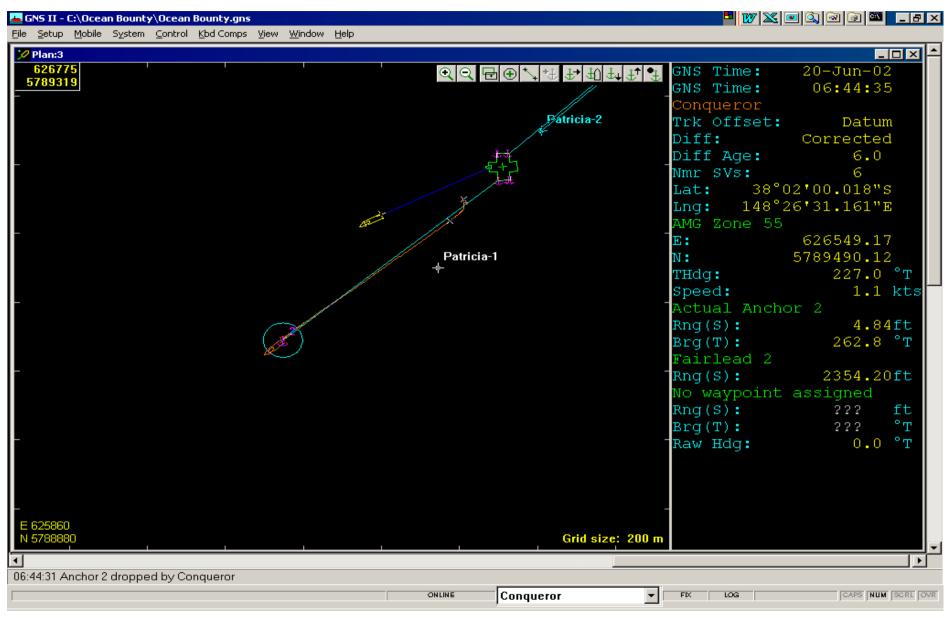
**RUN LINE GRAPHICS OF ANCHOR HANDLING VESSELS** 

**Project:** Patricia-2 Positioning Report of the Ocean Bounty



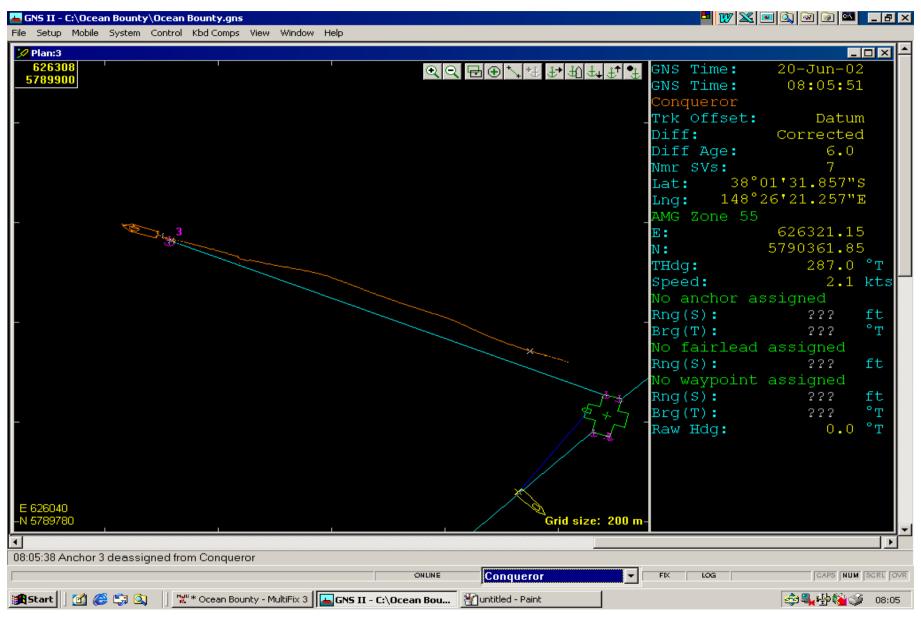
**Anchor 1 – Pacific Sentinel** 

**Project:** Patricia-2 Positioning Report of the Ocean Bounty



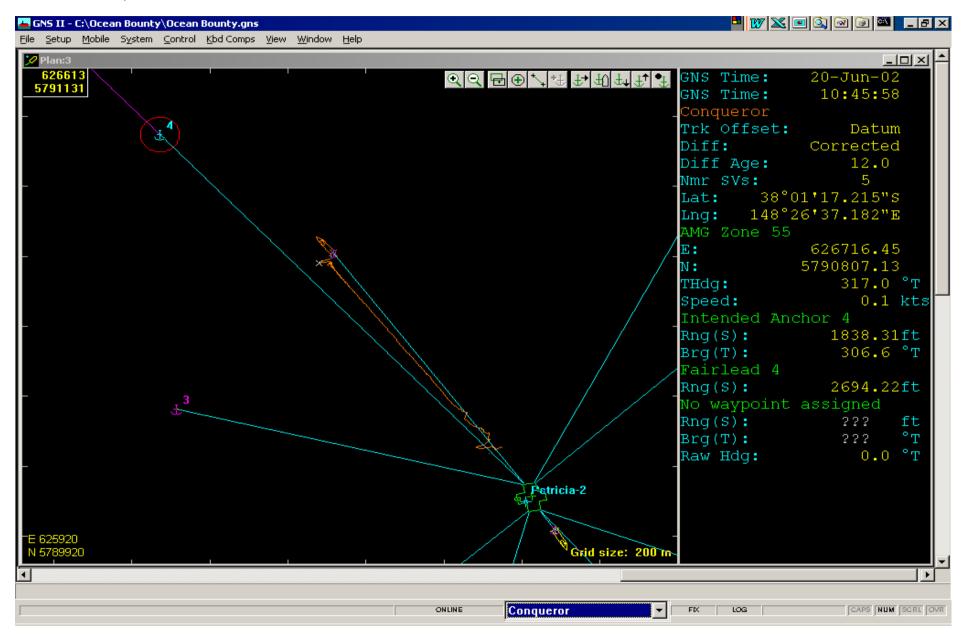
**Anchor 2 – Pacific Conqueror** 

**Project:** Patricia-2 Positioning Report of the Ocean Bounty



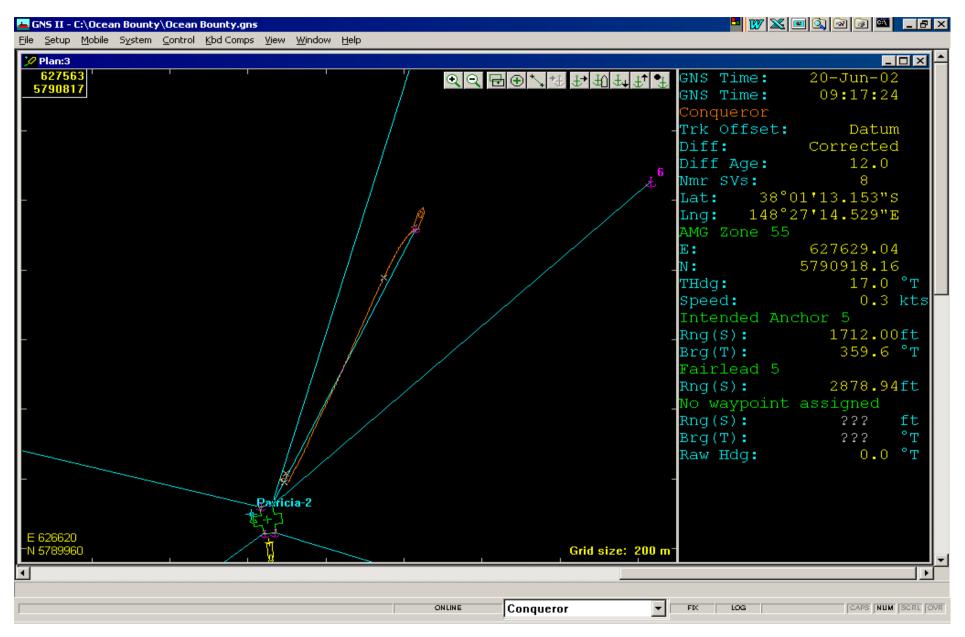
**Anchor 3 – Pacific Conqueror** 

**Project:** Patricia-2 Positioning Report of the Ocean Bounty

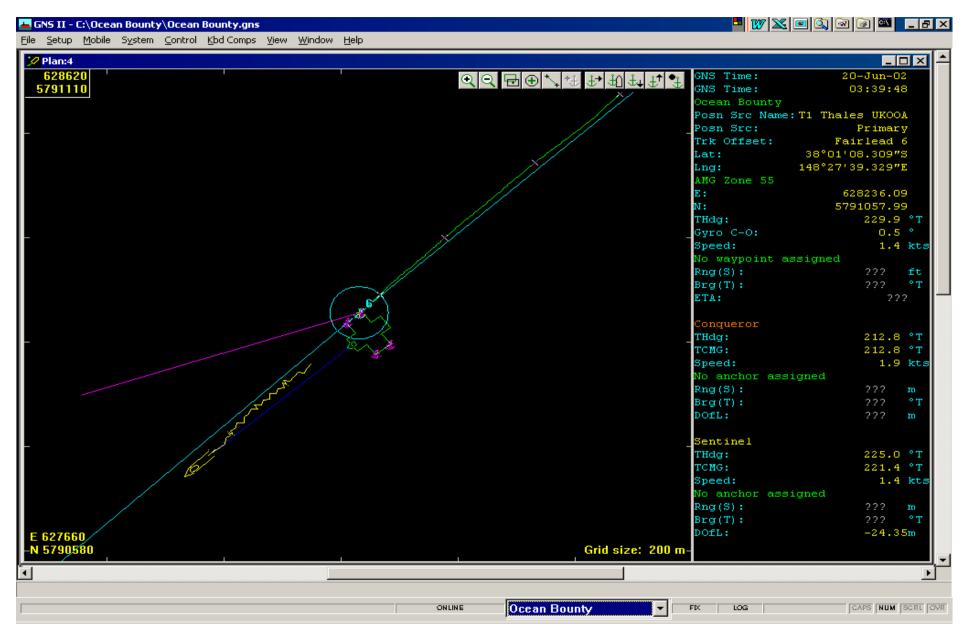


**Anchor 4 – Pacific Conqueror** 

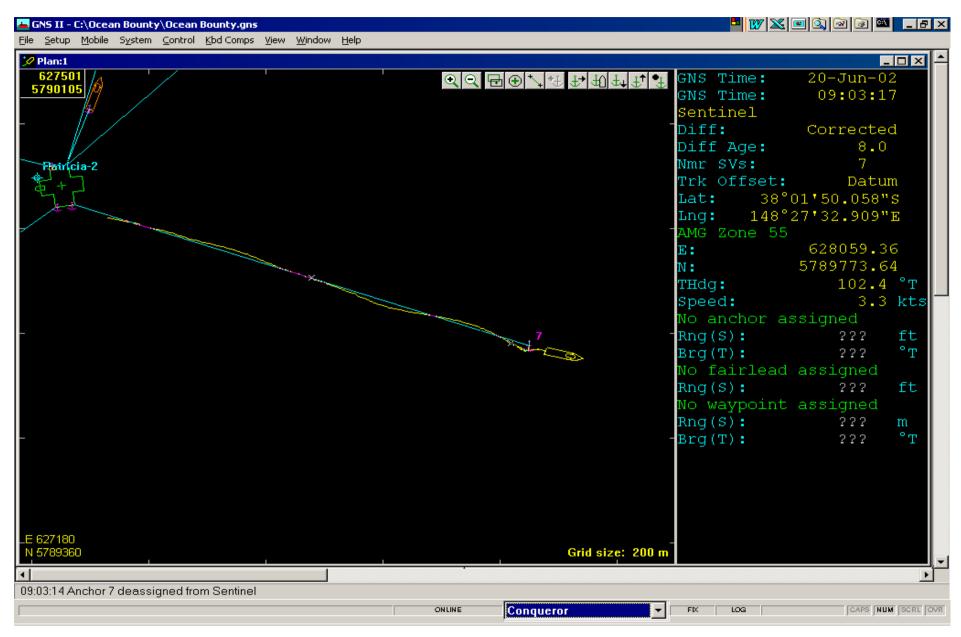
**Project:** Baleen-3 Positioning Report of the Ocean Bounty



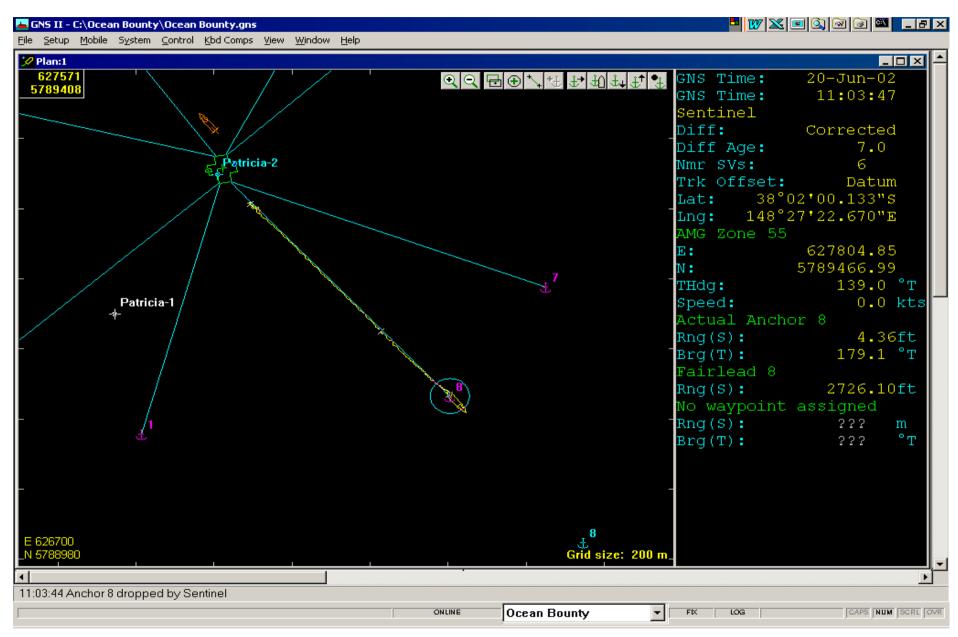
**Project:** Baleen-3 Positioning Report of the Ocean Bounty



**Project:** Baleen-3 Positioning Report of the Ocean Bounty



**Project:** Baleen-3 Positioning Report of the Ocean Bounty

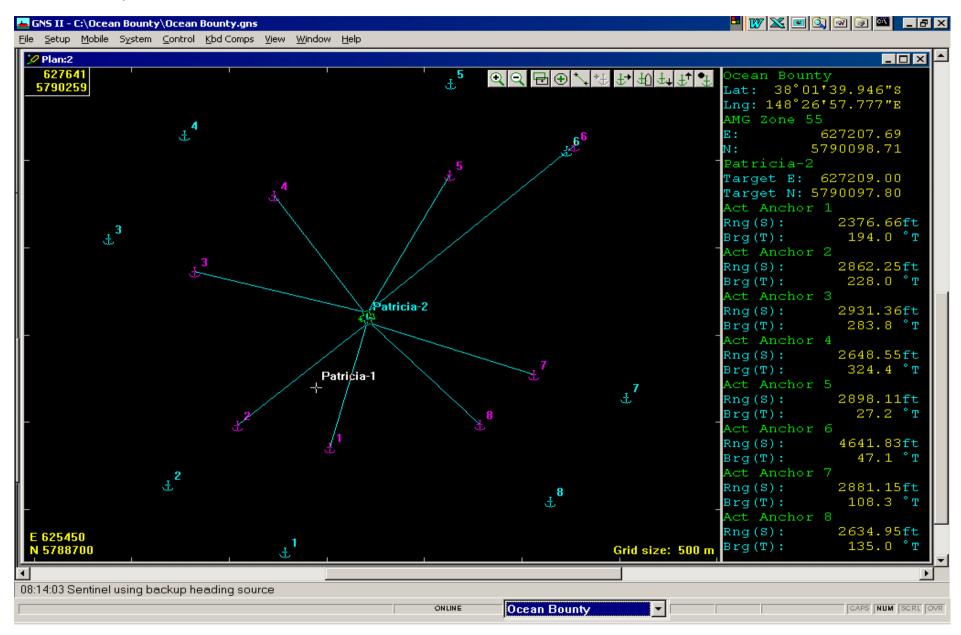


**Anchor 8 - Pacific Sentinel** 

# APPENDIX D

OCEAN BOUNTY ANCHOR PATTERN DETAILS AT PATRICIA-2

**Project:** Patricia-2 Positioning Report of the Ocean Bounty



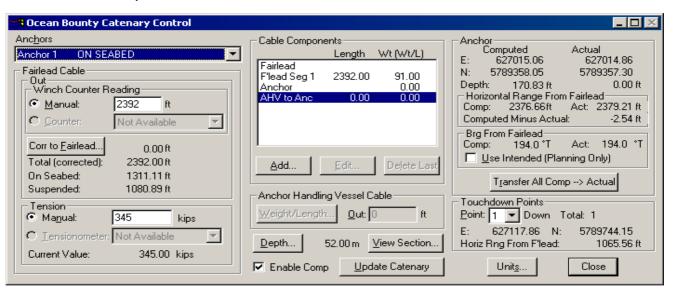
# **APPENDIX E**

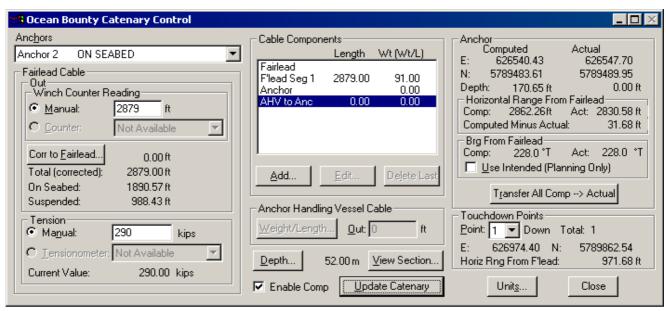
**OCEAN BOUNTY ANCHOR CATENARY CALCULATIONS** 

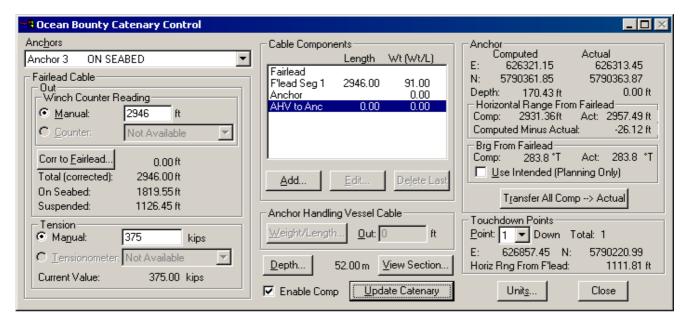
#### THALES Thales GeoSolutions (Australasia) Limited

Project: Patricia-2 Positioning Report of the Ocean Bounty

Client: OMV Australia Pty Ltd



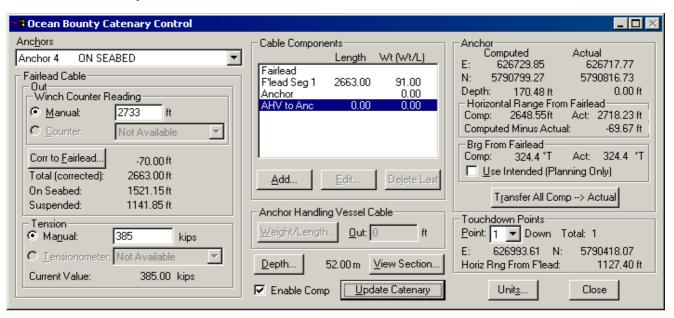


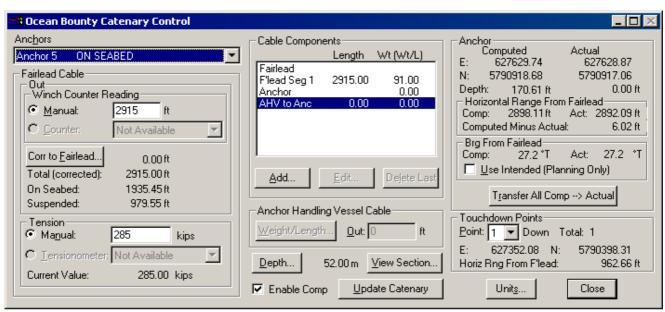


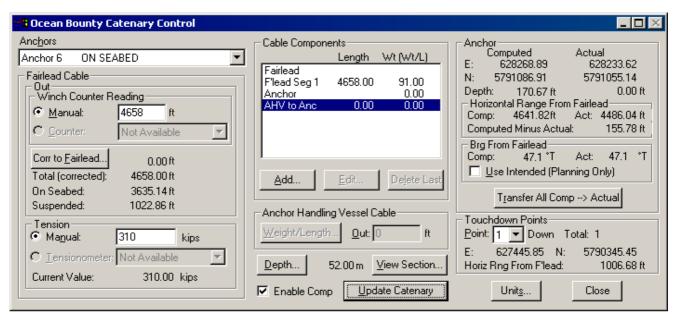
#### THALES Thales GeoSolutions (Australasia) Limited

Project: Patricia-2 Positioning Report of the Ocean Bounty

Client: OMV Australia Pty Ltd



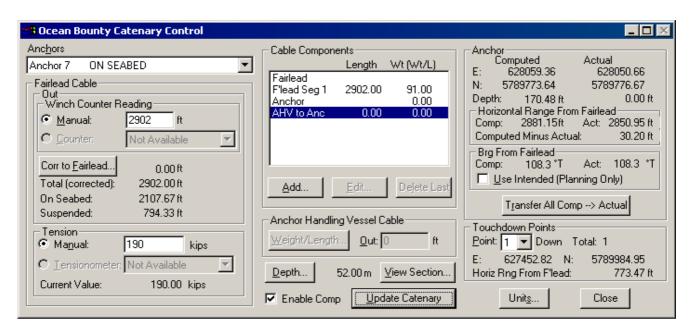


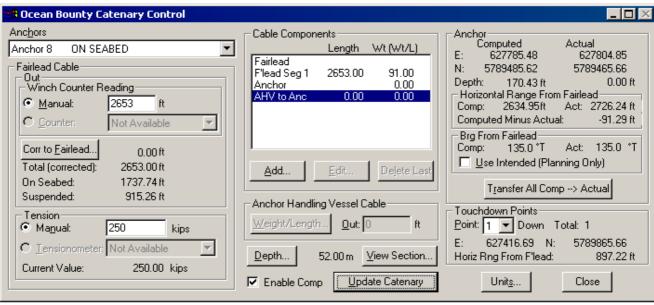


### THALES Thales GeoSolutions (Australasia) Limited

Project: Patricia-2 Positioning Report of the Ocean Bounty

Client: OMV Australia Pty Ltd





## **APPENDIX F**

**GYROCOMPASS CALIBRATION REPORT** 



### Thales GeoSolutions (Australasia) Limited

ABN 82 000 601 909

### Solar Observation for Azimuth (Hour Angle) 2002

Thales Job Number: 3382A3

Job Description: Ocean Bounty Rig Move to Patricia-2

Client: OMV Australia
Party Chief: P.Malatzky
Surveyor: P.Malatzky
Rig Name: Ocean Bounty
Date: 16 June 2002

#### **Control Point Co-ordinates**

Datum: WGS84 Projection: UTM Zone 55S CM 147° East

Latitude (DMS): -038 00 16 Longitude (DMS): 148 26 37

UTC Correction (HMS): 10.00

#### **Total Station Observations:**

	Local Time			0	Observed			bserve	ed	Observed (O)
Face	L			Direc	Direction to R.O.			ction to	Sun	True Heading
		(HMS)		(DMS)			(DMS)		(D.D)	
Left	07	20	05	000	00	00	163	25	12	256.70
Right	07	20	05	180	00	00	343	25	12	
Left	07	20	35	000	00	00	163	17	12	256.80
Right	07	20	35	180	00	00	343	17	12	
Left	07	21	00	000	00	00	163	13	48	256.80
Right	07	21	00	180	00	00	343	13	48	
Left	07	21	45	000	00	00	163	02	36	256.80
Right	07	21	45	180	00	00	343	02	36	
Left	07	22	25	000	00	00	163	19	48	256.70
Right	07	22	25	180	00	00	343	19	48	
Left	07	23	05	000	00	00	162	37	24	256.20
Right	07	23	05	180	00	00	342	37	24	
Left	07	23	35	000	00	00	163	01	48	256.80
Right	07	23	35	180	00	00	343	01	48	
Left	07	24	25	000	00	00	162	26	36	257.00
Right	07	24	25	180	00	00	342	26	36	
Left	07	25	10	000	00	00	162	50	12	256.70
Right	07	25	10	180	00	00	342	50	12	
Left	07	25	52	000	00	00	162	37	12	256.80
Right	07	25	52	180	00	00	342	37	12	
Left										
Right										
Left										
Right	_							_		

Signature		
	SURVEYOR/PARTY CHIEF	CLIENT SURVEY REPRESENTATIVE



### Thales GeoSolutions (Australasia) Limited

ABN 82 000 601 909

### **Solar Observation for Azimuth (Hour Angle) 2002**

Thales Job Number: 3382A3

**Job Description:** Ocean Bounty Rig Move to Patricia-2

Client: OMV Australia
Party Chief: P.Malatzky
Surveyor: P.Malatzky
Rig Name: Ocean Bounty
Date: 16 June 2002

Datum: WGS84 Projection: UTM Zone 55S CM 147° East

	Average Local Time (HMS)			Average Horizontal Angle (DMS)			l Azimuth Sun (DMS)			Azimuth RO (DMS)		Calculated (C) True Heading (D.D)	Observed (O) True Heading (D.D)	C-O (D.D)
07	20	05.0	163	25	12	060	39	32	257	14	20	257.24	256.70	0.54
07	20	35.0	163	17	12	060	34	58	257	17	46	257.30	256.80	0.50
07	21	0.00	163	13	48	060	31	09	257	17	21	257.29	256.80	0.49
07	21	45.0	163	02	36	060	24	17	257	21	41	257.36	256.80	0.56
07	22	25.0	163	19	48	060	18	10	256	58	22	256.97	256.70	0.27
07	23	05.0	162	37	24	060	12	02	257	34	38	257.58	256.20	1.38
07	23	35.0	163	01	48	060	07	26	257	05	38	257.09	256.80	0.29
07	24	00.0	162	26	36	059	59	46	257	33	10	257.55	257.00	0.55
07	25	10.0	162	50	12	059	52	51	257	02	39	257.04	256.70	0.34
07	25	52.0	162	37	12	059	46	23	257	09	11	257.15	256.80	0.35

			Mean C-O	0.53
Signature				
	SURVEYOR/PARTY CHIEF	CLIENT SURVEY REPRESENTATIVE		

## **APPENDIX G**

**DIFFERENTIAL GPS CHECK** 

#### THALES Thales GeoSolutions Group Ltd

#### **CHECK POSITION FIX – DIFFERENTIAL GPS**

**Job Description:** Ocean Bounty to Patricia-2

Job Number: 3382A3
Thales Surveyor: P.Malatzky
Client: OMV Australia
Client Representative: W.Edmonds

**Sampling started:** 16 Jun 2002 11:13:27 **Sampling end:** 16 Jun 2002 11:23:20

**Ocean Bounty** 

Intended datum location

Datum: AGD 1966

Latitude: 38°00'20.986"S Longitude: 148°26'34.415"E

Projection: AMG Zone 55

Easting: 626675.86 m Northing: 5792541.30 m

Final Antenna Position (T1 Thales UKOOA):

Sample size: 120 fixes used out of a total of 120.

Antenna offset

X: 0.28m Y: 33.90m Z: 20.00m Range: 33.90m Rel Brg from datum to antenna: 0.5°

Datum: WGS 84

Latitude: 38°00'15.654"S Longitude: 148°26'37.577"E Spheroidal Ht: 45.40m

Datum: AGD 1966

Latitude: 38°00'21.181"S Longitude: 148°26'33.056"E Spheroidal Ht: 52.26m

Projection: AMG Zone 55

Easting: 626642.61 Northing: 5792535.81 Spheroidal Ht: 52.26m

Standard deviations

 Long or E:
 0.95m

 Lat or N:
 0.80m

 Height:
 0.39m

 Position:
 1.24m

Final Datum Position

**Datum:** AGD 1966 Latitude: 38°00'20.884"S Longitude: 148°26'34.394"E

Projection: AMG Zone 55

Easting: 626675.39 m Northing: 5792544.46 m

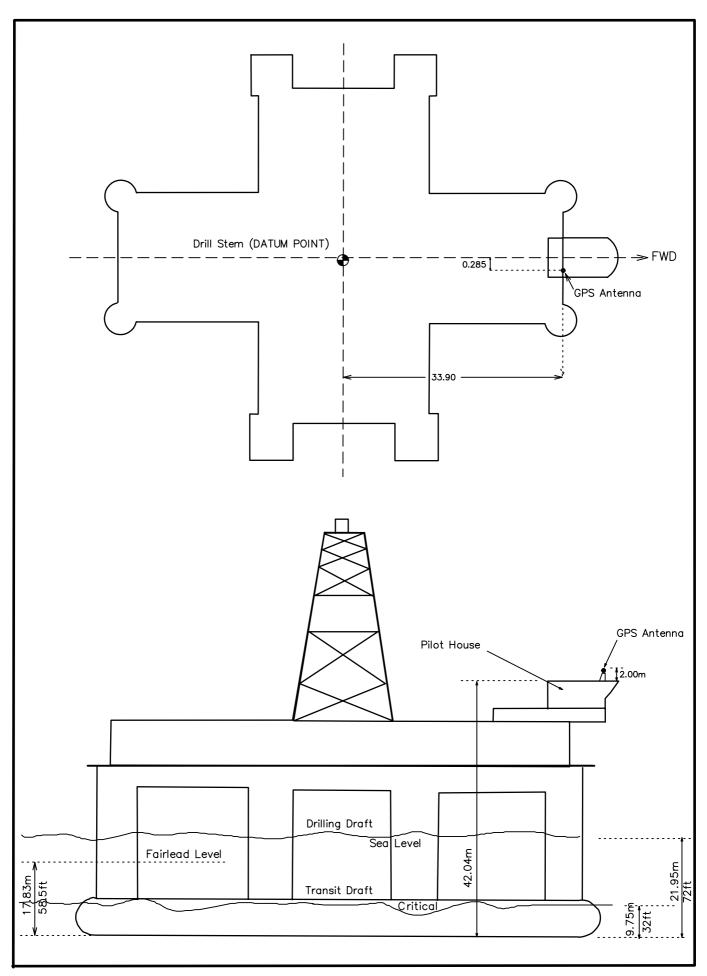
Mean corrected heading: 253.9°T SD heading: 0.6°T Intended heading: 257.6°T Difference from intended: -3.7° Gyro C-O: 0.5° Convergence: -0.89°

Final Datum Position is 3.20m on a bearing of 350.7°T (351.6°G) from the published location.

### **APPENDIX H**

**OCEAN BOUNTY OFFSET DIAGRAM** 

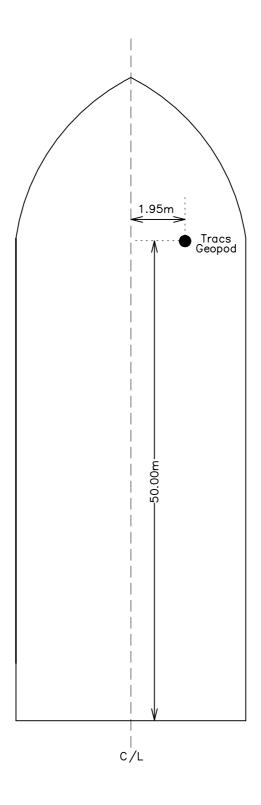
## OCEAN BOUNTY OFFSET DIAGRAM



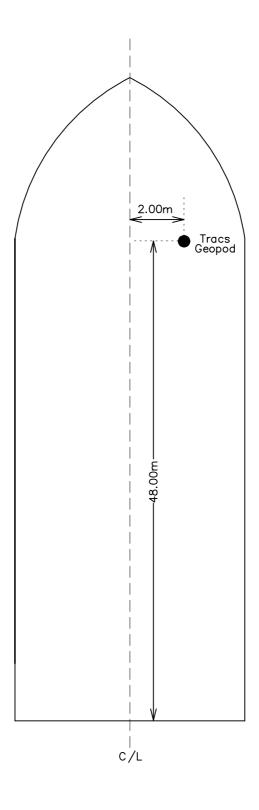
### **APPENDIX I**

PACIFIC SENTINEL AND PACIFIC CONQUEROR OFFSET DIAGRAMS

## PACIFIC SENTINEL



## PACIFIC CONQUEROR



(NOT TO SCALE)

## **APPENDIX J**

**GNS2 CONFIGURATION FILE PRINTOUT** 

#### JOB DETAILS : 3382A3/ Job Number Job Description : Ocean Bounty to Patricia-2 $^{\prime}$ : Thales GeoSolutions Group Ltd Company Client : OMV / Time Zone : GMT +10:00 -WORKING SPHEROID AGD 1966 : 6378160.000 m Semi-major : 0.006694541855 e Squared WORKING PROJECTION AMG Zone 55 : 00°00'00.000"N Lat of Origin Long of Origin : 147°00'00.000"E False Easting : 500000.00 False Northing : 10000000.00 500000.00 : 0.999600 Scale Factor : Metres Units GPS TRANSFORMATION From : WGS 84 : 6378137.000 m Semi-major : 0.006694380067 e Squared To : AGD 1966 Dx. : 123.314 m : 47.223 m Dy : -136.594 m Dz 0.2640 secs Rot x: Rot y: 0.3220 secs 0.2700 secs 1.3840 ppm Rot z : Scale : WAYPOINTS 0.00 m E: 626048.80 N: 5792058.60 Ht: Baleen-1 5.00 m Tol2 E: 626676.40 N: 5792539.70 Ht: E: 626947.80 N: 5789695.40 Ht: 0.00 m Tol1: Baleen-3 0.00 m Tol1: 5.00 m Tol2 Patricia-1 E: 627209.00 N: 5790097.80 Ht: 0.00 m Tol1: 5.00 m Tol2 Patricia-2 E: 621503.10 N: 5771736.08 Ht: E: 632352.85 N: 5794780.59 Ht: 0.00 m West Tuna 0.00 m Run In TRACK GUIDANCE None defined Ocean Bounty (semi-sub rig) Shape Definition: Ocean Bounty Line:-X: 14.20 m Y: 37.00 m X: 14.20 m Y: 16.60 m X: 39.30 m Y: 16.60 m W. Golf. Verified by: (sign)\_ (print)

10:43 16-Jun-2002

Page 1 of 6

```
X: 39.30 m Y: -16.60 m
   X: 14.20 m Y: -16.60 m
X: 14.20 m Y: -36.20 m
X: -14.20 m Y: -36.20 m
   X: -14.20 m Y: -16.60 m
X: -39.30 m Y: -16.60 m
X: -39.30 m Y: 16.00 m
   X: -14.20 m Y: 16.00 m
X: -14.20 m Y: 37.00 m
   X: 14.20 m Y: 37.00 m
   Line:-
    X: -4.00 m Y: 30.00 m
    X: 4.00 m Y: 30.00 m
        4.00 m Y: 41.00 m
2.00 m Y: 45.00 m
    х:
    Х:
   X: -2.00 m Y: 45.00 m

X: -4.00 m Y: 41.00 m

X: -4.00 m Y: 30.00 m
  Tracking Point
                        : Datum/
  Pitch and Roll Centre: Datum
  Selected Sources:-
   Primary Position: T1 Thales UKOOA (Using Antenna Offset: GPS Ae)
   Backup Position : T2 Thales UKCOA (Using Antenna Offset : GPS Ae)

Primary Heading : E1 ECB 10008

Primary Height : Datum Displacement
   Primary Height
                     : Manual
   Pitch and Roll
   Soundings : Manual
                      : Position Filter
   Speed
   Course Made Good : Posn Filter CMG
  Equipment:-
   T1 Thales UKOOA
    Status: ON Interface: Sock1

Antenna Offset Selected: GPS Ae

X: 0.28 m Y: 33.90 m Z: 20.00 m Rng: 33.90 m Brg: 0.5°
    Apply Pitch Roll: Off Stale Time: 5.0 s Posn SD: 3.0 m Ht SD: 1.0 m
    Update posn only when diff corrected
    Filter: Off Time Constant: 60.0 s Sample Dwell: 0.5 s
    Gate: Off Gate Width: 9.0 xSD Minimum Gate: 0.0 m
   T2 Thales UKOOA
    Status: ON Interface: Sock2
    Antenna Offset Selected: GPS Ae
     X: 0.28 m Y: 33.90 m Z: 20.00 m Rng: 33.90 m Brg: 0.5°
    Apply Pitch Roll: Off Stale Time: 5.0 s Posn SD: 3.0 m Ht SD: 1.0 m
    Update posn regardless of whether diff corrected
    Filter: Off Time Constant:60.0 s Sample Dwell: 0.5 s
    Gate: Off Gate Width: 9.0 xSD Minimum Gate: 0.0 m
   S1 SGB 1000S
    Status: ON Interface: COM6
    C-O: 0.5 degs/Stale Time: 5.0 s SD: 0.1 degs
                                                 _ (print)
Verified by: (sign)
                                                                           Page 2 of 6
10:43 16-Jun-2002
```

#### GNS II CONFIGURATION FILE C:\Ocean Bounty\Ocean Bounty.gns

```
Filter: Off Gate: Off Time Constant: 5.0 s Sample Dwell: 0.5 s
  T3 Tracs TDMA Master
   Status: ON Interface: COM10
   Antenna Offset Selected: GPS Ae
                                                 33.90 m Brg: 0.5°
    X: 0.28 m Y: 33.90 m Z: 20.00 m Rng:
 Defined Offsets:-
  Datum
                                                 0.00 m Brg: 0.0°
                     0.00 m Z:
                                  0.00 m Rng:
         0.00 m Y:
   X :
  GPS Ae
                                  20.00 m Rng: 33.90 m Brg: 0.5°
   X:
        0.28 m Y:
                     33.90 m Z:
  Fairlead 1
                                                 41.27 m Brg:287.8°
                     12.60 m Z:
                                  -4.11 m Rng:
   X: -39.30 m Y:
  Fairlead 2
                                                 42.66 m Brg:292.9°
                     16.60 m Z:
                                  -4.11 m Rng:
   X: -39.30 m Y:
  Fairlead 3
                                                42.66 m Brg: 67.1°
   х:
       39.30 m Y:
                     16.60 m Z:
                                  -4.11 m Rng:
  Fairlead 4
                                                41.27 m Brg: 72.2°
                                  -4.11 m Rng:
   X:
        39.30 m Y:
                     12.60 m Z:
  Fairlead 5
                                                 41.27 m Brg:107.8°
   X: 39.30 m Y: -12.60 m Z:
                                  -4.11 m Rng:
  Fairlead 6
                                  -4.11 m Rng:
                                                42.66 m Brg:112.9°
       39.30 m Y: -16.60 m Z:
   X:
  Fairlead 7
                                                 42.66 m Brg:247.1°
                                  -4.11 m Rng:
   X: -39.30 m Y: -16.60 m Z:
  Fairlead 8
                                 -4.11 m Rng: 41.27 m Brg:252.2°
   X: -39.30 m Y: -12.60 m Z:
Conqueror (ship)
 Shape Definition: Pac Conquerer
  Line:-
   X: -6.80 m Y:
                     0.00 m
   X: -6.80 m Y: 49.40 m
       0.00 m Y:
6.80 m Y:
                    65.00 m
   X:
   Х:
                    49.40 m
       6.80 m Y:
                     0.00 m
   Х:
   X: -6.80 m Y:
                     0.00 m
   Line:-
   X: -1.50 m Y: 35.00 m
   X: -3.50 m Y:
X: -3.50 m Y:
                    37.00 m
                    45.00 m
   X: -6.00 m Y:
X: -6.00 m Y:
                    45.00 m
                Y:
                    47.00 m
   X: -3.50 m Y:
                    47.00 m
   X: -3.50 m Y: 49.00 m
   X: -2.00 m Y:
                    51.00 m
        2.00 m Y:
                    51.00 m
   х:
   X:
        3.50 m Y:
                    49.00 m
        3.50 m
                    47.00 m
                Y:
   х:
         6.00 m
                    47.00 m
   X:
                Y:
   X:
         6.00 m Y:
                    45.00 m
        3.50 m
                    45.00 m
   х:
                Y:
        3.50 m Y: 37.00 m
   х:
```

\_\_\_\_\_ (print)\_\_\_\_\_

Verified by: (sign)\_

```
X: 1.50 m Y: 35.00 m
X: -1.50 m Y: 35.00 m
  Tracking Point
                      : Datum
 Pitch and Roll Centre: Datum
  Selected Sources:-
  Primary Position : T4 Tracs TDMA Remote (Using Antenna Offset : Pod)
  Primary Heading : T4 Tracs TDMA Remote
Primary Height : Datum Displacement
                   : Manual
  Pitch and Roll
   Soundings
                    : Manual
                    : T4 Tracs TDMA Remote
  Speed
  Course Made Good : Posn Filter CMG
 Equipment:-
   T4 Tracs TDMA Remote
    Status: ON Interface: Not defined
    Antenna Offset Selected: Pod
                                      0.00 m Rng: 48.04 m Brg: 2.4°
           2.00 m Y:
                      48.00 m Z:
    х:
 Defined Offsets:-
  Datum
                                                     0.00 m Brg: 0.0°
                       0.00 m Z:
                                     0.00 m Rng:
   х:
          0.00 m Y:
   Pod
          2.00 m Y:
                                     0.00 m Rng:
                                                    48.04 m Brg: 2.4°
                       48.00 m Z:
   Х:
Sentinel (ship)
  Shape Definition: Pac Sentinel
  Line:-
   X: -6.80 m Y:
                      0.00 m
   X: -6.80 m Y:
X: 0.00 m Y:
                      49.40 m
                      65.00 m
   X:
         6.80 m Y:
                      49.40 m
   X:
   X: 6.80 m Y:
X: -6.80 m Y:
                       0.00 m
                       0.00 m
   Line:-
   X: -1.50 m Y:
X: -3.50 m Y:
                     35.00 m
                     37.00 m
    X: -3.50 m Y: 45.00 m
   X: -6.00 m Y:
X: -6.00 m Y:
                      45.00 m
                      47.00 m
    X: -3.50 m Y:
                    47.00 m
    X: -3.50 m
                      49.00 m
                 Y:
       -2.00 m
                     51.00 m
    х:
                 Y:
    х:
         2.00 m Y: 51.00 m
         3.50 m Y:
3.50 m Y:
                      49.00 m
    х:
                      47.00 m
    х:
    Х:
         6.00 m Y:
                      47.00 m
         6.00 m
                 Y:
                      45.00 m
    X:
         3.50 m Y:
                      45.00 m
    Χ:
    X:
         3.50 m Y: 37.00 m
         1.50 m
    X:
                 Y:
                      35.00 m
       -1.50 m Y: 35.00 m
    х:
                                 _____(print)_
Verified by: (sign)__
```

Page 4 of 6

10:43 16-Jun-2002

Tracking Point Pitch and Roll Cent	: Datum tre: Datum			
	: T5 Tracs TDMA : Datum Displace : Manual : Manual : Position Filte	Remote ement er	Antenna Off	fset : Pod)
Equipment:- T5 Tracs TDMA Remo Status: ON Int Antenna Offset Se X: 1.95 m Y:	terface: Not des elected: Pod		50.04 m Bi	rg: 2.2°
Defined Offsets:-				
Datum				
X: 0.00 m Y:	0.00 m Z:	0.00 m Rng:	0.00 m Bro	g: 0.0°
Pod X: 1.95 m Y:	50.00 m Z:	0.00 m Rng:	50.04 m Brg	g: 2.2°
			1	
ANCHORS				
Ocean Bounty				
Fairleads:-				
Name	X :	Y Z	Rng	Brq
Fairlead 1	-39.30 m 12.	.60 m -4.11		m 287.8°
Fairlead 2	-39.30 m 16.	.60 m -4.11		m 292.9°
Fairlead 3	39.30 m 16.	.60 m -4.11	m 42.66	m 67.1°
Fairlead 4	39.30 m 12.	.60 m -4.11	m 41.27	
Fairlead 5	39.30 m -12			m 107.8°
Fairlead 6	39.30 m -16.	.60 m -4.11	m 42.66	m 112.9°
Fairlead 7	39.30 m -16.	.60 m -4.11 .60 m -4.11	m 42.66 m 42.66	m 247.1° /
Fairlead 8		.60 m -4.11	m 41.27	m 252.2°
Main Intended Posi	tions:-			
Name	Easting	Northing	Depth	Tolerance
Anchor 1	626784.89	5788755.74	0.00 m	0.00 m
Anchor 2	626186.75	5789139.22	0.00 m	50.00 m
Anchor 3	625883.53		0.00 m	50.00 m
Anchor 4		5791147.83	0.00 m	50.00 m
Anchor 5		5791439.86	0.00 m	50.00 m
Anchor 6		5791056.38	0.00 m	50.00 m
Anchor 7	628534.47		0.00 m	50.00 m
Anchor 8	628146.24	5789047.76	0.00 m	50.00 m /
Main Actual Position	ons:-			
Name	Easting 626348.17	Northing	Depth	Tolerance
Anchor 1	626348.17	5791775.75	51.99 m	U.UU m
Vanified by /sign		(nrin	+1	
Verified by: (sign)_		(brin	·,	D E

Anchor 2	625834.55	5791914.60	52.00 m	50.00 m
Anchor 3	625685.61	5792890.32	51.99 m	50.00 m
Anchor 4	625992.79	5793274.98	52.07 m	50.00 m
Anchor 5	626878.74	5793328.39	51.95 m	50.00 m
Anchor 6	627620.20	5793415.45	52.01 m	50.00 m
Anchor 7	627574.33	5792207.29	51.99 m	50.00 m.
Anchor 8	627345.21	5791787.89	52.00 m	50.00 m

Verified	by:	(sign)_	(print)	
	_			

## **APPENDIX K**

**DAILY REPORT SHEETS** 

Date:13 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2 Equipment Thales Personnel Equipment Op B/up Op B/up 1200 0600 1800 2400 GPS Paul Malatzky (PM) Echo Sounder Swell SkyFix Steve Bradley (SB) Sidescan SkyFix Spot Pinger Sea Gyro Boomer GNS<sub>2</sub> **Heave Comp** Wind MultiFix 3 Velocity Probe Remote CODA Bar Sextant Client Personnel Tracs TDMA Bill Edmonds Temp DIARY OF OPERATIONS **PAGE 1 OF 12** TIME Time Zone = UTC + 10.0 Thursday 13 June, 2002 0915 Thales personnel PM and SB depart Perth Domestic Airport for Melbourne. 1430 Thales personnel arrive in Melbourne. 1530 Check in at the Holiday Inn Melbourne. 1600 Advised by Thales operationis in Perth, transfer to rig delayed until Saturday 15 June 2002. Forms are to be completed daily in duplicate on all vessels. Each form should be countersigned by the Clients Representative, the original being retained on board until the next crew change or at the end of job, whichever is the earlier, when they should be returned to the PERTH office.

Signature

CLIENT REPRESENTATIVE

Signature

SURVEYOR

Date:14 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2 Equipment Equipment Thales Personnel B/up Op B/up 1800 0600 1200 2400 GPS Echo Sounder Paul Malatzky (PM) Swell SkyFix Sidescan Steve Bradley (SB) SkyFix Spot Pinger Sea Gyro Boomer GNS<sub>2</sub> Heave Comp Wind MultiFix 3 Velocity Probe Remote CODA Bar Sextant Client Personnel Tracs TDMA Bill Edmonds Temp DIARY OF OPERATIONS **PAGE 2 OF 12** TIME Time Zone = UTC + 10.0 Friday 14 June, 2002 ΑII Stand by for transfer to Ocean Bounty at Baleen-3 location. Day Forms are to be completed daily in duplicate on all vessels. Each form should be countersigned by the Clients Representative, the original being retained on board until the next crew change or at the end of job, whichever is the earlier, when they should be returned to the PERTH office.

Signature

CLIENT REPRESENTATIVE

Signature

SURVEYOR

Date:15 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2

Equ	ipment	Ор	В/ир		Equipment	Ор	B/up	I naies P	ersonnei			0600	1200	1800	240
GPS		<b>✓</b>			Echo Sounder			Paul Mal	atzky (PM)	F					
SkyFi	X	<b>√</b>			Sidescan				adley (SB)		Swell				
	x Spot	<b>√</b>			Pinger			0.0.02.		-					
Gyro		✓			Boomer						Sea				
GNS	2	✓			Heave Comp					F					
MultiF		✓			Velocity Probe						Wind				
Remo	te	✓			CODA						_				
Sexta	nt	✓						Client Pe	ersonnel		Bar				
Tracs	TDMA	✓						Bill Edmo	onds	Ī	+				
											Temp				
	OF OPE			40	O Cotundou 4	F 1	- 0000					PAG	E 3 OF	12	
TIME	Time Zo	one = (	J1C +	10	.0 <u>Saturday 1</u>	5 June	e, 2002								
0600	PM and	SB ch	neck ou	ıt o	of the Holiday Inn N	Melbou	urne.								
0630	PM and	SB ch	neck in	at	Bristow Helicopter	rs Ess	endon a	irport.							
0700	Attend E	Bristov	v Helic	opt	ers pre flight safet	y brief	fing.								
0715	Departu	re to C	Ocean	Во	unty delayed to 09	930.									
0930	Departu	re to C	Ocean	Во	unty delayed to 12	200.									
1205	Depart I	Essen	don air	ро	rt for the Ocean Bo	ounty	at the B	aleen-3 loca	ation.						
1315	Arrive o	nboar	d the C	се	an bounty at the E	Baleen	-3 locati	on.							
1400	Locate -	Thales	equip	me	ent container, stand	dby fo	r contair	ner to be mo	ved in vicini	ity	of pilo	ot hous	se.		
1430	Anchor	recove	ery exp	ec	ted to commence	afterno	oon of 1	6 June 2002	2.						
1600	Confirm	with c	client re	pr	esentative Bill Edr	nonds	, intend	ed Patricia-2	2 location to	b	e AGD	)66 co	ordina-	ites	
	38° 01'	39.97'	' South	14	48° 26' 57.83'' Eas	st, AM	G Zone	55, 627 209	0.00m East 5	5 7	<b>'</b> 90 09	7.80m	North	-	
1800	Comme	nce m	obilisa	tior	n of Thales equipn	nent.									
1930	Thales 6	equipn	nent op	er	ational.										
2359	Standby	/ for ar	nchor r	ec	overy to commenc	e.									
					on all vessels. Each forr b, whichever is the earlier					ative	e, the ori	ginal bei	ng retaine	ed on boa	rd
Signature									Signature	Э					

SURVEYOR

CLIENT REPRESENTATIVE

Date:16 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2

Equipment	Op	B/up
GPS	✓	
SkyFix	✓	
SkyFix Spot	✓	
Gyro	✓	
GNS 2	✓	
MultiFix 3	✓	
Remote	✓	
Sextant	✓	
Tracs TDMA	✓	

Op	B/up
	Ор

Tr.
Thales Personnel
Paul Malatzky (PM)
Steve Bradley (SB)
Client Personnel
Bill Edmonds

	0600	1200	1800	2400
Swell				
Sea				
Wind				
Bar				
Temp				

DIARY OF OPERATIONS PAGE 4 OF 12

IAKI	OF OPERATIONS FAGE 4 OF 12
TIME	Time Zone = UTC + 10.0 Sunday 16 June, 2002
0720	Commence solar azimuth observations.
0730	Conclude solar azimuth observations.
0800	Calculate gryocompass C-O value of <b>+0.5</b> and enter into GNS II.
0930	Thales systems including TRACS in fully operational. Flux gate compass on Conqueror faulty.
1130	PM and SB attend daily pre-tour meeting.
1230	PM and SB attend the pre-rig move meeting onboard the Ocean Bounty. Procedure of the move discussed.
	Anchor 6 confirmed as run in anchor, distance of 2nm. All advised of location of Patricia-1 well head. Anchor
	recovery expected to commence 1800hrs
1400	Contacted Thales operations manager N.McKay with a project update.
1800	Anchor recovery delayed.
2230	Thales personnel participate in the fire and abandon rig drill onboard the Ocean Bounty.
2359	Standby for anchor recovery to commence.
	to be completed daily in dualicate on all vescels. Each form should be countersigned by the Clients Perresentative, the crininal being retained on beard

Forms are to be completed daily in duplicate on all vessels. Each form should be countersigned by the Clients Representative, the original being retained on board until the next crew change or at the end of job, whichever is the earlier, when they should be returned to the PERTH office.

Signature	Signature	
SURVEYOR		CLIENT REPRESENTATIVE

Date:17 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2

Equ	ipment	Ор	B/up	Equipment	Op	B/up	Thales F	Personnel		0600	1200	1800	240
GPS		✓		Echo Sounder			Paul Ma	latzky (PM)					
SkyFi	X	✓		Sidescan				adley (SB)	Swell				
	x Spot	✓		Pinger				, ,	_				
Gyro	•	✓		Boomer					Sea				
GNS		<b>✓</b>		Heave Comp					100				
MultiF	ix 3	✓		Velocity Probe					Wind				
Remo		✓		CODA					Dan				
Sexta		✓					Client Pe		Bar				
Tracs	TDMA	✓					Bill Edm	onds	Temp				
													<u> </u>
DIARY	OF OPE	RATIO	ONS							PAG	E 5 Of	- 12	
TIME	Time Zo	ne = l	JTC + 1	10.0 <u>Monday 17</u>	June	, 2002							
0001	Ocean E	3ounty	has A	C generator fail.									
0300	Standby	for ar	nchor re	ecovery to commend	ce.								
0600	Standby	for ar	nchor re	ecovery to commend	ce.								
0815	AC gene	erator	operati	onal									
1130	PM and	SB at	tend da	aily pre-tour meeting									
1200	Standby	for ar	nchor re	ecovery operations t	o com	mence.	ROV to cor	nplete subse	a work,	weath	er mai	ginal a	and
	affecting	g opera	ations.										
1800	Standby	for ar	nchor re	ecovery to commend	ce.								
2359	Standby	for ar	nchor re	ecovery to commend	ce.								
				cate on all vessels. Each for fjob, whichever is the earlie					tive, the or	iginal bei	ng retaine	ed on boa	ard
Signature			VEYOR					Signature	·		PRESEI		

Date:18 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2

Equipment Op B/up

Equipment Op B/up Thales Personnel

												0000	1200	1000	
GPS		✓		Echo S	ounder			Paul Ma	alatzky (PM)						
SkyFix	(	✓		Sidesca	an			Steve B	radley (SB)	IJĽ	Swell				
SkyFix	Spot	✓		Pinger											
Gyro		✓		Boome	r						Sea				
GNS 2		✓		Heave						41,	Wind				
MultiF		<b>√</b>			y Probe					_  L	vviiiu				
Remo		<b>√</b>		CODA				<u> </u>			Bar				
Sextar		<b>√</b>							ersonnel	4  -	- Dui				
Tracs	TDMA	✓						Bill Edn	nonas	-   -	Гетр				
										┧┖					
										_					
IARY (	OF OPE	RATIC	ONS									PAG	E 6 OF	<del>-</del> 12	
TIME	Time Zo	ne = l	JTC + 1	10.0 <u>Τι</u>	uesday 18	8 June,	2002								
0001	Standby	for ar	nchor re	ecovery to	commend	ce.									
0600	Standby	for ar	nchor re	ecovery to	commend	ce.									
1130	PM and	SB at	tend da	ily pre-tou	r meeting										
<b>1</b>				-			nence. I	ROV to co	mplete subs	sea v	vork.	weath	er mai	rginal a	and
	affecting										,			g	
+		•		ecovery to	commend	ce.									
				erations m			with a	project up	date.						
				covery to											
				<u> </u>											
												·			
orms are t	o be compl	eted dail	y in duplica	ate on all vess	els. Each for	m should b	e counters	signed by the (	Clients Represer	itative	, the ori	ginal beiı	ng retaine	ed on boa	ard
		J		. ,											
ignature		SI ID	VEYOR						Signatu	ire	CLU	NT DE	PRESE	NTATIV	
		ついて	v = 1 U H						1		I I I	131 KE	ースヒンヒ	31 H I I I V I	

Date:19 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2

Equipmer	nt Op	B/up	Equipm	ent	Ор	B/up	Thales P	ersonnel		0600	1200	1800	240
GPS	✓		Echo Sour	nder			Paul Mal	atzky (PM)					
SkyFix	✓		Sidescan				Steve Bra	adley (SB)	Swell				
SkyFix Spo			Pinger						Sea				
Gyro	✓ ✓		Boomer										
GNS 2 MultiFix 3	<b>∨</b>		Heave Cor Velocity Pr	-					Wind				
Remote	<b>✓</b>		CODA	obe									
Sextant	✓		3327				Client Pe	ersonnel	Bar				
Tracs TDM	IA ✓						Bill Edmo	onds	_				
									Temp				
DIARY OF O										PAG	E 7 OF	<del>-</del> 12	
TIME Time	Zone =	UTC +	10.0 <u>Wedı</u>	nesday 1	19 Ju	ıne, 20	<u>02</u>						
			ecovery opera		comr	mence.							
0422 # 8 F	CC pass	ed to th	ne Conqueror.										
0425 Cond	queror ch	ases ou	ut # 8.										
0426 # 4 F	PCC pass	ed to th	ne Sentinel.										
0445 ROV	Recover	ring.											
0515 # 8 0	Off the bo	ttom, co	ommences he	aving in.									
0520 # 4 0	Off the bo	ttom, co	ommences he	aving in.									
0630 # 8 F	CC retur	ned to	the rig.										
0637 # 1 F	PCC pass	ed to th	ne Conqueror.										
0640 # 4 F	PCC retur	ned to	the rig.										
0645 Cond	queror ch	ases ou	ut # 1.										
0654 # 5 F	CC pass	ed to th	ne Sentinel.										
0703 Sent	inel chas	es out #	<b>#</b> 5.										
0804 # 1 F	CC retur	ned to	the rig.										
0815 # 2 F	CC pass	sed to th	ne Conqueror.										
0825 # 5 F	CC retur	ned to	the rig.										
0826 Cond	queror ch	ases ou	ut # 2.										
0855 # 2 F	CC parts	s from w	vire.										
0922 Sent	inel is co	nnected	to the main t	ow bridle	<del>)</del> .								
1005 Cond	queror co	llects #	2 chain with "	J" hook a	and o	chases	out.						
1030 Cond	queror de	cks # 2	•										
	change or a	t the end o	cate on all vessels.  If job, whichever is t						•				
	CLIE	N/EVAD		i .				ı	CLI	ENIT DE	DDECE	ITATIV	_

Date:19 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2

Equipment Op B/up Thales Personnel

Equipment Op B/up

												0000	1200	1600	24
GPS		✓		Echo	Sounder			-	Paul Mala		Sural				
SkyFix		<b>√</b>		Sides					Steve Bra	dley (SB)	Swel	1			
SkyFix Gyro	Spot	<b>✓</b>		Pinge Boom				-			Sea				
GNS 2		<b>→</b>			e Comp			-			1 -				
MultiFix		✓			ity Probe			1			Wind				
Remote		<b>✓</b>		COD	A						Bar				
Sextan		<b>√</b>						_	Client Per		Dai				
Tracs 7	IDMA	✓						<u> </u>	Bill Edmoi	108	Temp	)			
											]		I		<u></u>
DIARY O	F OPE	RATIC	ONS									PAG	E 8 OF	12	
TIME	Γime Zo	ne = l	JTC +	10.0	Wednesda	ay 19 Ju	une, 20	002 (	Continue	<u>d</u>					
1035 #	# 2 off th	ne bott	tom, co	mmence	s heaving	in.									
1150 #	# 2 PCC	returi	ned to	the rig.											
1155 A	Anchor	recove	ery ope	rations te	emporarily	halted.	ROV to	o ret	urn to wat	er.					
1235	Ocean E	Bounty	mano	euvres ne	ear Baleen	-3 to as	sist RC	O VC	perations						
					meeting o				•						
1730 S	SB atter	nds da	ily pre-	tour mee	eting.				•						
			-		meeting or	nboard t	the Oce	ean	Bounty.						
				ne Conqu											
1950 C	Conque	ror cha	ases o	ut # 3.											
1952	Comme	nce he	eaving	in on # 6	to clear O	cean Bo	ounty of	f Ba	leen-3 we	ll head.					
2032 #	# 2 Off t	he bot	tom, co	ommence	es heaving	in.									
2157 #	#3 PCC	return	ed to r	ig											
2208 #	#7 PCC	passe	ed to C	onqueror											
2245 #	‡7 Com	mence	e heave	e in											
2310 #	#6 Rig c	omme	ences h	neave in											
	#7 PCC														
				ave in las	t anchor.										
					essels. Each fo							original bei	ng retaine	ed on boa	ard
ignature										Signatu	ıre				
J		SUR	VEYOR		_					gatc		JENT RE	PRESE	VITATIV	Ē

Date: 20 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2

Equipment	Op	В/ир	⊨quipm	ent	Op	В/ир		Thales Pe	rsonnei		0600	1200	1800	240
GPS	<b>✓</b>		Echo Sour	ıder				Paul Mala	tzky (PM)					
SkyFix	✓		Sidescan					Steve Bra	,	Swell				
SkyFix Spot	✓		Pinger						, ,					
Gyro	✓		Boomer							Sea				
GNS 2	✓		Heave Cor	_						Wind				
MultiFix 3	<b>√</b>		Velocity Pr	obe						VVIIIG				
Remote	<b>✓</b>		CODA					Oli t D		Bar				
Sextant Tracs TDMA	<b>∨</b>							Client Per Bill Edmor						
TIACS IDIVIA								DIII EUIIIOI	ius	Temp				
DIARY OF OPE			10.0 <u>Thur</u> s	sday 20	0 Jun	e, 2002					PAG	E 9 OI	<del>-</del> 12	
0030 #6 Anch	nor off	the bot	tom. Rig unde	ertow b	v Sen	itinel de	ena	rts for Patr	icia-2 run i	n				
			2 mile Run-in		<i>y</i> 0011	itillor de	<del>Jpu</del>	10 101 1 00	1014 2 1411 11					
0338 Ocean	Bounty	/ drops	# 6.											
0340 # 6 on t	he bot	tom, po	osition 628 233	3mE 5 7	791 0	55mN								
0420 Ocean	Bounty	over F	Patricia-2 locat	ion. Ov	er rur	nning 50	00f	t to allow d	eployment	of # 2 a	and # 3	3.		
0425 All stop	on # 6	6, 500ft	past Patricia-2	2 prepa	ring to	o run #	2.							
0442 # 2 PC0	C pass	ed to th	ne Conqueror.											
0503 Conque	eror rui	ns out #	‡ 2											
0510 # 2 on t	he bot	tom, po	osition 626 591	mE 5 7	789 56	65mN								
0530 # 2 not	holdin	g, Cond	queror recover	ing for	re-rur	١.								
0610 # 2 off t	he bot	tom, co	mmences hea	ving in										
0640 Conque	eror co	mmend	es to re-run #	2										
			osition 626 547	mE 5 7	789 49	90mN								
0715 # 2 PC0	C retur	ned to	the rig.											
0731 # 3 PC0	C pass	ed to th	ne Conqueror.											
0750 Conque	ror rur	ns out #	<b>‡</b> 3											
0752 # 3 on t	he bot	tom, po	osition 626 313	3nE 5 7	90 36	4mN								
0805 Sentine	l is dis	connec	cted from the n	nain tov	w brid	le.								
0815 # 3 PC0	C retur	ned to	the rig.											
0825 # 7 PC0	C pass	ed to th	ne sentinel.											
0845 Sentine	l runs	out # 7												
0853 # 5 PC0	C pass	ed to th	ne Conqueror.											
Forms are to be comp until the next crew cha										tive, the or	iginal bei	ng retaine	ed on boa	ard
Signature			<del></del>						Signature					
	SUR	RVEYOR								CLI	ENT RE	PRESE	IVITATIV	Ε

Date:20 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2

Equipment	Ор	В/ир	Equipm	ent	Op	B/up	i naies P	ersonnei		0600	1200	1800	240
GPS	<b>✓</b>		Echo Sour	nder			Paul Mal	atzky (PM)					
SkyFix	✓		Sidescan	idoi				adley (SB)	Swell				
SkyFix Spot	✓		Pinger					,	_				
Gyro	✓		Boomer						Sea				
GNS 2	✓		Heave Cor	mp					\\\\\\\				
MultiFix 3	✓		Velocity Pr	obe					Wind				
Remote	<b>√</b>		CODA						Bar				
Sextant	<b>✓</b>						Client Pe						
Tracs TDMA	. •						Bill Edmo	onas	Temp				
													1
DIARY OF OP			10.0 <u>Thur</u>	sday 20	) Jun	e, 2002	? Continued	<u></u>		PAG	E 10 C	)F 10	
0855 # 7 on	the bot	tom, pc	sition 628 05	1mE 5 7	789 7	77mN							
0912 Conqu	eror rui	ns out #	<sup>‡</sup> 5										
0915 # 7 PC	C retur	ned to	rig.										
0924 # 5 on	the bot	tom, po	sition 627 629	9mE 5 7	790 9 <sup>-</sup>	17mN							
0928 # 1 PC	C pass	ed to th	ne Sentinel.										
0955 Standt	y prob	lems wi	th # 4 and # 1	winche	es.								
0957 Sentin	el runs	out # 1											
1007 # 1 on	the bot	tom, po	sition 627 015	5mE 5 7	789 3	57mN							
1020 # 1 PC	C retur	ned to	the rig.										
1023 # 4 PC	C pass	ed to th	ne Conqueror.										
1025 # 8 PC	C pass	ed to th	ne Sentinel.										
1039 Conqu	eror rui	ns out #	ŧ 4										
1050 # 4 on	the bot	tom, po	sition										
1057 Sentin	el runs	out # 8											
1107 # 8 on	the bot	tom, po	sition										
1115 # 4 PC	C retur	ned to	the rig.										
1130 Ocean	Bounty	y positio	oning over the	Patricia	a-2 lo	cation.							
1135 # 8 PC	C retur	ned to	the rig.										
1140 Ocean	Bounty	/ positio	ned approxim	ately 0	.6m @	② 350°	Γ from Patric	ia-2 location	١.				
1145 Ocean	Bounty	y storm	tensioning an	chors to	350	kips.							
1400 Fine tu	ıning ar	nchors t	o adjust rig he	eading a	aroun	d to 25	7°T.						
1500 Rig po	sition a	ccepted	d by client rep	resenta	tive B	ill Edm	onds, spud i	n commenc	es.				
Forms are to be comunities are to be comunities are to be comunities are to be communities are to be communiti									tive, the or	iginal bei	ng retaine	ed on boa	ard
Signature			·					Signature					
	SUF	RVEYOR		1					CLI	ENT RE	PRESE	VITATIV	E

Date:20 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2

B/up

Thales Personnel

0600

1200

1800

2400

Ор

B/up

Op

Equipment

Equipment

GPS		✓		Echo Sou					Malatzky		Swe				
SkyFix		✓		Sidescan				Steve	Bradley	/ (SB)	Swe	"			
	x Spot	✓		Pinger							Con				
Gyro		✓		Boomer							Sea	l.			
GNS 2	2	✓		Heave Co							\A/:				
MultiF	ix 3	✓		Velocity F	Probe						Win	a			
Remo	te	<b>&gt;</b>		CODA											
Sexta	nt	<b>✓</b>						Client	Person	nel	Bar				
Tracs	TDMA	✓						Bill Ec	dmonds						
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Date:21 June 2002 Client: OMV Australia Job No.: 3382A3 Vessel: Ocean Bounty Location: Patricia-2

Equipment	Ор	B/up	Equipme	nt Op	B/up	Thales P	ersonnel		0600	1200	1800	240
GPS	<b>✓</b>		Echo Sound	ler		Paul Mal	atzky (PM)					+
SkyFix	<b>✓</b>		Sidescan				adley (SB)	Swell				
SkyFix Spot	✓		Pinger				, ,					
Gyro	✓		Boomer					Sea				
GNS 2	✓		Heave Com					Wind				
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			opy of final fix	•								
0800 SB tra	insferre	d to Con	queror to repla	ice faulty fl	luxgate o	compass.						
0830 All Pa	tricia-2	project d	lata backed up	to CD.								
0900 SB re	turned to	o Ocean	Bounty									
0915 Comn	nence d	emobilis	ation of Thales	equipmer	nt.							
1030 Demo	bilisatio	n compl	ete.									
1100 Attend	d pre-flig	tht safet	y briefing.									
1230 Depai	t the O	cean Bou	unty for Melbou	irne and co	onnectin	g flight to Pe	erth.					
2000 Depai	t Melbo	urne Air	port for Perth.									
2330 Arrive	Perth d	lomestic	Airport.									
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#### **Drilling Summary**

The last anchor was pulled on Baleen-3 at 00:30 hours on the 20<sup>th</sup> June. The semi-submersible Ocean Bounty was then moved undertow of the Pacific Sentinel to Patricia-2 location in 4 hours.

The first anchor (#6) was dropped on bottom at 03:41 hours on June 20, 2002. Anchor #2 was lying upside down on the seabed and had to be pulled and reset. The last anchor was dropped at 11:50 hours, before the anchors were cross tensioned. In preparation to spud the well, the 30"/36" assembly was made up and racked back in the derrick. Also the 20"/30" casing was made up and landed in the moon pool.

The 36" BHA w/ a 26" bit (DSJC, IADC 111, 1x17, 3x24) and a 36" hole opener was ran in the hole to the mud line at 77.5 m. Patricia-2 was spudded at 16:00 hrs 20 June 2002. The 36" hole was drilled from 77.5 m to 111.5 m and a survey showed a  $1/4^{\circ}$  inclination. A wiper trip was performed and the hole was displaced prehydrated gel prior to pulling out.

After pulling out of the hole, the permanent guide base was moved to the moon pool. The rig was moved forward starboard with anchor 3 and paid out anchor 8 to stab the casing. The stabbing in of the casing was observed with the ROV. The 30" casing with 20" shoe was run and the last 2 m were washed to bottom. The slope indicator was checked with ROV and found to be 0° with a heading of 259°. The 30" casing was cemented in using 766 sacks of class G, with 94 barrels of sea water and 1% CaCl weight of 1.91 sg cement (160 barrel slurry) and displaced with 11.5 barrels of seawater. Cement was returned to surface and observed by the ROV.

The 17 1/2" assembly was made up with a 9 5/8" Sperry Sun performance motor with a 1.5° bend and run in the hole, tagging cement at 102 m. The cement and casing shoe was drilled out and the 17  $\frac{1}{2}$ " hole was then drilled from 111.5 m to 334 m in 5.5 hrs, using seawater and high viscosity sweeps and kicking off from 200 m. At TD 334 m, TVD was 332.5 m with an inclination of approximately 11.6° and an azimuth of 239.9°. Whilst drilling each stand, a gel pill was spotted on bottom then each stand was reamed. At TD, 100 barrels of high viscosity mud was swept and 320 barrels of pre-hydrated mud was spotted in the hole.

The 13 3/8" casing was made up and ran in the hole with 5" DP and 8" drill collars to apply enough weight to set lock down slips of 18 3/4" wellhead (80 klbs). No difficulties were experienced in latching the 18 3/4" wellhead in the 30" housing. Cemented the casing with 95 barrels of 12.5 ppg lead slurry, followed by 100 barrels of 15.9 ppg tail slurry. The bottom plug did not bump. Bled off and checked for backflow and found to be OK. The 18 3/4" wellhead running tool was released without problems.

The Xmas tree was fully function tested on surface, then run without isolation sleeve and latched into the 18 ¾" wellhead. This was confirmed with 50k overpull. The AX gasket was pressure tested to 3,000 psi for 10 minutes against the running tool and casing. The 10 ¾" pipe rams had been placed in the centre position of the drill pipe preventer and the BOP was fully function tested on surface. The BOP was nippled up to the riser, landed and latched into the Xmas tree, confirmed by 50k overpull. The shear rams were closed and the lower connector was tested successfully, to 500/3,000 psi against the casing.

The 12 ¼" BHA (PDM, RLL, MPT, Float, XO, 3 x 5" HWDPs, Jar, 3 x 5" HWDPs) with resistivity and gamma capability was made up and run in with a 1.15 bend in the motor. The cement was tagged at 300 m, some 4.05 m above the float collar. The top plug was found approximately 0.5 m above the float collar. Drilled out the cement plugs and firm cement throughout the shoe track. The shoe was drilled out and again firm cement to 334 m. The well was displaced to KCI/PHPA mud at a density of 1.06 sg before drilling 3 m of new formation to 337 m. Performed a formation integrity test with 1.06 sg mud to a pressure of 321 psi yielding an equivalent mud weight of 1.73 sg. Drilled to TD at 884 m with a maximum inclination at TD of 90°. Bit balling and a decrease in ROP was observed. The casing was run to bottom with no hole problems, and was landed and circulated for one and a half times the casing volume prior to the cement job. The casing was

cemented and the plug bumped at the calculated displacement before the 9 5/8" casing was pressure tested to 3,000 psi for 10 min.

The  $8\frac{1}{2}$ " drilling assembly was made up and run in hole to 848 m; the shoe track and 3 m of new hole to 887 m were drilled. Then the well was displaced with Flo-Pro mud of 1.07 sg and a formation integrity test yielded an equivalent mud weight of 1.4 sg. The 8  $\frac{1}{2}$ " hole was drilled from 887 m to 1385 m (701.2 mTVD). The assembly was pulled back to the shoe and the hole was circulated to 1.08 sg KCl brine.

The sand screens and the 6 5/8" production liner were run including the inner wash string and packer. The tie back sealing assembly and packer were landed at the second attempt successfully and pressure tested to 1500 psi. After rigging up the coiled tubing unit and bringing the well to production, the well was tested with several shut-in and flow periods.

After retrieving the BOP and pulling the anchors, the Ocean Bounty was under tow to Sole-2 at 00:45 on the 9th July 2002.

# **Drilling Fluids Recap**

# OMV Patricia 2 Vic L21 Bass Strait Development





**Drilling Fluids** 

M-I L.L.C.

#### **ONE-TRAX**

#### **DRILLING FLUIDS DATA MANAGEMENT SYSTEM**

Operator : OMV Australia

Well Name: Patricia 2 Field/Area: VIC / L21

Description: Development Location: Bass Strait Warehouse: Geelong

**Contractor:** Diamond Offshore

**Spud Date**: 20/06/2002

**TD Date :** 1/01/-4713

**Loc Code** : 7001

Dist Engr: Dave Bennett Sales Engr: Graeme Garrick Sales Engr: Dave Dixon

M-I Well No.:

Comments	: Horiz	ontal Fie	ld Devel	opment						
Туре	Size in	Depth m	TVD m	Hole in	MaxMW sp.gr.	Mud 1	Mud 2	Drilling Problem	Days	Cost \$
Casing	30	111	111	36	1.04	Spud Mud		None	1	2730.28
Casing	13.375	326	318	17.5	1.04	Spud Mud		None	1	8372.09
Casing	9.625	873	700	12.25	1.12	POLY-PLUS			4	41400.09
Open Hole				8.5						

Total Depth: m TVD: m Water Depth: 52.5 m Drilling Days: Total Mud Cost: \$





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- 1. DISCUSSION BY INTERVAL
- 2. DAILY DISCUSSION REPORT
- 3. COST BY INTERVAL
- 4. DAILY VOLUME SUMMARY SHEET
- 5. TOTAL MATERIAL COST
- 6. HYDRAULICS REPORT
- 7. DRILLING FLUIDS SUMMARY
- 8. PRODUCT CONSUMPTION
- 9. DAILY MUD REPORTS





# DISCUSSION BY INTERVAL





#### INTRODUCTION

OMV Petroleum was the operator for the horizontal development well Patricia # 2, drilled with the Diamond Offshore semi-submersible, Ocean Bounty spudded on the 20<sup>th</sup> June 2002.

The well was located in the Bass Strait in the permit VIC/L21 approximately 30 kilometres south of the Victorian town of Orbost. The location was latitude 38°01'39.97"S and longitude 148°26'57.83"E with a water depth of 51 meters and height of the rotary table above sea level being 26 meters. The well was vertically drilled for the first 2 intervals and deviated to 90 degrees in the 121/4:" section.

Total depth was reached at 1385m (TVD of 701m) on the 28<sup>th</sup> June 2002. The well was completed and a testing program carried out prior to suspending the well for later attachment to a pipeline.





 Interval I
 77.5 - 111.5 meters
 36" Hole
 30" Casing set at 111.5m

 Interval II
 111.5 - 334 meters
 17½" Hole
 13³/<sub>8</sub>" Casing set at 326 m

MUD TYPE : SEAWATER/HI VIS SWEEPS

HOLE PROBLEMS : None

MUD PROPERTIES :

Mud Weight : 1.04 SG Viscosity : 100+sec/qt

#### **OPERATIONS:**

Patricia #2 was spudded on the 20<sup>th</sup> June 2002 with seawater/Gel hi-vis sweeps.

A 26" bit and 36" hole opener was used to drill the section. The Seabed was tagged at 77.5 meters and hole drilled to 111.5 meters.

Approximately 480 barrels of mud was recovered from the previous well, this had a specific gravity of 1.2; a yield point of 30; and 6rpm reading of 15. and was used to "drill in" the hole opener. While drilling, seawater was used, 50 bbl of High Viscosity Pre-Hydrated Gel Mud was pumped before each connection. The "old" mud also provided volume for pumping intermittent sweeps while drilling. This aided in maintaining a clean hole and provided adequate cuttings removal.

The hole was good and drag was not observed on connections or while tripping.

At TD of 36" interval, 111.5 m, the hole was displaced to 150 bbl of High Viscosity Pre-Hydrated Gel Mud. A wiper trip was made to the sea bed and when back on bottom 200 bbl of High Viscosity Pre-Hydrated Gel Mud was left in the hole prior to pulling out and running 30 " casing.

The 17½" interval was drilled using the same mud system. Additional High Viscosity Pre-Hydrated Gel Mud was mixed and sweeps were pumped following the procedure for the 36" hole. At 334m, TD of the17½" interval a 100 barrel sweep of High Viscosity Pre-Hydrated Gel Mud was pumped before making a wiper trip. When back on bottom the hole was circulated clean with seawater and then displaced with 320 bbl of High Viscosity Pre-Hydrated Gel Mud. The drill string was then pulled and the 13³/<sub>8</sub>" casing was run and cemented as per the program.

Both the 30" and 13<sup>3</sup>/<sub>8</sub>" casing were run and cemented without problems.





#### **MUD**

An initial 885 bbls of 40 lb/bbl pre-hydrated Gel (PHG) was prepared and allowed to hydrate. After mixing all agitators and mixing pumps were turned off to enhance hydration. The old mud from the previous well was held in pit # 4 and was used to "drill in" the hole opener and to provide Volume for intermittent sweeps.

In addition to the mud program, 29 sacks of Calcium Chloride were used for mixing a cement water.

#### **SOLIDS CONTROL:**

In the 36" and  $17\frac{1}{2}$ " hole sections, there was no need for solids control as the mud returns were to the sea bed.

#### **OBSERVATIONS AND RECOMMENDATIONS:**

Drilling with Seawater and pumping High Viscosity Pre-Hydrated Gel Sweeps has always proved to be a very effective and economical option for drilling the top hole in similar geological formations.



#### DRILLING FLUIDS RECAP Patricia 2



Interval III	335 - 884m TVD = 702 m	121/4" Hole section	9 <sup>5</sup> / <sub>8</sub> " Casing set at 873m
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**MUD TYP** KCI/PHPA/Glycol

HOLE PROBLEMS None

90° at 884 m MAXIMUM DEGREE

**MUD PROPERTIES** 

: 1.06- 1.12 sg Mud Weight : 48 – 55 sec/at Viscosity Plastic Viscosity 10 - 15cP

Yield Point : 18-37 lb/100sqft

6 rpm : 9-15 Filtrate 5.4 - 6.8 mlKCL 5.0 - 5.5 % by wt 0.6 - 1.0 ppbPHPA 3.0 % by Vol. Glycol

Rheology at 49°C

#### **OPERATIONS:**

The BOP's were installed and tested and the 121/4" Drilling assembly was run to tag cement at 301 meters. The float, cement and shoe were drilled out and the shoe track cleaned out by pumping seawater and a Hi Vis sweep. The well was displaced to 1.06 SG KCI/PHPA/Glycol mud at 340 m. After circulating balanced mud a formation integrity test was performed to 1.73 SG EMW.

The 12½" hole was then directionally drilled to an interval depth of 884 meters and 702 meters TVD. Directional surveys were taken as required. At Interval depth the hole was circulated clean and a wiper trip was made back to the 13<sup>3</sup>/<sub>8</sub>" casing shoe. When back on bottom after the wiper trip, the hole was circulated clean and a slug was pumped before pulling out to run the 9<sup>5</sup>/<sub>8</sub>" casing

The hole remained in good condition while drilling, during connections, tripping and running casing.

The 9.5/8" casing was run and cemented at 873 meters without any problems

#### MUD:

An initial 450 bbls of mud was premixed double strength, 120 bbls of 18% KCL Brine was received, and diluted to 12% and blended with the premixed polymer mud. An additional 300 bbls of KCI / PHPA / Glycol mud was prepared at 1.06 SG. This was blended into the active system during the displacement. An additional volume of 300 bbls of KCI / PHPA /





Glycol mud was mixed and transferred to the active system during drilling, thereby imparting fresh chemical additions while drilling new formation.

The shale shakers were initially dressed with 84 mesh screens. These however had to be changed to 52 mesh to handle the flow rate until the mud system gained some heat and became fully sheared. The shakers were then sized down to 84 mesh and later to 120 mesh as drilling progressed.

As stated additional unweighted premix was blended slowly to the active to provide firm cuttings over the shakers. As it was and used as dilution, no solids control equipment was used.

Adjustments to the Low end rheology were made with the addition of Duotec added directly to the active system. Additional Glydril was also added directly into the active to maintain the programmed concentration.

#### **SOLIDS CONTROL:**

The shakers were dressed initially with 10/84 mesh and had to be sized up to 10/52 to stop significant losses. These were then changed back to 10/84 and later then to 10/120 mesh on two of the shakers. The Desilter was not required as the unweighted premix was added.

#### **OBSERVATIONS AND RECOMMENDATIONS:**

- A PHPA level of 1.0 ppb is probably enough to drill these short shallow formations.
- The hole cleaning regime based on 6 rpm at 8 to 12 was adequate provided the sample was measured at 49°C
- Proposed inhibition at 5-6% by wt of KCL and 3% by vol of Glycol appeared to be sufficient as the MBT was max. 5 ppb of Bentonite equivalent.





Interval III	884 – 1385 m TVD = 702 m	8½" Hole section	6 <sup>5</sup> / <sub>8</sub> " sand screens set in horizontal.
	1 4 D - 7 02 111		Set III Horizontal.

MUD TYPE : Flo-Pro

HOLE PROBLEMS : None

MAXIMUM DEGREE : Horizontal section

MUD PROPERTIES :

Mud Weight : 1.09 - 1.12 sg Viscosity : 60 - 69 sec/qt

Plastic Viscosity 11 cP

Yield Point : 32 - 34 lb/100sqft

6 rpm : 16 – 17 LSRV1 : 59187 - 64000 LSRV2 : 64086 - 69985 LSRV3 : 62687 - 69485 Filtrate : 4.6 – 5.0 ml KCL : 3 % by wt Drill Solids : 0.1 – 6.0

Chlorides ; 72000 mg/lt Rheology at 120 F and from Flow Line

#### **OPERATIONS:**

The seal assembly and BOPs were pressure tested prior to making up the  $8\frac{1}{2}$ " drilling assembly. The top of the cement was tagged at 848 m and the old mud was used to drill the cement and shoe. While drilling the shoe the well was displaced to the Flo-Pro system and 3 meters of new formation was drilled. A formation integrity test resulted in an equivalent mud weight of 1.4 SG.

Directional drilling proceeded at 30 to 60 m/hr depending on whether the drill string was sliding or rotating. Drilling continued to the total measured depth of 1385 meters where the horizontal section was displaced to solids free Flo—Pro mud and at the shoe the casing was circulated with a surfactant cleaning pill. The casing was filled with uninhibited brine.

The sand screens and wash pipe were run in the hole and the mud system was displaced to an enzyme system to clean up the polymers remaining in the production zone. The well was completed with filtered inhibitive brine in the well casing.

The packer was unseated to enable a pup joint to be inserted and it appeared that the formation had been broken down as losses to the formation occurred. The losses were approximately 40 bbls /hr and continued until the tubing was reseated in the packer.

The well was production tested as per program. The well was suspended awaiting the link up with the pipe line to be laid at a later date.





#### MUD:

The Flo Pro system was made up with sized calcium carbonate to aid in fluid loss control to the production zone. The system worked well without any losses to the sands.

The mud weight was controlled by the addition of salt in addition to the 3% KCl in the system. The section was drilled quickly without any build up of fine solids or increase in clay content.

The main focus for mud treatment was put on keeping LSRV above 60000 cP and a filtration below 5 ml. It was achieved by constant addition of premixed Flovis Plus and Duoalflo polymers.

At TD the following clean up spacers were mixed and pumped:

- 25 bbl KCl brine
- □ 230 bbl Flo-Pro Solids Free displaced with mud (to cover open hole and sand screen volume)
- 25 bbl Hi Vis KCl spacer
- □ 50 bbl Surfactant pill
- 25 bbl brine base spacer

Above spacers were displaced with uninhibited KCI brine formulated to 1.08 SG

After running the completion screens, the open hole was displaced to Wellzyme. A pill and the Flo-Pro SF returns were dumped.

After running tubing and before stabbing into PBR, the casing was displaced to 1.08 SG inhibited KCL brine.

#### **SOLIDS CONTROL EQUIPMENT**

Only Four VSM 100 Shale Shakers were used for solids control. They were dressed with 120 mesh screens and handled the flow rate of 600 gpm.

#### OBSERVATIONS AND RECOMMENDATIONS

The drilling fluid system performed excellently with all the completion and testing requirements achieved in the minimum time.





# DAILY DISCUSSION REPORT



Operator : OMV Australia
Well Name : Patricia 2

Well Name : Patricia 2

Contractor : Diamond Offshore

Field/Area: VIC / L21

Description: Development
Location: Bass Strait

Daily Discussion

M-I Well:

20/06/2002 TD = 111.5 m Day 1

Run Anchors and position rig. Run casing an latch to guide base. Secure in moonpool. Seabed tagged at 77.5 m.Spud Well, Drill to interval T.D. Circulate hole clean and displace to Hi Viscosity mud. Run in & Cement Casing at 111 m.

Drill water received from Pacific Sentinel: pH 7.5 Cl- 200 mg/l. Ca 180 mg/l. Rec'd 480 bbls old mud from Sentinel. Mixed 885 bbls PHG The interval was drilled with seawater and high viscosity sweeps. The sweeps used old mud and PHG on connection

Spud Well, Run in & Cement Casing.

21/06/2002 TD = 334 m Day 2

The cement was allowed to cure and the 17.1/2" drilling assembly was run in to drill out the cement and shoe. Drilling proceeded at an ROP >60 m/hr with alternate periods of sliding to commence the directional kick off.

The mud pits were cleaned thoroughly.

The section was drilled with seawater and PHG sweeps after 250 bbls of old mud was used. The interval depth of 344 m was reached and the hole swept with 100 bbls of PHG followed by the spotting of 320 bbls on bottom. The trip out was tight so a wiper trip was made. Displace hole to PHG. Trip out rig and run 13 3/8" casing. The casing was cemented using CaCl2 mix water.

Drill 17.1/2" interval.

22/06/2002 TD = 334 m Day 3

Cement 13 3/8" casing. Lay out handling tools. Rig and run subsea tree. Rig and run BOPs.

Building new mud in Active pits (1/2 volume 2xConcentration) waiting for K.C.L. on next supply boat. Plan to mix K.C.L. and dilute 50/50

Run B.O.P.s and riser

23/06/2002 TD = 401 m Day 4

The riser and BOPs were run and tested. Made up liner hanger tool and commenced making up BHA. Repairing BOP control panel. Drill out shoe Displace hole to mud, run leak off test to 1.73 SG. Drill ahead with directional control to raise angle.

Received 120 bbls old Brine from boat, Blended this with premixed mud volume and additional water for dilution. Building reserve Premix mud for additional volume. Displace hole to PHPA/KCL mud.

Drill out casing shoe, Run leak off test. Drill ahead.

24/06/2002 TD = 710 m Day 5

Changed to finer shaker screeens. Drill 12 1/4" hole with Directional Surveys.

Add premixes to active system to maintain system . Treat system with Glydril, Polyplus and Duotec.

Drill 12.1/4" interval.

25/06/2002 TD = 884 m Day 6

Directional drilling proceeded to 884 m where the Gurnard formation was encountered at an angle of 90 deg. The hole was circulated and the mud weight raised to 1.12 SG. The max gas was approx 12%. A wiper trip was made to the casing shoe. R.I.H. Circulate hole clean pump slug POOH Rig up to run 9 5/8" Casing

The mud properties were maintained by the addition of premix and KCL. Minor losses to the formation occurred.

Drilled to interval depth of 884 m.



Operator : OMV Australia
Well Name : Patricia 2

Well Name : Patricia 2 Description : Development Contractor : Diamond Offshore Location : Bass Strait

Field/Area: VIC / L21

Daily Discussion

1-I Well ·

26/06/2002 TD = 884 m Day 7

A string of 9.5/8" casing was run and cemented at 872 m.Test seal assembly and BOPs. Make up Drilling assembly and R.I.H.

Commence making up FloPro mud system

Set and cemented 9.5/8" casing. Prepare for 8.1/2" hole.

27/06/2002 TD = 1379 m

Day 8

RIH to tag cement at 848 m. Drill out cement and shoe with the mud from previous section. Displace to new mud while drilling shoe. Drill 3m and take FIT for 1.4 SG EMW. Drill ahead at 60 to 30 m/hr.

Mixed Flo-Pro SF clean up pill. Mixed KCL Brine for pills

Commence drilling 8.1/2" interval with Flo pro system.

28/06/2002 TD = 1385 m Day 9

The total depth of 1385 m was reached and the well was circulated with clean up pills after a wiper trip. The horizontal section was filled with solids free mud and at the shoe the casing was cleaned out and displaced to 1.08 SG uninhibited brine. POOH and run sand screens.

The solids free FloPro was used to fill the horizontal section. High viscosity pills and a surfactant pill were pumped to clean the casing and the casing was filled with 1.08 SG brine. The mud from the hole and pits was dumped and the pits were cleaned.

Total depth of 1385 m was reached and the hole was cleaned up. Run sand screens.

29/06/2002 TD = 1385 m Day 10

The completion program was continued with the running of the sand screens and wash pipe. The screens were set and the well clean up prior to tripping the running string.

400 blls of brine was filtered to approx 35 NTUs for future use as inhibited brine.

The brine for the cleanup procedures was mixed,

The cleanup procedure included a high viscosity brine followed by brine to displace the FloPro and then a Wellzyme brine was used to fill the 8,1/2" interval over the sand screens.

Completion program

30/06/2002 TD = 1385 m Day 11

Continued with the well completion program.

Filled riser, choke and kill lines with filtered brine.

Mixed 100 bbls of brine which was filtered prior to adding the inhition chemicals. The NTUs of the inhibited filtered brine was 22. The old brine was filtered from 450 to 270 NTUs and will be used on next well as KCl base.

Continue with well completion.

1/07/2002 TD = 1385 m Day 12

Displaced well to filtered inhibited brine.

Continue well completion. Pulled out tubing to insert pup joint. Starte losing brine to formation at up to 40 bbls/hr.

Mixed extra 100 bbls of KCl brine.

continue well completion.



Operator : OMV Australia
Well Name : Patricia 2
Contractor : Diamond Offshore

Field/Area: VIC / L21

Description: Development
Location: Bass Strait

Daily Discussion

1-I Well ·

2/07/2002 TD = 1385 m Day 13

Continued to run well completion with the addition of extra pup joint. Losses continued until the tubing was restabbed in.

Mixed up 1.08 SG KCl brine as required to cover the downhole losses of approx 40 bbls/hr. The total losses to the formation over the time was approx 450 bbls.

Continued well completion.

3/07/2002

TD = 1385 m

Day 14

The well was production tested from daylight.

Tested appropriate water flow samples to check the amount of brine being produced.

Continue well completion with the flowing of the well.

4/07/2002

TD = 1385 m

Day 15

The well testing program continued.

Continue testing Patricia # 2

5/07/2002

TD = 1385 m

Day 16

The well testing program was completed and the well suspension was commenced.

Completed well testing and commenced well suspension.

6/07/2002

TD = 1385 m

Day 17

Continue with well suspension but unable to continue due to inclement weather.

Continue well suspension until shut down by weather.

7/07/2002

TD = 1385 m

Day 18

After the weather abated the BOPs were recovered and the well suspension continued.

All brine in pits dumped.

Continued with well suspension.

8/07/2002

TD = 1385 m

Day 19

Complete final ROV work with sub sea tree. Pull anchors in preparation for move to next location.

Prepare to move rig.





# COST BY INTERVAL



#### **PRODUCT SUMMARY**

Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

SUMMARY OF PRODUCT USAGE FOR	RINTERVAL	20/06/200	02 - 20/06/2002,	111.5 - 111.5
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - Gel Bulk	100 LB BG	320	8.12	2598.40
2 - Caustic Soda	25 KG DM	6	17.32	103.92
3 - Soda Ash	25 KG BG	3	9.32	27.96
SUB TOTAL:				2730.28
TAX:				0.00
WATER-BASED MUD TOTAL COST:				2730.28
TOTAL MUD COST FOR INTERVAL:				2730.28



# **ONE-TRAX**

Operator : OMV Australia

Well Name : Patricia 2
Field/Area : VIC / L21

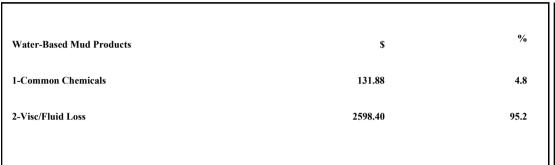
**Description**: **Development** 

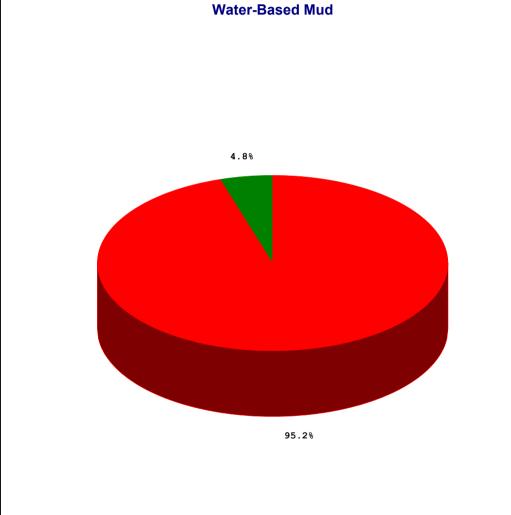
Location: Bass Strait

Cost

**Analysis** 

BREAKDOWN OF COST BY PRODUCT GROUP 20/06/2002 - 20/06/2002, 77 - 111 m





Water-Based Mud Total Cost: \$ 2730.28 100.0

L.L.C.



#### **PRODUCT SUMMARY**

Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

SUMMARY OF PRODUCT USAGE	FOR INTERVAL	21/06/	2002 - 21/06/2002,	334 - 334 m
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - Gel Bulk	100 LB BG	634	8.12	5148.08
2 - Calcium Chloride	25 KG BG	29	9.17	265.93
3 - Caustic Soda	25 KG DM	11	17.32	190.52
4 - Soda Ash	25 KG BG	4	9.32	37.28
SUB TOTAL:				5641.81
TAX:				0.00
WATER-BASED MUD TOTAL COST:				5641.81
TOTAL MUD COST FOR INTERVAL:				5641.81



# **ONE-TRAX**

Operator : OMV Australia

Well Name : Patricia 2
Field/Area : VIC / L21

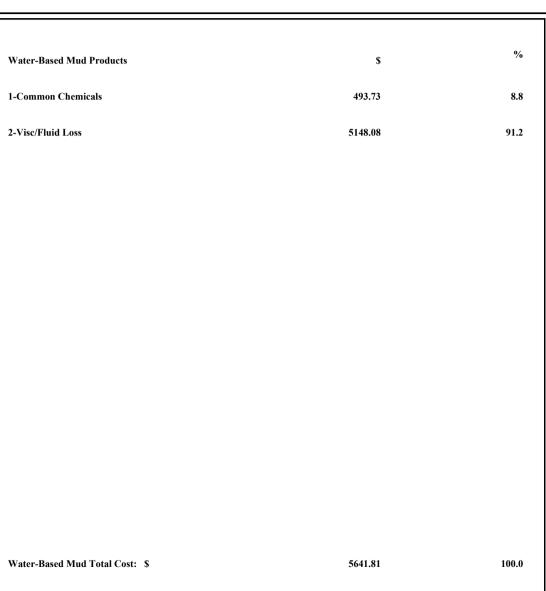
**Description: Development** 

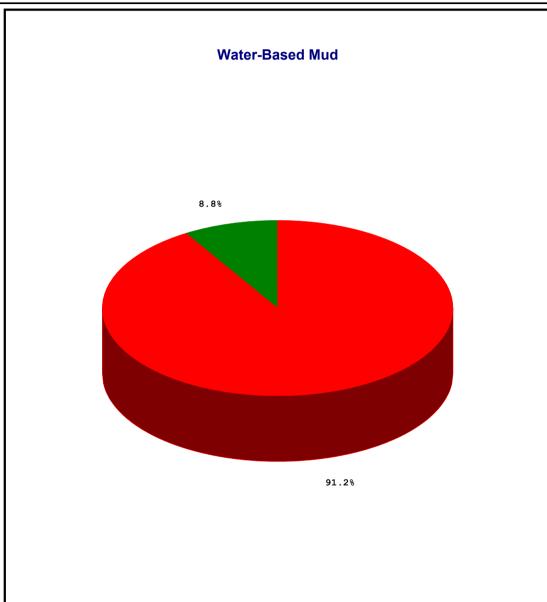
Location: Bass Strait

Cost

**Analysis** 

BREAKDOWN OF COST BY PRODUCT GROUP 21/06/2002 - 21/06/2002, 111 - 334 m





L.L.C.



#### **PRODUCT SUMMARY**

Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

FOR INTERVAL	22/06/20	22/06/2002 - 25/06/2002,			
SIZE	AMOUNT	UNIT COST	PROD COST		
		(\$)	(\$)		
100 LB BG	50	6.30	315.00		
25 KG BG	54	192.61	10400.94		
208 KG DM	40	621.94	24877.60		
25 KG BG	6	31.94	191.64		
25 KG BG	24	70.41	1689.84		
25 KG BG	24	92.93	2230.32		
1 TN BG	6	274.45	1646.70		
25 KG BG	5	9.61	48.05		
			41400.09		
			0.00		
			41400.09		
			41400.09		
	100 LB BG 25 KG BG 208 KG DM 25 KG BG 25 KG BG 25 KG BG 1 TN BG	SIZE AMOUNT  100 LB BG 50 25 KG BG 54 208 KG DM 40 25 KG BG 6 25 KG BG 24 25 KG BG 24 1 TN BG 6	SIZE AMOUNT UNIT COST  (\$)  100 LB BG 50 6.30  25 KG BG 54 192.61  208 KG DM 40 621.94  25 KG BG 6 31.94  25 KG BG 24 70.41  25 KG BG 24 92.93  1 TN BG 6 274.45		



# **ONE-TRAX**

Operator : OMV Australia

Well Name : Patricia 2
Field/Area : VIC / L21

Description : Development

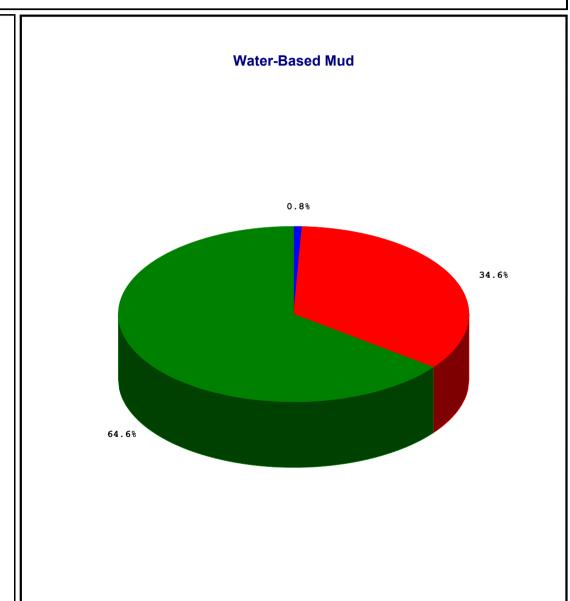
Location: Bass Strait

Cost

**Analysis** 

BREAKDOWN OF COST BY PRODUCT GROUP 22/06/2002 - 25/06/2002, 334 - 884 m

Water-Based Mud Products	s	%
1-Common Chemicals	26763.99	64.6
2-Visc/Fluid Loss	14321.10	34.6
3-Weight Material	315.00	0.8



Water-Based Mud Total Cost: \$ 41400.09 100.0

L.L.C.



#### **PRODUCT SUMMARY**

Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

SUMMARY OF PRODUCT USAGE F	FOR INTERVAL	26/06/20	26/06/2002 - 27/06/2002,			
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST		
			(\$)	(\$)		
1 - Dual-Flo	50 LB BG	66	94.75	6253.50		
2 - Flo-Vis Plus	25 KG BG	56	421.14	23583.84		
3 - Glute-25	25 LT DM	5	67.75	338.75		
4 - OS-1	25 KG BG	10	31.94	319.40		
5 - KCL-Geel	1 TN BG	14	274.45	3842.30		
6 - Potassium Hydroxide	25 KG DM	9	28.96	260.64		
7 - Omyacarb 1	25 KG BG	28	6.04	169.12		
8 - Omyacarb 8	25 KG BG	217	6.04	1310.68		
9 - Omyacarb 10	25 KG BG	21	6.04	126.84		
10 - SALT (BIG BAG)	1.2 MT BG	11	228.00	2508.00		
SUB TOTAL:				38713.07		
TAX:				0.00		
WATER-BASED MUD TOTAL COST:				38713.07		
TOTAL MUD COST FOR INTERVAL:				38713.07		



# **ONE-TRAX**

Operator : OMV Australia

Well Name : Patricia 2
Field/Area : VIC / L21

**Description: Development** 

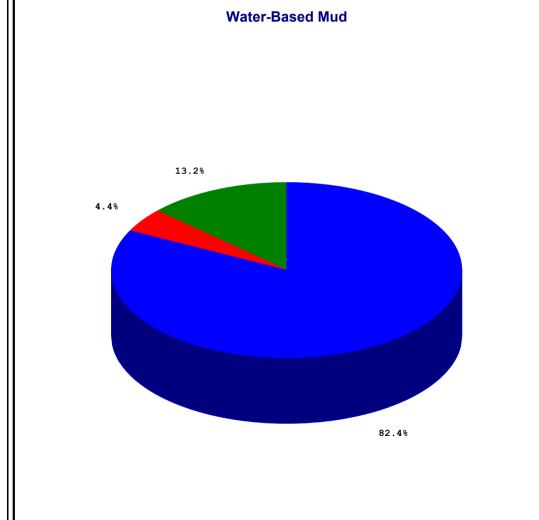
Location: Bass Strait

Cost

**Analysis** 

BREAKDOWN OF COST BY PRODUCT GROUP 26/06/2002 - 27/06/2002, 884 - 1385m

Water-Based Mud Products	\$	%
1-Common Chemicals	4761.09	13.2
2-Lost Circ Material	1606.64	4.4
3-Visc/Fluid Loss	29837.34	82.4



Water-Based Mud Total Cost: \$ 36205.07 100.0



#### **PRODUCT SUMMARY**

Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

SUMMARY OF PRODUCT USAGE F	28/06/20	28/06/2002 - 8/07/2002,		
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - Caustic Soda	25 KG DM	2	17.32	34.64
2 - Duotec	25 KG BG	8	192.61	1540.88
3 - Defoam A	25 LT DM	5	56.17	280.85
4 - OS-1	25 KG BG	2	31.94	63.88
5 - KCL-Geel	1 TN BG	6	274.45	1646.70
6 - Safe Surf WN	200 KG DM	4	933.30	3733.20
7 - Conqor 303A	55 GA DM	3	192.72	578.16
8 - Wellzyme A	55 GA DM	4	1749.00	6996.00
9 - SALT (BIG BAG)	1.2 MT BG	19	228.00	4332.00
10 - BRINE	1 BL BL	400	0.00	0.00
SUB TOTAL:				19206.31
TAX:				0.00
WATER-BASED MUD TOTAL COST:				19206.31
TOTAL MUD COST FOR INTERVAL:				19206.31



# **ONE-TRAX**

Operator : OMV Australia

Well Name : Patricia 2
Field/Area : VIC / L21

**Description: Development** 

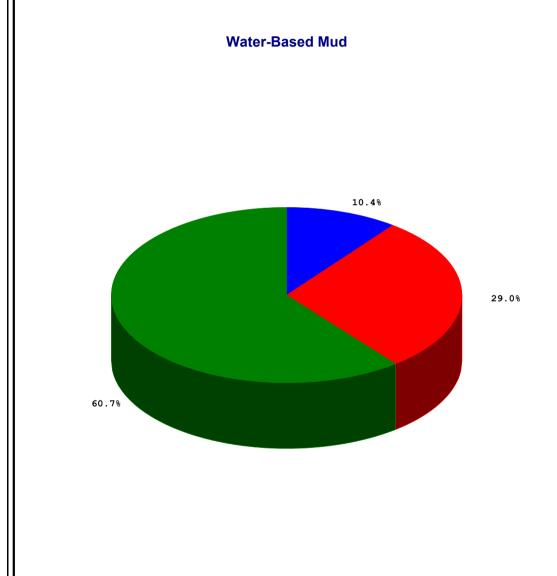
Location: Bass Strait

Cost

**Analysis** 

BREAKDOWN OF COST BY PRODUCT GROUP 28/06/2002 - 8/07/2002, 1385 - 1385 m

Water-Based Mud Products	s	%
1-Common Chemicals	9022.07	60.7
2-Lubricant	4311.36	29.0
3-Visc/Fluid Loss	1540.88	10.4







# DAILY VOLUME SUMMARY SHEET

#### **OMV Australia Pty Ltd**

#### Patricia 2 Volume Accounting

36" & 17.1/2" Hole - Seawater with High Vis Sweeps

	Mud Volume Status (bbl)					Mud Volume Status (bbl) Mud Volume Built (bbl)					Mud Volume Lost (bbl)						
Date	Depth	Hole	Surf	Res	Total	Water	Mud	Barite	Daily	Cum	Solids	Surf	Sweep/	Dump	Casing	Daily	Cummul
2002			Active		Vol		Built		Total	Built	Equip		Spots		Plugs	Total	Lost
20-Jun	111.5			661	661	850	515		1365	1365			704			704	704
21-Jun	334				0		1342		1342	2707			1870	133		2003	2707

#### 12.1/4" Hole - KCL / PHPA / Glycol

		Mud \	olume Sta	atus (bbl)			Mud V	olume Bui	ilt (bbl)		Mud Volume Lost (bbl)						
Date	Depth	Hole	Surf	Res	Total	Water	Mud	Barite	Daily	Cum	Solids	Surf	Dump	Hole	Casing	Daily	Cummul
2002			Active		Vol		Built		Total	Built	Equip		or Sweeps		Plugs	Total	Lost
22-Jun	334			450	450		450		450	450						0	0
23-Jun	401	242	514	710	1466	182	846		1028	1478	12					12	12
24-Jun	710	400	658	394	1452				0	1478	14					14	26
25-Jun	884	513	541	190	1244				0	1478	104		104			208	234
26-Jun	884				0		-		0	1478			1244			1244	1478

#### 8.1/2" Hole - Flo-Pro Drill-in Fluid Volumes from 27 June include Brine & clean up pills.

	Mud Volume Status (bbl)					Mud Volume Built (bbl)				Mud Volume Lost (bbl)							
Date	Depth	Hole	Surf	Res	Total	Water	Mud	Barite	Daily	Cum	Solids	Surf	Dump	Hole	Casing	Daily	Cummul
2002			Active		Vol		Built		Total	Built	Equip				Plugs	Total	Lost
26-Jun	884			1067	1067		1067		1067	1067						0	0
27-Jun	1379	367	443	602	1412	530			530	1597			185			185	185
28-Jun	1385	405		312	717		545		545	2142			474	766		1240	1425
29-Jun	1385	405	402	300	1107	720	429		1149	3291			212	547		759	2184
30-Jun	1385	405	402	300	1107	100			100	3391			100			100	2284
1-Jul	1385	405	218	200	823		110		110	3501				394		394	2678
2-Jul	1385	405		186	591		220		220	3721			40	412		452	3130
3-Jul	1385	405		186	591				0	3721						0	3130
4-Jul	1385	405		186	591				0	3721						0	3130
5-Jul	1385	405		186	591				0	3721						0	3130
6-Jul	1385	405		126	531		•		0	3721			60			60	3190
7-Jul	1385				0				0	3721			126	405		531	3721
8-Jul	1555				0		-		0	3721						0	3721





# TOTAL MATERIAL COST



#### **PRODUCT SUMMARY**

Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

SUMMARY OF PRODUCT USAGE	FOR INTERVAL	20/06/20	20/06/2002 - 8/07/2002,				
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST			
			(\$)	(\$)			
1 - Barite Bulk	100 LB BG	50	6.30	315.00			
2 - Gel Bulk	100 LB BG	954	8.12	7746.48			
3 - Calcium Chloride	25 KG BG	29	9.17	265.93			
4 - Caustic Soda	25 KG DM	19	17.32	329.08			
5 - Dual-Flo	50 LB BG	66	94.75	6253.50			
6 - Duotec	25 KG BG	62	192.61	11941.82			
7 - Defoam A	25 LT DM	5	56.17	280.85			
8 - Flo-Vis Plus	25 KG BG	56	421.14	23583.84			
9 - Glute-25	25 LT DM	5	67.75	338.75			
10 - Glydril LC	208 KG DM	40	621.94	24877.60			
11 - OS-1	25 KG BG	18	31.94	574.92			
12 - Polyplus Dry	25 KG BG	24	70.41	1689.84			
13 - Polypac UL	25 KG BG	24	92.93	2230.32			
14 - KCL-Geel	1 TN BG	26	274.45	7135.70			
15 - Potassium Hydroxide	25 KG DM	9	28.96	260.64			
16 - Safe Surf WN	200 KG DM	4	933.30	3733.20			
17 - Soda Ash	25 KG BG	7	9.32	65.24			
18 - Sodium Bicarbonate	25 KG BG	5	9.61	48.05			
19 - Omyacarb 1	25 KG BG	28	6.04	169.12			
20 - Omyacarb 8	25 KG BG	217	6.04	1310.68			
21 - Conqor 303A	55 GA DM	3	192.72	578.16			
22 - Wellzyme A	55 GA DM	4	1749.00	6996.00			
23 - Omyacarb 10	25 KG BG	21	6.04	126.84			
24 - SALT (BIG BAG)	1.2 MT BG	30	228.00	6840.00			
` ,				0.00			



#### PRODUCT SUMMARY

Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

SUMMARY OF PRODUCT USAGE FOR INTERVAL 20/06/2002 - 8/07/2002, 111.5 - 1385 n

TAX: 0.00

WATER-BASED MUD TOTAL COST: 107691.56

TOTAL MUD COST FOR INTERVAL: 107691.56



# **ONE-TRAX**

Operator : OMV Australia

Well Name : Patricia 2
Field/Area : VIC / L21

Description : Development

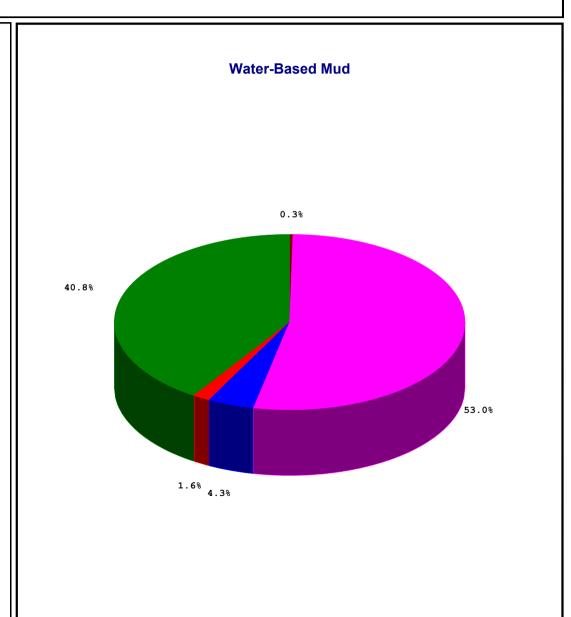
Location: Bass Strait

### Cost

# **Analysis**

BREAKDOWN OF COST BY PRODUCT GROUP 20/06/2002 - 8/07/2002, 77 - 1385 m

Water-Based Mud Products	\$	%
1-Common Chemicals	41172.76	40.8
2-Lost Circ Material	1606.64	1.6
3-Lubricant	4311.36	4.3
4-Visc/Fluid Loss	53445.80	53.0
5-Weight Material	315.00	0.3







# HYDRAULICS REPORT



#### **HYDRAULICS SUMMARY**

**Operator**: OMV Australia Field/Area: VIC / L21 **Description**: Development Well Name: Patricia 2

**Contractor**: Diamond Offshore **Location**: Bass Strait

Date	20/06/2002	21/06/2002	22/06/2002	23/06/2002	24/06/2002	25/06/2002	26/06/2002	27/06/2002
Depth m	112	334	334	401	710	884	884	1379
Days Since Spud	1	2	3	4	5	6	7	8
*RHEOLOGICAL PROPERTIES								
Mud Wt sp.gr.	1.04	1.06	1.03	1.06	1.08	1.12	1.07	1.12
Plastic Visc cP			22	10	12	14	9	11
Yield Point lb/100ft <sup>2</sup>			53	20	29	30	37	32
3-rpm Rdg Fann deg			24	7	10	14	17	14
np Value			.3711	.415	.3704	.3985	.2578	.3286
Kp Value lb•s^n/100ft²			7.9095	2.4054	4.3434	3.91	9.8333	5.91
na Value			.2259	.2848	.2833	.1977	.2218	.2267
Ka Value lb•s^n/100ft²			17.7142	4.6939	6.722	10.8208	12.6327	10.3204
*FLOW DATA	-							
Flow Rate gal/min	910	799	0	855	850	850	0	586
Pump Pressure psi	710	1250	0	1400	2000	2000	0	2000
Pump hhp	377	*	*	698	992	*	*	684
*PRESSURE LOSSES								
Drill String psi		*	*	257	373	*	*	531
Bit psi		*	*	647	651	*	*	1453
Annulus psi		*	*	11	28	*	*	190
Total System psi		*	*	915	1052	*	*	2174
*BIT HYDRAULICS				710	1032			2171
Nozzles 1/32"	3x24	3x24		3x15	3x15	3x15	3x14	3x14
Nozzles 1/32"	4x22	3721		24	24	24	JATT	SATT
Bit Pressure %	1722	*	*	46	33	*	*	73
Bit hhp		*	*	323	323	*	*	497
Bit HSI (index)		*	*	2.74	2.74	*	*	8.76
Jet Velocity ft/s	32	*	*	87	87	*	*	127
Impact Force lbf	32	*	*	1119	1127	*	*	1182
DRILL COLLARS ANNULUS				1117	1127			1102
Velocity ft/min	32	*	*	234	215	*	*	474
Critical Vel ft/min	32	*	*	333	400	*	*	476
Reynolds Number		*	*	1416	890	*	*	2641
Crit Re (Lam - Tran)	3470	*	*	2901	2963	*	*	3020
*DRILL PIPE ANNULUS	3170			2701	2703			3020
Velocity ft/min		*	*	158	149	*	*	282
Critical Vel ft/min		*	*	303	366	*	*	439
Reynolds Number		*	*	847	551	*	*	1218
Crit Re (Lam - Tran)	3470	*	*	2901	2963	*	*	3020
*HOLE CLEANING	3.70			2701	2,03			3020
Slip Velocity ft/min	1	*	*	18	15	*	*	13
Rising Velocity ft/min	-1	*	*	140	133	*	*	269
Lifting Capacity %	*	*	*	88	90	*	*	95
Cutting Conc %	1.0	*	*	1.06	1.05	*	*	0.0
Penetration Rate m/h	40	40	0	24	24	24	0	0.0
CASING SHOE PRESSURES	10	10	J	<u>2</u> T	T	<u> </u>	0	J
ECD sp.gr.	0.0	*	*	1.08	1.11	*	*	1.3
ECD+Cuttings sp.gr.	0.02	*	*	1.08	1.12	*	*	1.3
TOTAL DEPTH PRESSURES	0.02			1.07	1.12			1.5
EGD	0.0	*	*	1.08	1.11	*	*	1.31
ECD sp.gr. ECD+Cuttings sp.gr.		*	*	1.08	1.11	*	*	1.31
	0.02							1.31
M-I L.L.C.		DRIL	LING FLUI	OS DATA M	ANAGEMEN	NT SYSTEM		

1



M-I L.L.C.

#### HYDRAULICS SUMMARY

Operator: OMV Australia Field/Area: VIC / L21
Well Name: Patricia 2 Description: Development
Contractor: Diamond Offshore Location: Bass Strait

Date 28/06/2002 | 29/06/2002 | 30/06/2002 1/07/2002 2/07/2002 3/07/2002 4/07/2002 5/07/2002 Depth 1385 1385 1385 1385 1385 1385 1385 1385 Days Since Spud 10 11 12 13 14 15 16 \*RHEOLOGICAL PROPERTIES Mud Wt 1.08 1.08 1.08 1.08 1.08 1.08 1.08 1.08 sp.gr. Plastic Visc cP Yield Point lb/100ft<sup>2</sup> 3-rpm Rdg Fann deg np Value .3286 3286 .3286 3286 .3286 .3286 .3286 .3286 Kp Value  $lb \cdot s^n/100ft^2$ 5.91 5.91 5.91 5.91 5.91 5.91 5.91 5.91 na Value .2267 2267 .2267 2267 .2267 .2267 2267 .2267 Ka Value lb•s^n/100ft2 10.3204 10.3204 10.3204 10.3204 10.3204 10.3204 10.3204 10.3204 \*FLOW DATA Flow Rate gal/min 0 0 0 0 0 0 0 0 Pump Pressure 0 0 0 0 0 0 0 0 psi \* \* Pump hhp \* \*PRESSURE LOSSES Drill String \* \* psi \* \* \* \* \* \* \* \* Bit psi Annulus psi Total System psi \*BIT HYDRAULICS Nozzles 1/32" 1/32" Nozzles Bit Pressure % Bit hhp Bit HSI (index) Jet Velocity ft/s \* \* \* \* \* \* \* \* \* lbf Impact Force DRILL COLLARS ANNULUS Velocity ft/min \* Critical Vel ft/min Reynolds Number \* \* \* \* \* \* \* \* Crit Re (Lam - Tran) \* \* \* \* \* \* \* \*DRILL PIPE ANNULUS Velocity ft/min \* \* \* \* \* \* \* Critical Vel ft/min \* \* \* \* Reynolds Number \* Crit Re (Lam - Tran) \* \* \* \* \* \* \* \*HOLE CLEANING Slip Velocity ft/min \* \* \* \* \* \* Rising Velocity ft/min \* Lifting Capacity % **Cutting Conc** % \* \* \* \* \* \* \* \* Penetration Rate m/h 0 0 0 0 0 0 0 0 CASING SHOE PRESSURES **ECD** \* \* \* \* \* sp.gr. **ECD+Cuttings** sp.gr. TOTAL DEPTH PRESSURES **ECD** \* \* \* \* \* \* \* sp.gr. \* **ECD+Cuttings** sp.gr.

2

**DRILLING FLUIDS DATA MANAGEMENT SYSTEM** 



#### **HYDRAULICS SUMMARY**

Operator : OMV AustraliaField/Area : VIC / L21Well Name : Patricia 2Description : DevelopmentContractor : Diamond OffshoreLocation : Bass Strait

Contractor : Diamona C		Location . Dass offait
Date	6/07/2002	
Depth m	1385	
Days Since Spud	17	
*RHEOLOGICAL PROPERTIES		
Mud Wt sp.gr.	1.08	
Plastic Visc cP		
Yield Point lb/100ft <sup>2</sup>		
3-rpm Rdg Fann deg		
np Value	.3286	
Kp Value lb•s^n/100ft²	5.91	
na Value	.2267	
Ka Value lb•s^n/100ft²	10.3204	
*FLOW DATA		
Flow Rate gal/min	0	
Pump Pressure psi	0	
Pump hhp	*	
*PRESSURE LOSSES		
Drill String psi	*	
Bit psi	*	
Annulus psi	*	
Total System psi	*	
*BIT HYDRAULICS		
Nozzles 1/32"		
Nozzles 1/32"		
Bit Pressure %	*	
Bit hhp	*	
Bit HSI (index)	*	
Jet Velocity ft/s	*	
Impact Force lbf	*	
DRILL COLLARS ANNULUS		
Velocity ft/min	*	
Critical Vel ft/min	*	
Reynolds Number	*	
Crit Re (Lam - Tran)	*	
*DRILL PIPE ANNULUS		
Velocity ft/min	*	
Critical Vel ft/min	*	
Reynolds Number	*	
Crit Re (Lam - Tran)	*	
*HOLE CLEANING		
Slip Velocity ft/min	*	
Rising Velocity ft/min	*	
Lifting Capacity %	*	
Cutting Conc %	*	
Penetration Rate m/h	0	
CASING SHOE PRESSURES		
ECD sp.gr.	*	
ECD+Cuttings sp.gr.	*	
TOTAL DEPTH PRESSURES		
ECD sp.gr.	*	
ECD+Cuttings sp.gr.	*	
M-I L.L.C.		DRILLING FLUIDS DATA MANAGEMENT SYSTEM



### DRILLING FLUIDS RECAP PATRICIA 2



# DRILLING FLUIDS SUMMARY



Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

Date		20/06/2002	20/06/2002	21/06/2002	22/06/2002	23/06/2002	24/06/2002
Depth/TVD	m	111.5/111.5	/	334/326	334/326	401/399	710/643
Activity		Orilled 36"section	rilled 36"section	Drill 17.1/2" holε	Run BOPs	Drilling	Drillling
Mud Type		SW & Hi Vis	SW & Hi Vis	SW & Hi Vis	Mix PHPA/KC	PHPA/KCl/Gl	PHPA/KCl/Gl
Hole Size	in	36	36	17.5	12.25	12.25	12.25
Circ Volume	bbl	79	79	323	223	999	1457
Flow Rate	gal/min	910	910	799	0	855	850
Circ Pressure	psi	710	710	1250	0	1400	2000
Avg ROP	m/hr	40	40	40	0	24	24
Sample From		,	Sentinel	Pit	Pit #4	Pit # 4	Pit # 4
Flow Line Temp	°C					23	46
Mud Weight	sp.gr.	1.04 @ °C	1.2@ °C	1.06 @ °C	1.03 @ °C	1.06@23 °C	1.08@35 °C
Funnel Viscosity	s/qt	> 100	51	100	>100	55	54
PV	сP		13		22	10	12
YP	lb/100ft <sup>2</sup>		30		53	20	29
R600/R300/R200		//	56/43/	//	97/75/65	40/30/24	53/41/35
R100/R6/R3		//	/15/	//	53/28/24	19/9/7	27/12/10
10s/10m/30m Gel	lb/100ft <sup>2</sup>	//	12/18/	//	20/28/30	8/10/10	11/14/15
API Fluid Loss	cc/30 min					5.9	5.4
HTHP Fluid Loss	cc/30 min						
Cake API/HT	1/32"	/	/	/	/	1/	1/
Solids	%Vol					2.5	5
Oil/Water	%Vol	/	/	/	/	0/97.5	3/92
Sand	%Vol						tr
MBT	lb/bbl					1	2.5
Н	20,000					9.0	8.7
Alkal Mud (Pm)						0.3	0.1
Pf/Mf		/	/	/	/	0.2/	0.15/0.6
Chlorides	mg/l	,	,	,	,	42000	35000
Hardness Ca						1200	1180
KCL % by wt	%					5.5	5
LSRV 1	cP					1	0.8
LSRV 2	cP					3	3
LSRV 3	cP					40	20
Daily Mud Cost	\$	2730.28		5641.81	19856.44	10394.47	10285.28
Cuml Mud Cost	\$	2730.28		8372.09	28228.53	38623.00	48908.28
Sales Engineer		Dave Di/Graeme	Dave Di/Graeme	Dave Di/Graeme	Dave Di/Graeme	Dave Di/Graeme	Dave Di/Graeme
Products Used		MI Gel / 320		Na2Co3 / 4	Duotec / 32	Duotec / 16	Duotec / 6
		NaOH / 6		MI Gel / 634	GlydLC / 18	GlydLC / 8	GlydLC / 14
		Na2Co3 / 3		CaCl2 / 29	os1 / 4	os1 / 2	Poly+ / 6
				NaOH / 11	Poly+ / 12	Poly+ / 6	
					Pac UL / 16	Pac UL / 8	
					NaHCO3 / 4	KCL / 4	
						NaHCO3 / 1	
DEMARKO							

#### **REMARKS**

20/06/2002: Spud Well, Run in & Cement Casing.

21/06/2002: Drill 17.1/2" interval. 22/06/2002: Run B.O.P.s and riser

23/06/2002: Drill out casing shoe, Run leak off test. Drill ahead.

24/06/2002: Drill 12.1/4" interval.

#### M-I LLC. DRILLING FLUIDS DATA MANAGEMENT SYSTEM

1



Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

Date		24/06/2002	25/06/2002	25/06/2002	26/06/2002	27/06/2002	27/06/2002
Depth/TVD	m	530/521	884/702	854/692	884/702	1379/701	1014/700
Activity	111	Drillling	Tripping	Tripping	Drill Out	Drilling	Drilling
Mud Type		PHPA/KCl/Gl	PHPA/KCl/Gl	PHPA/KCl/Gl	Flo-Pro	Flo-Pro	Flo-Pro
Hole Size	in	12.25	12.25	12.25	8.5	8.5	8.5
	in bbl	1457	1567	1567	1311	1178	1178
Circ Volume		850	850	850		586	586
Flow Rate	gal/min				0		
Circ Pressure	psi	2000	2000	2000	0	2000	2000
Avg ROP	m/hr	24	24	24	0	0	0
Sample From	0.0	Pit 4	Pit # 4	Pit	Pit # 1	Pit # 4	Pit
Flow Line Temp	°C	30	1 12 0 10 00	49	1.070.00	45	38
Mud Weight	sp.gr.	1.04@30 °C	1.12 @49 °C	1.10 @49 °C	1.07@ °C	1.12@45 °C	1.09@38 °C
Funnel Viscosity	s/qt	50	55	57	120	60	69
PV	cP	9	14	15	9	11	11
YP	lb/100ft <sup>2</sup>	18	30	37	37	32	34
R600/R300/R200		36/27/23	58/44/37	67/52/45	55/46/42	54/43/39	56/45/40
R100/R6/R3		18/9/7	28/16/14	35/15/13	37/19/17	31/16/14	32/17/15
10s/10m/30m Gel	lb/100ft <sup>2</sup>	7/11/13	13/18/22	14/21/24	17/20/23	15/18/23	18/22/24
API Fluid Loss	cc/30 min	5.6	6.4	6.8	5.2	4.8	5.2
HTHP Fluid Loss	cc/30 min						
Cake API/HT	1/32"	1/	1/	1/	1/	1/	1/
Solids	%Vol	5	7	6	4	8	6
Oil/Water	%Vol	3/92	3/90	3/91	0/96	/92	/94
Sand	%Vol	tr	tr	1		0.25	.25
MBT	lb/bbl	1.25	5	5	1	2	1
рH		8.7	8.7	8.7	8.9	9.5	9.5
Alkal Mud (Pm)		0.1	0	0.0	0.8	0.2	0.6
Pf/Mf		0.1/0.6	0.1/0.7	0.05/0.8	0.2/0.5	0.1/0.6	0.1/0.5
Chlorides	mg/l	41000	45000	45000	32000	72000	72000
Hardness Ca	2	1200	1200	1200	350	400	320
KCL % by wt	%	5.5	5.5	5.5	3	3	3
LSRV 1	cР	0.8	0.8	0.8	45000	59187	64000
LSRV 2	cP	3	3	3	54288	64086	69985
LSRV 3	cР	20	10	10	54788	62687	69485
					<u> </u>	0=007	07.100
Daily Mud Cost	\$		863.90		28639.63	10073.44	
Cuml Mud Cost	\$		49772.18		78411.81	88485.25	
Sales Engineer	Ψ	Dave Di/Graeme	Dave Di/Graeme	Dave Di/Graeme	Dave Di/Graeme	Dave Di/Graeme	Dave Di/Graeme
Products Used		zure Di/Graciile	BARBK / 50	Date Di Graciile	DualFlo / 53	DualFlo / 13	Sure Di Graciile
1 Toddets Osca			KCL / 2		Flovis+ / 45	Flovis+ / 11	
			IXCLI / Z		Glute25 / 4	Glute25 / 1	
					os1 / 8	os1 / 2	
					KCL / 6	KCL / 8	
					KOH / 7	KOH / 2	
					Om 1 / 28	NaCl / 8	
					OM 8 / 217	NaCl / o	
					OM 8 / 21 / OM10 / 21		
					NaCl / 3		
					INACI / 3		
REMARKS							

#### **REMARKS**

25/06/2002: Drilled to interval depth of 884 m.

 $26/06/2002\colon$  Set and cemented 9.5/8" casing. Prepare for 8.1/2" hole.  $27/06/2002\colon$  Commence drilling 8.1/2" interval with Flo pro system.

M-I L.L.C.

#### **DRILLING FLUIDS DATA MANAGEMENT SYSTEM**



Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

Date		28/06/2002	29/06/2002	30/06/2002	1/07/2002	2/07/2002	3/07/2002
Depth/TVD	m	1385/701	1385/701	1385/701	1385/701	1385/701	1385/701
Activity					Well Completion		Flowing well
Mud Type		Brine	Brine	Brine	Brine	Brine	Brine
Hole Size	in	8.5	8.5	8.5	8.5	8.5	8.5
Circ Volume	bbl	773	1213	1213	1029	810	810
Flow Rate	gal/min	0	0	0	0	0	0
Circ Pressure	psi	0	0	0	0	0	0
Avg ROP	m/hr	0	0	0	0	0	0
Sample From		Pit					
Flow Line Temp	°C						
Mud Weight	sp.gr.	1.08 @ °C	1.08 @ °C	1.08 @ °C	1.08 @ °C	1.08 @ °C	1.08 @ °C
Funnel Viscosity	s/qt		Ŭ	Ŭ	Ŭ	ŭ	,
PV	cP						
YP	lb/100ft <sup>2</sup>						
R600/R300/R200		//	//	//	//	//	//
R100/R6/R3		//	//	//	//	//	//
10s/10m/30m Gel	lb/100ft <sup>2</sup>	//	//	//	//	//	//
API Fluid Loss	cc/30 min						_
HTHP Fluid Loss	cc/30 min						
Cake API/HT	1/32"	/	/	/	/	/	/
Solids	%Vol						
Oil/Water	%Vol	/	/	/	/	/	/
Sand	%Vol						
MBT	lb/bbl						
pН							
Alkal Mud (Pm)							
Pf/Mf		/	/	/	/	/	/
Chlorides	mg/l						
Hardness Ca							
KCL % by wt	%						
LSRV 1	cP						
LSRV 2	cP						
LSRV 3	cP						
Daily Mud Cost	\$	6040.15	10730.44	1225.58	548.90	661.24	0.00
Cuml Mud Cost	\$	94525.40	105255.84	106481.42	107030.32	107691.56	107691.56
Sales Engineer		/Graeme	/Graeme	/Graeme	/Graeme	/Graeme	/Graeme
Products Used		Duotec / 4	Duotec / 4	NaOH / 2	KCL / 2	DefoamA / 2	
		DefoamA / 3	wellzym / 4	os1 / 2		KCL / 2	
		SS WN / 4	NaCl / 13	KCL / 2			
		NaCl / 6	bRINE / 400	con303 / 3			
REMARKS					-		

#### **REMARKS**

28/06/2002: Total depth of 1385 m was reached and the hole was cleaned up. Run sand screens.

29/06/2002: Completion program

30/06/2002: Continue with well completion 1/07/2002: continue well completion. 2/07/2002: Continued well completion.

3/07/2002: Continue well completion with the flowing of the well.

#### M-I LLC. DRILLING FLUIDS DATA MANAGEMENT SYSTEM



Operator :OMV AustraliaField/Area :VIC / L21Well Name :Patricia 2Description :DevelopmentContractor :Diamond OffshoreLocation :Bass Strait

Date		4/07/2002	5/07/2002	6/07/2002		
Depth/TVD	m	1385/701	1385/701	1385/701		
Activity		Well Testing	Well suspension	Weather watch		
Mud Type		Brine	Brine	Brine		
Hole Size	in	8.5	8.5	8.5		
Circ Volume	bbl	810	810	810		
Flow Rate	gal/min	0	0	0		
Circ Pressure	psi	0	0	0		
Avg ROP	m/hr	0	0	0		
Sample From	,	•	-			
Flow Line Temp	°C					
Mud Weight	sp.gr.	1.08 @ °C	1.08 @ °C	1.08 @ °C		
Funnel Viscosity	s/qt		3,100	3,77 (5)		
PV	cP					
YP	lb/100ft <sup>2</sup>					
R600/R300/R200	20, 20020	//	//	//		
R100/R6/R3		//	//	//	 	
10s/10m/30m Gel	lb/100ft <sup>2</sup>	//	//	//		
API Fluid Loss	cc/30 min				 	
HTHP Fluid Loss	cc/30 min					
Cake API/HT	1/32"	/	/	/	 	
Solids	%Vol					
Oil/Water	%Vol	/	/	/	 	
Sand	%Vol					
MBT	lb/bbl					
рН						
Alkal Mud (Pm)						
Pf/Mf		/	/	/		
Chlorides	mg/l					
Hardness Ca	-					
KCL % by wt	%					
LSRV 1	cР					
LSRV 1 LSRV 2	cР					
LSRV 3	cP					
Daily Mud Cost	\$	0.00	0.00	0.00		
Cuml Mud Cost	\$	107691.56	107691.56	107691.56		
Sales Engineer		/Graeme	/Graeme	/Graeme		
Products Used						
DEMARKS						

#### **REMARKS**

4/07/2002: Continue testing Patricia # 2

5/07/2002: Completed well testing and commenced well suspension 6/07/2002: Continue well suspension until shut down by weather

M-I L.L.C.

#### **DRILLING FLUIDS DATA MANAGEMENT SYSTEM**



### DRILLING FLUIDS RECAP PATRICIA 2



# PRODUCT CONSUMPTION



Operator :OMV AustraliaContractor:Diamond OffshoreWell Name :Patricia 2M-I Engineer:Graeme GarrickLocation :Bass StraitRig Name:Ocean BountyField/Area:VIC / L21Stock Point:Geelong

	DATES											
Product	Product	Jun	20, 2002	Jun 2	1, 2002	Jun 2	2, 2002	Jun 2	23, 2002	Jun 2	24, 2002	Page
Name	Price	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals
Barite Bulk	6.30		0.00		0.00		0.00		0.00		0.00	0.00
Gel Bulk	8.12	320					0.00		0.00		0.00	7746.48
Calcium Chloride	9.17		0.00		265.93		0.00		0.00		0.00	265.93
Caustic Soda	17.32	6	103.92		190.52		0.00		0.00		0.00	294.44
Citric Acid	26.31		0.00		0.00		0.00		0.00		$0.\overline{0}$	0.00
Dual-Flo	94.75		0.00		0.00		0.00		0.00		0.00	0.00
Duotec	192.61		$-\frac{1}{0.00}$		0.00	32		16		6		10400.94
Defoam A	56.17		0.00		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$-\frac{1}{2}$	0.00
Flo-Vis Plus	421.14		$ \frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$	$\frac{0.00}{0.00}$
Glute-25	67.75		$ \frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		0.00 11194.92		$\frac{0.00}{4975.52}$		0.00	0.00
Glydril LC Guar Gum	$-\frac{621.94}{33.68}$		0.00		$\frac{0.00}{0.00}$	18	0.00	8	0.00	14	8707.16 0.00	24877.60 0.00
Kwik Seal Fine	28.19		0.00		$ \frac{0.00}{0.00}$		0.00		0.00		$ \frac{0.00}{0.00}$	0.00
Kwik Seal Medium	28.19		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$	0.00
Lime	$\frac{26.19}{6.64}$		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$	$\frac{0.00}{0.00}$
Mix II Fine	22.93		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$	
OS-1	31.94		0.00		$\frac{0.00}{0.00}$	<u>-</u>	127.76		-63.88		$\frac{0.00}{0.00}$	 191.64
Pipelax W	$-\frac{31.31}{326.34}$		0.00		$\frac{0.00}{0.00}$	:	$-\frac{127.76}{0.00}$		$\frac{05.00}{0.00}$			
Polyplus Dry	70.41		0.00		$\frac{0.00}{0.00}$	12		6	422.46	6	422.46	1689.84
Polypac UL	92.93		0.00		$\frac{0.00}{0.00}$	16		8	743.44		0.00	2230.32
KCL-Geel	274.45		0.00		$\frac{0.00}{0.00}$		-0.00	4	1097.80		-0.00	1097.80
Potassium Hydroxide	28.96		0.00		0.00		$\bar{0}.\bar{0}\bar{0}$		$\bar{0}.\bar{0}\bar{0}$		-0.00	0.00
Safe Surf WN	933.30		0.00		0.00		$\bar{0}.\bar{0}\bar{0}$		$\bar{0}.\bar{0}0$		-0.00	0.00
Soda Ash	9.32	3	27.96	4	37.28		0.00		$\bar{0}.\bar{0}$		-0.00	65.24
Sodium Bicarbonate	9.61		0.00		-0.00	4	38.44	1	9.61		0.00	48.05
Omyacarb 1	6.04		0.00		0.00		0.00		0.00		0.00	0.00
Omyacarb 8	6.04		0.00		0.00		0.00		0.00		0.00	0.00
Zinc Carbonate	32.88		0.00		0.00		0.00		0.00		0.00	0.00
Flossy Salt	6.50		0.00		0.00		0.00		0.00		0.00	0.00
Conqor 303A	192.72		0.00		0.00		0.00		0.00		0.00	0.00
Omyacarb 40	6.20		0.00		0.00		0.00		0.00		0.00	0.00
Circal 1000	7.25		0.00		0.00		0.00		0.00		0.00	0.00
Circal Y Grade	7.25		0.00		$ \frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$	0.00
Safe Peel	395.50				0.00		0.00		0.00		0.00	0.00
Wellzyme A	1749.00		0.00		$ \frac{0.00}{0.00}$		0.00		$\frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$	0.00
MIX II Medium	$\frac{20.00}{6.04}$		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$	$\frac{0.00}{0.00}$
Omyacarb 10	6.04		$ \frac{0.00}{0.00}$		$\frac{0.00}{0.00}$				$ \frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$	$\frac{0.00}{0.00}$
KCL-Welsh KCL-Eden	$\frac{287.45}{323.45}$		$ \frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$	<u>0.00</u>
SALT (BIG BAG)	$\frac{323.43}{228.00}$		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$	0.00
BRINE	$-\frac{228.00}{0.00}$		0.00		$\frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$	0.00
DKINE			0.00		0.00		0.00		0.00		0.00	0.00
Cumulative Engineering			0.00		0.00		0.00		0.00		0.00	0.00
Daily Product			2730.28		5641.81		19856.44		10394.47		10285.28	48908.2
Daily Sales Tax			0		0		0		0		0	0.00
Cumulative Product					-				-			
			2730.28		8372.09		28228.53		38623.00		48908.28	48908.28
Cumulative Cost			2730.28		8372.09		28228.53		38623.00		48908.28	48908.2



Operator : OMV Australia
Well Name : Patricia 2
Location : Bass Strait
Field/Area: VIC / L21

Contractor: Diamond Offshore
M-I Engineer: Graeme Garrick
Rig Name: Ocean Bounty
Stock Point: Geelong

	DATES											
Product	Previous		25, 2002	Jun 2	6, 2002	Jun 2	7, 2002	Jun 2	28, 2002	Jun 2	29, 2002	Page
Name	Page	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals
Barite Bulk	0.00	50	315.00		0.00		0.00		0.00		0.00	315.0
Gel Bulk	7746.48		0.00		0.00		0.00		0.00		0.00	7746.4
Calcium Chloride	265.93		0.00		0.00		0.00		0.00		0.00	265.9
Caustic Soda	294.44		0.00		0.00		0.00		0.00		0.00	294.4
Citric Acid	0.00		0.00		0.00		0.00		0.00		0.00	0.0
Dual-Flo	0.00		0.00	53	5021.75	13	1231.75		0.00		0.00	6253.50
Duotec	10400.94		0.00		0.00		0.00	4	770.44	4	770.44	11941.83
Defoam A	0.00		0.00		0.00		0.00	3	168.51		0.00	168.5
Flo-Vis Plus	0.00		0.00	45	18951.30	11	4632.54		0.00		0.00	23583.8
Glute-25	0.00		0.00	4	271.00	1	67.75		0.00		0.00	338.7:
Glydril LC	24877.60		0.00		0.00		0.00		0.00		0.00	24877.60
Guar Gum	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Kwik Seal Fine	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Kwik Seal Medium	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Lime	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Mix II Fine	0.00		0.00		0.00		0.00		0.00		0.00	0.0
OS-1	191.64		0.00	8	255.52	2	63.88		0.00		0.00	511.04
Pipelax W	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Polyplus Dry	1689.84		0.00		0.00		0.00		0.00		0.00	1689.84
Polypac UL	2230.32		0.00		0.00		0.00		0.00		0.00	2230.32
KCL-Geel	1097.80	2	548.90	6	1646.70	8	2195.60		0.00		0.00	5489.00
Potassium Hydroxide	0.00		0.00	7	202.72	2	57.92		0.00		0.00	260.64
Safe Surf WN	0.00		0.00		0.00		0.00	4	3733.20		0.00	3733.20
Soda Ash	65.24		0.00		0.00		0.00		0.00		0.00	65.24
Sodium Bicarbonate	48.05		0.00		0.00		0.00		0.00		0.00	48.05
Omyacarb 1	0.00		0.00	28	169.12		0.00		0.00		0.00	169.12
Omyacarb 8	0.00		0.00	217	1310.68		0.00		0.00		0.00	1310.68
Zinc Carbonate	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Flossy Salt	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Conqor 303A	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Omyacarb 40	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Circal 1000	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Circal Y Grade	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Safe Peel	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Wellzyme A	0.00		0.00		0.00		0.00		0.00	4	6996.00	6996.00
MIX II Medium	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Omyacarb 10	0.00		0.00	21	126.84		0.00		0.00		0.00	126.84
KCL-Welsh	0.00		0.00		0.00		0.00		0.00		0.00	0.00
KCL-Eden	0.00		0.00		0.00		0.00		0.00		0.00	0.00
SALT (BIG BAG)	0.00		0.00	3	684.00	8	1824.00		1368.00	13	2964.00	6840.00
BRINE	0.00		0.00		0.00		0.00		0.00	400	0.00	0.00
Cumulative Engineering			0.00		0.00		0.00		0.00		0.00	0.00
Daily Product			863.90	າ	8639.63	1	10073.44		6040.15		10730.44	105255.84
_				2								
Daily Sales Tax			0		0		0		0		0	0.00
Cumulative Product		4	49772.18	7	8411.81	8	38485.25		94525.40	1	105255.84	105255.84
Cumulative Cost		_	19772.18	7	8411.81	9	38485.25		94525.40	1	105255.84	105255.84



Operator : OMV Australia
Well Name : Patricia 2
Location : Bass Strait
Field/Area: VIC / L21

Contractor: Diamond Offshore
M-I Engineer: Graeme Garrick
Rig Name: Ocean Bounty
Stock Point: Geelong

	DATES											
Product	Previous	Jun 30, 200	)2	Jul 1, 2002	Jı	ul 2, 2002	Jul	3, 2002	Jul	4, 2002	Page	
Name	Page	Qty Cos		Qty Cost	Qt	y Cost	Qty	Cost	Qty	Cost	Totals	
Barite Bulk	315.00		0.00	0.	00	0.00		0.00		0.00	315.0	
Gel Bulk	7746.48		0.00		00	0.00		0.00		0.00	7746.4	
Calcium Chloride	265.93		0.00	0.		0.00		0.00		0.00	265.9	
Caustic Soda	294.44	2 3	4.64	0.	00	0.00		0.00		0.00	329.0	
Citric Acid	0.00		0.00	0.	00	0.00		0.00		0.00	0.0	
Dual-Flo	6253.50		0.00	0.	00	0.00		0.00		0.00	6253.50	
Duotec	11941.82		0.00	0.	00	0.00		0.00		0.00	11941.82	
Defoam A	168.51		0.00	0.	00	2 112.34		0.00		0.00	280.8	
Flo-Vis Plus	23583.84		0.00	0.	00	0.00		0.00		0.00	23583.84	
Glute-25	338.75		0.00	0.	00	0.00		0.00		0.00	338.7	
Glydril LC	24877.60		0.00	0.	00	0.00		0.00		0.00	24877.60	
Guar Gum	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Kwik Seal Fine	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Kwik Seal Medium	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Lime	0.00		0.00		00	0.00		0.00		0.00	0.00	
Mix II Fine	0.00		0.00	0.	00	0.00		0.00		0.00	0.0	
OS-1	511.04	2 6	3.88	0.	00	0.00		0.00		0.00	574.92	
Pipelax W	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Polyplus Dry	1689.84		0.00	0.	00	0.00		0.00		0.00	1689.84	
Polypac UL	2230.32		0.00	0.	00	0.00		0.00		0.00	2230.32	
KCL-Geel	5489.00	2 54	8.90	2 548.	90	2 548.90		0.00		0.00	7135.70	
Potassium Hydroxide	260.64		0.00	0.	00	0.00		0.00		0.00	260.64	
Safe Surf WN	3733.20		0.00	0.	00	0.00		0.00		0.00	3733.20	
Soda Ash	65.24		0.00	0.	00	0.00		0.00		0.00	65.24	
Sodium Bicarbonate	48.05		0.00	0.	00	0.00		0.00		0.00	48.05	
Omyacarb 1	169.12		0.00	0.	00	0.00		0.00		0.00	169.12	
Omyacarb 8	1310.68		0.00	0.	00	0.00		0.00		0.00	1310.68	
Zinc Carbonate	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Flossy Salt	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Congor 303A	0.00	3 57	8.16	0.	00	0.00		0.00		0.00	578.16	
Omyacarb 40	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Circal 1000	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Circal Y Grade	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Safe Peel	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Wellzyme A	6996.00		0.00	0.	00	0.00		0.00		0.00	6996.00	
MIX II Medium	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Omyacarb 10	126.84		0.00	0.	00	0.00		0.00		0.00	126.84	
KCL-Welsh	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
KCL-Eden	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
SALT (BIG BAG)	6840.00		0.00	0.	00	0.00		0.00		0.00	6840.00	
BRINE	0.00		0.00	0.	00	0.00		0.00		0.00	0.00	
Cumulative Engineering		0	.00	0.0	0	0.00		0.00		0.00	0.0	
Daily Product		1225		548.9		661.24		0.00		0.00	107691.5	
		1223										
Daily Sales Tax			0		0	0		0		0	0.0	
Cumulative Product		106481	.42	107030.3		107691.56	1	07691.56		107691.56	107691.5	
<b>Cumulative Cost</b>		106481	.42	107030.3	2	107691.56	1	07691.56		107691.56	107691.50	



Operator : OMV Australia
Well Name : Patricia 2
Location : Bass Strait
Field/Area: VIC / L21

Contractor: Diamond Offshore
M-I Engineer: Graeme Garrick
Rig Name: Ocean Bounty
Stock Point: Geelong

	DATES											
Product	Previous	Jul 5, 2002	Jul 6,	, 2002	Jul 7	7, 2002	Jul	8, 2002			Page	
Name	Page	Qty Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals	
Barite Bulk	315.00	0.0	0	0.00		0.00		0.00			315.0	
Gel Bulk	7746.48	0.0	0	0.00		0.00		0.00			7746.4	
Calcium Chloride	265.93	0.0	0	0.00		0.00		0.00			265.93	
Caustic Soda	329.08	0.0	0	0.00		0.00		0.00			329.0	
Citric Acid	0.00	0.0	0	0.00		0.00		0.00			0.0	
Dual-Flo	6253.50	0.0	0	0.00		0.00		0.00			6253.5	
Duotec	11941.82	0.0		0.00		0.00		0.00			11941.8	
Defoam A	280.85	0.0		0.00		0.00		0.00			280.8	
Flo-Vis Plus	23583.84	0.0	-	0.00		0.00		0.00			23583.8	
Glute-25	338.75	0.0		0.00		0.00		0.00			338.7	
Glydril LC	24877.60	0.0		0.00		0.00		0.00			24877.6	
Guar Gum	0.00	0.0		0.00		0.00		0.00			0.0	
Kwik Seal Fine	0.00	0.0	0	0.00		0.00		0.00			0.0	
Kwik Seal Medium	0.00	0.0		0.00		0.00		0.00			0.0	
Lime	0.00	0.0		0.00		0.00		0.00			0.0	
Mix II Fine	0.00	0.0		0.00		0.00		0.00			0.0	
OS-1	574.92	0.0		0.00		0.00		0.00			574.9	
Pipelax W	0.00	0.0		0.00		0.00		0.00			0.0	
Polyplus Dry	1689.84	0.0		0.00		0.00		0.00			1689.8	
Polypac UL	2230.32	0.0		0.00		0.00		0.00			2230.3	
KCL-Geel	7135.70	0.0		0.00		0.00		0.00			7135.7	
Potassium Hydroxide	260.64	0.0		0.00		0.00		0.00			260.6	
Safe Surf WN	3733.20	0.0		0.00		0.00		0.00			3733.2	
Soda Ash	65.24	0.0		0.00		0.00		0.00			65.2	
Sodium Bicarbonate	48.05	0.0	-	0.00		0.00		0.00			48.0	
Omyacarb 1	169.12	0.0	-	0.00		0.00		0.00			169.1	
Omyacarb 8	1310.68	0.0		0.00		0.00		0.00			1310.6	
Zinc Carbonate	0.00	0.0		0.00		0.00		0.00			0.0	
Flossy Salt	0.00	0.0		0.00		0.00		0.00			0.0	
Conqor 303A	578.16	0.0		0.00		0.00		0.00			578.1	
Omyacarb 40	0.00	0.0		0.00		0.00		0.00			0.0	
Circal 1000	0.00	0.0		0.00		0.00		0.00			0.0	
Circal Y Grade	0.00	0.0		0.00		0.00		0.00			0.0	
Safe Peel	0.00	0.0		0.00		0.00		0.00			0.0	
Wellzyme A	6996.00	0.0	-	0.00		0.00		0.00			6996.0	
MIX II Medium	0.00	0.0		0.00		0.00		0.00			0.0	
Omyacarb 10 KCL-Welsh	126.84 0.00	0.0		0.00		0.00		0.00			126.8	
KCL-Weisn KCL-Eden	0.00	0.0		0.00		0.00		0.00			0.0	
SALT (BIG BAG)	6840.00	0.0	-	0.00		0.00		0.00			6840.0	
BRINE	0.00	0.0		0.00		0.00		0.00			0.0	
DKINE	0.00	0.0	U	0.00		0.00		0.00			0.0	
										1	+	
											+	
Cumulative Engineering		0.00	)	0.00		0.00		0.00			0.0	
Daily Product		0.00		0.00		0.00		0.00			107691.5	
Daily Sales Tax		0.00		0.00		0.00		0.00			0.0	
Cumulative Product		107691.56		7691.56		07691.56		07691.56			107691.5	
<b>Cumulative Cost</b>		107691.56	107	7691.56	10	07691.56	1	07691.56			107691.50	



### DRILLING FLUIDS RECAP PATRICIA 2



# DAILY MUD REPORTS



 Date
 20/06/2002
 Depth/TVD
 111.5 m / 111.5 m

 Spud Date
 20/06/2002
 Mud Type
 SW & Hi Vis Sweeps

 Water Depth
 53
 Activity
 Drilled 36"section.

Field/Area: VIC / L21

Description: Development

Location: Bass Strait

Well No.:

Operator: OMV Australia
Report For: G. Howard & J. Kendrick
Well Name: Patricia 2
Contractor: Diamond Offshore

Report For: R.Grahram

Funnel Viscosity S/qt > 100 51 Rheology Temp °C Rheology Temp °C R600/R300	DRILLING AS	SEMBLY	CAS	ING	MUD VOLU	ME (bbl)	CIRCULATION DATA			
Drill Pipe Size	Bit Size 36 in 26"bit,	36"H/O	Surf	ace	Hol	e	Pump Make J	ATIONAL	12P-16 JATIONA	AL 12P-16
Drill Pipe Size	Nozzles 3x24/4x22	/ 1/32"	30in @111m	(111TVD)	78.8(Tot)/7	7.8(Bit)	Pump Size	6 X 12.	in 6 X	12.in
Sin			Interme	ediate						gal/stk
Drill Pipe Size					8					
Sin					Total Circula	ating Vol				
Drill Collar Size						8				
MUD PROPERTIES   PRODUCTS USED LAST 24 HRS			Production	or Liner		rage			3.6 min 75	7 stk
Sample From			110440101	. 01 2						
Sample From	7.0	33 111	MUD PROPE	RTIES	001		PRODI	UCTS US	ED LAST 24 I	HRS
Flow Line Temp	Sample From									
Depth/VD		°C		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~						
Mud Weight   Sp. gr.   1.04   1.2   Soda Ash   25 KG BG   3	Depth/TVD	m	111.5/111.5				Caustic Soda	ļ	25 KG DM	6
Rheology Temp	Mud Weight	sp.gr.		1.2			Soda Ash		25 KG BG	3
R600/R300   S6/43     R200/R100   R200/R100   R200/R100   R200/R100   R6/R3     R6/R3     R6/R3     R6/R3     R6/R3     R6/R30   R6/R	Funnel Viscosity	s/qt	> 100	51						
R200/R100   R6/R3   R6/R3   R6/R3   R7   R6/R3   R7   R7   R7   R7   R7   R7   R7	Rheology Temp	°Ĉ								
R6/R3				56/43						
PV										
YP										
10s/10m/30m Gel   1b/100ft²   12/18/	PV									
API Fluid Loss   Cc/30 min   Co/30 min   Color min										
HTHP FL Temp   Cc/30 min   Cake API/HTHP   1/32"   Solids   %Vol   Solids   %Vol   Solids				12/18/						
Cake API/HTHP         1/32"           Solids         %Vol           Oil/Water         %Vol           Sand         %Vol           MBT         lb/bbl           pH         Thule VSM 100 S           Alkal Mud (Pm)         Thule VSM 100 S           pf/Mf         Thule VSM 100 S           Chlorides         mg/l           Hardness Ca         mg/l           Begasser         0           KCL % by wt         %           LSRV 1         cP           LSRV 2         cP           LSRV 3         cP           MUD PROPERTY SPECS           Weight         1.04           Viscosity         > 100           Filtrate         n/c										
Solids   %Vol   Sand   %Vol   Solids   Solids	HTHP FL Temp									
Oil/Water         %Vol         SOLIDS EQUIP         Size         Hr           MBT         lb/bbl         Thule VSM 100 S         0           pH         Thule VSM 100 S         0           Alkal Mud (Pm)         Thule VSM 100 S         0           Pf/Mf         Thule VSM 100 S         0           Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         D-Silter         0           Degasser         0         0           KCL % by wt         %         KCL % by wt         %           LSRV 1         cP         CP           LSRV 2         cP         CP           LSRV 3         cP         MUD PROPERTY SPECS           Weight         1.04           Viscosity         >100           Filtrate         n/c										
Solid   Soli										
MBT         lb/bbl         Thule VSM 100 S         0           pH         Thule VSM 100 S         0           Alkal Mud (Pm)         Thule VSM 100 S         0           Pf/Mf         Thule VSM 100 S         0           Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         D-Silter         0           KCL % by wt         %         Weigster         0           LSRV 1         cP         CP         CP           LSRV 2         cP         CP         CP           LSRV 3         cP         MUD PROPERTY SPECS         Weight         1.04           Viscosity         >100         Filtrate         n/c							COLUDE E	OLUD	Ci-a	LI.
pH         Thule VSM 100 S         0           Alkal Mud (Pm)         Thule VSM 100 S         0           Pf/Mf         Thule VSM 100 S         0           Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         D-Silter         0           Degasser         0         0           KCL % by wt         %         %         C           LSRV 1         cP         CP         CP           LSRV 2         cP         CP         CP           LSRV 3         cP         CP         CP           MUD PROPERTY SPECS         Weight         1.04           Viscosity         >100         Filtrate         n/c	MDT								Size	
Alkal Mud (Pm)         Thule VSM 100 S         0           Pf/Mf         Thule VSM 100 S         0           Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         Degasser         0           KCL % by wt         %         Wegasser         0           LSRV 1         cP         CP         CP           LSRV 2         cP         CP         CP           LSRV 3         cP         Weight         1.04           Viscosity         >100         Filtrate         n/c		10/001								
Pf/Mf         Thule VSM 100 S         0           Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         D-Silter         0           Degasser         0           KCL % by wt         %							Thule VSIVI	1100 S		-
Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         D-Silter         0           Degasser         0           KCL % by wt         %										-
D-Silter   0		ma/1						1005		
Degasser 0							D-Silter			
KCL % by wt		1115/1								
LSRV 1	KCL % by wt	0/n					12 0 5 4 5 5 6 1			
LSRV 2	LSRV 1									
LSRV 3										
MUD PROPERTY SPECS	LSRV 3							<u>'</u>		
Viscosity >100 Filtrate n/c	-									•
Viscosity >100 Filtrate n/c										
DEMARKS AND TREATMENT							Filtrate		n/c	
		MADICO ALID					DEMARK	<b>70</b>		

#### REMARKS AND TREATMENT

Drill water received from Pacific Sentinel: pH 7.5  $\,$  Cl- 200 mg/l. Ca 180 mg/l. Rec'd 480 bbls old mud from Sentinel. Mixed 885 bbls PHG The interval was drilled with seawater and high viscosity sweeps. The sweeps used old mud and PHG on connection

08 9325 4822

Dave Dixon

#### REMARKS

Run Anchors and position rig. Run casing an latch to guide base. Secure in moonpool. Seabed tagged at 77.5 m.Spud Well, Drill to interval T.D. Circulate hole clean and displace to Hi Viscosity mud. Run in & Cement Casing at 111 m.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(bbl)	SOLIDS ANALYSIS	(%/lb/bbl)	MUD RHEOLO	GY & HYDRAULICS
Rig Up/Service	12	Oil Added	0	NaCl	/	np/na Values	0.329/0.227
Drilling	2	Water Added	850	KCl	/	kp/ka (lb•s^n/100ft²)	5.910/10.320
Tripping	2	Mud Received	480	Low Gravity	/	Bit Loss (psi/%)	90 / 12.7
Running Casing	5	Dumped	0	Bentonite	/	Bit HHP (hhp/HSI)	48 /
B.O.P. Testing		Shakers	0	Drill Solids	/	Bit Jet Vel (ft/s)	32
Cementing	3	Evaporation	0	Weight Material	NA/ NA	Ann. Vel DP (ft/min)	
Condition Hole		Centrifuge	0	Chemical Conc	- /	Ann. Vel DC (ft/min)	32.15
Condition Mud		Formation	0	Inert/React		Crit Vel DP (ft/min)	
Coring		Left in Hole	145	Average SG		Crit Vel DC (ft/min)	
Dev. Survey		Sweeps	559	Carb/BiCarb (m mole/L)	/	ECD @ 1351 (sp.gr.)	1.3
M-I EN	NGR / PHONE	· 1	RIG PHONE	WAREHOUSE	PHONE	DAILY COST	<b>CUMULATIVE COST</b>
Graeme Garrick	08	9325 4822					



Date 21/06/2002 Depth/TVD 334 m / 326 m Spud Date 20/06/2002 **Mud Type** SW & Hi Vis Sweeps **Water Depth Activity** Drill 17.1/2" hole 53

Field/Area: VIC/L21 Report For: G. Howard & J. Kendrick **Description**: Development **Location:** Bass Strait

**Contractor:** Diamond Offshore Well No.:

Report For: R.Grahram

Well Name: Patricia 2

DRILLING AS	SEMBLY	CAS	ING	MUD VOLU	ME (bbl)				
Bit Size 17.5 in Sec X	TK	Surf	ace	Hol	le	Pump Make JA	ATIONAL	12P-16 JATION.	AL 12P-16
Nozzles 3x24 / 1/32"	1	30in @111m	(111TVD)	323	3	Pump Size	6 X 12	2.in 6 X	12.in
Drill Pipe Size	Length	Interm	ediate	Active	Pits	Pump Cap	4.274	gal/stk 4.274	gal/stk
5 in	m	13.375in @326	6m (318TVD)			Pump stk/min	70@9	7% 660	097%
Drill Pipe Size	Length	Interm		Total Circula	ating Vol		w Rate	799 gal	/min
5 in	m					Botto	oms Up	min 0	stk
Drill Collar Size	Length	Production	or Liner	In Stor	rage	Total Cir	c Time	min 0	stk
8.25 in	m					Circulating P		1250 ps	
		MUD PROPE	RTIES			PRODU	JCTS US	SED LAST 24	HRS
Sample From		Pit@07:00				Products		Size	Amt
Flow Line Temp	°C					Gel Bulk		100 LB BG	634
Depth/TVD	m	334/326				Calcium Chlo		25 KG BG	29
Mud Weight	sp.gr.	1.06				Caustic Soda		25 KG DM	11
Funnel Viscosity	s/qt	100				Soda Ash		25 KG BG	4
Rheology Temp	°C								
R600/R300									
R200/R100									
R6/R3									
PV	<u>cP</u>								
YP	lb/100ft <sup>2</sup>								
10s/10m/30m Gel	lb/100ft <sup>2</sup>								
API Fluid Loss HTHP FL Temp	cc/30 min								
Cake API/HTHP	1/32"								
Solids	%Vol								
Oil/Water	%Vol								
Sand	%Vol					SOLIDS E	OUIP	Size	Hr
MBT	lb/bbl					Thule VSM	100 S	OILO	0
pH	10/001					Thule VSM			0
Alkal Mud (Pm)						Thule VSM			0
Pf/Mf						Thule VSM	100 S		0
Chlorides	mg/l					D-Sander			0
Hardness Ca	mg/l					D-Silter			0
						Degasser			0
KCL % by wt	%					- J			
LSRV 1	cP								
LSRV 2	cP								
LSRV 3	cP								
							D PROP	PERTY SPECS	<u> </u>
						Weight		1.04	
						Viscosity		>100	
						Filtrate		n/c	
DE	MADIC AND T			1	1	DEMARK	_	1	

#### **REMARKS AND TREATMENT**

The section was drilled with seawater and PHG sweeps after 250 bbls of old mud was used. The interval depth of 344 m was reached and the hole swept with 100 bbls of PHG followed by the spotting of 320 bbls on bottom. The trip out was tight so a wiper trip was made. Displace hole to PHG. Trip out rig and run 13 3/8" casing. The casing was cemented using CaCl2 mix water.

#### **REMARKS**

The cement was allowed to cure and the 17.1/2" drilling assembly was run in to drill out the cement and shoe. Drilling proceeded at an ROP >60 m/hr with alternate periods of sliding to commence the directional kick off.

The mud pits were cleaned thoroughly.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(bbl)	SOI	IDS ANALYSIS (	%/lb/bbl)	MUD RHEOLO	GY & HYD	RAULICS
Rig Up/Service	5	Oil Added	0	NaCl		/	np/na Values		
Drilling	7	Water Added	1342	KCl		/	kp/ka (lb•s^n/100ft²)		
Tripping	4	Mud Received	0	Low C	Gravity	/	Bit Loss (psi/%)		
Running Casing	6	Dumped	135	Benton	nite	/	Bit HHP (hhp/HSI)		
B.O.P. Testing		Shakers	0	Drill S	olids	/	Bit Jet Vel (ft/s)		
Cementing	2	Evaporation	0	Weigh	t Material	NA/ NA	Ann. Vel DP (ft/min)		
Condition Hole		Centrifuge	0	Chemi	cal Conc	- /	Ann. Vel DC (ft/min)		
Condition Mud		Formation	0	Inert/F	React		Crit Vel DP (ft/min)		
Coring		Left in Hole	645	Avera	ge SG		Crit Vel DC (ft/min)		
Dev. Survey		Sweeps	1295	Carb/I	BiCarb (m mole/L)	/	, , , ,		
M-I E	NGR / PHONI		RIG PHONE		WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
Graeme Garrick	90	3 9325 4822							
Dave Dixon	90	3 9325 4822					\$ 5.641.81	\$	8.372.09



 Date
 22/06/2002
 Depth/TVD
 334 m / 326 m

 Spud Date
 20/06/2002
 Mud Type
 Mix PHPA/KCI/Glycol

 Water Depth
 53
 Activity
 Run BOPs

Operator : OMV AustraliaField/Area : VIC / L21Report For : G. Howard & J. KendrickDescription : DevelopmentWell Name : Patricia 2Location : Bass Strait

**Contractor**: Diamond Offshore Well No.:

Report For: P.Johns

Report For . 1	.301113								
DRILLING AS	SEMBLY	CAS	ING	MUD VOLU	ME (bbl)	C	IRCULAT	ION DATA	
Bit Size 12.25 in		Surf	ace	Hol	e	Pump Make	JATIONAL	. 12P-16 JATIO	NAL 12P-1
Nozzles 1/32"		30in @111m	(111TVD)	223	2	Pump Size			X 12.in
Drill Pipe Size	Length	Interme	ediate	Active	Pits	Pump Cap		gal/stk	gal/stk
5 in	m	13.375in @326	om (318TVD)	33.8	3	Pump stk/min			
Drill Pipe Size	Length	Interme		Total Circula			low Rate	9	al/min
5 in	m	9.625in @873i		33.8			ttoms Up		,
Drill Collar Size	Length	Production		In Stor			Circ Time		
8.25 in	m			485		Circulating			
0.20 111	***	MUD PROPE	RTIES	,				SED LAST 2	4 HRS
Sample From		Pit #4@20:00				Products		Size	Amt
Flow Line Temp	°C	110111.0020.00				Duotec		25 KG BG	
Depth/TVD	m	334/326				Glvdril LC		208 KG DN	
Mud Weight	sp.gr.	1.03				OS-1		25 KG BG	
Funnel Viscosity	s/qt	>100				Polyplus D	rv	25 KG BG	
Rheology Temp	°Ĉ	49				Polypac Ul		25 KG BG	16
R600/R300		97/75				Sodium Bi		25 KG BG	4
R200/R100		65/53							
R6/R3		28/24							
PV	cP	22							
YP	lb/100ft <sup>2</sup>	53							
10s/10m/30m Gel	lb/100ft <sup>2</sup>	20/28/30							
API Fluid Loss	cc/30 min								
HTHP FL Temp	cc/30 min								
Cake API/HTHP	1/32"								
Solids	%Vol								
Oil/Water	%Vol								
Sand	%Vol					SOLIDS		Size	Hr
MBT	lb/bbl					Thule VS		84/84/84/84	
pН						Thule VS		84/84/84/84	
Alkal Mud (Pm)						Thule VS		84/84/84/84	
Pf/Mf						Thule VS		84/84/84/84	
Chlorides	mg/l					D-Sander			0
Hardness Ca	mg/l					D-Silter			0
						Degasser			0
KCL % by wt	%								
LSRV 1	<u>cP</u>								
LSRV 2	<u>cP</u>								
LSRV 3	cP					-	UID DD 27	DEDTY 005	
						N N	IUD PROF	PERTY SPEC	
						Weight		1.0	
1						Viscosity	1	>10	*
						Filtrate		n/c	2

#### REMARKS AND TREATMENT

Building new mud in Active pits (1/2 volume 2xConcentration) waiting for K.C.L. on next supply boat. Plan to mix K.C.L. and dilute 50/50

#### REMARKS

Cement 13 3/8" casing. Lay out handling tools. Rig and run subsea tree. Rig and run BOPs.

TIME DISTR	Last 24 Hrs	MUD VO	OL ACCTG	(bbl)	SOI	IDS ANALYSIS (	%/lb/bbl)	MUD RHEOLO	GY & HYI	DRAULICS
Rig Up/Service		Oil Added		0	NaCl		/	np/na Values		
Drilling		Water Add	ed	450	KCl		/	kp/ka (lb•s^n/100ft²)		
Tripping		Mud Recei	ved	0	Low C	Gravity	/	Bit Loss (psi/%)		
BOP NU		Dumped		0	Bento	nite	/	Bit HHP (hhp/HSI)		
B.O.P. Testing		Shakers		0	Drill S	olids	/	Bit Jet Vel (ft/s)		
Cementing		Evaporatio	n	0	Weigh	t Material	NA/ NA	Ann. Vel DP (ft/min)		
Condition Hole		Centrifuge		0	Chem	cal Conc	- /	Ann. Vel DC (ft/min)		
Condition Mud		Formation		0	Inert/F	React		Crit Vel DP (ft/min)		
Coring		Left in Hol	e	0	Avera	ge SG		Crit Vel DC (ft/min)		
Dev. Survey		Sweeps		0	Carb/I	BiCarb (m mole/L)	/			
M-I EI	NGR / PHONE	<b>=</b>	RI	G PHONE		WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
Graeme Garrick	08	3 9325 4822								
Dave Dixon	08	3 9325 4822						\$ 19.856.44	\$	28.228.53



 Date
 23/06/2002
 Depth/TVD
 401 m / 399 m

 Spud Date
 20/06/2002
 Mud Type
 PHPA/KCI/Glycol

 Water Depth
 53
 Activity
 Drilling

Operator :OMV AustraliaField/Area :VIC / L21Report For :G. Howard & J. KendrickDescription :DevelopmentWell Name :Patricia 2Location :Bass Strait

Contractor : Diamond Offshore Well No. :

Report For:	P.Johns
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Drill Pipe Size	DRILLING AS	SEMBLY	CASI	ING	MUD VOLU	ME (bbl)	CIRCULATION DATA				
Drill Pipe Size	Bit Size 12.25 in MH	T 13 GC Reed	Surfa	ace	Hole	•	Pump Make J	ATIONAI	12P-16	JATIONA	L 12P-16
Drill Pipe Size	Nozzles 3x15/24/1	/32"	30in @111m	(111TVD)	242.4	1	Pump Size	6 X 1	2.in	6 X	12.in
Sin   313 m   13.375in (318TVD)   514.6   Pump stk/min   62@97%   72@97%			Interme	ediate	Active	Pits		4.274	gal/stk	4.274	gal/stk
Drill Pipe Size	5 in							62@9	7%	72@	97%
Sin	Drill Pipe Size										
Drill Collar Size	5 in		9.625in @873i	m (700TVD)		U					
MUD PROPERTIES   1400 psi   140	Drill Collar Size				In Stor	age					
MUD PROPERTIES	8.25 in										
Flow Line Temp   °C   23   Duotec   25 KG BG   16		<u> </u>	MUD PROPE	RTIES			PRODU	JCTS U	SED LA	IRS	
Depth/TVD	Sample From		Pit # 4@22:30				Products		S	Size	Amt
Mud Weight   Sp.gr.   1.06@23°C   OS-1   25 KG BG   2	Flow Line Temp	°C					Duotec		25 H	KG BG	16
Funnel Viscosity   Siqt   55   Polyplus Dry   25 KG BG   6	Depth/TVD	m					208 1	KG DM	8		
Rheology Temp											
R600/R300	Funnel Viscosity										
R200/R100   24/19   Sodium Bicarbonate   25 KG BG   1   R6/R3   9/7	Rheology Temp	°C									
R6/R3											4
PV						Sodium Bicarbonate			25 F	KG BG	1
YP											
10s/10m/30m Ge    1b/100ft <sup>2</sup>   8/10/10	PV										
API Fluid Loss											
HTHP FL Temp   Cc/30 min   Cake API/HTHP   1/32"   1/											
Cake API/HTHP         1/32"         1/           Solids         %Vol         2.5           Oil/Water         %Vol         SOLIDS EQUIP         Size         Hr           MBT         lb/bbl         1         Thule VSM 100 S         52/52/52/52         8           DH         9.0         Thule VSM 100 S         52/52/52/52         8           Alkal Mud (Pm)         0.3         Thule VSM 100 S         52/52/52/52         8           Pf/Mf         0.2/         Thule VSM 100 S         84/84/84/84         8           Chlorides         mg/l         42000         D-Sander         0           Hardness Ca         mg/l         1200         D-Silter         0           KCL % by wt         %         5.5         C           LSRV 1         cP         1         1           LSRV 2         cP         3         3         MUD PROPERTY SPECS           Weight         1.08-1.10			5.9								
Solids			1 /								
Oil/Water         %Vol         0/97.5           Sand         %Vol         SOLIDS EQUIP         Size         Hr           MBT         lb/bbl         1         Thule VSM 100 S         52/52/52/52         8           pH         9.0         Thule VSM 100 S         52/52/52/52         8           Alkal Mud (Pm)         0.3         Thule VSM 100 S         52/52/52/52         8           Pf/Mf         0.2/         Thule VSM 100 S         84/84/84/84         8           Chlorides         mg/l         42000         D-Sander         0           Hardness Ca         mg/l         1200         D-Silter         0           KCL % by wt         %         5.5         C           LSRV 1         cP         1         CP           LSRV 2         cP         3         CP         40           MUD PROPERTY SPECS           Weight         1.08-1,10											
Solid   Soli			0/97.5								
MBT         lb/bbl         1         Thule VSM 100 S         52/52/52/52         8           pH         9.0         Thule VSM 100 S         52/52/52/52         8           Alkal Mud (Pm)         0.3         Thule VSM 100 S         52/52/52/52         8           Pf/Mf         0.2/         Thule VSM 100 S         84/84/84/84         8           Chlorides         mg/l         42000         D-Sander         0           Hardness Ca         mg/l         1200         D-Silter         0           KCL % by wt         %         5.5         Degasser         0           LSRV 1         cP         1         1           LSRV 2         cP         3         CP         40           MUD PROPERTY SPECS           Weight         1.08-1,10		%Vol	0/71.3				SOLIDS F	OUIP	S	ize	Hr
PH			1								
Alkal Mud (Pm)	pH	10/001	9.0								
Pf/Mf         0.2/         Thule VSM 100 S         84/84/84/84         8           Chlorides         mg/l         42000         D-Sander         0           Hardness Ca         mg/l         1200         D-Silter         0           Degasser         0           KCL % by wt         %         5.5         S           LSRV 1         cP         1         S           LSRV 2         cP         3         S           LSRV 3         cP         40         S           MUD PROPERTY SPECS         Weight         1,08-1,10											
Hardness Ca mg/l 1200 D-Silter 0 Degasser 0  KCL % by wt % 5.5 LSRV 1 CP 1 LSRV 2 CP 3 LSRV 3 CP 40  MUD PROPERTY SPECS Weight 1.08-1,10	Pf/Mf										8
Hardness Ca mg/l 1200 D-Silter 0 Degasser 0  KCL % by wt % 5.5 LSRV 1 CP 1 LSRV 2 CP 3 LSRV 3 CP 40  MUD PROPERTY SPECS Weight 1.08-1,10	Chlorides	mg/l					D-Sander				0
KCL % by wt       %       5.5         LSRV 1       cP       1         LSRV 2       cP       3         LSRV 3       cP       40         MUD PROPERTY SPECS         Weight       1.08-1.10	Hardness Ca		1200								0
LSRV 1							Degasser				0
LSRV 2											
LSRV 3	LSRV 1		-								
MUD PROPERTY SPECS Weight 1.08-1.10											
Weight 1,08-1,10	LSRV 3	cP	40							0000	
Weight 1.08-1.10								ט PROI			
17.							Weight		1		
Viscosity 40 - 60							Viscosity Filtrate		40 - 60 <8 ml		
Filtrate <8 ml							Filtrate			<8 ml	

#### REMARKS AND TREATMENT

Received 120 bbls old Brine from boat, Blended this with premixed mud volume and additional water for dilution. Building reserve Premix mud for additional volume. Displace hole to PHPA/KCL mud.

08 9325 4822

Dave Dixon

#### REMARKS

The riser and BOPs were run and tested. Made up liner hanger tool and commenced making up BHA. Repairing BOP control panel. Drill out shoe Displace hole to mud, run leak off test to 1.73 SG. Drill ahead with directional control to raise angle.

\$ 10,394.47

\$ 38,623.00

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(bbl)	SOLIDS ANALYSIS	(%/lb/bbl)	MUD RHEOLO	GY & HYDRAULICS
Rig Up/Service	8	Oil Added	0	NaCl	.8/ 9.8	np/na Values	0.415/0.285
Drilling	10	Water Added	846	KCl	1.9/ 17.7	kp/ka (lb•s^n/100ft²)	2.405/4.694
Tripping	6	Mud Received	120	Low Gravity	.7/ 6.1	Bit Loss (psi / %)	647 / 46.2
BOP NU		Dumped	0	Bentonite	.1/ .9	Bit HHP (hhp/HSI)	323 / 2.7
B.O.P. Testing		Shakers	12	Drill Solids	.1/ 1.3	Bit Jet Vel (ft/s)	87
Cementing		Evaporation	0	Weight Material	NA/ NA	Ann. Vel DP (ft/min)	158.15
Condition Hole		Centrifuge	0	Chemical Conc	- / 4.	Ann. Vel DC (ft/min)	234.3
Condition Mud		Formation	0	Inert/React	1.1242	Crit Vel DP (ft/min)	303
Coring		Left in Hole	0	Average SG	2.6	Crit Vel DC (ft/min)	333
Dev. Survey		Sweeps	0	Carb/BiCarb (m mole/L)	4./ 20.	ECD @ 401 (sp.gr.)	1.08
M-I EN	M-I ENGR / PHONE		RIG PHONE	WAREHOUS	<b>E PHONE</b>	DAILY COST	<b>CUMULATIVE COST</b>
Graeme Garrick	08	9325 4822					



 Date
 24/06/2002
 Depth/TVD
 710 m / 643 m

 Spud Date
 20/06/2002
 Mud Type
 PHPA/KCI/Glycol

 Water Depth
 53
 Activity
 Drillling

Operator : OMV AustraliaField/Area : VIC / L21Report For : G. Howard & J. KendrickDescription : DevelopmentWell Name : Patricia 2Location : Bass Strait

**Contractor**: Diamond Offshore Well No.:

Report For: P.Johns

Drill Pipe Size	
Nozzles 3x15/24 / 1/32"   30in @111m (111TVD)	
Drill Pipe Size	TIONAL 12P-16
Sin	6 X 12.in
Sin	4.274 gal/stk
Drill Pipe Size	60@97%
Sin	50 gal/min
Drill Collar Size   Length   24 m	
Section   Sect	
Sample From	
Sample From	T 24 HRS
Flow Line Temp	
Depth/TVD	
Funnel Viscosity	DM 14
Rheology Temp	BG 6
R600/R500   S3/41   36/27   R200/R100   35/27   23/18   R6/R3   12/10   9/7   PV   CP   12   9   YP   Ib/100ft²   29   18   I0s/10m/30m Gel   Ib/100ft²   29   18   Interpretation of the second of	
R200/R100   35/27   23/18	
R6/R3	
PV	
YP         lb/100ft²         29         18           10s/10m/30m Gel         lb/100ft²         11/14/15         7/11/13           API Fluid Loss         cc/30 min         5.4         5.6           HTHP FL Temp         cc/30 min         cc/30 min           Cake API/HTHP         1/32"         1/         1/           Solids         %Vol         5         5           Oil/Water         %Vol         3/92         3/92           Sand         %Vol         tr         tr         SOLIDS EQUIP         Size           MBT         lb/bbl         2.5         1.25         Thule VSM 100 S         120/120/120/1           pH         8.7         8.7         Thule VSM 100 S         120/120/120/1           Alkal Mud (Pm)         0.1         0.1         Thule VSM 100 S         84/84/84/84           Pf/Mf         0.15/0.6         0.1/0.6         Thule VSM 100 S         84/84/84/84           Chlorides         mg/l         35000         41000         D-Sander           Hardness Ca         mg/l         1180         1200         D-Silter           KCL % by wt         %         5         5.5         LSRV 1         CP         0.8         0.8 <td></td>	
10s/10m/30m Gel	
API Fluid Loss         cc/30 min         5.4         5.6           HTHP FL Temp         cc/30 min         Cake API/HTHP         1/32"         1/         1 <td< td=""><td></td></td<>	
HTHP FL Temp   cc/30 min   Cake API/HTHP   1/32"   1/	
Cake API/HTHP         1/32"         1/         1/           Solids         %Vol         5         5           Oil/Water         %Vol         3/92         3/92           Sand         %Vol         tr         tr         SOLIDS EQUIP         Size           MBT         lb/bbl         2.5         1.25         Thule VSM 100 S         120/120/120/1           pH         8.7         8.7         Thule VSM 100 S         120/120/120/1           Alkal Mud (Pm)         0.1         0.1         Thule VSM 100 S         84/84/84/84           Pf/Mf         0.15/0.6         0.1/0.6         Thule VSM 100 S         84/84/84/84           Chlorides         mg/l         35000         41000         D-Sander           Hardness Ca         mg/l         1180         1200         D-Silter           Degasser         Degasser           KCL % by wt         %         5         5.5           LSRV 1         cP         0.8         0.8	
Solids         %Vol         5         5           Oil/Water         %Vol         3/92         3/92           Sand         %Vol         tr         tr         tr           MBT         lb/bbl         2.5         1.25         Thule VSM 100 S         120/120/120/1           pH         8.7         8.7         Thule VSM 100 S         120/120/120/1           Alkal Mud (Pm)         0.1         0.1         Thule VSM 100 S         84/84/84/84           Pf/Mf         0.15/0.6         0.1/0.6         Thule VSM 100 S         84/84/84/84           Chlorides         mg/l         35000         41000         D-Sander           Hardness Ca         mg/l         1180         1200         D-Silter           Degasser         Degasser           KCL % by wt         %         5         5.5           LSRV 1         CP         0.8         0.8	
Oil/Water         %Vol         3/92         3/92           Sand         %Vol         tr         tr         tr           MBT         lb/bbl         2.5         1.25         Thule VSM 100 S         120/120/120/1           pH         8.7         8.7         Thule VSM 100 S         120/120/120/1           Alkal Mud (Pm)         0.1         0.1         Thule VSM 100 S         84/84/84/84           Pf/Mf         0.15/0.6         0.1/0.6         Thule VSM 100 S         84/84/84/84           Chlorides         mg/l         35000         41000         D-Sander           Hardness Ca         mg/l         1180         1200         D-Silter           Degasser           KCL % by wt         %         5         5.5         Degasser           LSRV 1         cP         0.8         0.8	
Sand         %Vol         tr         tr         solids         size           MBT         lb/bbl         2.5         1.25         Thule VSM 100 S         120/120/120/1           pH         8.7         8.7         Thule VSM 100 S         120/120/120/1           Alkal Mud (Pm)         0.1         0.1         Thule VSM 100 S         84/84/84/84           Pf/Mf         0.15/0.6         0.1/0.6         Thule VSM 100 S         84/84/84/84           Chlorides         mg/l         35000         41000         D-Sander           Hardness Ca         mg/l         1180         1200         Degasser           KCL % by wt         %         5         5.5         Degasser           LSRV 1         cP         0.8         0.8	
MBT         lb/bbl         2.5         1.25         Thule VSM 100 S         120/120/120/120/1           pH         8.7         8.7         Thule VSM 100 S         120/120/120/1           Alkal Mud (Pm)         0.1         0.1         Thule VSM 100 S         84/84/84/84           Pf/Mf         0.15/0.6         0.1/0.6         Thule VSM 100 S         84/84/84/84           Chlorides         mg/l         35000         41000         D-Sander           Hardness Ca         mg/l         1180         1200         D-Silter           Degasser           KCL % by wt         %         5         5.5         Degasser           LSRV 1         cP         0.8         0.8         0.8	
pH         8.7         8.7         Thule VSM 100 S         120/120/120/120/1           Alkal Mud (Pm)         0.1         0.1         Thule VSM 100 S         84/84/84/84           Pf/Mf         0.15/0.6         0.1/0.6         Thule VSM 100 S         84/84/84/84           Chlorides         mg/l         35000         41000         D-Sander           Hardness Ca         mg/l         1180         1200         D-Silter           CCL % by wt         %         5         5.5           LSRV 1         CP         0.8         0.8	
Alkal Mud (Pm)         0.1         0.1         Thule VSM 100 S         84/84/84/84           Pf/Mf         0.15/0.6         0.1/0.6         Thule VSM 100 S         84/84/84/84           Chlorides         mg/l         35000         41000         D-Sander           Hardness Ca         mg/l         1180         1200         D-Silter           Degasser           KCL % by wt         %         5         5.5           LSRV 1         cP         0.8         0.8	
Pf/Mf         0.15/0.6         0.1/0.6         Thule VSM 100 S         84/84/84/84           Chlorides         mg/l         35000         41000         D-Sander           Hardness Ca         mg/l         1180         1200         D-Silter           Degasser           KCL % by wt         %         5         5.5           LSRV 1         cP         0.8         0.8	
Chlorides         mg/l         35000         41000         D-Sander           Hardness Ca         mg/l         1180         1200         D-Silter           Degasser           KCL % by wt         %         5         5.5           LSRV 1         cP         0.8         0.8	
Hardness Ca   mg/l   1180   1200   D-Silter   Degasser	
Degasser	0
KCL % by wt	0
LSRV 1	0
LSRV 2	
LSRV 3 CP 20 20	DECC
MUD PROPERTY SPEC Weight 1.04-1	04-1.10
	104-1.10 10 - 60
	<8 ml
rittate 81	<u>~0 IIII</u>

#### REMARKS AND TREATMENT

Add premixes to active system to maintain system . Treat system with Glydril, Polyplus and Duotec.

#### REMARKS

Changed to finer shaker screeens. Drill 12 1/4" hole with Directional Surveys.

TIME DISTR	Last 24 Hrs	MUD VOL ACCT	G (bbl)	SOL	IDS ANALYSIS (	%/lb/bbl)	MUD RHEOLO	OGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl		.5/ 5.9	np/na Values	J. J. 1111 B	0.370/0.283
Drilling	24	Water Added	0	KCl		1.8/ 16.8	kp/ka (lb•s^n/100ft²)		4.343/6.722
Tripping		Mud Received	0 Low Gravity		1.6/ 14.9	Bit Loss (psi / %)		651 / 32.6	
BOP NU		Dumped	0 Bentonite		.2/ 1.4	Bit HHP (hhp/HSI)		323 / 2.7	
B.O.P. Testing		Shakers	36 Drill Solids		1./ 9.5	Bit Jet Vel (ft/s)		87	
Cementing		Evaporation	0	Weight	Material	NA/ NA	Ann. Vel DP (ft/min)		148.68
Condition Hole		Centrifuge	0	Chemic	cal Conc	- / 4.	Ann. Vel DC (ft/min)		214.64
Condition Mud		Formation	0	Inert/R	eact	3.3732	Crit Vel DP (ft/min)		366
Coring		Left in Hole	0	Averag	Average SG		Crit Vel DC (ft/min)		400
Dev. Survey		Sweeps	0	0 Carb/BiCarb (m mole/L)		3./ 29.9	ECD @ 710 (sp.gr.)		1.11
M-I EI	M-I ENGR / PHONE		RIG PHONE		WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
C C : 1 00.0335.4033		0225 4022					1		

 M-I ENGR / PHONE
 RIG PHONE
 WAREHOUSE PHONE
 DAILY COST
 CUMULATIVE COST

 Graeme Garrick
 08 9325 4822
 \$ 10,285.28
 \$ 48,908.28



Date 25/06/2002 Depth/TVD 884 m / 702 m Spud Date | 20/06/2002 **Mud Type** PHPA/KCI/Glycol Water Depth **53 Activity** Tripping

Operator: OMV Australia Field/Area: VIC/L21 Report For: G. Howard & G.Othen **Description**: Development Well Name: Patricia 2 **Location:** Bass Strait

**Contractor**: Diamond Offshore Report For: P.Johns

LSRV 2

LSRV 3

Dave Dixon

Report For . F	JOHIIS			1		1				
DRILLING AS	SEMBLY	CAS	ING	MUD VOLUI	ME (bbl)	CII	RCULAT	ION DA	ATA	
Bit Size 12.25 in MH	T 13 GC Reed	Surfa	ace	Hol	e	Pump Make J.	ATIONAL	12P-16	ATIONA	L 12P-1
Nozzles 3x15/24/1	1/32"	30in @111m	(111TVD)	512.5	8	Pump Size	6 X 12	2.in	6 X	12.in
Drill Pipe Size	Length	Interme	ediate	Active	Pits	Pump Cap	4.274	gal/stk	4.274	gal/stk
5 in	m	13.375in @326	m (318TVD)	541.3	2	Pump stk/min	62@97			97%
Drill Pipe Size	Length	Interme	ediate	Total Circula	ating Vol		w Rate		850 gal/	min
5 in	m	9.625in @873i	m (700TVD)	541.2		Botte	oms Up	m	in 0 s	tk
Drill Collar Size	Length	Production	or Liner	In Stor	age	Total Cir	re Time			22 stk
8.25 in	m			190		Circulating P	ressure			
		MUD PROPE	RTIES			PRODU	JCTS US	SED LA	ST 24 F	IRS
Sample From		Pit # 4@21:00	Pit@07:30			Products		S	ize	Amt
Flow Line Temp	°C		49			Barite Bulk		100	LB BG	50
Depth/TVD	m	884/702	854/692			KCL-Geel		1 T	N BG	2
Mud Weight	sp.gr.	1.12@49°C	1.10@49°C							
Funnel Viscosity	s/qt	55	57							
Rheology Temp	<u>°Ĉ</u>	49	49							
R600/R300		58/44	67/52							
R200/R100		37/28	45/35							
R6/R3		16/14	15/13							
PV YP	<u>cP</u>	14 30	15 37							
10s/10m/30m Gel	lb/100ft <sup>2</sup>	13/18/22	14/21/24							
API Fluid Loss	cc/30 min	6.4	14/21/24 6.8							
HTHP FL Temp	cc/30 min	0.4	0.8							
Cake API/HTHP	1/32"	1/	1/							
Solids	%Vol	7	6							
Oil/Water	%Vol	3/90	3/91							
Sand	%Vol	tr	1			SOLIDS E	QUIP	S	ize	Hr
MBT	lb/bbl	5	5			Thule VSM			/120/120	
рН		8.7	8.7			Thule VSM		120/120	/120/120	24
Alkal Mud (Pm)		0	0.0			Thule VSM		84/84	/84/84	24
Pf/Mf		0.1/0.7	0.05/0.8			Thule VSM	100 S	84/84	/84/84	0
Chlorides	mg/l	45000	45000			D-Sander				0
Hardness Ca	mg/l	1200	1200			D-Silter				0
						Degasser				0
KCL % by wt	%	5.5	5.5							
LSRV 1	cP	0.8	0.8							

10

Well No.:

#### **REMARKS AND TREATMENT**

cP

cP

10

The mud properties were maintained by the addition of premix and KCL. Minor losses to the formation occurred.

08 9325 4822

#### **REMARKS**

Weight Viscosity

Filtrate

**MUD PROPERTY SPECS** 

1.04-1.10

40 - 60

<8 ml

\$ 49,772.18

Directional drilling proceeded to 884 m where the Gurnard formation was encountered at an angle of 90 deg. The hole was circulated and the mud weight raised to 1.12 SG. The max gas was approx 12%. A wiper trip was made to the casing shoe. R.I.H. Circulate hole clean pump slug POOH Rig up to run 9 5/8" Casing

\$ 863.90

TIME DISTR	Last 24 Hrs	MUD VOL ACCTO	(bbl)	SOLIDS ANALYSIS	(%/lb/bbl)	MUD RHEOLO	GY & HYDRAULICS
Rig Up/Service	2	Oil Added	0	NaCl	.8/ 9.9	np/na Values	
Drilling	11	Water Added	0	KCl	1.9/ 17.9	kp/ka (lb•s^n/100ft²)	
Tripping	7	Mud Received	0	Low Gravity	3.5/ 32.1	Bit Loss (psi / %)	
Running Casing	3	Dumped	104	Bentonite	.2/ 2.1	Bit HHP (hhp/HSI)	
B.O.P. Testing		Shakers	112	Drill Solids	2.9/ 26.	Bit Jet Vel (ft/s)	
Cementing		Evaporation	0	Weight Material	NA/ NA	Ann. Vel DP (ft/min)	
Condition Hole	1	Centrifuge	0	Chemical Conc	- / 4.	Ann. Vel DC (ft/min)	
Condition Mud		Formation	0	Inert/React	4.6291	Crit Vel DP (ft/min)	
Coring		Left in Hole	0	Average SG	2.6	Crit Vel DC (ft/min)	
Dev. Survey		Sweeps	0	Carb/BiCarb (m mole/L)	2./ 19.9		
M-I ENGR / PHONE RIG		RIG PHONE	WAREHOUSE	PHONE	DAILY COST	<b>CUMULATIVE COST</b>	
Graeme Garrick	08	9325 4822					



 Date
 26/06/2002
 Depth/TVD
 884 m / 702 m

 Spud Date
 20/06/2002
 Mud Type
 Flo-Pro

 Water Depth
 53
 Activity
 Drill Out

Operator : OMV AustraliaField/Area : VIC / L21Report For : G. Howard & G. OthenDescription : DevelopmentWell Name : Patricia 2Location : Bass Strait

**Contractor**: Diamond Offshore Well No.:

Report For: P.Johns

DRILLING AS		CAS	ING	MUD VOLU	ME (bbl)		IRCULAT	אם אטו.	<b>ΔΤΔ</b>	
		Surf								T 10D 17
Bit Size 8.5 in EHP41				Hol		Pump Make				
Nozzles 3x14 / 1/32"		30in @111m	<del></del>	256.	•	Pump Size				12.in
Drill Pipe Size	Length	Interme		Active		Pump Cap		gal/stk		gal/stk
5 in	516 m	13.375in @326	<del></del>	797.		Pump stk/mir				
Drill Pipe Size	Length	Interme		Total Circula			Flow Rate		gal/	/min
5 in	341 m	9.625in @873		1054			ttoms Up			
Drill Collar Size	Length	Production		In Stor			Circ Time			
8.25 in	28 m	in @m		1067	7	Circulating				
		MUD PROPE	RTIES			PRO	DUCTS U	<u>SED LA</u>	<u>ST 24 F</u>	HRS
Sample From		Pit # 1@19:00				Products			Size	Amt
Flow Line Temp	°C					Dual-Flo		50 I	LB BG	53
Depth/TVD	m					Flo-Vis Plu	IS		KG BG	45
Mud Weight	sp.gr.	1.07				Glute-25			LT DM	4
Funnel Viscosity	s/qt					OS-1			KG BG	8
Rheology Temp	°Ĉ	49				KCL-Geel			N BG	6
R600/R300		55/46				Potassium			KG DM	7
R200/R100		42/37				Omyacarb			KG BG	28
R6/R3		19/17				Omyacarb			KG BG	217
PV	cP	9				Omyacarb			KG BG	21
YP	lb/100ft <sup>2</sup>					SALT (BIO	G BAG)	1 M	IT BG	3
10s/10m/30m Gel	lb/100ft <sup>2</sup>									
API Fluid Loss	cc/30 min	5.2								
HTHP FL Temp	cc/30 min									
Cake API/HTHP	1/32"	1/								
Solids	%Vol									
Oil/Water	%Vol	0/96				201 100	FOLUE	_		
Sand	%Vol	1				SOLIDS			ize	<u>Hr</u>
MBT	lb/bbl	1				Thule VS			0/120/120	
pH		8.9				Thule VS			0/120/120	
Alkal Mud (Pm)		0.8				Thule VS			1/84/84	0
Pf/Mf	/1	0.2/0.5				Thule VS		84/84	1/84/84	0
Chlorides	<u>mg/l</u>					D-Sander				0
Hardness Ca	mg/l	350		+		D-Silter				0
VCI 0/ h	0/	3		+		Degasser				0
KCL % by wt	% 2D									
LSRV 1	cP cP	45000 54288		+						
LSRV 2 LSRV 3										
LSKV 3	cP	54788				N/	IUD PROF	PERTY	SDECS	
						Weight	וטט רועטו		1.04-1.1	
				+		Viscosity	7		40 - 60	
				1		Filtrate	,		<8 ml	
						Timate			\0 IIII	

#### REMARKS AND TREATMENT

Commence making up FloPro mud system

#### REMARKS

A string of 9.5/8" casing was run and cemented at 872 m.Test seal assembly and BOPs. Make up Drilling assembly and R.I.H.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTO	(bbl)	SOLIDS ANALYSIS (	%/lb/bbl)	MUD RHEOLOG	GY & HYD	RAULICS
Rig Up/Service		Oil Added	0	NaCl	.8/ 8.9	np/na Values		0.258/0.222
Drilling		Water Added	1000	KCl	1.3/ 11.9	kp/ka (lb•s^n/100ft²)		9.833/12.633
Tripping	6	Mud Received	0	Low Gravity	.2/ 1.6	Bit Loss (psi/%)		/ 1
Direction Work	2	Dumped	190	Bentonite	.2/ 1.7	Bit HHP (hhp/HSI)		/ 1
B.O.P. Testing	4	Shakers	0	Drill Solids	7/ -6.1	Bit Jet Vel (ft/s)		
Running Casing	8	Evaporation	0	Weight Material	NA/ NA	Ann. Vel DP (ft/min)		
Cementing	4	Centrifuge	0	Chemical Conc	- / 6.	Ann. Vel DC (ft/min)		
Condition Mud		Formation	0	Inert/React	-5.4297	Crit Vel DP (ft/min)		645
Coring		Left in Hole	0	Average SG	2.6	Crit Vel DC (ft/min)		645
Dev. Survey		Sweeps	0	Carb/BiCarb (m mole/L)	4./ 25.2	ECD @ 884 (sp.gr.)		1.07
M-I E	NGR / PHONE	HONE RIG PHONE WAREHOUSE PHO		PHONE	DAILY COST	CUMULA	ATIVE COST	
Graeme Garrick	08	9325 4822						
Dave Dixon	08	9325 4822				\$ 28,639.63	\$	78,411.81



 Date
 27/06/2002
 Depth/TVD
 1379 m / 701 m

 Spud Date
 20/06/2002
 Mud Type
 Flo-Pro

 Water Depth
 53
 Activity
 Drilling

Operator :OMV AustraliaField/Area :VIC / L21Report For :G. Howard & G. OthenDescription :DevelopmentWell Name :Patricia 2Location :Bass Strait

Contractor: Diamond Offshore Report For: P.Johns

DRILLING AS	SEMBLY	CAS	ING	MUD VOLUI	ME (bbl)	CIF	RCULAT	TION DA	ATA	
Bit Size 8.5 in EHP41	Reed	Surfa	ace	Hole	•	Pump Make J.	ATIONAI	12P-16	NATIONA	AL 12P-16
Nozzles 3x14 / 1/32"	,	30in @111m	(111TVD)	367.4	1	Pump Size	6 X 1	2.in	6 X	12.in
Drill Pipe Size	Length	Interme	ediate	Active	Pits	Pump Cap	4.274	gal/stk	4.274	gal/stk
5 in	1011 m	13.375in @326	m (318TVD)	443.6		Pump stk/min	69@9	7%		97%
Drill Pipe Size	Length	Interme		Total Circula	ting Vol	Flow Rate		586 gal		/min
5 in	341 m	9.625in @873i	m (700TVD)	811		Botto	oms Up	21.4 n	nin 29	27 stk
Drill Collar Size	Length	Production		In Stor	age	Total Cir		58.1 n		63 stk
6.75 in	28 m	in @m (	TVD)	602	Ü	Circulating P	2000 psi			
		MUD PROPE	RTIES			PRODUCTS USED LAST 22				HRS
Sample From		Pit # 4@21:30	Pit@10:00			Products Size			Size	Amt
Flow Line Temp	°C	45	38			Dual-Flo		50 I	LB BG	13
Depth/TVD	m	1379/701	1014/700			Flo-Vis Plus		25 k	KG BG	11
Mud Weight	sp.gr.	1.12@45°C	1.09@38°C			Glute-25			T DM	1
Funnel Viscosity	s/qt	60	69			OS-1			KG BG	2
Rheology Temp	°Ĉ	49	49			KCL-Geel			N BG	8
R600/R300		54/43	56/45			Potassium Hy		G DM	2	
R200/R100		39/31	40/32			SALT (BIG I	BAG)	1 N	IT BG	8
R6/R3		16/14	17/15							
PV	cP	11	11							
YP	lb/100ft <sup>2</sup>	32	34							
10s/10m/30m Gel	lb/100ft <sup>2</sup>	15/18/23	18/22/24							
API Fluid Loss	cc/30 min	4.8	5.2							
HTHP FL Temp	cc/30 min	4.1	4.1							
Cake API/HTHP	1/32"	1/	1/							
Solids	%Vol	8	6							
Oil/Water	%Vol	/92	/94			201 100 5	01 IID	_		
Sand	%Vol	0.25	.25			SOLIDS E			ize	Hr
MBT	lb/bbl	2	1			Thule VSM			0/120/120	
pH		9.5	9.5			Thule VSM			0/120/120	
Alkal Mud (Pm) Pf/Mf		0.2 0.1/0.6	0.6			Thule VSM			1/84/84	6
Chlorides	/I		0.1/0.5			Thule VSM	100.5	84/84	1/84/84	0
Hardness Ca	mg/l	72000 400	72000 320			D-Sander D-Silter		20	x 4"	9
nardness Ca	mg/l	400	320			D-Silter Degasser		20	x 4"	0
KCL % by wt	0/0	3	3			Degasser				U
LSRV 1		59187	64000							
LSRV 1 LSRV 2	cP	64086	69985							
LSRV 2 LSRV 3	cP	62687	69485					l .		
LOIX V J	CF	02007	07403			М	D PROI	PERTY	SPECS	
						Weight	<u> </u>		<u> 1.04-1.1</u>	
						Viscosity			40 - 60	
-				l		, 100001ty			10 00	•

Well No.:

#### **REMARKS AND TREATMENT**

Mixed Flo-Pro SF clean up pill. Mixed KCL Brine for pills

#### REMARKS

<8 ml

RIH to tag cement at 848 m. Drill out cement and shoe with the mud from previous section. Displace to new mud while drilling shoe. Drill 3m and take FIT for 1.4~SG~EMW. Drill ahead at 60~to~30~m/hr.

Filtrate

TIME DISTR	Last 24 Hrs	MUD VOL ACCTO	(bbl)	SOLIDS ANALYSIS (	%/lb/bbl)	MUD RHEOLOG	GY & HYD	RAULICS
Rig Up/Service		Oil Added	0	NaCl	2.8/31.1	np/na Values		0.329/0.227
Drilling	24	Water Added	530	KCl	1.2/ 11.4	kp/ka (lb•s^n/100ft²)		5.910/10.320
Tripping		Mud Received	0	0 Low Gravity 1.9		Bit Loss (psi / %)		1453 / 1
Direction Work		Dumped	1253	Bentonite	.1/ .8	Bit HHP (hhp/HSI)		497 / 1
B.O.P. Testing		Shakers	0	Drill Solids	1.2/ 10.8	Bit Jet Vel (ft/s)		127
Running Casing		Evaporation	0	Weight Material	NA/ NA	Ann. Vel DP (ft/min)		282.37
Cementing		Centrifuge	0	Chemical Conc	- / 6.	Ann. Vel DC (ft/min)		473.99
Condition Mud		Formation	0	Inert/React	4.8007	Crit Vel DP (ft/min)		439
Coring		Left in Hole	0	Average SG	2.6	Crit Vel DC (ft/min)		476
Dev. Survey		Sweeps	0	Carb/BiCarb (m mole/L)	2./ 3.1	ECD @ 1379 (sp.gr.)		1.31
M-I EI	NGR / PHONE	•	RIG PHONE	WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
Graeme Garrick	08	9325 4822						
Dave Dixon	08	9325 4822				\$ 10,073.44	\$	88,485.25



Date 28/06/2002 Depth/TVD 1385 m / 701 m Spud Date | 20/06/2002 Mud Type **Brine Water Depth** Activity **53** Completion program

Operator: OMV Australia Field/Area: VIC / L21 Report For: G. Howard & G. Othen **Description**: Development Well Name: Patricia 2 Location: Bass Strait

**Contractor:** Diamond Offshore Well No.: Report For: P.Johns **DRILLING ASSEMBLY CASING** MUD VOLUME (bbl) **CIRCULATION DATA** 

Pump Make JATIONAL 12P-16 JATIONAL 12P-16 Bit Size 8.5 in Surface Hole Nozzles 1/32" 405.3 30in @111m (111TVD) Pump Size 6 X 12.in 6 X 12.in Drill Pipe Size Length Intermediate **Active Pits** Pump Cap gal/stk gal/stk 13.375in @326m (318TVD) -37.3 Pump stk/min 5 in m Drill Pipe Size **Total Circulating Vol** Flow Rate Length Intermediate gal/min 5 in 341 m 9.625in @873m (700TVD) -37.3 Bottoms Up Drill Collar Size Total Circ Time Length Production or Liner In Storage

6.75 in	28 m	in @m (TVD)	312	Circulating Pressure		
		<b>MUD PROPERTIES</b>	<b>;</b>	PRODUCTS U	SED LAST 24 I	HRS
Sample From		Pit@15:00		Products	Size	Amt
Flow Line Temp	°C	0		Duotec	25 KG BG	4
Depth/TVD	m	1385/701		Defoam A	25 LT DM	3
Mud Weight	sp.gr.	1.08		Safe Surf WN	200 KG DM	4
Funnel Viscosity	s/qt			SALT (BIG BAG)	1 MT BG	6
Rheology Temp	°Ĉ			· · · · · · · · · · · · · · · · · · ·		
R600/R300						
R200/R100						
R6/R3						
PV	cP					
YP	lb/100ft <sup>2</sup>					
10s/10m/30m Gel	lb/100ft <sup>2</sup>					
API Fluid Loss	cc/30 min					
HTHP FL Temp	cc/30 min					
Cake API/HTHP	1/32"					
Solids	%Vol					
Oil/Water	%Vol					
Sand	%Vol			SOLIDS EQUIP	Size	Hr
MBT	lb/bbl			Thule VSM 100 S	120/120/120/120	
pH				Thule VSM 100 S	120/120/120/120	5
Alkal Mud (Pm)				Thule VSM 100 S	84/84/84/84	0
Pf/Mf				Thule VSM 100 S	84/84/84/84	0
Chlorides	mg/l			D-Sander		0
Hardness Ca	mg/l			D-Silter	20 x 4"	0
				Degasser		0
KCL % by wt	%					
LSRV 1	cP					
LSRV 2	cP					
LSRV 3	cP					
				MUD PRO	PERTY SPECS	
1				Weight	1.04-1.1	
				Viscosity	40 - 60	

#### REMARKS AND TREATMENT

The solids free FloPro was used to fill the horizontal section. High viscosity pills and a surfactant pill were pumped to clean the casing and the casing was filled with 1.08 SG brine. The mud from the hole and pits was dumped and the pits were cleaned.

<8 ml

Filtrate

The total depth of 1385 m was reached and the well was circulated with clean up pills after a wiper trip. The horizontal section was filled with solids free mud and at the shoe the casing was cleaned out and displaced to 1.08 SG uninhibited brine. POOH and run sand screens.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(bbl)	SOLIDS ANALYSIS (%/lb/bbl)		MUD RHEOLO	GY & HYDRAULICS
Rig Up/Service		Oil Added	0	NaCl	7/ -8.8	np/na Values	
Drilling	1	Water Added	545	KCl	1.2/ 11.5	kp/ka (lb•s^n/100ft²)	
Tripping	12	Mud Received	0	Low Gravity	5./ 45.2	Bit Loss (psi/%)	
Condition Hole	3	Dumped	474	Bentonite	./ .	Bit HHP (hhp/HSI)	
B.O.P. Testing		Shakers	0	Drill Solids	4.8/44.1	Bit Jet Vel (ft/s)	
Running Casing	6	Evaporation	0	Weight Material	NA/ NA	Ann. Vel DP (ft/min)	
Cementing		Centrifuge	0	Chemical Conc	- / 6.	Ann. Vel DC (ft/min)	
Condition Mud		Formation	0	Inert/React	-	Crit Vel DP (ft/min)	
Coring		Left in Hole	768	Average SG	2.6	Crit Vel DC (ft/min)	
Dev. Survey		Sweeps	70	Carb/BiCarb (m mole/L)	./1	, , ,	
MJ ENCD / DHONE			IC PHONE	WAREHOUSE	DHONE	DAIL V COST	CHMIII ATIVE COST

RIG PHONE DAILY COST Graeme Garrick 08 9325 4822 \$ 6,040.15 \$ 94,525.40



 Date
 29/06/2002
 Depth/TVD
 1385 m / 701 m

 Spud Date
 20/06/2002
 Mud Type
 Brine

 Water Depth
 53
 Activity
 Well completion

Operator : OMV AustraliaField/Area : VIC / L21Report For : G. Howard & G. OthenDescription : DevelopmentWell Name : Patricia 2Location : Bass Strait

Contractor: Diamond Offshore Report For: P.Johns

DRILLING AS	SEMBLY	CASING	MUD VOLUME (bbl)	C	IRCULATI	ON D	ATA
Bit Size 8.5 in		Surface	Hole	Pump Make	JATIONAL	12P-16	JATIONAL 12P-16
Nozzles 1/32"		30in @111m (111TVD)	405.3	Pump Size	e 6 X 12.in		6 X 12.in
Drill Pipe Size Length		Intermediate	Active Pits	Pump Cap	Pump Cap gal/s		gal/stk
5 in	m	13.375in @326m (318TVD)	402.7	Pump stk/min			_
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	F	low Rate		gal/min
5 in	341 m	9.625in @873m (700TVD)	402.7	Bottoms Up			
Drill Collar Size Length		Production or Liner	In Storage	Total C	Circ Time		
6.75 in	28 m	in @m (TVD)	300	Circulating	Pressure		

Well No.:

6.75 in	20	i ( (TIP)	in Storage	Cinc lating Days		
6.75 in	28 m	in @m (TVD) MUD PROPERTIES	300	Circulating Pressure	SED LAST 24 H	IDC
О 1 Б		WIUD PROPERTIES				
Sample From	0.0			Products	Size	Amt
Flow Line Temp	°C	1205/501		Duotec	25 KG BG	4
Depth/TVD	m	1385/701		Wellzyme A	55 GA DM	4
Mud Weight	sp.gr.	1.08		SALT (BIG BAG)	1 MT BG	13
Funnel Viscosity	s/qt			BRINE	1 BL BL	400
Rheology Temp	°Ĉ					
R600/R300						
R200/R100						
R6/R3						
PV	cP					
YP	lb/100ft <sup>2</sup>					
10s/10m/30m Gel	lb/100ft <sup>2</sup>					
API Fluid Loss	cc/30 min					
HTHP FL Temp	cc/30 min					
Cake API/HTHP	1/32"					
Solids	%Vol					
Oil/Water	%Vol					
Sand	%Vol			SOLIDS EQUIP	Size	Hr
MBT	lb/bbl			Thule VSM 100 S	120/120/120/120	0
pН				Thule VSM 100 S	120/120/120/120	0
Alkal Mud (Pm)				Thule VSM 100 S	84/84/84/84	0
Pf/Mf				Thule VSM 100 S	84/84/84/84	0
Chlorides	mg/l			D-Sander		0
Hardness Ca	mg/l			D-Silter	20 x 4"	0
	ŭ			Degasser		0
KCL % by wt	%					
LSRV 1	cР					
LSRV 2	cP					
LSRV 3	cP					
				MUD PROI	PERTY SPECS	
				Weight	1.04-1.10	0

#### **REMARKS AND TREATMENT**

The brine for the cleanup procedures was mixed,

The cleanup procedure included a high viscosity brine followed by brine to displace the FloPro and then a Wellzyme brine was used to fill the 8,1/2" interval over the sand screens.

#### REMARKS

Viscosity Filtrate 40 - 60

<8 ml

\$ 105,255.84

The completion program was continued with the running of the sand screens and wash pipe. The screens were set and the well clean up prior to tripping the running string.

400 blls of brine was filtered to approx 35 NTUs for future use as inhibited brine.

\$ 10,730.44

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(bbl)	SOL	IDS ANALYSIS (	%/lb/bbl)	MUD RHEOLO	GY & HYD	RAULICS
Rig Up/Service		Oil Added	0	NaCl		7/	np/na Values		
Drilling		Water Added	720	KCl		/	kp/ka (lb•s^n/100ft²)		
Tripping		Mud Received	0	Low G	ravity	/	Bit Loss (psi/%)		
Condition Hole		Centrifuge	0	Benton	ite	/	Bit HHP (hhp/HSI)		
B.O.P. Testing		Formation	0	Drill S	olids	/	Bit Jet Vel (ft/s)		
Running Casing		Left in Hole	547	Weight	Material	NA/ NA	Ann. Vel DP (ft/min)		
Cementing		Sweeps	0	Chemi	cal Conc	- /	Ann. Vel DC (ft/min)		
Condition Mud		Desilter	0	Inert/R	eact		Crit Vel DP (ft/min)		
Coring		Dumped	212	Averag	ge SG		Crit Vel DC (ft/min)		
Completion	24	Shakers	0	Carb/B	iCarb (m mole/L)	/			
M-I ENGR / PHONE		RIG PHONE		WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST	
Graeme Garrick	08	9325 4822							



Date 30/06/2002 Depth/TVD 1385 m / 701 m Spud Date 20/06/2002 **Mud Type** Brine **Water Depth 53 Activity Well Completion** 

Operator: OMV Australia
Report For: G. Howard & G. Othen Field/Area: VIC/L21 **Description:** Development Well Name: Patricia 2 **Location:** Bass Strait **Contractor:** Diamond Offshore

Report For: P.Johns

Report For . 1.	.301113							
DRILLING AS	SEMBLY	CAS	ING	MUD VOLUI	ME (bbl)	CIRCULA	TION DATA	
Bit Size 8.5 in		Surf	ace	Hol	e	Pump Make JATIONAL	L 12P-16 JATION	AL 12P-16
Nozzles 1/32"		30in @111n	n (111TVD)	405	3	Pump Size 6 X 1	2.in 6 X	12.in
Drill Pipe Size	Length	Interm	ediate	Active	Pits	Pump Cap	gal/stk	gal/stk
5 in	m	13.375in @320	6m (318TVD)	402.	7	Pump stk/min		C
Drill Pipe Size	Length	Interm	ediate	Total Circula	ating Vol	Flow Rate	ga'	l/min
5 in	m	9.625in @873	m (700TVD)	402.7		Bottoms Up		
Drill Collar Size	Length	Production		In Stor		Total Circ Time		
6.75 in	m	in @m		300		Circulating Pressure	-	
0.70 111	***	MUD PROPI		7 200		PRODUCTS U	SED LAST 24	HRS
Sample From						Products	Size	Amt
Flow Line Temp	°C					Caustic Soda	25 KG DM	2
Depth/TVD	m	1385/701				OS-1	25 KG BG	2
Mud Weight	sp.gr.	1.08				KCL-Geel	1 TN BG	2
Funnel Viscosity	s/qt					Congor 303A	55 GA DM	3
Rheology Temp	°Ĉ.							
R600/R300								
R200/R100								
R6/R3								
PV	cP							
YP	lb/100ft <sup>2</sup>							
10s/10m/30m Gel	lb/100ft <sup>2</sup>							
API Fluid Loss	cc/30 min							
HTHP FL Temp	cc/30 min							
Cake API/HTHP	1/32"							
Solids	%Vol							
Oil/Water	%Vol					201 ID2 F011ID	0:	11
Sand MBT	%Vol lb/bbl					SOLIDS EQUIP	Size	<u>Hr</u>
nH	10/001					Thule VSM 100 S	120/120/120/120 120/120/120/120	
Alkal Mud (Pm)						Thule VSM 100 S Thule VSM 100 S	84/84/84/84	0
Pf/Mf						Thule VSM 100 S	84/84/84/84	0
Chlorides	mg/l					D-Sander	04/04/04/04	0
Hardness Ca	mg/l					D-Sander D-Silter	20 x 4"	0
Tiaidiless Ca	111g/1					Degasser	20 A 4	0
KCL % by wt	%					Degusser		U
LSRV 1	cP							
LSRV 2	cP							
LSRV 3	cP						•	
	•					MUD PRO	PERTY SPECS	3
						Weight	1.04-1.	10
						Viscosity	40 - 60	0

Well No.:

#### **REMARKS AND TREATMENT**

Mixed 100 bbls of brine which was filtered prior to adding the inhition chemicals. The NTUs of the inhibited filtered brine was 22. The old brine was filtered from 450 to 270 NTUs and will be used on next well as KCl

08 9325 4822

Graeme Garrick

\$ 1,225.58

Filtrate

<8 ml

\$ 106,481.42

Continued with the well completion program. Filled riser, choke and kill lines with filtered brine.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(bbl)	SOLIDS ANALYSIS (%/lb/bbl)		MUD RHEOLO	GY & HYDRAULICS
Rig Up/Service		Oil Added	0	NaCl	7/	np/na Values	
Drilling		Water Added	100	KCl	/	kp/ka (lb•s^n/100ft²)	
Tripping		Mud Received	0	Low Gravity	/	Bit Loss (psi/%)	
Condition Hole		Centrifuge	0	Bentonite	/	Bit HHP (hhp/HSI)	
B.O.P. Testing		Formation	0	Drill Solids	/	Bit Jet Vel (ft/s)	
Running Casing		Left in Hole	110	Weight Material	NA/ NA	Ann. Vel DP (ft/min)	
Cementing		Sweeps	0	Chemical Conc	- /	Ann. Vel DC (ft/min)	
Condition Mud		Desilter	0	Inert/React		Crit Vel DP (ft/min)	
Coring		Dumped	0	Average SG		Crit Vel DC (ft/min)	
Completion	24	Shakers	0	Carb/BiCarb (m mole/L)	/	, , ,	
M-I ENGR / PHONE		RI	G PHONE	WAREHOUSE	PHONE	DAILY COST	CUMULATIVE COST



 Date
 1/07/2002
 Depth/TVD
 1385 m / 701 m

 Spud Date
 20/06/2002
 Mud Type
 Brine

 Water Depth
 53
 Activity
 Well Completion

Operator :OMV AustraliaField/Area :VIC / L21Report For :G. Howard & G. OthenDescription :DevelopmentWell Name :Patricia 2Location :Bass Strait

Contractor : Diamond Offshore Well No. :

Re	port	For:	P.Johns
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DRILLING AS	SEMBLY	CAS	ING	MUD VOLU	ME (bbl)	CII	RCULA	TION DA	ATA	
Bit Size 8.5 in		Surf	ace	Hole	e	Pump Make J	ATIONAL	12P-16	NATIONA	AL 12P-16
Nozzles 1/32"		30in @111m	(111TVD)	405.3	3	Pump Size	6 X 1	2.in	6 X	12.in
Drill Pipe Size	Length	Interm	ediate	Active	Pits	Pump Cap		gal/stk		gal/stk
5 in	m	13.375in @326		218.7		Pump stk/min		0		0
Drill Pipe Size	Length	Interm	ediate	Total Circula	ting Vol	Flow Rate			gal	/min
5 in	m		9.625in @873m (700TVD) 218.7		Botte	oms Up				
Drill Collar Size	Length	Production		In Storage		Total Cir				
6.75 in	m	in @m	(TVD)	200		Circulating F				
	<u> </u>	MUD PROPE	RTIES			PRODU	JCTS U	SED LA	ST 24 I	HRS
Sample From						Products		5	Size	Amt
Flow Line Temp	°C					KCL-Geel		1 T	N BG	2
Depth/TVD	m	1385/701								
Mud Weight	sp.gr.	1.08								
Funnel Viscosity	s/qt									
Rheology Temp	°Ĉ.									
R600/R300										
R200/R100										
R6/R3										
PV	cP									
YP	lb/100ft <sup>2</sup>									
10s/10m/30m Gel	cc/30 min									
API Fluid Loss HTHP FL Temp	cc/30 min									
Cake API/HTHP	1/32"									
Solids	%Vol									
Oil/Water	%Vol									
Sand	%Vol					SOLIDS E	QUIP	S	ize	Hr
MBT	lb/bbl					Thule VSM			)/120/120	
pH						Thule VSM			0/120/120	
Alkal Mud (Pm)						Thule VSM		84/84	1/84/84	0
Pf/Mf						Thule VSM		84/84	1/84/84	0
Chlorides	mg/l					D-Sander				0
Hardness Ca	mg/l					D-Silter		20	x 4"	0
						Degasser				0
KCL % by wt	%									
LSRV 1	cP									
LSRV 2	<u>cP</u>									
LSRV 3	cP						D DDC	>===\*	00500	
							ID PRO	PERTY		
						Weight	1.04-1.10			
						Viscosity Filtrate			40 - 60 <8 ml	1
						riiiate		1	<u>~o IIII</u>	

#### REMARKS AND TREATMENT

Mixed extra 100 bbls of KCl brine.

#### REMARKS

Displaced well to filtered inhibited brine.

Continue well completion. Pulled out tubing to insert pup joint. Starte losing brine to formation at up to 40 bbls/hr.

TIME DISTR	Last 24 Hrs	MUD VOL ACCT	G (bbl)	SOLIDS ANALYSIS	(%/lb/bbl)	MUD RHEOLO	GY & HYDRAULICS
Rig Up/Service		Oil Added	0	NaCl	7/	np/na Values	
Drilling		Water Added	110	KCl	/	kp/ka (lb•s^n/100ft²)	
Tripping		Mud Received	0	Low Gravity	/	Bit Loss (psi / %)	
Condition Hole		Centrifuge	0	Bentonite	/	Bit HHP (hhp/HSI)	
B.O.P. Testing		Formation	100	Drill Solids	/	Bit Jet Vel (ft/s)	
Running Casing		Left in Hole	300	Weight Material	NA/ NA	Ann. Vel DP (ft/min)	
Cementing		Sweeps	0	Chemical Conc	- /	Ann. Vel DC (ft/min)	
Condition Mud		Desilter	0	Inert/React		Crit Vel DP (ft/min)	
Coring		Dumped	0	Average SG		Crit Vel DC (ft/min)	
Completion	24	Shakers	0	Carb/BiCarb (m mole/L)	/	, , ,	
M-I EI	M-I ENGR / PHONE		RIG PHONE	WAREHOUSI	PHONE	DAILY COST	<b>CUMULATIVE COST</b>

Graeme Garrick 08 9325 4822 \$ \$ 548.90 \$ 107,030.32



 Date
 2/07/2002
 Depth/TVD
 1385 m / 701 m

 Spud Date
 20/06/2002
 Mud Type
 Brine

 Water Depth
 53
 Activity
 Well completion

Operator :OMV AustraliaField/Area :VIC / L21Report For :R.King & G. OthenDescription :DevelopmentWell Name :Patricia 2Location :Bass StraitContractor :Diamond OffshoreWell No. :

Report For: P.Johns

Report For . F.									
DRILLING AS	SEMBLY	CAS	ING	MUD VOLU	ME (bbl)			ION DATA	
Bit Size 8.5 in		Surf	ace	Hol	e	Pump Make	JATIONAL	. 12P-16 JATION	NAL 12P-1
Nozzles 1/32"		30in @111n	(111TVD)	405	3	Pump Size	6 X 12		X 12.in
Drill Pipe Size	Length	Interm	ediate	Active	Pits	Pump Cap		gal/stk	gal/stk
5 in	m	13.375in @320	6m (318TVD)	3		Pump stk/min			C
Drill Pipe Size	Length	Interm		Total Circula	ating Vol		low Rate	g	al/min
5 in	m	9.625in @873	m (700TVD)	3	<b>8</b>		ttoms Up		
Drill Collar Size	Length	Production		In Stor	rage		irc Time		
6.75 in	m	in @m		186		Circulating			
0.70 111	111	MUD PROPI		100	·			SED LAST 24	HRS
Sample From						Products		Size	Amt
Flow Line Temp	°C					Defoam A		25 LT DM	2
Depth/TVD	m	1385/701				KCL-Geel		1 TN BG	2
Mud Weight	sp.gr.	1.08							
Funnel Viscosity	s/qt								
Rheology Temp	°Ĉ								
R600/R300									
R200/R100									
R6/R3									
PV	cP								
YP	lb/100ft <sup>2</sup>								
10s/10m/30m Gel	1b/100ft <sup>2</sup>								
API Fluid Loss	cc/30 min								
HTHP FL Temp	cc/30 min								
Cake API/HTHP	1/32"								
Solids	%Vol								
Oil/Water	%Vol								
Sand	%Vol					SOLIDS		Size	Hr
MBT	lb/bbl					Thule VSI		120/120/120/12	
pН						Thule VSI		120/120/120/12	
Alkal Mud (Pm)						Thule VSI		84/84/84/84	0
Pf/Mf	14					Thule VSI	M 100 S	84/84/84/84	0
Chlorides	mg/l					D-Sander			0
Hardness Ca	mg/l					D-Silter		20 x 4"	0
TT GT 0/1	2/					Degasser			0
KCL % by wt	<u>%</u>								
LSRV 1	<u>cP</u>								
LSRV 2	cP cP								
LSRV 3	<u>CP</u>						IID DDAI	PERTY SPEC	c
						Weight	טא אוטא	1.04-1	
						Viscosity		40 - 6	
						Filtrate		<8 m	
						rimate		~8 II	11

#### REMARKS AND TREATMENT

Mixed up 1.08~SG~KCl brine as required to cover the downhole losses of approx 40~bbls/hr. The total losses to the formation over the time was approx 450~bbls.

#### REMARKS

Continued to run well completion with the addition of extra pup joint. Losses continued until the tubing was restabled in.

TIME DISTR	Last 24 Hrs	MUD VOL ACCT	G (bbl)	SOLIDS ANALYSIS	(%/lb/bbl)	MUD RHEOLO	GY & HYDRAULICS
Rig Up/Service		Oil Added	0	NaCl	7/	np/na Values	
Drilling		Water Added	220	KCl	/	kp/ka (lb•s^n/100ft²)	
Tripping		Mud Received	0	Low Gravity	/	Bit Loss (psi / %)	
Condition Hole		Centrifuge	0	Bentonite	/	Bit HHP (hhp/HSI)	
B.O.P. Testing		Formation	419	Drill Solids	/	Bit Jet Vel (ft/s)	
Running Casing		Left in Hole	0	Weight Material	NA/ NA	Ann. Vel DP (ft/min)	
Cementing		Sweeps	0	Chemical Conc	- /	Ann. Vel DC (ft/min)	
Condition Mud		Desilter	0	Inert/React		Crit Vel DP (ft/min)	
Coring		Dumped	40	Average SG		Crit Vel DC (ft/min)	
Completion	24	Shakers	0	Carb/BiCarb (m mole/L)	/		
M-I EN	NGR / PHONE	<b></b>	RIG PHONE	WAREHOUSE	PHONE	DAILY COST	<b>CUMULATIVE COST</b>



Date 3/07/2002 Depth/TVD 1385 m / 701 m Spud Date 20/06/2002 **Mud Type** Brine Water Depth **53 Activity** Flowing well

Operator: OMV Australia
Report For: R.King & G. Othen Field/Area: VIC / L21
Description: Development Well Name: Patricia 2 **Location:** Bass Strait Contractor: Diamond Offshore Report For: P.Johns Well No.:

Troport For F	1 .0 011110					
DRILLING A	SSEMBLY	CASING	MUD VOLUME (bbl)	C	IRCULATION D	ATA
Bit Size 8.5 in		Surface	Hole	Pump Make	JATIONAL 12P-16	JATIONAL 12P-16
Nozzles 1/32"		30in @111m (111TVD)	405.3	Pump Size	6 X 12.in	6 X 12.in
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	gal/stk	gal/stk
5 in	m	13.375in @326m (318TVD)	3	Pump stk/min		
Drill Ding Cigo	Length	Intermediate	Total Circulating Vol	` т	How Poto	gol/min

Sin	Drill Pipe Size	Length	Interm	ediate	Total Circula	ating Vol	Flow Rate	gal/i	min
Mud PROPERTIES   PRODUCTS USED LAST 24 HRS		m	9.625in @873	m (700TVD)	3		Bottoms Up		
MID PROPERTIES   Sample From   Products   Size   Amt	Drill Collar Size	Length	Production	n or Liner	In Stor	rage	Total Circ Time		
MUD PROPERTIES	6.75 in		in @m	(TVD)			Circulating Pressure		
Flow Line Temp		<u> </u>						SED LAST 24 H	IRS
Depth/TVD	Sample From						Products	Size	Amt
Depth/TVD	Flow Line Temp	°C							
Mud Weight   Sp.gr.   1.08		m	1385/701						
Funnel Viscosity		sp.gr.	1.08						
R600/R300   R200/R100   R200/R100   R6/R3	Funnel Viscosity								
R600/R300   R200/R100   R200/R100   R6/R3	Rheology Temp	°Ĉ							
R200/R100   R6/R3   PV	R600/R300								
PV	R200/R100								
YP	R6/R3								
10s/10m/30m Gel   1b/100ft²	PV	cР							
API Fluid Loss   Cc/30 min   Cake API/HTHP FL Temp   Cc/30 min   Cake API/HTHP   T/32"   Solids   %Vol   Solids   %Vol   Solids   Solids		$1b/100ft^{2}$							
HTHP FL Temp   Cc/30 min   Cake API/HTHP   1/32"   Solids   %Vol   Solids   %Vol   Solids   %Vol   Solids   %Vol   Solids   Sol	10s/10m/30m Gel	$1b/100ft^{2}$							
Cake API/HTHP         1/32"         Solids         %Vol           Oil/Water         %Vol         SOLIDS EQUIP         Size         Hr           Sand         %Vol         Thule VSM 100 S         120/120/120/120         0           MBT         lb/bbl         Thule VSM 100 S         120/120/120/120         0           Alkal Mud (Pm)         Thule VSM 100 S         84/84/84/84         0           Pf/Mf         Thule VSM 100 S         84/84/84/84         0           Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         D-Silter         20 x 4"         0           KCL % by wt         %         Degasser         0           KCL % by wt         %         Weight         Weight         1.08		cc/30 min							
Solids   %Vol   Solids   Sol									
Oil/Water         %Vol         SOLIDS EQUIP         Size         Hr           MBT         lb/bbl         Thule VSM 100 S         120/120/120/120         0           pH         Thule VSM 100 S         120/120/120/120         0           Alkal Mud (Pm)         Thule VSM 100 S         84/84/84/84         0           Pf/Mf         Thule VSM 100 S         84/84/84/84         0           Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         D-Silter         20 x 4"         0           KCL % by wt         %         Degasser         0           LSRV 1         cP         CP         CP           LSRV 2         cP         CP         CP           LSRV 3         cP         MUD PROPERTY SPECS           Weight         Viscosity         Viscosity									
Solid   Soli	Solids								
MBT         lb/bbl         Thule VSM 100 S         120/120/120/120 0         0           pH         Thule VSM 100 S         120/120/120/120 0         0           Alkal Mud (Pm)         Thule VSM 100 S         84/84/84/84 0         0           Pf/Mf         Thule VSM 100 S         84/84/84/84 0         0           Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         D-Silter         20 x 4" 0           Degasser         0           KCL % by wt         %         CP           LSRV 1         cP         CP           LSRV 2         cP         CP           LSRV 3         cP         Weight         1.08           Weight         1.08	Oil/Water								
pH         Thule VSM 100 S         120/120/120/120 0         0           Alkal Mud (Pm)         Thule VSM 100 S         84/84/84/84 0         0           Pf/Mf         Thule VSM 100 S         84/84/84/84 0         0           Chlorides         mg/l         D-Sander 0         0           Hardness Ca         mg/l         D-Silter 20 x 4" 0         0           KCL % by wt %         Degasser 0         0           LSRV 1 cP         CP         CP           LSRV 2 cP         CP         CP           LSRV 3 cP         Weight 1.08         1.08							SOLIDS EQUIP	Size	Hr
Alkal Mud (Pm)		lb/bbl					Thule VSM 100 S	120/120/120/120	0
Pf/Mf         Thule VSM 100 S         84/84/84/84         0           Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         D-Silter         20 x 4"         0           KCL % by wt         %         Wegasser         0           LSRV 1         cP         CP         CP           LSRV 2         cP         CP         Weight         1.08           Weight         Viscosity         Viscosity         Viscosity									0
Chlorides         mg/l         D-Sander         0           Hardness Ca         mg/l         D-Silter         20 x 4"         0           KCL % by wt         %         Degasser         0           LSRV 1         cP         CP         CP           LSRV 2         cP         CP         CP           LSRV 3         cP         CP         MUD PROPERTY SPECS           Weight         1.08         Viscosity								84/84/84/84	0
Hardness Ca   mg/l   D-Silter   20 x 4"   0								84/84/84/84	0
Degasser 0									0
KCL % by wt       %         LSRV 1       cP         LSRV 2       cP         LSRV 3       cP         MUD PROPERTY SPECS         Weight       1.08         Viscosity	Hardness Ca	mg/l						20 x 4"	0
LSRV 1							Degasser		0
LSRV 2							-		
LSRV 3 CP MUD PROPERTY SPECS Weight 1.08 Viscosity									
MUD PROPERTY SPECS  Weight 1.08  Viscosity									
Weight 1.08 Viscosity	LSRV 3	cP							
Viscosity									
								1.08	
Filtrate									
							Filtrate		

#### **REMARKS AND TREATMENT**

Tested appropiate water flow samples to check the amount of brine being produced.

The well was production tested from daylight.

TIME DISTR	Last 24 Hrs MUD VOL ACCTO		(bbl)	SOLIDS ANALYSIS (	%/lb/bbl)	MUD RHEOLOG	Y & HYDRAULICS
Rig Up/Service		Oil Added	0	NaCl	7/	np/na Values	
Drilling		Water Added	0	KCl	/	kp/ka (lb•s^n/100ft²)	
Tripping		Mud Received	0	Low Gravity	/	Bit Loss (psi/%)	
Condition Hole		Centrifuge	0	Bentonite	/	Bit HHP (hhp/HSI)	
B.O.P. Testing		Formation	0	Drill Solids	/	Bit Jet Vel (ft/s)	
Running Casing		Left in Hole	0	Weight Material	NA/ NA	Ann. Vel DP (ft/min)	
Cementing		Sweeps	0	Chemical Conc	- /	Ann. Vel DC (ft/min)	
Condition Mud		Desilter	0	Inert/React		Crit Vel DP (ft/min)	
Coring		Dumped	0	Average SG		Crit Vel DC (ft/min)	
Completion	24	Shakers	0 Carb/BiCarb (m mole/L) /		, , ,		
M-I FNGR / PHONE		IG PHONE	WARFHOUSE	PHONE	DAILY COST	CUMULATIVE COST	

08 9325 4822 Graeme Garrick \$ 0.00 \$ 107,691.56



1385 m / 701 m Date 4/07/2002 Depth/TVD Spud Date 20/06/2002 Mud Type Brine **Water Depth** 53 **Activity Well Testing** 

Operator: OMV Australia
Report For: R.King & G. Othen Field/Area: VIC / L21**Description:** Development Well Name: Patricia 2 **Location:** Bass Strait **Contractor**: Diamond Offshore Well No.:

Report For: I	P.Johns					
DRILLING AS	SEMBLY	CASING	MUD VOLUME (bbl)	C	IRCULATION	DATA
Bit Size 8.5 in		Surface	Hole	Pump Make	JATIONAL 12P-	16 JATIONAL 12P-16
Nozzles 1/32"		30in @111m (111TVD)	405.3	Pump Size	6 X 12.in	6 X 12.in
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	gal/st	k gal/stk
5 in	m	13.375in @326m (318TVD)	3	Pump stk/min		

Length Drill Pipe Size Intermediate Total Circulating Vol Flow Rate gal/min

Drill Pipe Size	Length	Interme	diate	Total Circula	iting Vol	Flow Rate	gal/1	mın			
5 in	m	9.625in @873r		3		Bottoms Up					
Drill Collar Size	Length	Production	or Liner	In Stor	age	Total Circ Time					
6.75 in	m	in @m (	ΓVD)	186		Circulating Pressure					
		<b>MUD PROPE</b>	RTIÉS		·	PRODUCTS USED LAST 24 HRS					
Sample From						Products	Size	Amt			
Flow Line Temp	°C										
Depth/TVD	m	1385/701									
Mud Weight	sp.gr.	1.08									
Funnel Viscosity	s/qt										
Rheology Temp	°Ĉ										
R600/R300											
R200/R100											
R6/R3											
PV	cP										
YP	lb/100ft <sup>2</sup>										
10s/10m/30m Gel	lb/100ft <sup>2</sup>										
API Fluid Loss	cc/30 min										
HTHP FL Temp	cc/30 min										
Cake API/HTHP	1/32"										
Solids	%Vol										
Oil/Water	%Vol										
Sand	%Vol					SOLIDS EQUIP	Size	Hr			
MBT	lb/bbl					Thule VSM 100 S	120/120/120/120	0			
pН						Thule VSM 100 S	120/120/120/120	0			
Alkal Mud (Pm)						Thule VSM 100 S	84/84/84/84	0			
Pf/Mf						Thule VSM 100 S	84/84/84/84	0			
Chlorides	mg/l					D-Sander		0			
Hardness Ca	mg/l					D-Silter	20 x 4"	0			
	_					Degasser		0			
KCL % by wt	%										
LSRV 1	cР										
LSRV 2	cР										
LSRV 3	cP										
							PERTY SPECS				
						Weight	1.08				
						Viscosity					
						Filtrate					

REMARKS AND TREATMENT

**REMARKS** 

The well testing program continued.

TIME DISTR	Last 24 Hrs	MUD VO	L ACCTG	(bbl)	SOLIDS ANALYSIS (	%/lb/bbl)	MUD RHEOLOGY	/ & HYD	RAULICS
Rig Up/Service		Oil Added		0	NaCl	7/	np/na Values		
Drilling		Water Adde	d	0	KCl	/	kp/ka (lb•s^n/100ft²)		
Tripping		Mud Receiv	ed	0	Low Gravity	/	Bit Loss (psi/%)		
Condition Hole		Centrifuge		0	Bentonite	/	Bit HHP (hhp/HSI)		
B.O.P. Testing		Formation		0	Drill Solids	/	Bit Jet Vel (ft/s)		
Running Casing		Left in Hole		0	Weight Material	NA/ NA	Ann. Vel DP (ft/min)		
Cementing		Sweeps		0	Chemical Conc	- /	Ann. Vel DC (ft/min)		
Condition Mud		Desilter		0	Inert/React		Crit Vel DP (ft/min)		
Coring		Dumped		0	Average SG		Crit Vel DC (ft/min)		
Completion		Shakers		0	Carb/BiCarb (m mole/L)	/	` ′		
		_							

M-I ENGR / PHONE **RIG PHONE WAREHOUSE PHONE DAILY COST CUMULATIVE COST** Graeme Garrick 08 9325 4822 \$ 0.00 \$ 107,691.56



Depth/TVD Date 5/07/2002 1385 m / 701 m Spud Date 20/06/2002 Mud Type Brine **Water Depth** 53 Activity Well suspension

Operator: OMV Australia
Report For: R.King & G. Othen Field/Area: VIC / L21
Description: Development Well Name: Patricia 2 **Location**: Bass Strait Well No.:

Contractor: Diamond Offshore Report For: P.Johns

DRILLING AS	SEMBLY	CAS	ING	MUD VOLU	ME (bbl)			TION DATA	
Bit Size 8.5 in		Surf	ace	Hol	e	Pump Make	JATIONAL	L 12P-16 JATION	NAL 12P-16
Nozzles 1/32"		30in @111n	n (111TVD)	405	3	Pump Size			X 12.in
Drill Pipe Size	Length	Interm	ediate	Active	Pits	Pump Cap		gal/stk	gal/stk
5 in	m	13.375in @32	6m (318TVD)	3		Pump stk/min			
Drill Pipe Size	Length	Interm	ediate	Total Circula	ating Vol		Flow Rate	ga	ıl/min
5 in	m	9.625in @873	m (700TVD)	3	U	Bo	ottoms Up	·	
Drill Collar Size	Length	Production	<del></del>	In Stor	age		Circ Time		
6.75 in	m	in @m		186		Circulating			
0.70 111	***	MUD PROPI	ERTIES	100		PRO	DUCTS U	SED LAST 24	HRS
Sample From						Products		Size	Amt
Flow Line Temp	°C					Troducts		Size	7 11110
Depth/TVD	m	1385/701							
Mud Weight	sp.gr.	1.08							
Funnel Viscosity	s/qt	-,,,,							
Rheology Temp	°Ĉ								
R600/R300									
R200/R100									
R6/R3									
PV	cP								
YP	lb/100ft <sup>2</sup>								
10s/10m/30m Gel	lb/100ft <sup>2</sup>								
API Fluid Loss	cc/30 min								
HTHP FL Temp	cc/30 min								
Cake API/HTHP	1/32"								
Solids	%Vol								
Oil/Water	%Vol							T	
Sand	%Vol					SOLIDS		Size	Hr
MBT	lb/bbl					Thule VS		120/120/120/12	
pН						Thule VS		120/120/120/12	
Alkal Mud (Pm)						Thule VS		84/84/84/84	0
Pf/Mf						Thule VS		84/84/84/84	0
Chlorides	<u>mg/l</u>					D-Sander			0
Hardness Ca	mg/l					D-Silter		20 x 4"	0
TCCT 0/1	21					Degasser			0
KCL % by wt	<u>%</u>								
LSRV 1	<u>cP</u>								
LSRV 2	<u>cP</u>								
LSRV 3	cP					N.		PERTY SPEC	c .
						Weight	וטט רגטו	1 08	
			<del> </del>			Viscosity	7	1.08	<u> </u>
						Filtrate	y		
					<del>                                     </del>	Tittate			

REMARKS AND TREATMENT

The well testing program was completed and the well suspension was commenced.

TIME DISTR	Last 24 Hrs	MUD VOL ACCT	G (bbl)	SOL	IDS ANALYSIS (	%/lb/bbl)	MUD RHEOLO	GY & HYD	RAULICS
Rig Up/Service		Oil Added	0	NaCl		7/	np/na Values		
Drilling		Water Added	0	KCl		/	kp/ka (lb•s^n/100ft²)		
Tripping		Mud Received	0	Low G	ravity	/	Bit Loss (psi / %)		
Condition Hole		Centrifuge	0	Benton	ite	/	Bit HHP (hhp/HSI)		
B.O.P. Testing		Formation	0	Drill So	olids	/	Bit Jet Vel (ft/s)		
Running Casing		Left in Hole	0	Weight	Material	NA/ NA	Ann. Vel DP (ft/min)		
Cementing		Sweeps	0	Chemic	eal Conc	- /	Ann. Vel DC (ft/min)		
Condition Mud		Desilter	0	Inert/R	eact		Crit Vel DP (ft/min)		
Coring		Dumped	0	Averag	e SG		Crit Vel DC (ft/min)		
Completion		Shakers	0	Carb/B	iCarb (m mole/L)	/			
M-I EI	NGR / PHONE		RIG PHONE		WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
Graeme Garrick	08	9325 4822							

\$ 0.00 \$ 107,691.56



 Date
 6/07/2002
 Depth/TVD
 1385 m / 701 m

 Spud Date
 20/06/2002
 Mud Type
 Brine

 Water Depth
 53
 Activity
 Weather watch

Operator :OMV AustraliaField/Area :VIC / L21Report For :R.King & G. OthenDescription :DevelopmentWell Name :Patricia 2Location :Bass StraitContractor :Diamond OffshoreWell No. :

Report For: P.Johns

Report For : P						I				
DRILLING AS	SEMBLY	CAS	ING	MUD VOLU	ME (bbl)		IRCULAT			
Bit Size 8.5 in		Surf	ace	Hol	e	Pump Make	JATIONAI	12P-16	JATIONA	L 12P-16
Nozzles 1/32"		30in @111m	(111TVD)	405.	3	Pump Size	6 X 1	2.in	6 X	12.in
Drill Pipe Size	Length	Interm	ediate	Active	Pits	Pump Cap		gal/stk		gal/stk
5 in	m	13.375in @326	6m (318TVD)	3		Pump stk/min				
Drill Pipe Size	Length	Interm	ediate	Total Circula	ating Vol	F	low Rate		gal/	min
5 in	m	9.625in @873	m (700TVD)	3		Во	ttoms Up			
Drill Collar Size	Length	Production	or Liner	In Stor	age	Total C	Circ Time			
6.75 in	m	in @m	(TVD)	126		Circulating				
		MUD PROPE	RTIES			PROI	DUCTS U	SED LA	<b>AST 24 F</b>	IRS
Sample From						Products			Size	Amt
Flow Line Temp	°C									
Depth/TVD	m	1385/701								
Mud Weight	sp.gr.	1.08								
Funnel Viscosity	s/qt									
Rheology Temp	°Ĉ									
R600/R300										
R200/R100										
R6/R3										
PV	cP									
YP	lb/100ft <sup>2</sup>									
10s/10m/30m Gel	lb/100ft <sup>2</sup>									
API Fluid Loss	cc/30 min									
HTHP FL Temp	cc/30 min									
Cake API/HTHP	1/32"									
Solids	%Vol									
Oil/Water	%Vol					201120		_		
Sand	%Vol					SOLIDS			Size	<u>Hr</u>
MBT	lb/bbl					Thule VS			0/120/120	
pH						Thule VS			0/120/120	
Alkal Mud (Pm)						Thule VS			4/84/84	0
Pf/Mf Chlorides	/1					Thule VS	VI 100 S	84/8	4/84/84	0
	mg/l					D-Sander D-Silter		20	) 4"	0
Hardness Ca	mg/l							20	) x 4"	0
KCL % by wt	%					Degasser				U
LSRV 1	cP			1						
LSRV 2	cP									
LSRV 3	cP			1				1		
LUICY J	CI					M	IUD PROI	PERTY	SPECS	
						Weight			1.08	
						Viscosity	•		1.00	
						Filtrate				

**REMARKS AND TREATMENT** 

#### REMARKS

Continue with well suspension but unable to continue due to inclement weather.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTO	(bbl)	SOL	IDS ANALYSIS (	%/lb/bbl)	MUD RHEOLOG	SY & HYD	RAULICS
Rig Up/Service		Oil Added	0	NaCl		7/	np/na Values		
Drilling		Water Added	0	KCl		/	kp/ka (lb•s^n/100ft²)		
Tripping		Mud Received	0	Low G	ravity	/	Bit Loss (psi/%)		
Condition Hole		Centrifuge	0	Benton	ite	/	Bit HHP (hhp/HSI)		
B.O.P. Testing		Formation	0	Drill So	olids	/	Bit Jet Vel (ft/s)		
Running Casing		Left in Hole	0	Weight	Material	NA/ NA	Ann. Vel DP (ft/min)		
Cementing		Sweeps	0	Chemic	cal Conc	- /	Ann. Vel DC (ft/min)		
Condition Mud		Desilter	0	Inert/R	eact		Crit Vel DP (ft/min)		
Coring		Dumped	60	Averag	e SG		Crit Vel DC (ft/min)		
Completion		Shakers	0	Carb/B	iCarb (m mole/L)	/	· · ·		
M-I EN	IGR / PHONE		RIG PHONE		WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
Graeme Garrick	08	9325 4822							
							\$ 0.00	\$	107,691.56



 Date
 7/07/2002
 Depth/TVD
 1385 m / 701 m

 Spud Date
 20/06/2002
 Mud Type
 Brine

 Water Depth
 53
 Activity
 Well Suspension

Operator :OMV AustraliaField/Area :VIC / L21Report For :R.King & G. OthenDescription :DevelopmentWell Name :Patricia 2Location :Bass StraitContractor :Diamond OffshoreWell No. :

Report For: P.Johns

Report For . F.										
DRILLING AS	SEMBLY	CAS	ING	MUD VOLU	ME (bbl)		IRCULA			
Bit Size 8.5 in		Surf	ace	Hol	le	Pump Make	JATIONA	L 12P-16 J	ATIONA	L 12P-16
Nozzles 1/32"		30in @111n	n (111TVD)	405.	.3	Pump Size	6 X 1		6 X 1	
Drill Pipe Size	Length	Interm	ediate	Active	Pits	Pump Cap		gal/stk	9	gal/stk
5 in	m	13.375in @320	6m (318TVD)	3		Pump stk/min				
Drill Pipe Size	Length	Interm		Total Circul	ating Vol		low Rate		gal/ı	min
5 in	m	9.625in @873		3	8	Bot	toms Up			
Drill Collar Size	Length	Production		In Sto	rage		irc Time			
6.75 in	m	in @m		111 500	14.80	Circulating				
0.75 111	111	MUD PROPI					UCTS U	SED LA	ST 24 H	IRS
Sample From						Products			ize	Amt
Flow Line Temp	°C					110000				1 11110
Depth/TVD	m	1385/701								
Mud Weight	sp.gr.	No°C								
Funnel Viscosity	s/qt									
Rheology Temp	°Ĉ	Brine								
R600/R300										
R200/R100										
R6/R3										
PV	cP									
YP	lb/100ft <sup>2</sup>									
10s/10m/30m Gel	lb/100ft <sup>2</sup>									
API Fluid Loss	cc/30 min									
HTHP FL Temp	cc/30 min									
Cake API/HTHP	1/32"									
Solids	%Vol									
Oil/Water	%Vol									
Sand	%Vol					SOLIDS			ze	Hr
MBT	lb/bbl					Thule VSN			/120/120	0
pH						Thule VSN		120/120		0
Alkal Mud (Pm)						Thule VSN		84/84		0
Pf/Mf	/1					Thule VSN	M 100 S	84/84	/84/84	0
Chlorides	mg/l					D-Sander		20	4.0	0
Hardness Ca	mg/l				1	D-Silter		20:	x 4"	0
VCI 0/ b	0/				1	Degasser				0
KCL % by wt LSRV 1	% cP				1					
LSRV 1 LSRV 2	cP cP				1					
LSRV 2 LSRV 3	cP cP				1					
LOKY 3	СР					NA.	UD PRO	DEDTY (	SDECS	
						Weight	OD FRO	FERITS	1.08	
					+	Viscosity			1.00	

#### REMARKS AND TREATMENT

All brine in pits dumped.

#### **REMARKS**

Viscosity Filtrate

After the weather abated the BOPs were recovered and the well suspension continued.

TIME DISTR Las	st 24 Hrs MUD VOL ACCT	G (bbl)	SOLIDS ANALYSIS (	%/lb/bbl)	MUD RHEOLO	GY & HYDRAULICS
Rig Up/Service	Oil Added	0	NaCl	7/	np/na Values	
Drilling	Water Added	0	KCl	/	kp/ka (lb•s^n/100ft²)	
Tripping	Mud Received	0	Low Gravity	/	Bit Loss (psi/%)	
Condition Hole	Centrifuge	0	Bentonite	/	Bit HHP (hhp/HSI)	
B.O.P. Testing	Formation	0	Drill Solids	/	Bit Jet Vel (ft/s)	
Running Casing	Left in Hole	0	Weight Material	NA/ NA	Ann. Vel DP (ft/min)	
Cementing	Sweeps	0	Chemical Conc	- /	Ann. Vel DC (ft/min)	
Condition Mud	Desilter	0	Inert/React		Crit Vel DP (ft/min)	
Coring	Dumped	126	Average SG		Crit Vel DC (ft/min)	
Completion	Shakers	0	Carb/BiCarb (m mole/L)	/	, , , ,	
M-I ENGR	? / PHONE	<b>RIG PHONE</b>	WAREHOUSE	WAREHOUSE PHONE		<b>CUMULATIVE COST</b>
Graeme Garrick	08 9325 4822					

Graeme Garrick 08 9325 4822 \$ 0.00 \$ 107,691.56



 Date
 8/07/2002
 Depth/TVD
 1385 m / 701 m

 Spud Date
 20/06/2002
 Mud Type

Water Depth 53 Activity Prepare to tow.

Operator : OMV AustraliaField/Area : VIC / L21Report For : R.King & G. OthenDescription : DevelopmentWell Name : Patricia 2Location : Bass Strait

Contractor : Diamond Offshore Well No. :

Report For: P.Johns

Report For: P.						T _						
DRILLING AS	SEMBLY	CAS	ING	MUD VOLU	ME (bbl)	CIRCULATION DATA						
Bit Size 8.5 in		Surf	ace	Hol	le		JATIONAI	NAL 12P-16 JATION		L 12P-16		
Nozzles 1/32"		30in @111m	(111TVD)	405.	3	Pump Size	6 X 1	6 X 12.in 6 Z		12.in		
Drill Pipe Size	Length	Interme	ediate	Active	Pits	Pump Cap		gal/stk		gal/stk		
5 in	m	13.375in @326	om (318TVD)	3		Pump stk/min						
Drill Pipe Size	Length	Interme	ediate	Total Circula	ating Vol	F	low Rate		gal/	min		
5 in	m	9.625in @873i	m (700TVD)	3		Во	ttoms Up					
Drill Collar Size	Length	Production	or Liner	In Stor	rage	Total C	Circ Time					
6.75 in	m	in @m (	TVD)			Circulating						
		MUD PROPE	RTIES			PROI	DUCTS U	SED LA	<b>AST 24 F</b>	IRS		
Sample From						Products			Size	Amt		
Flow Line Temp	°C											
Depth/TVD	m	1385/701										
Mud Weight	sp.gr.											
Funnel Viscosity	s/qt											
Rheology Temp	°Ĉ											
R600/R300												
R200/R100												
R6/R3												
PV	cP											
YP	lb/100ft <sup>2</sup>											
10s/10m/30m Gel	lb/100ft <sup>2</sup>											
API Fluid Loss	cc/30 min											
HTHP FL Temp	cc/30 min											
Cake API/HTHP	1/32"											
Solids	%Vol											
Oil/Water	%Vol					201120		_				
Sand	%Vol					SOLIDS			Size	<u>Hr</u>		
MBT	lb/bbl					Thule VS			0/120/120			
pH						Thule VS			0/120/120			
Alkal Mud (Pm) Pf/Mf						Thule VS			4/84/84	0		
Chlorides	/1					Thule VS		84/8	4/84/84	0		
Hardness Ca	mg/l mg/l					D-Sander D-Silter		20	) x 4"	0		
naruness Ca	mg/1_			+		D-Silter Degasser		20	) X 4	0		
KCL % by wt	%					Degasser				U		
LSRV 1	cP											
LSRV 2	cP											
LSRV 3	cP							1				
LOICY J	CI					M	IUD PROI	PERTY	SPECS			
						Weight			1.08			
						Viscosity	7		1.00			
						Filtrate						

#### REMARKS AND TREATMENT

#### REMARKS

Complete final ROV work with sub sea tree. Pull anchors in preparation for move to next location.

TIME DISTR	Last 24 Hrs	MUD VOL A	CCTG	(bbl)	SOLIDS ANALYSIS (%/lb/bbl)			MUD RHEOLOGY & HYDRAULICS				
Rig Up/Service		Oil Added		0	NaCl		7/	np/na Values				
Drilling		Water Added		0	KCl		/	kp/ka (lb•s^n/100ft²)				
Tripping		Mud Received		0	Low C	Fravity	/	Bit Loss (psi/%)				
Condition Hole		Shakers		0	Benton	nite	/	Bit HHP (hhp/HSI)				
B.O.P. Testing		Evaporation		0	Drill S	olids	/	Bit Jet Vel (ft/s)				
Running Casing		Centrifuge		0	Weigh	t Material	NA/ NA	Ann. Vel DP (ft/min)				
Cementing		Formation		0	Chemi	cal Conc	- /	Ann. Vel DC (ft/min)				
Condition Mud		Left in Hole		0	Inert/R	React		Crit Vel DP (ft/min)				
Coring		Sweeps		0	Avera	ge SG		Crit Vel DC (ft/min)				
Completion		Desilter		0	Carb/E	BiCarb (m mole/L)	/	, ,				
M-I ENGR / PHONE		RIC	RIG PHONE		WAREHOUSE PHONE		DAILY COST	CUMUL	ATIVE COST			
Graeme Garrick	08	3 9325 4822										
								\$ 0.00	\$	107,691.56		

### **BIT RECAP**

#### Patricia-2

From: 20-Jun-02 To: 28-Jun-02

DATE	BIT#	SIZE	SER#	MF	IADC	TYPE	JETS	OUT	FTGE	HRS	SPP	FLW	WOB	RPM	VEL	HHP	ROP	1	01	D	L	В	G	02	R
										o/b	psi	gpm	lbs		fps		f/hr								
20-Jun-02	1	26.00	KW0659	Smith	111	DSJC	1x17, 3x24	112	34	.6	1034	910	6.0	60	57.4	0.000	56.7	1	1	WT	Α	1	IN	NO	TD
21-Jun-02	2RR	17.50	740844	SE	115	XT1C	3x24	334	223	3.6	1410	803	10.0	40	59.1	0.068	61.8	2	2	WT	Α	Е	IN	BU	TD
23-Jun-02	3	12.50	NL5007	Reed	137M	MHT 13GC	3x15, 1x24		70	3.9	1420	859	10.0	200	87.3	0.313	17.9								
24-Jun-02	3	12.50	NL5007	Reed	135M	MHT 13GC	3x15, 1x24		304	18.4	1730	852	10.0	200	86.6	2.643	16.5								
25-Jun-02	3	12.50	NL5007	Reed	135M	MHT 13GC	3x15, 1x24	884	176	10.6	2160	847	14.0	200	86.1	2.693	16.6	2	2	WT	Α	В	1/16	NO	TD
26-Jun-02	4	8.50	M-25484	Reed		EPH-41-ALKDH	x								.0	0.000									
27-Jun-02	4	8.50	M-25484	Reed	417	EPH-41-ALKDH	1x14, 1x14,		481	12.8	2090	573	8.0	130	123.9	8.161	37.6								
28-Jun-02	4	8.50	M-25484	Reed	417	EPH-41-ALKDH	1x14 1x14, 1x14, 1x14	1,385	20	1.0	1750	580	10.0	130	125.4	8.161	20.0	1	2	WO	G	Е	ı	WT	TD

### **Time Analysis Overview**

Well: Patricia-2 **Drilling Co: DIAMOND OFFSHORE** Rig: **OCEAN BOUNTY** Spud date: 20-Jun-02 TD Depth: 1,385.0 Final Depth: 1,385.0 400.00 Total Time (hrs) - Spud/Release : Total Time (hrs) - Rig Move : 0.00 Total NPT (hrs): 49.75 Total Time (hrs) - Pre Spud: 2.50

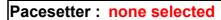
Time-Breakdown: Times by Class and Operation

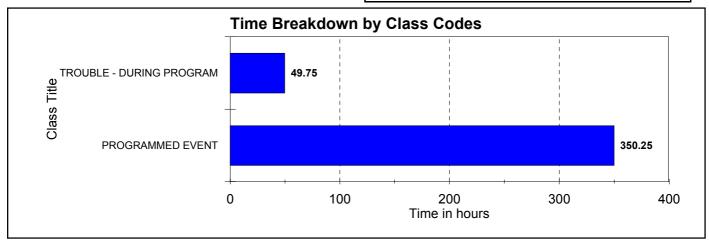
Operations of < than 2 hrs

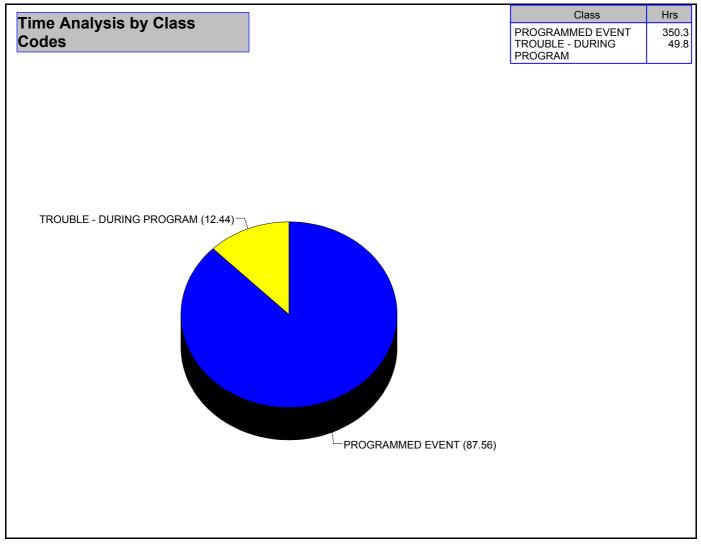
Class	Hrs
PROGRAMMED EVENT	350.3
TROUBLE - DURING PROGRAN	49.8

Operat	ion	Hrs
DRILLING AHEAD		66.3
TOT. CSG/CMT		58.8
TOT. TRIPPING		31.0
WELLBORE CLEAN		30.0
XMAS TREE WORK	-	29.0
FLOW WELL/CLEA		26.3
COILED TUBING O	PERATIONS	25.5
RUN TUBING		25.3
PULL COMPLETION PRESSURE TEST	N	14.5 14.3
RISER - RUN		14.3
WIPER TRIP		11.5
CIRCULATE & CON	IDITION MUD	10.3
HANDLE BHA	NDITION WOD	10.5
BOP : NIPPLE U/D	AND TEST	10.0
SLICKLINE		8.8
HANDLE TOOLS		6.5
<b>RUN &amp; SET PACKE</b>	RS	3.5
WELL-HEAD		3.5
LEAK-OFF TEST		1.5
RIG UP (THE RIG)		1.0
RIG SERVICE		1.0
EXERCISE/DRILL		.3

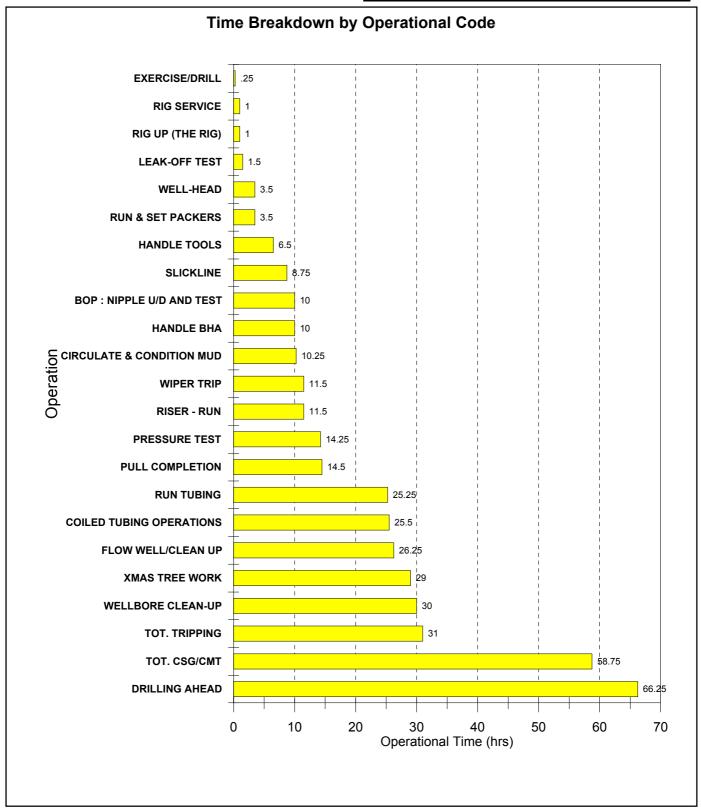
#### WELL: Patricia-2



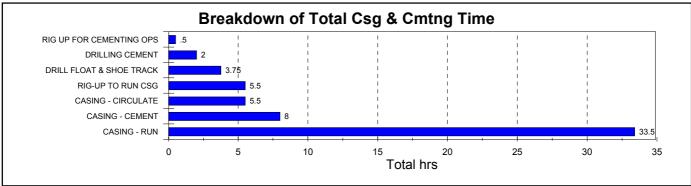




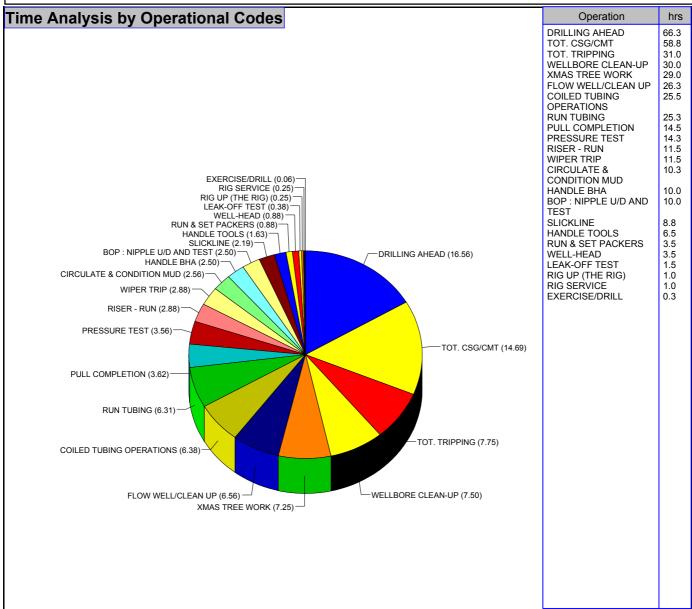
WELL: Patricia-2 Pacesetter: none selected



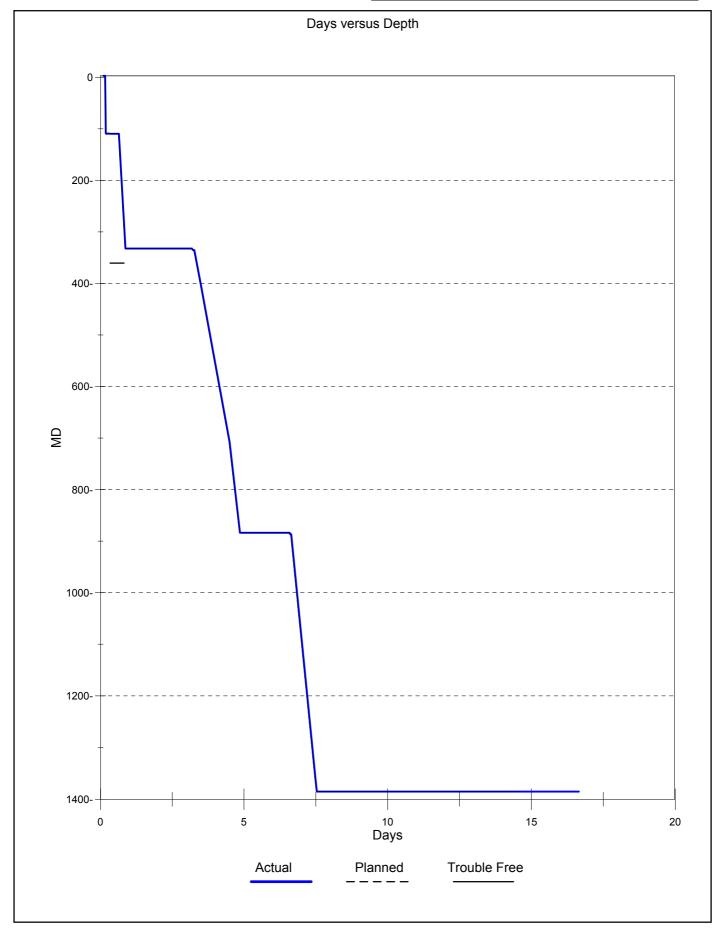


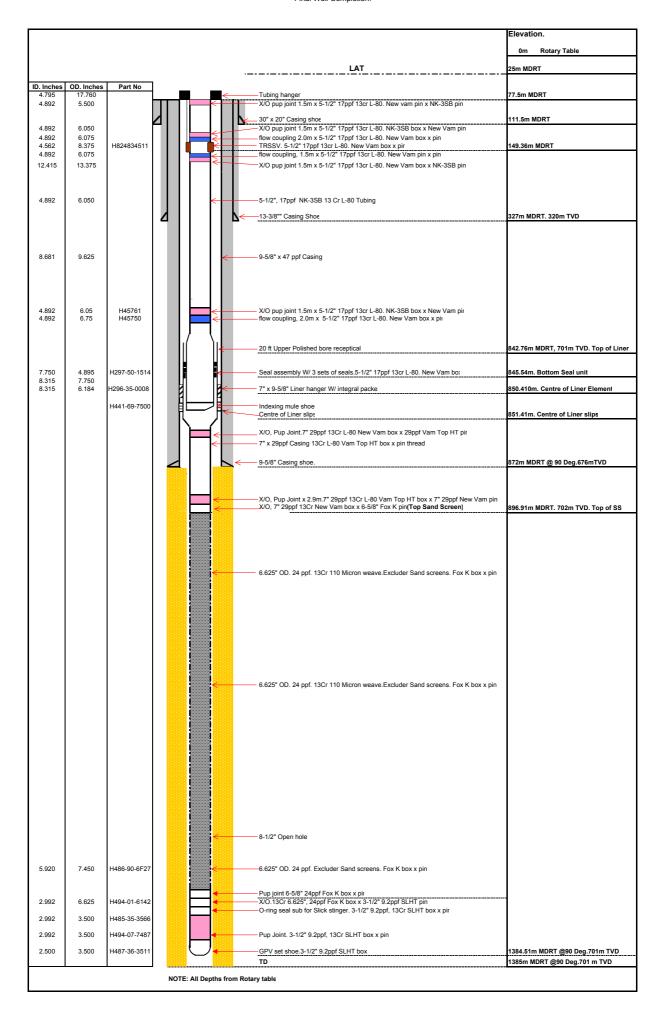






WELL : Patricia-2 Pacesetter : none selected





# DAILY DRILLING REPORT # 1

DATE Jun 20, 2002 FROM: G. Howard / J. Kenrick TO: C. Allport / S. Crocker

Patricia-2 VIC/L21

Well Data  COUNTRY AUSTRALIA FIELD GIPPSLAND SUB-BASIN DRILL CO. DIAMOND OFFSHORE RIG OCEAN BOUNTY	DEPTH (mBRT) TVD (mBRT) PROGRESS (m) DAYS ON WELL DAYS +/- CURVE	111.5 111.5 34.0 1.00	CUR. HOLE SIZE (") CASING OD (") SHOE TVD (mBRT) FIT (sg) LOT (sa)	36.00 30 "   112 0.00 0.00	AFE COST \$ AFE BASIS : DAILY COST : CUM COST :	11,852,851 C&S \$1,331,820.00 \$1,331,820.00
RT ABOVE SL (m) 25.0 WATER DEPTH (m) LAT 52.5 RT TO SEABED (m) 77.5	CURRENT OP @ 0600		- (-3/		3/8" casing.	

## Summary of period 0000 to 2400 hrs

Moved rig to Patricia-2 location. Set anchors & positioned rig. Spudded Patricia-2 at 16:00hrs on 20th June 2002. Drilled 26"/36" hole to section TD at 111.50m. Ran & cemented 30" casing.

# ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 20, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
RM	Р		AH	00:00	00:30	.50	0	Refer Report No 29, Baleen-3.
RM	Р		RM	00:30	04:30	4.00	0	Rig under tow to Patricia-2 location. Pacific Sentinel on main tow bridle, Pacific Conqueror anchor handling vessel. Anchor 6 on bottom at 03:41hrs 20th June 2002. Move rig in to intended surface location.
RM	P		AH	04:30	12:00	7.50	0	Anchor 2 pennant passed to Conqueror at 04:43hrs. Anchor 2 on bottom at 05:22hrs. Reset anchor 2. Pennant passed to rig at 07:30hrs. Anchor 3 pennant passed to Conqueror at 08:00hrs, anchor set at 08:15hrs, pennant to rig at 08:25hrs. Released Sentinel from main tow bridle. Anchor 7 pennant passed to Sentinel at 08:53hrs, anchor set at 08:54hrs, pennant to rig at 09:15hrs. Anchor 5 pennant passed to Conqueror at 08:53hrs, anchor set at 09:27hrs, pennant passed to rig at 10:10hrs. Anchor 1 pennant passed to sentinel at 09:47 hrs, anchor set at 10:23hrs, pennant passed to rig at 10:25hrs. Anchor 4 pennant passed to Conqueror at 10:25hrs, anchor set at 10:41hrs, pennant passed to rig at 10:49hrs. Anchor 8 pennant passed to Sentinel at 10:41hrs, anchor set at 11:08, pennant to rig at 11:50hrs. Cross tensioned anchors.
PS	Р		RRC	12:00	14:30	2.50	0	Made up 20"/30" casing & PGB. Hung off in moonpool.
СН	Р		⊣BHÆ	14:30	16:00	1.50	0	Ran in hole with 26"/36" spud assembly. Tagged seabed at 77.5m LAT.
СН	Р		DA	16:00	16:30	.50	112	Spudded Patricia-2 at 16:00hrs 20th June 2002. Drilled 36" hole from 77.5m to 111.50m TD.
СН	Р		WT	16:30	17:00	.50	112	Displaced hole to prehydrated bentonite. Pulled out of hole to 80m.
СН	Р		CMD	17:00	17:30	.50	112	Ran in hole from 80m to 111.50m. No fill. Displaced hole to prehydrated gel & dropped totco.
СН	Р		ТО	17:30	18:30	1.00	112	Pulled out of hole & racked back spud assembly. Recovered totco 1/4 degree.
CON	Р		CRN	18:30	20:00	1.50	112	Picked up & made up 5" cement stinger & running tool. Made running tool up to wellhead & ran to sea level. Filled with seawater & closed valves.
CON	TP	CSG	CRN	20:00	20:30	.50	112	Moved rig foreward starboard with anchor 3 & paid out anchor 8 to stab casing.
CON	Р		CRN	20:30	21:30	1.00	112	Ran & landed casing. Checked slope indicator with ROV - 0 degrees. PGB heading 259 degrees.
CON	Р		RUC	21:30	22:00	.50	112	Rigged up cement hose & held pre-job safety meeting.
CON	Р		CMC	22:00	23:00	1.00	112	Pumped 10bbls seawater & pressure tested cement lines to 2000psi. Pumped 10bbls seawater with flurocene. Mixed & pumped 160bbls 15.9ppg cement slurry. Displace with 11.50bbls seawater. Bled off & checked backflow. Cement in place at 22:45hrs. Full returns observed throughout job & cement returns to surface.

Patricia-2 VIC/L21

PHSE	CLS	RC	ОР	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
CON	Р		CMC	23:00	24:00	1.00		Rigged down cement hose & released running tool. Pulled out of hole with 5" cement stinger. Laid down pump in sub & 30" running tool.

ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jun 21, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
SH	Р		TI	00:00	02:30	2.50	112	Picked up 17.1/2" BHA. Initialised MWD & ran in hole to top of cement at 102m. Weight tested cement to 10K.
SH	Р		DFS	02:30	03:30	1.00	112	Drilled cement & shoe from 102m to 111.50m.
SH	Р		DA	03:30	06:00	2.50	220	Drilled 17.1/2" hole from 111.50m to 220m.

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0

WBM Data COST	FODAY: \$5,056 CUM. WB	MUD COST: \$5,056	CUM. WBM+OBM CO	OST: \$5,056
TIME: 20	VISCOCITY (sec/qt): 100 PV (cps): YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): 12 18 Fann 3/6/100:	API FLUID LOSS (cm3/30min): FILTER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	CI: K+C*1000: HARD/Ca: MBT (ppb): PM: PF:	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA (ppb):

Bit Data for Bit #	Bit Data for Bit # 1 IADC # 1 1 1						D WT	L A	<u>В</u>	G IN	O2 NO	R TD
SIZE ("):  MANUFACTURER:  TYPE:  SERIAL#:  DEPTH IN (m RT):  DEPTH OUT (m RT):	26.00 Smith DSJC KW0659 78 112	AVE WOB (k-lbs):  AVE RPM:  FLOW (gpm):  PUMP PRESS. (psi):  HSI (hp/sqi):	6 60 910 1,034 0.000	NOZZLES 1 x17 3 x24	METE ON BO	RAGE ( OTTOM DRILL. L REVS	he last 2 m) : HRS : HRS :	34 .6	CUM.N	METERA ON BO ADC DI FOT. RI	over the b AGE (m) T. HRS : RILL HRS	it run 34 .6

BHA #1	Length (ft	:) :62.4					D.C. (1) ANN. VELOCITY (mpm):	0		
WT BLW JAR(k-ll BHA WT(k-lbs):	,	STRING WT(k-lb: PICK UP WT(k-lb SLK 0FF WT(k-lb	s):	40 TRQE	MAX (ft-lbs): ON (ft-lbs): OFF (ft-lbs):	1,500 1,500 1,500	D.C. (2) ANN VELOCITY (mpm): H.W.D.P. ANN VELOCITY (mpm): D.P. ANN VELOCITY (mpm):	0 0 0		
BHA DESCRIPTION	BHA DESCRIPTION: 26" Bit, 36" Hole Opener, Bit Sub, 3 x 9.1/2" Drill Collars, Crossover, 3 x 8.1/4" Drill Collars, Crossover.									
ТО	OL DESCRIP	PTION	HRS	SERIAL#			COMMENT			

Survey		MD	TVD	INCL		CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type :		(mBRT)	(mBRT)	DEG	(deg)	AZ (deg)	SECT (m)	(deg/ 30m)	(m)	(m)	
Magnetic Declination:	0.00							·			
Magnetto Decimation .	0.00										

Survey method: Min Curvature

Pı	Pump Data											
	Р	ump Da	ıta - la		Slow Pump Data							
#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm)	SPP (psi)	SPM	SPP (psi)	DEPTH (mBRT)	MW (ppg)		
1 2 3	National 1 National 1 National 1		31	97 97 97	133 133 133	1034 1034 1034						

Bulk Stocks On Rig									
STOCK TYPE		START	USED	REC'D	STOCK				
Barite	SX	436			436				
Bentonite	SX	1662	358		1304				
G-neat	SX	1449	895		554				
G+35% SiFI	SX				0				
G+BFS+12.25% SiFI	SX				0				
Pot Water	МЗ	98	25	25	98				
Drill Water	МЗ	436	288	393	541				
Heli-fuel	ltr	1845			1845				
Base Oil	М3				0				
Rig Fuel	М3	370	10		361				
Brine	М3				0				

Casing						
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE TVD (plan/Actual)	LOT (pl/Act)	FIT (pl/Act)	COMMENT
30 "	30.000	111.5	111.5			

Personnel : on Site =95										
JOB TITLE	NAME	CO. NAME	#							
Drilling Supervisor (snr) Drilling Supervisor Sub Sea Engineer Drilling Engineer Geologist Geologist	G. Howard J. Kenrick W. Bates P. Zehepleitner R. Tolliday P. Boothby	OMV Service Company Diamond Offshore Catering	6 29 52 8							

Safety, Inspection	ons and Drills	Summary
days since last	Medical Treatment Case	
days since last	First Aid Case	
days since last	Environmental Issue	
days since last	Walkabout	
days since last	Rig Inspection	
days since last	Pre-Job Meetings	
days since last	Trip/Pit Drill	
days since last	Fire Drill	
days since last	Abandon Drill	
days since last	Heavy Lift Meeting	
days since last	BOP Test	

Shakers, \	Shakers, Volumes and Losses Data  ENGINEER G. Garrick/R. Grahram											
SHAKER 1 SHAKER 2	4 x 100 4 x 100	VOLUME A	VAILAB	LE (bbl) =	740	LOSSES (bbl) =	0	COMMENTS				
SHAKER 3 SHAKER 4	4 x 100 4 x 100	ACTIVE HOLE	79	MIXING SLUG		DOWNHOLE SURF. + EQUIP	0.00	Swept hole with prehydrated gel sweeps.				
SHAKER 5		RESERVE	661	HEAVY		DUMPED						

Allohors	A 1 350 A 6 300	A 2 A7	305 175	A 3 A8	380 235	A 4 385	A 5 285
Workboats	Location	 arite D/wtr sx) (M3)		mt Bent Brine x) (sx) (M3)		Weather VISIBILITY(nm) 12	Rig / Sea Data RIS.TENS (klbs) 0
Pacific Conqueror Pacific Sentinel	Standby Transit	0 640 190 0	142 118 55	8 838 39.75 0 0 87.44		WIND SP. (kts) 30.0 WIND DIR (deg) 230 PRES.(mbars) 1014 AIR TEMP (C) 13.0	VDL (mt)       2,050         WAVES (m)       1.8         SWELL (m)       1.5

Total move time (hrs)

Total time on well

excluding move (hrs)

14.50

Total prod. time since spud (hrs):

Total troub. time since spud (hrs)

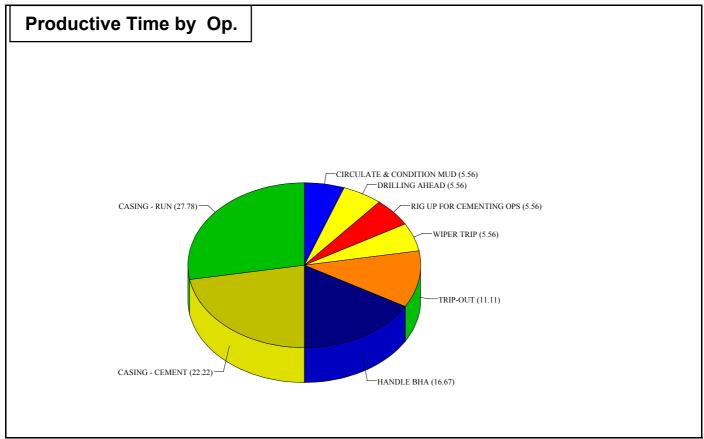
9.00

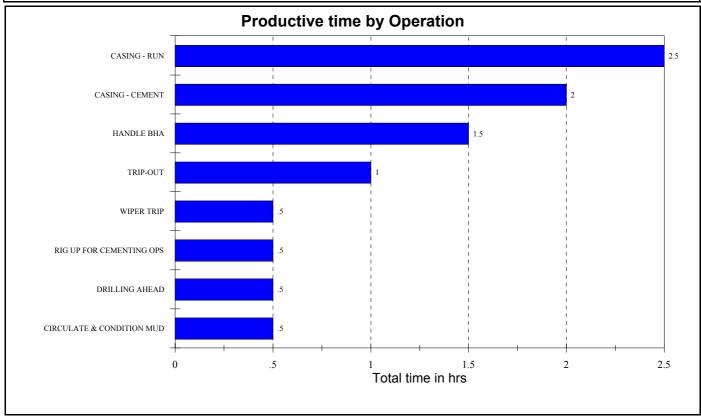
Total troub. time since spud (hrs)

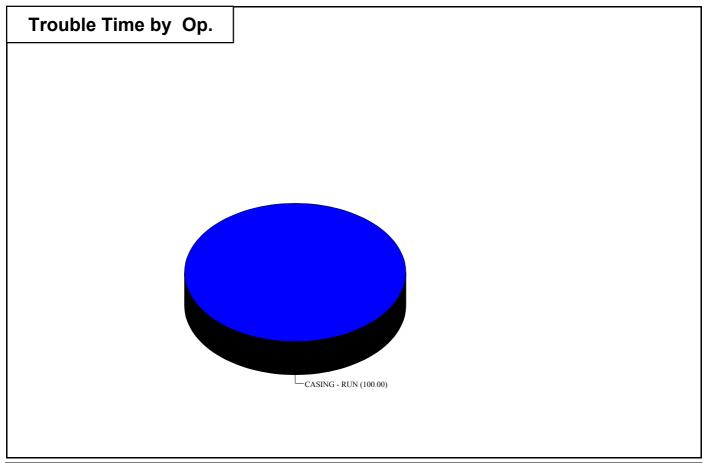
9.50

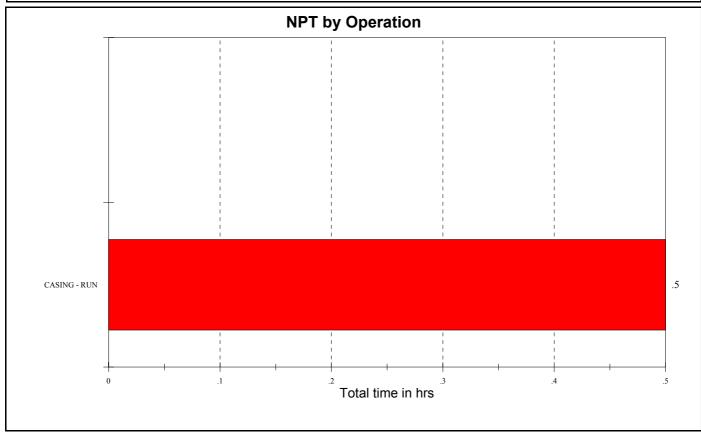
% Trouble time

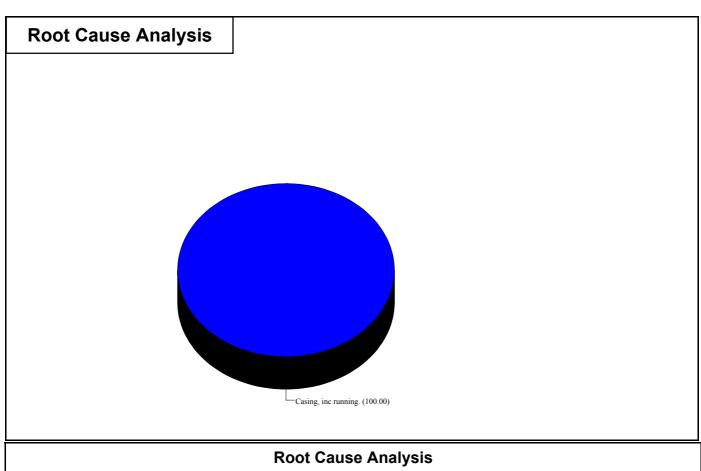
5.26

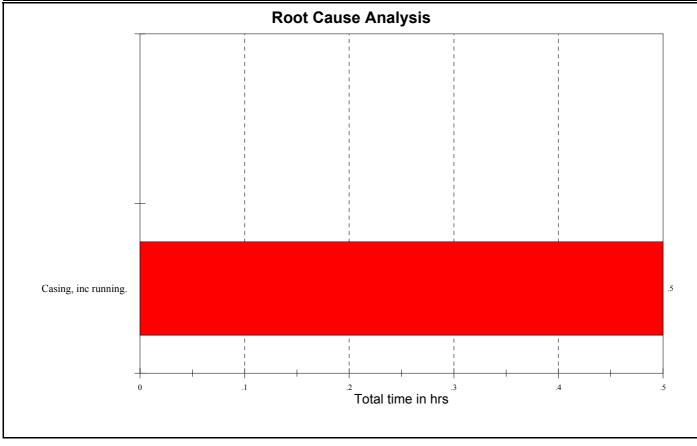




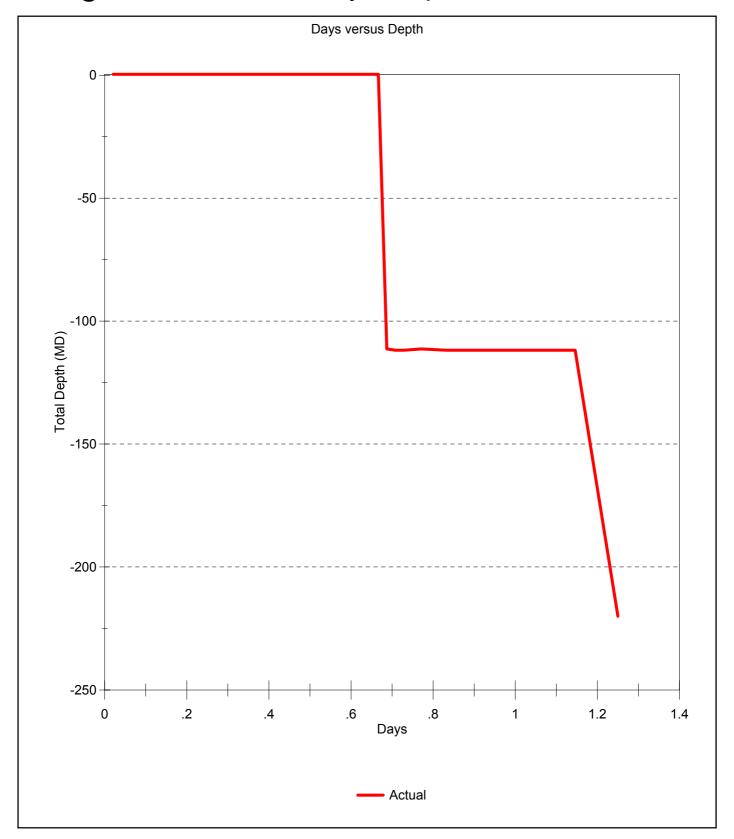








1.00 days since spud DEPTH @ 24:00 = 111.5m after



# DAILY DRILLING REPORT # 2

DATE Jun 21, 2002 FROM: G. Howard / J. Kenrick TO: C. Allport / S. Crocker

Patricia-2 VIC/L21

Well Data	DEPTH (mBRT)	334.0	CUR. HOLE SIZE (")	17.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	332.5	CASING OD (")	13.3/8 "	AFE BASIS :	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	222.5	SHOE TVD (mBRT)	326	DAILY COST:	\$715,215.00
DRILL CO. DIAMOND OFFSHORE	DAYS ON WELL	2.00	FIT (sg)	0.00	CUM COST:	\$2,047,035.00
RIG OCEAN BOUNTY	DAYS +/- CURVE	-1.98	LOT (sg)			
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 0600 PLANNED OP.	_	Kmas Tree. d Xmas Tree. Run BOP	& marine r	iser.	

## Summary of period 0000 to 2400 hrs

Ran in hole with 17.1/2" BHA. Drilled out shoetrack. Drilled 17.1/2" hole from 111.50m to section TD at 334m. Pulled out of hole. Ran & cemented 13.3/8" casing.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 21, 2002

								11.0 OH Juli 21, 2002					
PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION					
SH	Р		TI	00:00	02:30	2.50	112	Picked up 17.1/2" BHA. Initialised MWD & ran in hole to top of cement at 102m. Weight tested cement to 10K.					
SH	Р		DFS	02:30	03:30	1.00	112	Drilled cement & shoe from 102m to 111.50m.					
SH	Р		DA	03:30	09:00	5.50	334	Drilled 17.1/2" hole from 111.50m to 334m section TD. (332.49m TVD)					
SH	Р		CMD	09:00	10:00	1.00	334	Swept hole with 100bbl hi vis pill. Pumped & spotted 320bbls prehydrated gel.					
SH	Р		WT	10:00	11:30	1.50	334	Pulled out of hole from 334m to 111m. (Backreamed from 325m to 230m)					
SH	P		WT	11:30	12:30	1.00	334	Ran in hole from 111m to 334m. (No fill)					
SH	Р		CMD	12:30	13:00	.50	334	Circulated theoretical hole volume with seawater. Displaced hole to prehydrated gel.					
SH	Р		ТО	13:00	15:00	2.00	334	Pulled out of hole. Laid down drilling jar & downloaded MWD.					
sc	Р		RRC	15:00	15:30	.50	334	Rigged up to run 13.3/8" casing. Held pre-job safety meeting.					
sc	Р		CRN	15:30	18:30	3.00	334	Made up shoe track & checked floats. Ran 13.3/8" casing.					
sc	Р		CRN	18:30	21:00	2.50	334	Picked up & made up wellhead joint. Released running tool & loaded wiper plugs. Made up running tool.					
sc	Р		CRN	21:00	21:30	.50	334	Ran in hole with casing on 8" Drill Collars & 5" Drill Pipe.					
sc	Р		CRN	21:30	22:00	.50	334	Latched 18.3/4" wellhead in 30" housing. Confirmed with 50K overpull. Rigged up cementing hose.					
SC	Р		CIC	22:00	22:30	.50	334	Circulated 150% casing capacity.					
SC	Р		СМС	22:30	24:00	1.50	334	Pumped 10bbls seawater ahead. Pressure tested cement lines to 3000psi. Dropped ball & pumped 10bbls seawater behind. Bottom plug sheared with 290psi after pumping 1.5bbls. Mixed & pumped 95bbls of 12.5ppg lead slurry followed by 100bbls of 15.9ppg tail slurry. Dropped dart & displaced casing with seawater. Top plug sheared with 2400psi after pumping 4bbls. Displaced casing with 109bbls seawater - 50% shoetrack volume. Plug did not bump. Bled off & checked for backflow. Cement in place at 23:49hrs.					

# ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jun 22, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
SC	Р		СМС	00:00	01:30	1.50	334	Released setting tool. Pulled out & laid down setting tool.
SC	Р		CMC	01:30	02:00	.50	334	Laid down cement head.
SH	Р		XT	02:00	05:30	3.50	334	Rigged up to run subsea tree. Moved rig 10m off location. Made up running tool to tree & installed umbilical. Attached guide wires & lowered tree through moonpool.
SH	Р		XT	05:30	06:00	.50	334	Ran tree through splash zone. Positioned rig over location.

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0

Patricia-2 VIC/L21

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	9.0	Jun 21, 2002	Jun 21, 2002	48.0	2.00	334.0	334.0

00:00 TO 24:00 HRS ON :	Jun 21, 2002	
Comments	Recommendations	Rig Requirements
Final Rig Position: Latitude 38 Degrees 01 Minutes 39.95 Seconds South. Longitude 148 Degrees 26 Minutes 57.78 Seconds East. Final position is 1.60m on a bearing of 304 Degrees True from the intended surface location. Final Rig Heading 260 Degrees True.		

WBM Data	COSTT	ODAY: \$10,448 CUM. WB	MUD COST: \$15,504	CUM. WBM+OBM CO	OST: \$15,504					
Type: rehydrated Be FROM: TIME: WEIGHT (sg): TEMP (C):	Pit 07:00	VISCOCITY (sec/qt): 100 PV (cps): YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): 12 18 Fann 3/6/100:	API FLUID LOSS (cm3/30min): FILTER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	CI: K+C*1000: HARD/Ca: MBT (ppb): PM: PF:	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA (ppb):					
COMMENT: Clea	COMMENT: Cleaned mud pits in prepartion for next hole section.									

Bit Data for Bit #	Bit Data for Bit # 2RR IADC # 1 1 5					L A	B G E IN	O2 BU	R TD
SIZE ("):  MANUFACTURER:  TYPE:  SERIAL#:  DEPTH IN (m RT):  DEPTH OUT (m RT):	17.50 SE XT1C 740844 112 334	AVE WOB (k-lbs): AVE RPM: FLOW (gpm): PUMP PRESS. (psi): HSI (hp/sqi):	10 40 803 1,410 0.068	NOZZLES 3 x24	Drilled over the last METERAGE (m): ON BOTTOM HRS: IADC DRILL. HRS: TOTAL REVS: ROP (m/hr):	223 3.6 5.5 8,640	Calculated CUM.METER	over the bit AGE (m) T. HRS : RILL HRS:	t run 223 3.6

BHA #2 Length (	ft) :219.2				D.C. (1) ANN. VELOCITY (mpm):	25
WT BLW JAR(k-lbs): 30	STRING WT(k-lbs):	210	TRQE MAX (ft-lbs):	2,000	D.C. (2) ANN VELOCITY (mpm):	28
BHA WT(k-lbs):	PICK UP WT(k-lbs):	210	TRQE ON (ft-lbs):	1,500	H.W.D.P. ANN VELOCITY (mpm):	21
	SLK 0FF WT(k-lbs):	210	TRQE OFF (ft-lbs):	1,000	D.P. ANN VELOCITY (mpm):	21

BHA DESCRIPTION: 17.1/2" Bit, 9.5/8" PDM,9.1/2", Crossover, 8" RLL, 8" MPT, Float Sub, 3 x 8.1/4" Drill Collars, 8" Drilling Jar, 2 x 8.1/4" Drill Collars, Crossover, 15 x Hevi Wate Drill Pipe.

TOOL DESCRIPTION	HRS	SERIAL#	COMMENT
9.5/8" PDM 8" RLL	_	963212 DM1515HGV R	
8" MPT 8.25" Drilling Jar	_	DM01535KF8 DAH01965	

Survey	MD	TVD	INCL	ΑZ	CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type : Projection	(mBRT)	(mBRT)	DEG	(deg)	AZ (deg)	SECT (m)	(deg/ 30m)	(m)	(m)	
Magnetic Declination: 0.00	251	251	6.36	248.	248.3	1.8	3.90	0.9	-3.0	MWD
Survey method : Min Curvature	280	280	10.56	243.	243.2	5.9	4.36	-0.9	-6.9	MWD
	315	314	11.75	244.	244.1	12.5	1.04	-3.9	-12.9	MWD
	334	332	11.75	244.	244.1	16.3	0.00	-5.6	-16.4	Projection

Bulk Stocks On Rig											
STOCK TYPE		START	USED	REC'D	STOCK						
Barite	SX	436			436						
Bentonite	SX	1304	596	838	1546						
G-neat	SX	554		1131	1685						
G+35% SiFI	SX				0						
G+BFS+12.25% SiFI	SX				0						
Pot Water	МЗ	98	25	25	98						
Drill Water	МЗ	541	265	456	732						
Heli-fuel	ltr	1845	1202		643						
Base Oil	М3				0						
Rig Fuel	М3	361	11	150	500						
Brine	М3				0						

Ρι	Pump Data													
	Р	ump Da	ta - la		Slow F	ump Data	а							
#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm)	SPP (psi)	SPM	SPP (psi)	DEPTH (mBRT)	MW (ppg)				
1 2 3	National 1 National 1 National 1	6.00 6.00 6.00	63 63 63	97 97 97	269 269 269	1410 1410 1410								

Casing											
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE TV (plan/Actu	. –	LOT (pl/Act)		FIT (pl/Act)		COMMENT		
13.3/8 "	13.375	327.1		325.6				followed by 10	ned 95bbls 12.5ppg lead slurry 10bbls 15.9ppg tail slurry. In seawater to 50% shoetrack did not bump.		
		TYPE	LNGTH (m)	CSG OD	WT lbs/ft	GR	D	THREAD			
Crossove	er rmediate Jo nt iate Joint	ellhead Joint oints	12.00 12.27 190.79 12.42 11.73 12.61	18.000 12.415 12.415 12.415 12.415 12.415	205.0 68.0 68.0 68.0 68.0 68.0	X-5 K5 K5 K5 K5 K5	5 5 5 5	BTC BTC BTC BTC BTC BTC			

Personnel : on Site =97			
JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr) Drilling Supervisor Sub Sea Engineer Drilling Engineer Geologist Geologist	G. Howard J. Kenrick W. Bates P. Zehetleitner R. Tolliday P. Boothby	OMV Service Company Diamond Offshore Catering	6 30 53 8

Safety, Ins	pections a	and Drills	Sumi	mary			
•		nd Losses Dat	a				ENGINEER G. Garrick/R. Grahram
SHAKER 1 SHAKER 2	4 x 100 4 x 100	VOLUME AVAIL	ABLE (bbl) =	0	LOSSES (bbl) =	0	COMMENTS
SHAKER 3	4 x 100	ACTIVE	MIXING		DOWNHOLE		
SHAKER 4	4 x 100	HOLE	SLUG		SURF. + EQUIP	0.00	
SHAKER 5		RESERVE	HEAVY		DUMPED		
		•					'

7 (11011010	4 1 4 6	330 300			A 2 A7	285 185		A 3 A8	365 245	A 4	385	A 5 2	75
Workboats	L	ocation	Fuel (M3)	Barite (sx)	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent Brine (sx) (M3)		Weather VISIBILITY(nm)	15	Rig / Sea Data RIS.TENS (klbs)	0
Pacific Conqueror Pacific Sentinel		Standb <u>'</u> Fransit	220 105	0 1190	184 0	137 55	0	0 39.75 0 87.44		WIND SP. (kts) WIND DIR (deg) PRES.(mbars) AIR TEMP (C)	30.0 280 1012 13.0	VDL (mt) WAVES (m) SWELL (m)	1,764 1.8 1.8

Total move time (hrs)

Total time on well

excluding move (hrs)

14.50

Total prod. time since spud (hrs):

Total troub. time since spud (hrs)

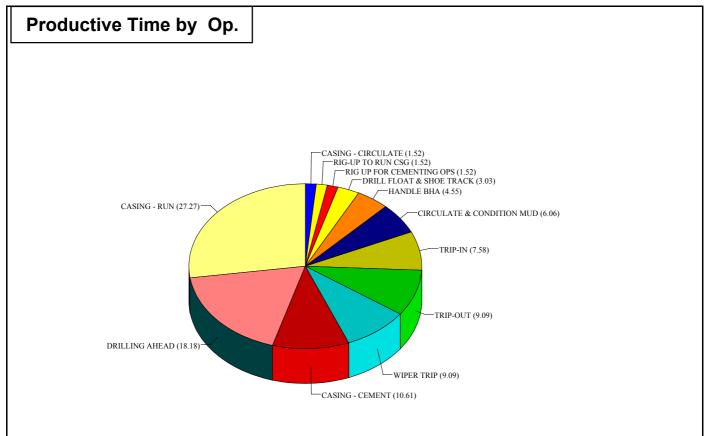
33.00

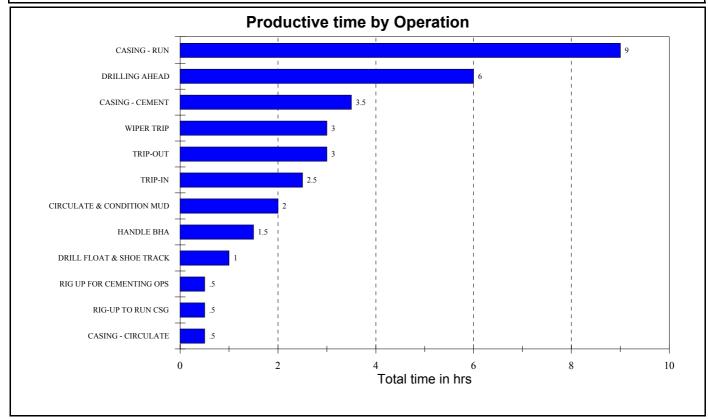
Total troub. time since spud (hrs)

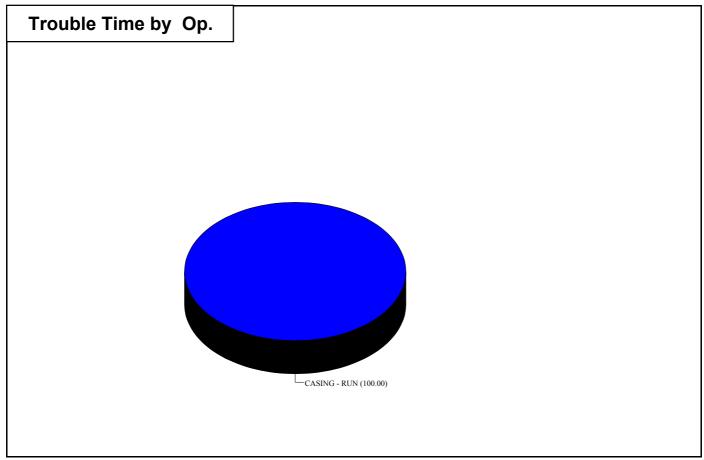
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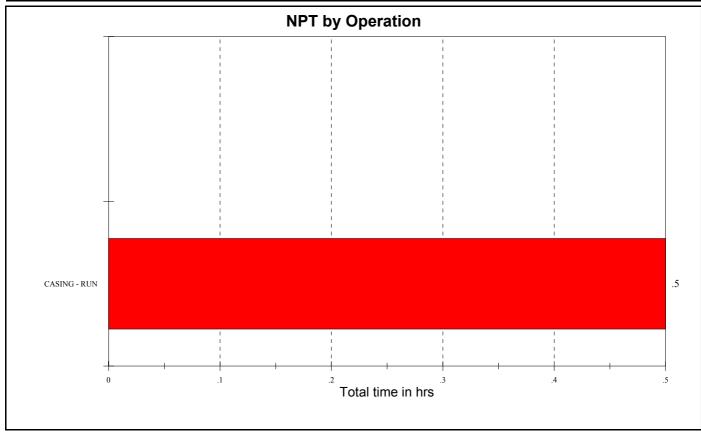
Total troub. time since spud (hrs)

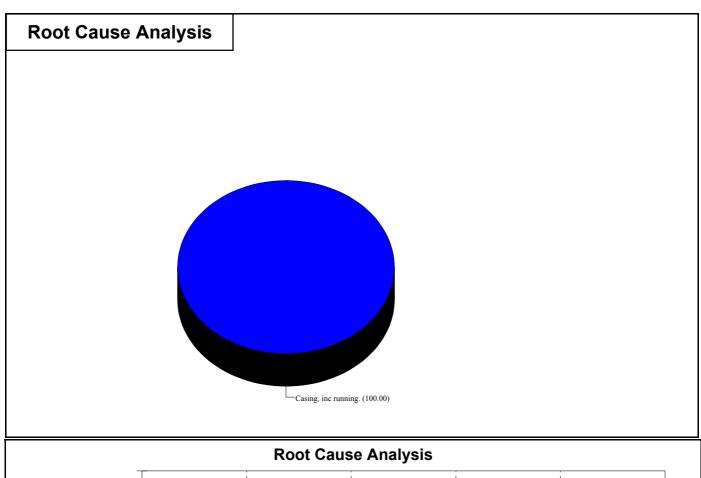
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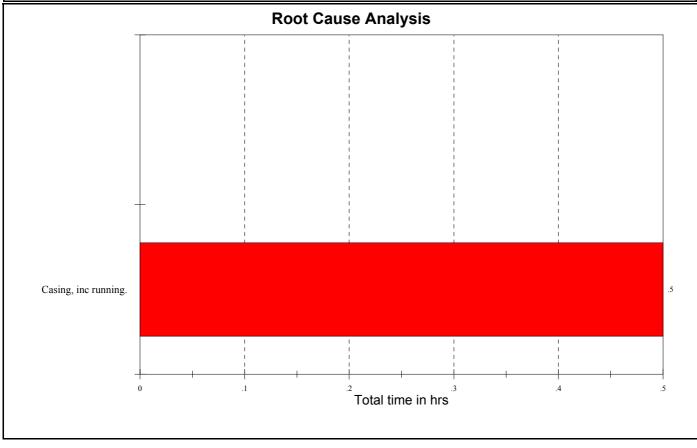




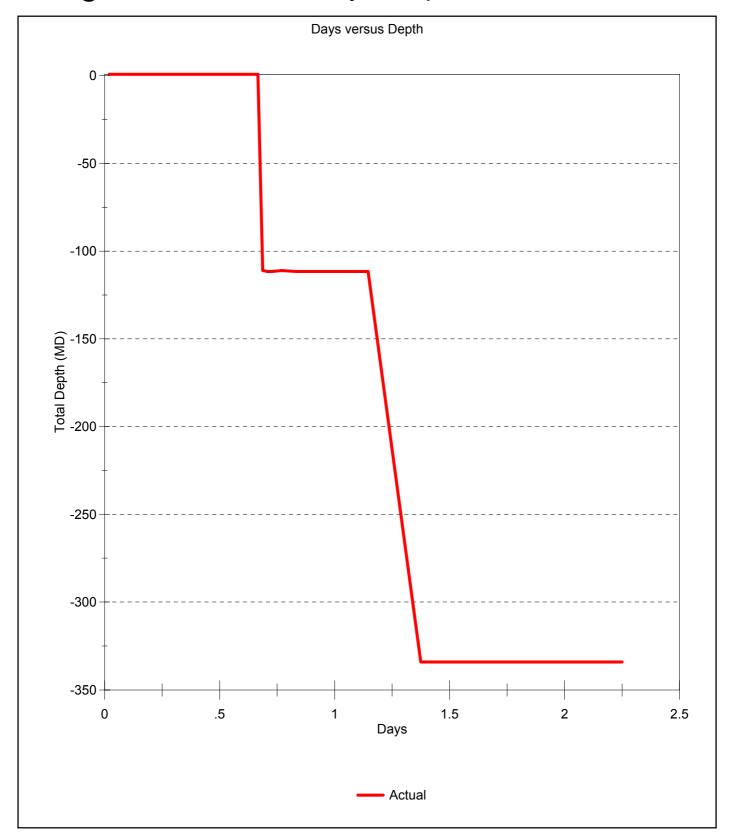








DEPTH @ 24:00 = 334.0m after 2.00 days since spud



# DAILY DRILLING REPORT # 3

DATE Jun 22, 2002 FROM: G. Howard / J. Kenrick

Patricia-2

TO: C. Allport / S. Crocker VIC/L21

Well Data  COUNTRY AUSTRALIA  FIELD GIPPSLAND SUB-BASIN	DEPTH (mBRT) TVD (mBRT) PROGRESS (m)	334.0 332.5	CUR. HOLE SIZE (") CASING OD (") SHOE TVD (mBRT)	17.50 13.3/8 " 326	AFE COST \$ AFE BASIS : DAILY COST :	11,852,851 C&S \$357,491.00
DRILL CO. DIAMOND OFFSHORE RIG OCEAN BOUNTY	DAYS ON WELL DAYS +/- CURVE	3.00 -2.20	FIT (sg) LOT (sg)	0.00	CUM COST :	\$2,404,526.00
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 0600 PLANNED OP.	_	vear bushing. le & drill shoetrack. Perf	orm FIT. D	rill build up sectior	n to section TD.

## Summary of period 0000 to 2400 hrs

Ran & landed subsea Xmas Tree. Pressure tested to 3000psi. Ran BOP, LMRP & marine riser. Landed BOP & confirmed latched with 50K overpull.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 22, 2002

PHSE	CLS	RC	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
SC	Р		СМС	00:00	01:30	1.50	334	Released setting tool. Pulled out & laid down setting tool.
sc	P		СМС	01:30	02:00	.50	334	Laid down cement head.
SC	Р		XT	02:00	05:30	3.50	334	Rigged up to run subsea tree. Moved rig 10m off location. Made up running tool to tree & installed umbilical. Attached guide wires & lowered tree through moonpool.
sc	P		XT	05:30	07:00	1.50	334	Ran tree through splash zone. Positioned rig over location.
sc	Р		XT	07:00	08:00	1.00	334	Lowered tree over 18.3/4" wellhead. Latched tree & confirmed with 50K overpull.
sc	Р		XT	08:00	08:30	.50	334	Pressure tested AX gasket to 3000psi for 10 minutes against running tool & casing.
sc	Р		XT	08:30	11:00	2.50	334	Released running tool. Pulled out running tool & control line umbilical.
sc	P		RR1	11:00	12:00	1.00	334	Rigged up to run marine riser.
sc	P		RR1	12:00	14:00	2.00	334	Picked up & racked back riser.
sc	Р		ВОР	14:00	15:30	1.50	334	Positioned BOP & LMRP over moonpool. Nippled up to riser & moved rig 15m off location.
sc	P		BOP	15:30	17:00	1.50	334	Function tested BOP & related equipment.
sc	P		RR1	17:00	17:30	.50	334	Ran BOP to splash zone.
sc	P		PT	17:30	18:00	.50	334	Pressure tested choke & kill lines to 200psi/5000psi for 10 minutes.
sc	P		RR1	18:00	20:30	2.50	334	Picked up slip & landing joints. Installed goosenecks.
sc	Р		PT	20:30	21:00	.50	334	Pressure tested goosenecks on choke & kill lines to 200psi/5000psi for 10 minutes.
sc	P		RR1	21:00	23:30	2.50	334	Hooked up riser tensioner lines to slip joint.
sc	Р		ВОР	23:30	24:00	.50	334	Landed & latched BOP. Confirmed with 50K overpull.

#### ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jun 23, 2002

- 4	TO I I V I		<u> </u>		<u>, 0000 i</u>	1110 1	<del>, 0000</del>	IIINO OIN	0dii 25, 2002
	PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
	SC	Р		ВОР	00:00	00:30	.50	334	Pressure tested connector to 500psi/3000psi for 10 minutes against shear rams & casing.
	SC	Р		RR1	00:30	02:00	1.50	334	Nippled down & laid down landing joint.
	SC	Р		RR1	02:00	02:30	.50	334	Installed & latched diverter insert. Confirmed with 20K overpull.
	SC	Р		RR1	02:30	03:30	1.00	334	Rigged down riser handling equipment.
	SC	Р		HT	03:30	04:00	.50	334	Made up plug dropping cement head & racked back.
	SC	Р		HT	04:00	05:00	1.00	334	Made up 9.5/8" running tool & wiper plug crossover.
	SC	Р		HT	05:00	06:00	1.00	334	Ran & set wear bushing.

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0

Patricia-2 VIC/L21

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
SURFACE CASING	33.0	Jun 21, 2002	Jun 22, 2002	72.0	3.00	334.0	334.0

WBM Data	COST T	ODAY: \$36,771	CUM	. WB	MUD COST: \$52,275	CUM. WBM+OBM CO	OST: \$52,275	
Type :	CL/PHPA	VISCOCITY (sec/qt) PV (cps):	:	100 22	API FLUID LOSS (cm3/30min) :	CI : K+C*1000 :	SOLIDS (%vol) : H2O (%vol) :	
FROM: TIME: WEIGHT (sg): TEMP (C):	Pit 20:00	YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): 20	28		FILTER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	HARD/Ca: MBT (ppb): PM: PF:	OIL (%vol) : SAND : PH : PHPA (ppb) :	
COMMENT: Built double strength base mud in active pits. KCL will be added when vessel arrives.								

Bit Data for Bit # . IADC #			Wear	I	01	D	L	В	G	O2	R
SIZE ("):  MANUFACTURER:  TYPE:  SERIAL#:  DEPTH IN (m RT):  DEPTH OUT (m RT):	AVE WOB (k-lbs): AVE RPM: FLOW (gpm): PUMP PRESS. (psi): HSI (hp/sqi):	0.000	NOZZLES  X  X  X  X	METE ON BO	RAGE ( OTTOM DRILL. L REVS	HRS : HRS :	0 .0 .0	CUM.N	METERA ON BO ADC DI TOT. RI	over the AGE (m) T. HRS : RILL HR EVS :	0 .0

Length (ft): BHA#. D.C. (1) ANN. VELOCITY (mpm): WT BLW JAR(k-lbs): TRQE MAX (ft-lbs): D.C. (2) ANN VELOCITY (mpm): 0 STRING WT(k-lbs): BHA WT(k-lbs): PICK UP WT(k-lbs): TRQE ON (ft-lbs): H.W.D.P. ANN VELOCITY (mpm): 0 TRQE OFF (ft-lbs): SLK 0FF WT(k-lbs): D.P. ANN VELOCITY (mpm): 0 BHA DESCRIPTION: TOOL DESCRIPTION SERIAL# HRS COMMENT

Survey **INCL** CORR. **DOGLEG TOOL TYPE** (mBRT) (mBRT) DEG **SECT** (deg/ (m) (deg) ΑZ (m) Projection Last Tool Type: 30m) (deg) (m) Magnetic Declination: 0.00 MWD 251 251 6.36 248. 248.3 3.90 0.9 -3.0 1.8 Survey method: Min Curvature 280 280 10.56 243. 243.2 5.9 4.36 -0.9 -6.9 MWD MWD 315 314 11.75 244. 244.1 12.5 1.04 -3.9 -12.9 332 11.75 244. 244.1 16.3 0.00 -5.6 -16.4 Projection

Bulk Stocks On Rig										
STOCK TYPE		START	USED	REC'D	STOCK					
Barite	SX	436			436					
Bentonite	SX	1546			1546					
G-neat	SX	1685	836		849					
G+35% SiFI	SX				0					
G+BFS+12.25% SiFI	SX				0					
Pot Water	М3	98	27	27	98					
Drill Water	М3	732	148		584					
Heli-fuel	ltr	643			643					
Base Oil	М3				0					
Rig Fuel	М3	500	11		489					
Brine	М3				0					

Ρι	Pump Data										
	Р	ump Da	ta - la:	Slow Pump Data							
#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm)	SPP (psi)	SPM	SPP (psi)	DEPTH (mBRT)	MW (ppg)	
# 1 2 3	National 1 National 1 National 1	6.00		97 97 97							

Safety, Inspections and Drills

DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE TVD (plan/Actual)				FIT (pl/Act)		COMMENT
13.3/8 "	13.375	327.1		325.6			Mixed & pumped 95bbls 12.5ppg lead slurry followed by 100bbls 15.9ppg tail slurry. Displaced with seawater to 50% shoetrack volume. Plug did not bump.		
		ТҮРЕ	LNGTH (m)	CSG OD	WT lbs/ft	GRD	-	THREAD	
Crossove 16 x Inter Float Joir	er rmediate Jo nt iate Joint	ellhead Joint ints	12.00 12.27 190.79 12.42 11.73 12.61	18.000 12.415 12.415 12.415 12.415 12.415	205.0 68.0 68.0 68.0 68.0 68.0	X-56 K55 K55 K55 K55 K55		BTC BTC BTC BTC BTC BTC	

Personnel : on Site =97			
JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr) Drilling Supervisor Sub Sea Engineer Drilling Engineer Geologist Geologist	G. Howard J. Kenrick W. Bates P. Zehetleitner R. Tolliday P. Boothby	OMV Service Company Diamond Offshore Catering	6 30 53 8

1	Shakers, Volumes and Losses Data ENGINEER G. Garrick / D. Dixon										
SHAKER 1 SHAKER 2	4 x 84 4 x 84	VOLUME AV	AILABLE	(bbl) =	485	LOSSES (bbl) =	0	COMMENTS			
SHAKER 3 SHAKER 4	4 x 84 4 x 84	ACTIVE HOLE		MIXING SLUG		DOWNHOLE SURF. + EQUIP	0.00	Mixed polymers for next hole section.			
SHAKER 5	4 X 04		485	HEAVY		DUMPED	0.00				

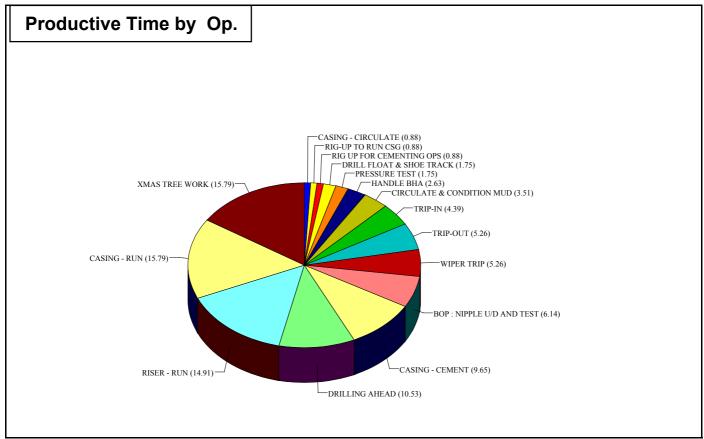
Summary

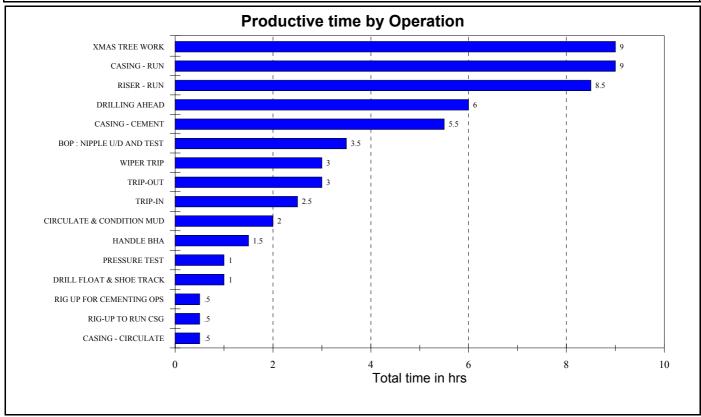
7111011010	A 1 350 A 6 205		A 2 A7	275 210		A 3 A8	190 205		4 39	90 A S	5 150
Workboats	Location	Fuel Barit	e D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent Brine (sx) (M3)		Weather VISIBILITY(nm)	12	Rig / Sea	lbs) 0
Pacific Conqueror Pacific Sentinel	Standb <sub>!</sub> Transit	212 105 119	184	132 55	0	0 39.75 0 87.44	-	WIND SP. (kts) WIND DIR (deg) PRES.(mbars)	30.0 260 1018	WAVES (m) SWELL (m)	1,975 2.4 1.8
								AIR TEMP (C)	13.0	J SWELL (III)	1.0

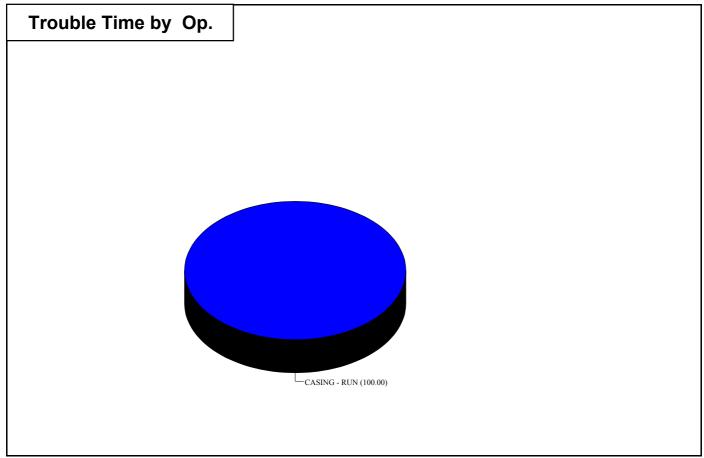
Total move time (hrs) Total time on well excluding move (hrs) 14.50 Total prod. time since spud (hrs) : Total troub. time since spud (hrs)

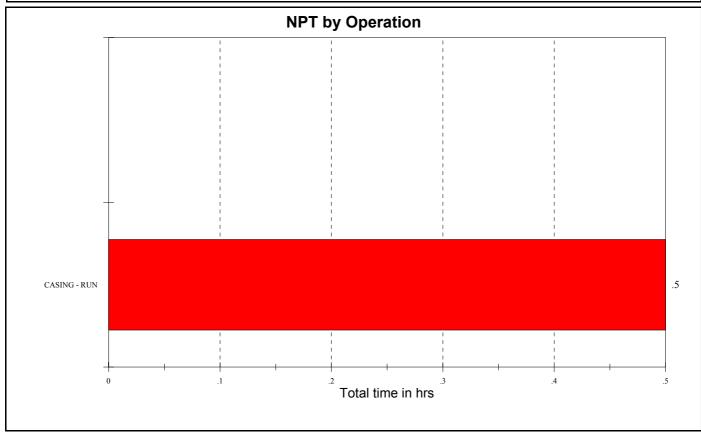
57.00 0.50

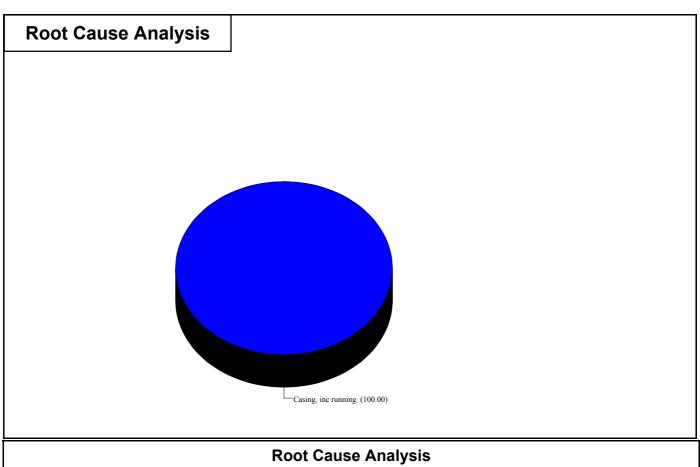
57.50 % Trouble time 0.87

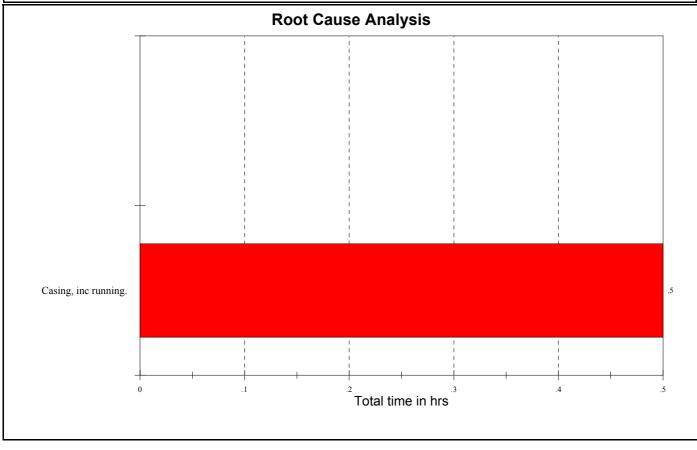




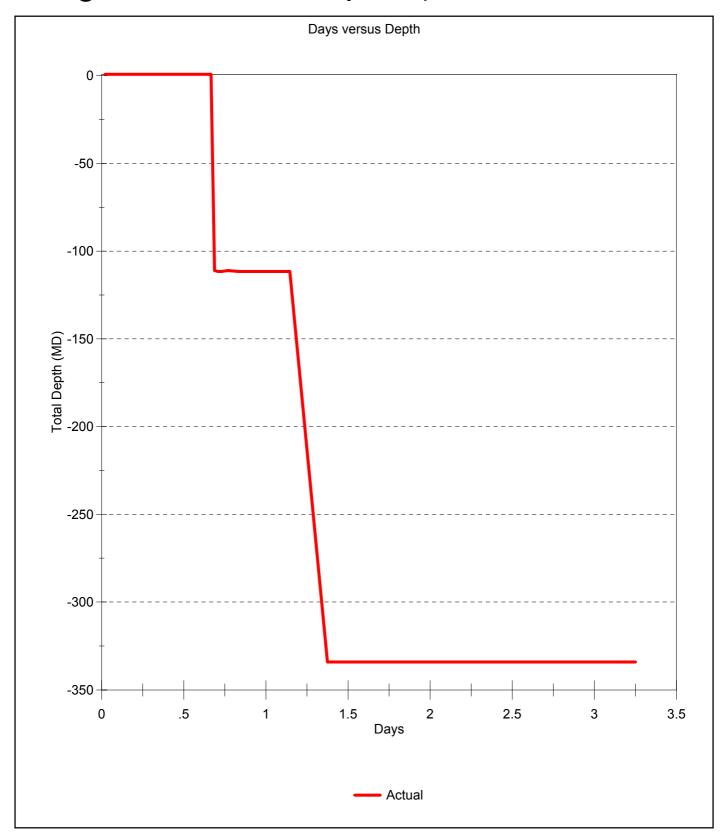








DEPTH @ 24:00 = 334.0m after 3.00 days since spud



# DAILY DRILLING REPORT # 4

DATE Jun 23, 2002 FROM: G. Howard / J. Kenrick TO: C. Allport / S. Crocker

Patricia-2

VIC/L21

Well Data	DEPTH (mBRT)	404.0	CUR. HOLE SIZE (")	12.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA FIELD GIPPSLAND SUB-BASIN	TVD (mBRT) PROGRESS (m)	400.7 70.0	CASING OD (") SHOE TVD (mBRT)	13.3/8 " 326	AFE BASIS : DAILY COST :	C&S \$380,252.00
DRILL CO. DIAMOND OFFSHORE RIG OCEAN BOUNTY	DIAMOND OFFSHORE DAYS ON WELL 4.00				CUM COST :	\$2,784,778.00
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 0600 PLANNED OP.	_	.1/4" build section. o of Gurnard. Pull out of l	hole to run	casing	

## Summary of period 0000 to 2400 hrs

Pressure tested BOP connector. Laid down landing joint & rigged up diverter. Made up 12.1/4" BHA. Ran in hole & drilled out shoetrack. Performed FIT to 1.73SG. Drilled 12.1/4" build section.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 23, 2002

ACTIV		JI	LIVIOL	7 0000 1	113	7 4 4 0 0	TIING CIN	Juli 23, 2002
PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
SC	Р		ВОР	00:00	00:30	.50	334	Pressure tested connector to 500psi/3000psi for 10 minutes against shear rams & casing.
sc	P		RR1	00:30	02:00	1.50	334	Nippled down & laid down landing joint.
sc	P		RR1	02:00	02:30	.50	334	Installed & latched diverter insert. Confirmed with 20K overpull.
sc	P		RR1	02:30	03:30	1.00	334	Rigged down riser handling equipment.
sc	Р		НТ	03:30	04:00	.50	334	Made up plug dropping cement head & racked back.
sc	Р		НТ	04:00	05:00	1.00	334	Made up 9.5/8" running tool & wiper plug crossover.
sc	Р		НТ	05:00	05:30	.50	334	Made up wear bushing running tool & wear bushing.
sc	Р		НТ	05:30	06:30	1.00	334	Ran in hole & set wear bushing.
sc	Р		НТ	06:30	07:00	.50	334	Pulled out of hole & laid down setting tool.
sc	Р		-1BH <i>F</i>	07:00	08:00	1.00	334	Laid down 17.1/2" BHA.
IH1	Р		∃BH <i>F</i>	08:00	10:00	2.00	334	Picked up & made up 8" Mud Motor & MWD. Made up 12.1/4" bit. Confidence tested MWD & racked back assembly.
IH1	Р		RS	10:00	10:30	.50	334	Serviced TDS & related equipment.
IH1	Р		TI	10:30	11:00	.50	334	Held safety meeting prior to drilling ahead.
IH1	Р		TI	11:00	12:00	1.00	334	Ran in hole with BHA.
IH1	Р		ВОР	12:00	12:30	.50	334	Closed diverter. Flushed diverter lines & checked diverter system.
IH1	Р		TI	12:30	13:30	1.00	334	Ran in hole to 200m.
IH1	Р		ВОР	13:30	14:00	.50	334	Closed upper annular preventer. Pressure tested LMRP connector to 2500psi for 10 minutes.
IH1	Р		TI	14:00	14:30	.50	334	Ran in hole to top of cement at 300m.
IH1	Р		DC	14:30	16:30	2.00	334	Drilled cement plugs & shoetrack. Cleaned out pocket cement to 334m.
IH1	Р		CMD	16:30	17:30	1.00	337	Drilled 12.1/4" hole from 334m to 337m. Displaced well hole to 1.06 SG KCL/PHPA mud. Pulled back to shoe & circulated to balanced mud.
IH1	Р		LOT	17:30	18:30	1.00	337	Performed FIT to an EMW of 1.73SG.
IH1	Р		DA	18:30	24:00	5.50	404	Drilled 12.1/4" hole from 337m to 404m. (400.73m TVD)

## ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jun 24, 2002

	PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
ſ	IH1	Р		DA	00:00	06:00	6.00	497	Drilled 12.1/4" hole from 404m to 497m. (490.15m TVD)

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	16.0	Jun 23, 2002	Jun 23, 2002	96.0	4.00	334.0	404.0

WBM Data	COST T	ODAY: \$19,249 (	CUM.	JM. WB MUD COST: \$71,524			CUM. WBM+OBM COST: \$71,524					
Type:  K FROM: TIME: WEIGHT (sg): TEMP (C):	22:30 1.06	YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): 8		55 10 20 3 19	API FLUID LOSS (cm3/30min): FILTER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	6	CI: K+C*1000: HARD/Ca: MBT (ppb): PM: PF:	42,000 28000 1,200 1.0 .3 .2	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA (ppb):	2.5 97.5 0 0 9.0 1.0		
COMMENT: D	iluted premix	& displaced hole to mu	ıd. Bı	ilt re	serve for dilution if need	ed.		<u> </u>				

Bit Data for Bit # 3 IADC #	1 3 7 M	Wear	I 01 D	L	B G O2	R
SIZE ("):       12.50         MANUFACTURER:       Reed         TYPE:       MHT 13GC         SERIAL #:       NL5007         DEPTH IN (m RT):       334         DEPTH OUT (m RT):	AVE WOB (k-lbs): 10 AVE RPM: 200 FLOW (gpm): 859 PUMP PRESS. (psi): 1,420 HSI (hp/sqi): 0.313	1 x24 x	Drilled over the la METERAGE (m): ON BOTTOM HRS IADC DRILL. HRS TOTAL REVS: ROP (m/hr):	70 6: 3.9 : 6.5 46,800	Calculated over the CUM.METERAGE (m CUM. ON BOT. HRS CUM.IADC DRILL HR CUM.TOT. REVS: ROP (m/hr):	) 70 : 3.9

BHA #3	Leng	th (ft	) :88.1				D.C. (1) ANN. VELOCITY (mpm):	0
WT BLW JAR(k-II	bs):	15	STRING WT(k-lbs):	190	TRQE MAX (ft-lbs):	2,000	D.C. (2) ANN VELOCITY (mpm):	0
BHA WT(k-lbs):		89	PICK UP WT(k-lbs):	190	TRQE ON (ft-lbs):	3,000	H.W.D.P. ANN VELOCITY (mpm):	0
			SLK 0FF WT(k-lbs):	190	TRQE OFF (ft-lbs):	1,500	D.P. ANN VELOCITY (mpm):	0
BHA DESCRIPTION	ON : 12	2.1/4"	Bit, 8" Motor, 8 " RLL, 8" N	/IPT, Flo	at Sub, Crossover, 3 x 5	" Hevi Wate	Drill Pipe, Drilling Jar, 3 x Hevi Wate Drill	

Pipe.			
TOOL DESCRIPTION	HRS	SERIAL#	COMMENT
8" Mud Motor 8" RLL 8" MPT 6.1/2" Drilling Jar	6.5 6.5	800052 DM151HGVR DM01535KF8 MHA00211	

Survey	MD	TVD	INCL	AZ	CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type : MWD	(mBRT)	(mBRT)	DEG	(deg)	AZ (deg)	SECT (m)	(deg/ 30m)	(m)	(m)	
Magnetic Declination: 0.00	382	380	13.44	229.	229.9	26.6	1.99	-11.6	-24.8	MWD
Survey method : Min Curvature	412			228.	228.7	33.7	1.08	-16.2		MWD
	436 464	432 458		229. 229.	229.4 229.9		1.59 0.79	-20.4 -25.3		MWD MWD

Bulk Stocks On F	Ria					II.	Pu	ımp Data	1			
	3					Ш.	Pump Data - last 24 hrs					
STOCK TYPE		START	USED	REC'D	STOCK		#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm)
Barite Bentonite G-neat G+35% SiFI G+BFS+12.25% SiFI	SX SX SX SX	1546 849		1800	436 1546 2649 0		1 2 3	National 1 National 1 National 1	6.00 6.00 6.00	67 67 67	97 97 97	286 286 286
Pot Water Drill Water	M3 M3	98	26 8	26	98 576							
Heli-fuel Base Oil	Itr M3	1		3000	3538 0							
Rig Fuel Brine	M3 M3		11	64	478 64							

Pι	Pump Data											
	Р	ump Da	ta - la	st 24 h	rs		Slow Pump Data					
#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm)	SPP (psi)	SPM	SPP (psi)	DEPTH (mBRT)	MW (ppg)		
1 2 3	National 1 National 1 National 1	6.00 6.00 6.00	67 67 67	97 97 97	286 286 286	1420 1420 1420	30 40 50	75 100 175	337 337 337	8.7 8.7 8.7		

Casing										
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE T\ (plan/Actu	- 1	LOT (pl/Act)	(1	FIT pl/Act)	COMMENT		
13.3/8 "	13.375	327.1		325.6				followed by 10	ped 95bbls 12.5ppg lead slurry 10bbls 15.9ppg tail slurry. In seawater to 50% shoetrack did not bump.	
	7	YPE	LNGTH (m)	CSG OD	WT lbs/ft	GRD		THREAD		
Crossove 16 x Inter Float Join	er rmediate Jo nt liate Joint	ellhead Joint ints	12.00 12.27 190.79 12.42 11.73 12.61	18.000 12.415 12.415 12.415 12.415 12.415	205.0 68.0 68.0 68.0 68.0 68.0	X-56 K55 K55 K55 K55 K55		BTC BTC BTC BTC BTC BTC		

Personnel : on Site =89	Personnel : on Site =89										
JOB TITLE	NAME	CO. NAME	#								
Drilling Supervisor (snr)	G. Howard	OMV	5								
Drilling Supervisor	J. Kenrick	Service Company	23								
Drilling Engineer	P. Zehetleitner	Diamond Offshore	53								
Geologist	R. Tolliday	Catering	8								
Geologist	P. Boothby	-									

Safety, Inspections and Drills	Summary
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Shakers, '	Volumes a	nd Losses	Data					ENGINEER G. Garrick / D. Dixon				
SHAKER 1 SHAKER 2	1 1 2 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2											
SHAKER 3	4 x 84	ACTIVE	515	MIXING		DOWNHOLE						
SHAKER 4	4 x 84	HOLE	242	SLUG		SURF. + EQUIP	12.00					
SHAKER 5		RESERVE	710	HEAVY		DUMPED						
		•				1		•				

7 111011010	A 1 330 A 6 215		A 2 A7	250 205			A 3 17 A8 20		4 345	A 5 1	55
Workboats	Location	Fuel Barite (M3) (sx)	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent (sx)	Brine (M3)	Weather VISIBILITY(nm)	12	Rig / Sea Data	232
Pacific Conquero Pacific Sentinel	r Transit Standb	205 0 364 1190	184 530	127 174	0	0 300	0	WIND SP. (kts) WIND DIR (deg) PRES.(mbars) AIR TEMP (C)	20.0 270 1019 13.0	VDL (mt) WAVES (m) SWELL (m)	2,093 0.9 1.8

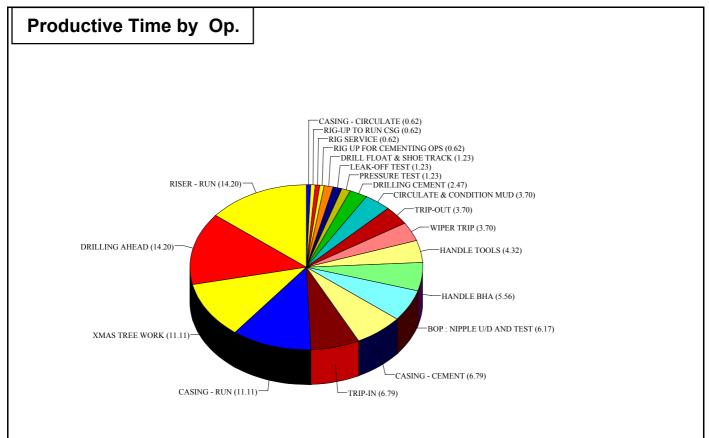
81.00

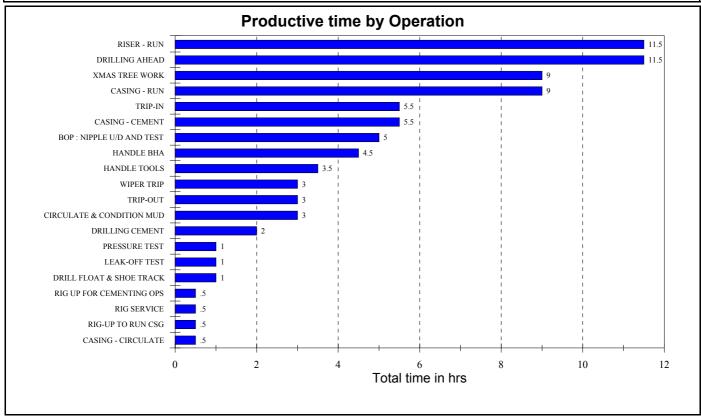
0.50

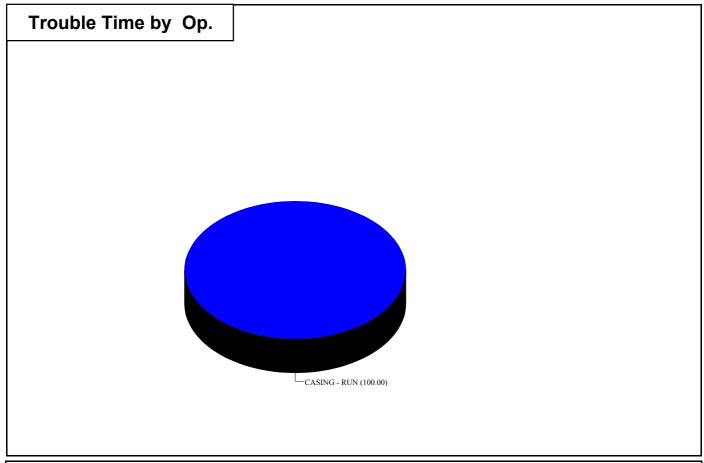
Total move time (hrs) 14.50
Total time on well
excluding move (hrs) 81.50

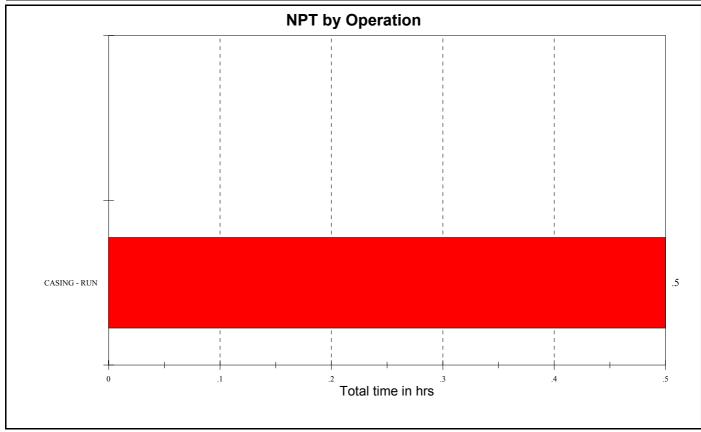
14.50 Total prod. time since spud (hrs):
Total troub. time since spud (hrs)

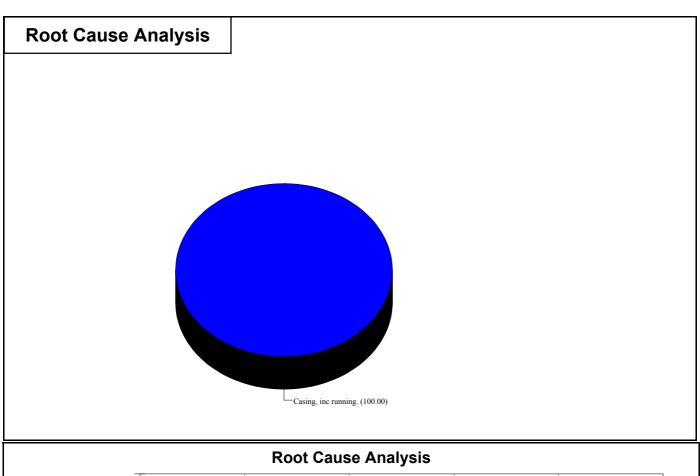
50 % Trouble time 0.61

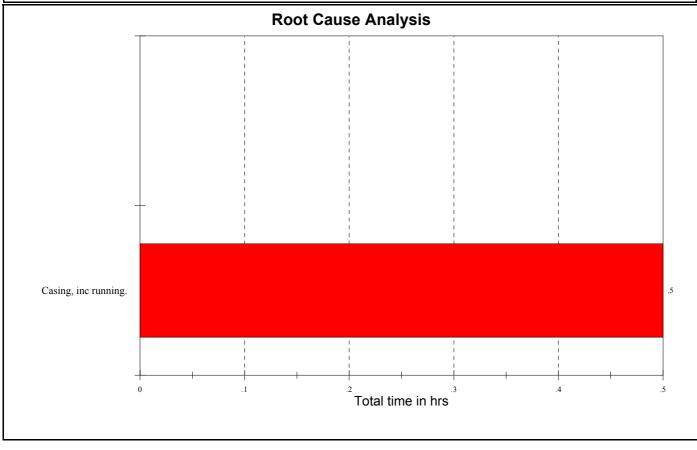




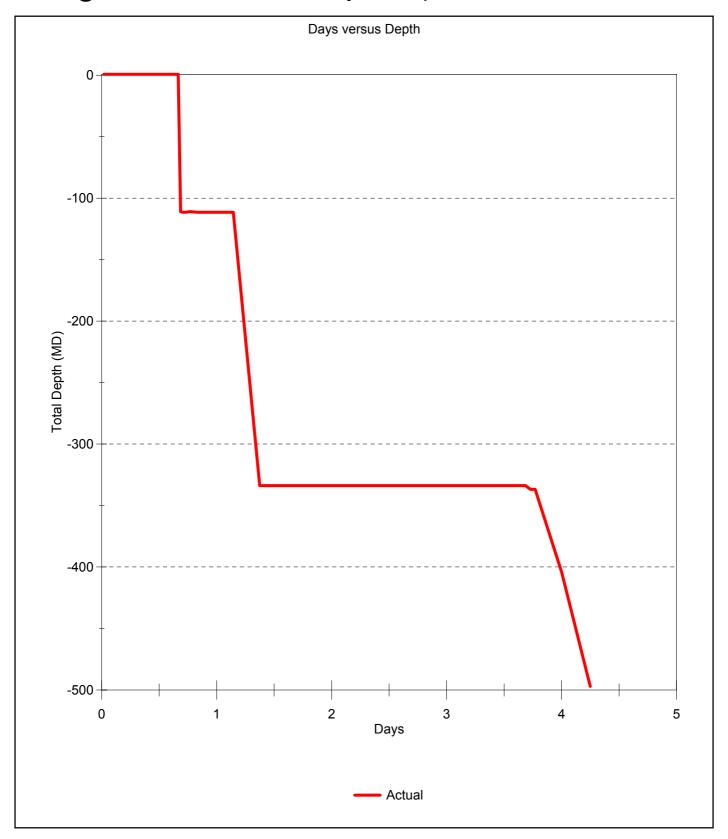








DEPTH @ 24:00 = 404.0m after 4.00 days since spud



## DAILY DRILLING REPORT # 5

**DATE Jun 24, 2002** FROM: G. Howard / J. Kenrick TO: C. Allport / S. Crocker

Patricia-2 VIC/L21

	Well Data		DEPTH (mBRT)	708.0	CUR. HOLE SIZE (")	12.50	AFE COST \$	11,852,851
ı	COUNTRY	AUSTRALIA	TVD (mBRT)	646.6	CASING OD (")	13.3/8 "	AFE BASIS :	C&S
ı	FIELD	GIPPSLAND SUB-BASIN	PROGRESS (m)	304.0	SHOE TVD (mBRT)	326	DAILY COST:	\$398,290.00
ı	DRILL CO.	DIAMOND OFFSHORE	DAYS ON WELL	5.00	FIT (sg)	1.73	CUM COST:	\$3,183,068.00
ı	RIG	OCEAN BOUNTY	DAYS +/- CURVE	-2.10	LOT (sg)	0.00		
	RT ABOVE S	SL (m) 25.0	CURRENT OP @ 0600	Drilling 12	1.1/4" build section.			

WATER DEPTH (m) LAT

PLANNED OP. Drill to top of Gurnard. Pull out of hole to run casing. RT TO SEABED (m) 77.5

## Summary of period 0000 to 2400 hrs

Drilled 12.1/4" build section from 404m to 708m.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 24, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
IH1	Р		DA	00:00	24:00	24.00	708	Drilled 12.1/4" hole from 404m to 708m. (646.60m TVD)

ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jun 25, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
IH1	Р		DA	00:00	06:00	6.00	827	Drilled 12.1/4" hole from 708m to 827m. (696m TVD)

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth	
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0	
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0	
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0	
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0	
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0	
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0	
INTERMEDIATE HOLE (1)	40.0	Jun 23, 2002	Jun 24, 2002	120.0	5.00	334.0	708.0	

<b>WBM Data</b>	COST T	ODAY: \$19,065	CUM.	WB	MUD COST: \$90,589	ST: \$90,589						
Type :	(CL/PHPA	VISCOCITY (sec/qt) PV (cps):		54 12	API FLUID LOSS (cm3/30min) :	5	CI : K+C*1000 :	35,000 28000	SOLIDS (%vol) : H2O (%vol) :	5 92.0		
FROM:	Pit	YP (lb100sq.ft):		29	(32nds inch):	1	HARD/Ca:	1,180	OIL (%vol):	3		
TIME:	22:30	GEL10s/10m/100m			HTHPFL		MBT (ppb):	2.5	SAND :	0.2		
WEIGHT (sg):	1.08	(lb100sq.ft): 11	14	3	(cm3/30min) : HTHP CAKE		PM:	.1	PH:	8.7		
TEMP (C):	46	Fann 3/6/100 : 10	12	27	(32nds inch):		PF:	.2	PHPA (ppb):	.8		
COMMENT: A	COMMENT: Added premix to active system to maintain volume. Treated sytem with Glydril, Polyplus & Duotec.											

Bit Data for Bit # 3 IADC # 1 3 5 M	Wear		01	D	L	В	G	02	R
SIZE ("):       12.50         MANUFACTURER:       Reed       AVE WOB (k-lbs):       10         TYPE:       MHT 13GC       AVE RPM:       200         SERIAL #:       NL5007       FLOW (gpm):       852         DEPTH IN (m RT):       334       PUMP PRESS. (psi):       1,730         DEPTH OUT (m RT):       HSI (hp/sqi):       2.643	NOZZLES 3 x15 1 x24	Drilled METERA ON BOT IADC DE TOTAL I ROP (m.	AGE (n FTOM F RILL. H REVS:	n) : HRS : IRS :	304 18.4	CUM.N CUM.	METERA ON BOT ADC DE FOT. RE	Γ. HRS : RILL HR	374 22.3

BHA #3 Leng	gth (fi	) :88.1				D.C. (1) ANN. VELOCITY (mpm):	70
WT BLW JAR(k-lbs):	15	STRING WT(k-lbs):	225	TRQE MAX (ft-lbs):	2,000	D.C. (2) ANN VELOCITY (mpm):	70
BHA WT(k-lbs):	89	PICK UP WT(k-lbs):	230	TRQE ON (ft-lbs):	3,000	H.W.D.P. ANN VELOCITY (mpm):	49
		SLK 0FF WT(k-lbs):	220	TRQE OFF (ft-lbs):	1.500	D.P. ANN VELOCITY (mpm):	49

BHA DESCRIPTION: 12.1/4" Bit, 8" Motor, 8 " RLL, 8" MPT, Float Sub, Crossover, 3 x 5" Hevi Wate Drill Pipe, Drilling Jar, 3 x Hevi Wate Drill

TOOL DESCRIPTION	HRS	SERIAL#	COMMENT
8" Mud Motor 8" RLL 8" MPT 6.1/2" Drilling Jar	28.7	800052 DM151HGVR DM01535KF8 MHA00211	

Survey	MD	TVD	INCL	AZ	CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type : MWD	(mBRT)	(mBRT)	DEG	(deg)	AZ (deg)	SECT (m)	(deg/ 30m)	(m)	(m)	
Magnetic Declination: 0.00	691	637	56.22	230.	230.6	179.7	1.68	-109.6	-142.4	MWD
Survey method : Min Curvature	721	653	59.58	230.	230.7	204.5	3.44	-125.4	-161.5	MWD
	750	667	64.19	230.	230.2	230.1	4.78	-141.7	-181.3	MWD
	778	679	66.86	230.	230.1	256.3	2.78	-158.5	-201.4	MWD

Bulk Stocks On Rig											
	START	USED	REC'D	STOCK							
SX	436			436							
SX	1546			1546							
SX	2649			2649							
SX				0							
SX				0							
М3	98	27	27	98							
М3	576			576							
ltr	3538	720		2818							
М3				0							
М3	478	15		464							
М3	64			64							
	SX SX SX SX M3 M3 ltr M3 M3	START  SX 436 SX 1546 SX 2649 SX SX SX M3 98 M3 576 Itr 3538 M3 M3 478	START USED  SX 436 SX 1546 SX 2649 SX SX SX M3 98 27 M3 576 Itr 3538 720 M3 M3 478 15	START USED REC'D  SX 436 SX 1546 SX 2649 SX SX SX M3 98 27 27 M3 576 Itr 3538 720 M3 M3 478 15							

Ρι	Pump Data												
	P	ump Da		Slow F	ump Dat	a							
#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm)	SPP (psi)	SPM	SPP (psi)	DEPTH (mBRT)	MW (ppg)			
1 2 3	National 1 National 1 National 1	6.00 6.00 6.00	65 65 65	97 97 97	278 278 278	1730 1730 1730	30 40 50	110 150 200	652 652 652	9.0 9.0 9.0			

Casing										
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE TVD (plan/Actual)				FIT (pl/Act)		COMMENT	
13.3/8 "	13.375	327.1		325.6				1.73	followed by 10	ned 95bbls 12.5ppg lead slurry 10bbls 15.9ppg tail slurry. 1 seawater to 50% shoetrack 1 did not bump.
TYPE			LNGTH (m)	CSG OD (")	WT lbs/ft	(	GRD	Т	HREAD	
Cameron 18.3/4" Wellhead Joint Crossover 16 x Intermediate Joints Float Joint Intermediate Joint Shoe Joint			12.00 12.27 190.79 12.42 11.73 12.61	18.000 12.415 12.415 12.415 12.415 12.415	205.0 68.0 68.0 68.0 68.0 68.0	H	X-56 K55 K55 K55 K55 K55		BTC BTC BTC BTC BTC BTC	

Personnel : on Site =88			
JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr)	G. Howard	OMV	6
Drilling Supervisor	J. Kenrick	Service Company	21
Drilling Engineer	P. Zehetleitner	Diamond Offshore	53
Geologist	R. Tolliday	Catering	8
Geologist	P. Boothby		
Geologist	R. Leech		
			-

Safoty	Inspections and Drills	Summary
ioaiety.	. INSDECTIONS AND DINS	Sullillarv

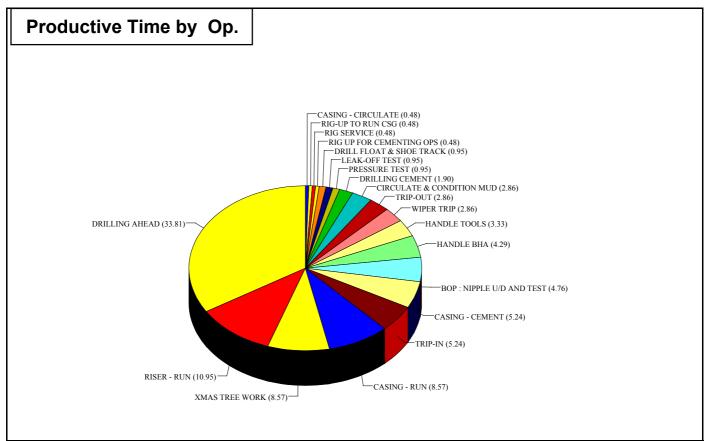
Shakers, \	Shakers, Volumes and Losses Data ENGINEER G. Garrick / D. Dixon											
SHAKER 1 SHAKER 2	4 x 120 4 x 120	VOLUME A	VAILAB	LE (bbl) =	1451	LOSSES (bbl) =	36	COMMENTS				
SHAKER 3	4 x 84	ACTIVE	657	MIXING		DOWNHOLE		Changed to finer shaker screens.				
SHAKER 4	4 x 84	HOLE	400	SLUG		SURF. + EQUIP	36.00	Drilled, steered & surveyed 12.1/4"				
SHAKER 5		RESERVE	394	HEAVY		DUMPED		build up section.				
		•				•		•				

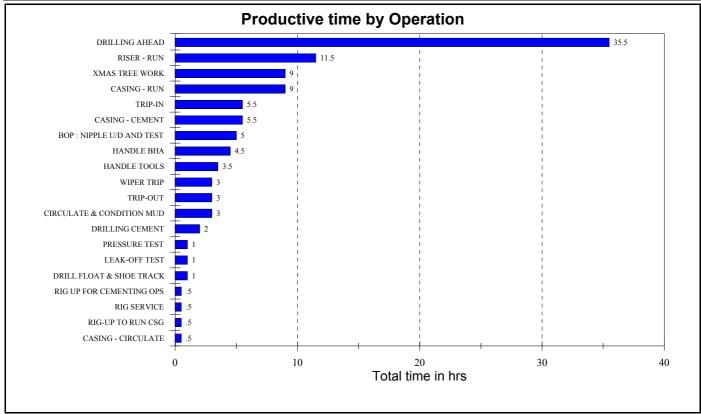
Allollolo	A 1 325 A 6 215		A 2 A7	240 175			A 3 A8	170 205	A 4 35	O A 5	155
Workboats	Location	Fuel Bar (M3) (s.		P/wtr (M3)	Cmt (sx)	Bent (sx)	Brine (M3)		Weather VISIBILITY(nm) 15	Rig / Sea Dat	232
Pacific Conqueror Pacific Sentinel	Transit Standb	205 359 119	0 184 90 530	127 173	0	0 300	0		WIND SP. (kts) 12.0 WIND DIR (deg) 300 PRES.(mbars) 1014 AIR TEMP (C) 13.0	VDL (mt) WAVES (m) SWELL (m)	2,036 0.6 0.9

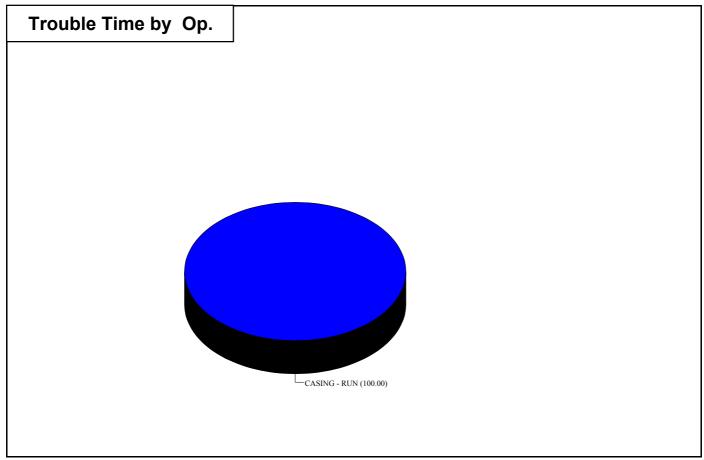
Total move time (hrs) Total time on well excluding move (hrs) 14.50 Total prod. time since spud (hrs):
Total troub. time since spud (hrs)

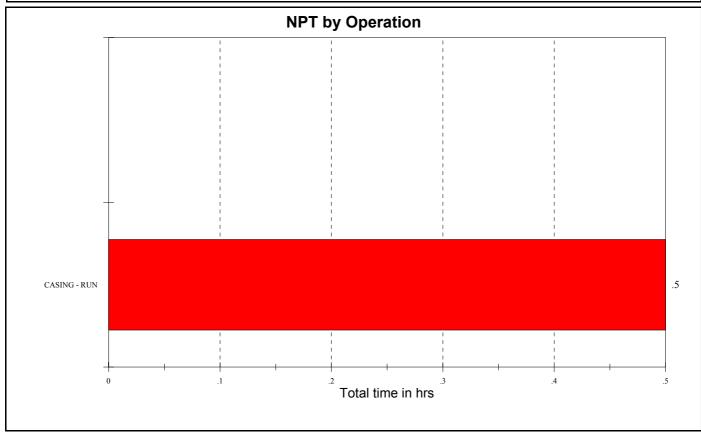
105.00 0.50

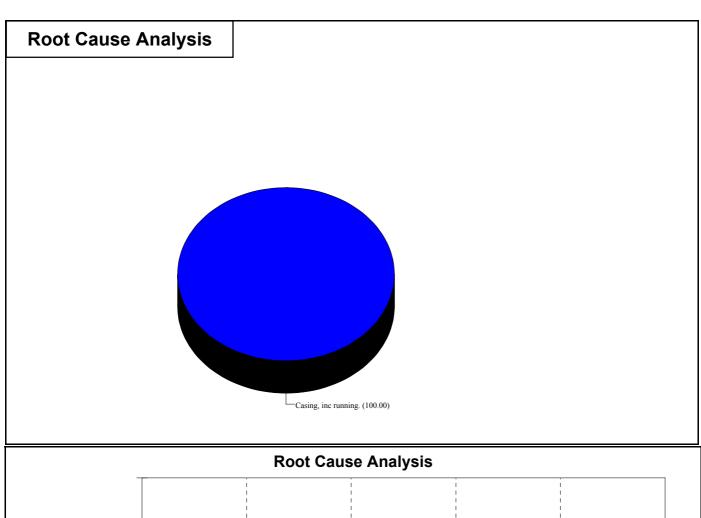
105.50 % Trouble time 0.47

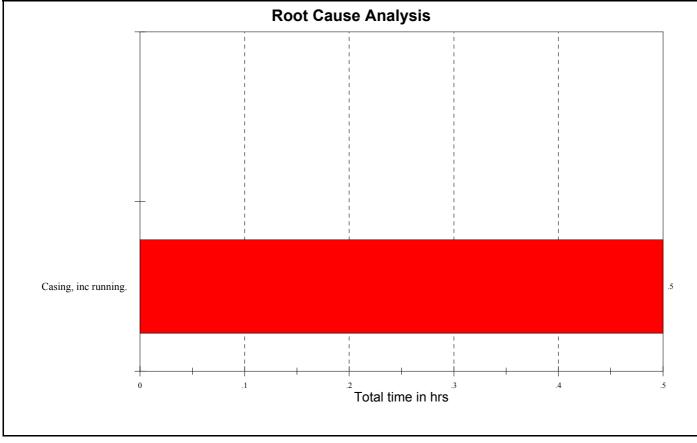




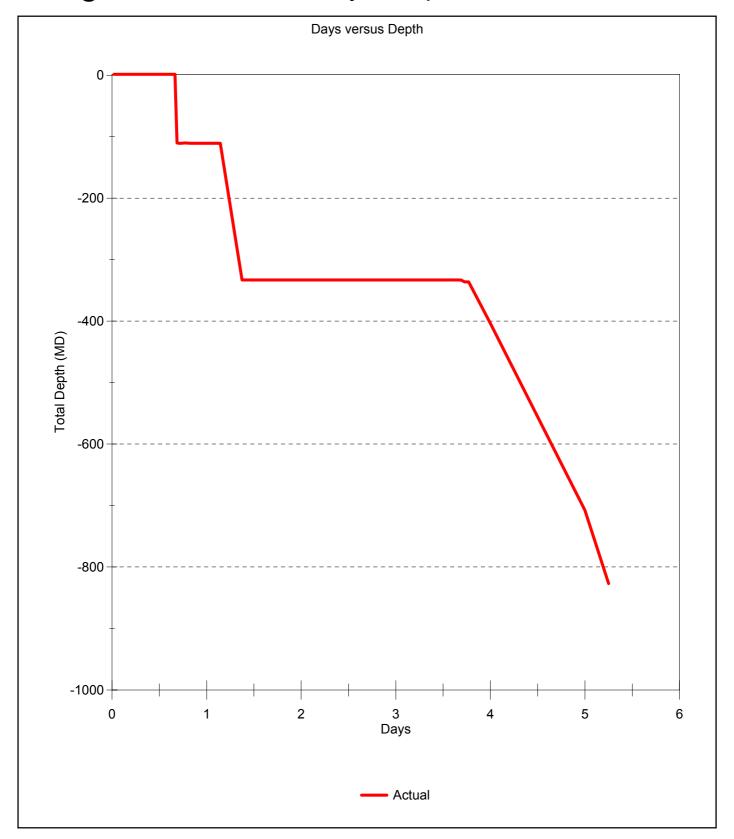








DEPTH @ 24:00 = 708.0m after 5.00 days since spud



# DAILY DRILLING REPORT # 6

DATE Jun 25, 2002 FROM: G. Howard / G. Othen TO: C. Allport / S. Crocker

Patricia-2 VIC/L21

Well Data	DEPTH (mBRT)	884.0	CUR. HOLE SIZE (")	12.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	701.2	CASING OD (")	13.3/8 "	AFE BASIS :	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	176.0	SHOE TVD (mBRT)	326	DAILY COST :	\$365,964.00
DRILL CO. DIAMOND OFFSHORE	DAYS ON WELL	6.00	FIT (sg)	1.73	CUM COST:	\$3,549,032.00
RIG OCEAN BOUNTY	DAYS +/- CURVE	-2.20	LOT (sg)	0.00		
RT ABOVE SL (m) 25.0	CURRENT OP @ 0600	Cementin	g 9 5/8" Casing.			_
WATER DEPTH (m) LAT 52.5			/ Drill 8 1/2" Hole section	n		
RT TO SEABED (m) 77.5						

# Summary of period 0000 to 2400 hrs

Drilled 12.1/4" build up section from 708m to 884m. Wiper trip, POOH. Rigged up and ran 13 3/8" Casing.

#### ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 25, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
IH1	Р		DA	00:00	08:45	8.75	884	Drilled 12.1/4" hole from 708m to 884m. (701.17m TVD)
IH1	Р		CMD	08:45	10:00	1.25	884	Circulated and increased mud weight to 1.12 SG.
IH1	Р		WT	10:00	12:30	2.50	884	Precautionary pumped out F/- 884m to 655m. Continued POOH to shoe, 326m
IH1	Р		WT	12:30	14:00	1.50	884	RIH to bottom @ 884m (No fill hole good)
IH1	Р		CMD	14:00	15:30	1.50	884	Circulated bottoms up, max gas 12%
IH1	Р		TO	15:30	18:30	3.00	884	Flow checked, POOH Hole good no drag.
IH1	Р		∃BH⊁	18:30	19:00	.50	884	Down loaded MWD data.
IH1	Р		WH	19:00	20:30	1.50	884	Made up wear bushing running tool and RIH. Jetted well head and recovered wear bushing.
IC1	Р		CRN	20:30	24:00	3.50	884	Held JSA. Rigged up to run Casing. Picked up 9 5/8" Casing shoe track checked floats and ran Casing.

ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jun 26, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
IC1	Р		CRN	00:00	02:30	2.50	884	Continued to run 9 5/8" Casing.
IC1	Р		CRN	02:30	03:30	1.00	884	Made up hanger, rigged down flush mounted slips and laid out Tam packer. Continued running casing on landing string.
IC1	Р		CRN	03:30	04:00	.50	884	Rigged up cement hose and landed Casing.
IC1	Р		CIC	04:00	04:30	.50	884	Circulated casing 1.5 times casing volume.
IC1	Р		CMC	04:30	06:00	1.50	884	Held JSA. Cement unit pumped 10 bbls of Sea water and pressure tested lines to 3,000 psi. Pumped 60 bbls of Super Flush followed by 10 bbls of Drill water. Dropped launching ball, sheared plug with 1200 psi.

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	3.5	Jun 25, 2002	Jun 25, 2002	144.0	6.00	884.0	884.0

WBM Data	COST T	ODAY: \$1,600	CUM.	WB	MUD COST: \$92,189		CUM. WB	м+овм сс	ST: \$92,189	
Type:	KCL/PHPA	VISCOCITY (sec/qt) : PV (cps):		55 14	API FLUID LOSS (cm3/30min) :	6	CI : K+C*1000 :	45,000 28000	SOLIDS (%vol) : H2O (%vol) :	7 90.0
FROM:	Pit	YP (lb100sq.ft):		30	(32nds inch):	1	HARD/Ca:	1,200	OIL (%vol):	3
TIME:	22:30	GEL10s/10m/100m			HTHPFL '		MBT (ppb):	5.0	SAND :	.1
WEIGHT (sg)	: 1.12	(lb100sq.ft): 13	18	3	(cm3/30min) : HTHP CAKE		PM:	.0	PH:	8.7
TEMP (C):	49	Fann 3/6/100 : 14	16	28	(32nds inch):		PF:	.1	PHPA (ppb):	.8
COMMENT:	Added premix	to active system to mai	ntain	volu	me. Treated sytem with	Glyd	Iril, Polyplus & Du	otec.		

Bit Data for Bit # 3	Wear	2	01	D WT	L A	ВВ	G 1/16	O2 NO	R TD			
SIZE (") :	12.50			NOZZLES	Drille	d over t	he last :	24 hrs	Calc	ulated o	ver the b	it run
MANUFACTURER :	Reed	AVE WOB (k-lbs):	14	3 <b>χ</b> 15	_	RAGE (					GE (m)	550
TYPE: MH	T 13GC	AVE RPM :	200	1 x 24		MOTTC	,				. HRS :	32.9
SERIAL#:	NL5007	FLOW (gpm):	847	Х		DRILL. I					ILL HRS	
DEPTH IN (m RT):	334	PUMP PRESS. (psi):	2,160	Х	TOTAL	L REVS	: 1	27,200	сим.	TOT. RE	VS:	394,800
DEPTH OUT (m RT):	884	HSI (hp/sqi) :	2.693	Х	ROP (	m/hr):		22.9	ROP (r	m/hr):		14.4

Length (ft) :88.1 **BHA#3** 

D.C. (1) ANN. VELOCITY (mpm): 69 WT BLW JAR(k-lbs): 15 D.C. (2) ANN VELOCITY (mpm): STRING WT(k-lbs): 225 TRQE MAX (ft-lbs): 2,000 69 PICK UP WT(k-lbs): H.W.D.P. ANN VELOCITY (mpm): BHA WT(k-lbs): 89 230 TRQE ON (ft-lbs): 3,000 48 SLK 0FF WT(k-lbs): 220 TRQE OFF (ft-lbs): 1,500 D.P. ANN VELOCITY (mpm): 48

BHA DESCRIPTION: 12.1/4" Bit, 8" Motor, 8 " RLL, 8" MPT, Float Sub, Crossover, 3 x 5" Hevi Wate Drill Pipe, Drilling Jar, 3 x Hevi Wate Drill

TOOL DESCRIPTION	HRS	SERIAL#	COMMENT
8" Mud Motor 8" RLL 8" MPT 6.1/2" Drilling Jar			

Survey TVD **INCL** CORR DOGLEG TOOL TYPE **SECT** (mBRT) (mBRT) DEG (deg) ΑZ (deg/ (m) (m) MWD Last Tool Type: 30m) (deg) (m) Magnetic Declination: 0.00 MWD 66.86 230. 2.78 778 679 230.1 256.3 -158.5 -202.7 Survey method: Min Curvature 807 689 71.93 230. 230.5 283.4 5.34 -174.6 -223.2 MWD 837 696 6.31 -192.9 -245.2 MWD 78.14 230. 230.0 312.0 863 700 85.19 229. 229.8 337.9 8.05 -209.6 -265.1 MWD

Bulk Stocks On F	Rig				
STOCK TYPE		START	USED	REC'D	STOCK
Barite	SX	436	100		336
Bentonite	SX	1546			1546
G-neat	SX	2649			2649
G+35% SiFI	SX				0
G+BFS+12.25% SiFI	SX				0
Pot Water	МЗ	98	25	25	98
Drill Water	М3	576	36		540
Heli-fuel	ltr	2818	349		2469
Base Oil	МЗ				0

М3

М3

464

64

16

448

64

Rig Fuel

Brine

Pι	ımp Data	ì								
	P	ump Da	Slow F	ump Data	a					
#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm)	SPP (psi)	SPM	SPP (psi)	DEPTH (mBRT)	MW (ppg)
# 1 2 3	National 1 National 1 National 1	6.00	65 65 65	97 97 97	282 282 282	2160 2160 2160	30 40 50	110 150 200	652 652 652	9.0 9.0 9.0

Casing													
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE T\ (plan/Actu		LOT (pl/Act)		-	TT (Act)		COMMENT			
13.3/8 "	13.375	327.1		325.6				1.73	followed by 10	ped 95bbls 12.5ppg lead slurry 00bbls 15.9ppg tail slurry. h seawater to 50% shoetrack did not bump.			
		TYPE	LNGTH (m)	CSG OD (")	WT lbs/ft	G	GRD	7	HREAD				
Crossove	er rmediate Jo nt iate Joint	ellhead Joint pints	12.00 12.27 190.79 12.42 11.73 12.61	18.000 12.415 12.415 12.415 12.415 12.415	205.0 68.0 68.0 68.0 68.0 68.0		<ul> <li>&lt;-56</li> <li>&lt;55</li> <li>&lt;55</li> <li>&lt;55</li> <li>&lt;55</li> <li>&lt;55</li> </ul>		BTC BTC BTC BTC BTC BTC				

SWELL (m)

2.1

Patricia-2 VIC/L21

Personnel : on Site =89			
JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr) Drilling Supervisor (Nigh Drilling Engineer Geologist Geologist Geologist Geologist	G. Howard G. Othen P. Zehetleitner R. Tolliday P. Boothby R. Leech	OMV Service Company Diamond Offshore Catering	22 53 8

Safety, Ins	specti	on	s an	d Dril	ls			Sum	mary							
Shakers, Volumes and Losses Data         ENGINEER G. Garrick / D. Dixon           SHAKER 1         4 x 120         VOLUME AVAILABLE (bbl) =         1244         LOSSES (bbl) =         216         COMMENTS           SHAKER 3         4 x 84         ACTIVE         541         MIXING         DOWNHOLE         Raised mud weight to 1.12 SG.           SHAKER 4         4 x 84         HOLE         513         SLUG         SURF. + EQUIP         112.00           SHAKER 5         RESERVE         190         HEAVY         DUMPED         104.00																
Anchors	A		360 200			A 2 A7	300 155		A A		200		A 4	405	A 5	136
Pacific Senti Pacific Conq	nel	Rig	cation	(M3)	Barite (sx) 1190	D/wtr (M3) 530 184	P/wtr (M3) 168 127	Cmt (sx)	Bent E (sx)	Brine (M3)		Weather VISIBILI' WIND SE	TY(nm) P. (kts)	12 45.0 260	Rig / Sea Dat RIS.TENS (klbs) VDL (mt) WAVES (m)	232 2,078 3.7

PRES.(mbars)

AIR TEMP (C)

1012

16.0

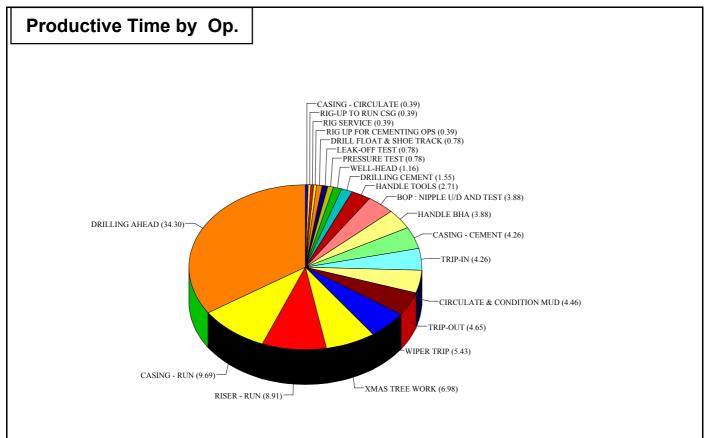
129.00

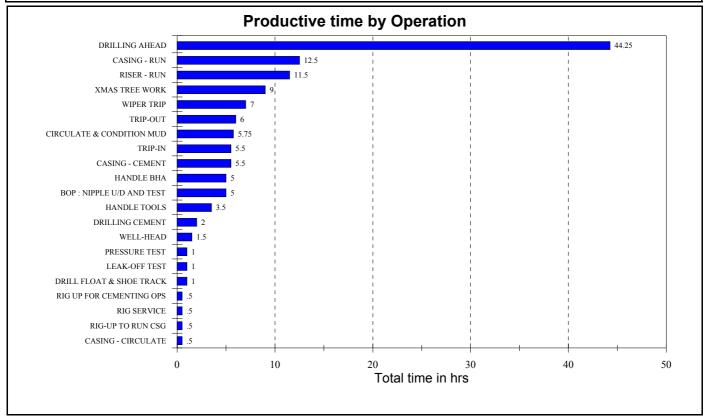
0.50

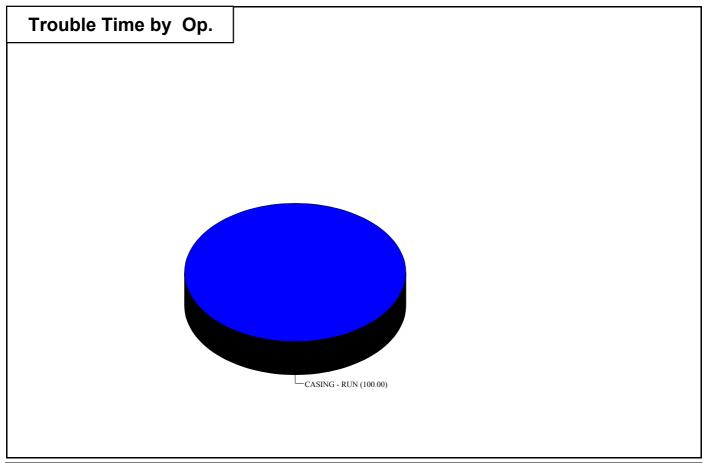
**Total move time (hrs)** Total time on well excluding move (hrs)

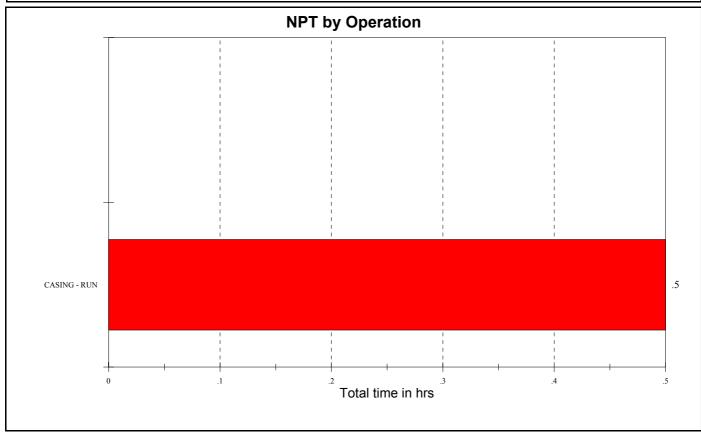
14.50 Total prod. time since spud (hrs): Total troub. time since spud (hrs) 129.50

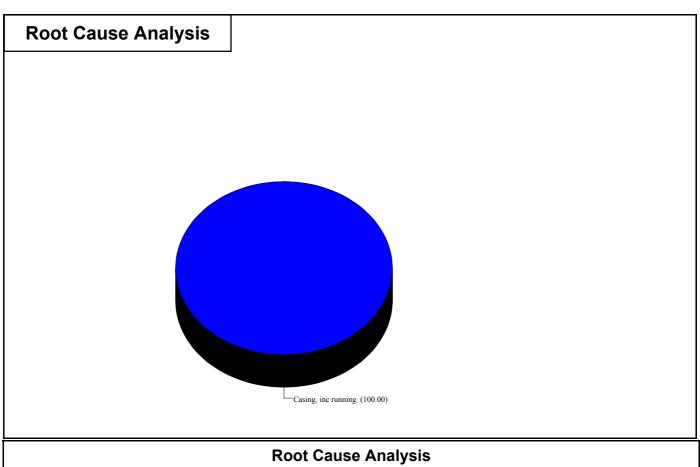
% Trouble time 0.39

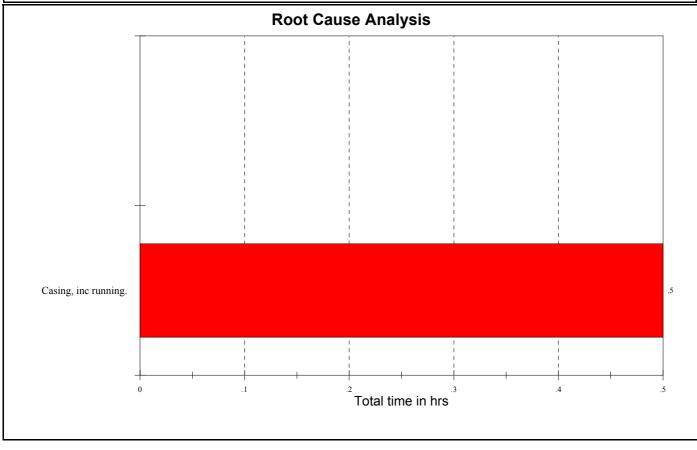




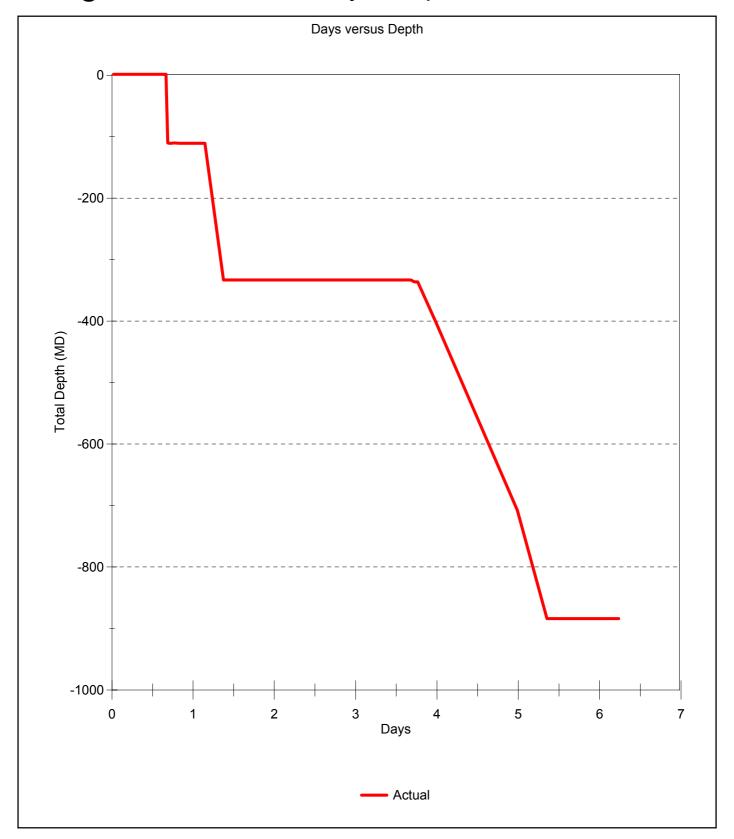








DEPTH @ 24:00 = 884.0m after 6.00 days since spud



# DAILY DRILLING REPORT # 7

DATE Jun 26, 2002 FROM: G. Howard / G.Othen TO: C. Allport / S.Crocker /

Patricia-2 VIC/L21

Well Data	DEPTH (mBRT)	884.0	CUR. HOLE SIZE (")	12.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	701.2	CASING OD (")	9.5/8 "	AFE BASIS:	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	0.0	SHOE TVD (mBRT)	700	DAILY COST:	\$690,558.00
DRILL CO. DIAMOND OFFSHORE	DAYS ON WELL	7.00	FIT (sg)	1.40	CUM COST:	\$4,239,590.00
RIG OCEAN BOUNTY	DAYS +/- CURVE	-2.30	LOT (sg)	0.00		
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 0600 PLANNED OP.	-	1/2" Hole section.  ' hole section to TD.			

#### Summary of period 0000 to 2400 hrs

Ran & cemented 9 5/8"casing, Tested BOP, Laid out 12 1/4" BHA Picked up 8 1/2" BHA. Drilled shoe track.

#### ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 26, 2002

<u> </u>	111	<u> </u>	. I VIOL	, <del>0000 1</del>	1110 10	, <u> </u>	11110 011	OR 0011 20, 2002						
PHSE	CLS	RC	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION						
IC1	Р		CRN	00:00	02:30	2.50	884	Continued to run 9 5/8" Casing.						
IC1	Р		CRN	02:30	03:30	1.00	884	Made up hanger, rigged down flush mounted slips and laid out Tam packer. Continued running casing on landing string.						
IC1	Р		CRN	03:30	04:00	.50	884	Rigged up cement hose and landed Casing.						
IC1	Р		CIC	04:00	04:30	.50	884	Circulated casing 1.5 times casing volume.						
IC1	Р		CMC	04:30	07:00	2.50	884	Held JSA. Cement unit pumped 10 bbls of Sea water and pressure tested lines to 3,000 psi. Pumped 60 bbls of Super Flush followed by 10 bbls of Drill water. Dropped launching ball, sheared plug with 1200 psi. Mixed and pumped 378sx of 'G' grade cement, 78 bbls of cement slurry at 1.89 sg. Dropped top dart and sheared plug with 1800 psi. Displaced with 10 bbls of drill water, and displaced cement with mud. Bumped plug and pressure tested casing to 3000 psi. Floats held.						
IC1	Р		CRN	07:00	08:00	1.00	884	Released and recovered running tool.						
IC1	Р		WH	08:00	10:00	2.00	884	M/up and Ran seal assembly. Tested 200 / 5000 psi 5 / 10 min						
IC1	Р		ВОР	10:00	10:30	.50	884	Presure tested BOP. ( LPR & VPR ) Tested 200 / 5000 psi 5/10 min. Valve test on Yelow pod. Function test on blue pod.						
IC1	Р		TO	10:30	12:00	1.50	884	POOH with seal assembly running tool.						
IC1	Р		∃BH <i>F</i>	12:00	12:30	.50	884	Laid out 12 1/4" BHA						
IC1	Р		BOP	12:30	13:30	1.00	884	Made up and RIH with BOP test tool.						
IC1	Р		ВОР	13:30	16:30	3.00	884	Presure tested BOP. (Annulars 200 / 2500 psi - Rams 200 /5000 psi)						
IC1	Р		BOP	16:30	17:00	.50	884	POOH with test tool. (Tested shear rams 3000 psi)						
IC1	Р		HT	17:00	17:30	.50	884	Service broke and laid out cement head.						
IC1	Р		⊣BHÆ	17:30	20:30	3.00	884	Made up 8 1/2" bit, motor and replaced battery in MWD tool. Function tested tool, loaded radioactive source.						
IC1	Р		TI	20:30	22:00	1.50	884	RIH with 8 1/2" Drilling assembly to 750m (Broke circulation)						
IC1	Р		RS	22:00	22:30	.50	884	Serviced TDS @ 750m						
IC1	Р		TI	22:30	23:30	1.00	884	Continued RIH F /- 750m to 848m (Tagged @ 848m)						
IC1	Р		DFS	23:30	24:00	.50	884	Drilled shoe track (Drilled firm cement through-out)						
				l	ı I		ı							

# ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jun 27, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION				
IC1	Р		DFS	00:00	02:15	2.25	5 884 Continued drilling shoe track and rat hole to 884m					
PH	Р		DA	02:15	02:45	.50	887	Drilled F /- 884m to 887m (Displaced well to Flo-Pro mud)				
PH	Р		CMD	02:45	03:00	.25	887	· ·				
PH	Р		LOT	03:00	03:30	.50	887	Pulled into shoe, preformed FIT (Pressured up to 330 psi Mud				
PH	Р		DA	03:30	06:00	2.50	928	weight 1.07 sg EMW= 1.4 sg) Took SCRs & Choke line friction loss, Run back to bottom. Drilled F /- 887m to 928m. (TVD 701.2m)				

### Patricia-2 VIC/L21

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	27.5	Jun 25, 2002	Jun 26, 2002	168.0	7.00	884.0	884.0

WBM Data	COST T	ODAY: \$53,046	CUM. WE	MUD COST: \$145,235	D COST: \$145,235 CUM. WBM+OBM COST: \$1					
Type:  FROM: TIME:	22:30	YP (lb100sq.ft): GEL10s/10m/100m	9 37	API FLUID LOSS (cm3/30min): FILI ER CAKE (32nds inch): HTHPFL (cm3/30min):	5	CI: K+C*1000: HARD/Ca: MBT (ppb):	32,000 350 1.0	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND:	4 96.0 0	
TEMP (C):	WEIGHT (sg):       1.07 (lb100sq.ft):       17 20 Fann 3/6/100:       17 19 37 (cm3/30min): HTHP CAKE (32nds inch):       PM:       .8 PH:       8.9 PH:       8.9 PH:       8.9 PH:       9 PHPA (ppb):									

Bit Data for Bit # 4 IADC #					D	L	В	G	O2	R
SIZE ("):       8.50         MANUFACTURER:       Reed         TYPE:       EPH-41-ALKDH         SERIAL#:       M-25484         DEPTH IN (m RT):       884         DEPTH OUT (m RT):	AVE WOB (k-lbs): AVE RPM: FLOW (gpm): PUMP PRESS. (psi): HSI (hp/sqi): 0.000	NOZZLES  X X X X	METE ON BO	RAGE ( OTTOM DRILL. L REVS	HRS : HRS :	24 hrs 0	CUM.N CUM. CUM.I	METERA ON BO ADC DI TOT. RI	over the AGE (m) T. HRS : RILL HR EVS :	0.0

BHA #4 Length (ft)	) :1,266.8				D.C. (1) ANN. VELOCITY (mpm):	0
WT BLW JAR(k-lbs): BHA WT(k-lbs):	STRING WT(k-lbs	,	I	MAX (ft-lbs): ON (ft-lbs):	D.C. (2) ANN VELOCITY (mpm): H.W.D.P. ANN VELOCITY (mpm):	0
DHA WT(K-IDS).	SLK 0FF WT(k-lbs	,		OFF (ft-lbs):	D.P. ANN VELOCITY (mpm):	0
BHA DESCRIPTION : 81/2" bit,	,motor,MPT,MWD,p	ulser,flo	oat sub,3xHWDF	P,jar,3xHWDP,93 Joints 5'	" Drill pipe,30xHWDP	
TOOL DESCRIPT	TION	HRS	SERIAL#		COMMENT	
Motor MPT Tool			675188 DM-01540 M3			

0.0 DM-1537 HNRL

700

Pulser Jars		.0 DM-01: .0 DAH-2								
Survey	MD	TVD	INCL	AZ	CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type : MW	D   (mBRT)	(mBRT)	DEG	(deg)	AZ (deg)	SECT (m)	(deg/ 30m)	(m)	(m)	
Magnetic Declination: 0.0	00 778	679	66.86	230.	230.1	256.3	2.78	-158.5	-202.7	MWD
Survey method: Min Curvature	I				230.5	283.4	5.34	-174.6		
	837	696	78.14	230.	230.0	312.0	6.31	-192.9	-245.2	MWD

85.19

229.8

337.9

Ρι	Pump Data										
	Pump Data - last 24 hrs Slow Pump Dat										
#	TYPE	LNR (")	SPM	EFF (%)	Flow (gpm)	SPP (psi)	SPM	SPP (psi)	DEPTH (mBRT)	MW (ppg)	
1 2 3	National 1 National 1 National 1	6.00 6.00 6.00	54	97 97 97	282 282 0	1350 1350 0	30 40 50	110 150 200	652 652 652	9.0 9.0 9.0	

8.05

-209.6

RLL Tool

-265.1 MWD

Patricia-2 VIC/L21

Bulk Stocks On F	Bulk Stocks On Rig										
STOCK TYPE		START	USED	REC'D	STOCK						
Barite	SX	336			336						
Bentonite	SX	1546			1546						
G-neat	SX	2649	483		2166						
G+35% SiFI	SX				0						
G+BFS+12.25% SiFI	SX				0						
Pot Water	МЗ	98	23	23	98						
Drill Water	М3	540	233	280	587						
Heli-fuel	ltr	2469	587		1882						
Base Oil	М3				0						
Rig Fuel	М3	448	10		439						
Brine	М3	64			64						

Casing											
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE T\ (plan/Actu		LOT (pl/Act)			FIT (pl/Act)		COMMENT	
9.5/8 "	9.625	872.4		700.0			1.40 1.40		Mixed and pumped 378 sx og G cement, 78 bbls of slurry @ 1.89 sg. Displaced and bumped plug pressue tested casing to 3000 psi.		
		TYPE	LNGTH (m)	CSG OD (")	WT lbs/ft		GRD	Т	HREAD		
Well head X/over (NK3SB Pin x New Vam Box) Pup Joint Pup Joint 9 5/8" Casing Float Joint Intermeniate Joint Shoe Joint			2.35 3.17 3.07 3.07 746.58 13.17 12.04 12.54	8.575 8.575 8.575 8.575 8.575 8.575 8.575 8.575	47.0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	I   I   I	L-80 L-80 L-80 L-80 L-80 L-80 L-80 L-80	Va	lew Vam am x NK3 NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB		

Personnel : on Site =93									
JOB TITLE	NAME	CO. NAME	#						
Drilling Supervisor (snr) Drilling Supervisor (Nigh Drilling Engineer Geologist Geologist Geologist Geologist	G. Howard G. Othen P. Zehetleitner R. Tolliday P. Boothby R. Leech	OMV Service Company Diamond Offshore Catering	7 25 53 8						

Safety, Ins	pections a	and Drills		Su	mmary						
Shakers, \	Shakers, Volumes and Losses Data ENGINEER D. Dixon / G Garrick										
SHAKER 1 SHAKER 2	120 x 4 120 x4	VOLUME A	VAILABL	.E (bbl) =	2120	LOSSES (bbl) =	190	COMMENTS			
SHAKER 3	84 x 4	ACTIVE	797	MIXING		DOWNHOLE		Prepared new mud system.			
SHAKER 4	84 x 4	HOLE	256	SLUG		SURF. + EQUIP	0.00				
SHAKER 5		RESERVE	1067	HFAVY		DUMPED	190 00				

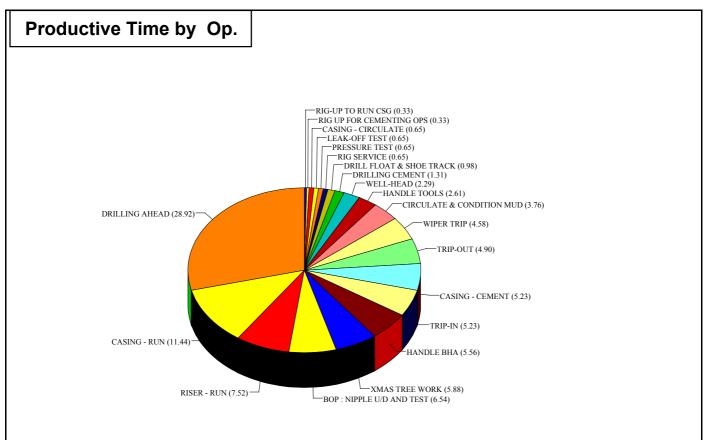
Anchors	A 1 A 6	315 220			A 2 A7	250 190			A 3 A8	175 210	A 4	350	A 5	150
Workboats	L	ocation	Fuel (M3)	Barite (sx)	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent (sx)	Brine (M3)		Weather VISIBILITY(nm)	12	Rig / Sea Data	232
Pacific Sentinel Pacific Conquero		To Gee At Rig	349 446	1190	250 640	165 205		300			WIND SP. (kts) WIND DIR (deg) PRES.(mbars) AIR TEMP (C)	45.0 260 1017 15.0	VDL (mt) WAVES (m) SWELL (m)	2,114 3.7 1.8

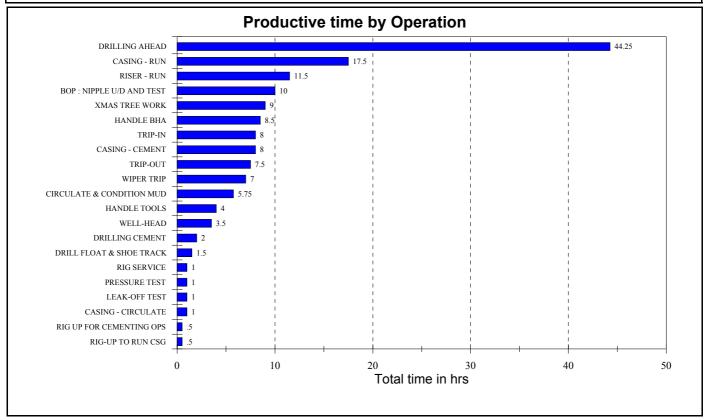
**Total move time (hrs)** Total time on well excluding move (hrs)

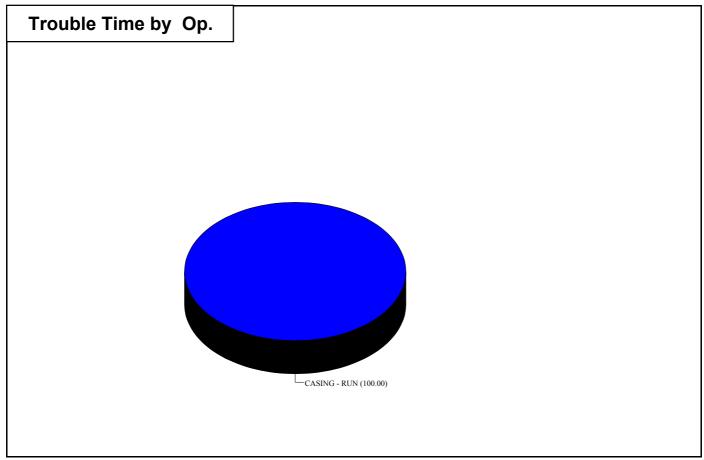
14.50 Total prod. time since spud (hrs): Total troub. time since spud (hrs) 153.50

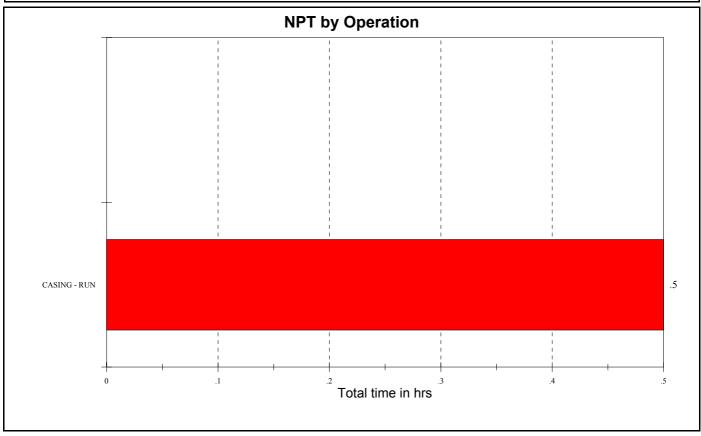
153.00 0.50

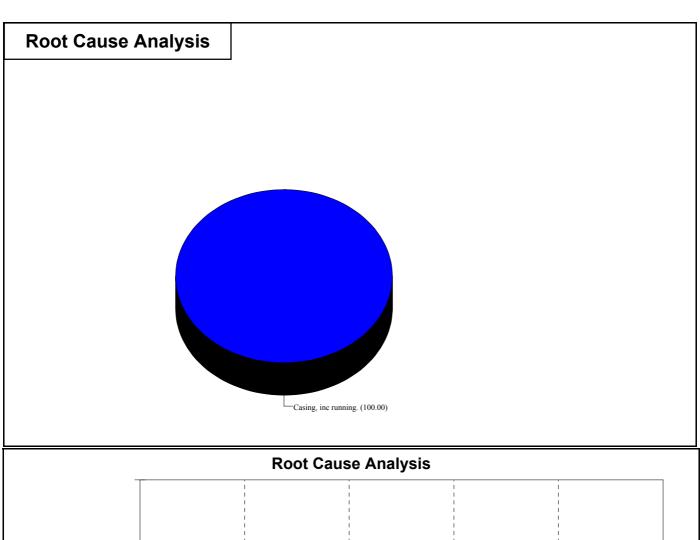
% Trouble time 0.33

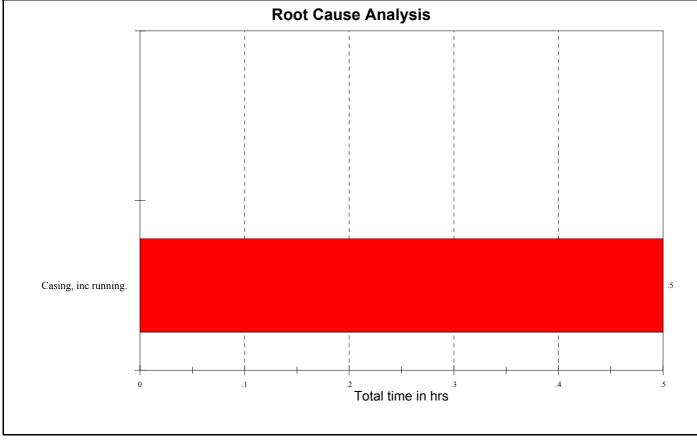






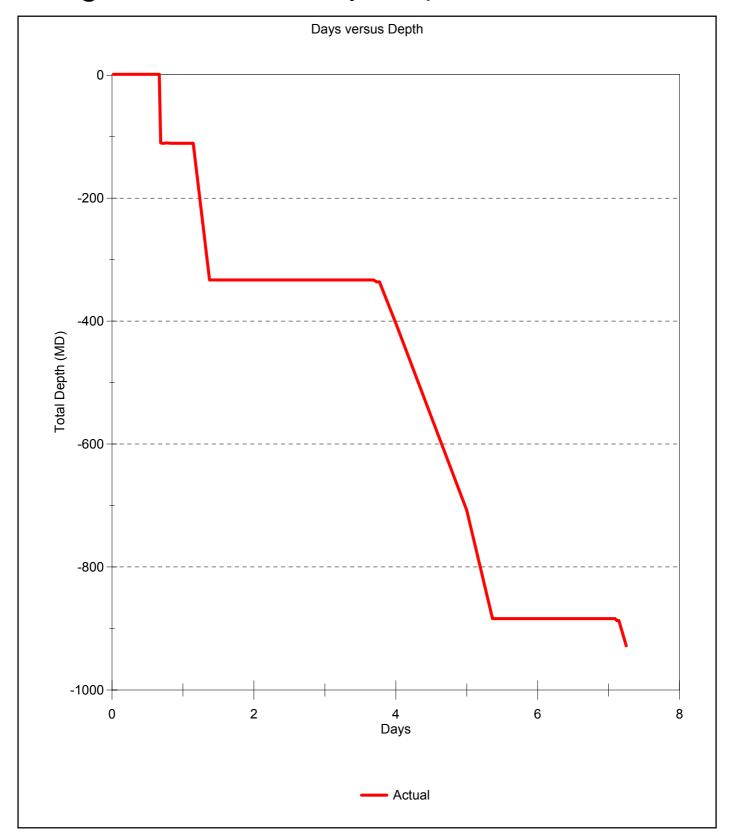






Patricia-2 VIC/L21

DEPTH @ 24:00 = 884.0m after 7.00 days since spud



# DAILY DRILLING REPORT # 8

DATE Jun 27, 2002 FROM: G. Howard / G.Othen TO: C. Allport / S.Crocker /

Patricia-2

VIC/L21

Well Data	DEPTH (mBRT)	1,365.0	CUR. HOLE SIZE (")	8.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	701.3	CASING OD (")	9.5/8 "	AFE BASIS:	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	481.0	SHOE TVD (mBRT)	700	DAILY COST:	\$387,030.00
DRILL CO. DIAMOND OFFSHORE RIG OCEAN BOUNTY	DAYS ON WELL DAYS +/- CURVE	8.00 -2.70	FIT (sg) LOT (sg)	1.40 0.00	CUM COST:	\$4,626,620.00
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 060 PLANNED OP.		g well to Flo-pro SF mud well to brine above shoe,			

#### Summary of period 0000 to 2400 hrs

Drilled shoe track, performed FIT. Drilled 8 1/2" Hole section.

### ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 27, 2002

PHSI	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
IC1	Р		DFS	00:00	02:15	2.25	884	Continued drilling shoe track and rat hole to 884m
PH	Р		DA	02:15	02:45	.50	887	Drilled 8 1/2" Hole F /- 884m to 887m (Displaced well to Flo-Pro mud)
PH	Р		CMD	02:45	03:00	.25	887	Circulated until shakers clean.
PH	Р		LOT	03:00	03:30	.50	887	Pulled into shoe, preformed FIT (Pressured up to 330 psi Mud weight 1.07 sg EMW= 1.4 sg)
PH	P		DA	03:30	24:00	20.50	1,365	Took SCRs & Choke line friction loss, Run back to bottom. Drilled F /- 887m to 1365m (TVD 701.32m)

ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jun 28, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION			
PH	Р		DA	00:00	01:00	1.00	1,385	Continued drilling 8 1/2" Hole F /- 1365m to 1385m (TVD 701.15m)			
PH	Р		CMD	01:00	01:30	.50	1,385	Circulated bottoms up. (Shakers clean)			
PH	Р		WT	01:30	06:00	4.50	1,385 Flow checked, Wiper trip back to shoe @ 872m (Hole good				
							extra drag) Tagged bottom @ 1385m, no fill on botttom. (Hole				
								good condition)			

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0
PRODUCTION HOLE (1)	21.8	Jun 27, 2002	Jun 27, 2002	192.0	8.00	887.0	1,365.0

WBM Data	COST TODAY: \$18,655 CUM. WB MUD COST: \$163,890 CUM. WBM+OBM COST: \$163										
Type:	Flo-Pro	VISCOCITY (sec/qt) : PV (cps):		60 11	API FLUID LOSS (cm3/30min) :	5	CI: K+C*1000:	72,000	SOLIDS (%vol) : H2O (%vol) :	8 92.0	
FROM:	Pit			32	FILTER CAKE (32nds inch) :	1	HARD/Ca:	400	OIL (%vol):	0	
TIME:		GEL10s/10m/100m			HTHPFL (		MBT (ppb):	2.0	SAND:	.25	
WEIGHT (sg):	1.12	(lb100sq.ft): 15	17		(cm3/30min) : HTHP CAKE		PM:	.2	PH:	9.5	
TEMP (C): Fann 3/6/100: 14 16 31 (32nds inch): PF: .1 PHPA (ppb):											
COMMENT: Ad	COMMENT: Added premix to active system to maintain volume. Treated sytem with Glydril, Polyplus & Duotec.										

Bit Data for Bit # 4 IADC #	4 1 7	Wear	I O1 D	L	B G O2	R
SIZE ("):       8.50         MANUFACTURER:       Reed         TYPE:       EPH-41-ALKDH         SERIAL #:       M-25484         DEPTH IN (m RT):       884         DEPTH OUT (m RT):	AVE WOB (k-lbs): 8 AVE RPM: 130 FLOW (gpm): 573 PUMP PRESS. (psi): 2,090 HSI (hp/sqi): 8.161	NOZZLES 1 x14 1 x14 1 x14	Drilled over the last METERAGE (m): ON BOTTOM HRS: IADC DRILL. HRS: TOTAL REVS: ROP (m/hr):	481 12.8 21.0 99,840	Calculated over the CUM.METERAGE (m) CUM. ON BOT. HRS CUM.IADC DRILL HR CUM.TOT. REVS:	481 12.8

Length (ft) :1,266.8 **BHA#4** 

D.C. (1) ANN. VELOCITY (mpm): 143 WT BLW JAR(k-lbs): STRING WT(k-lbs): 72 TRQE MAX (ft-lbs): 8,000 D.C. (2) ANN VELOCITY (mpm): 0 PICK UP WT(k-lbs): BHA WT(k-lbs): TRQE ON (ft-lbs): H.W.D.P. ANN VELOCITY (mpm): 91 87 6,000 SLK 0FF WT(k-lbs): 57 TRQE OFF (ft-lbs): 6,000 D.P. ANN VELOCITY (mpm): 91

BHA DESCRIPTION: 81/2" bit,motor,MPT,MWD,pulser,float sub,3xHWDP,jar,3xHWDP,93 Joints 5" Drill pipe,30xHWDP

TOOL DESCRIPTION	HRS	SERIAL#	COMMENT
Motor MPT Tool RLL Tool	0.0	675188 DM-01540 M3 DM-1537 HNRL	
Pulser Jars		DM-01528 K6 DAH-2122	

Survey		MD	TVD	INCL	ΑZ	CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type :	MWD	(mBRT)	(mBRT)	DEG	(deg)	AZ (dog)	SECT	(deg/ 30m)	(m)	(m)	
Mannatia Daglinatian	. 000					(deg)	(m)	30111)			
Magnetic Declination : 0.00		1,281	701	90.98	232.	232.7	756.1	1.49	-469.3	-592.8	MWD
Survey method: M	/lin Curvature	1,310	701	89.67	232.	232.7	785.0	1.36	-486.8	-615.8	MWD
		1,339	701	89.82	233.	233.4	814.0	0.71	-504.2	-639.0	MWD
		1,368	701	90.46	234.	234.0	843.0	0.93	-521.5	-662.4	MWD

**Bulk Stocks On Rig** STOCK TYPE START USED REC'D STOCK Barite 336 336 SX Bentonite SX 1546 1546 2166 G-neat SX 2166 G+35% SiFI SX 0 G+BFS+12.25% SiFI SX 0 24 Pot Water М3 98 24 98 Drill Water 587 107 М3 480 Heli-fuel ltr 1882 285 1597 Base Oil М3 0 Rig Fuel М3 439 12 427 Brine МЗ 64 64

Ρι	Pump Data											
	P	ump Da	ta - la		Slow Pump Data							
#	TYPE	LNR	SPM	EFF	Flow	SPP	SPM	SPP	DEPTH	MW		
		(")		(%)	(gpm)	(psi)		(psi)	(mBRT)	(ppg)		
1	National 1	6.00	64	97	286	2090	30	240	1180	9.3		
2	National 1	6.00	54	97	287	2090	40	310	1180	9.3		
3	National 1	6.00	0	97	0	2090	50	385	1180	9.3		

Casing						
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE TVD (plan/Actual)	LOT (pl/Act)	FIT (pl/Act)	COMMENT
9.5/8 "	9.625	872.4	700.0			Mixed and pumped 378 sx og G cement, 78 bbls of slurry @ 1.89 sg. Displaced and bumped plug pressue tested casing to 3000 psi.

TYPE	LNGTH (m)	CSG OD (")	WT lbs/ft	GRD	THREAD
Well head X/over (NK3SB Pin x New Vam Box) Pup Joint Pup Joint 9 5/8" Casing Float Joint	2.35 3.17 3.07 3.07 746.58 13.17	8.575 8.575 8.575 8.575 8.575 8.575	47.0 47.0 47.0 47.0 47.0	L-80 L-80 L-80 L-80 L-80	New Vam Vam x NK3 NK3SB NK3SB NK3SB NK3SB
Intermeniate Joint Shoe Joint	12.04 12.54	8.575 8.575	47.0 47.0	L-80 L-80	NK3SB NK3SB

D	ore	۸n	nol	٥n	Site	-01

JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr) Drilling Supervisor (Nigh	G. Howard G. Othen	OMV Service Company	7 26
Drilling Engineer	P. Zehetleitner	Diamond Offshore	50
Geologist Geologist	R. Tolliday P. Boothby	Catering	8
Geologist	R. Leech		

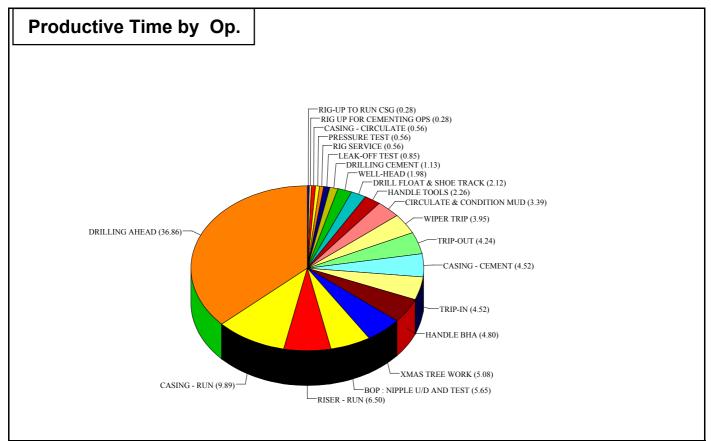
Patricia-2 VIC/L21

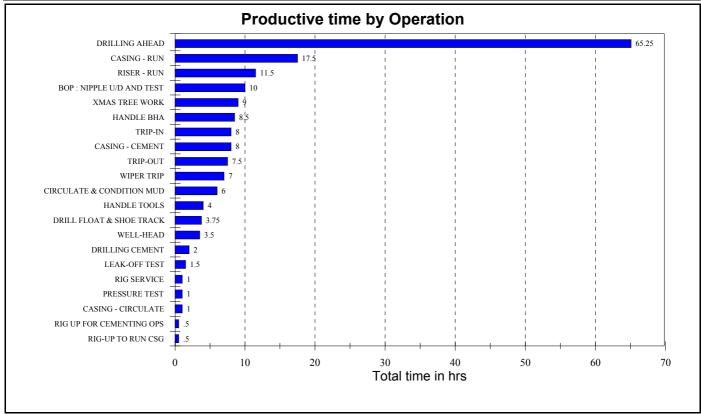
Shakers, \	/olun	nes an	d Los	ses D	ata							ENGINE	ER D. Dixon / G Garrio	·k
SHAKER 1 SHAKER 2 SHAKER 3 SHAKER 4 SHAKER 5	120 x 120 x 84 x 84 x	< 4 <4 4		<b>⁄IE AVA</b> E 4 3		E (bbl) = MIXIN SLUG HEAV	G	1412	DC SU	NW	ES (bbl) = 1253 IHOLE + EQUIP 0.00 ED 1,253.00	COMMEN		JI.
Anchors	A A				A 2 A7	260 170			\ 3 \8	185		365	A 5 1	55
Workboat	S	Location	Fuel (M3)	Barite (sx)	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent (sx)	Brine (M3)		Weather VISIBILITY(nm)	12	Rig / Sea Data	232
Pacific Sentin Pacific Conq		To Gee At Rig	349 441	1190	250 640	165 200		300			WIND SP. (kts) WIND DIR (deg) PRES.(mbars) AIR TEMP (C)	40.0 330 1004 15.0	VDL (mt) WAVES (m) SWELL (m)	1,990 1.9 1.8

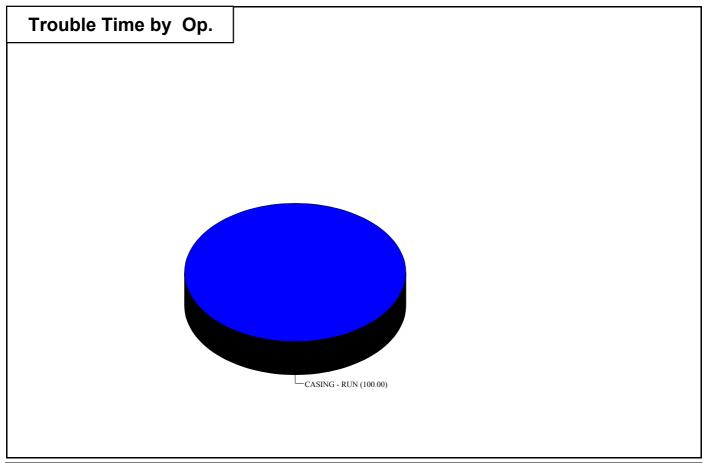
Total move time (hrs) Total time on well excluding move (hrs) 14.50 Total prod. time since spud (hrs):
Total troub. time since spud (hrs)

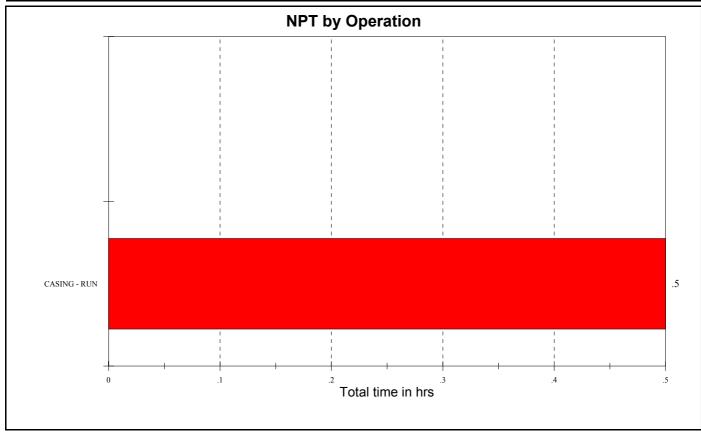
177.00 0.50

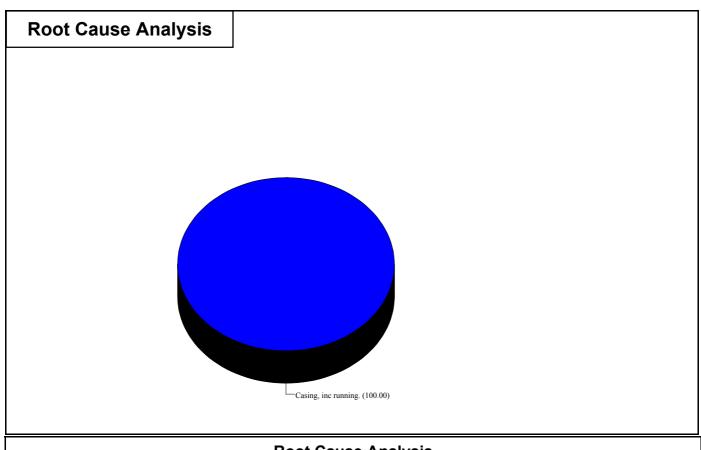
177.50 % Trouble time 0.28

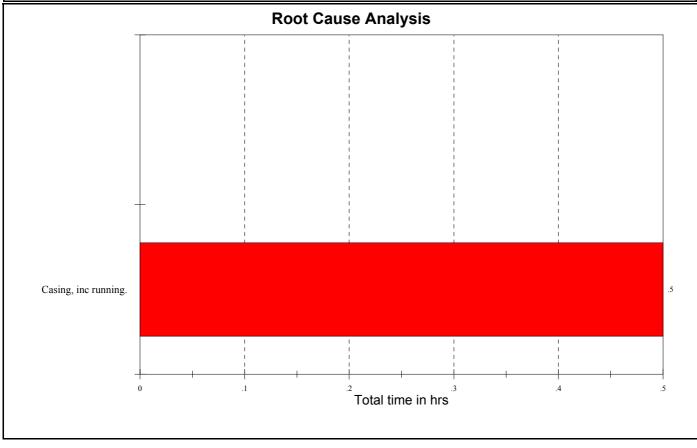




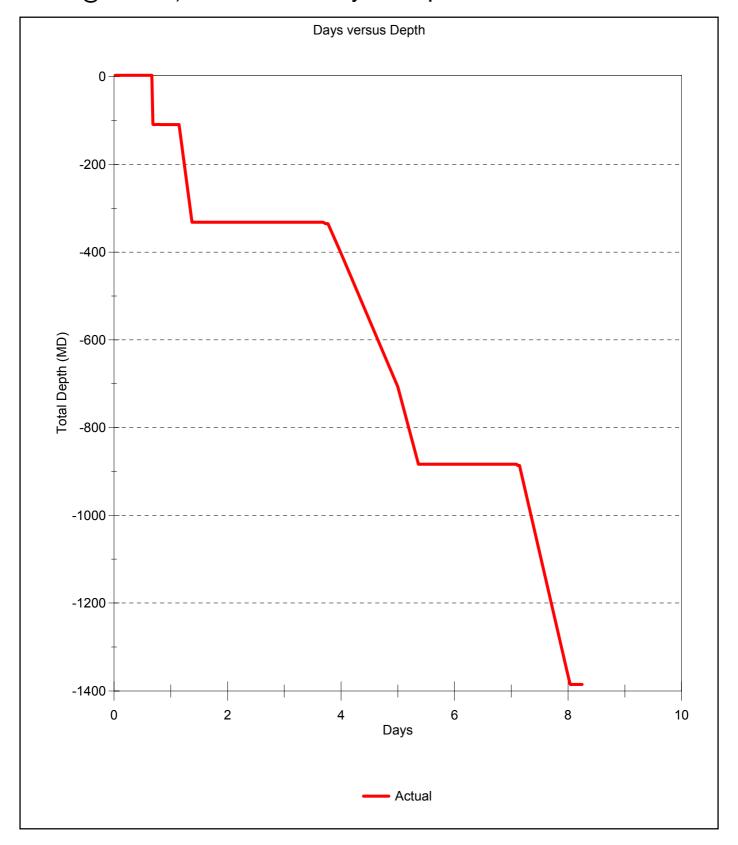








DEPTH @ 24:00 = 1,365.0 m after 8.00 days since spud



# DAILY DRILLING REPORT # 9

DATE Jun 28, 2002 FROM: G. Howard / Zehetleitner TO: C. Allport / R. King

Patricia-2 VIC/L21

Well Data	DEPTH (mBRT)	1,385.0	CUR. HOLE SIZE (")	8.50	AFE COST \$	11,852,851	
COUNTRY AUSTRALIA FIELD GIPPSLAND SUB-BASIN DRILL CO. DIAMOND OFFSHORE	` ,	701.2 20.0 9.00	CASING OD (") SHOE TVD (mBRT) FIT (sg)	9.5/8 " 700 1.40	AFE BASIS : DAILY COST : CUM COST :	C&S \$1,597,187.00 \$6,223,807.00	
RIG OCEAN BOUNTY	DAYS +/- CURVE	-2.70	LOT (sg)	0.00		, , ,	
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 0600 Running production liner on drill pipe to TD.  PLANNED OP. Set liner hanger. Release running tool & washpipe and pull out of hole. Run completion.						

### Summary of period 0000 to 2400 hrs

Drilled 8 1/2" Hole to TD at 1385m MD. Circulated clean & flow checked. Wiper Trip to 9 5/8" casing shoe.

Ran 6 5/8" production liner (sand screens) w/ linerhanger & inner washpipe on drill pipe to 790m.

#### ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 28, 2002

PHSE	CLS	RC	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
PH	Р		DA	00:00	01:00	1.00	1,385	Continued drilling 8 1/2" Hole F /- 1365m to 1385m (TVD 701.15m)
PH	Р		CMD	01:00	01:30	.50	1,385	Circulated bottoms up. (Shakers clean). Flow checked.
PH	Р		WT	01:30	06:00	4.50	1,385	Wiper trip back to shoe. Flowcheck at 9 5/8" shoe. RIH to bottom. Broke circulation @ 1370m. Tagged bottom. No fill. Hole in good shape. TQ&Drag@ TD: TQ:7k(10 rpm), 7k(20), 7k(30) - Drag: PU WT 220k SO WT 200k.
PH	Р		CMD	06:00	06:30	.50	1,385	Circulated & spotted Flo Pro SF from 1385 to 720m
PH	Р		ТО	06:30	09:00	2.50	1,385	Flow checked. Pulled out of hole from 1385 to 760m. Flow check @ 9 5/8" shoe.
PH	P		CMD	09:00	10:00	1.00	1,385	Pumped pre-wash pill & circulated hole to 1.08 SG KCL Brine.
PH	Р		ТО	10:00	13:00	3.00	1,385	Continued to pull out of hole. Flow check prior to BOPs, LD jars, removed radioactive source and downloaded FEWD data. LD PDM.
PH	P		RRC	13:00	14:00	1.00	1,385	Rigged up to run 6.625" production liner (sand screens). Held JSA.
PH	Р		CRN	14:00	19:00	5.00	1,385	RU & ran 6.625" production liner (Excluder 2000 sand screens).
PH	Р		RRC	19:00	20:30	1.50	1,385	PU XOs & 3 jts blank 7" liner. Rigged up to run 2.875" inner wash string. Held JSA. Repaired power tong.
PH	Р		CRN	20:30	24:00	3.50	1,385	Ran 2.875" inner wash string to 490m.

#### ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jun 29, 2002

PHSE	CLS	RC	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
PH	Р		CRN	00:00	03:30	3.50	1,385	Ran 2.875" inner wash string & landed on no go. Spaced out with required pup joints.
PH	Р		CRN	03:30	04:15	.75	1,385	Held JSA. Picked up liner hanger/packer assembly with running tool installed and made up tail pipe to the 2 7/8" inner wash string.
PH	Р		CRN	04:15	04:30	.25	1,385	Ran in hole with liner on 5" drill pipe to 545m.
PH	Р		CMD	04:30	05:00	.50	1,385	Circulated liner volume with un-inhibited clean brine. Checked for leaks.
PH	Р		CRN	05:00	06:00	1.00	1,385	Continued to run in hole liner on drill pipe to 790m.

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0
PRODUCTION HOLE (1)	45.8	Jun 27, 2002	Jun 28, 2002	216.0	9.00	887.0	1,385.0

WBM Data	COST T	ODAY: \$6,040 CUM. WE	B MUD COST: \$169,930	\$169,930 CUM. WBM+OBM COST: \$169,930			
Type:  FROM: TIME: WEIGHT (sg): TEMP (C):	Pit 15:00	VISCOCITY (sec/qt): PV (cps): YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): Fann 3/6/100:	API FLUID LOSS (cm3/30min): FILTER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	CI: K+C*1000: HARD/Ca: MBT (ppb): PM: PF:	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA (ppb):		

Bit Data for Bit # 4 IADC #	4 1 7	Wear	I O1 D 1 2 WO 0	L B G O2 G E I WT	R TD
SIZE ("):       8.50         MANUFACTURER:       Reed         TYPE:       EPH-41-ALKDH         SERIAL #:       M-25484         DEPTH IN (m RT):       884         DEPTH OUT (m RT):       1385	AVE WOB (k-lbs): 13 AVE RPM: 13 FLOW (gpm): 58 PUMP PRESS. (psi): 1,75 HSI (hp/sqi): 8.16	0 1 X14 0 X	Drilled over the last 24 h METERAGE (m): ON BOTTOM HRS: IADC DRILL. HRS: TOTAL REVS: 7,8	Calculated over the CUM.METERAGE (m) CUM. ON BOT. HRS CUM.IADC DRILL HR CUM.TOT. REVS:	501 13.8

BHA #4 Leng	gth (f	t) :1,266.8				D.C. (1) ANN. VELOCITY (mpm):	143
WT BLW JAR(k-lbs):		STRING WT(k-lbs):	220	TRQE MAX (ft-lbs):	7,000	D.C. (2) ANN VELOCITY (mpm):	0
BHA WT(k-lbs):	16	PICK UP WT(k-lbs):	220	TRQE ON (ft-lbs):	6,000	H.W.D.P. ANN VELOCITY (mpm):	91
		SLK 0FF WT(k-lbs):	200	TRQE OFF (ft-lbs):	6,000	D.P. ANN VELOCITY (mpm):	91

BHA DESCRIPTION: 81/2" bit,motor,MPT,MWD,pulser,float sub,3xHWDP,jar,3xHWDP,93 Joints 5" Drill pipe,30xHWDP

TOOL DESCRIPTION	HRS	SERIAL#	COMMENT
Motor MPT Tool RLL Tool	27.0	675188 DM-01540 M3 DM-1537 HNRL	
Pulser Jars		DM-01528 K6 DAH-2122	

Survey		MD	TVD	INCL	ΑZ	CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type :	MWD	(mBRT)	(mBRT)	DEG	(deg)	AZ (deg)	SECT (m)	(deg/ 30m)	(m)	(m)	
Magnetic Declination	on: 0.00	1,281	701	90.98	232.	232.7	756.1	1.49	-469.3	-592.8	MWD
Survey method:	Min Curvature	1,310	701	89.67	232.	232.7	785.0	1.36	-486.8	-615.8	MWD
		1,339	701	89.82	233.	233.4	814.0	0.71	-504.2	-639.0	MWD
		1,368	701	90.46	234.	234.0	843.0	0.93	-521.5	-662.4	MWD

Bulk Stocks On Rig											
STOCK TYPE		START	USED	REC'D	STOCK						
Barite	SX	336			336						
Bentonite	SX	1546			1546						
G-neat	SX	2166			2166						
Pot Water	М3	98	26	163	235						
Drill Water	М3	587	55		532						
Heli-fuel	ltr	1882	1115		767						
Base Oil	М3				0						
Rig Fuel	М3	439	8		431						
Brine	М3	64			64						

Ρι	Pump Data												
	Pump Data - last 24 hrs Slow Pump Data												
# 1 2 3	TYPE	LNR	SPM	EFF	Flow	SPP	SPM	SPP	DEPTH	MW			
		(")		(%)	(gpm)	(psi)		(psi)	(mBRT)	(ppg)			
1	National 1	6.00	64	97	286	2090	30	240	1180	9.3			
2	National 1	6.00	54	97	287	2090	40	310	1180	9.3			
3	National 1	6.00	0	97	0	2090	50	385	1180	9.3			

Patricia-2 VIC/L21

Casing											
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE T\ (plan/Actu		LOT (pl/Act)		FIT (pl/Act)		COMMENT		
9.5/8 "	9.625	872.4		700.0			bbls of slurry (			mped 378 sx og G cement, 78 ② 1.89 sg. Displaced and pressue tested casing to 3000	
		TYPE	LNGTH (m)	CSG OD	WT lbs/ft	(	GRD	THREAD			
Pup Join Pup Join 9 5/8" Ca Float Joi	NK3SB Pin t t asing nt liate Joint	x New Vam Box)	2.35 3.17 3.07 3.07 746.58 13.17 12.04 12.54	8.575 8.575 8.575 8.575 8.575 8.575 8.575 8.575	47.0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	         	80 80 80 80 80 80 80	Vá	lew Vam am x NK3 NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB		

Personnel : on Site =92			
JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr) Drilling Supervisor (Nigh Drilling Engineer Geologist Geologist Geologist	G. Howard G. Othen P. Zehetleitner R. Tolliday P. Boothby R. Leech	OMV Service Company Diamond Offshore Catering	8 28 48 8

Safety, Inspe	fety, Inspections and Drills					mary				
Anchors	A 1 320 A 6 205		A 2 A7	260 170		A 3 A8	185 200	A 4 369	6 A 5	155
Workboats	Location	Fuel Barite	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent Brine (sx) (M3)		Weather VISIBILITY(nm) 8	Rig / Sea Date RIS.TENS (klbs)	232
Pacific Sentinel Pacific Conquero	To Rig or At Rig	349 1190 434	250 640	165 194		300		WIND SP. (kts) 40.0 WIND DIR (deg) 200 PRES.(mbars) 1019 AIR TEMP (C) 13.0	VDL (mt) WAVES (m) SWELL (m)	1,990 2.4 4.3

Patricia-2 VIC/L21

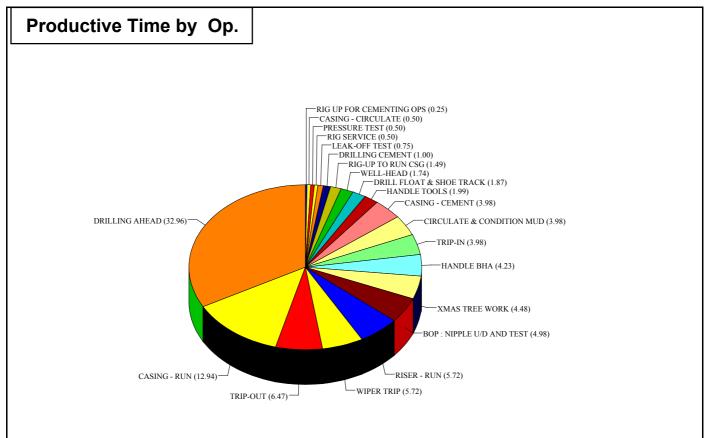
201.00

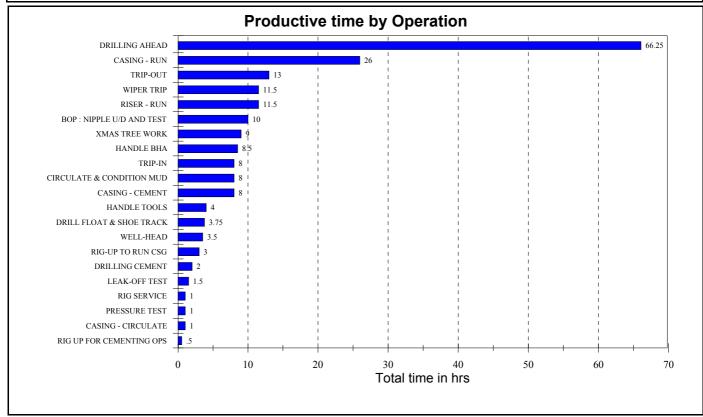
**Total move time (hrs)** Total time on well excluding move (hrs)

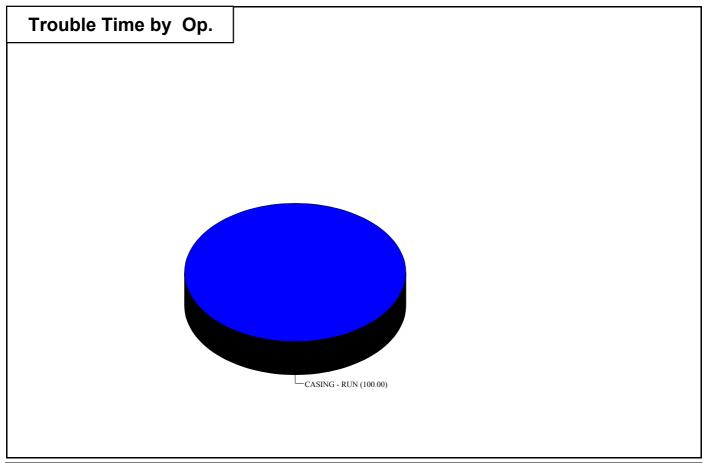
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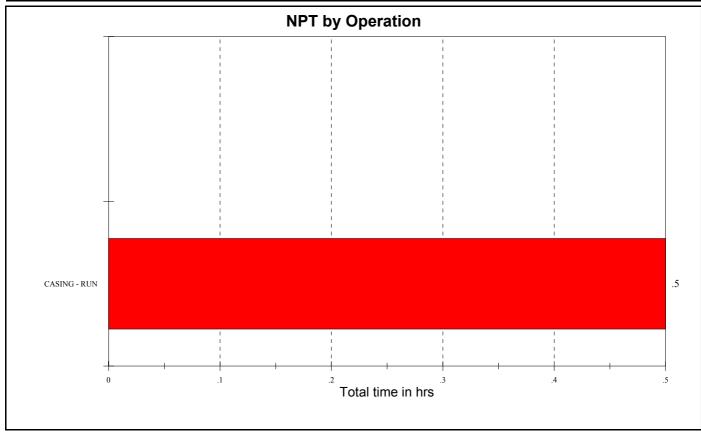
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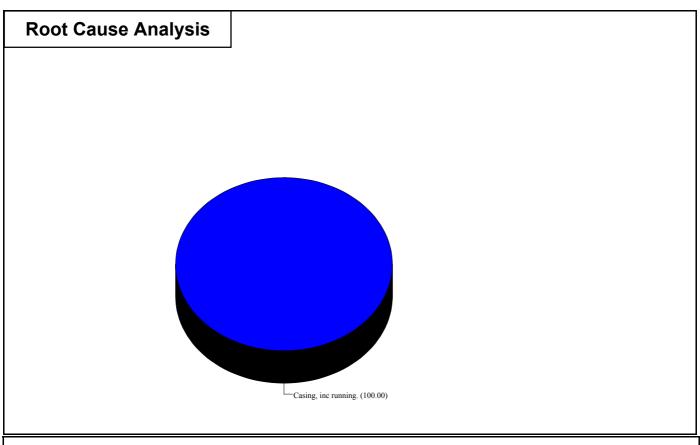
201.50 % Trouble time 0.25

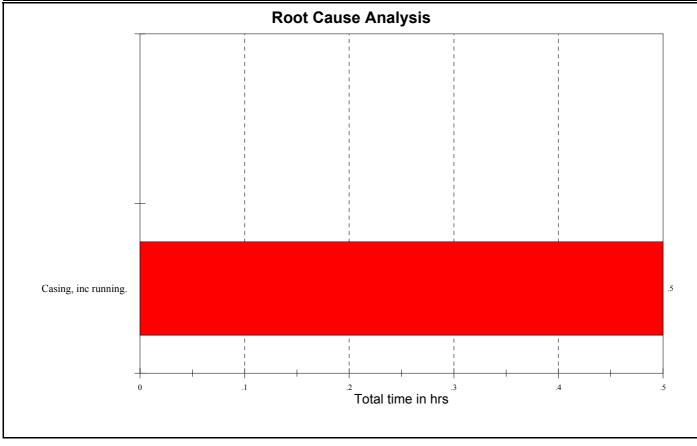




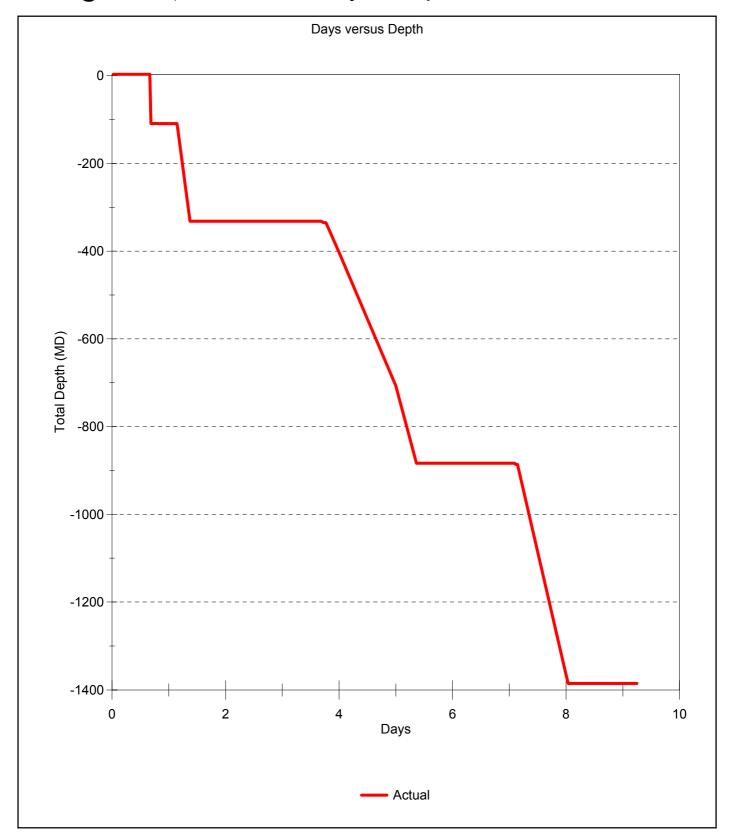








DEPTH @ 24:00 = 1,385.0m after 9.00 days since spud



# **DAILY DRILLING REPORT # 10**

DATE Jun 29, 2002 FROM: G. Howard / Zehetleitner TO: C. Allport / R. King

Patricia-2 VIC/L21

Well Data  COUNTRY AUSTRALIA FIELD GIPPSLAND SUB-BASIN DRILL CO. DIAMOND OFFSHORE RIG OCEAN BOUNTY	DEPTH (mBRT) TVD (mBRT) PROGRESS (m) DAYS ON WELL DAYS +/- CURVE	1,385.0 701.2 0.0 10.00 -2.25	CUR. HOLE SIZE (") CASING OD (") SHOE TVD (mBRT) FIT (sg) LOT (sg)	8.50 9.5/8 " 700 1.40 0.00	AFE COST \$ AFE BASIS: DAILY COST: CUM COST:	11,852,851 C&S \$435,428.00 \$6,659,235.00
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 0600 PLANNED OP.		oletion & space out.  pletion and prepare to tes	t.		

#### Summary of period 0000 to 2400 hrs

Ran production liner (sand screens) w/ packer & hanger on drill pipe to 1380m. Cleaned up open hole. Tried to set packer & hanger without success. Released running tool and POOH. Ran back again w/ tieback-sealing assembly and set packer & hanger mechanically.

#### ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 29, 2002

- 2	TO III VI	CTIVITITION I ENIOD 0000 TING TO 2400 TING ON COM							0411 20, 2002
	PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
	PC	Р		CRN	00:00	03:30	3.50	1,385	Ran 2.875" inner wash string & landed on no go. Spaced out with required pup joints.
	PC	Р		CRN	03:30	04:15	.75	1,385	Held JSA. Picked up liner hanger/packer assembly with running tool installed and made up tail pipe to the 2 7/8" inner wash string.
	PC	Р		CRN	04:15	04:30	.25	1,385	Ran in hole with liner on 5" drill pipe to 545m.
	PC	Р		CMD	04:30	05:00	.50	1,385	Circulated liner volume with un-inhibited clean brine. Checked for leaks.
	PC	Р		CRN	05:00	07:30	2.50	1,385	Continued to run in hole. PU stand w/ side entry sub & tagged bottom at 1383.5m. 1.5m fill.
	PC	Р		CIC	07:30	12:00	4.50	1,385	Pulled back 10m, RU cement hose and circulated in 25 bbls HI-VIS pill, 324 bbl 1.08 SG un-inhibited brine. Pumped & spotted 160 bbls wellzyme across open hole. Pressure tested cement line w/ 5000 psi for 5 min. Dropped ball.
	PC	TP	PKR	RPK	12:00	15:00	3.00	1,385	Displaced ball with clear un-inhibited brine. Ball landed with 850 psi after 22.6 bbl. Applied shear pressure of 2500 psi to set SLZXP packer & hanger and held pressure for 10 min. No indication on pick up weight that packer & hanger has been set. Bled off pressure. Tried to pressure test annulus w/ 1500 psi without success. Applied 2600 psi on dp and checked PU weight. No indication for setting. Applied 3800 psi to initiate second shear to pump out ball seat and checked PU weight. No indication. Decided to run to bottom to put string into compression and released running tool by applying 6,000 ft*lbs torque on left-hand turn.
	PC	TP	PRF	ТО	15:30	17:15	1.75	1,385	POOH and laid down running tool. Indications that string was put into compression while applying first shear pressure of 2500 psi due to big heaves accidentaly, which released running tool before packer & hanger could be set.
	PC	Р		ТО	17:15	20:30	3.25	1,385	POOH and laid down 54 jts of 2.875" wash pipe.
	PC	TP	PKR	⊣BHÆ	20:30	22:00	1.50	1,385	MU tie-back/sealing assembly - XN shoulder plus sealing elements on drill pipe w/ 300m of 5" HWDP's and 2 stands of 8" DC's- to set packer & hanger mechanically.
	PC	TP	PKR	TI	22:00	24:00	2.00	1,385	Ran in hole with tie-back/seal assembly to 800m.

ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jun 30, 2002

710111	<u> </u>	<u> </u>		<del>, 0000 .</del>	1110 10	, 0000	<u> </u>	
PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
PC	TP	PKR	TI	00:00	01:00	1.00	1,385	Continued to run in hole to top of PBR.
PC	TP	PKR			01:30	.50	1,385	Landed out tieback-sealing assembly on PBR, applied 60klbs pushdown weight, rotated 1 turn right and set packer & hanger mechanically. Clear weight indication. Pressure tested annulus w/ 1500 psi. for 10 min. ok.
PC	TP	PKR	TO	01:30	03:30	2.00	1,385	POOH & SLM running string on the way out.
СТВ	Р		TI	03:30	06:00	2.50	1,385	MU jet & wear bushing retrieving tool. RIH, retrieved wear bushing and jetted out Xmas Tree tubing hanger profile and BOP. POOH and laid down wear bushing.

#### Patricia-2 VIC/L21

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0
PRODUCTION HOLE (1)	34.8	Jun 27, 2002	Jun 28, 2002	205.0	8.54	887.0	1,385.0
PRODUCTION CSG/LNR(1)	34.5	Jun 28, 2002	Jun 29, 2002	239.5	9.98	1,385.0	1,385.0

CUM. WBM+OBM COST: \$189,801 **WBM** Data COST TODAY: \$19,871 CUM. WB MUD COST: \$189,801 Type: **API FLUID LOSS** VISCOCITY (sec/qt): CI: SOLIDS (%vol): (cm3/30min): H2O (%vol): K+C\*1000: PV (cps): FILTER CAKE OIL (%vol): FROM: HARD/Ca: YP (lb100sq.ft): (32nds inch): SAND: HTHPFI GEL10s/10m/100m TIME: MBT (ppb): (cm3/30min): WEIGHT (sg): (lb100sq.ft): PH: PM: HTHP CAKE TEMP (C): Fann 3/6/100: PF: PHPA (ppb): (32nds inch):

**BHA#4** Length (ft):

0 D.C. (1) ANN. VELOCITY (mpm): WT BLW JAR(k-lbs): TRQE MAX (ft-lbs): D.C. (2) ANN VELOCITY (mpm): 0 STRING WT(k-lbs): BHA WT(k-lbs): PICK UP WT(k-lbs): TRQE ON (ft-lbs): H.W.D.P. ANN VELOCITY (mpm): 0 TRQE OFF (ft-lbs): D.P. ANN VELOCITY (mpm): SLK 0FF WT(k-lbs): 0

**BHA DESCRIPTION:** 

**TOOL DESCRIPTION** HRS SERIAL# COMMENT

Survey INCL CORR. **DOGLEG** E/W TOOL TYPE MD TVD ΑZ N/S **SECT** (mBRT) (mBRT) DEG (deg) ΑZ (deg/ (m) (m) **MWD** Last Tool Type: (deg) 30m) (m) Magnetic Declination: 0.00 1,281 701 90.98 232. 232.7 756.1 1.49 -469.3 -592.8 MWD Survey method: -486.8 MWD Min Curvature 1,310 701 89.67 232. 232.7 785.0 1.36 -615.8 1,339 701 89.82 233 233.4 814.0 0.71 -504.2 -639.0 MWD 1,368 701 90.46 234 234.0 843.0 0.93 -521.5 -662.4 MWD

Bulk Stocks On Rig											
STOCK TYPE		START	USED	REC'D	STOCK						
Barite	SX	336			336						
Pot Water	М3	98	27	27	98						
Drill Water	M3	424	111		313						
Heli-fuel	ltr	482	888	2750	2344						
Rig Fuel	М3	418	7		411						
Brine	М3	64	64		0						

Ρι	Pump Data												
Ш	P	ump Da	ta - la	Slow Pump Data									
#	TYPE	LNR	SPM	EFF	Flow	SPP	SPM	SPP	DEPTH	MW			
		(")		(%)	(gpm)	(psi)		(psi)	(mBRT)	(ppg)			
1	National 1	6.00	0	97	0	0	30	240	1180	9.3			
2	National 1	6.00	47	97	93	680	40	310	1180	9.3			
3	National 1	6.00	0	97	0	0	50	385	1180	9.3			

Safety, Inspections and Drills

DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE T\ (plan/Actu	<b>I</b>	LOT (pl/Act)	1 .	TT (Act)	COMMENT  Mixed and pumped 378 sx og G cement, 78 bbls of slurry @ 1.89 sg. Displaced and bumped plug pressue tested casing to 3000 psi.			
9.5/8 "	9.625	872.4		700.0		1.40	1.40				
	Т	YPE	LNGTH (m)	CSG OD (")	WT lbs/ft	GRD	Т	HREAD			
Pup Join Pup Join 9 5/8" Ca Float Joi	NK3SB Pin a to to asing nt liate Joint	x New Vam Box)	2.35 3.17 3.07 3.07 746.58 13.17 12.04 12.54	8.575 8.575 8.575 8.575 8.575 8.575 8.575 8.575	47.0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	L-80 L-80 L-80 L-80 L-80 L-80 L-80 L-80	Va	New Vam am x NK3 NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB			

Personnel : on Site =95			
JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr)	G. Howard	OMV	5
Drilling Supervisor (Nigh	G. Othen	Service Company	34
Drilling Engineer	P. Zehetleitner	Diamond Offshore	48
Geologist	R. Tolliday	Catering	8
Geologist	P. Boothby		
Geologist	R. Leech		

Shakers, Volumes and Losses Data ENGINEER Graeme Garrick											
SHAKER 1 4x120 SHAKER 2 4x120	VOLUME AVAILABI	` ,	1108	LOSSES (bbl) =	212	COMMENTS					
SHAKER 3 4x84 SHAKER 4 4x84	ACTIVE 403 HOLE 405	MIXING SLUG		DOWNHOLE SURF. + EQUIP	0.00	400 bbls of brine was filtered to appx. 35 NTU's for future use as inhibited brine.					
SHAKER 5	RESERVE 300	HEAVY		DUMPED	212.00	Dille.					

**Summary** 

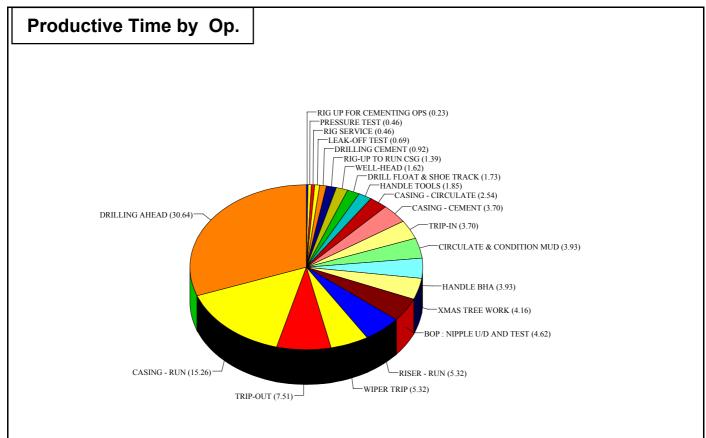
7 111011010	A 1 A 6	320 205			A 2 A7	260 170			A 3 A8	185 200	A	4	365	A 5 18	55
Workboats  Pacific Sentinel Pacific Conquero	a	cation t Rig t Rig	(M3)	Barite (sx) 1190	D/wtr (M3) 240 640	P/wtr (M3) 545 190	Cmt (sx)	Bent (sx) 300	Brine (M3)		Weather VISIBILITY(nm) WIND SP. (kts) WIND DIR (deg) PRES.(mbars)	35.	0	Rig / Sea Data RIS.TENS (klbs) VDL (mt) WAVES (m) SWELL (m)	232 1,883 2.4 4.6
											AIR TEMP (C)	12.	0		

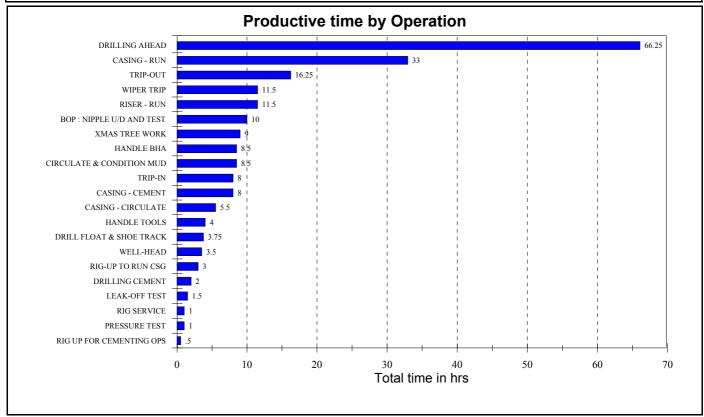
**Total move time (hrs)** Total time on well excluding move (hrs)

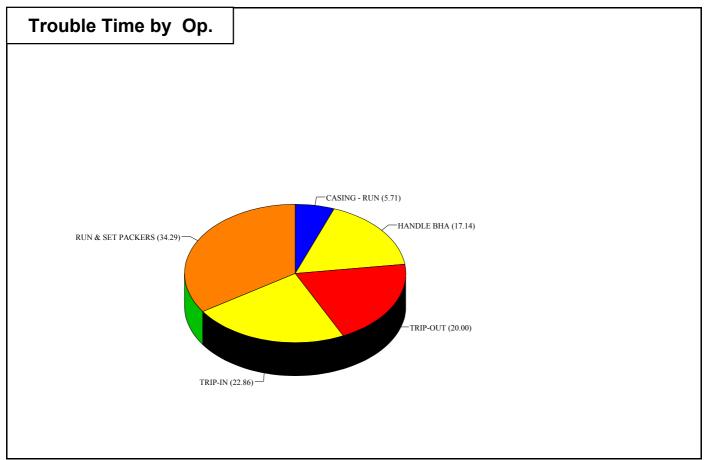
14.50 Total prod. time since spud (hrs): Total troub. time since spud (hrs) 225.00

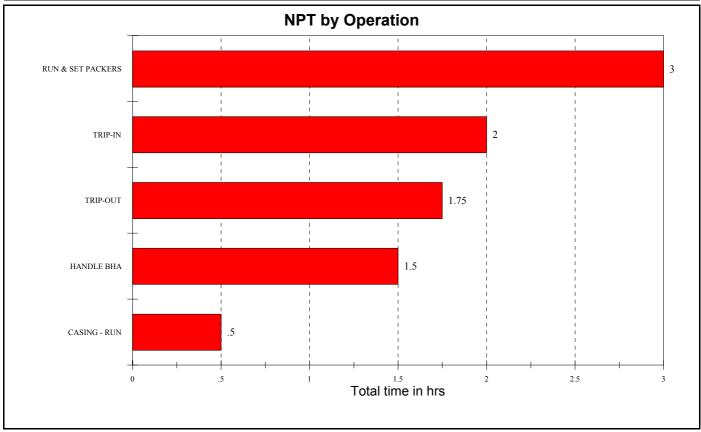
216.25 8.75

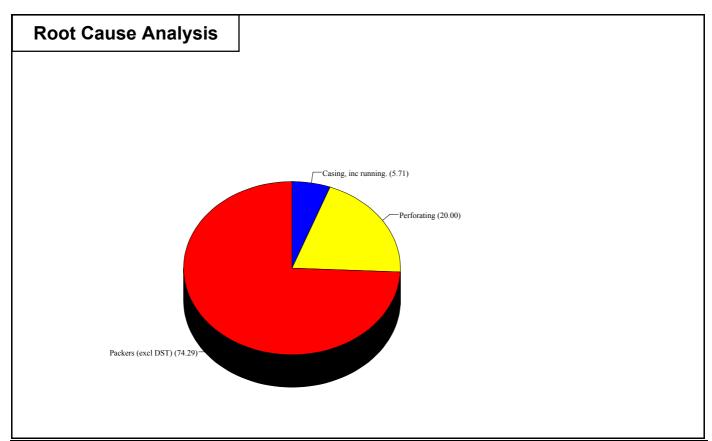
% Trouble time 3.89

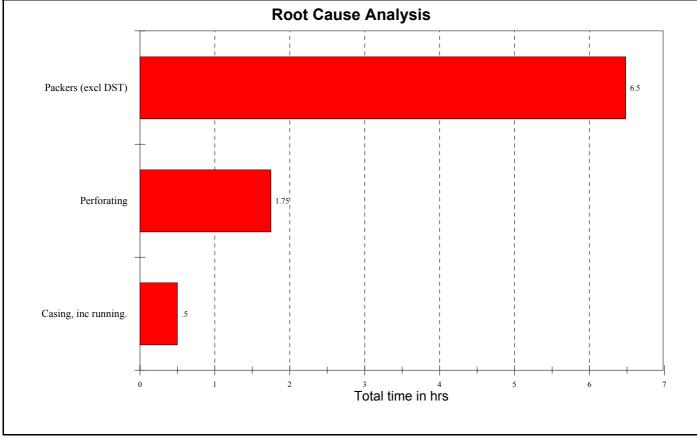




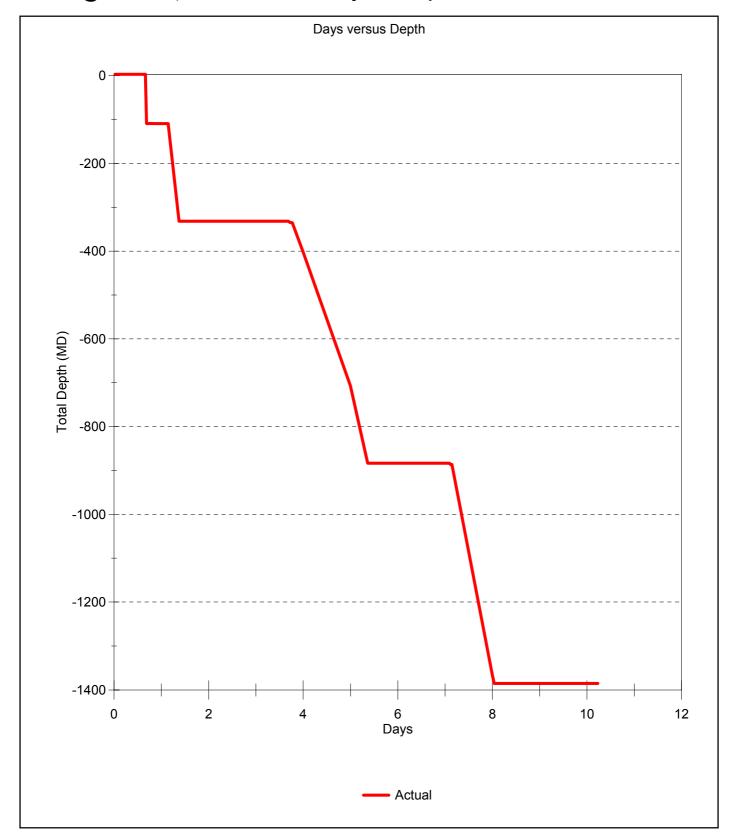








DEPTH @ 24:00 = 1,385.0 m after 10.00 days since spud



# **DAILY DRILLING REPORT # 11**

DATE Jun 30, 2002 FROM: G. Howard / Othen TO: C. Allport / R. King

Patricia-2 VIC/L21

Well Data	DEPTH (mBRT)	1,385.0	CUR. HOLE SIZE (")	8.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	701.2	CASING OD (")	9.5/8 "	AFE BASIS :	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	0.0	SHOE TVD (mBRT)	700	DAILY COST :	\$395,008.00
DRILL CO. DIAMOND OFFSHORE	DAYS ON WELL	11.00	FIT (sg)	1.40	CUM COST :	\$7,054,243.00
RIG OCEAN BOUNTY	DAYS +/- CURVE	-2.60	LOT (sg)	0.00		
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 0600 PLANNED OP.		g to land tubing hanger. ng hanger and proceed w	vith wire lir	ne work. Run coile	d tubing and

#### Summary of period 0000 to 2400 hrs

Ran tie back seal assy on DP, landed out on PBR and mechanically set liner hanger and packer. Ran 5 1/2" NK3SB Tubing and made up tubing hanger. Rigged up Coiled Tubing lifting frame. Made up SSTT on 7" landing joint and landed tie back assy in liner hanger PBR. Prepared to land tubing hanger.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jun 30, 2002

DUCE	010	DO	0.0	EDO! 4	ΤΩ	LIDC	DEDTU	A OTIVITY DECODIDITION
PHSE				FROM		HRS	DEPTH	ACTIVITY DESCRIPTION
PC	TP	PKR	TI	00:00	01:00	1.00	1,385	Continued to run in hole to top of PBR.
PC	TP	PKR	RPK	01:00	01:30	.50	1,385	Landed out tieback-sealing assembly on PBR, applied 60klbs pushdown weight, rotated 1 turn right and set packer & hanger mechanically. Clear weight indication. Pressure tested annulus w/ 1500 psi. for 10 min. ok.
PC	TP	PKR	TO	01:30	03:30	2.00	1,385	POOH & SLM running string on the way out.
СТВ	Р		HT	03:30	06:00	2.50	1,385	MU jet & wear bushing retrieving tool. RIH, retrieved wear bushing and jetted out Xmas Tree tubing hanger profile and BOP. POOH and laid down wear bushing.
СТВ	Р		RTB	06:00	06:30	.50	1,385	Held JSA. PU 7 1/2" seal assembly w/ No-Go & XO to 5 1/2" NK3SB tubing.
СТВ	Р		RTB	06:30	10:30	4.00	1,385	RIH w 5 1/2" NK3SB tubing to 683m.
СТВ	Р		ED	10:30	10:45	.25	1,385	Fire and Abandon Rig Safety Drill.
СТВ	Р		RTB	10:45	11:30	.75	1,385	PU & MU TRSCS-safety valve assembly. Installed & pressure tested control line & swage lock to 5,000 psi for 10 min.
СТВ	Р		RTB	11:30	12:30	1.00	1,385	Continued to RIH w/ 5 1/2" tubing, making up across coupling control line protectors every connection and mid joint protectors every mid joint.
СТВ	Р		RTB	12:30	13:15	.75	1,385	Spaced out tubing w/ pupjoints and stabbed tubing w/ seal assembly 3.5m into upper PBR. (842.9 mRT).
СТВ	Р		RTB	13:15	16:30	3.25	1,385	PU & MU tubing hanger. Installed 1/2"x1/4" swage lock fitting to the control line and the tubing hanger. Pressure tested the control line and the swage lock fittings to 5,000 psi for 10 min. ok. MU tubing hanger running tool to the tubing hanger and sub sea test tree. Connected umbilical to the SSTT and the tubing hanger running tool. Pressure tested the umbilical and the control line to the TRSSV with 5,000 psi for 10min. ok.
СТВ	Р		RTB	16:30	19:00	2.50	1,385	Made up SSTT on 7" Landing joint, picked up SSLV made up to landing joint. RIH with 4 space out pup joints and 7" landing joint, make up circulating sub and landed tie back assembly in liner hanger PBR with pumps ticking over. Space out tubing hanger. POOH and laid out landing joint.
СТВ	Р		СТО	19:00	20:30	1.50	1,385	Held JSA, Rigged up Coil Tubing lift frame
СТВ	Р		СТО	20:30	23:00	2.50	1,385	Picked up and made up Flow head, installed coflex hose and cement hose.
СТВ	Р		СТО	23:00	24:00	1.00	1,385	RIH to 3m above land out. Rigged up and prepared flow head to land out.

#### ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jul 01, 2002

PH	HSE	CLS	RC	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
С	TB	Р		СТО	00:00	01:00	1.00	1,385	Continued to prepare flow head.

_									
	PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
	СТВ	Р		PT	01:00	03:00	2.00	·	Pressure tested Lubricator valve 3500 psi, 10 min. Pressure tested flow head and flow line against choke manifold and Sub sea lubricator valve 3500 psi.
	CTB	Р		RU	03:00	04:00	1.00	1,385	Rigged up BOP Lubricator, and installed on flow head.
	CTB	Р		CMD	04:00	05:00	1.00	1,385	Circulated 270 bbls of clean filtered inhibited completion brine.
	СТВ	Р		PT	05:00	06:00	1.00	1,385	Attempting to land tubing hanger.

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0
PRODUCTION HOLE (1)	34.8	Jun 27, 2002	Jun 28, 2002	205.0	8.54	887.0	1,385.0
PRODUCTION CSG/LNR(1)	38.0	Jun 28, 2002	Jun 30, 2002	243.0	10.13	1,385.0	1,385.0
COMPLETION/TIE-BACK	20.5	Jun 30, 2002	Jun 30, 2002	263.5	10.98	1,385.0	1,385.0

WBM Data COST T	ODAY: \$19,871 CUM. WB	MUD COST: \$194,947	CUM. WBM+OBM CO	OST: \$194,947
Type:  KCL Brine FROM: TIME: WEIGHT (sg): 1.08 TEMP (C):	VISCOCITY (sec/qt): PV (cps): YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): Fann 3/6/100:	API FLUID LOSS (cm3/30min): FILTER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	CI: K+C*1000: HARD/Ca: MBT (ppb): PM: PF:	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA (ppb):

WBM Data COST TO	DDAY: \$2,269 CUM. WB	MUD COST: \$197,216	CUM. WBM+OBM CC	DST: \$197,216
TIME :	YP (lb100sq.ft): GEI 10s/10m/100m	API FLUID LOSS (cm3/30min): FILTER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	CI: K+C*1000: HARD/Ca: MBT (ppb): PM: PF:	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA (ppb):

Survey	MD	TVD	INCL	AZ	CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type : MWD	(mBRT)	(mBRT)	DEG	(deg)	AZ (deg)	SECT (m)	(deg/ 30m)	(m)	(m)	
Magnetic Declination: 0.00	1,281	701	90.98	232.	232.7	756.1	1.49	-469.3	-592.8	MWD
Survey method: Min Curvature	1,310	701	89.67	232.	232.7	785.0	1.36	-486.8	-615.8	MWD
	1,339	701	89.82	233.	233.4	814.0	0.71	-504.2	-639.0	MWD
	1,368	701	90.46	234.	234.0	843.0	0.93	-521.5	-662.4	MWD

Bulk Stocks On F	Rig				
STOCK TYPE		START	USED	REC'D	STOCK
Barite	SX	336			336
Bentonite	SX	1546			1546
G-neat	SX	2166			2166
G+35% SiFI	SX				0
G+BFS+12.25% SiFI	SX				0
Pot Water	МЗ	98	26	26	98
Drill Water	МЗ	313	41	295	567
Heli-fuel	ltr	2344			2344
Base Oil	М3				0
Rig Fuel	М3	411	10		401
Brine	М3	0			0

l	Pu	ımp Data	1								
ı		P	ump Da	Slow Pump Data							
ı	#	TYPE	LNR	SPM	EFF	Flow	SPP	SPM	SPP	DEPTH	MW
			(")		(%)	(gpm)	(psi)		(psi)	(mBRT)	(ppg)
Ш	1	National 1	6.00	0	97	0	0	30	240	1180	9.3
Ш	2	National 1	6.00	47	97	93	680	40	310	1180	9.3
	3	National 1	6.00	0	97	0	0	50	385	1180	9.3
ш		•								•	

DIAM.	CSG OD	SHOE MD (plan/Actual)		SHOE TVD LOT (plan/Actual) (pl/Act)		I	FIT I/Act)	COMMENT		
9.5/8 "	9.625	872.4		700.0		1.4	0 1.40	Mixed and pumped 378 sx og G cel bbls of slurry @ 1.89 sg. Displaced bumped plug pressue tested casing psi.		
	Т	YPE	LNGTH (m)	CSG OD (")	WT lbs/ft	GRD	1	THREAD		
Pup Join Pup Join 9 5/8" Ca Float Joi	NK3SB Pin : it asing int diate Joint	x New Vam Box)	2.35 3.17 3.07 3.07 746.58 13.17 12.04 12.54	8.575 8.575 8.575 8.575 8.575 8.575 8.575 8.575	47.0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	L-80 L-80 L-80 L-80 L-80 L-80 L-80	V	New Vam am x NK3 NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB		

Personnel : on Site =95			
JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr)	G. Howard	OMV	5
Drilling Supervisor (Nigh	G. Othen	Service Company	34
Drilling Engineer	P. Zehetleitner	Diamond Offshore	48
Geologist	R. Tolliday	Catering	8
Geologist	P. Boothby		
Geologist	R. Leech		

Safety, Ins	pections a	and Drills		Sun	nmary			
Shakers, \		nd Losses	Data					ENGINEER Graeme Garrick
SHAKER 1 SHAKER 2 SHAKER 3 SHAKER 4 SHAKER 5	4x120 4x120 4x84 4x84	ACTIVE HOLE RESERVE	<b>VAILAB</b> 403 405 300	LE (bbl) = MIXING SLUG HEAVY	1108	LOSSES (bbl) = DOWNHOLE SURF. + EQUIP DUMPED	<b>0</b>	COMMENTS

Anchors	A 1 275 A 6 215		A 2 A7	250 180		A 3 A8	160 215		325	A 5 1	50
Workboats	Location	Fuel Barite (M3) (sx)	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent Brine		Weather VISIBILITY(nm)	12	Rig / Sea Data	232
Pacific Sentinel Pacific Conquero	at Rig r at Rig	307 1190 419	235 345	545 185	, ,	300	_	WIND SP. (kts) WIND DIR (deg) PRES.(mbars) AIR TEMP (C)	25.0 230 1021 15.0	VDL (mt) WAVES (m) SWELL (m)	1,804 1.5 3.0

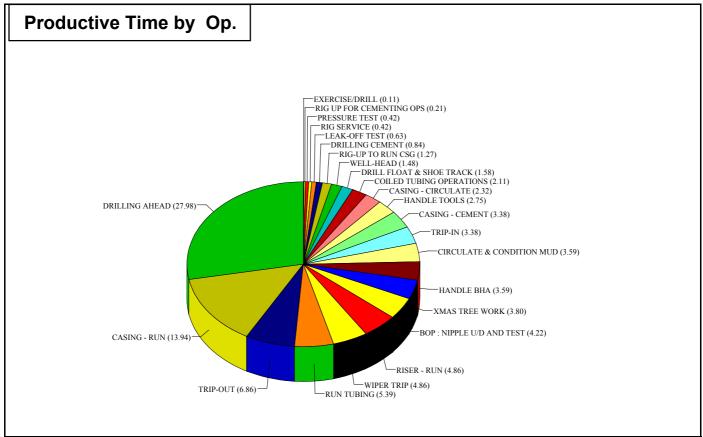
**Total move time (hrs)** Total time on well excluding move (hrs)

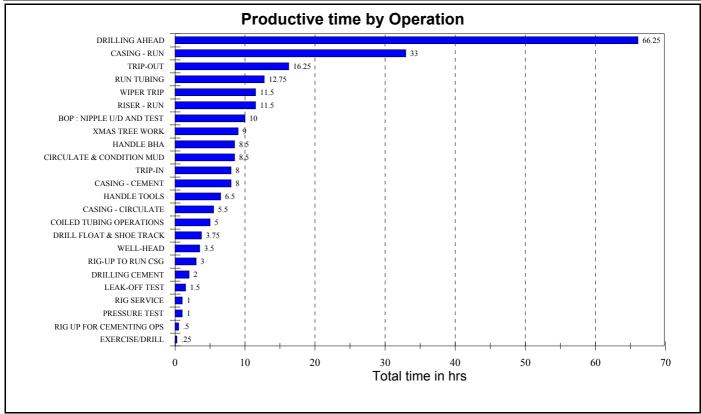
14.50 Total prod. time since spud (hrs): Total troub. time since spud (hrs) 249.00

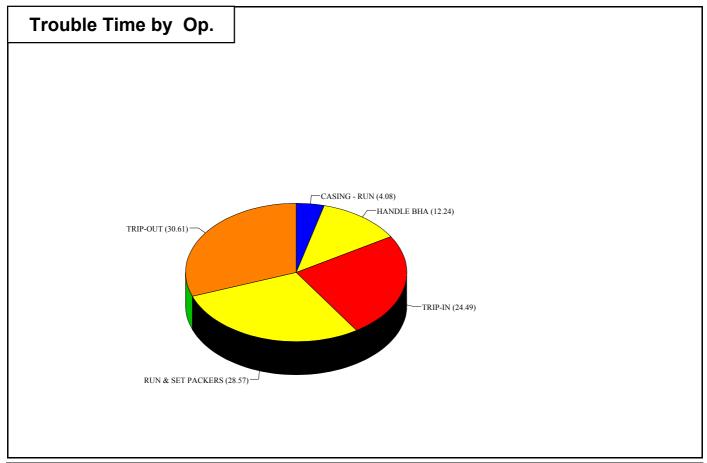
12.25

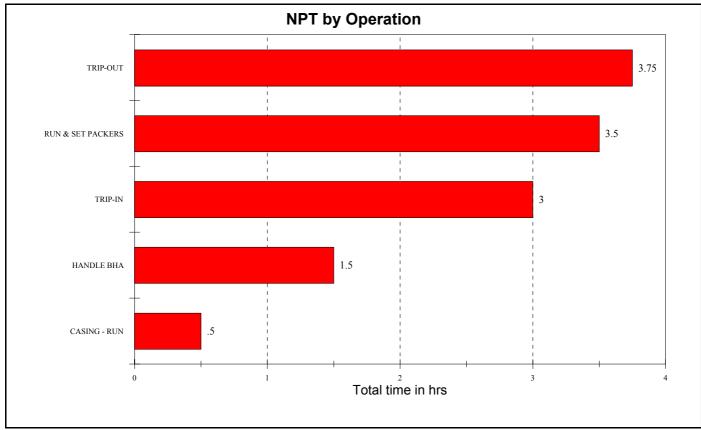
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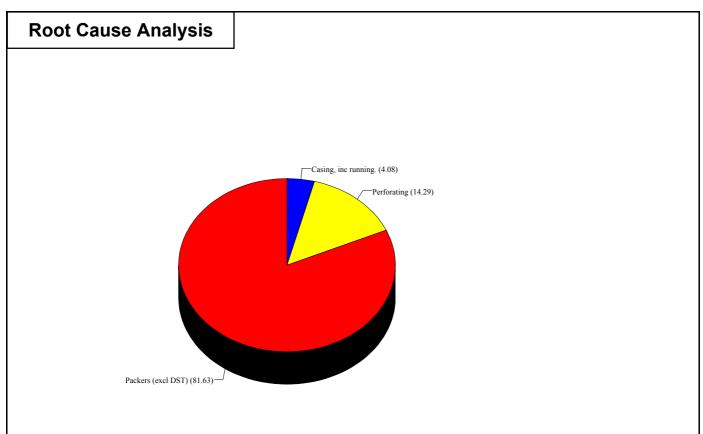
% Trouble time 4.92

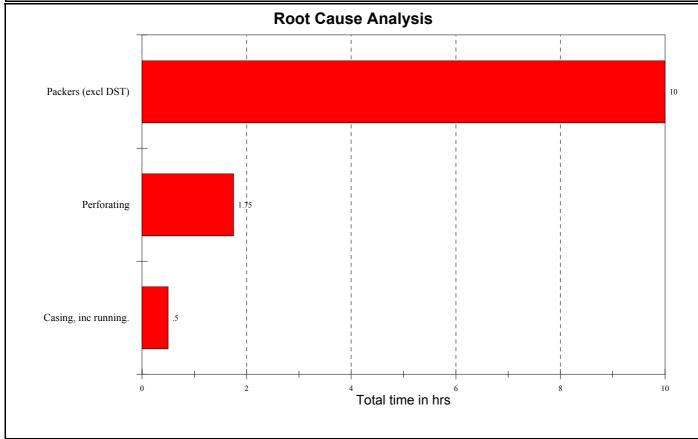




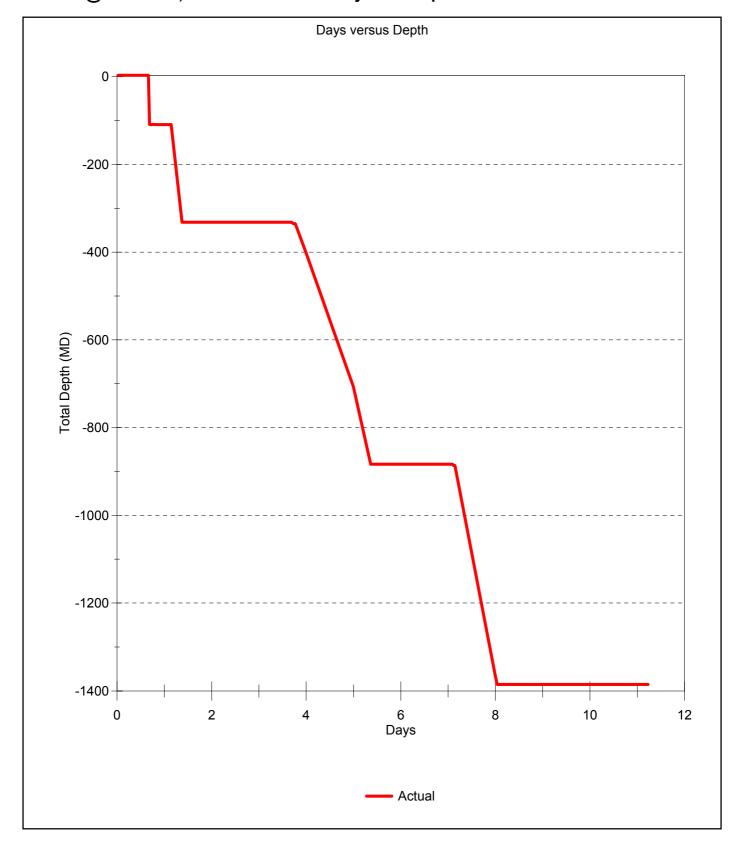








DEPTH @ 24:00 = 1,385.0 m after 11.00 days since spud



# **DAILY DRILLING REPORT # 12**

DATE Jul 01, 2002 FROM: G. Howard / Othen TO: C. Allport / R. King

Patricia-2 VIC/L21

Well Data	DEPTH (mBRT)	1,385.0	CUR. HOLE SIZE (")	8.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	701.2	CASING OD (")	9.5/8 "	AFE BASIS :	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	0.0	SHOE TVD (mBRT)	700	DAILY COST :	\$386,814.00
DRILL CO. DIAMOND OFFSHORE	DAYS ON WELL	12.00	FIT (sg)	1.40	CUM COST :	\$7,441,057.00
RIG OCEAN BOUNTY	DAYS +/- CURVE	-1.60	LOT (sg)	0.00		
RT ABOVE SL (m) 25.0 WATER DEPTH (m) LAT 52.5 RT TO SEABED (m) 77.5	CURRENT OP @ 0600 PLANNED OP.	Redress h	Completion landing string nanger add 2 mts on com n and continue with wire	pletion tub	oing space out. Re	e land

### Summary of period 0000 to 2400 hrs

Rigged up flow head, BOP and lubricator. Landed hanger and attempted to test completion string. Pull back to hanger and Redress.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jul 01, 2002

PHSE			OP	FROM		HRS	DEPTH	ACTIVITY DESCRIPTION
СТВ	Р		СТО	00:00	01:00	1.00	1,385	Continued to prepare flow head.
СТВ	Р		PT	01:00	03:00	2.00	1,385	Pressure tested Lubricator valve 3500 psi, 10 min. Pressure tested flow head and flow line against choke manifold and Sub sea lubricator valve 3500 psi.
СТВ	Р		RU	03:00	04:00	1.00	1,385	Rigged up BOP Lubricator, and installed on flow head.
СТВ	Р		CMD	04:00	05:00	1.00	1,385	Circulated 270 bbls of clean filtered inhibited completion brine.
СТВ	Р		RTB	05:00	05:30	.50	1,385	Landed and set hanger, good indication of helix alignment. Vented control lines
СТВ	Р		PT	05:30	06:30	1.00	1,385	Closed middle rams, pressured up on annulas 3500 psi. Locked tubing hanger, good indication with lock monitor on control panel. Pressured up on annulas above tubing hanger to 3500 psi, good seal, bleed down pressure.
СТВ	TP	TUB	RTB	06:30	13:00	6.50	1,385	Attempted to over pull, unsuccessful. Trouble shoot THRT Lock. Pulled landing string back 4 mts and functioned Sub surface safety valve.
СТВ	Р		PT	13:00	15:30	2.50	1,385	Landed completion, launched ROV and opened Sub sea isolation safety valve and cavity seal monitor valve on SST. Closed annular and pressured up to 3500 psi, bled off pressure and locked tubing hanger. Confirmed with 20 kips overpull.
СТВ	TP	TUB	PT	15:30	19:30	4.00	1,385	Whilst rigging up wire line, tested PBR found to be leaking, prepared to rig down. Unlocked tubing hanger.
СТВ	TP	TUB	PCO	19:30	23:30	4.00	1,385	Rigged down flow head, laid out coil tubing lift frame. Continued pulling out of hole, hanger at surface. (Losses down hole 40 bbls / Hr)
СТВ	TP	TUB	PCO	23:30	24:00	.50	1,385	Broke out hanger from tubing, unlatch SSTT assembly from tubing hanger. Laid out SSTT assembly and broke out tubing hanger. Commenced redress tubing hanger.

### ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jul 02, 2002

PHSE	CLS	RC	ОР	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
СТВ	TP	TUB	PCO	00:00	01:00	1.00	1,385	Laid out test assembly.
СТВ	TP	TUB	PCO	01:00	02:30	1.50	1,385	Changed out seals on hanger.
СТВ	TP	TUB	PT	02:30	03:00	.50	1,385	Made up pup joints to completion string. ( 2.2mts )
СТВ	TP	TUB	PT	03:00	04:00	1.00	1,385	Picked up & made up lower test assembly. Re-test assembly.
СТВ	TP	TUB	RTB	04:00	06:00	2.00	1,385	RIH with landing string.( Losses continued @ 40 bbls / Hr)

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0

## Patricia-2 VIC/L21

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
PRODUCTION HOLE (1)	34.8	Jun 27, 2002	Jun 28, 2002	205.0	8.54	887.0	1,385.0
PRODUCTION CSG/LNR(1)	38.0	Jun 28, 2002	Jun 30, 2002	243.0	10.13	1,385.0	1,385.0
COMPLETION/TIE-BACK	44.5	Jun 30, 2002	Jul 01, 2002	287.5	11.98	1,385.0	1,385.0

WBM Data	COST T	ODAY: \$1,014 CUM. W	/B MUD COST: \$198,230	CUM. WBM+C	DBM COST: \$198,230
Type:  KC FROM: TIME: WEIGHT (sg): TEMP (C):		VISCOCITY (sec/qt): PV (cps): YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): Fann 3/6/100:	API FLUID LOSS (cm3/30min): FILTER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	CI: K+C*1000: HARD/Ca: MBT (ppb): PM: PF:	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA (ppb):

Bit Data for Bit # 4 IADC #		Wear	I	01	D	L	В	G	O2	R
SIZE ("):  MANUFACTURER: Reed	AVE WOB (k-lbs) :	NOZZLES X	Dillie		the last 2				over the b	
TYPE:	AVE RPM : FLOW (gpm) :	x x	ON BO	RAGE ( DTTOM	HRS:	.0	CUM.	ON BO	AGE (m) T. HRS :	501 13.8
DEPTH IN (m RT) :	PUMP PRESS. (psi):	х		DRILL. L REVS		.0 0	CUM.I		RILL HRS EVS :	3: 22.0 0
DEPTH OUT (m RT):	HSI (hp/sqi): 0.0	00   X	ROP (	m/hr):			ROP (	m/hr):		22.8

**BHA#4** Length (ft): D.C. (1) ANN. VELOCITY (mpm): D.C. (2) ANN VELOCITY (mpm): 0 WT BLW JAR(k-lbs): STRING WT(k-lbs): TRQE MAX (ft-lbs): 0 BHA WT(k-lbs): PICK UP WT(k-lbs): TRQE ON (ft-lbs): H.W.D.P. ANN VELOCITY (mpm): 0 SLK 0FF WT(k-lbs): TRQE OFF (ft-lbs): D.P. ANN VELOCITY (mpm): 0

BHA DESCRIPTION:

IL	TOOL DESCRIPTION	HRS	SERIAL#	COMMENT

Survey	MD	TVD	INCL	AZ	CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type : MW	D (mBRT)	(mBRT)	DEG	(deg)	AZ (deg)	SECT (m)	(deg/ 30m)	(m)	(m)	
Magnetic Declination: 0.0	0 1,281	701	90.98	232.	232.7	756.1	,	-469.3	-592.8	MWD
Survey method: Min Curvature	1,310	701	89.67	232.	232.7	785.0	1.36	-486.8	-615.8	MWD
	1,339	701	89.82	233.	233.4	814.0	0.71	-504.2	-639.0	MWD
	1,368	701	90.46	234.	234.0	843.0	0.93	-521.5	-662.4	MWD

Bulk Stocks On F	Rig				
STOCK TYPE		START	USED	REC'D	STOCK
Barite Bentonite	SX SX	336 1546			336 1546
G-neat G+35% SiFI	SX SX	2166			2166
G+BFS+12.25% SiFI	SX				0
Pot Water Drill Water	M3 M3	98 567	23 17	23	98 550
Heli-fuel Base Oil	Itr M3	6814	500		6314
Rig Fuel	M3	401	12		389
Brine	М3	0			0

Pι	Pump Data												
	P	ump Da	ta - la	Slow Pump Data									
#	TYPE	LNR	SPM	EFF	Flow	SPP	SPM	SPP	DEPTH	MW			
		(")		(%)	(gpm)	(psi)		(psi)	(mBRT)	(ppg)			
1	National 1	6.00	0	97	0	0	30	240	1180	9.3			
2	National 1	6.00	47	97	93	680	40	310	1180	9.3			
# 1 2 3	National 1	6.00	0	97	0	0	50	385	1180	9.3			

Safety, Inspections and Drills

DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE T\ (plan/Actu	I .	LOT (pl/Act)		FIT (pl/Act)		COMMENT		
9.5/8 "	700.0			1.40	1.40	bbls of slurry (	mped 378 sx og G cement, 78 @ 1.89 sg. Displaced and pressue tested casing to 3000				
	-	ГҮРЕ	LNGTH (m)	CSG OD (")	WT lbs/ft	G	RD	Т	HREAD		
Pup Join Pup Join 9 5/8" Ca Float Joi	NK3SB Pin t t asing nt liate Joint	x New Vam Box)	2.35 3.17 3.07 3.07 746.58 13.17 12.04 12.54	8.575 8.575 8.575 8.575 8.575 8.575 8.575 8.575	47.0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	L. L. L. L.	-80 -80 -80 -80 -80 -80 -80	Vá	lew Vam am x NK3 NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB		

Personnel : on Site =92			
JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr)	G. Howard	OMV	7
Drilling Supervisor (Nigh	G. Othen	Service Company	31
Drilling Engineer	P. Zehetleitner	Diamond Offshore	46
		Catering	8

**Summary** 

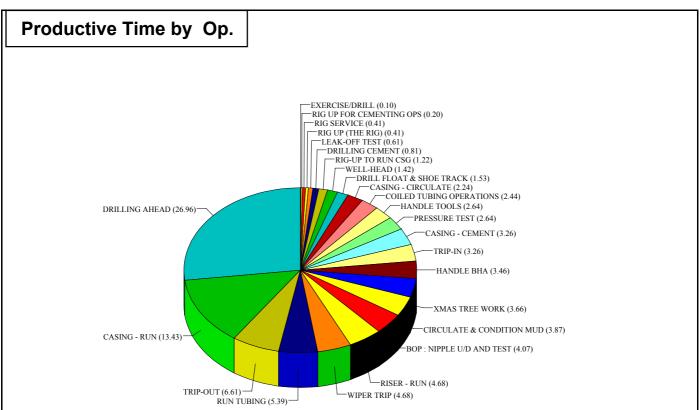
,	Shakers, Volumes and Losses Data  ENGINEER Graeme Garrick  SHAKER 1 4×120											
SHAKER 1 SHAKER 2	4x120 4x120	VOLUME A	VAILABI	LE (bbl) =	823	LOSSES (bbl) =	0	COMMENTS				
SHAKER 3	4x84	ACTIVE	218	MIXING		DOWNHOLE		Mixing KCL Brine. Losses at 40 bbls /				
SHAKER 4	4x84	HOLE	405	SLUG		SURF. + EQUIP	0.00	Hr.				
SHAKER 5		RESERVE	200	HEAVY		DUMPED						

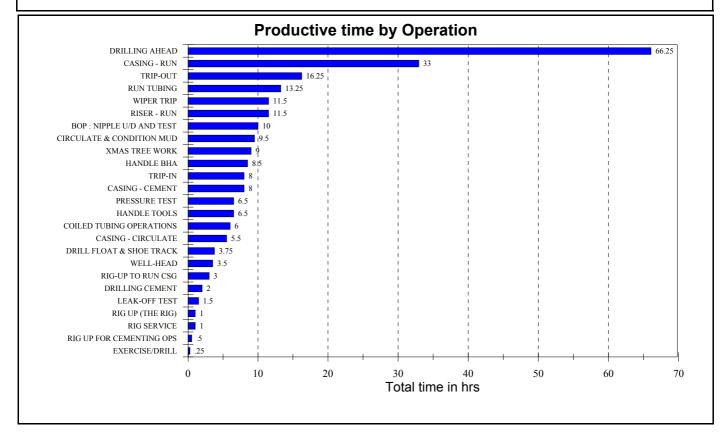
Allohols	A 1 280 A 6 210		A 2 A7	260 175		A 3 A8	165 2100	A 4	315	A 5 1	40
Workboats	Location	Fuel Barite (M3) (sx)	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent Brine (sx) (M3)	AISIBILI	TY(nm)	12	Rig / Sea Data	232
Pacific Sentinel Pacific Conquero	at Rig r at Rig	302 1190 414	230 345	545 180	,	300	- WIND SI WIND D PRES.(r AIR TEN	IR (deg)	30.0 280 1021 15.0	VDL (mt) WAVES (m) SWELL (m)	1,721 1.5 1.2

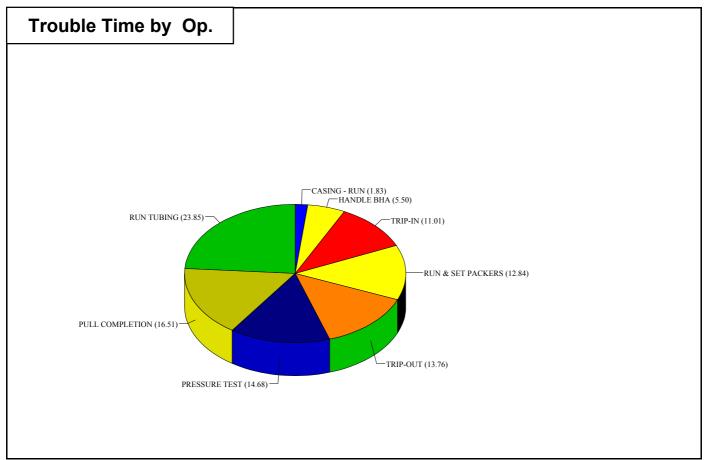
Total move time (hrs) Total time on well excluding move (hrs) 14.50 Total prod. time since spud (hrs):
Total troub. time since spud (hrs)
273.00 % Trouble time

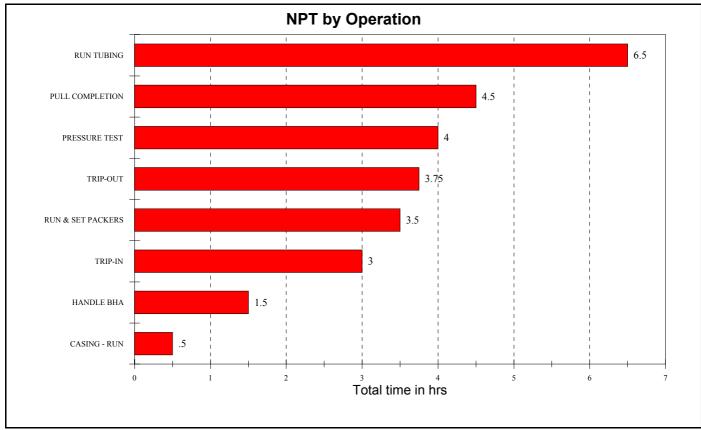
27.25 9.98

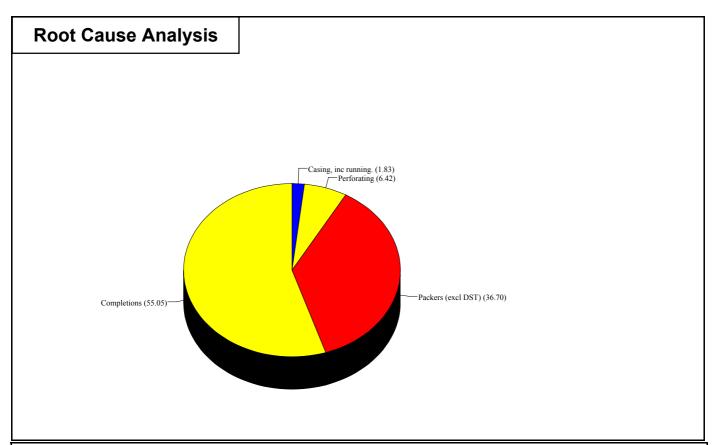
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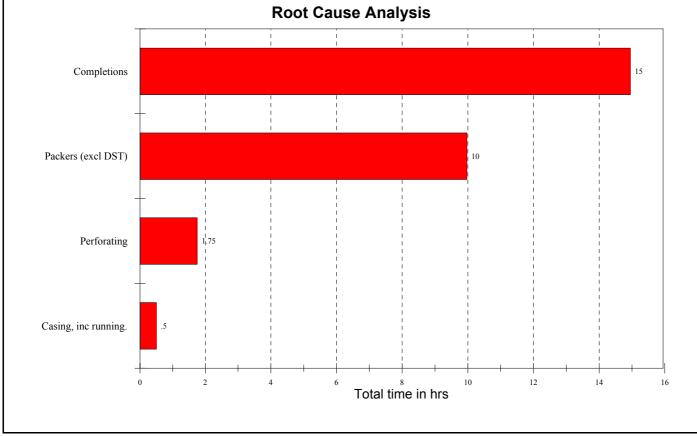




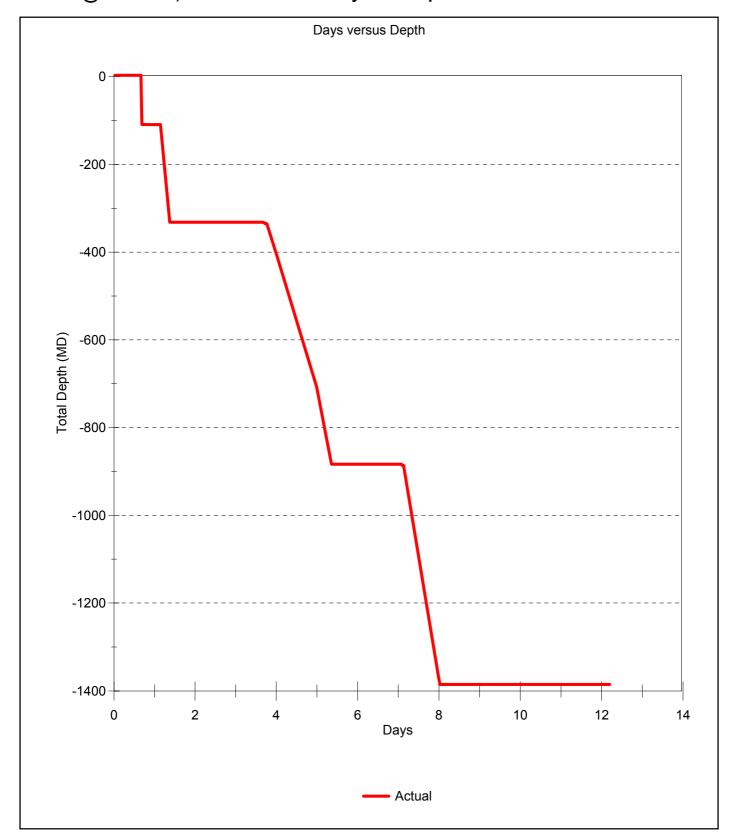








DEPTH @ 24:00 = 1,385.0 m after 12.00 days since spud



# **DAILY DRILLING REPORT # 13**

DATE Jul 02, 2002 FROM: R. King / Othen
TO: C. Allport / S. Crocker

Patricia-2 VIC/L21

Well Data	DEPTH (mBRT)	1,385.0	CUR. HOLE SIZE (")	8.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	701.2	CASING OD (")	9.5/8 "	AFE BASIS :	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	0.0	SHOE TVD (mBRT)	700	DAILY COST:	\$491,060.00
DRILL CO. DIAMOND OFFSHORE	DAYS ON WELL	DAYS ON WELL 13.00 FIT (sg) 1.40		CUM COST:	\$7,932,117.00	
RIG OCEAN BOUNTY	DAYS +/- CURVE	-1.20	LOT (sg)	0.00		
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 060 PLANNED OP.		to flow well at daylight. d tubing and inject nitrog	en to bring	g well on.	

### Summary of period 0000 to 2400 hrs

Replaced seals on Tubing Hanger, ran & tested O.K. Rigged up flow head, recovered Isolation sleeve and ran 4.5 Gauge ring. Rigged up coiled tubing injector head.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jul 02, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
СТВ	TP	TUB	PCO	00:00	01:00	1.00	1,385	Laid out test assembly.
СТВ	TP	TUB	PCO	01:00	02:30	1.50	1,385	Changed out seals on hanger.
СТВ	TP	TUB	PCO	02:30	03:00	.50	1,385	Made up pup joints to completion string. (Total length 2.2m)
СТВ	TP	TUB	PT	03:00	04:00	1.00	1,385	Picked up & made up lower test assembly. Re-tested assembly.
СТВ	TP	TUB	RTB	04:00	07:00	3.00	1,385	RIH with landing string. (Losses continued @ 40 bbls / Hr) Picked up SSLV and repaired damage to SSLV umbilical line.
СТВ	TP		RTB	07:00	07:00	.00	1,385	Rigged up lift frame and flow head, made up coflexip hoses and cement hose.
СТВ	TP		RTB	07:00	09:30	2.50	1,385	Landed and locked tubing hanger, confirmed with 50 kips over pull. (Total fluid lost to formation 410 bbls)
СТВ	TP		PT	09:30	10:00	.50	1,385	Presure tested Production Annulus to 1500 psi.
СТВ	Р		SLK	10:00	13:30	3.50	1,385	Rigged up wire line and pressure tested lubricator. RIH & retrieved isolation sleeve.
СТВ	Р		SLK	13:30	14:30	1.00	1,385	Made up 4.5" Gauge ring and RIH to 250m. Laid out wire line tools and rigged down.
СТВ	Р		СТО	14:30	20:30	6.00	1,385	BJ Rigged up Coil tubing injector head.
СТВ	Р		СТО	20:30	23:30	3.00	1,385	Held JSA. Rigged up Coil tubing into frame above flow head and secured.
СТВ	Р		СТО	23:30	24:00	.50	1,385	Closed Master valve. Held JSA for presure testing and running coil tubing.

ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jul 03, 2002

 ACTIVITY ON TEXTOD 0000 TING TO 0000 TING ON 001 00, 2002												
PHSE	CLS	RC	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION				
СТВ	Р		СТО	00:00	01:00	1.00	1,385	Presure tested lines for pumping Nitrogen 300 / 3000 psi 5-10				
СТВ	Р		СТО	01:00	02:00	1.00	1,385	min. Opened Master valve. RIH with Coil tubing to 221m (SRO Problem)				
CTB	TP	MSC	CTO	02:00	02:30	.50	1,385	Troubleshoot SRO Gauge. (Gauge OK. Problem at surface)				
CTB	Р		CTO	02:30	03:30	1.00	1,385	Continued Running Coiled tubing to 600m.				
СТВ	Р		FLO	03:30	05:00	1.50	1,385	Pumped nitrogen and continued running in hole to 892m. (Fluid returned 110 bbls)				
CTB	Р		FLO	05:00	06:00	1.00	1,385	Shut well in for initial build up.				

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0
PRODUCTION HOLE (1)	34.8	Jun 27, 2002	Jun 28, 2002	205.0	8.54	887.0	1,385.0

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
PRODUCTION CSG/LNR(1)	38.0	Jun 28, 2002	Jun 30, 2002	243.0	10.13	1,385.0	1,385.0
COMPLETION/TIE-BACK	68.5	Jun 30, 2002	Jul 02, 2002	311.5	12.98	1,385.0	1,385.0

WBM Data COST T	ODAY: \$1,224 CUM. WB	MUD COST: \$199,454	CUM. WBM+OBM COST: \$199,454			
Type : KCL Brine	VISCOCITY (sec/qt) : PV (cps):	API FLUID LOSS (cm3/30min) :	CI : K+C*1000 :	SOLIDS (%vol) : H2O (%vol) :		
FROM: TIME:	YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): Fann 3/6/100:	FILTER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	HARD/Ca: MBT (ppb): PM: PF:	OIL (%vol): SAND: PH: PHPA (ppb):		

Length (ft): **BHA#4** D.C. (1) ANN. VELOCITY (mpm): 0 WT BLW JAR(k-lbs): D.C. (2) ANN VELOCITY (mpm): 0 STRING WT(k-lbs): TRQE MAX (ft-lbs): BHA WT(k-lbs): PICK UP WT(k-lbs): TRQE ON (ft-lbs): H.W.D.P. ANN VELOCITY (mpm): 0 SLK 0FF WT(k-lbs): TRQE OFF (ft-lbs): D.P. ANN VELOCITY (mpm): 0

**BHA DESCRIPTION:** 

Brine

TOOL DESCRIPTION HRS SERIAL # COMMENT

Survey DOGLEG **TOOL TYPE** TVD **INCL** ΑZ CORR. N/S E/W SECT (mBRT) (mBRT) DEG (deg) ΑZ (deg/ (m) (m) Last Tool Type: **MWD** 30m) (deg) (m) Magnetic Declination: 0.00 1,281 90.98 756.1 -592.8 MWD 701 232 232.7 1.49 -469.3 Survey method: Min Curvature 1,310 701 89.67 232. 232.7 785.0 1.36 -486.8 -615.8 MWD -504.2 -639.0 MWD 1 339 701 89.82 233 233.4 814 0 0.71 1,368 701 90.46 234. 234.0 843.0 0.93 -521.5 -662.4 MWD

**Bulk Stocks On Rig** START USED REC'D STOCK STOCK TYPE Barite SX 336 336 Bentonite SX 1546 1546 G-neat SX 2166 2166 G+35% SiFI SX 0 G+BFS+12.25% SiFI SX 0 Pot Water М3 98 24 24 98 **Drill Water** М3 550 550 Heli-fuel 471 ltr 6314 5843 Base Oil М3 0 Rig Fuel М3 389 10 380

0

МЗ

Pι	Pump Data												
L	P	ump Da	ta - la	Slow Pump Data									
#	TYPE	LNR	SPM	EFF	Flow	SPP	SPM	SPP	DEPTH	MW			
		(")		(%)	(gpm)	(psi)		(psi)	(mBRT)	(ppg)			
1	National 1	6.00	0	97	0	0	30	240	1180	9.3			
2	National 1	6.00	47	97	93	680	40	310	1180	9.3			
3	National 1	6.00	0	97	0	0	50	385	1180	9.3			

Casing					
DIAM. CSG OD	SHOE MD (plan/Actual)	SHOE TVD (plan/Actual)	LOT (pl/Act)	FIT (pl/Act)	COMMENT
9.5/8 " 9.625	872.4	700.0			Mixed and pumped 378 sx og G cement, 78 bbls of slurry @ 1.89 sg. Displaced and bumped plug pressue tested casing to 3000 psi.

TYPE	LNGTH (m)	CSG OD (")	WT lbs/ft	GRD	THREAD
Well head	2.35	8.575	47.0	L-80	New Vam
X/over (NK3SB Pin x New Vam Box)	3.17	8.575	47.0	L-80	Vam x NK3
Pup Joint	3.07	8.575	47.0	L-80	NK3SB
Pup Joint	3.07	8.575	47.0	L-80	NK3SB
9 5/8" Casing	746.58	8.575	47.0	L-80	NK3SB
Float Joint	13.17	8.575	47.0	L-80	NK3SB
Intermediate Joint	12.04	8.575	47.0	L-80	NK3SB
Shoe Joint	12.54	8.575	47.0	L-80	NK3SB

0

Personnel : on Site =95									
JOB TITLE	NAME	CO. NAME	#						
Drilling Supervisor (snr) Drilling Supervisor (Nigh Drilling Engineer	R.King G. Othen P. Zehetleitner	OMV Service Company Diamond Offshore Catering	7 34 46 8						

Drilling Engineer				P. Zeł	P. Zehetleitner						Diamond Offshore Catering				46 8			
Safety, Ins	pect	ior	ıs ar	nd Dri	lls			Sum	mary	,								
Shakers, Volumes and Losses Data  SHAKER 1 4x120 SHAKER 2 4x120 SHAKER 3 4x84 SHAKER 4 4x84 SHAKER 5 RESERVE 186  SHAKER 5 RESERVE 186					IG i	591		DOWN	NHC . + [	EQUIP	<b>0</b>	COMMEN	ER Graeme Garrick  NTS  ses aprox 450 bbls.					
Anchors	A A		270 210			A 2 A7	250 175			A 3 A8	17 <u>9</u> 20			A 4	345	A 5	140	
Workboat	s	Lo	catior	Fuel (M3)	Barite (sx)	e D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent (sx)	Bri (M		١	Weather	` '	12	Rig / Sea Data		232
Pacific Sentir Pacific Conqu			Rig Rig	301 410	1190	225 345	545 177		300			\ F	WIND SP. ( WIND DIR PRES.(mba AIR TEMP	(deg) ars)	20.0 310 1008 15.0	VDL (mt) WAVES (m) SWELL (m)		1,741 0.9 1.8

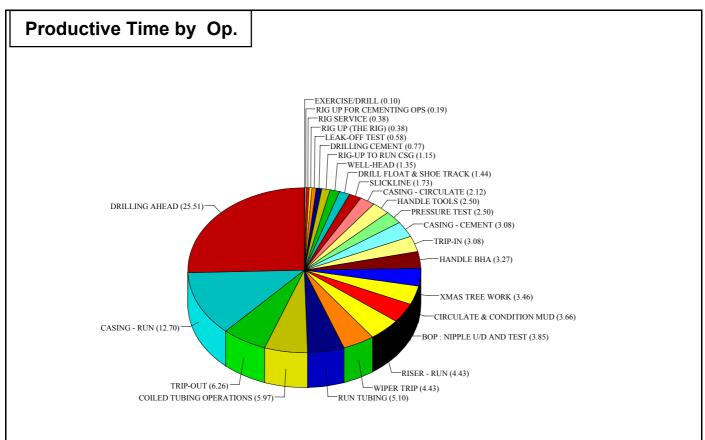
Patricia-2 VIC/L21

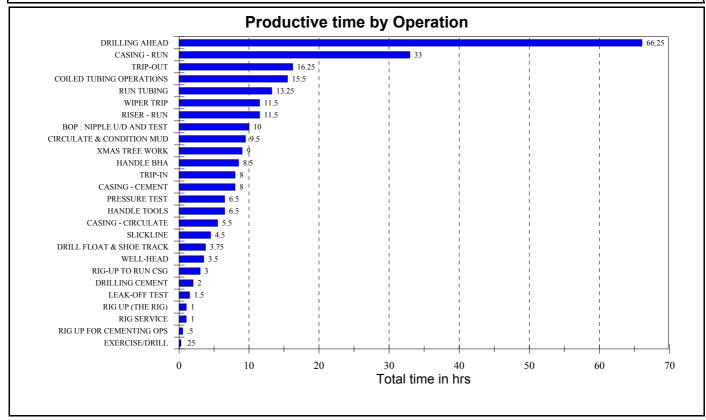
Total move time (hrs) Total time on well excluding move (hrs) 14.50 Total prod. time since spud (hrs):
Total troub. time since spud (hrs)

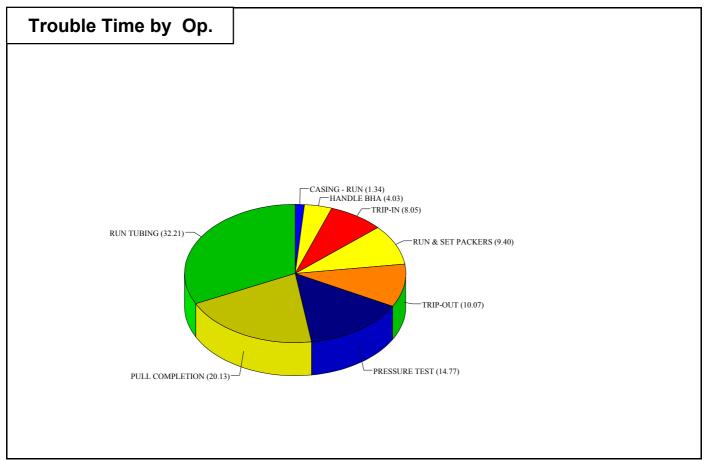
37.25 12.54

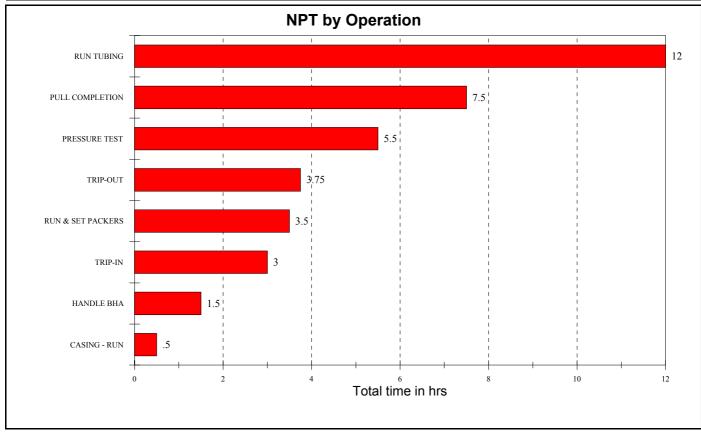
259.75

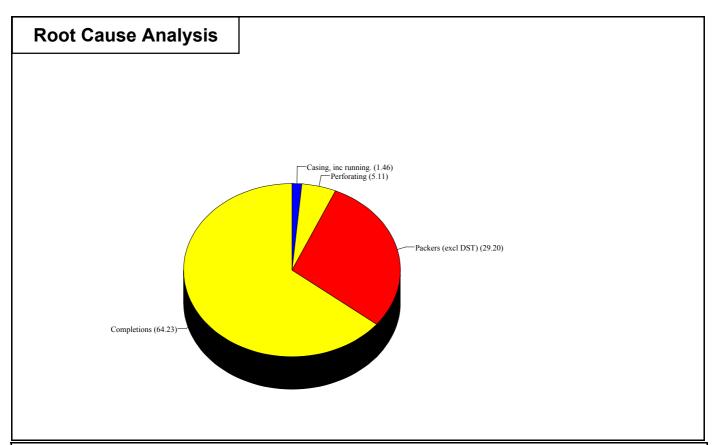
**297.00** % Trouble time

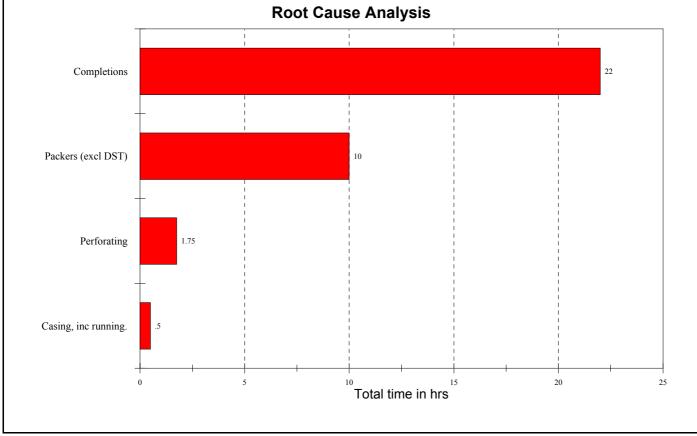




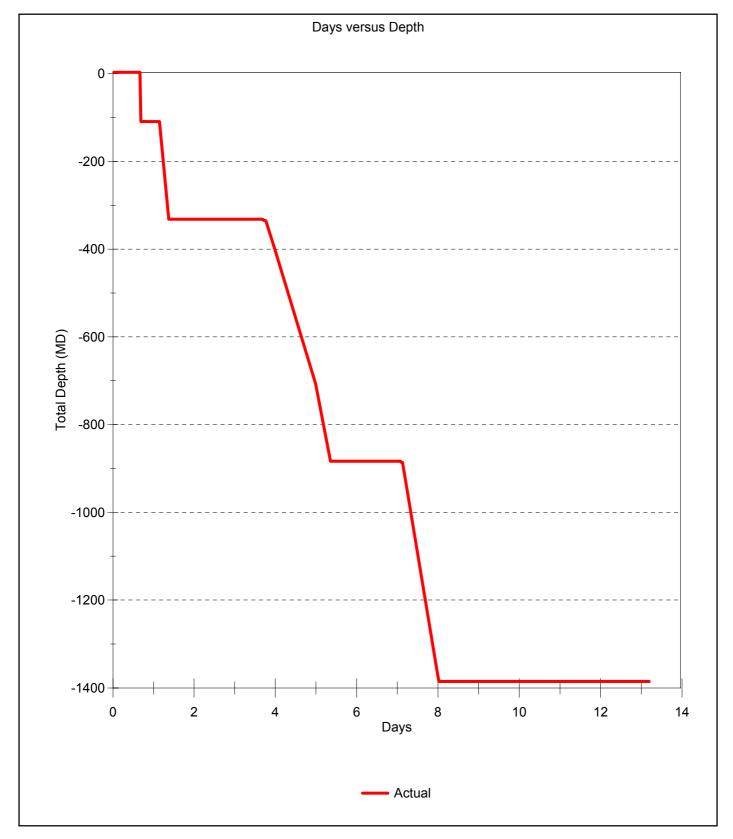








DEPTH @ 24:00 = 1,385.0 m after 13.00 days since spud



# DAILY DRILLING REPORT # 14

DATE Jul 03, 2002 FROM: R. King /G. Othen TO: C. Allport / S. Crocker

Patricia-2

VIC/L21

Well Data	DEPTH (mBRT)	1,385.0	CUR. HOLE SIZE (")	8.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	701.2	CASING OD (")	9.5/8 "	AFE BASIS:	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	0.0	SHOE TVD (mBRT)	700	DAILY COST:	\$388,015.00
DRILL CO. DIAMOND OFFSHORE	DAYS ON WELL	14.00	FIT (sg)	1.40	CUM COST:	\$8,320,132.00
RIG OCEAN BOUNTY	DAYS +/- CURVE	-1.10	LOT (sg)	0.00		
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 0600 PLANNED OP.	Complete	rell for initial clean up flow clean up period. Shut in ow period.	•	cond build up per	iod. Open well

### Summary of period 0000 to 2400 hrs

RIH with coiled tubing to 600m and pumped nitrogen, continued running in hole to 892m. Shut well in for initial shut-in period. Conducted JSA. Opened choke and flowed well for clean up flow period.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jul 03, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
СТВ	P		СТО	00:00	01:00	1.00	1,385	Pressure tested lines for pumping Nitrogen 300 / 3000 psi 5-10 min.
PT	Р		СТО	01:00	02:00	1.00	1,385	Opened Master valve. RIH with coiled tubing to 221m (SRO Problem)
PT	TP	MSC	СТО	02:00	02:30	.50	1,385	Troubleshoot SRO Gauge. (Gauge OK. Problem at surface)
PT	Р		СТО	02:30	03:30	1.00	1,385	Continued Running Coiled tubing to 600m.
PT	Р		СТО	03:30	05:00	1.50	1,385	Pumped nitrogen and continued running in hole to 892m. (Fluid returned 110 bbls)
PT	Р		WCU	05:00	07:00	2.00	1,385	Shut well in for initial build up.
PT	Р		WCU	07:00	07:15	.25	1,385	Function tested ESD system. Held JSA on drill floor.
PT	Р		WCU	07:15	24:00	16.75	1,385	Opened choke & flowed well for clean up flow period. (Choke opened at 07:14hrs)

ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jul 04, 2002

PHSE	CLS	RC	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
PT	Р		WCU	00:00	06:00	6.00	1,385	Flowed well for clean up flow period.

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0
PRODUCTION HOLE (1)	34.8	Jun 27, 2002	Jun 28, 2002	205.0	8.54	887.0	1,385.0
PRODUCTION CSG/LNR(1)	38.0	Jun 28, 2002	Jun 30, 2002	243.0	10.13	1,385.0	1,385.0
COMPLETION/TIE-BACK	69.5	Jun 30, 2002	Jul 03, 2002	312.5	13.02	1,385.0	1,385.0
PRODUCTION TEST	23.0	Jul 03, 2002	Jul 03, 2002	335.5	13.98	1,385.0	1,385.0

WBM Data COST TO	ODAY: \$0 CUM. WB	MUD COST: \$199,454	CUM. WBM+OBM CC	DST: \$199,454
KCL Brine FROM : TIME :	VISCOCITY (sec/qt): PV (cps): YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): Fann 3/6/100:	API FLUID LOSS (cm3/30min): FILTER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	CI: K+C*1000: HARD/Ca: MBT (ppb): PM: PF:	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA (ppb):

Patricia-2 VIC/L21

BHA #4 Length (ft):

0 D.C. (1) ANN. VELOCITY (mpm): WT BLW JAR(k-lbs): STRING WT(k-lbs): TRQE MAX (ft-lbs): D.C. (2) ANN VELOCITY (mpm): 0 BHA WT(k-lbs): PICK UP WT(k-lbs): TRQE ON (ft-lbs): H.W.D.P. ANN VELOCITY (mpm): 0 SLK 0FF WT(k-lbs): TRQE OFF (ft-lbs): D.P. ANN VELOCITY (mpm): 0

BHA DESCRIPTION:

Brine

TOOL DESCRIPTION HRS SERIAL# COMMENT

Survey		MD	TVD	INCL	AZ	CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type :	MWD	(mBRT)	(mBRT)	DEG	(deg)	AZ (deg)	SECT (m)	(deg/ 30m)	(m)	(m)	
Magnetic Declinati	on: 0.00	1.281	701	90.98	232.	232.7	756.1	,	-469.3	-592.8	MWD
Survey method :	Min Curvature	1,310				232.7	785.0	· ·		-615.8	
<b>,</b>		1,339	701	89.82	233.	233.4	814.0	0.71	-504.2	-639.0	MWD
		1,368	701	90.46	234.	234.0	843.0	0.93	-521.5	-662.4	MWD

**Bulk Stocks On Rig** USED REC'D STOCK TYPE START STOCK Barite SX 336 336 Bentonite SX 1546 1546 2166 G-neat SX 2166 G+35% SiFI SX 0 G+BFS+12.25% SiFI SX 0 Pot Water М3 98 26 26 98 Drill Water МЗ 550 27 523 Heli-fuel 5843 ltr 5843 Base Oil М3 0 Rig Fuel М3 380 380

0

МЗ

Pu	ımp Data	1								
	P	ump Da	ta - la:	Slow Pump Data						
#	TYPE	LNR	SPM	EFF (%)	Flow (gpm)	SPP (psi)	SPM	SPP (psi)	DEPTH (mBRT)	MW (ppg)
$\vdash$		( )		` '	(90111)	(601)		(601)	,	
1	National 1	6.00	0	97	0	0	30	240	1180	9.3
2	National 1	6.00	47	97	93	680	40	310	1180	9.3
3	National 1	6.00	0	97	0	0	50	385	1180	9.3

Casing						
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE TVD (plan/Actual)	LOT (pl/Act)	FIT (pl/Act)	COMMENT
9.5/8 "	9.625	872.4	700.0		1.40 1.40	Mixed and pumped 378 sx og G cement, 78 bbls of slurry @ 1.89 sg. Displaced and bumped plug pressue tested casing to 3000 psi.

TYPE	LNGTH (m)	CSG OD (")	WT lbs/ft	GRD	THREAD
Well head X/over (NK3SB Pin x New Vam Box) Pup Joint Pup Joint 9 5/8" Casing Float Joint Intermediate Joint Shoe Joint	2.35 3.17 3.07 3.07 746.58 13.17 12.04 12.54	8.575 8.575 8.575 8.575 8.575 8.575 8.575 8.575	47.0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	L-80 L-80 L-80 L-80 L-80 L-80 L-80 L-80	New Vam Vam x NK3 NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB

0

Perso	nnal	· on	Cito	-06
iPerso	nnei	: on	Site	=96

JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr)	R.King	OMV	7
Drilling Supervisor (Nigh	G.Othen	Service Company	34
Testing Supervisor	M.Mulliner	Diamond Offshore	47
Completion Supervisor	L.Taylor	Catering	8
Reservoir Engineer	A.lon	_	
Sub Sea Engineer	W.Bates		
Drilling Engineer	P.Zehetleitner		

Safety, Inspections and Drills Summary

Patricia-2 VIC/L21

Shakers, V			Los	ses D	ata							ENGINEE	R Graeme Garrick	
SHAKER 1 SHAKER 2 SHAKER 3 SHAKER 4 SHAKER 5	4x120 4x120 4x84 4x84	,	VOLUN ACTIVE HOLE RESEF	<b>≡</b>	<b>ILABLE</b> 05 86	E (bbl) = MIXIN SLUG HEAV	G	591	DOWN	ES (bbl) = NHOLE . + EQUIP EED	0.00	Total loss	TS ses aprox 450 bbls.	
Anchors	A 1 A 6				A 2 A7	250 175		A :		-	A 4	345	A 5	140
Workboat		_ocation	Fuel (M3)	Barite (sx)	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent B	rine M3)	Weather	(nm)	10	Rig / Sea Data	232
Pacific Senti Pacific Conq		at Rig Geelon	296 410	1190	220 345	545 177		300		WIND SP. WIND DIR PRES.(mb	(deg) ars)	30.0 270 1003 12.0	VDL (mt) WAVES (m) SWELL (m)	1,963 1.5 1.2

Patricia-2 VIC/L21

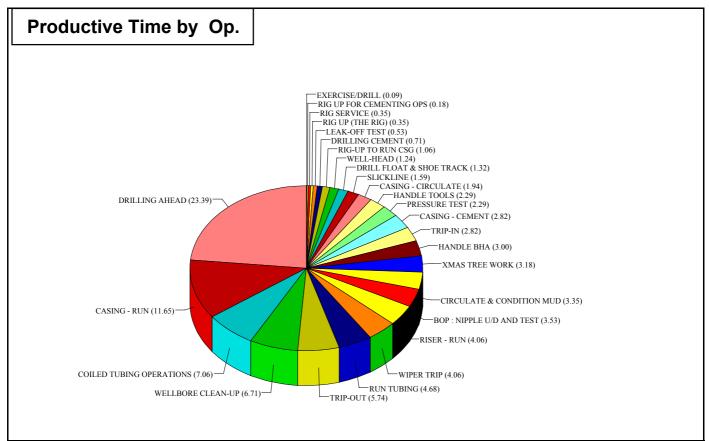
Total move time (hrs) Total time on well excluding move (hrs) 14.50 Total prod. time since spud (hrs):

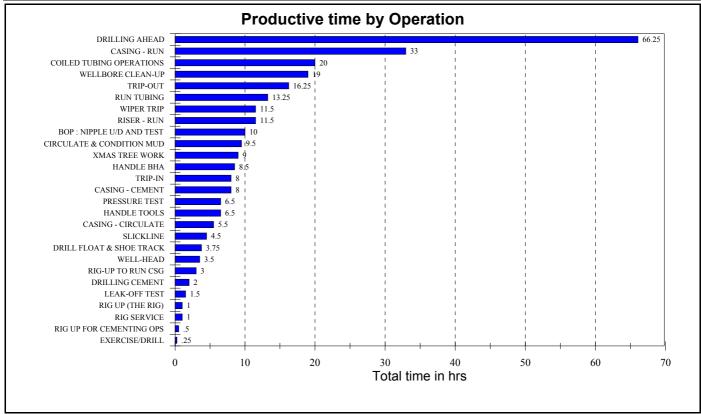
Total troub. time since spud (hrs)

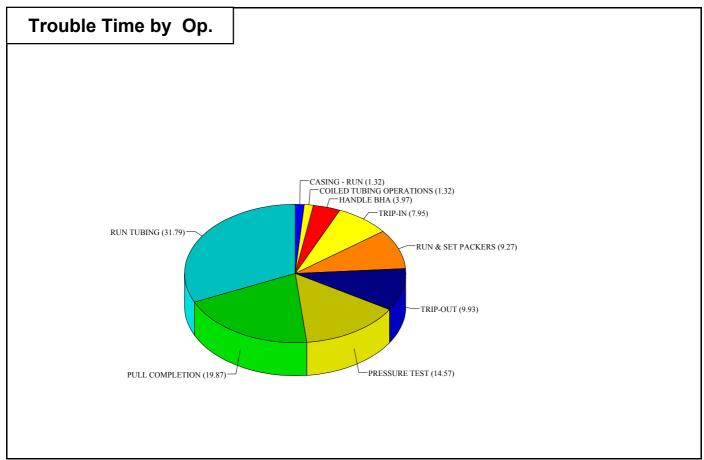
37.75

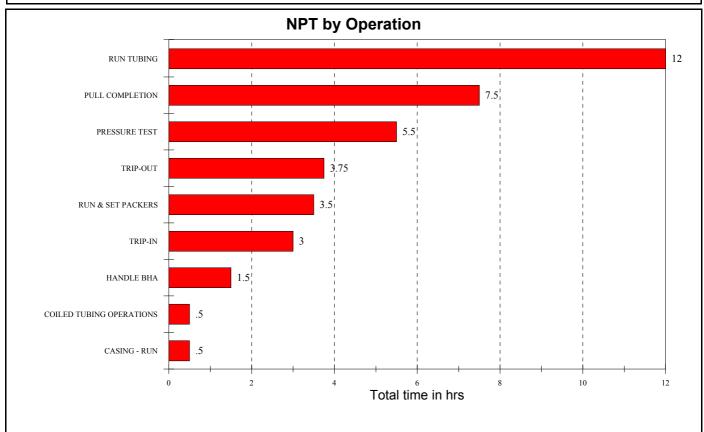
283.25

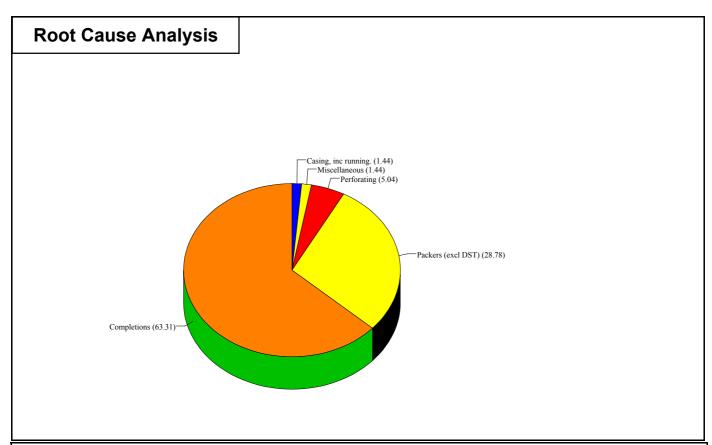
321.00 % Trouble time 11.76

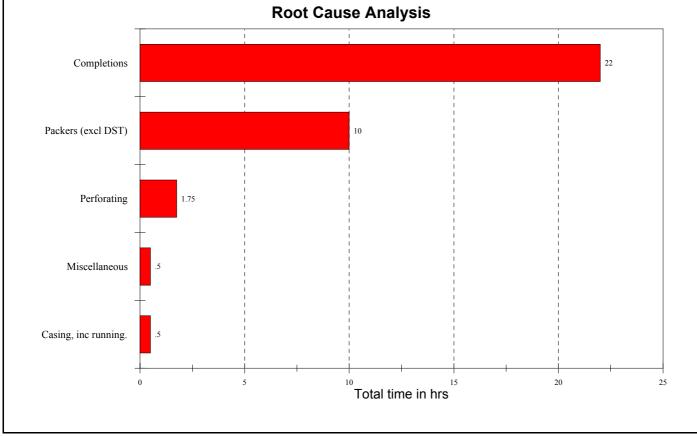




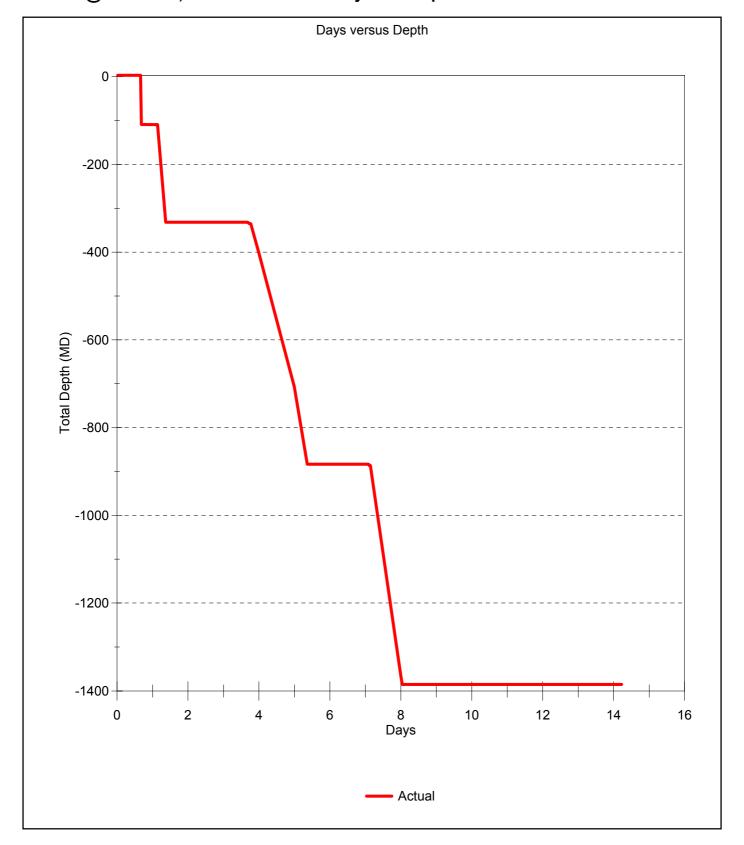








DEPTH @ 24:00 = 1,385.0 m after 14.00 days since spud



# **DAILY DRILLING REPORT # 15**

DATE Jul 04, 2002 FROM: R. King /G. Othen TO: C. Allport / S. Crocker

Patricia-2 VIC/L21

Well Data  COUNTRY AUSTRALIA FIELD GIPPSLAND SUB-BASIN DRILL CO. DIAMOND OFFSHORE RIG OCEAN BOUNTY	DEPTH (mBRT) TVD (mBRT) PROGRESS (m) DAYS ON WELL DAYS +/- CURVE	1,385.0 701.2   0.0 15.00 -1.50	CUR. HOLE SIZE (") CASING OD (") SHOE TVD (mBRT) FIT (sg) LOT (sq)	8.50 9.5/8 "   700 1.40 0.00	AFE COST \$ AFE BASIS : DAILY COST : CUM COST :	11,852,851 C&S \$262,158.00 \$8,582,290.00
RT ABOVE SL (m) 25.0 WATER DEPTH (m) LAT 52.5 RT TO SEABED (m) 77.5	CURRENT OP @ 0600 PLANNED OP.	0 Flowing V			o. Suspend well.	

## Summary of period 0000 to 2400 hrs

Well Testing.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jul 04, 2002

PH	SE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
P	T	Р		WCU	00:00	11:00	11.00	1,385	Flowed well for clean up flow period. (Shut well in @ 10:57 hrs)
P	т	Р		FLO	11:00	15:30	4.50	1,385	Well shut in and build up monitored.
P	T	Р		FLO	15:30	24:00	8.50	1,385	Opened well continued flow.

ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jul 05, 2002

PHSE	CLS	RC	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION
PT	Р		FLO	00:00	06:00	6.00	1,385	Continued to flow well.

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0
PRODUCTION HOLE (1)	34.8	Jun 27, 2002	Jun 28, 2002	205.0	8.54	887.0	1,385.0
PRODUCTION CSG/LNR(1)	38.0	Jun 28, 2002	Jun 30, 2002	243.0	10.13	1,385.0	1,385.0
COMPLETION/TIE-BACK	69.5	Jun 30, 2002	Jul 03, 2002	312.5	13.02	1,385.0	1,385.0
PRODUCTION TEST	47.0	Jul 03, 2002	Jul 04, 2002	359.5	14.98	1,385.0	1,385.0

WBM Data COS	TODAY: \$0 CUM. WE	MUD COST: \$199,454	CUM. WBM+OBM CO	DST: \$199,454
FROM : TIME :	VISCOCITY (sec/qt): PV (cps): YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): Fann 3/6/100:	API FLUID LOSS (cm3/30min): FILIER CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	CI: K+C*1000: HARD/Ca: MBT (ppb): PM: PF:	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA (ppb):

BHA #4 Length (ft	:):				. 1	D.C. (1) ANN. VELOCITY (mpm):	0					
WT BLW JAR(k-lbs): BHA WT(k-lbs) :	STRING WT(k-lb: PICK UP WT(k-lb SLK 0FF WT(k-lb	s):	TRQE	MAX (ft-lbs): ON (ft-lbs): OFF (ft-lbs):		D.C. (2) ANN VELOCITY (mpm): H.W.D.P. ANN VELOCITY (mpm): D.P. ANN VELOCITY (mpm) :	0 0 0					
BHA DESCRIPTION:												
TOOL DECODE	TOOL DECORPORATION LIDO OFFICIAL # COMMENT											

ı	TOOL DESCRIPTION	HRS	SER	IAL#				COMM	ENI		
			1		l						
_											
	Survey	MD	TVD	INCL	A7	CORR	'V'	DOGLEG	N/S	F/W	TOOL TYPE

Survey	MD	TVD	INCL	AZ	CORR.	'V'	DOGLEG	N/S	E/W	TOOL TYPE
Last Tool Type : MV	/D   (mBRT)	(mBRT)	DEG	(deg)	AZ (deg)	SECT (m)	(deg/ 30m)	(m)	(m)	
Magnetic Declination: 0.	00 1.281	701	90.98	232.	232.7	756.1	1.49	-469.3	-592.8	MMD
Survey method : Min Curvatur	, , ,	-			232.7	785.0	_	-409.3 -486.8	-592.6 -615.8	
	1,339	1	89.82	233.	233.4	814.0	0.71	-504.2	-639.0	MWD
	1,368	701	90.46	234.	234.0	843.0	0.93	-521.5	-662.4	MWD

Patricia-2 VIC/L21

Bulk Stocks On Rig								
STOCK TYPE		START	USED	REC'D	STOCK			
Barite	SX	336			336			
Bentonite	SX	1546			1546			
G-neat	SX	2166			2166			
G+35% SiFI	SX				0			
G+BFS+12.25% SiFI	SX				0			
Pot Water	М3	98	25	25	98			
Drill Water	М3	523	36		487			
Heli-fuel	ltr	5843	403		5440			
Base Oil	М3				0			
Rig Fuel	М3	380	10		370			
Brine	М3	0			0			

Pι	ımp Data	l								
	P	ump Da	Slow Pump Data							
#	TYPE	LNR	SPM	EFF	Flow	SPP	SPM	SPP	DEPTH	MW
		(")		(%)	(gpm)	(psi)		(psi)	(mBRT)	(ppg)
1	National 1	6.00	0	97	0	0	30	240	1180	9.3
2	National 1	6.00	47	97	93	680	40	310	1180	9.3
3	National 1	6.00	0	97	0	0	50	385	1180	9.3

Casing										
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE TVD (plan/Actual)		LOT (pl/Act)		FIT (pl/Act)			COMMENT
9.5/8 "	9.625	872.4		700.0			1.40	1.40	bbls of slurry (	mped 378 sx og G cement, 78 ② 1.89 sg. Displaced and pressue tested casing to 3000
	TYPE LNGTH CSG O					(	GRD	T	HREAD	
Pup Join Pup Join 9 5/8" Ca Float Joi	NK3SB Pin ht at asing int Jiate Joint	x New Vam Box)	2.35 8.575 3.17 8.575 3.07 8.575 3.07 8.575 746.58 8.575 13.17 8.575 12.04 8.575 12.54 8.575		47.0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	         	L-80 L-80 L-80 L-80 L-80 L-80 L-80 L-80	New Vam Vam x NK3 NK3SB NK3SB NK3SB NK3SB NK3SB		

Personnel : on Site =95			
JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr)	R.King	OMV	7
Drilling Supervisor (Nigh	G.Othen	Service Company	33
Testing Supervisor	M.Mulliner	Diamond Offshore	47
Completion Supervisor	L.Taylor	Catering	8
Reservoir Engineer	A.lon		
Sub Sea Engineer	W.Bates		
Drilling Engineer	P.Zehetleitner		

Drilling Engineer	P.Zehetleitner	
Safety, Inspections and Drills	Summary	
Shakers, Volumes and Losses Data		ENGINEER Graeme Garrick

,								LIVOINLEIX Gracine Gamer
SHAKER 1 SHAKER 2	4x120 4x120	VOLUME A	VAILABLE	E (bbl) =	591	LOSSES (bbl) =	0	COMMENTS
SHAKER 3	4x84	ACTIVE		MIXING		DOWNHOLE		Total losses aprox 450 bbls.
SHAKER 4	4x84	HOLE	405	SLUG		SURF. + EQUIP	0.00	
SHAKER 5		RESERVE	186	HEAVY		DUMPED		
		•				1		<u>.</u>

7 111011010	A 1 30 A 6 18			A 2 A7	297 165		A A			Α	4	345	A 5 1	30
Workboats	Locat	ion Fuel (M3)		D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent E	Brine M3)	VI	<b>leather</b> ISIBILITY(nm)		10	Rig / Sea Data	232
Pacific Sentinel Pacific Conquero	at Riç r On R		1190	215 345	545 177		300		W Pl	'IND SP. (kts) /IND DIR (deg) RES.(mbars) IR TEMP (C)	2 10	5.0 90 02 5.0	VDL (mt) WAVES (m) SWELL (m)	1,778 1.8 2.4

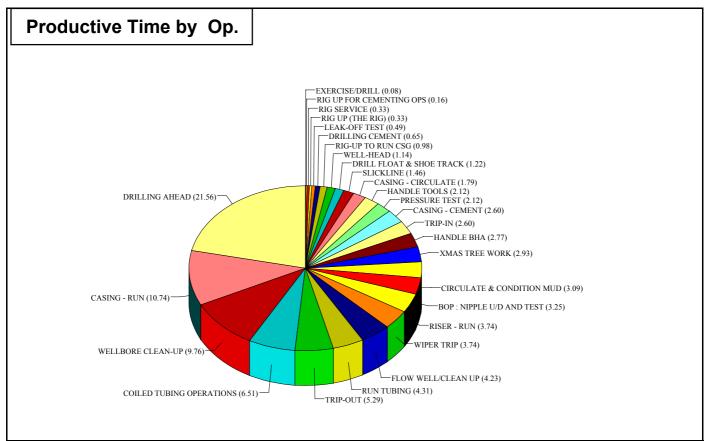
Patricia-2 VIC/L21 **Total move time (hrs)** Total time on well excluding move (hrs)

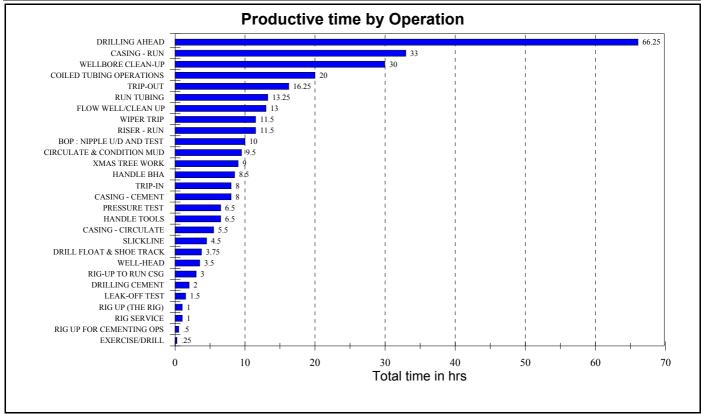
14.50 Total prod. time since spud (hrs): Total troub. time since spud (hrs) 345.00

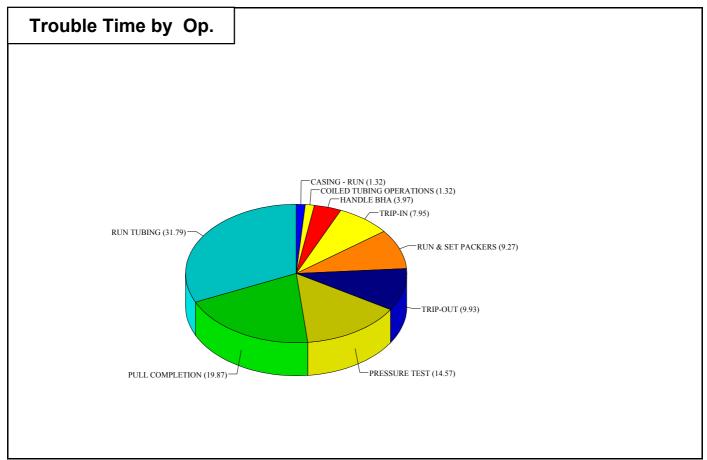
37.75

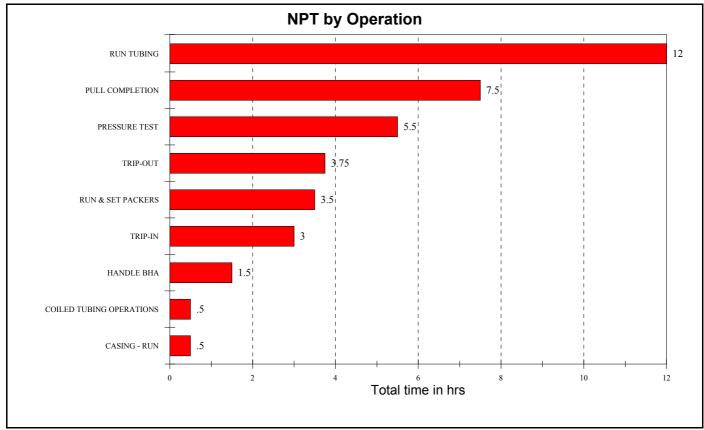
307.25

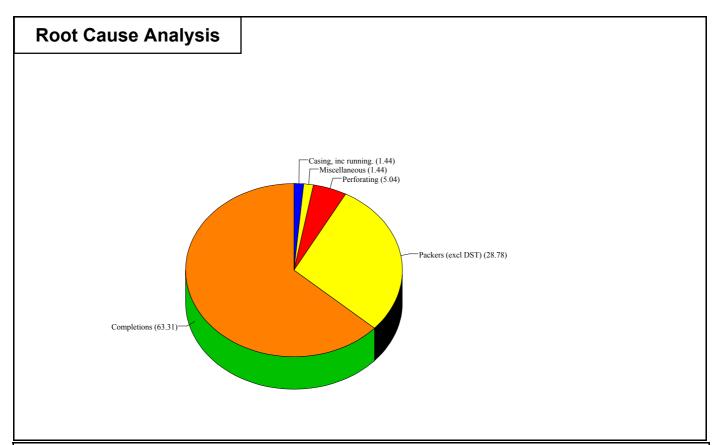
% Trouble time 10.94

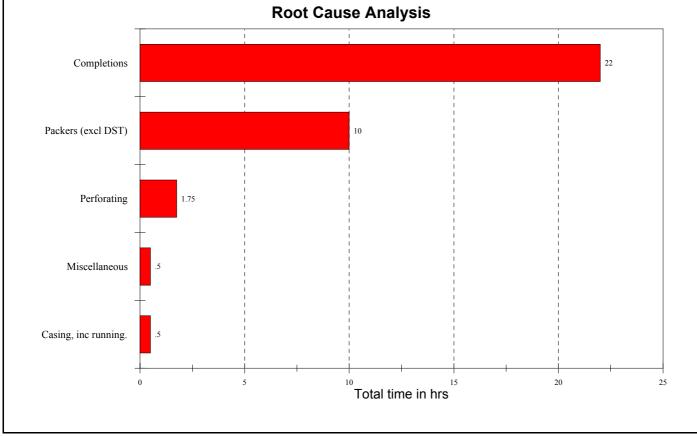




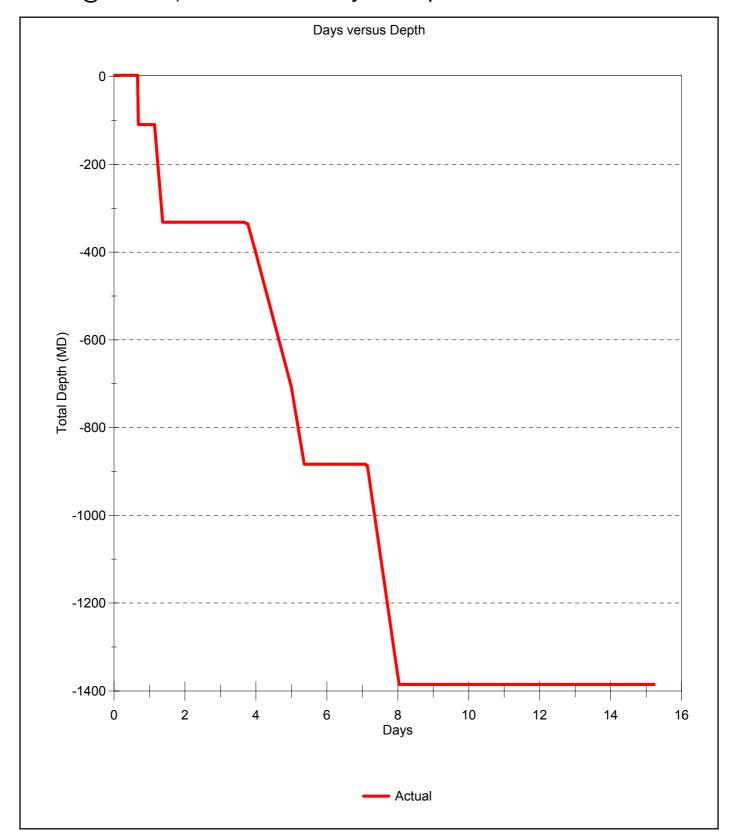








DEPTH @ 24:00 = 1,385.0m after 15.00 days since spud



# **DAILY DRILLING REPORT # 16**

DATE Jul 05, 2002 FROM: R. King /G. Othen TO: C. Allport / S. Crocker

Patricia-2 VIC/L21

Well Data	DEPTH (mBRT)	1,385.0	CUR. HOLE SIZE (")	8.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	701.2	CASING OD (")	9.5/8 "	AFE BASIS :	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	0.0	SHOE TVD (mBRT)	700	DAILY COST:	\$384,597.00
DRILL CO. DIAMOND OFFSHORE	DAYS ON WELL	16.00	FIT (sg)	1.40	CUM COST:	\$8,966,887.00
RIG OCEAN BOUNTY	DAYS +/- CURVE	-3.00	LOT (sg)	0.00		
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 0600 PLANNED OP.	•	nternal Tree Cap. cap with SSR Plug insta	lled. Pull B	OP.	

### Summary of period 0000 to 2400 hrs

Continued Well Testing / Installed SSR Plug in Hanger & Tested. Rigged down and prepared to pull landing string.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jul 05, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION	
PT	Р		FLO	00:00	10:00	10.00	1,385	Continued to flow well.	
PT	Р		FLO	10:00	13:15	3.25	1,385	Well shut in, monitor build up. (End of test @ 13:15 hrs)	
PT	Р		СТО	13:15	14:30	1.25	1,385	POOH with Coil tubing.	
PT	Р		PT	14:30	15:15	.75	1,385	Closed SCSSV and preformed an inflow test. OK.	
PT	Р		СТО	15:15	19:00	3.75	1,385	Held JSA. Rigged down Coil tubing injector head and BOP. Rigged up slick line lubricator and pressure tested 3500 psi.	
SUS	Р		SLK	19:00	20:15	1.25	1,385	RIH with 5.25 brush and cleaned pulg landing profile. Pulled tool to surface no brush, ran back and fished brush.	
SUS	Р		SLK	20:15	23:15	3.00	1,385	Ran 5.25 SSR plug landed in Subsea tree tubing hanger, pressure tested 3000 psi. Bled down and preformed an inflow test OK. Rigged down slick line.	
sus	Р		CMD	23:15	24:00	.75	1,385	Unlatched SST and reverse circulated landing string content.	

## ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jul 06, 2002

PHSE	CLS	RC	OP	FROM	ТО	HRS	DEPTH	ACTIVITY DESCRIPTION			
SUS	Р		PCO	00:00	02:00	2.00	1,385	Laid out Flow head and Lifting frame.			
SUS	Р		PCO	02:00	03:30	1.50	1,385	POOH with 7" Landing string.			
SUS	Р		XT	03:30	04:30	1.00	1,385	Made up Jetting tool, RIH and jetted ITC profile.			
SUS	Р		XT	04:30	06:00	1.50	1,385	Made up & RIH with Internal Tree Cap on 7" Landing string.			

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0
PRODUCTION HOLE (1)	34.8	Jun 27, 2002	Jun 28, 2002	205.0	8.54	887.0	1,385.0
PRODUCTION CSG/LNR(1)	38.0	Jun 28, 2002	Jun 30, 2002	243.0	10.13	1,385.0	1,385.0
COMPLETION/TIE-BACK	69.5	Jun 30, 2002	Jul 03, 2002	312.5	13.02	1,385.0	1,385.0
PRODUCTION TEST	66.0	Jul 03, 2002	Jul 05, 2002	378.5	15.77	1,385.0	1,385.0
SUSPENSION	5.0	Jul 05, 2002	Jul 05, 2002	383.5	15.98	1,385.0	1,385.0

WBM Data	COST TODAY: \$0	CUM. WB MUD COST: \$199,4	CUM. WBM+OBM COST: \$199,454	
Type:  KCL I  FROM: TIME: WEIGHT (sg): TEMP (C):	PV (cps): YP (lb100sc GEL10s/10r (lb100sq.ft): Fann 3/6/10c	(cm3/30min): FILTER CAKE (32nds inch): m/100m HTHPFL (cm3/30min): HTHP CAKE	CI: SOLIDS (%vol K+C*1000: H2O (%vol): HARD/Ca: OIL (%vol): MBT (ppb): SAND: PM: PF: PHPA (ppb):	):

#### **DAILY DRILLING REPORT # 16**

Patricia-2 VIC/L21

BHA #4 Length (ft):

0 D.C. (1) ANN. VELOCITY (mpm): WT BLW JAR(k-lbs): STRING WT(k-lbs): TRQE MAX (ft-lbs): D.C. (2) ANN VELOCITY (mpm): 0 BHA WT(k-lbs): PICK UP WT(k-lbs): TRQE ON (ft-lbs): H.W.D.P. ANN VELOCITY (mpm): 0 SLK 0FF WT(k-lbs): TRQE OFF (ft-lbs): D.P. ANN VELOCITY (mpm):

**BHA DESCRIPTION:** 

TOOL DESCRIPTION HRS SERIAL# COMMENT

Survey TVD INCL CORR. **DOGLEG** N/S E/W **TOOL TYPE** MD ΑZ (mBRT) (mBRT) DEG **SECT** (deg) ΑZ (deg/ (m) (m) Last Tool Type: **MWD** 30m) (deg) (m) Magnetic Declination: 0.00 MWD 1,281 701 90.98 232. 232.7 756.1 1.49 -469.3 -592.8 Survey method: Min Curvature 1,310 701 89.67 232. 232.7 785.0 1.36 -486.8 -615.8 MWD MWD -504.2 1,339 701 89.82 233. 233.4 814.0 0.71 -639.0 1,368 701 90.46 234. 234.0 843.0 0.93 -521.5 -662.4 MWD

**Bulk Stocks On Rig** 

STOCK TYPE		START	USED	REC'D	STOCK
Barite	SX	336			336
Bentonite	SX	1546			1546
G-neat	SX	2166			2166
G+35% SiFI	SX				0
G+BFS+12.25% SiFI	SX				0
Pot Water	МЗ	98	26	26	98
Drill Water	М3	487	11		476
Heli-fuel	ltr	5440			5440
Base Oil	М3				0
Rig Fuel	М3	370	11		359
Brine	М3	0			0

Ρι	Pump Data													
	P	ump Da	ta - la:		Slow F	Pump Data	а							
#	TYPE	LNR (")	SPM	SPP (psi)	SPM	SPP (psi)	DEPTH (mBRT)	MW (ppg)						
1 2 3	National 1 National 1 National 1		-	97 97 97	93 0	0 680 0	30 40 50	240 310 385	1180 1180 1180	9.3 9.3 9.3				

Casing						
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE TVD (plan/Actual)	LOT (pl/Act)	FIT (pl/Act)	COMMENT
9.5/8 "	9.625	872.4	700.0		1.40 1.40	Mixed and pumped 378 sx og G cement, 78 bbls of slurry @ 1.89 sg. Displaced and bumped plug pressue tested casing to 3000 psi.

TYPE	LNGTH (m)	CSG OD (")	WT lbs/ft	GRD	THREAD
Well head	2.35	8.575	47.0	L-80	New Vam
X/over (NK3SB Pin x New Vam Box)	3.17	8.575	47.0	L-80	Vam x NK3
Pup Joint	3.07	8.575	47.0	L-80	NK3SB
Pup Joint	3.07	8.575	47.0	L-80	NK3SB
9 5/8" Casing	746.58	8.575	47.0	L-80	NK3SB
Float Joint	13.17	8.575	47.0	L-80	NK3SB
Intermediate Joint	12.04	8.575	47.0	L-80	NK3SB
Shoe Joint	12.54	8.575	47.0	L-80	NK3SB

Personnel: on Site =91

JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr)	R.King	OMV	7
Drilling Supervisor (Nigh	G.Othen	Service Company	28
Testing Supervisor	M.Mulliner	Diamond Offshore	48
Completion Supervisor	L.Taylor	Catering	8
Reservoir Engineer	A.lon	-	
Sub Sea Engineer	W.Bates		
Drilling Engineer	P.Zehetleitner		

Safety, Inspections and Drills Summary

## **DAILY DRILLING REPORT # 16**

Patricia-2 VIC/L21

Shakers, N SHAKER 1 SHAKER 2 SHAKER 3 SHAKER 4 SHAKER 5	4x12 4x12 4x12 4x84 4x84	0		<b>⁄IE AV</b> A ≣ 4		E (bbl) = MIXIN SLUG HEAV	IG	591	DOW	SES (bbl) = NHOLE :. + EQUIP PED	<b>0</b>	ENGINEEF COMMENT	R Graeme Garrick	
Anchors	A A				A 2 A7	320 175		A A		0 75	A 4	336	A 5	135
Workboat	s	Locatio	n Fuel (M3)	Barite (sx)	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent E	Brine M3)	Weather VISIBILITY	r(nm)	10	Rig / Sea Data RIS.TENS (klbs)	232
Pacific Sentir Pacific Conqu		at Rig On Ro	285 410	1190	215 345	545 177	·	300		WIND SP. WIND DIR PRES.(mb AIR TEMP	(deg) pars)	35.0 290 1001 15.0	VDL (mt) WAVES (m) SWELL (m)	1,910 1.8 8.0

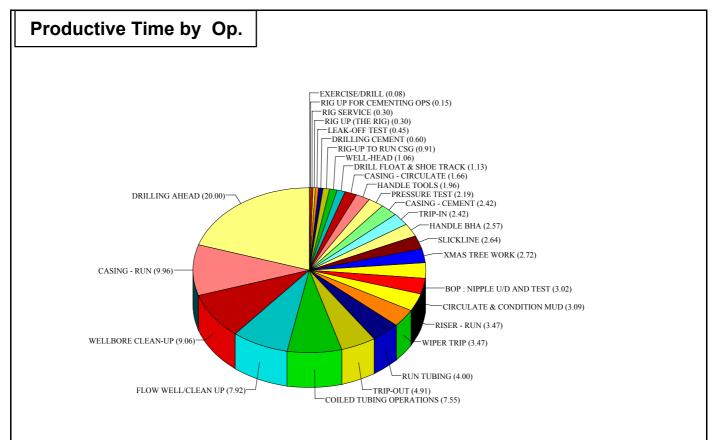
331.25

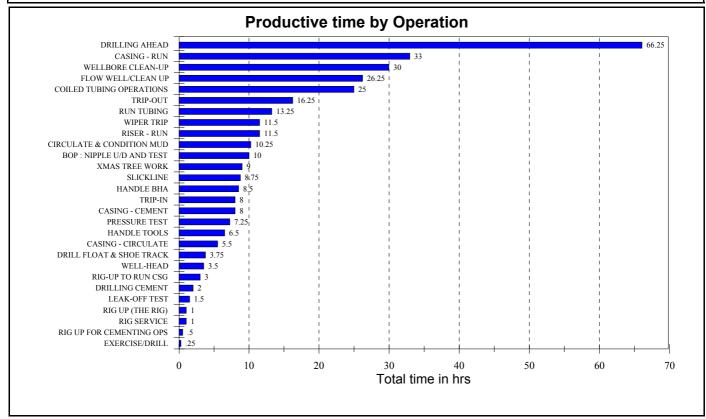
37.75

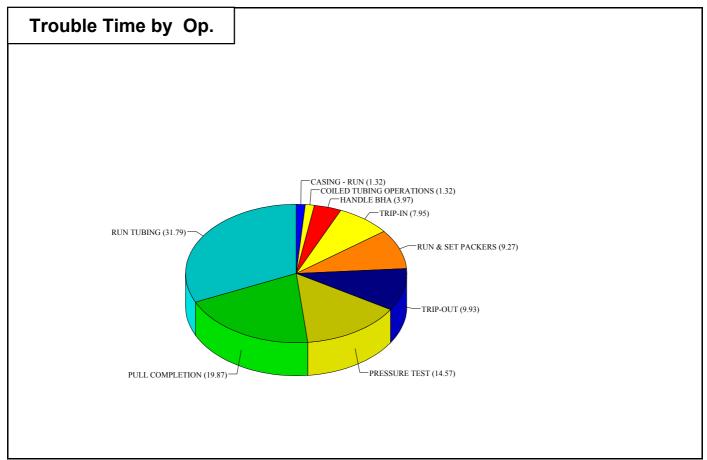
**Total move time (hrs)** Total time on well excluding move (hrs)

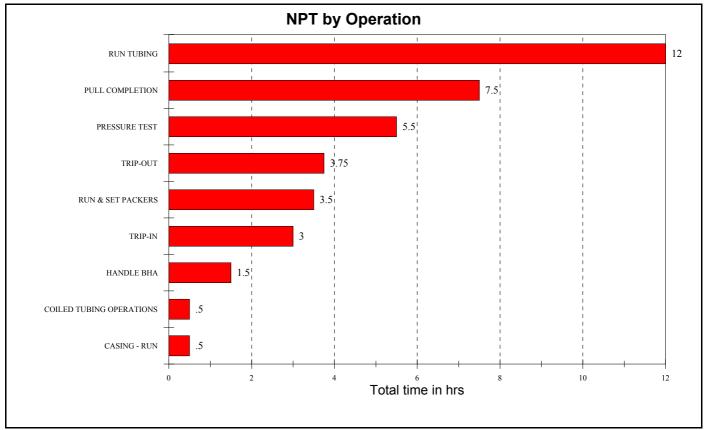
14.50 Total prod. time since spud (hrs): Total troub. time since spud (hrs) 369.00

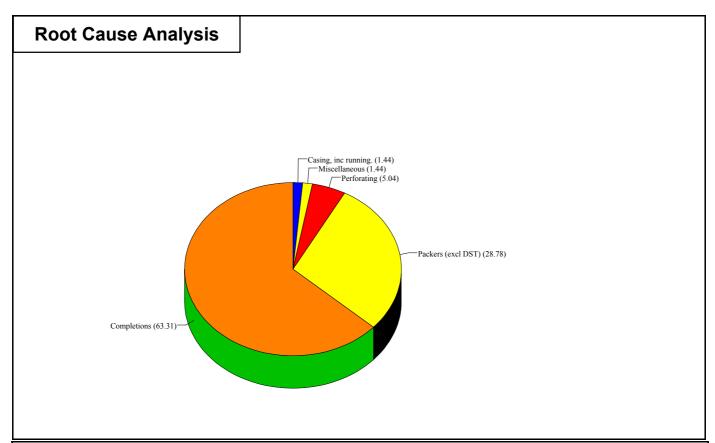
% Trouble time 10.23

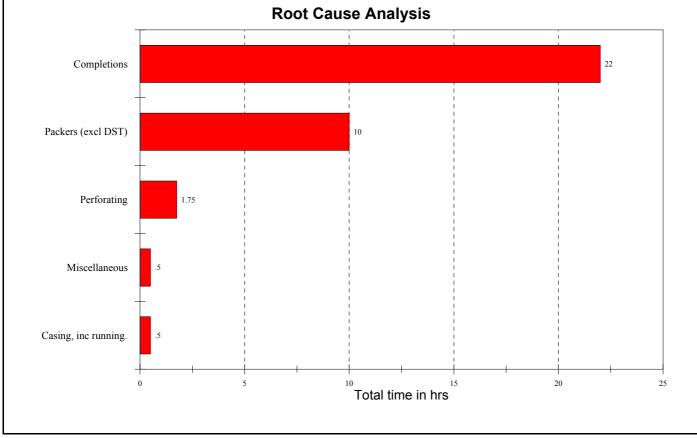




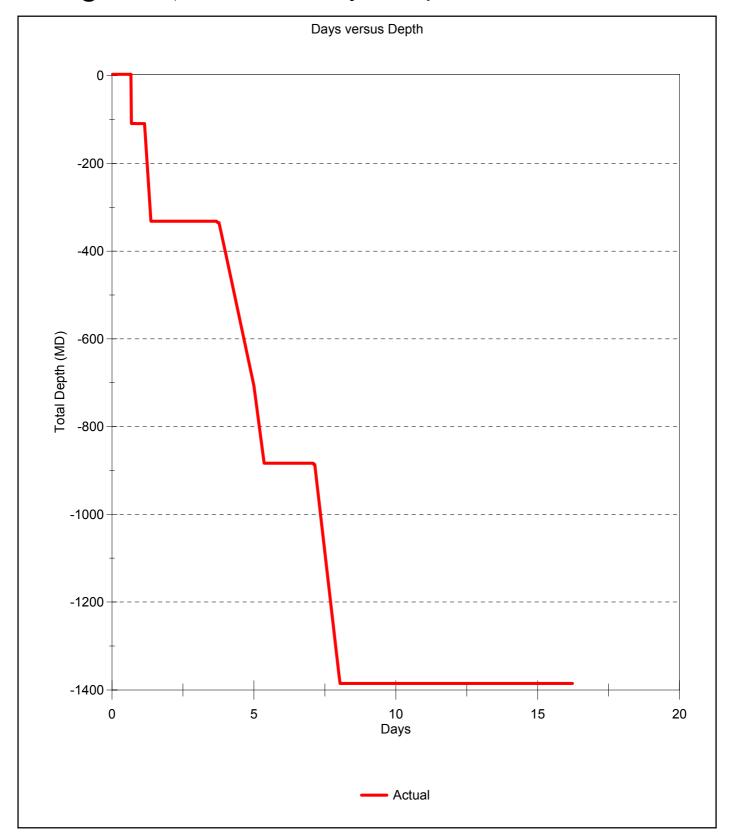








DEPTH @ 24:00 = 1,385.0 m after 16.00 days since spud



# **OMV** Australia

## DAILY DRILLING REPORT # 17

DATE Jul 06, 2002 FROM: R. King /G. Othen TO: C. Allport / S. Crocker

Patricia-2 VIC/L21

Well Data	DEPTH (mBRT)	1,385.0	CUR. HOLE SIZE (")	8.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	701.2	CASING OD (")	9.5/8 "	AFE BASIS :	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	0.0	SHOE TVD (mBRT)	700	DAILY COST:	\$338,167.00
DRILL CO. DIAMOND OFFSHORE	DAYS ON WELL	17.00	FIT (sg)	1.40	CUM COST:	\$9,305,054.00
RIG OCEAN BOUNTY	DAYS +/- CURVE	-3.00	LOT (sg)	0.00		
RT ABOVE SL (m)       25.0         WATER DEPTH (m) LAT       52.5         RT TO SEABED (m)       77.5	CURRENT OP @ 0600 PLANNED OP.	•	n weather. reather to improve to pull	BOP.		

## Summary of period 0000 to 2400 hrs

Laid out Flow head & 7" Landing string. Jetted ITC profile, Run land and tested Internal Tree Cap. Prepared to pull BOP. Waiting on weather.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jul 06, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
SUS	Р		PCO	00:00	02:00	2.00	1,385	Laid out Flow head & Lifting frame.
SUS	Р		PCO	02:00	03:30	1.50	1,385	POOH with 7" Landing string.
SUS	Р		XT	03:30	04:30	1.00	1,385	Made up Jetting tool, RIH and jetted ITC profile.
SUS	Р		XT	04:30	06:00	1.50	1,385	Made up & RIH with Internal Tree Cap on 7" Landing string, pressure tested SSR Plug from above 5000 psi / 10 min.
SUS	Р		XT	06:00	07:00	1.00	1,385	Continued RIH landed Internal Tree Cap.
SUS	TP	WHD	XT	07:00	08:30	1.50	1,385	Opened AAX and X/Overs, trapped pressure inside lines pressure evacuated riser fluid. Flow checked and circulated riser volume.
SUS	Р		PT	08:30	09:00	.50	1,385	Picked up ITC above BOP. Pressure tested 5.25" TGB Hanger SSR Plug against Shear rams 3000 psi / 10 min.
SUS	Р		PT	09:00	10:00	1.00	1,385	Run and landed Internal tree Cap, closed Annular & pressure tested 3500 psi. Confirmed with 50 kips Over pull.
sus	Р		PCO	10:00	13:30	3.50	1,385	Unlatched Internal tree cap, POOH laid out 7" landing string. (ROV pulled control umbilical free plate. Removed plate & recovered deployment frame to surface. Attempted to close TCT needle valve, unable to close due to insufficient torque on ROV)
RMO	Р		BOP	13:30	14:30	1.00	1,385	Make up jetting tool for BOP & Rigged up to pull BOP.
RMO	TP	WEA	NOM	14:30	24:00	9.50	1,385	Unable to unlatch BOP. Inclement weather.

#### ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jul 07, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
RMO	TP	WEA	NOW	00:00	06:00	6.00	1,385	Continue to wait on weather.

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0
PRODUCTION HOLE (1)	34.8	Jun 27, 2002	Jun 28, 2002	205.0	8.54	887.0	1,385.0
PRODUCTION CSG/LNR(1)	38.0	Jun 28, 2002	Jun 30, 2002	243.0	10.13	1,385.0	1,385.0
COMPLETION/TIE-BACK	69.5	Jun 30, 2002	Jul 03, 2002	312.5	13.02	1,385.0	1,385.0
PRODUCTION TEST	66.0	Jul 03, 2002	Jul 05, 2002	378.5	15.77	1,385.0	1,385.0
SUSPENSION	18.5	Jul 05, 2002	Jul 06, 2002	397.0	16.54	1,385.0	1,385.0
RIG-DOWN/MOVE OUT	10.5	Jul 06, 2002	Jul 06, 2002	407.5	16.98	1,385.0	1,385.0

WBM Data	COST T	ODAY: \$0 CI	UM. WB MUD COST: \$199,454	CUM. WBM+OBM COST: \$199,454			
Type : KCI	L Brine	VISCOCITY (sec/qt): PV (cps):	API FLUID LOSS (cm3/30min): FILTER CAKE	CI : K+C*1000 :	SOLIDS (%vol) : H2O (%vol) :		
FROM: TIME: WEIGHT (sg): TEMP (C):	1.08	YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): Fann 3/6/100:	(32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	HARD/Ca: MBT (ppb): PM: PF:	OIL (%vol) : SAND : PH : PHPA (ppb) :		

**BHA#4** Length (ft): D.C. (1) ANN. VELOCITY (mpm): 0 WT BLW JAR(k-lbs): STRING WT(k-lbs): TRQE MAX (ft-lbs): D.C. (2) ANN VELOCITY (mpm): 0 BHA WT(k-lbs): PICK UP WT(k-lbs): TRQE ON (ft-lbs): H.W.D.P. ANN VELOCITY (mpm): 0 SLK 0FF WT(k-lbs): TRQE OFF (ft-lbs): D.P. ANN VELOCITY (mpm): 0 BHA DESCRIPTION: TOOL DESCRIPTION HRS SERIAL# COMMENT

Survey INCL CORR **DOGLEG** N/S E/W **TOOL TYPE** ΑZ (mBRT) (mBRT) DEG SECT Α7 (deg/ (deg) (m) (m) **MWD** 30m)

Last Tool Type: Magnetic Declination: 0.00 1,281 701 90.98 232

(deg) (m) 756.1 MWD 232.7 1.49 -469.3-592.8 Survey method: Min Curvature 1,310 701 89.67 232. 232.7 785.0 1.36 -486.8 -615.8 MWD 89.82 233. 814.0 0.71 -504.2 **MWD** 1,339 701 233.4 -639.0 1,368 701 90.46 234 234.0 843.0 0.93 -521.5 -662.4 MWD

**Bulk Stocks On Rig** USED REC'D STOCK STOCK TYPE **START** Barite SX 336 336 Bentonite SX 1546 1546 SX 2166 2166 G-neat G+35% SiFI SX 0 G+BFS+12.25% SiFI SX 0 Pot Water М3 98 25 25 98 Drill Water М3 476 18 458 Heli-fuel ltr 5440 235 5205 Base Oil М3 0 Rig Fuel М3 359 8 351 Brine МЗ 0 0

Pι	Pump Data													
	P	ump Da	Slow Pump Data											
#	TYPE	LNR	SPM	SPP	DEPTH	MW								
		(")		(%)	(gpm)	(psi)		(psi)	(mBRT)	(ppg)				
1	National 1	6.00	0	97	0	0	30	240	1180	9.3				
2	National 1	6.00	47	97	93	680	40	310	1180	9.3				
3	National 1	6.00	0	97	0	0	50	385	1180	9.3				

Casing										
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE TV (plan/Actu		LOT (pl/Act)		FI (pl/A	-		COMMENT
9.5/8 "	9.625	872.4		700.0			1.40	1.40	bbls of slurry (	mped 378 sx og G cement, 78 @ 1.89 sg. Displaced and pressue tested casing to 3000
		TYPE	LNGTH (m)	CSG OD (")	WT lbs/ft	(	GRD	7	THREAD	
Well hea	ıd		2.35	8.575	47.0	L	80	١	lew Vam	

1112	(m )	(")	lbs/ft	GILD	TTINEAD
Well head	2.35	8.575	47.0	L-80	New Vam
X/over (NK3SB Pin x New Vam Box)	3.17	8.575	47.0	L-80	Vam x NK3
Pup Joint	3.07	8.575	47.0	L-80	NK3SB
Pup Joint	3.07	8.575	47.0	L-80	NK3SB
9 5/8" Casing	746.58	8.575	47.0	L-80	NK3SB
Float Joint	13.17	8.575	47.0	L-80	NK3SB
Intermediate Joint	12.04	8.575	47.0	L-80	NK3SB
Shoe Joint	12.54	8.575	47.0	L-80	NK3SB

Personnel : on Site =92								
JOB TITLE	NAME	CO. NAME	#					
Drilling Supervisor (snr) Drilling Supervisor (Nigh Testing Supervisor Completion Supervisor Sub Sea Engineer Drilling Engineer	R.King G.Othen M.Mulliner L.Taylor W.Bates P.Zehetleitner	OMV Service Company Diamond Offshore Catering	7 28 49 8					

Safety, Insp	ecti	ons an	d Dri	lls			Sum	mary							
SHAKER 2	4x120 4x120		VOLUN	ME AVA	ata AILABLI	. ,		591			S (bbl) =	0	ENGINEE	R Graeme Garrick	
	4x84 4x84		ACTIVE HOLE RESER	4	105 186	MIXIN SLUG HEAV			SU		HOLE + EQUIP ED	0.00			
Anchors	A 1				A 2 A7	320 175		A A		210 175		A 4	336	A 5	135
Workboats		Location	Fuel (M3)	Barite (sx)	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent E	Brine (M3)		Weather VISIBILITY WIND SP.	(nm)	10 60.0	Rig / Sea Dat RIS.TENS (klbs) VDL (mt)	
Pacific Sentine Pacific Conque		Geelon Rig	272 367	1190	545 610	210 190		300			WIND DIR	` '	270	WAVES (m)	1.8

PRES.(mbars)

AIR TEMP (C)

1011

15.0

SWELL (m)

4.3

343.25

39.25

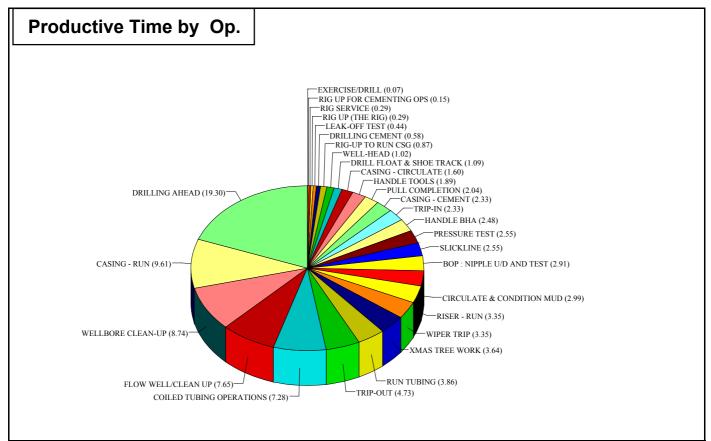
**Total move time (hrs)** Total time on well excluding move (hrs)

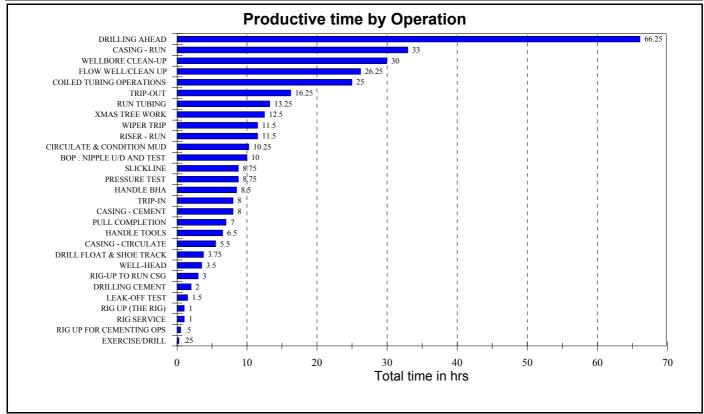
25.00 Total prod. time since spud (hrs):

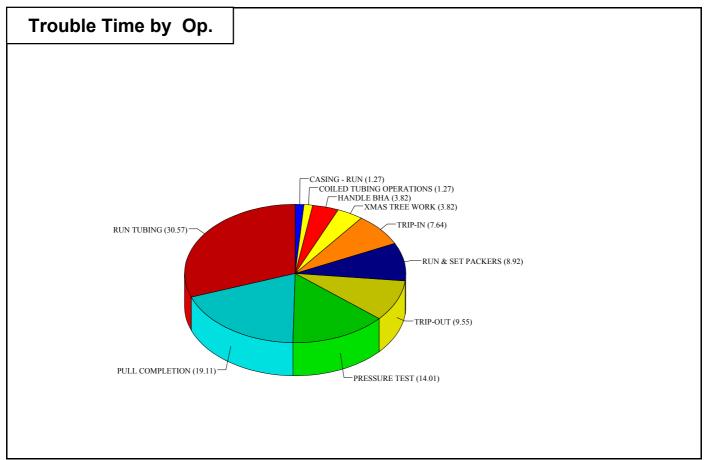
Total troub. time since spud (hrs)

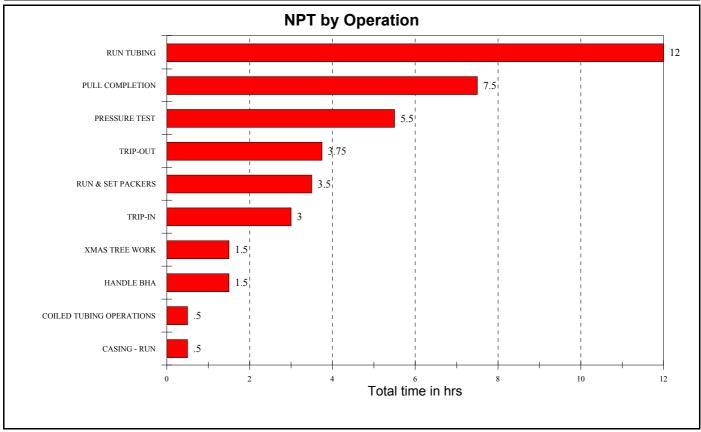
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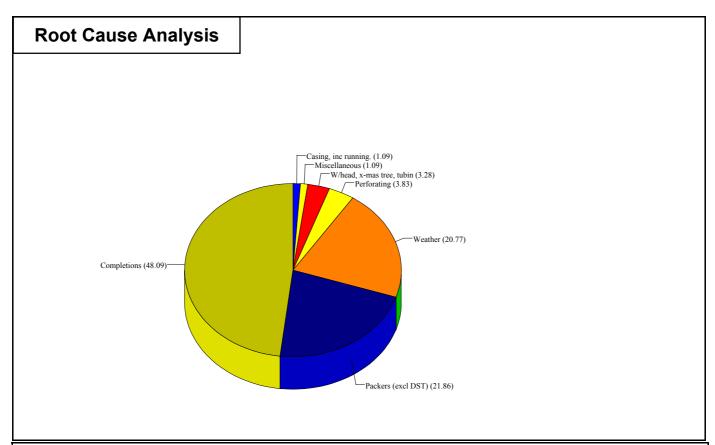
382.50 % Trouble time

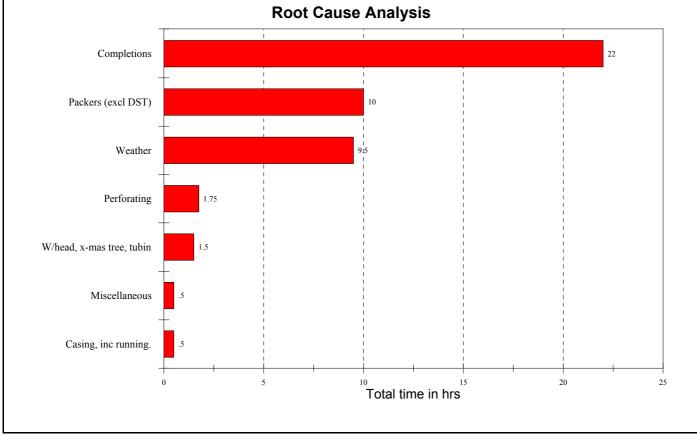




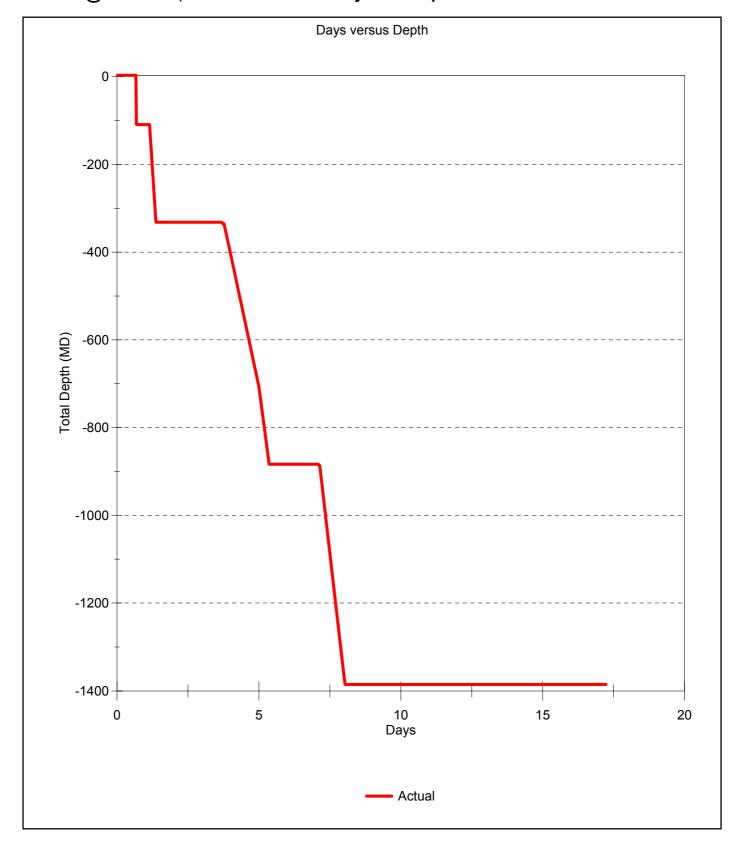








DEPTH @ 24:00 = 1,385.0 m after 17.00 days since spud



# **OMV** Australia

## **DAILY DRILLING REPORT # 18**

DATE Jul 07, 2002 FROM: R. King /G. Othen TO: C. Allport / S. Crocker

Patricia-2 VIC/L21

Well Data  COUNTRY AUSTRALIA FIELD GIPPSLAND SUB-BASIN DRILL CO. DIAMOND OFFSHORE RIG OCEAN BOUNTY	DEPTH (mBRT) TVD (mBRT) PROGRESS (m) DAYS ON WELL DAYS +/- CURVE	1,385.0 701.2 0.0 18.00 -2.50	CUR. HOLE SIZE (") CASING OD (") SHOE TVD (mBRT) FIT (sg) LOT (sq)	8.50 9.5/8 "   700 1.40 0.00	AFE COST \$ AFE BASIS : DAILY COST : CUM COST :	11,852,851 C&S \$327,852.00 \$9,632,906.00
RT ABOVE SL (m) 25.0 WATER DEPTH (m) LAT 52.5 RT TO SEABED (m) 77.5	CURRENT OP @ 0600	ROV Repa		em.	cap / Pull posts ar	nd start Anchors.

## Summary of period 0000 to 2400 hrs

Waited on weather. Pulled BOP. Commenced ROV work on sub sea tree.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jul 07, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
RMO	С		NOM	00:00	11:00	11.00	1,385	Continue to wait on weather. (Jumped ROV closed TCT needle valve & fitted protector cap)
RMO	Р		ВОР	11:00	12:00	1.00	1,385	Rigged down diverter in preparation to unlatch.
RMO	Р		ВОР	12:00	13:45	1.75	1,385	Held JSA. Laid out diverter picked up landing joint.
RMO	Р		ВОР	13:45	17:30	3.75	1,385	Unlatched and pulled BOP. (Moved Rig 45ft) Removed Ruckers & choke / kill lines. Laid out landing joint.
RMO	Р		ВОР	17:30	19:15	1.75	1,385	BOP on beams, split move and secured.
RMO	Р		ВОР	19:15	20:30	1.25	1,385	Laid out joints of riser & rigged down BOP equipment.
SUS	Р		XT	20:30	21:30	1.00	1,385	Rigged up and ran umbilical with deployment frame. Made up Tree cap to drill pipe. (ROV removed PCA protector, positioned ROV and waited for deployment frame)
SUS	Р		XT	21:30	24:00	2.50	1,385	Ran Tree cap to 65m stand by for ROV. (Landed Deployment frame, removed umbilical from frame & stabbed into hydraulic free plate. Picked up electrical lead and untangle cable from hydraulic line)

ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jul 08, 2002

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	PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
	SUS	TP	MSC	XT	00:00	04:00	4.00	1,385	ROV clump weight cable parted. Recovered ROV to surface for additional weight. ROV dived to recover clump weight @ 02:15 hrs. Whilst recovering clump weight the ROV became entangled in the electrical cable attempted to work free unsuccessful. (P. Conqueror & P. Sentinel decks clear @ 03:00 Hrs)
	SUS	TP		XT	04:00	04:30	.50	1,385	Pulled Tree cap to surface. ROV observed electrical cable to be severed.
	SUS	TP		XT	04:30	06:00	1.50	1,385	Attempted to recover ROV to surface to repair clump weight system. ROV entangled in deployment frame, put ROV back on bottom and attempted to release hydraulic stab.

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG MOVE	12.0	Jun 20, 2002	Jun 20, 2002	12.0	0.50	0.0	0.0
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	14.5	0.60	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	18.5	0.77	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	24.0	1.00	112.0	112.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	39.0	1.63	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	80.0	3.33	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	140.5	5.85	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	170.3	7.09	884.0	884.0
PRODUCTION HOLE (1)	34.8	Jun 27, 2002	Jun 28, 2002	205.0	8.54	887.0	1,385.0
PRODUCTION CSG/LNR(1)	38.0	Jun 28, 2002	Jun 30, 2002	243.0	10.13	1,385.0	1,385.0
COMPLETION/TIE-BACK	69.5	Jun 30, 2002	Jul 03, 2002	312.5	13.02	1,385.0	1,385.0
PRODUCTION TEST	66.0	Jul 03, 2002	Jul 05, 2002	378.5	15.77	1,385.0	1,385.0
SUSPENSION	22.0	Jul 05, 2002	Jul 07, 2002	400.5	16.69	1,385.0	1,385.0
RIG-DOWN/MOVE OUT	31.0	Jul 06, 2002	Jul 07, 2002	431.5	17.98	1,385.0	1,385.0

WBM Data	COST T	ODAY: \$0 CI	UM. WB MUD COST: \$199,454	CUM. WBM+OBM CO	OST: \$199,454
Type : KCI	L Brine	VISCOCITY (sec/qt): PV (cps):	API FLUID LOSS (cm3/30min): FILTER CAKE	CI : K+C*1000 :	SOLIDS (%vol) : H2O (%vol) :
FROM: TIME: WEIGHT (sg): TEMP (C):	1.08	YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): Fann 3/6/100:	(32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	HARD/Ca: MBT (ppb): PM: PF:	OIL (%vol) : SAND : PH : PHPA (ppb) :

**BHA#4** Length (ft): D.C. (1) ANN. VELOCITY (mpm): 0 WT BLW JAR(k-lbs): STRING WT(k-lbs): TRQE MAX (ft-lbs): D.C. (2) ANN VELOCITY (mpm): 0 BHA WT(k-lbs): PICK UP WT(k-lbs): TRQE ON (ft-lbs): H.W.D.P. ANN VELOCITY (mpm): 0 SLK 0FF WT(k-lbs): TRQE OFF (ft-lbs): D.P. ANN VELOCITY (mpm): 0 BHA DESCRIPTION: TOOL DESCRIPTION HRS SERIAL# COMMENT

Survey **INCL** CORR. **DOGLEG** N/S E/W **TOOL TYPE** ΑZ (mBRT) (mBRT) DEG SECT (deg/ (deg) Α7 (m) (m) Last Tool Type: **MWD** (deg) 30m) (m) Magnetic Declination: 0.00 756.1 MWD 1,281 701 90.98 232 232.7 1.49 -469.3-592.8 Survey method: Min Curvature 1,310 701 89.67 232. 232.7 785.0 1.36 -486.8 -615.8 MWD 89.82 233. 814.0 0.71 -504.2 -639.0 MWD 1,339 701 233.4 1,368 701 90.46 234 234.0 843.0 0.93 -521.5 -662.4 MWD

**Bulk Stocks On Rig** START USED REC'D STOCK STOCK TYPE Barite SX 336 336 Bentonite SX 1546 1546 SX 2166 2166 G-neat G+35% SiFI SX 0 G+BFS+12.25% SiFI SX 0 Pot Water М3 98 26 26 98 Drill Water М3 458 458 463 Heli-fuel ltr 5205 4742 Base Oil 0 М3 Rig Fuel М3 351 15 336 Brine МЗ 0 0

Pu	ımp Data	1								
Щ	P	ump Da	ta - la	st 24 h	rs		Slow Pump Data			
# 1 2 3	TYPE	LNR	SPM	EFF	Flow	SPP	SPM	SPP	DEPTH	MW
Ш		(")		(%)	(gpm)	(psi)		(psi)	(mBRT)	(ppg)
1	National 1	6.00	0	97	0	0	30	240	1180	9.3
2	National 1	6.00	47	97	93	680	40	310	1180	9.3
3	National 1	6.00	0	97	0	0	50	385	1180	9.3

Casing										
DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE T\ (plan/Actu	<b>I</b>	LOT (pl/Act)		FIT (pl/Act)		COMMENT	
9.5/8 "	9.625	872.4		bbls of		bbls of slurry (bumped plug	mped 378 sx og G cement, 78 ② 1.89 sg. Displaced and pressue tested casing to 3000			
		TYPE	LNGTH (m)	CSG OD (")	WT lbs/ft		GRD	Т	HREAD	
X/over (I Pup Join Pup Join 9 5/8" Ca Float Join Intermed				8.575 8.575 8.575 8.575 8.575 8.575 8.575 8.575	47.0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	L   L   L   L	L-80 L-80 L-80 L-80 L-80 L-80 L-80 L-80	Va	lew Vam am x NK3 NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB	

Pacific Sentinel Pacific Conqueror

1,735

1.8

4.3

JOB TITLE	NAME	CO. NAME	#
Drilling Supervisor (snr)	R.King	OMV	Ę
Drilling Supervisor (Nigh	G.Othen	Service Company	18
Testing Supervisor		Diamond Offshore	49
Completion Supervisor		Catering	3
Sub Sea Engineer	W.Bates		
Drilling Engineer	P.Zehetleitner		

Shakers, \	/olume	s and	Loss	es Da	ata								ENGIN	EER Gra	aeme Garrick		
SHAKER 1 SHAKER 2 SHAKER 3 SHAKER 4 SHAKER 5	4x120 4x120 4x84 4x84		VOLUME ACTIVE HOLE RESERV	40	)5	E (bbl) = MIXIN SLUG HEAV	G	591	D	OWNH	- EQUIP	<b>0</b> 0.00	СОММЕ	ENTS			
Anchors	A 1 A 6	335 205			A 2 A7	245 175			4 3 A8	185 175		A 4	300		A 5	115	
Workboat		ocation		Barite (sx)	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent (sx)	Brine (M3)		Weather	Y(nm)	10	RIS	y / Sea Data TENS (klbs)		0

300

WIND SP. (kts)

PRES.(mbars)

AIR TEMP (C)

WIND DIR (deg) 270

50.0

1020

15.0

VDL (mt)

WAVES (m)

SWELL (m)

379 359

1190

525 570

235 185

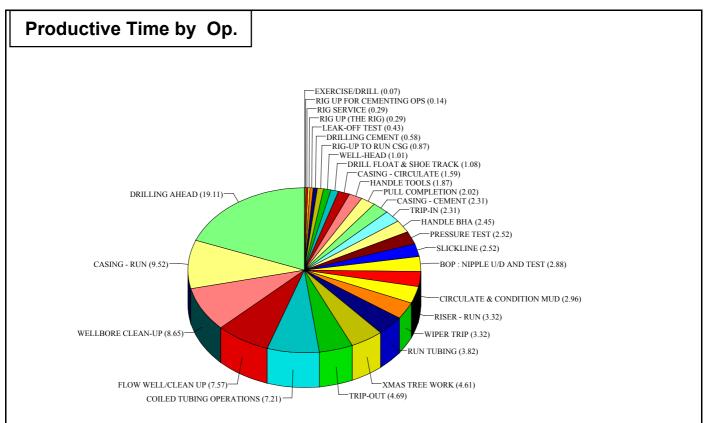
Rig Rig

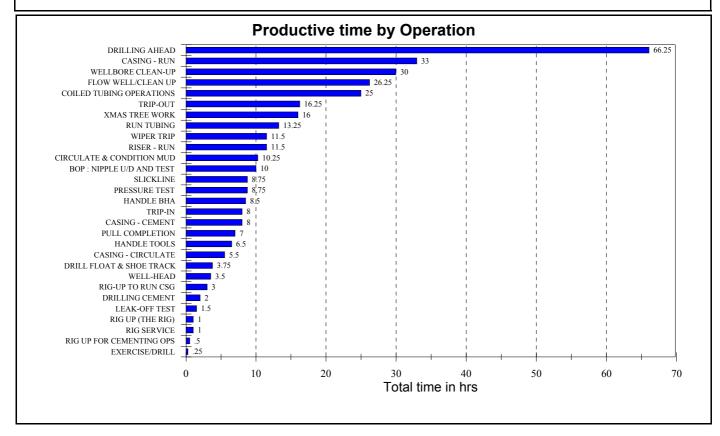
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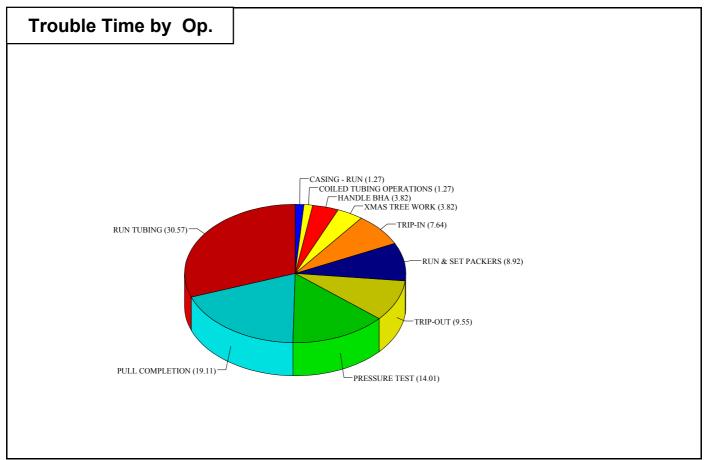
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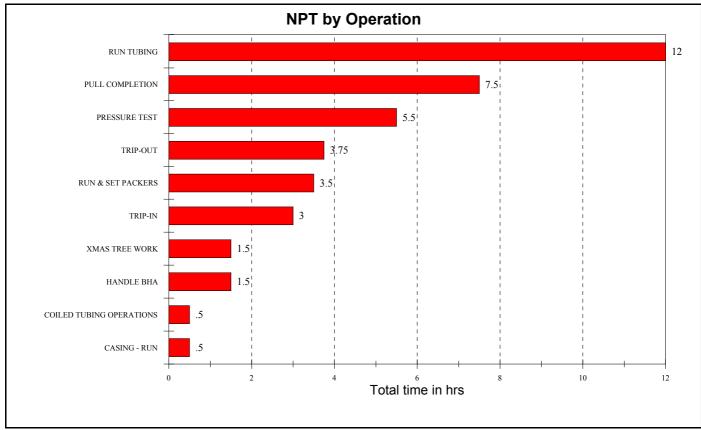
Total move time (hrs) Total time on well excluding move (hrs) 45.50 Total prod. time since spud (hrs):
Total troub. time since spud (hrs)
386.00 % Trouble time

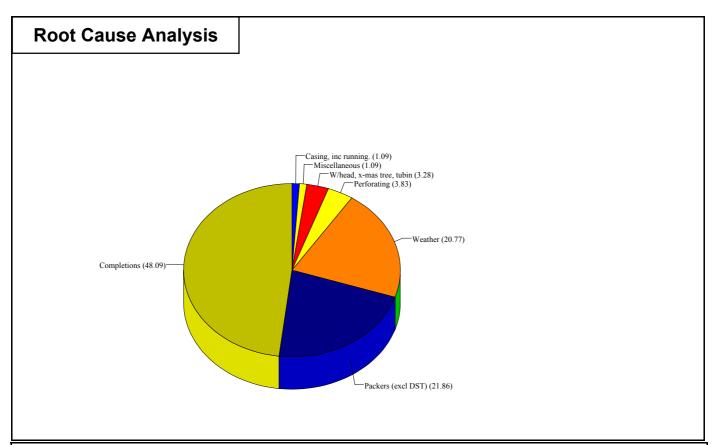
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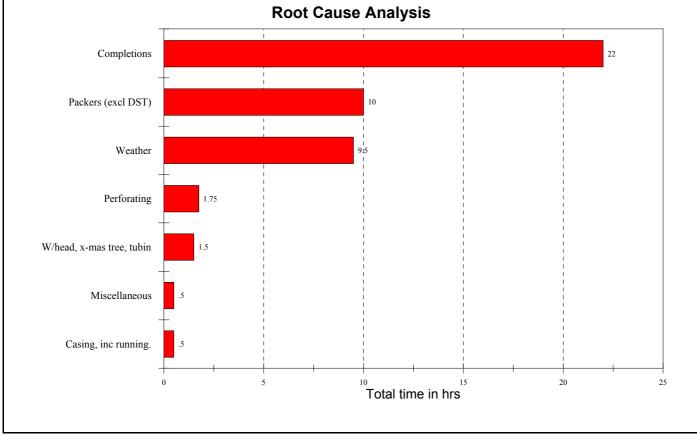




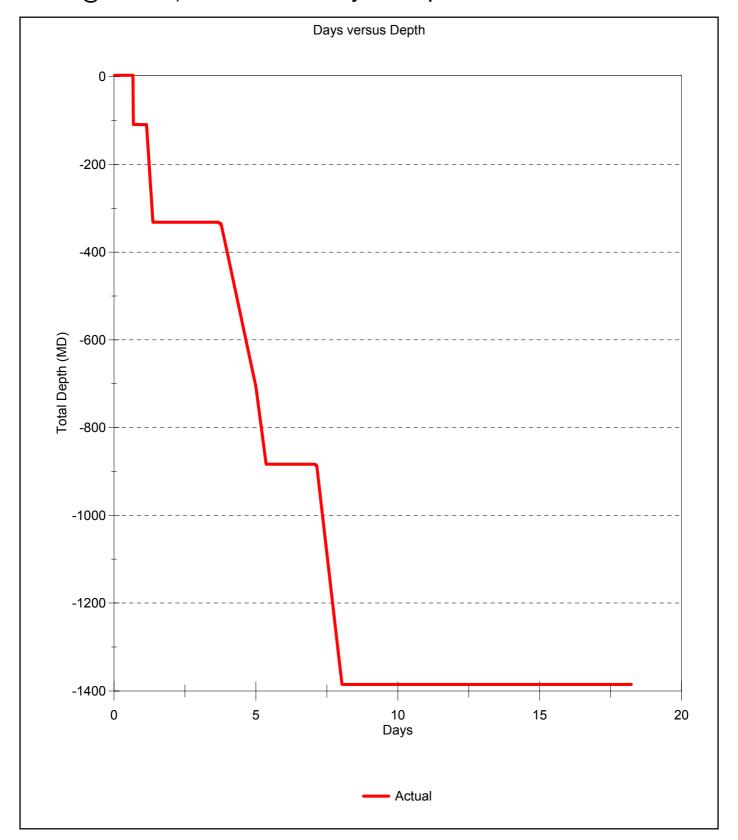








DEPTH @ 24:00 = 1,385.0 m after 18.00 days since spud



# **OMV** Australia

## **DAILY DRILLING REPORT # 19**

DATE Jul 08, 2002 FROM: R. King /G. Othen TO: C. Allport / S. Crocker

Patricia-2 VIC/L21

Well Data	DEPTH (mBRT)	1,385.0	CUR. HOLE SIZE (")	8.50	AFE COST \$	11,852,851
COUNTRY AUSTRALIA	TVD (mBRT)	701.2	CASING OD (")	9.5/8 "	AFE BASIS :	C&S
FIELD GIPPSLAND SUB-BASIN	PROGRESS (m)	0.0	SHOE TVD (mBRT)	700	DAILY COST :	\$365,007.00
DRILL CO. DIAMOND OFFSHORE RIG OCEAN BOUNTY	DAYS ON WELL	19.00	FIT (sg)	1.40	CUM COST :	\$9,997,913.00
RIG OCEAN BOUNTY	DAYS +/- CURVE	-2.90	LOT (sg)	0.00		
RT ABOVE SL (m) 25.0  WATER DEPTH (m) LAT 52.5  RT TO SEABED (m) 77.5	CURRENT OP @ 060 PLANNED OP.		to Sole-2. o on Sole-2			
11. 10 02. 1828 (iii)						

#### Summary of period 0000 to 2400 hrs

 $\ensuremath{\mathsf{ROV}}$  work on sub sea tree, Installed Corosion cap & recovered posts. Retrieve anchors.

## ACTIVITY FOR PERIOD 0000 HRS TO 2400 HRS ON Jul 08, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
SUS	TP	MSC	XT	00:00	04:00	4.00	1,385	ROV clump weight cable parted. Recovered ROV to surface for additional weight. ROV dived to recover clump weight @ 02:15 hrs. Whilst recovering clump weight the ROV became entangled in the electrical cable attempted to work free unsuccessful. (P.Conqueror & P. Sentinel decks clear @ 03:00 Hrs)
SUS	TP		XT	04:00	04:30	.50	1,385	Pulled Tree cap to surface. ROV observed electrical cable to be severed from ROV.
SUS	TP		XT	04:30	07:30	3.00	1,385	Attempted to recover ROV to surface to repair clump weight system. ROV entangled in deployment frame. Put ROV back on bottom and attempted to engage and release hydraulic stab. Successful.
SUS	TP		XT	07:30	10:30	3.00	1,385	Recovered ROV & repaired Clump weight system. Pulled deployment frame.
SUS	Р		XT	10:30	11:30	1.00	1,385	Ran & Installed Corrosion cap. Pulled sub sea tree posts. (ROV set electronic SCM caps)
RM	P		AH	11:30	24:00	12.50	1,385	Anchor Handling. Start # 4@ 11:39hrs / Start # 8@ 11:45hrs. Finished # 8@ 13:16hrs / Finished # 4@ 13:38hrs / Start # 1@ 13:26hrs / Start # 5@ 13:51hrs. Finished # 1@14:50hrs / Finished # 5@15:34hrs. Start# 7@15:45hrs Finished # 7@ 17:50hrs. (Sentinel connected to tow bridle @ 16:34hrs) Start # 2@ 18:10hrs Finished # 2@ 20:12hrs / Start # 3@ 20:33hrs. Rig commenced heaving in on # 6@ 21:04hrs. Finished # 3@ 22:32hrs. (Conqueror connected to tow bridle @ 23:52hrs) Senintel reports broken wire to scotsman Repaired wire.

ACTIVITY FOR PERIOD 0000 HRS TO 0600 HRS ON Jul 09, 2002

PHSE	CLS	RC	OP	FROM	TO	HRS	DEPTH	ACTIVITY DESCRIPTION
RM	Р		АН	00:00	00:45	.75		Sentinel takes up static tow @ 00:20hrs. Rig continued heaving #6 Finished @ 00:45hrs (Rig on tow @ 00:45hrs)

Phase Analysis	Phase hrs	Start On	Finish On	Cum Hrs	Cum Days	Min Depth	Max Depth
RIG-UP/PRESPUD	2.5	Jun 20, 2002	Jun 20, 2002	2.5	0.10	0.0	0.0
CONDUCTOR HOLE	4.0	Jun 20, 2002	Jun 20, 2002	6.5	0.27	0.0	112.0
CONDUCTORS	5.5	Jun 20, 2002	Jun 20, 2002	12.0	0.50	112.0	112.0
RIG MOVE	24.5	Jun 20, 2002	Jul 08, 2002	36.5	1.52	0.0	1,385.0
SURFACE HOLE	15.0	Jun 21, 2002	Jun 21, 2002	51.5	2.15	112.0	334.0
SURFACE CASING	41.0	Jun 21, 2002	Jun 23, 2002	92.5	3.85	334.0	334.0
INTERMEDIATE HOLE (1)	60.5	Jun 23, 2002	Jun 25, 2002	153.0	6.38	334.0	884.0
INTERMEDIATE CASING (1)	29.8	Jun 25, 2002	Jun 27, 2002	182.8	7.61	884.0	884.0
PRODUCTION HOLE (1)	34.8	Jun 27, 2002	Jun 28, 2002	217.5	9.06	887.0	1,385.0
PRODUCTION CSG/LNR(1)	38.0	Jun 28, 2002	Jun 30, 2002	255.5	10.65	1,385.0	1,385.0
COMPLETION/TIE-BACK	69.5	Jun 30, 2002	Jul 03, 2002	325.0	13.54	1,385.0	1,385.0
PRODUCTION TEST	66.0	Jul 03, 2002	Jul 05, 2002	391.0	16.29	1,385.0	1,385.0
SUSPENSION	33.5	Jul 05, 2002	Jul 08, 2002	424.5	17.69	1,385.0	1,385.0
RIG-DOWN/MOVE OUT	31.0	Jul 06, 2002	Jul 07, 2002	455.5	18.98	1,385.0	1,385.0

WBM Data	COST T	ODAY: \$0 C	CUM. WB MUD COST: \$199,454	CUM. WBM+OBM (	COST: \$199,454
Type:  KC FROM: TIME: WEIGHT (sg): TEMP (C):		VISCOCITY (sec/qt): PV (cps): YP (lb100sq.ft): GEL10s/10m/100m (lb100sq.ft): Fann 3/6/100:	API FLUID LOSS (cm3/30min): FIL I EK CAKE (32nds inch): HTHPFL (cm3/30min): HTHP CAKE (32nds inch):	CI: K+C*1000: HARD/Ca: MBT (ppb): PM: PF:	SOLIDS (%vol): H2O (%vol): OIL (%vol): SAND: PH: PHPA (ppb):

Bit Data for Bit # 4 IADC #		Wear	I O1 D L	B G O2 F	₹
SIZE ("):  MANUFACTURER: Reed	AVE WOB (k-lbs) :	NOZZLES	Diffied over the last 24 fils	Calculated over the bit re	un
TYPE:	AVE RPM :	X X	` ′	CUM.METERAGE (m) CUM. ON BOT. HRS :	501 13.8
SERIAL # : DEPTH IN (m RT) :	FLOW (gpm) : PUMP PRESS. (psi):	X X		CUM.IADC DRILL HRS: CUM.TOT. REVS:	22.0
DEPTH OUT (m RT):	HSI (hp/sqi): 0.000	х	ROP (m/hr):	ROP (m/hr):	22.8

**BHA#4** Length (ft): D.C. (1) ANN. VELOCITY (mpm): 0 WT BLW JAR(k-lbs): TRQE MAX (ft-lbs): STRING WT(k-lbs): D.C. (2) ANN VELOCITY (mpm): 0 BHA WT(k-lbs): TRQE ON (ft-lbs): H.W.D.P. ANN VELOCITY (mpm): PICK UP WT(k-lbs): 0 SLK 0FF WT(k-lbs): TRQE OFF (ft-lbs): D.P. ANN VELOCITY (mpm): 0 BHA DESCRIPTION:

TOOL DESCRIPTION HRS SERIAL # COMMENT

Survey INCL CORR. **DOGLEG** E/W TOOL TYPE MD TVD ΑZ 'V' N/S SECT (mBRT) (mBRT) DEG (deg/ (deg) ΑZ (m) (m) Last Tool Type: **MWD** 30m) (deg) (m) Magnetic Declination: 0.00 1,281 701 90.98 232. 232.7 756.1 1.49 -469.3 -592.8 MWD 1,310 Survey method: Min Curvature 701 89.67 232. 785.0 1.36 -486.8 -615.8 MWD 232.7 1,339 701 89.82 233. 233.4 814.0 0.71 -504.2 -639.0  $\mathsf{MWD}$ -662.4 MWD 1,368 701 90.46 234. 234.0 843.0 0.93 -521.5

Bulk Stocks On Rig										
STOCK TYPE		START	USED	REC'D	STOCK					
Barite	SX	336			336					
Bentonite	SX	1546			1546					
G-neat	SX	2166			2166					
G+35% SiFI	SX				0					
G+BFS+12.25% SiFI	SX				0					
Pot Water	МЗ	98			98					
Drill Water	МЗ	458	14		444					
Heli-fuel	ltr	4742	636		4106					
Base Oil	М3				0					
Rig Fuel	М3	336	11		325					
Brine	М3	0			0					

l	Pu	ımp Data	ì								
		P	ump Da	ta - la		Slow Pump Data					
ı	#	TYPE	LNR	SPM	EFF	Flow	SPP	SPM	SPP	DEPTH	MW
Ш			(")		(%)	(gpm)	(psi)		(psi)	(mBRT)	(ppg)
Ш	1	National 1	6.00	0	97	0	0	30	240	1180	9.3
Ш	2	National 1	6.00	47	97	93	680	40	310	1180	9.3
	3	National 1	6.00	0	97	0	0	50	385	1180	9.3

DIAM.	CSG OD	SHOE MD (plan/Actual)	SHOE TVD (plan/Actual)		LOT (pl/Act)		FIT pl/Act)	COMMENT	
9.5/8 "	9.625	872.4		700.0		1.	40 1.40	bbls of slurry (	mped 378 sx og G cement, 78 @ 1.89 sg. Displaced and pressue tested casing to 3000
	٦	ГҮРЕ	LNGTH (m)	CSG OD	WT lbs/ft	GRD	7	HREAD	
X/over ( Pup Join Pup Join 9 5/8" Ca Float Joi Intermed	Vell head (Jover (NK3SB Pin x New Vam Box) Pup Joint Pup Joint 5/8" Casing Iloat Joint htermediate Joint		2.35 3.17 3.07 3.07 746.58 13.17 12.04 12.54	8.575 8.575 8.575 8.575 8.575 8.575 8.575 8.575	47.0 47.0 47.0 47.0 47.0 47.0 47.0 47.0	L-80 L-80 L-80 L-80 L-80 L-80 L-80 L-80	Vi	New Vam am x NK3 NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB NK3SB	

Personnel : on Site =83									
JOB TITLE	NAME	CO. NAME	#						
Drilling Supervisor (snr)	R.King	OMV	3						
Drilling Supervisor (Nigh	G.Othen	Service Company	20						
Testing Supervisor		Diamond Offshore	52						
Completion Supervisor		Catering	8						
Drilling Engineer	P.Zehetleitner								

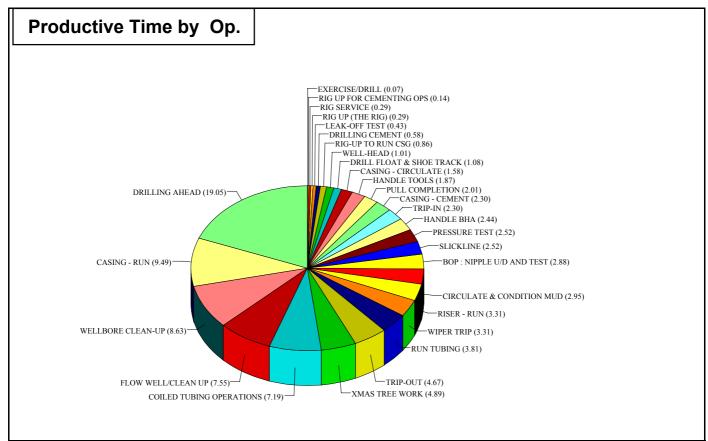
Safety, Ins	pections a	nd Drills		Sur	nmary					
,	Shakers, Volumes and Losses Data  ENGINEER Graeme Garrick SHAKER 1 4x120									
SHAKER 1 SHAKER 2	4x120 4x120	VOLUME A	VAILABL	E (bbl) =	591	LOSSES (bbl) =	0	COMMENTS		
SHAKER 3 SHAKER 4 SHAKER 5	4x84 4x84	ACTIVE HOLE RESERVE	405 186	MIXING SLUG HEAVY		DOWNHOLE SURF. + EQUIP DUMPED	0.00			

7 111011010	A 1 0 A 6 0		A 2 A7	0 0		A 3 A8	0	A 4 0	A 5 0
Workboats	Location	Fuel Barite	D/wtr (M3)	P/wtr (M3)	Cmt (sx)	Bent Brine (sx) (M3)		Weather VISIBILITY(nm) 12	Rig / Sea Data RIS.TENS (klbs) 0
Pacific Sentinel Pacific Conquero	Rig r Rig	364 1190 339	525 570	230 180		300		WIND SP. (kts) 35.0 WIND DIR (deg) 300 PRES.(mbars) 1013 AIR TEMP (C) 15.0	VDL (mt)       1,845         WAVES (m)       1.5         SWELL (m)       2.1

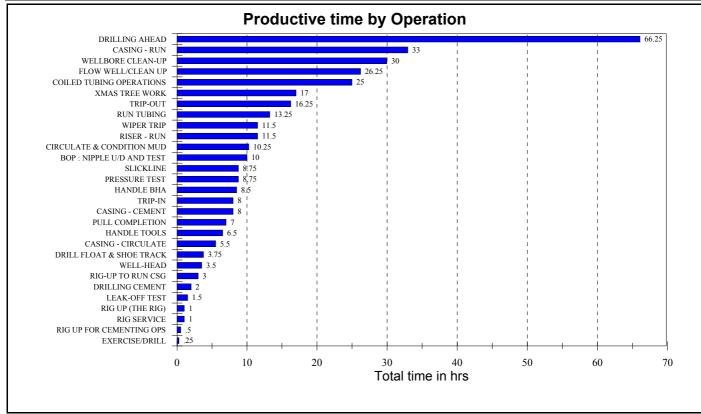
Total move time (hrs) Total time on well excluding move (hrs) 58.00 Total prod. time since spud (hrs):
Total troub. time since spud (hrs)

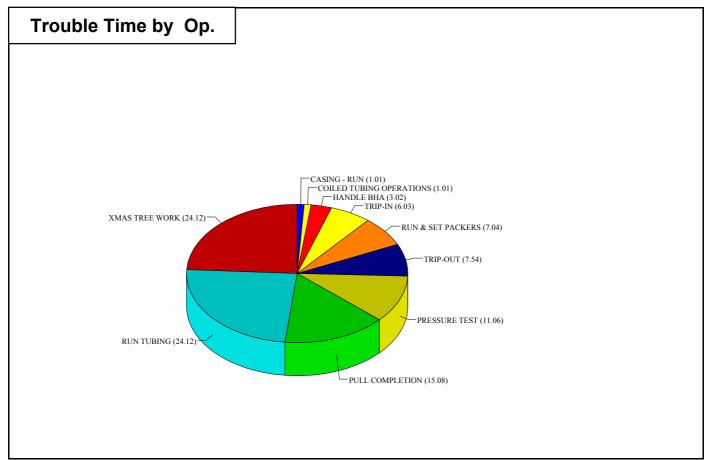
347.75 49.75

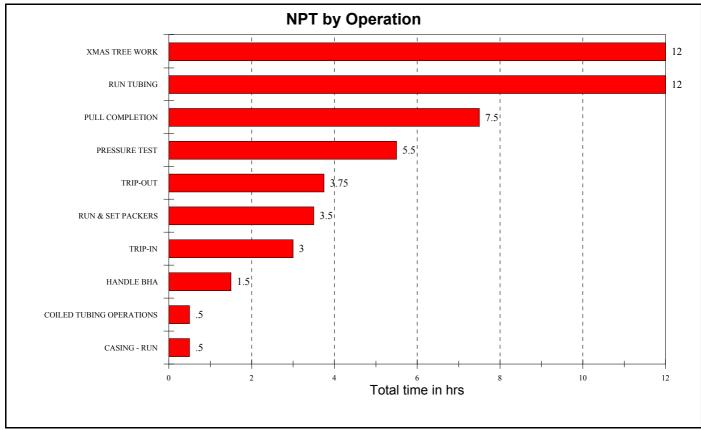
% Trouble time 12.52

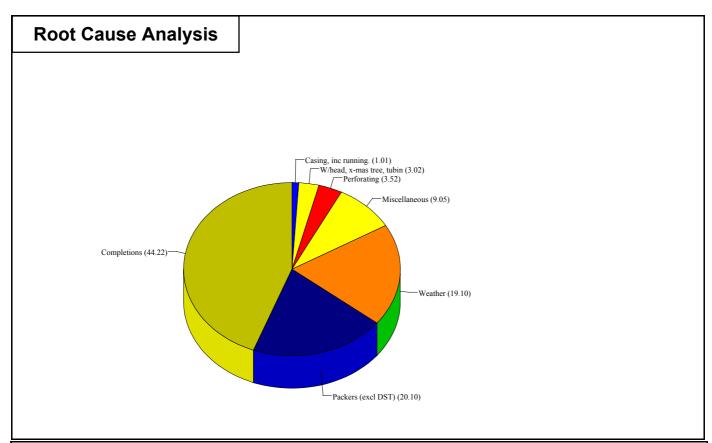


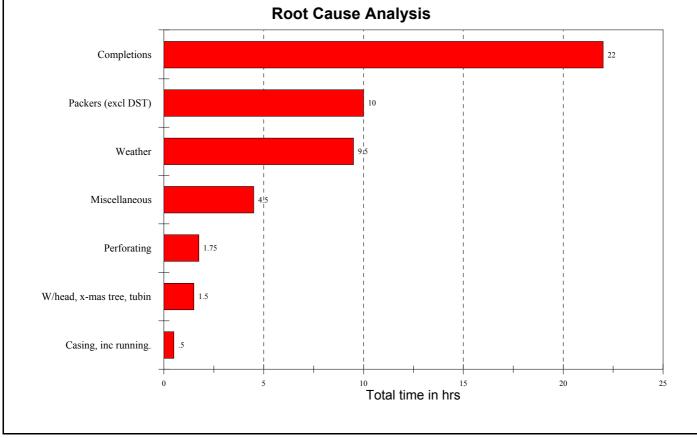
397.50



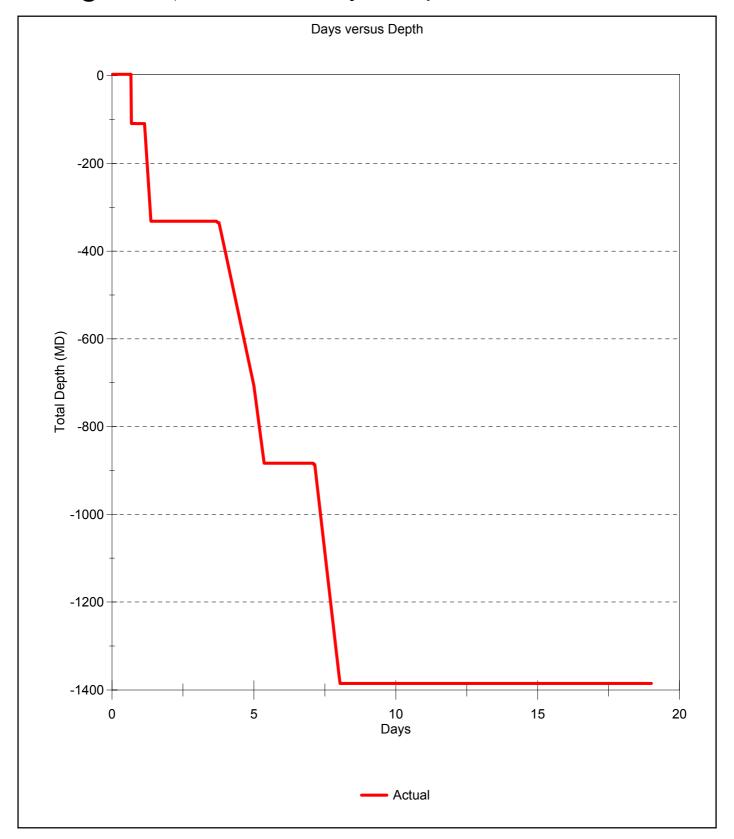




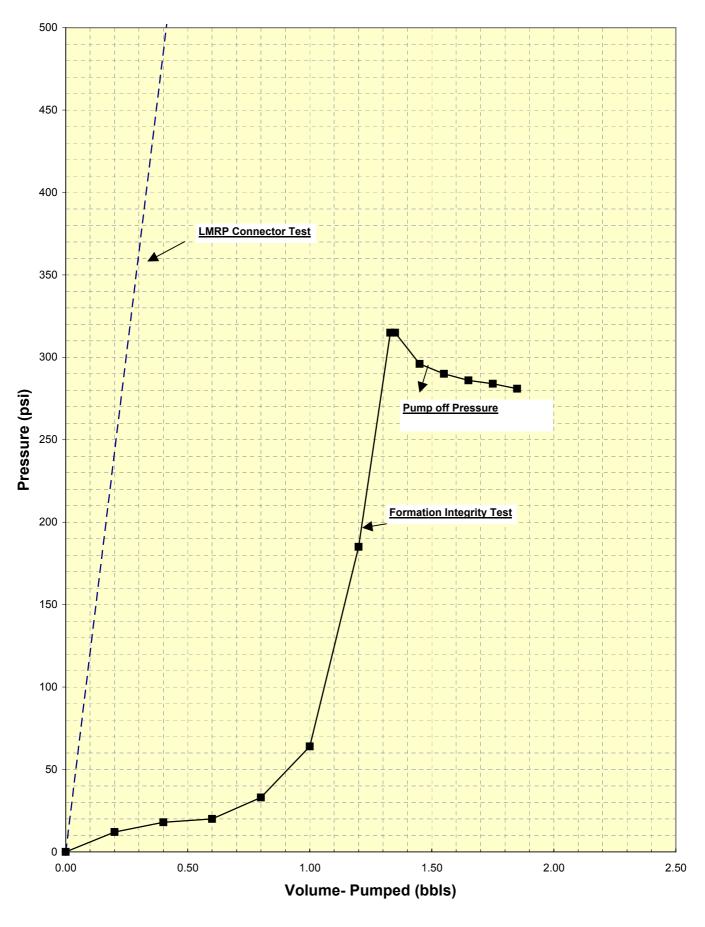


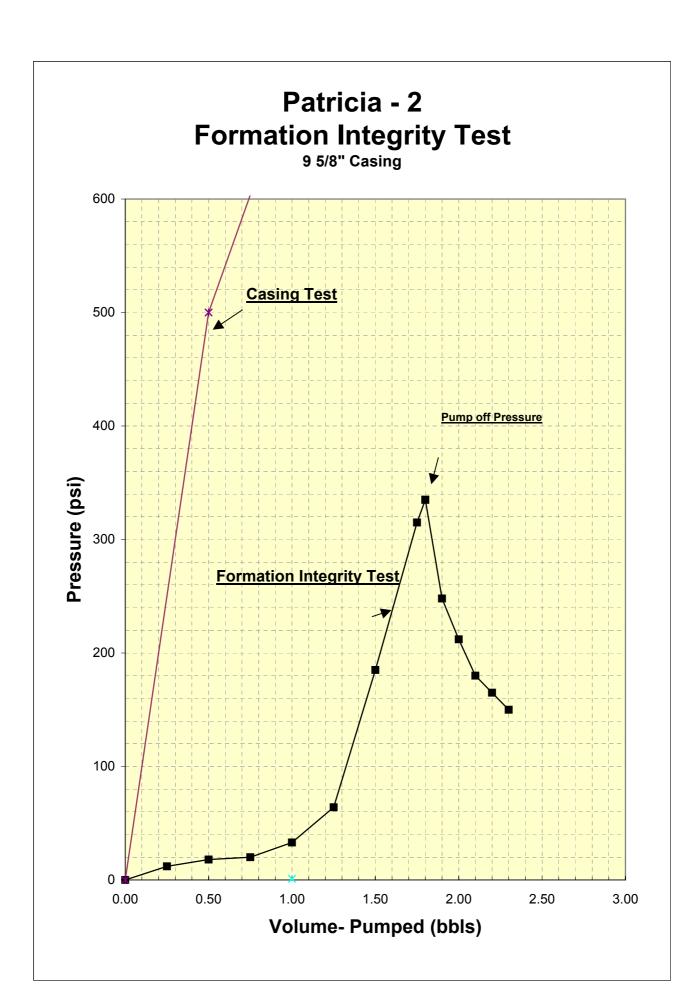


DEPTH @ 24:00 = 1,385.0 m after 19.00 days since spud



# Formation Integrity Test 13-3/8" Casing







#### Casing, Running and Cementing Report

Patricia - 2 9 5/8" Casing

OMV Australia Reps OMV Australia Witness Date 25 / 26 June Guy Howard & Gavin Othen

Drilling Contractor & Rig Cement Company & Service Rep.

Ocean Bounty Halliburton

26-Jun-2002

Basic Data		Mud Data			Hole & Prev Casing	Data	
Casing Size	9 5/8"	Type	K	CL / PHPA / Glyco	Casing Size	13 3/8"	in
Hole Size	12 1/4"	Weight	9.3 ppg	1.12 SG	Hole OD	17 1/2"	in
Hole Calipered	no	Preflush			M. Depth	334	m
Caliper Tool used	n/a	Type	Super Flush 10	2	Casing ID	12.415	in
Est BHT degree.C	n/a	Weight	9.5 ppg	1.14 sq	Shoe Depth	327.1	m

Cement Volumes			Displacement		Pumping Pressures	
Annular Vol.		55 bbl	Calc. Disp	189 bbl	Max. Pumping Press.	780 psi
% Excess	L:0%	T: 20%	Cmt Unit Disp	180 bbl	Sheared Plug with	1800 psi
Shoe Track		6 bbl	Rig Displacement	0 bbl	Bumped Plug with	530 psi
Rat Hole		5.7 bbl	Actual Strokes	0 str	Tested Casing with	3000 psi
Total Volume		77.6 bbl	Liner size / bbl/stroke	6.5" / 0.1193	_	

#### **Cement Data**

Lead Slurry	Tail Slurry			Displacement Data	
Cement Type	Cement		G	Mix Rate Lead /Tail	1.40 bpm
Slurry Volume bbl	Slurry Vol.		78 bbl		
Mix Water bbl	Mix Water	Seawater	41.5 bbl	Displacement Rate	10.00 bpm
Lig. Additive	Lig. Additive		-		
Econ	NF-1		0,25gal/10bbl	Plug Bumped (Y/N)	у
NF-5	Halad-413		20gal/10bbl		
Dry Additive	Dry Additive CaCl <sub>2</sub>		1% BWOW	Disp. Over Calc.	0.00 bbl
Plan Wt	Plan Wt (ppg)	15.8 ppg	1.90 SG		
Actual Wt	Actual Wt (ppg)	15.8 ppg	1.90 SG	Final Circ Press	530 psi
Yield	Yield		1.16 cuft/sk		•
Total # sx cement used	Total # sx cement use	d	378 sx	Disp. by Rig/Cmt Unit	Cmt Unit

_		="		<del>-</del>		
Spacers		Centralizers		Scratchers		
Ahead		Make		Weatherford Make	-	
Type/Volume	Seawater	20.00 bbl <b>Type</b>	-	Non Weld Type	-	
-		Number	-	14 Number	-	
Behind		Spacing		2 per shoe track Jt Spacing	-	
Type/Volume	Seawater	displ bbl Comments	-	c/w stop collars Comments	None Run	

Casing Data

Casing Data				
Total Depth - From RT (r	metres) 884.00 m		Water Depth (m)	77.50 m
Off Bottom (Rat Hole)	12.00 m		RT-Sea Level	25.00 m
Casing Shoe depth (mR1	T) 872.00 m	Wellhead	Stick-up above Mudline	2.35 m
			RT to Wellhead Datum	75.15 m
Casing String Componer				
1x 9 5/8"	casing hanger pup joint, 47# L-80, New Vam pin down	2.35 m		
1x 9 5/8"	XO NK3SB pin x New Vam box	3.17 m		
1x 9 5/8"	Pup Joint NK3SB	3.07 m		
	Pup Joint NK3SB	3.07 m		
58x 9 5/8"	47#, L-80 jts, NK3SB	746.58 m		
1x 9 5/8"	Float Jt. (Baker locked), NK3SB Box	13.17 m		
1x 9 5/8"	Inter Jt (Baker locked), New Vam	12.04 m		
1x 9 5/8"	Shoe jt.w/ float shoe (Baker locked), New Vam	12.54 m		
Total string length:		795.99 m		
Landing String:		76.37 m		

#### **Casing Notes**

Operation	Start Time	End Time	Initial Press	Final Press	Vol (bbl)	Comments
Rig up and run casing	20:30hrs 25/6/02	04:00hrs 26/6/02				
Circulation	4:00	4:30			300	
RU and pump seawater	4:47				10	
Test Cement lines	4:52			3000		
Pre-Flush	4:56	5:30			60	
Spacer	5:30	5:32			10	
Drop Bottom Plug launching ball.	5:32	5:37		1200	1.5	Sheared w/ 1200 psi after pumping 1.5 bbls.
Mix and Pump Slurry	5:45	5:58	470	610	78	pumped 15.8 ppg slurry w/ 5.5 bpm.
Drop Top Plug launching dart	6:02			1800	7	Sheared w/ 1800 psi after pumping 7 bbls.
Displacement	6:12	6:33	532	530	180	w/ rate from 10 to 5 bpm
Bump Plug / Test Casing	6:33	6:41	530	3000		bumped plug w/ 500 psi over last displacement pressure. Held pressure for 5min. Pressured up to 3000 psi for casing test. Held pressure for 5min.
Bleed Pres/Check Float Equip.	6:33	6:41	530	3000		
bieed Pies/Check Float Equip.	0.41					ok.

#### **Detailed Casing and Cementing Report**

Started to run casing at 20:30hrs on the 25/06/02. Landed string at 03:30hrs on the 26/6/02.

RU Halliburton, pumped 10 bbls of seawater ahead and pressure tested lines to 3000 psi.

Pumped 60 bbls of Super Flush 102 followed by 10 bbls of seawater.

Dropped bottom plug launchining ball and sheared plug with 1,200 psi.

Mixed and pumped 70bbls of 15.8 ppg cement slurry at 5.5 bpm, released the top plug launching dart and displaced with seawater at 10bpm.

Top plug sheared with 1800psi after pumping 7 bbls. Displaced casing with 180 bbls

Displaced casing with 180 bbls seawater. Bumped the plugs at 5bpm and pressured up to 500 psi over the final displacement pressure (530 psi).

Held pressure for 5 min and continued to pressure up to 3,000 psi and held pressure for 5 min to test casings.

Bled off and checked the floats. Ok.

Released the running tool and recovered the landing string.











## **OMV AUSTRALIA**

#### **Cuttings Descriptions Report**

Well Name :	PATR	IICIA - 2	Print Date	Fri 28/0	06/200	2
Wellsite Geolo	gist(s)	Peter Boothby Ross	Tolliday			
Interval (mRT)	%	Lithology / Show Descri	iptions		Ca (%)	Mg (%)
334 to 340	100	grey, very soft to soft, amorphous, s forams (coral debris, bryozoa,	TITE: white to very light grey, light sticky in part, 10-15% fossil fragm, spicules, shell fragments, foram 5 5% calcisiltite, trace fine dark gr	nents and s), 5-10%		
340 to 345	100	ARGILLACEOUS CALCILUT	TITE: as above			
345 to 350	70 30	ARGILLACEOUS CALCILUTITE: white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, sticky in part, 10-15% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 5-10% siliceous clay content, 10 to 15% calcisilitie, grades to ARGILLACEOUS CALCISILTITE: white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, 10-15% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 15-25% siliceous clay content, 5 to 10% micrite, trace to 5% very fine to fine calcite grains, grades to Argillaceous Calcilutite in part, trace fine dark green glauconite.				0
350 to 360	50	ARGILLACEOUS CALCILUT	TITE: as above.		60	0
	50	ARGILLACEOUS CALCISIL	TITE: dominantly as above.			
360 to 365	60 40	ARGILLACEOUS CALCILUT				
365 to 370	60 40	ARGILLACEOUS CALCILUT			66	0
370 to 380	60	grey, light olive grey, very soft and forams (coral debris, bryo 15-25% siliceous clay content fine calcite grains, grades to A green glauconite.	ARGILLACEOUS CALCISILTITE: white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, 5-10% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 15-25% siliceous clay content, 5 to 15% micrite, trace to 5% very fine to fine calcite grains, grades to Argillaceous Calcilutite in part, trace fine dark			0
380 to 390	50	grey, light olive grey, very soft to so fragments and forams (coral of forams), 15-25% siliceous class ARGILLACEOUS CALCISILT grey, light olive grey, very soft and forams (coral debris, bryo 15-30% siliceous clay content	rITE: white to very light grey, light fft, amorphous, sticky in part, 10-debris, bryozoa, spicules, shell fray content, 10 to 15% calcisilt, graph to soft, amorphous, 5-10% fossion spicules, shell fragments, for to 15% micrite, trace to 5% very gillaceous Calcilutite in part, tra	15% fossil agments, des to ht bluish I fragments orams), ery fine to	55	0

ARGILLACEOUS CALCILUTITE: as above, 5-15% siliceous clay, grades

ARGILLACEOUS CALCISILTITE: as above

70

30

to Calcilutite.

390 to 400

0

84



Well Name: PATRICIA - 2 Print Date Fri 28/06/2002

Wellsite Geologist(s): Peter Boothby Ross Tolliday

Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
400 to 405	50	CALCILUTITE: white to very light grey, light olive grey, very soft to soft, amorphous, sticky in part, 10-15% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 5-10% siliceous clay content, 10 to 15% calcisilt, grades to Argillaceous Calcisiltite in part, trace fine dark green glauconite.	84	0
	50	ARGILLACEOUS CALCISILTITE: white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, 5-10% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 15-30% siliceous clay content, 5 to 15% micrite, trace to 5% very fine to fine calcite grains, grades to Argillaceous Calcilutite in part, trace fine dark green glauconite.		
405 to 410	70	ARGILLACEOUS CALCISILTITE: as above	68	0
	30	CALCILUTITE: as above, hard in parts.		
410 to 415	60	ARGILLACEOUS CALCISILTITE: very light to light grey, light bluish grey, light olive grey, range grey, soft to firm, amorphous, 5-15% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 15-30% siliceous clay content, 5 to 15% micrite, 5-10% very fine to fine clear to orange calcite grains, trace fine dark green glauconite,	70	0
	40	<b>CALCILUTITE:</b> white to very light grey, light olive grey, soft to firm, amorphous, 5-10% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 5-15% siliceous clay content, 10 to 15% calcisilt, trace fine dark green glauconite, grades to Argillaceous Calcisiltite in part.		
415 to 420	60	ARGILLACEOUS CALCISILTITE: as above, increasing fossil content	70	0
	40	CALCILUTITE: as above, recrystallised and hard in parts		
420 to 425	60	ARGILLACEOUS CALCISILTITE: very light to light grey, light olive grey, orange grey, soft to firm, amorphous, 5-15% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 20-30% siliceous clay content, 5 to 15% micrite, 5-10% very fine to fine clear to orange calcite grains, trace fine dark green glauconite, grades to Argillaceous Calcilutite in part.	70	0
	40	<b>CALCILUTITE:</b> white to very light grey, light olive grey, soft to firm, hard in parts, amorphous, 5-10% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 10-15% siliceous clay content, 10 to 15% calcisilt, 5-10% recrystallised, trace very fine dark green glauconite, grades to Argillaceous Calcisiltite in part.		
425 to 430	80	ARGILLACEOUS CALCISILTITE: as above, softer, only trace recrystallised	62	0
	20	CALCILUTITE: as above		
430 to 440	70	ARGILLACEOUS CALCISILTITE: as above	78	0
	30	CALCILUTITE: as above		
440 to 450	50	ARGILLACEOUS CALCISILTITE: very light to light grey, light olive grey, orange grey, soft to firm, amorphous, 5-15% fossil fragments (coral debris, bryozoa, spicules, shell fragments, forams), 20-30% siliceous clay content, 5 to 15% micrite, 5-10% very fine to fine clear to orange calcite grains, trace fine dark green glauconite, trace soft pyrite, grades to Argillaceous Calcilutite in part.	89	0



Well Name: PATRICIA - 2 Print Date Fri 28/06/2002

Wellsite Geologist(s): Peter Boothby Ross Tolliday

Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)	
	50	<b>CALCILUTITE:</b> very light to light medium grey, light to medium olive grey, soft, dispersive in parts, amorphous, 5% fossil fragments (coral debris, bryozoa, spicules, shell fragments, forams), 15-20% siliceous clay content, 5 to 10% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite.			
450 to 460	80	ARGILLACEOUS CALCISILTITE: as above	67	0	
	20	CALCILUTITE: as above			
460 to 470	90	ARGILLACEOUS CALCISILTITE: light to light medium grey, light to medium olive grey, trace orange soft, dispersive in parts, firm in parts amorphous, 5% fossil fragments (coral debris, bryozoa, spicules, shell fragments, forams), 20-35% siliceous clay content, 5 to 10% fine, clear to orange calcite grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Argillaceous Calcilutite.			
	10	<b>CALCILUTITE:</b> very light to light medium grey, light to medium olive grey, soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 15-20% siliceous clay content, 5 to 10% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite.			
470 to 480	90 10	ARGILLACEOUS CALCISILTITE: as above, Increasing argillaceous content, 30-40%, Grades to Marl.  CALCILUTITE: as above	56	0	
480 to 490	90	ARGILLACEOUS CALCISILTITE: as above	58	0	
	10	CALCILUTITE: as above			
490 to 500	95	ARGILLACEOUS CALCISILTITE: as above	50	0	
	5	CALCILUTITE: as above			
500 to 505	60	ARGILLACEOUS CALCISILTITE: light to light medium grey, light to medium olive grey, trace orange, soft to rarely firm, dispersive in parts, amorphous, 5% fossil fragments, 20-35% siliceous clay content, 5 to 10% fine clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Argillaceous Calcilutite  MARL: very light to light medium grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams,	49	α	
		30-40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite.			
505 to 510	80	ARGILLACEOUS CALCISILTITE: as above, trace dark grey	60	0	
	20	MARL: as above			
510 to 515	90	ARGILLACEOUS CALCISILTITE: light to light medium grey, light to medium olive grey, soft to rarely firm, dispersive in parts, amorphous, 5% fossil fragments, 25-35% siliceous clay content, 5 to 10% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Argillaceous Calcilutite.	66	C	
	10	MARL: as above			
515 to 520	90	ARGILLACEOUS CALCISILTITE: very light to light medium grey, light to medium olive grey, soft to rarely firm, dispersive in parts, amorphous, 5% fossil fragments, 25-35% siliceous clay content, 10 to 20% fine, clear to orange calcite & recrystallised grains, trace very fine dark green	60	0	



Well Name :	PATRIC	IA - 2		Print Date	Fri 28/06/2002
Wellsite Geolog	gist(s) :	Peter Boothby	Ross Tolliday		

Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
		glauconite, trace soft disseminated pyrite, grades to Argillaceous Calcarenite.		
	10	MARL: as above		
520 to 525	70	CALCISILTITE: very light to light medium grey, light to medium olive grey, soft to rarely firm, amorphous, 5% fossil fragments, 15-25% siliceous clay content, 10 to 20% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Argillaceous Calcarenite.	56	0
	30	<b>MARL</b> : very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30-40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite.		
525 to 530	60	CALCISILTITE: as above	53	0
	40	MARL: as above		
530 to 535	70	CALCISILTITE: as above	56	0
	30	MARL: as above		
535 to 540	60	CALCISILTITE: very light to light medium grey, light to medium olive grey, soft to rarely firm, amorphous, 5% fossil fragments, 10-15% siliceous clay content, 10 to 20% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Calcarenite.	66	0
	20	<b>CALCARENITE</b> : very light to light medium grey, white in parts, soft to firm, amorphous, silt to very fine clear to very light grey calcite grains, 5% fossil fragments, 10-15% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.		
	20	<b>MARL:</b> very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30-40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite.		
540 to 545	40	MARL: as above	78	0
	40	CALCISILTITE: as above		
	20	CALCARENITE: as above		
545 to 550	40	CALCISILTITE: very light to light medium grey, light to medium olive grey, soft to rarely firm, amorphous, 5% fossil fragments, 10-15% siliceous clay content, 10 to 20% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Calcarenite.	68	0
	40	MARL: very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30-40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite		
	20	<b>CALCARENITE</b> : very light to light medium grey, soft to firm, amorphous, silt to very fine, clear to very light grey calcite grains, 5% fossil fragments, 10-15% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.		
550 to 555	60	CALCISILTITE: as above	60	0
	20	CALCARENITE: as above		



Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
	20	MARL: as above		
555 to 560	50	ARGILLACEOUS CALCISILTITE: very light to light medium grey, light to medium olive grey, soft to rarely firm, 5% fossil fragments, 10-25% siliceous clay content, 10 to 20% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Calcarenite.	68	0
	30	<b>CALCARENITE</b> : very light to light medium grey, white in parts, soft to firm, silt to fine, clear to very light grey calcite grains, 5% fossil fragments, 10-15% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.		
	20	MARL: as above		
560 to 565	60	ARGILLACEOUS CALCISILTITE: as above	64	0
	30	MARL: as above		
	10	CALCARENITE: as above		
565 to 570	50	ARGILLACEOUS CALCISILTITE: as above	60	0
	30	MARL: as above		
	20	CALCARENITE: as above		
570 to 575	70	ARGILLACEOUS CALCISILTITE: very light to light medium grey, light to medium olive grey, soft to occasionally firm, 5% fossil fragments, 10-25% siliceous clay content, 10 to 20% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated pyrite, grades to Calcarenite.	78	0
	20	MARL: as above		
	10	CALCARENITE: as above		
575 to 580	75	ARGILLACEOUS CALCISILTITE: as above	82	0
	20	MARL: as above		
	5	CALCARENITE: as above		
580 to 585	60	ARGILLACEOUS CALCISILTITE: as above	56	0
	35	MARL: very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30-40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite		
	5	CALCARENITE: as above		
585 to 590	70	ARGILLACEOUS CALCISILTITE: as above	72	4
	25	MARL: as above		
	5	CALCARENITE: as above		
590 to 595	50	ARGILLACEOUS CALCISILTITE: as above	50	2
	40	MARL: as above		



Well Name : PA	TRICIA - 2	Print Date	Fri 28/06/2002
Wellsite Geologist(	s): Peter Boothby Ross Tollida	ay	

Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
595 to 600	55	ARGILLACEOUS CALCISILTITE: as above	56	0
	40	MARL: as above, commonly grades to Argillaceous Calcilutite.		
	5	CALCARENITE: as above		
600 to 605	60	ARGILLACEOUS CALCISILTITE: as above	46	4
	35	MARL: as above		
	5	CALCARENITE: as above		
605 to 610	50	ARGILLACEOUS CALCISILTITE: as above	56	0
	45	<b>MARL:</b> white to very light to light grey, rarely light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30-40% siliceous clay content, 10-15% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite		
	5	CALCARENITE: as above		
610 to 615	60	ARGILLACEOUS CALCISILTITE: as above	60	0
	30	<b>CALCARENITE</b> : very light to light medium grey, white in parts, soft to firm, silt to fine, clear to very light grey calcite grains, 5% fossil fragments, 5-10% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.		
	10	MARL: as above		
615 to 620	45	MARL: as above.	58	0
	45 10	ARGILLACEOUS CALCISILTITE: very light to light medium grey, light to medium olive grey, soft to rarely firm, trace to 5% fossil fragments, 10-25% siliceous clay content, 10 to 20% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated pyrite, grades to Calcarenite.  CALCARENITE: as above		
620 to 630	70	ARGILLACEOUS CALCISILTITE: as above	56	0
	20	MARL: as above  CALCARENITE: as above		
	10	CALCARENTE . as above		
630 to 640	70	ARGILLACEOUS CALCISILTITE: as above	54	0
	25	MARL: as above		
	5	CALCARENITE: as above		
640 to 645	50	ARGILLACEOUS CALCISILTITE: very light to medium grey, light to medium olive grey, soft to rarely firm, trace to 5% fossil fragments, 15-25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to Calcarenite.	48	4
	45 -	MARL: as above		
	5	<b>CALCARENITE</b> : as above, 2 to 5% inferred dolomite from calcimetry (?).		
645 to 650	60	ARGILLACEOUS CALCISILTITE: as above	60	0



Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
	35	MARL: as above		
	5	CALCARENITE: as above		
650 to 655	55	ARGILLACEOUS CALCISILTITE: as above	74	0
	40	<b>MARL</b> : white to very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, trace to 5% fossil fragments and forams, 20-30% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, trace disseminated and rare nodular pyrite, commonly grades to Argillaceous Calcilutite		
	5	CALCARENITE: as above		
655 to 660	50	ARGILLACEOUS CALCISILTITE: as above	66	0
	45	MARL: as above		
	5	CALCARENITE: as above		
660 to 665	50	ARGILLACEOUS CALCISILTITE: as above	64	0
	35	MARL: as above		
	15	<b>CALCARENITE</b> : light to medium grey, white in parts, soft to firm, silt to fine grained calcite,5% fossil fragments, 5-10% siliceous clay content, trace very fine dark green glauconite, trace disseminated and nodular pyrite.		
665 to 670	50	ARGILLACEOUS CALCISILTITE: as above	60	0
	25	MARL: as above		
	25	CALCARENITE: as above		
670 to 680	50	ARGILLACEOUS CALCISILTITE: very light to medium grey, light to medium olive grey, soft to rarely firm, blocky, trace to 5% fossil fragments, 15-25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to Calcarenite.	50	0
	40	MARL: white to very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, trace to 5% fossil fragments and forams, 25-35% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, trace disseminated and rare nodular pyrite, commonly grades to Argillaceous Calcilutite		
	10	<b>CALCARENITE</b> : light to medium grey, white in parts, soft to firm, sub blocky to blocky, silt to fine grained calcite,5% fossil fragments, 5-10% siliceous clay content, trace very fine dark green glauconite, trace disseminated and nodular pyrite.		
680 to 690	55	ARGILLACEOUS CALCISILTITE: as above	47	0
	40	MARL: as above		
	5	CALCARENITE: as above		
690 to 700	50	ARGILLACEOUS CALCISILTITE: as above	71	0
	30	MARL: as above		
	20	CALCARENITE: as above		
		<del> </del>		



Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
		fossil fragments and forams, 20-35% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, trace disseminated and rare nodular pyrite. Grades to Calcareous Claystone.		
	30	ARGILLACEOUS CALCISILTITE: very light to medium grey, light to medium olive grey, soft to rarely firm, blocky, trace to 5% fossil fragments, 15-25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to Calcarenite.		
710 to 720	80	<b>MARL</b> : medium grey, light to medium olive grey, minor dark grey, soft, rarely dispersive, amorphous to blocky, trace to 5% fossil fragments and forams, 20-35% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, trace disseminated and nodular pyrite. Grades to Calcareous Claystone.	46	0
	20	ARGILLACEOUS CALCISILTITE: as above		
720 to 730	80	MARL: as above, trace to 1% fine to medium green glauconite	46	0
	20	ARGILLACEOUS CALCISILTITE: as above		
730 to 740	90	<b>MARL</b> : white to very light to light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, 5% fossil fragments and forams, 20-35% siliceous clay content, trace to 5% calcisilt, 2-5% fine to medium dark green glauconite, trace disseminated and nodular pyrite. Grades to Calcareous Claystone.	44	0
	10	ARGILLACEOUS CALCISILTITE: as above		
740 to 750	70	MARL: as above	52	0
	30	ARGILLACEOUS CALCISILTITE: as above		
750 to 760	50	MARL: as above, 1% glauconite	61	0
	50	<b>ARGILLACEOUS CALCISILTITE:</b> as above, increase in forams to 5%, also spiny fossil frags. Grades to Calcarenite in parts.		
760 to 770	60	ARGILLACEOUS CALCISILTITE: as above, grades to Calcarenite in parts	64	0
	40	MARL: as above		
770 to 780	50	<b>CALCAREOUS CLAYSTONE</b> : light to medium brownish yellow, soft, amorphous to blocky, 15-25% calcareous content, trace calcisilt, 1-3% fine glauconite, sideritic(?).	35	0
	40	<b>MARL</b> : light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, 5% fossil fragments and forams, 20-35% siliceous clay content, trace to 5% calcisilt, 1-3% fine to medium dark green glauconite, trace disseminated and nodular pyrite. Grades to Calcareous Claystone.		
	10	ARGILLACEOUS CALCISILTITE: very light to medium grey, light to medium olive grey, soft to rarely firm, blocky, trace to 5% fossil fragments, 15-25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to Calcarenite.		
780 to 790	60	MARL: light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, 5% fossil fragments and forams, 20-35% siliceous clay content, trace to 5% calcisilt, 10-15% fine to medium dark green glauconite, trace disseminated and nodular pyrite. Grades to Calcareous Claystone.	33	0



Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
	40	CALCAREOUS CLAYSTONE: light to medium brownish yellow, light greyish brown, light grey, soft, amorphous to blocky, 15-25% calcareous content, trace calcisilt, 10-15% fine to medium dark green glauconite.		
790 to 800	70	CALCAREOUS CLAYSTONE: light greyish brown, light grey, light brownish yellow, soft, amorphous to blocky, 15-25% calcareous content, trace calcisilt, 10-15% fine to medium dark green glauconite.	28	0
	30	MARL: as above		
800 to 810	70	CALCAREOUS CLAYSTONE: as above	28	0
	30	MARL: as above		
810 to 820	60	CALCAREOUS CLAYSTONE: light greyish brown, light grey, light brownish yellow, soft, amorphous to blocky, 15-25% calcareous content, 5-10% calcisilt, 10-15% fine to medium dark green glauconite.	28	0
	30	<b>GLAUCONITIC SANDSTONE:</b> medium to very dark green, firm, soft in parts, very fine to medium glauconite ( "Greensand"), sub angular to sub rounded.		
	10	MARL: as above		
820 to 830	50 50	SILTY SANDSTONE: light to dark yellowish brown, loose and friable, minor firm, clear to translucent quartz grains, very fine to fine, poorly to moderately sorted, sub angular to sub rounded, 15-25% quartz silt, 5-15% argillaceous content, 1-3% glauconite, trace -1% mica, trace to 5% siderite nodules, trace multicoloured lithics, fair to good inferred porosity, no fluorescence.  CALCAREOUS CLAYSTONE: light to medium greyish brown, light grey, light brownish yellow, soft, firm in parts, amorphous to blocky, 15-25%	8	0
		calcareous content, 5-10% calcisilt, 10-15% fine to medium dark green glauconite		
830 to 840	80	SILTY SANDSTONE: as above	2	0
	20	CALCAREOUS CLAYSTONE: as above		
840 to 850	90	SILTY SANDSTONE: as above	6	0
	10	CALCAREOUS CLAYSTONE: as above		
850 to 860	95	SILTY SANDSTONE: as above' 1-3% mica	6	0
	5	CALCAREOUS CLAYSTONE: as above		
860 to 865	90	SILTY SANDSTONE: as above		
	10	CALCAREOUS CLAYSTONE: as above		
865 to 870	85	SILTY SANDSTONE: light to dark yellowish brown, loose and friable, minor firm, clear to translucent quartz grains, very fine to fine, poorly to moderately sorted, sub angular to sub rounded, 15-25% quartz silt, 5-15% argillaceous content, 1-3% glauconite, trace -1% mica, trace to 5% siderite nodules, trace multicoloured lithics, fair to good inferred porosity, no fluorescence.	3	0
	15	CALCAREOUS CLAYSTONE: as above		
870 to 875	80	SILTY SANDSTONE: as above		



Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
	20	CALCAREOUS CLAYSTONE: as above		
875 to 880	90	SILTY SANDSTONE: light to dark yellowish brown, loose and friable, minor firm, clear to translucent quartz grains, very fine to fine, poorly to moderately sorted, sub angular to sub rounded, 15-25% quartz silt, 5-15% argillaceous content, 1-3% glauconite, trace -1% mica, trace to 5% siderite nodules, trace multicoloured lithics, fair to good inferred porosity, no fluorescence.  CALCAREOUS CLAYSTONE: light to medium greyish brown, light grey,	4	0
	10	light brownish yellow, soft, firm in parts, amorphous to blocky, 15-25% calcareous content, 5-10% calcisilt, 10-15% fine to medium dark green glauconite		
880 to 885	90	SILTY SANDSTONE: light to dark yellowish brown, loose and friable, minor firm, clear to translucent quartz grains, very fine to fine, poorly to moderately sorted, sub angular to sub rounded, 15-25% quartz silt, 5-15% argillaceous content, 1-3% glauconite, trace -1% mica, trace to 5% siderite nodules, trace multicoloured lithics, fair to good inferred porosity, no fluorescence.	2	0
	10	CALCAREOUS CLAYSTONE: light to medium greyish brown, light grey, light brownish yellow, soft, firm in parts, amorphous to blocky, 15-25% calcareous content, 5-10% calcisilt, 10-15% fine to medium dark green glauconite		
885 to 890	100	<b>SILTY SANDSTONE:</b> light to dark yellowish brown, greyish brown, loose and friable, minor firm aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 15-25% quartz silt, 5-15% argillaceous content, 2-5% glauconite, trace -1% mica, trace to 5% siderite nodules, trace multicoloured lithics, trace forams, fair to good inferred porosity, no fluorescence. Grades to Argillaceous Sandstone.		
890 to 900	100	SILTY SANDSTONE: as above, 1-3% Glauconite, trace mica	2	0
900 to 910	100	SILTY SANDSTONE: light to dark yellowish brown, greyish brown, loose and friable, minor hard cemented aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 20-30% quartz silt, 5-15% argillaceous content, 1-2% glauconite, trace -1% mica, trace to 3% siderite nodules, trace multicoloured lithics, nil to trace forams, fair to good inferred porosity, no fluorescence.	2	0
910 to 920	100	SILTY SANDSTONE: as above, tr-1% mica (muscovite and biotite)	2	0
920 to 930	100	SILTY SANDSTONE: as above	2	0
930 to 940	100	SILTY SANDSTONE: as above	1	0
940 to 950	100	SILTY SANDSTONE: light to dark yellowish brown, greyish brown, loose and friable to hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 20-30% quartz silt, 5-15% argillaceous content, 1-2% glauconite, trace -1% mica, trace to 3% siderite nodules, trace multicoloured lithics, nil to trace forams, fair to good inferred porosity, no fluorescence.	1	0
950 to 960	100	SILTY SANDSTONE: as above	1	0
960 to 970	100	SILTY SANDSTONE: light to dark yellowish brown, greyish brown, loose	1	0



Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
		quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 15-25% quartz silt, 5-10% argillaceous content, tr-1% glauconite, trace -1% mica, trace to 2% siderite nodules, trace multicoloured lithics, nil to trace forams, fair to good inferred porosity, no fluorescence.		
970 to 980	100	SILTY SANDSTONE: as above	1	0
980 to 990	100	SILTY SANDSTONE: light to dark yellowish brown, greyish brown, loose and friable to rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 15-25% quartz silt, 5% argillaceous content, tr-1% glauconite, trace -1% mica, trace siderite nodules, trace multicoloured lithics, nil to trace forams, fair to good inferred porosity, no fluorescence. Grades to Sandstone.	2	0
990 to 1000	100	SILTY SANDSTONE: as above. Grades to Sandstone.	2	0
1000 to 1010	100	SILTY SANDSTONE: as above. Grades to Sandstone.	2	0
1010 to 1020	100	<b>SILTY SANDSTONE:</b> light to dark yellowish brown, greyish brown, loose and friable to hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 20-30% quartz silt, 5-10% argillaceous content, trace-1% glauconite, trace -1% mica, trace to 3% siderite, trace multicoloured lithics, nil to trace forams, fair to good inferred porosity, no fluorescence.	2	0
1020 to 1030	100	SILTY SANDSTONE: as above	2	0
1030 to 1040	100	<b>SILTY SANDSTONE</b> : as above, with 5% dark brownish grey to dark yellowish brown, firm to hard siderite nodules and firm to moderately hard Silty Sandstone Siderite cemented aggregates.		
1040 to 1050	100	ARGILLACEOUS / SILTY SANDSTONE: light to dark yellowish brown, medium greyish brown, loose and friable to hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, angular to sub rounded, 20-30% quartz silt, 15-25% argillaceous content, trace-1% glauconite, trace -1% mica, trace to 5% siderite, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair inferred porosity, no fluorescence.	0	0
1050 to 1060	100	SILTY SANDSTONE: as above. 5-10% siderite cemented aggregates and Siderite nodules. Fair to good inferred porosity.		
1060 to 1070	100	SILTY / SIDERITIC SANDSTONE: as above with 15-20% siderite cemented aggregates and siderite nodules.	0	0
1070 to 1080	100	SIDERITIC / SILTY SANDSTONE: light to dark yellowish brown, medium greyish brown, 15-25% firm to moderately hard cemented siderite aggregates, loose to friable clear to translucent quartz grains, very fine to fine, trace medium, moderately sorted, angular to sub rounded, 20-25% quartz silt, 15% argillaceous content, trace-1% glauconite, trace -1% mica, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.		
1080 to 1090	100	<b>SILTY SANDSTONE:</b> light to dark yellowish brown, greyish brown, loose and friable to hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, moderately sorted, angular to sub rounded, 20-30% quartz silt, 5-10% argillaceous content (suspect		



Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
		clay content being dispersed into mud system), trace-1% glauconite, trace -1% mica, trace to 5% siderite, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.		
1090 to 1100	100	SILTY / ARGILLACEOUS SANDSTONE: light to dark yellowish brown, greyish brown, loose and friable to rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 15-20% quartz silt, 15-30% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -1% mica, trace to 5% siderite, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair inferred porosity, no fluorescence.		
1100 to 1110	100	<b>SILTY SANDSTONE</b> : as above. with 10-15% argillaceous content, fair to good inferred porosity.		
1110 to 1120	100	SILTY SANDSTONE: as above		
1120 to 1130	100	SILTY / ARGILLACEOUS SANDSTONE: as above, suspect clays being dispersed and washed out of samples.	0	0
1130 to 1140	100	SILTY / ARGILLACEOUS SANDSTONE: light to dark yellowish brown, greyish brown, dominantly loose and friable to very rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, rare medium, moderately sorted, angular to sub rounded, 15-20% quartz silt, 15-30% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -1% mica, trace to 5% siderite, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair inferred porosity, no fluorescence.		
1140 to 1150	100	SILTY / ARGILLACEOUS SANDSTONE: as above		
1150 to 1160	100	SILTY / ARGILLACEOUS SANDSTONE: as above		
1160 to 1170	100	SILTY / ARGILLACEOUS SANDSTONE: light to dark yellowish brown, greyish brown, dominantly loose and friable, very rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, rare medium, poor to moderately sorted, angular to sub rounded, 15-20% quartz silt, 15-30% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -1% mica, trace to 5% siderite, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.	0	0
1170 to 1180	100	SILTY / ARGILLACEOUS SANDSTONE: as above, 15-20% siderite cemented aggregates and siderite nodules, grades in part to Sideritic Sandstone.		
1180 to 1190	100	SILTY / ARGILLACEOUS SANDSTONE: light to dark yellowish brown, greyish brown, dominantly loose and friable, rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, rare medium, poor to moderately sorted, angular to sub rounded, 15-20% quartz silt, 15-30% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -1% mica, trace to 5% siderite, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.		
1190 to 1200	100	SIDERITIC / ARGILLACEOUS SANDSTONE: light to commonly dark yellowish brown, dark greyish brown, dominantly loose and friable, common hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, rare medium, poor to moderately sorted, angular to sub rounded, 15-20% quartz silt, 15-30% argillaceous content (suspect clay content being dispersed into mud system), trace-1%		



Interval (mRT)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
		glauconite, trace -1% mica, 15-20% siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair inferred porosity, no fluorescence.		
1200 to 1210	100	SIDERITIC / ARGILLACEOUS SANDSTONE: as above	1	0
1210 to 1220	100	SILTY SANDSTONE: light to dark yellowish brown, medium greyish brown, dominantly loose and friable, rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, rare medium, moderately sorted, angular to sub rounded, 15-20% quartz silt, 15-20% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -2% mica, 5% siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.		
1220 to 1230	100	SILTY SANDSTONE: as above		
1230 to 1240	100	SILTY SANDSTONE: as above		
1240 to 1250	100	SILTY SANDSTONE: as above	0	0
1250 to 1260	100	SILTY SANDSTONE: light to dark yellowish brown, medium greyish brown, dominantly loose and friable, trace hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 15-20% quartz silt, 10% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -2% mica, trace to 2% siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.		
1260 to 1270	100	SILTY SANDSTONE: as above		
1270 to 1280	100	<b>SILTY SANDSTONE:</b> as above. trace siderite nodules. good inferred porosity. No fluorescence.		
1280 to 1290	100	<b>SANDSTONE</b> : light to dark yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 10-15% quartz silt, 10% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -2% mica, trace siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, good inferred porosity, no fluorescence.		
1290 to 1300	100	SANDSTONE: as above	2	0
1300 to 1310	100	SANDSTONE: as above		
1310 to 1320	100	SANDSTONE: light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 10-15% quartz silt, 10% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -2% mica, trace siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, good inferred porosity, no fluorescence.		
1320 to 1330	100	ARGILLACEOUS SANDSTONE: light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 10-15% quartz silt, 15-30% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -2% mica,	1	0



Interval (mRT)	%	Lithology / Show Descriptions	(%)	
		trace siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, good inferred porosity, no fluorescence.		
1330 to 1340	100	ARGILLACEOUS SANDSTONE: light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 10-15% quartz silt, 15-30% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -2% mica, trace to 3% dark yellowish brown siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.		
1340 to 1350	100	ARGILLACEOUS SANDSTONE: as above		
1350 to 1360	100	ARGILLACEOUS SANDSTONE: as above		
1360 to 1370	100	<b>ARGILLACEOUS SANDSTONE</b> : as above, trace firm cemented aggregates.		
1370 to 1380	100	ARGILLACEOUS SANDSTONE: light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 10-15% quartz silt, 15-30% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -2% mica, trace to 3% dark yellowish brown siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.		
1380 to 1385	100	ARGILLACEOUS SANDSTONE: as above	1	0







# **END OF WELL REPORT**

**OMV** Australia

**PATRICIA-2** 

20 - 28 June 2002

by

**BAKER HUGHES INTEQ** 

The information, interpretations, recommendations, or opinions contained herein are advisory only and may be rejected. Consultant does not warrant their accuracy or correctness. Nothing contained herein shall be deemed to be inconsistent with, nor expand, modify or alter consultant's obligation of performance as provided for in a written agreement between the parties, or, if none, in consultant's most recent price list.

# Patricia-2

# **Final Well Report**

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**SECTION 1** 

**WELL SUMMARY** 

1 Well Summary

# 1 Well Data Summary

Well Name Patricia-2

Rig Name: MODU Ocean Bounty

Rig Type: Semi-submersible

Drilling Contractor: Diamond Offshore General Company

Permanent Datum: Lowest Astronomical Tide (LAT)

Drilling Datum: Rotary Table

Drill Floor Elevation: 25.0m

Water Depth: 52.5m MSL

53.1m LAT

Surface Coordinates:

038° 01' 39.95" S Lat 148° 26' 57.78" E Long

Block: VIC/L21

Well Type: Field Development

Spud Date: 20 June 2002

Total Depth: 1385m

TD Date: 28 June 2002

Well Status: Completed & Tested

Baker Hughes INTEQ Crew:

Data Engineers: Rommel Tadiar

Jeff Wilson Romeo Tena

Logging Geologists: Elaine Spence

Malcolm Dixon Trent Liang 1 Well Summary

# 1.1 Well Summary

The well Patricia-2 is located in VIC/L21, approximately 140NM from Port Welshpool and 285 NM from Geelong. The objectives of the well were to confirm reservoir structure, to provide wellbore access to the Patricia gas reservoir with minimal formation damage, to obtain complete open hole log information throughout the reservoir interval, estimate reservoir pressures, determine deliverability / inflow performance and to obtain representative reservoir gas samples. All depths in this report unless otherwise stated refer to depths in metres below the rotary table - RT.

Patricia-2 was spudded at 16:00hrs on 20 June 2002, using a 26" bit with a 36" hole opening assembly. The 36" hole was drilled from the seabed to 111.5m using seawater and pre-hydrated gel mud. A 30" x 20" casing was run and set at 111.5mRT.

The 17.5" section was drilled using a Security DBS type XTIC bit in tandem with a mud motor and LWD tool assembly. The cement and shoe track were cleaned out and 222.5m of new hole drilled, reaching the casing point without problems. At the section TD of 334m, the hole was displaced to gel mud and the bit was pulled out. Tight hole was observed during the wiper trip to the 30" shoe. The bit was backreamed out between 325m and 230m, after running back to bottom no drag was noted on the trip out to run casing. After a successful casing run, the Sub-Sea Tree assembly was run and landed on the wellhead. The SST was pressure tested on the AX gasket connector to 3000psi. The BOPs were then run, landed and pressure-tested successfully.

Drilling of the 12.25" hole section commenced from 334m using a Reed MHT13GC rock bit on a steerable assembly including LWD tools to 884m. After drilling out the shoe track and casing shoe at 327.1mRT, three metres of new formation was drilled to 337m. The hole was then displaced to a KCI/PHPA/Glycol mud system initially weighted to 1.06sg. A Formation Integrity Test (FIT) was performed, with an EMW of 1.73sg exerted on formations below the casing shoe. The 12.25" directional hole was drilled at an average penetration rate of about 19m/hr, sliding and rotating as directed by the directional driller from 334m to 884mRT. A maximum gas peak of 12.5% was recorded at the top of the reservoir section at 843mRT. Once the planned 9.625" casing depth was reached, returns were circulated to surface and the mud weight increased to 1.12sg. Circulation continued until background gas levels fell below 0.7%. The well was checked for flow before wiping the hole back to 655m, pumping out as required. A short trip gas peak of 9.5% was recorded after running the bit back to bottom. The hole was circulated until background gas levels had fallen below 0.5%.

The 8.5" hole section was drilled using a Reed EHP41ALKDH rock bit on a steerable assembly including LWD tools. The mud system used was FLO-PRO with weights ranging from 1.07sg to 1.12sg. After cleaning out the shoe track, the casing shoe at 872.3mRT and drilling three metres of new formation to 887m, a formation integrity test (FIT) was successfully conducted. Using mud weighted to 1.07sg, the formation was subjected to a 1.40sg EMW without pressure leak-off. Drilling then recommenced, rotating and sliding to maintain a horizontal profile as per program at an average penetration rate of about 37m/hr. The well's Total Measured Depth of 1385mRT (True Vertical Depth of 701.2mRT) was reached at 01:00hrs on 28 June 2002. The hole was circulated clean and spotted with fresh Flo-Pro mud before a wiper trip to the 9.625" casing shoe was made. Once back on bottom, the hole was circulated clean using uninhibited brine solution. The bit was then pulled out to surface for the completion and production well test programme.

After running the sand screens and other well completion equipment, Patricia-2 was flow-tested before being secured for future gas production. The Ocean Bounty MODU was towed off location on 09 July 2002.

# **SECTION 2**

**DRILLING & ENGINEERING** 

# 2.1 Bit Run Summaries

# Patricia-2

# 36" Hole Section 20 June 2002

# Bit Run No. 1 Summary

Bit Number RR1 Bit Size 26"

w/ 36" Hole Opener

 Bit Type
 Smith DSJC

 S/N
 KW0659

 Jets
 1 x 17, 3 x 24

Depth In (m) 77.5 Depth Out (m) 111.5 Metres Drilled 34 **Drilling Hours** 0.6 TBR (krevs) 2.6 **Circulating Hours** 0.9 Average ROP (m/hr) 56.7 **API** Condition Not Graded

**Drilling Parameters** 

WOB (klbs) 2.8 - 11.7

RPM 60

Torque (kft-lbs) 0 - 4

Pump Pressure (psi) 38 - 1034

Flow In (gpm) 208 - 1180

**Mud System** 

Seawater & hi-viscosity Gel 1.03sg

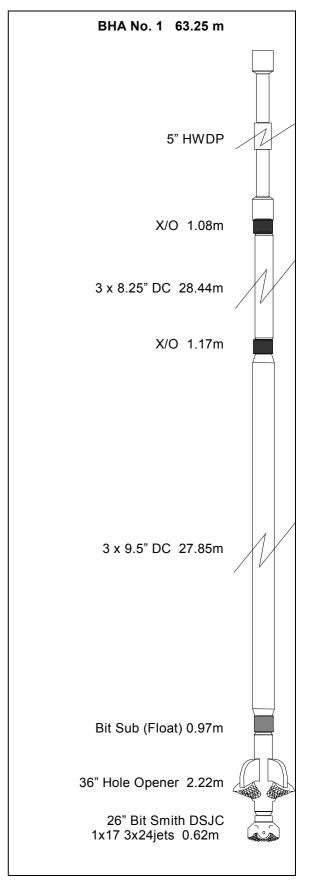
Sweeps

## Lithology

Returns to seabed

# **Drilling Summary**

A 26" bit with a 36" hole opener was made up on a rotary BHA. The bit tagged seabed at 77.5mRT. Patricia-2 was spudded at 16:00hrs on 20 June 2002. The 36" hole was drilled to 111.5mRT with seawater and PHG sweeps. A wiper trip was conducted to just below the sea floor. No fill was recorded. The hole was then displaced with 210bbls PHG mud. A TOTCO survey was dropped and the bit was pulled to surface to run the 30" conductor casing and wellhead. The survey tool was recovered at surface indicating a hole angle of 0.25 degrees.



# 17.5" Hole Section 21 June 2002

# Bit Run No. 2 Summary

Bit Number NB 2 Bit Size 17.5

Bit Type Security DBS XTIC

S/N 740844 Jets 3 x 24 Depth In (m) 111.5 Depth Out (m) 334 Metres Drilled 222.5 **Drilling Hours** 3.6 TBR (krevs) 29.8 Circulating Hours 7.5 Average ROP (m/hr) 61.8 Not Graded **API** Condition

Drilling Parameters

WOB (klbs) 1 - 14
RPM 96 - 169
Torque (kft-lbs) - - Pump Pressure (psi) 997 - 1410
Flow In (gpm) 739 - 803

Mud System

Seawater & hi-viscosity Gel 1.03sg

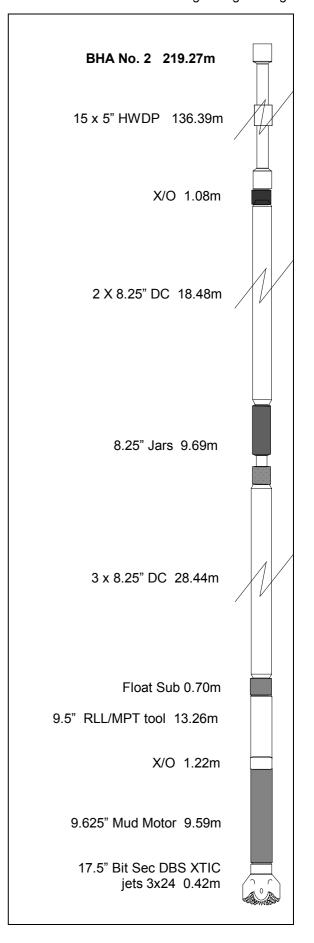
Sweeps

## Lithology

Returns to seabed

# **Drilling Summary**

NB2, a 17.5" bit was made up on a mud motor and LWD tool and RIH. Cement was tagged and drilled out from 102m. After cleaning out the shoe track, NB2 drilled new formation from 111.5m using seawater and high viscosity gel sweeps. The section was drilled smoothly while building angle to an inclination of 11.75 degrees. At the section TD of 334m, a 100-bbl high viscosity mud pill was pumped. While working pipe, a further 320bbls of gel was spotted in hole. A wiper trip to the 30" casing shoe was performed. The hole was tight and as a result the bit was backreamed out between 325m and 230m. The bit was run back to bottom, no hole fill was recorded. The hole was swept with seawater prior to displacing to gel. The bit was then pulled out of hole to run casing. The hole was slick all the way out and after the LWD data was transferred, preparations were made to run the 13.375" casing.



# 12.25" Hole Section 23 - 25 June 2002

# Bit Run No. 3 Summary

Bit Number NB 3 Bit Size 12.25

Bit Type Reed MHT13GC

S/N NL5007 Jets 3 x 15, 1 x 24

 Depth In (m)
 334

 Depth Out (m)
 884

 Metres Drilled
 550

 Drilling Hours
 29.0

 TBR (krevs)
 429657

 Circulating Hours
 40.2

 Average ROP (m/hr)
 19

API Condition 2-2-WT-A-E-1-NO-TD

# **Drilling Parameters**

 WOB (klbs)
 0.7
 34.9

 RPM
 177
 287

 Torque (kft-lbs)
 0
 7.1

 Pump Pressure (psi)
 1002
 2162

 Flow In (gpm)
 691
 872

Mud System

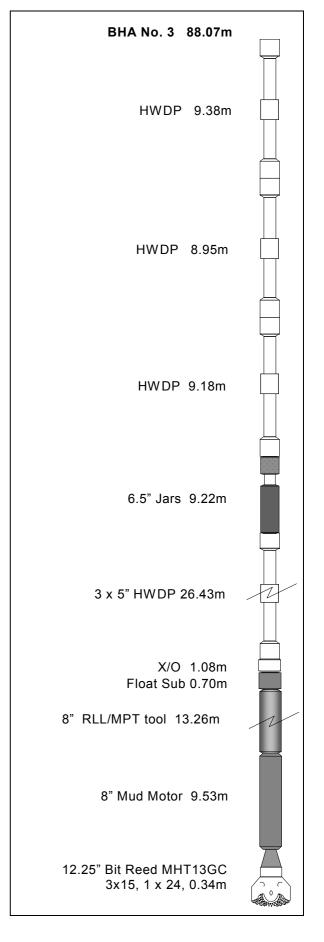
KCI / PHPA / Glycol 1.06-1.10sq

#### Lithology

Calcarenite, Calcisiltite, Marl, Calcareous Claystone & Silty Sandstone

# **Drilling Summary**

A 12.25" rock bit was made up with a mud motor and LWD tool and run in hole, tagging cement at 300mRT. After cleaning out the shoe track, three metres of new formation was drilled to 337m. The hole was then displaced to a KCI/PHPA/Glycol mud system initially weighted to 1.06sg. The hole was circulated clean and a Formation Integrity Test (FIT) performed, with 314psi surface pressure yielding a downhole EMW of 1.73sg. The 12.25" directional hole was drilled at an average penetration rate of about 19m/hr, sliding and rotating as directed by the directional driller from 334m to 884mRT. A maximum gas peak of 12.5% was recorded at the top of the reservoir section at 843mRT. Once the planned 9.625" casing depth was reached, returns were circulated to surface and the mud weight increased to Circulation continued until background 1.12sa. gas levels fell below 0.7%. The well was checked for flow before wiping the hole back to 655m, pumping out as required. Running the back to bottom, no fill was encountered. A short trip gas peak of 9.5% was recorded. The hole was circulated until background gas levels had fallen below 0.5%. The bit was then pulled to surface without any problems.



# 8.5" Hole Section 27 - 28 June 2002

# Bit Run No. 4 Summary

Bit Number NB 4 Bit Size 8.5

Bit Type REED EHP41ALKDH

S/N M25484 Jets 3 x 14 Depth In (m) 884 Depth Out (m) 1385 Metres Drilled 501 **Drilling Hours** 13.4 TBR (krevs) 166.5 Circulating Hours 22.3 Average ROP (m/hr) 37.4

API Condition 1-2-NO-G-E-I-WT-TD

# **Drilling Parameters**

 WOB (klbs)
 0.7
 48.9

 RPM
 87
 203

 Torque (kft-lbs)
 0
 10.1

 Pump Pressure (psi)
 1275
 2089

 Flow In (gpm)
 515
 596

# **Mud System**

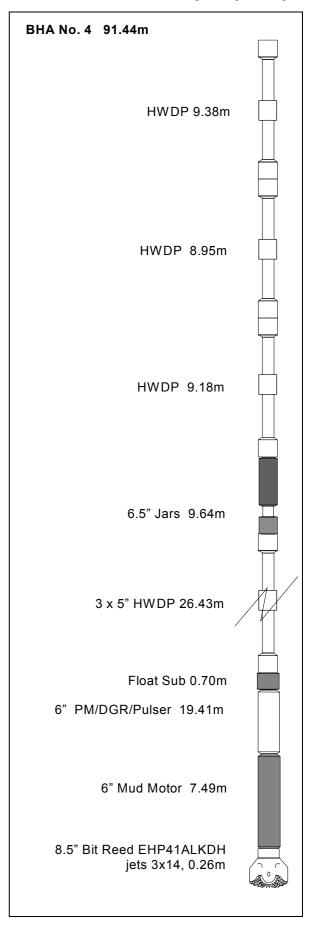
Flo – Pro 1.07-1.12sg

### Lithology

Silty Sandstone and Sandstone

# **Drilling Summary**

NB4 was made up with a mud motor and LWD tool and run in hole. After drilling cement, shoe track and three meters of new formation, a FIT using 1.07sg successfully reached the target 1.40sg EMW without breaking the formation. Drilling continued, rotating and sliding horizontally to the well's Total Depth of 1385mRT, 701mTVD. The hole section was drilled smoothly at an average of 37 m/hr. At TD, bottoms-up sample was circulated out and the open hole was spotted with fresh Flo-Pro mud system. After a flowcheck, the bit was pulled inside the 9.625" casing shoe. A 25bbl brine spacer was pumped, followed by 50bbls of wash pill and chased with another 25bbl brine spacer. The well was circulated clean using uninhibited brine solution. The bit was then pulled to surface to run sand screens in preparation for the completion and production well-testing program.



# 2.2 Casing / Cementing Summary 30" Conductor

# 20 June 2002

Hole Size 36"

Depth 111.5mRT

Casing 1 30" x 20" Shoe joint

1 30" Intermediate Joint

1 x 30" Well Head

ID 28" (18.75" on 20" casing) Weight 310 lb/ft (WH joint 456 lb/ft)

Grade X-52 x 30", K55 x 20"

Shoe Depth 111.5mRT

### **Cement Details:**

 Sacks
 766

 Type
 Class "G"

 Mix water
 92 bbls

 Additives
 17 sxs CaCl

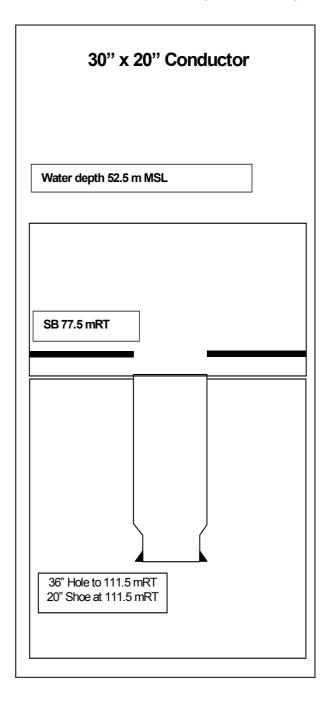
 2.5 gal NF-5

 Weight
 15.9 ppg

 Volume
 159 bbls

## **Summary**

Two joints of conductor casing, the swedged 30"/20" shoe joint and PGB were made up and landed on the seabed. The PGB slope indicator showed no deviation (bull's eye). The top of the 30" wellhead was set at 76mRT, 1.5m above seabed. The cement lines were pressure-tested to 2000psi and 10bbls seawater with dye pumped. The casing was cemented with 159bbls slurry at 1.9sg (15.8 ppg) and displaced with 11.5bbls seawater. After pressure was bled off, it was found that the float had held and the running tool was disengaged and pulled to surface.



# 13.375" Casing

# 21 June 2002

Hole Size 17.5" Depth 334mRT

Casing 1 x Shoe Joint

1 x Intermediate Joint 1 x Float collar joint

16 x 13.375" Casing K-55, 68ppf 1 x 13.375" No Cross Coupling

1 x 18.75" Hsg/20"

ID 12.452" Weight 68 lb/ft, BTC

Grade K-55 Shoe Depth 327.1mRT

# **Cement Details:**

# **Lead Slurry**

Sacks 240 Type Class "G" Mix water seawater

Additives 159 gal Econolite
Weight 12.5 ppg (1.5 sg)
Yield 2.23 cuft/sx
Volume 95 bbls

**Tail Slurry** 

Sacks 484
Type Class "G"
Mix water seawater

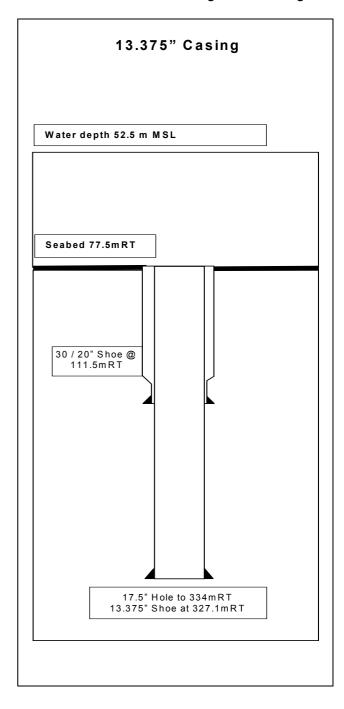
Additives 0.25 gal/sx NF-5 (2.5 gal)

1% BWOC CaCl (12sxs)

Weight 15.9 ppg (1.9 sg) Yield 1.17 cuft/sx Volume 100 bbls

# **Summary**

The 13.375" casing string was made up, landed and latched on the Cameron 18.75" Wellhead in the 30" housing, tested with 50klbs overpull. The casing was circulated with 180bbls seawater at 90 strokes per minute. The cement lines were rigged up and 10bbls seawater pumped before pressuretesting to 3000psi. The ball was dropped, the bottom plug sheared out and a further 10bbls of dye spacer pumped. The lead slurry of 95bbls cement and 102bbls tail slurry was mixed and pumped. The dart was released and the top plug sheared out. The cement was then displaced with 109bbls seawater at a rate of 9bbls/min. The plug did not bump after the calculated displacement volume was pumped. Pressure was bled off and after confirming that the floats had held, the running tool was disengaged and pulled to surface.



# 9.625" Casing

# 26 June 2002

Hole Size 12.25" Depth 884m

Casing 1 x Shoe Joint

1 x Intermediate Joint 1 x Float collar joint

58 x 9.625" Casing L-80, 47ppf

2 x 9.625" pup joint 1 x 9.625" X/O pup joint 1 x 9.625" casing hanger

ID 8.575" Weight 47lb/ft

Grade L80 NK3DB/New Vam

Shoe Depth 872.36mRT

#### **Cement Details:**

# Slurry

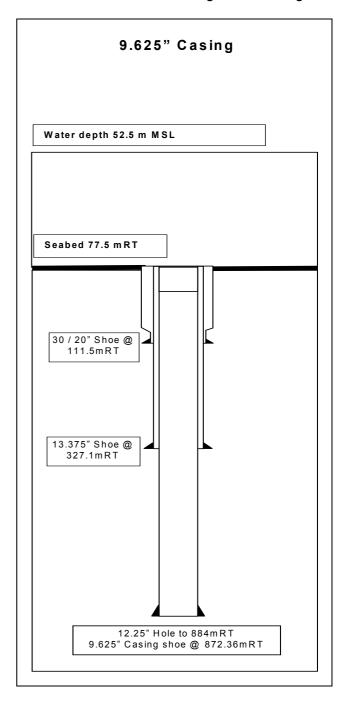
Sacks 378 Type Class "G"

Mixwater 44bbls (drill water)
Additives Halad 413 20gal/10bbls

Weight 15.8ppg (1.9sg)
Yield 1.16 cuft/sx
Volume 78bbls

# **Summary**

The 9.625" casing was run and landed successfully encountering no hole problems. Using mud, the casing was then circulated to 1.5 times its theoretical capacity, about 320bbls. Ten barrels of drill water was pumped into the string. After the cement lines were pressure-tested to 3,000psi, 60bbls of Superflush 102 spacer was pumped. A further 10bbls drill water was pumped before launching the bottom plug, which sheared out at 1250psi. The cement slurry was then mixed and pumped at 5.5bpm, amounting to 78bbls of 'G' Grade cement with a density of 1.89sg. The dart was then released to launch the top plug. The top plug sheared out at 2750psi. The cement unit displaced the slurry with 10bbls of drill water, followed by 180bbls mud. The plug bumped after the correct volume pumped with 1250psi pressure indicated. The casing was then pressure-tested to 3,000psi for 10 minutes. After bleeding off pressure and confirming that the floats had held, the running tool was disengaged and pulled to surface.



**SECTION 3** 

**SURVEYS** 

Patricia-2 Surveys

Patricia-2 Surveys										
Measured	Inclination	Azimuth	Tool	Dogleg	Vertical	Vertical	Position	Position		
Depth m	deg	deg	Type	dptm	Depth	Section	North	East		
75.98	0.00	0.00	TIE-IN	0.00	75.98	0.00	0.00	0.00		
137.95	0.98	9.90	MWD	0.47	137.95	-0.40	0.52	0.09		
165.42	1.05	16.31	MWD	0.15	165.41	-0.78	0.99	0.20		
192.59	1.25	321.00	MWD	1.19	192.58	-0.98	1.46	0.09		
221.64	2.72	262.28	MWD	2.40	221.61	-0.38	1.62	-0.79		
221.04	2.12	202.20	IVIVVD	2.40	221.01	0.50	1.02	0.75		
250.74	6.36	248.26	MWD	2.00	250.62	1 75	0.93	-2.98		
				3.90	250.62	1.75				
280.05	10.56	243.19	MWD	4.36	279.60	5.94	-0.89	-6.88		
314.81	11.75	244.06	MWD	1.04	313.71	12.51	-3.87	-12.91		
337.81	11.63	239.93	MWD	1.10	336.23	17.09	-6.06	-17.09		
355.14	12.11	235.45	MWD	1.80	353.19	20.64	-7.96	-20.03		
382.28	13.44	229.93	MWD	1.99	379.66	26.63	-11.61	-24.78		
411.60	14.45	228.68	MWD	1.08	408.11	33.69	-16.22	-30.14		
436.36	15.75	229.40	MWD	1.59	432.02	40.13	-20.44	-35.01		
463.50	16.45	229.88	MWD	0.79	458.09	47.65	-25.32	-40.75		
490.85	20.25	230.66	MWD	4.18	484.05	56.75	-29.92	-48.71		
520.47	25.07	231.57	MWD	4.89	511.37	68.16	-37.08	-57.59		
545.72	30.22	231.75	MWD	6.12	533.73	79.87	-44.34	-66.78		
574.70	36.08	230.71	MWD	6.09	557.98	95.71	-54.27	-79.12		
601.82	41.61	229.84	MWD	6.15	579.10	112.71	-65.14	-92.20		
632.62	46.70	229.27	MWD	4.97	601.19	134.15	-79.06	-108.52		
002.02	10.70	220.21	WW	1.07	001.10	10-1.10	70.00	100.02		
661.71	51.65	229.87	MWD	5.13	620.20	156.14	-93.33	-125.27		
691.25	56.22	230.56	MWD	4.68	637.59	180.01	-108.60	-143.62		
720.54	59.58	230.67	MWD	3.44	653.15	204.81	-124.34	-143.02		
			MWD							
749.62	64.19	230.16		4.78	666.85	230.45	-140.68	-182.55		
778.45	68.86	230.06	MWD	2.78	678.79	256.68	-157.51	-202.68		
007.00	74.00	220.46	MAAA	F 24	600.04	202.20	174 50	222.22		
807.00	71.93	230.46	MWD	5.34	688.84	283.38	-174.59	-223.23		
836.59	78.14	230.03	MWD	6.31	696.48	311.94	-192.86	-245.19		
862.88	85.19	229.80	MWD	8.05	700.29	337.93	-209.60	-265.08		
890.03	90.24	230.02	MWD	5.59	701.37	365.04	-227.06	-285.82		
918.39	91.01	230.36	MWD	0.89	701.06	393.39	-245.22	-307.61		
946.77	90.86	230.25	MWD	0.20	700.60	421.76	-263.34	-329.44		
975.03	89.50	229.75	MWD	1.53	700.51	450.01	-281.51	-351.09		
1002.56	90.63	230.40	MWD	1.42	700.48	477.53	-299.18	-372.20		
1030.12	88.91	232.09	MWD	2.62	700.59	505.08	-316.43	-393.69		
1056.95	87.97	231.93	MWD	1.07	701.32	531.90	-332.93	-414.83		
1086.87	90.00	231.90	MWD	2.04	701.85	561.81	-351.38	-438.37		
1112.97	90.60	232.56	MWD	1.03	701.71	587.91	-367.37	-459.01		
1140.50	89.68	233.10	MWD	1.17	701.65	615.44	-384.00	-480.94		
1170.64	89.99	233.29	MWD	0.36	701.74	645.56	-402.06	-505.08		
1198.27	90.70	233.79	MWD	0.94	701.57	673.18	-418.48	-527.30		
1224.64	89.59	231.69	MWD	2.70	701.50	699.54	-434.44	-548.28		
1252.22	89.90	231.72	MWD	0.34	701.62	727.12	-451.53	-569.93		
1281.21	90.98	232.67	MWD	1.49	701.40	756.10	-469.30	-592.84		
1310.13	89.67	232.72	MWD	1.35	701.24	785.02	-486.82	-615.84		
1339.08	89.82	233.39	MWD	0.72	701.37	813.96	-504.22	-638.97		
	·			· -	-		-	-		
1368.17	90.46	234.02	MWD	0.92	701.30	843.03	-521.44	-662.42		
							-	. –		

All data is in metres unless otherwise stated. Directions and coordinates are relative to Grid North.

Vertical depths are relative to Well. Northings and Eastings are relative to Structure. The Dogleg Severity is in Degrees per 30 metres.

Vertical Section is from Structure and calculated along an azimuth of 231.557° (Grid)

Coordinate system is UTM Zone 55S on Australian Geodetic Datum 1966, Meters.

Grid convergence at Surface is -0.893°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 1385.00m.

The Bottom Hole Displacement is 859.86m, in the Direction of 231.834° (Grid).

# **SECTION 4**

**GEOLOGY & SHOWS** 

4.1 Geology and Shows

# 4.1 GEOLOGY AND SHOWS

# Patricia-2

Geological logging for Patricia-2 commenced below the 13.375" casing shoe set at 327.1mRT from 334m to the total depth of 1385mRT.

During the course of the well, all gas equipment was checked and calibrated regularly, and spot samples were taken at drilling breaks and other changes in drilling parameters to better assess lithological changes. Samples were analysed for calcimetry as required by the OMV Wellsite Geologist.

The lithology of Patricia-2 is described below. For more detailed descriptions, see Appendix 1: Formation Evaluation Log.

# **SAMPLE INTERVALS**

334 – 340	6m
340 – 350	5m
350 – 360	10m
360 – 370	5m
370 – 400	10m
400 – 430	5m
430 – 500	10m
500 – 620	5m
620 – 640	10m
640 – 670	5m
670 – 850	10m
850 – 890	5m
890 – 1380	10m
1380 – 1385	5m

# **36" HOLE SECTION**

Seabed - 111.5mRT: Returns to Seabed

17.5" HOLE SECTION

111.5 - 334mRT: Returns to Seabed

12.25" HOLE SECTION 334 - 884mRT

# **FORMATION DESCRIPTIONS:**

# 334 - 496m ARGILLACEOUS CALCILUTITE and ARGILLACEOUS CALCISILTITE

**ARGILLACEOUS CALCILUTITE:** Medium light grey to medium dark grey, occasionally very light grey. Dispersive to soft, occasionally firm, amorphous to subblocky, with abundant argillaceous material, trace to common fossil fragments, trace to rare Foraminifera, rare glauconite pellets and trace pyrite.

4.1 Geology and Shows

**ARGILLACEOUS CALCISILTITE:** Light grey to medium light grey, occasionally very light grey. Soft to firm, subblocky to blocky and occasionally amorphous with common to abundant argillaceous material, minor to trace fossil fragments, rare to trace Foraminifera, trace glauconite pellets and trace disseminated pyrite.

No oil shows were observed in this interval.

The section from 334 to 496m was drilled with an average ROP of 19.5m/hr and ranged from 4.7m/hr to 112.5m/hr. The calcimetry values for this interval ranged from 50-89% calcite with an average of 67% calcite. No dolomite was recorded.

Total Gas	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	iC <sub>4</sub>	nC <sub>4</sub>	iC <sub>5</sub>	nC <sub>5</sub>
%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
0.00-0.02	0-155	-	-	-	-	-	-

# 496 - 762m: MARL, ARGILLACEOUS CALCISILTITE and minor CALCARENITE

**MARL:** Very light grey to medium grey, predominantly light grey to medium light grey. Soft, amorphous to subblocky and sticky in places, with trace glauconite, trace pyrite, trace fossil fragments and trace Foraminifera. Grades to CALCAREOUS CLAYSTONE in places.

**ARGILLACEOUS CALCISILTITE:** Light grey to medium grey, occasionally medium dark grey. Soft to firm, occasionally dispersive, subblocky, occasionally amorphous containing abundant argillaceous material, rare to trace glauconite, trace fossil fragments, trace Foraminifera and occasional trace pyrite.

**CALCARENITE:** Light grey, medium grey to medium dark grey. Friable to moderately hard, occasionally hard to very hard, very fine to fine, moderately well sorted with recrystallised calcite grains and rare calcite cement, trace glauconite, trace pyrite and trace fossil fragments.

No oil shows were observed in this interval.

The section from 496 to 762m was drilled with an average ROP of 16.6m/hr and ranged from 2.2m/hr to 80.4m/hr. The calcimetry values for this interval ranged from 44-82% calcite with an average of 59% calcite. No dolomite was recorded.

Total Gas	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	iC <sub>4</sub>	nC₄	iC <sub>5</sub>	nC <sub>5</sub>
%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
0.01-0.16	47-1529	-	-	-	-	-	-

### 762 - 815m MARL and CALCAREOUS CLAYSTONE

**MARL:** Light grey to medium dark grey, predominantly medium light grey. Soft, amorphous to blocky and sticky in places containing rare glauconite pellets, trace fossil fragments and trace Foraminifera. Grades to CALCAREOUS CLAYSTONE in places.

**CALCAREOUS CLAYSTONE**: Dusky yellow, light grey to medium grey, light olive grey. Soft to firm, predominantly soft, amorphous to subblocky, with trace glauconite, trace fossil fragments and trace Foraminifera.

No oil shows were observed in this interval.

The section from 762m to 815m was drilled with an average ROP of 27.9m/hr and ranged from 10.4m/hr to 77.7m/hr. The calcimetry values for this interval ranged from 28-64% calcite with an average of 36% calcite. No dolomite was recorded.

Total Gas	$C_1$	$C_2$	$C_3$	iC <sub>4</sub>	$nC_4$	iC <sub>5</sub>	nC₅
%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
0.06-0.26	554-2355	1	-	-	-	-	-

4.1 Geology and Shows

# 815 - 884m SILTY SANDSTONE, CALCAREOUS CLAYSTONE and minor GLAUCONITIC SANDSTONE

**SILTY SANDSTONE**: Moderate yellowish brown to dark yellowish brown, clear to translucent quartz grains. Very fine to fine, moderately hard with occasionally hard aggregates, subangular to subspherical grains, moderately well-sorted, containing rare glauconite pellets, rare mica flakes, rare to trace Foraminifera, trace fossil fragments and trace siderite. Grades to SILTSTONE in places. Good to fair inferred porosity.

**GLAUCONITIC SANDSTONE:** Medium green to dark green. Fine to medium grained glauconite, subrounded to subangular.

**CALCAREOUS CLAYSTONE**: Dusky yellow, light grey to medium grey, light olive grey. Soft to firm, predominantly soft, amorphous to subblocky with trace glauconite, trace fossil fragments and trace Foraminifera.

No oil shows were observed in this interval.

The section from 815m to 884m was drilled with an average ROP of 26.5m/hr and ranged from 10.6m/hr to 117.4/hr. The calcimetry values for this interval ranged from 2-28% calcite with an average of 7%. No dolomite was recorded.

Total Gas	C <sub>1</sub>	$C_2$	$C_3$	iC <sub>4</sub>	nC <sub>4</sub>	iC <sub>5</sub>	nC <sub>5</sub>
%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
0.29-12.47	2309-99532	-	-	-	-	-	-

### 8.5" HOLE SECTION 884 - 1385mRT

# **FORMATION DESCRIPTIONS:**

# 884 - 1385m SILTY SANDSTONE and SANDSTONE

**SILTY SANDSTONE:** Moderate yellowish brown to dark yellowish brown, brownish black-olive black clear to translucent quartz grains. Very fine to fine, predominantly very fine, moderately hard with occasionally hard aggregates, subangular to subrounded, subspherical, moderately well sorted, containing rare mica flakes, trace glauconite, trace pyrite, rare to trace Foraminifera, trace fossil fragments and trace siderite. Grades to SILTSTONE in places. Good to fair inferred porosity.

**SANDSTONE:** Dusky brown to dusky yellowish brown, olive grey, clear to translucent quartz grains. Very fine to fine, predominantly very fine, loose, friable, rare hard aggregates. Subangular to subrounded, subspherical, moderately well sorted. Grading from 15 down to 5% silt and from 5 to 20% argillaceous material with rare mica flakes, trace glauconite, trace lithic fragments. Grades to ARGILLACEOUS SANDSTONE in places. Fair to good inferred porosity.

No hydrocarbon shows were observed in this interval.

The section from 884 to 1385m was drilled with an average ROP of 56.6/hr and ranged from 3.2m/hr to 120m/hr. The calcimetry values for this interval ranged from 0-2% calcite with an average of 1%. No dolomite was recorded.

Total Gas	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	IC <sub>4</sub>	NC <sub>4</sub>	iC <sub>5</sub>	nC <sub>5</sub>
%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
0.12-7.95	1583-60017	-	-	_	_	_	_



# 4.2 Sampling Summary

**OMV: Patricia-2** From: BHI Unit 503

Location: *Ocean Bounty* Telephone: 08 9221 6200

Shipped in Container No: OPC205

SAMPLE TYPE	No.	COMPOSITION		PACKING DETAILS	
	Of	Sample	Depth In	terval (m)	1
	Sets	Box No.	From	То	
Sets A,B,C,D,E:	5	1	334	470	Small boxes 1 - 8 packed in
		2	470	580	one Large Box for each set.
		3	580	710	
Washed & Air Dried Samples		4	710	875	5 Large Boxes (total)
(100 g)		5	875	1050	
		6	1050	1240	
		7	1240	1385	
Set F: Samplex Trays	1	1	334	1385	1 Box
Set G: Mud Samples (5 samples), Drillwater (3 samples),	1	1	334	1385	1 Large box
Filtrate (2 samples)					
Set H: Misc paper work, logs and charts	1	1	-	-	1 Large box
Mud additives	2	-	-	-	Given to OMV WSG

DISTRIBUTION	Destination & Address	Attention of:
Washed & Dried (100g) Set A	OMV Australia Pty Ltd Sample Store c/o Kestrel Information Management Pty Ltd 39 McDowell Street Welshpool WA 6106 Tel: 08-9350 3170 Fax: 08-9350 3179	Attn: Barry Lloyd
Washed & Dried (100g) Set B: AGSO	AGSO Data Repositories Cnr Jerrabomberra Avenue and Hindmarsh Drive Symonston ACT 2609 Tel: 02-6249 9222 Fax: 02-6269 9903	Attn: Eddie Resiak
Washed & Dried (100g) Set C: VDNRE	VDNRE Core and Cuttings Store South Rd Werribee, Vic 3030 03 9412 5055	Attn:
Washed & Dried (100g) Set D: TRINITY	Trinity Gas Resources Pty Ltd Level 9 Chancery House 37 St Georges Tce Perth, WA 6000 Tel: 08 9225 5078	Attn: Tomoyuki Watanabe
Washed & Dried (100g) Set E: Santos	SANTOS Level 8 Santos House 91 King William St Adelaide, SA, 5000 08 82247128	Attn: Andy Pietsch
Samplex Trays, Set F	OMV Australia Pty Ltd Sample Store c/o Kestrel Information Management Pty Ltd 39 McDowell Street Welshpool WA 6106 Tel: 08-9350 3170 Fax: 08-9350 3179	Attn: Barry Lloyd
Set G: Mud Samples, Drillwater sample, Mud Additives, Mud Filtrate Sample	ACS Laboratories Pty Ltd 8 Cox Road Windsor Brisbane QLD 4030 Tel: 07-3357 1133	Attn: lan Mangelsdorf
Set H: OMV Misc paper work, logs and charts	OMV Australia Pty Ltd Sample Store c/o Kestrel Information Management Pty Ltd 39 McDowell Street Welshpool WA 6106 Tel: 08-9350 3170 Fax: 08-9350 3179	Attn: Barry Lloyd

# **SECTION 5**

**PRESSURE EVALUATION** 

5.1 Pressure Evaluation

# **5.1 Pore Pressure Evaluation**

An average sea water density of 1.03 sg was assumed as the normal saline pressure gradient for all calculations for Patricia-2. Using real time data, such as the hydrocarbon gas trend, lithology, flowline temperature, corrected Drilling Exponent (Dxc) data for conventional roller bits, constant drilling fluid parameters and MWD resistivity and gamma real-time data when available, pore pressure estimates were made during the drilling of Patricia-2. For more details, please refer to Appendix 3, "Pressure Summary Plot". All depths unless otherwise stated refer to the rotary table - RT.

## 36" Hole Section

The 36" hole was drilled from 77.5mRT to 111.5mRT. The section was short, characterised by largely unconsolidated sediments with returns dumped at the seabed. With an average penetration rate of about 57m/hr and low weight-on-bit, the plotted Dxc data curve contained widely scattered points, with no general trend discernible. However, it is unlikely that pore pressure would have increased over this shallow interval. The pore pressure was estimated to have remained normal at 1.03 sg EMD down to 111.5mRT.

### 17.5" Hole Section

The 17.5" hole was also drilled riserless from 111.5mRT to 334mRT. The rate of penetration was very fast in the upper section from 111.5 to 220mRT averaging 98m/hr through poorly consolidated sediments. The Dxc data points varied widely, but a general rightward trend could be observed. Between 220m and 280mRT, penetration rates marginally slowed to 67m/hr. The Dxc trend shifted to a near-vertical trend, possibly due to a minor change in lithology. More compact, indurated sediments below about 280m, with penetration rate slowing to about 55m/hr, displayed a normal trend of Dxc points. However, at this shallow depth it is unlikely that pore pressure would have increased and was estimated to have remained normal at 1.03 sg EMD down to 334mRT.

### 12.25" Hole Section

The 12.25" directional hole section was drilled alternating between sliding and rotating from 334m to 884mRT with a tricone bit, allowing useful Dxc values to be recorded when drilling conventionally. A KCI/PHPA/Glycol mud system was used. Starting with an initial weight of 1.06sg, the mud weight was allowed to increase to 1.08sg by 710m. A normal rightward Dxc trend, based on periods of conventional rotary drilling, was observed down to 760m, with average background gas levels remaining very low at about 0.04%. There was a slight leftward Dxc shift from 760 – 820m. This was due to a lithology change from mainly carbonates to more clayey formations. Background gas levels increased to about 0.28%, but there were no signs of increased pore pressure in this interval. No cavings were seen and real-time MWD resistivity data indicated normal pore pressure conditions. A further marked leftward shift in the Dxc curve occurred from 820m to the 9.625" casing point at 884m. Once again this was due to a marked lithology change from calcareous claystones to silty sandstones. Background gas levels rose steadily as the gas reservoir section was penetrated. A maximum gas peak of 12.5% at 843m was recorded, with gas levels remaining at about 4% down to section TD. There were no connection gases recorded in this hole section. Flowline temperatures showed a normal increasing gradient with depth. With no indications at all of any increased pore pressure, the pore pressure in this hole section was estimated to have remained normal at 1.03sq EMW. The mud weight was increased to 1.12 sq after section TD to reduce gas levels in the well.

# 8.5" Hole Section

The 8.5" hole section was drilled horizontally from 884m to well TD of 1385mRT at an angle from 89-91 degrees. The hole was maintained on a specific heading to laterally intersect target horizons in the subsurface structure. Consequently, only one metre of vertical distance was traversed, rendering Dxc analysis unusable. Drilling exponent analysis is based on predicted 'drillability' behaviours of sedimentary units over succeeding stratified layers. Recorded variations in gas levels and Dxc scatter points measured in this section could be directly quantified with the drilling rate and changes in the drilling parameters used. There were no abnormal pressure indicators observed in this section. Therefore, pore pressure was estimated to have remained normal at 1.03sg EMW. The mud weight was increased to 1.12sg to reduce overall gas levels in the well prior to pulling out of hole.

OMV Australia Patricia-2 16

5.2 Pressure Evaluation

# **5.2 Fracture Pressure Evaluation**

### 12.25" hole section

After drilling out the 13.375" casing shoe at 327.1m, rathole to 334m and three metres of 12.25" hole to 337mRT, a Formation Integrity Test (FIT) was performed. An applied force of 314psi at surface using mud weighted at 1.06sg yielded an equivalent mud weight (EMW) of 1.73sg without causing formation breakdown. This section was drilled with a KCI/PHPA/Glycol mud system weighted from 1.06 to 1.10sg. While drilling, an ECD range of 1.08 to 1.13sg was recorded. At no time did ECD values approach the FIT result. No significant downhole mud losses were seen in this section.

#### 8.5" hole section

The 8.5" hole formation integrity test (FIT) at 872.36mRT using 1.07sg mud yielded a formation strength of 1.40sg Equivalent Mud Weight. The mud weight was increased from 1.07 - 1.10sg while drilling to the total measured depth of 1385mRT (701.1mTVD). There were no downhole mud losses seen while drilling this section although a maximum ECD of 1.29sg was exerted against the formation. The formation competency of 1.40sg EMW measured at the casing shoe was more than enough to prevent losses to the formation.

The following is a summary of the Formation Integrity Tests conducted in this well:

<b>Hole Section</b>	Hole MD/TVD	Casing	Shoe MD/TVD	Pressure	Mud Weight	EMW
12.25"	334 / 332.5m	13.375"	327.1 / 325.7m	314 psi	1.06 sg	1.73 sg
8.50"	887 / 701.1m	9.625"	872.36 / 700.7m	408 psi	1.07 sq	1.40 sq

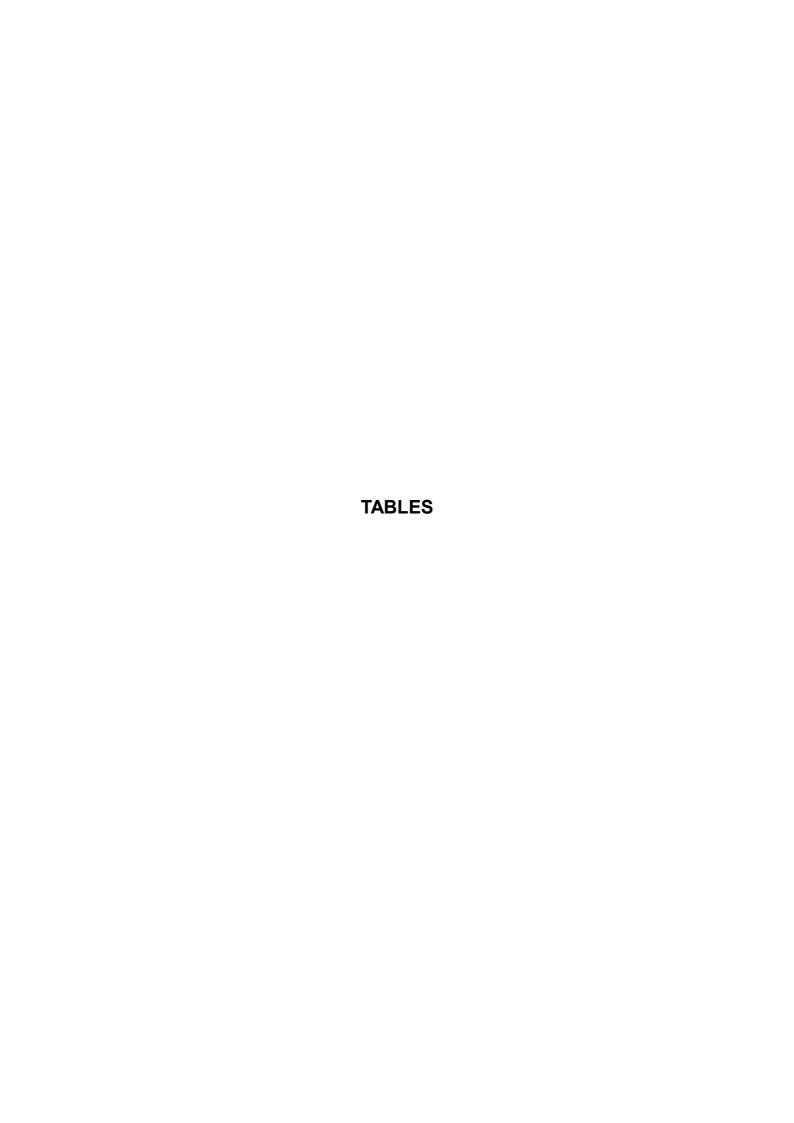


Table 1: Bit Run Summary

BA	KER UGHES							В	it F	Rui	า S	un	nma	ry													
perato OM\	/ Australia					Well N	ame	Pa	trici	a-2			Location VIC/L	.21		Drilling <b>Diar</b>			fsho	ore				Rig <b>Oc</b>	ear	Bounty	1
	Bit							On Btm					Drilling	paramet	er rang	je						Gra	ding				
Bit No.	Make, Type Serial No. / IADC Code	Bit Size in	<b>Jets</b> x 1/32"	TFA in/2	Depth In m	Out	Metres Drilled Metres	Drilled	Avg		WOB klbs	SPP psi	RPM	Flow gpm	Vel	DC/OH Vel m/min		Bit Power hhp	Bit Loss %	ıo	D	L	В	0	R		Remarks
	36" Hole Section	•	•		•	•				•			•		•			•									
RR1	Smith DSJC w/ 36" Hole Opener		1 x 17, 3 x 24 36" HO, 4 x 22 je		77.5	111.5	34.0	0.6	56.7	2.6	3 - 12	710	60	910	33	6	1.03	49	29.1			Not (	Grade	d		36" Hole Section	n T.D.
	17.5" Hole Section												T		1		T									T	_
RR2	Security DBS XT1C 740844	17.5	3 x 24	1.3254	111.5	334	222.5	3.6	61.8	29.8	1 - 14	1220	96 - 169	781	59	28	1.03	136	44.0			Not (	Grade	d		Mud Motor, M\	VD
	12.25" Hole Section																										
NB3	Reed MHT 13GC NL 5007	12.25	3 x 15, 1 x 24	0.9595	334	884	550	29.0	19.0	428.6	1 - 35	1774	177 - 287	847	86.0	73.50	1.06-	318.6	645.0	2 2	WT	Α	E 1	NO	TD	Mud Motor, M\	VD
	8.5" Hole Section	•			•	•									•											•	
NB4	Reed EHP41ALKDH M25484	8.50	3 x 14	0.4510	884	1385	501	13.4	37.4	166.5	1 - 49	1763	51 - 189	573	124.2	189.50	1.08 - 1.12	463.1	68.1	1 2	NO	G	ΕI	WT	TD	Mud Motor, M\ 8.5" Hole Sect	

Tables

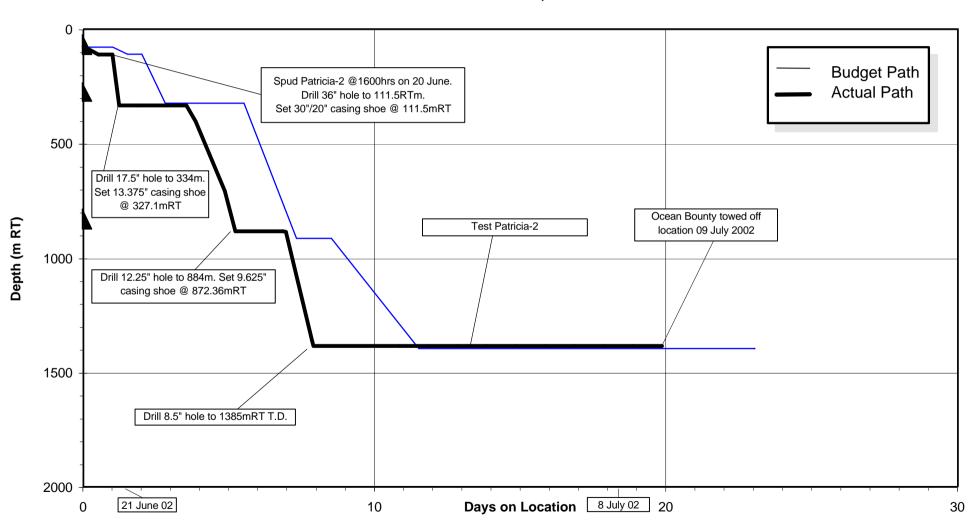
Table 2: Bit Hydraulics Summary Tables

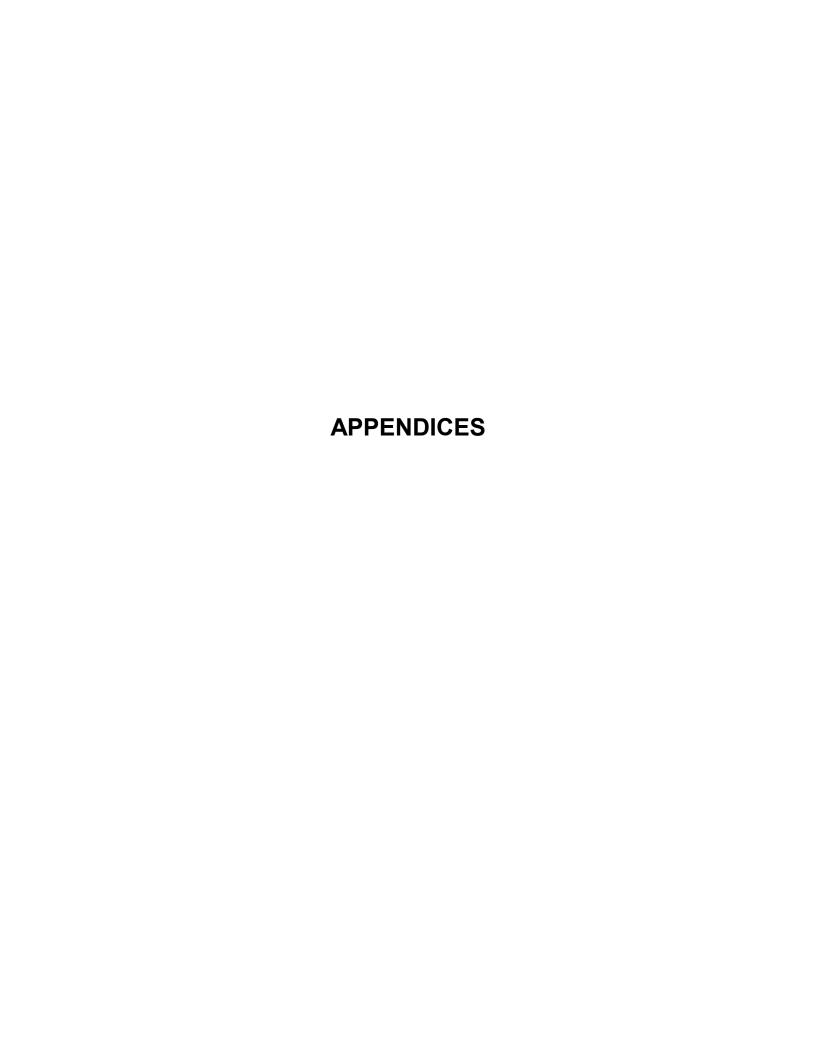
	<b>V/41</b> KER UGHES				В	it H	yd	rau	ılic	s S	Sun	nma	ry							
Operator			Well Name						Location	1	Drilling Con	tractor				Rig				
OMV A	Austral	lia			Patricia-2	tricia-2 VIC/L21 Diamond Offshore Ocean Bounty														
Drillstring	rillstring Abbreviations S Camco SRD Tool Hydraulics Models																			
	N Normal P Positive Displacement Motor T Halliburton TRACS Tool Power Law Model used for drilling with Mud  M MWD A Adjustable Gauge Stabilizer C Core Bingham Model used for coring and drilling with sea water																			
																			ular Velo	1
Bit	Depth	Hole	Jets	Drill	Mud	Mud		YP	Flow	Jet	Impact	Hydraulic	Power/	Bit	Bit	Pipe	ECD	DP	DC	DC
No.		Size		String	Туре	Density	PV	lbs/100	Rate	Vel	Force	Power	Area	Loss	Loss	Loss		OH	OH	Critical
	(m)	in	x 1/32"	Type		sg	сP	ft sq	gpm	m/sec	lbf	hhp	hp/sq in	Psi	%	Psi	sg	m/min	m/min	m/min
	36" Hole	Section																		
RR1	111.5	36"	1 x 17, 3 x 24	N	SW/hi-vis sweeps	1.03	1	1	910	33.4	443.7	49.0	0.1	92	29.1	191	1.03	-	5.6	25.2
	17.5" Ho	le Section	า																	
RR2	334	17.50	3 x 24	N	SW/hi-vis sweeps	1.03	1	1	803	59.2	693.6	135.7	0.6	290	44.0	465	1.03	21.4	28.1	25.5
	12.25" H	ole Section	on																	
NB3	884	12.25"	3 x 15, 1 x 24	N	KCL/PHPA/Glycol	1.10	15	27	872	88.9	1206.7	354.0	3.0	697	35.3	1230	1.14	50.3	75.7	176.3
	8.5" Hole	Section			•															
NB4	1385	8.50	3 x 14	N	FLO-PRO	1.07-1.12	11	32	573	124.2	1128.6	463.1	8.3	1386	68.1	473	1.29	164.9	160.4	189.5



## OMV Australia Patricia-2

Time vs. Depth Curve





## **FORMATION EVALUATION LOG**

1:500

## **DRILLING DATA PLOT**

1:1000 & 1:2500

## PRESSURE EVALUATION PLOT

1:2500

# PRESSURE SUMMARY PLOT

1:5000





## Compositional Analysis of Surface Gas Samples from Baleen-3 & Patricia-2 Victoria

Prepared for OMV Australia Pty Ltd

August 2002

File: AFL 2002-022 / AFL 2002-027

Reservoir Fluid Laboratory
Core Laboratories
Perth
Australia

#### 7 August, 2002

OMV Australia Pty Ltd Level 29, St Martin's Tower 44 St Georges Terrace Perth 6000 WESTERN AUSTRALIA

Attention: Mr Andy Ion

Subject: Compositional Analysis Well: Baleen-3 and Patricia-2

Location: Victoria

File: AFL 2002-022 & AFL 2002-027

Dear Andy,

Six 20 litre surface gas samples, three collected from each of the Baleen-3 and Patricia-2 wells, were received at our Perth laboratory for compositional analysis. Presented in the following report are the results of the analyses requested.

Core Laboratories appreciates this opportunity to be of service to OMV Australia Pty Ltd. Should you have any questions regarding this report, or if we may be of any further assistance, please feel free to contact me at your convenience.

Yours Faithfully, For **CORE LABORATORIES** 

Kevin Daken Laboratory Supervisor

### OMV Australia Pty Ltd Baleen-3 & Patricia-2

AFL 2002-022 & AFL 2002-027

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Compositional Analysis of Surface Gas Samples	 2-4
Patricia-2	
Sample Validity Check	 5
Compositional Analysis of Surface Gas Samples	 6-8

#### OMV Australia Pty Ltd Baleen-3 & Patricia-2

AFL 2002-022 & AFL 2002-027

#### LABORATORY PROCEDURES

#### **Samples**

Three 20-litre gas samples were collected from the separator gas line from each of the Baleen-3 and Patricia-2 wells and forwarded to our Perth Laboratory. As an initial quality check, the opening pressure for each sample was determined and compared to sampling conditions. These results, summarised on page 1 (Baleen-3) and 5 (Patricia-2), indicated the samples were suitable for compositional analysis.

#### **Compositional Analysis**

The hydrocarbon composition of each of the separator gas samples was analysed according to the GPA 2286 method. The resultant compositions are reported on pages 2 though 4 (Baleen-3) and 6 through 8 (Patricia-2).

### **Baleen-3**

File: AFL 2002-022

Reservoir Fluid Laboratory
Core Laboratories
Perth
Australia

AFL 2002-022

# PRELIMINARY CHECKS OF SAMPLE QUALITY AND SUMMARY OF SAMPLES RECEIVED

Surface Gas Samples										
	Sampling	Conditions	Laborato	ory Opening Conditions						
Cylinder Number	psig	°F	psig	°F	Air Content (mol %)					
1278-C1-F	259.6	54.5	258	66	0.32					
2750-C1-F	303.8	38.0	303	66	0.15					
1851-C1-F	303.8	38.1	298	66	2.35					

All samples were subjected to compositional analysis.

AFL 2002-022

#### **COMPOSITION OF PRIMARY STAGE SEPARATOR GAS - 1278-C1-F**

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide Carbon Dioxide Nitrogen Methane Ethane Propane iso-Butane n-Butane iso-Pentane n-Pentane Hexanes Heptanes Octanes Nonanes Decanes Undecanes Dodecanes	* 0.00 0.16 1.67 98.08 0.09 Trace 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.024 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.8172 0.8086 0.2997 0.3562 0.5070 0.5629 0.5840 0.6244 0.6311 0.6850 0.7220 0.7450 0.7640 0.7780 0.7890 0.8000	44.010 28.013 16.043 30.070 44.097 58.123 72.150 72.150 84.0 96.0 107 121 134 147 161
Totals	100.00	0.024		

#### **SAMPLING CONDITIONS**

259.6 psia 54.5 °F

Gas Cylinder 1278-C1-F

#### **Average Sample Properties**

Critical Pressure, psia  Critical Temperature, °R	664.1 341.6
Average Molecular Weight	16.30
Calculated Gas Gravity ( air = 1.000 )	0.563

#### at 14.696 psia and 60 °F

Heating Value, Btu/scf dry gas*	
Gross	992

#### **Properties of Plus Fractions**

Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW
	Mol %	Mol % Liquid Density (gm/cc)	Mol % Liquid Liquid Mol % Density API (gm/cc) Gravity

Note: \* For H2S, 0.00 means less than 0.10 mol percent (cross-checked by other methods) For all other components:

- trace means detected but less than 0.005 mol percent.
  0.00 means less than or equal to 0.001 mol percent.

Note: Component properties assigned from literature.

\* ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

AFL 2002-022

#### **COMPOSITION OF PRIMARY STAGE SEPARATOR GAS - 2750-C1-F**

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide Carbon Dioxide Nitrogen Methane Ethane Propane iso-Butane n-Butane iso-Pentane n-Pentane Hexanes Heptanes Octanes Nonanes Decanes Undecanes Dodecanes	* 0.00 0.17 1.82 97.93 0.08 Trace 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.021 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.8172 0.8086 0.2997 0.3562 0.5070 0.5629 0.5840 0.6244 0.6311 0.6850 0.7220 0.7450 0.7640 0.7780 0.7890 0.8000	44.010 28.013 16.043 30.070 44.097 58.123 58.123 72.150 72.150 84.0 96.0 107 121 134 147 161
Totals	100.00	0.021		

#### **SAMPLING CONDITIONS**

303.8 psia 38.0 °F

Gas Cylinder 2750-C1-F

#### **Average Sample Properties**

Critical Pressure, psia	664.0
Critical Temperature, °R	341.4
•	
Average Molecular Weight	16.32
Calculated Gas Gravity (air = 1.000)	0.563

#### at 14.696 psia and 60 °F

Heating	Value, Btu/scf dry gas*	
Gross		99

#### **Properties of Plus Fractions**

Component	Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW

Note: \* For H2S, 0.00 means less than 0.10 mol percent (cross-checked by other methods) For all other components:

- trace means detected but less than 0.005 mol percent.
   0.00 means less than or equal to 0.001 mol percent.

Note: Component properties assigned from literature.

<sup>\*</sup> ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

AFL 2002-022

#### **COMPOSITION OF PRIMARY STAGE SEPARATOR GAS - 1851-C1-F**

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide Carbon Dioxide Nitrogen Methane Ethane Propane iso-Butane n-Butane iso-Pentane n-Pentane Hexanes Heptanes Octanes Nonanes Decanes Undecanes Dodecanes	* 0.00 0.17 1.79 97.96 0.08 Trace 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.021 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.8172 0.8086 0.2997 0.3562 0.5070 0.5629 0.5840 0.6244 0.6311 0.6850 0.7220 0.7450 0.7640 0.7780 0.7890 0.8000	44.010 28.013 16.043 30.070 44.097 58.123 58.123 72.150 84.0 96.0 107 121 134 147 161
Totals	100.00	0.021		

#### **SAMPLING CONDITIONS**

303.8 psia 38.1 °F

Gas Cylinder 1851-C!-F

#### **Average Sample Properties**

Critical Pressure, psia Critical Temperature, °R	664.0 341.4
Average Molecular Weight	16.32
Calculated Gas Gravity ( air = 1.000 )	0.563

#### at 14.696 psia and 60 °F

Heating	Value, Btu/scf dry gas*	
Gross		99

#### **Properties of Plus Fractions**

Component	Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW

Note: \* For H2S, 0.00 means less than 0.10 mol percent (cross-checked by other methods) For all other components:

- trace means detected but less than 0.005 mol percent.
   0.00 means less than or equal to 0.001 mol percent.

Note: Component properties assigned from literature.

<sup>\*</sup> ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

## Patricia-2

File: AFL 2002-027

Reservoir Fluid Laboratory
Core Laboratories
Perth
Australia

## **OMV Australia Pty Ltd**

Patricia-2

AFL 2002-027

# PRELIMINARY CHECKS OF SAMPLE QUALITY AND SUMMARY OF SAMPLES RECEIVED

Surface Gas Samples						
	Sampling	Conditions	Laborato	Laboratory Opening Condi		
Cylinder Number	psig	°F	psig	°F	Air Content (mol %)	
2357-C1-F	365	37	375	66	0.11	
3416-C1-F	364	37	340	66	0.14	
0687-C1-F	296	48	315	66	0.10	

All samples were subjected to compositional analysis.

#### **OMV Australia Pty Ltd** Patricia-2

AFL 2002-027

#### **COMPOSITION OF PRIMARY STAGE SEPARATOR GAS - 2357-C1-F**

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide Carbon Dioxide Nitrogen Methane Ethane Propane iso-Butane n-Butane iso-Pentane h-Pentane Hexanes Heptanes Octanes Nonanes Decanes Undecanes Dodecanes	* 0.00 1.38 0.69 97.58 0.34 0.01 Trace 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.091 0.003 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.8172 0.8086 0.2997 0.3562 0.5070 0.5629 0.5840 0.6244 0.6311 0.6850 0.7220 0.7450 0.7640 0.7780 0.7890 0.8000	44.010 28.013 16.043 30.070 44.097 58.123 72.150 72.150 84.0 96.0 107 121 134 147 161
Totals	100.00	0.094		

#### **SAMPLING CONDITIONS**

364 psia 37 °F

Gas Cylinder 2357-C1-F

#### **Average Sample Properties**

Critical Pressure, psia	670.9
Critical Temperature, °R	345.8
Average Molecular Weight	16.56 0.572

#### at 14.696 psia and 60 °F

Heating Value, Btu/scf dry gas\* Gross ..... 992

#### **Properties of Plus Fractions**

(gm/d	iid Liquid sity API cc) Gravity	MW

Note: \* For H2S, 0.00 means less than 0.10 mol percent (cross-checked by other methods) For all other components:

- trace means detected but less than 0.005 mol percent.
   0.00 means less than or equal to 0.001 mol percent.

Note: Component properties assigned from literature.

\* ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

#### **OMV Australia Ltd.** Patricia-2

AFL 2002-027

#### **COMPOSITION OF PRIMARY STAGE SEPARATOR GAS - 3416-C1-F**

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide Carbon Dioxide Nitrogen Methane Ethane Propane iso-Butane n-Butane iso-Pentane Hexanes Heptanes Octanes Nonanes Decanes Undecanes Dodecanes	* 0.00 1.38 0.69 97.59 0.33 0.01 Trace Trace 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.088 0.003 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.8172 0.8086 0.2997 0.3562 0.5070 0.5629 0.5840 0.6244 0.6311 0.6850 0.7220 0.7450 0.7640 0.7780 0.7890 0.8000	44.010 28.013 16.043 30.070 44.097 58.123 58.123 72.150 72.150 84.0 96.0 107 121 134 147 161
Totals	100.00	0.091		

#### **SAMPLING CONDITIONS**

364 psia 37 °F

Gas Cylinder 3416-C1-F

#### **Average Sample Properties**

Critical Pressure, psia	670.9
Critical Temperature, °R	345.7
, , , , , , , , , , , , , , , , , , , ,	
Average Molecular Weight	16.56
Calculated Gas Gravity (air = 1.000)	0.572

#### at 14.696 psia and 60 °F

Heating Value, Btu/scf dry gas\* Gross ..... 992

#### **Properties of Plus Fractions**

Component	Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW

Note: \* For H2S, 0.00 means less than 0.10 mol percent (cross-checked by other methods) For all other components:

- trace means detected but less than 0.005 mol percent.
   0.00 means less than or equal to 0.001 mol percent.

Note: Component properties assigned from literature.

\* ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

#### **OMV Australia Ltd.** Patricia-2

AFL 2002-027

#### COMPOSITION OF PRIMARY STAGE SEPARATOR GAS - 0678-C1-F

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide Carbon Dioxide Nitrogen Methane Ethane Propane iso-Butane n-Butane iso-Pentane n-Pentane Hexanes Heptanes Octanes Nonanes Decanes Undecanes Dodecanes	* 0.00 1.37 0.70 97.59 0.33 0.01 Trace Trace 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.033 0.003 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.8172 0.8086 0.2997 0.3562 0.5070 0.5629 0.5840 0.6244 0.6311 0.6850 0.7220 0.7450 0.7640 0.7780 0.7890 0.8000	44.010 28.013 16.043 30.070 44.097 58.123 58.123 72.150 84.0 96.0 107 121 134 147 161
Totals	100.00	0.036		

#### **SAMPLING CONDITIONS**

295 psia 48 °F

Gas Cylinder 0678-C1-F

#### **Average Sample Properties**

Critical Temperature, °R	345.7
Average Molecular Weight  Calculated Gas Gravity ( air = 1,000 )	

at 14.696 psia and 60 °F

Heating Value, Btu/scf dry gas\* Gross ..... 992

#### **Properties of Plus Fractions**

Component	Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW

Note: \* For H2S, 0.00 means less than 0.10 mol percent (cross-checked by other methods) For all other components:

- trace means detected but less than 0.005 mol percent.
   0.00 means less than or equal to 0.001 mol percent.

Note: Component properties assigned from literature.

\* ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book





# EXPRO GROUP AUSTRALIA PTY LTD EDGE - SURFACE DATA ACQUISITION



Company	OMV Australia Pty Ltd.
Exal Job Number	J02-188
Well	Patricia-2
Dates	30/6 - 06/07/2002
Rig/platform	Ocean Bounty





# WELL TEST REPORT E.D.G.E. DATA

Client : OMV Australia Pty Ltd.

Well : Patricia-2

**Date** : 30/6 - 06/07/2002

**Country** : Australia

**Rig/Platform** : Ocean Bounty

Field : VIC/L21

**Test** : Completion

**Exal Job Number** : J02-188

**Formation** : Gurnard

**Perforation Interval** : n/a

Client Engineer : A. Ion

**Exal Engineer** : M. Donald / N. Dowdell





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#### **INTRODUCTION**

Expro Group CHS(E) Division provided the EDGE Data Acquisition system on Expro Welltest equipment on Well No. Patricia-2 from 30th June - 6th July 2002 for a Completion Test.

#### The test objectives were:

- i) To determine the initial static reservoir pressure.
- ii) To clean up the well to remove residual mud/filtrate and promote flow contribution from total length while minimising skin damage and plugging of the sand screens.
- iii) To determine rate dependant well bore skin factor.
- iv) To determine well deliverability.
- v) To estimate average formation permeability.
- vi) To obtain representative fluid samples.
- vii) To secure the well for future operations.
- viii) To conduct operations in accordance with OMV Australia, Diamond Offshore and Expro Group safety procedures.

#### The testing phase consisted of:

- (a) Displacing the well bore to Nitrogen.
- (b) Pressure Build Up # 1.
- (c) Initial Clean Up flow.
- (d) Pressure Build Up # 2.
- (e) Step-Rate Test (Low, Medium & High Rates).
- (f) Pressure Build Up # 3.





# Sequence of Events

Client OMV Australia Pty Ltd

Well No. Patricia-2

Test No. Completion

**Location** Ocean Bounty

**Start Date** 30/06 - 01/07/2002

**Country** Australia

Field VIC/L21

Job Number J02/188

**Formation** Gurnard

Exal Engineer M. Donald / N. Dowdell

Client Engineer A. Ion

Perforations n/a

Well No. Patricia-2 Location Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

#### Time Comment

#### 29/06/02

14:00:00 Commenced pressure testing complete surface equipment.

14:00:00 Flushed surface lines to Fwd and Aft booms until clean.

15:05:00 Test #1 - Aft oil and gas lines to boom burners to 500psi.

15:17:00 Test #2 - Full equipment body test to oil and gas diverter manifolds to 500psi.

15:22:00 Test #3 - Full equipment body test to oil and gas diverter manifolds to 1,000psi.

15:33:00 Test #4 - Separator body test and gas, oil and water outlet valves to 500psi.

15:38:00 Test #5 - Separator body test and gas, oil and water outlet valves to 1,000psi.

15:52:00 Test #6 - Separator inlet and bypass valves to 500psi.

15:57:00 Test #7 - Separator inlet and bypass valves to 1,000psi.

16:10:00 Test #8 - Oil diverter manifold to 500psi.

16:15:00 Test #9 - Oil diverter manifold to 1,000psi.

16:26:00 Test #10 - Heater coil and bypass valves to 500psi.

16:31:00 Test #11 - Heater coil and bypass valves to 1,000psi.

16:46:00 Test #12 - Heater inlet and bypass valve to 500psi.

16:51:00 Test #13 - Heater inlet and bypass valve to 1,000psi.

17:05:00 Test #14 - Downstream choke manifold valves to 500psi.

17:10:00 Test #15 - Downstream choke manifold valves to 1,000psi.

17:23:00 Test #16 - Upstream choke manifold valves to 500psi.

17:28:00 Test #17 - Upstream choke manifold valves to 3,500psi.

17:45:00 Test #18 - Sandtrap valve to 500psi.

17:50:00 Test #19 - Sandtrap valve to 3,500psi.

18:03:00 Test #20 - ESD valve to 500psi.

18:08:00 Test #21 - ESD valve to 3,500psi.

18:20:00 All pressure tests successfully completed.

#### 30/06/02

- 01:00:00 Set SLZXP hanger/packer. Commenced 1,500psi annular pressure test to confirm packer set.
- 01:30:00 Good test. Commenced operations to shear off and release HR running tool.
- 01:50:00 Commenced pulling out of hole with drill pipe and HR running tool.
- 06:30:00 Commenced running in hole with 5-1/2" 17ppf NK3SB tubing
- 10:48:00 Commenced making up TRSCSSV.
- 11:31:00 Completed making up TRSCSSV. Pressure tested hydraulic line to 5,000psi.
- 11:45:00 Good test. Continued running in hole with tubing.
- 14:00:00 Commenced making up Lower Landing String Assembly (LLSA).
- 14:30:00 Picked up and made up TH to THRT to SSTT. Attached umbilical. Flushed and checked lines.
- 15:21:00 Function tested THRT latch, un-latch, softland, vent/test and TH lock.
- 15:35:00 Latched TH in THRT
- 15:37:00 Pressure tested umbilical to 5,000psi.
- 15:42:00 Good test. Pressure tested control line to TRSCSSV to 5,000psi.
- 15:46:00 Good test. Unlocked TH. Opened lower and upper ball valves in SSTT.
- 16:15:00 Commenced running in hole with 7" landing string.
- 18:00:00 Commenced rigging up circulating head.
- 18:50:00 Tagged Polished Bore receptacle. Pulled up and broke out landing joint.
- 19:00:00 Prepared to rig up coil tubing lifting frame.
- 19:30:00 Conducted JSA on drill floor for Coil Tubing Lift Frame (CTLF) and Expro flowhead.
- 19:45:00 Commenced rigging up CTLF.
- 20:45:00 Completed rigging up CTLF. Picked up and made up flowhead.
- 21:15:00 Commenced rigging up Coflexip hose to flow wing. Rigged up casing elevator and bails.
- 22:20:00 Made up 7" casing landing joint to landing string.
- 23:00:00 Rigged up hydraulic control lines and cement pump line to kill wing on flowhead. Rigged up coil tubing lines from rig manifold.
- 16:30:00 Brine returns at surge tank 67.7bbls (calculated rate 125b/d).

Well No. Patricia-2 Location Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

#### Time Comment

- 01:10:00 Opened production wing valve on flowhead.
- 01:10:00 Open choke manifold to surge tank and lo-torque valve.
- 01:23:00 Commenced flushing from cement unit across flowhead to choke manifold and down landing string.
- 01:29:00 Closed SSLV. Continued pumping through to Expro choke manifold.
- 01:37:00 Good returns at choke manifold. Stopped pumping and closed in at choke manifold.
- 01:42:00 Commenced pressure test on SSLV against Expro choke manifold to 3,500psi.
- 01:47:00 Commenced logging on EdgeX surface data acquisition system.
- 01:52:00 Good test bled off pressure. Opened SSLV.
- 02:02:00 Closed SSTT upper ball valve.
- 02:06:00 Commenced pressure test on SSTT against Expro choke manifold to 3,500psi.
- 02:11:00 Bled off pressure due to leak at lo-torque valve. Fuctioned lo-torque valve.
- 02:13:00 Commenced pressure test on SSTT against Expro choke manifold to 3,500psi.
- 02:15:00 Bled off pressure due to leak at lo-torque valve.
- 02:16:00 Replaced lo-torque valve.
- 02:23:00 Commenced pressure test on SSTT against Expro choke manifold to 3,500psi.
- 02:27:00 Bled off pressure due to leak at lo-torque valve. Replaced lo-torque valve.
- 02:32:00 Commenced pressure test on SSTT against Expro choke manifold to 3,500psi.
- 02:44:00 Good test bled off pressure.
- 02:53:00 Opened SSTT upper ball prior to circulating filtered brine.
- 03:10:00 Commenced rigging up Expro wireline BOP's and lubricator.
- 04:00:00 Commenced conventional circulation of inhibited brine.
- 04:48:00 Completed conventional circulation.
- 05:03:00 Landed out completion in Subsea Tree (SST). Good indication of helix alignment.
- 05:13:00 Vented TRSCSSV control line at Expro panel. Vented soft-land on THRT.
- 05:26:00 Closed middle pipe rams.
- 05:54:00 Pressured up on annulus beneath middle pipe rams to 3,500psi. Good test.
- 06:06:00 Locked tubing hanger. Good indication on lock monitor on control panel.
- 06:10:00 Pressured up on annulus above tubing hanger to to 3,500psi to confirm seal. Good test.
- 06:36:00 Bled down tubing hanger lock pressure.
- 06:44:00 Commenced overpull test.
- 06:45:00 Overpull test failed.
- 06:46:00 Pressured up on THRT unlock line to 3,000psi. THRT not locked.
- 07:00:00 Closed middle pipe rams.
- 07:09:00 Pressured up on THRT lock line to 4,500psi. THRT failed to lock.
- 07:11:00 Pressured up on THRT lock line to 3,000psi. THRT failed to lock.
- 07:16:00 Bled off pressure on THRT lock line and re-pressured to 4,000psi. THRT failed to lock.
- 07:26:00 Bled off pressure on THRT lock line and re-pressured to 3,000psi. THRT failed to lock.
- 07:27:00 Bled off pressure on THRT lock monitor.
- 07:30:00 Functioned SST choke with ROV.
- 10:00:00 Pressured up below middle pipe rams and above tubing hanger to assist in engaging lock.
- 11:35:00 Opened middle pipe rams. Closed lower annular bag. Pressured up annulus to 3,500psi.
- 11:40:00 Attempted to set tubing hanger. Failed.
- 12:45:00 Pulled back on landing string 4 meters. Pressured up THRT unlock line to 2,000psi.
- 12:50:00 Pressured up on THRT soft land to 3,000psi.
- 12:55:00 Opened TRSCSSV.
- 13:05:00 Closed TRSCSSV.
- 13:10:00 Landed out completion in SST.
- 13:15:00 Launched ROV to open TRSCSSV isolation valve and cavity seal monitor valve on SST.
- 14:26:00 ROV opened TRSCSSV isolation valve on SST.
- 14:42:00 ROV opened cavity seal monitor valve on SST.
- 14:46:00 Bled off THRT soft land line.
- 14:49:00 Closed lower annular bag. Pressured up beneath annular bag to 3,500psi.

Well No. Patricia-2 Location Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

#### Time Comment

#### 01/07/02

- 14:55:00 Bled off pressure below bag.
- 14:57:00 Pressured up on THRT lock line to 3,000psi. Opened lower annular bag.
- 15:00:00 Bled off pressure on THRT lock line. Conducted 20,000lbs overpull test.
- 15:05:00 Good test. Released overpull.
- 15:08:00 Closed middle pipe rams.
- 15:10:00 Commenced pressure testing tubing hanger and packer seal.
- 15:30:00 Held wireline JSA.
- 15:35:00 Commenced rigging up Expro wireline.
- 16:20:00 Observed polished bore receptacle (PBR) leaking.
- 17:30:00 Commenced rigging down Expro wireline.
- 17:30:00 Prepared to rig down CTLF and flow head.
- 18:50:00 Pressured up tubing hanger unlock. Applied 30,000lbs over pull.
- 19:01:00 Applied neutral weight on tubing hanger, increased unlock to 40,000psi, applied 50,000lbs over pull.
- 19:07:00 Bled off tubing hanger unlock, pressured up tubing hanger lock to 2000psi.
- 19:07:00 Bled off tubing hanger lock, bled off THRT latch.
- 19:10:00 Pressured up tubing hanger unlock to 4,000psi, pressured up THRT latch to 3,000psi.
- 19:15:00 Applied 65,000lbs over pull.
- 19:25:00 Reduced over pull to 40,000lbs above string WT total 270,000lbs.
- 19:28:00 Tubing hanger released.
- 19:35:00 Commenced rigging down flowhead.
- 22:16:00 Laid down CTLF, continue pulling out of hole with landing string and tubing hanger.
- 22:42:00 Bled off SSLV open line.
- 23:20:00 Tubing hanger at surface. Commenced breaking out tubing hanger from tubing.

- 00:10:00 Unlatched SSTT assembly from tubing hanger.
- 00:20:00 Layed out SSTT assembly on catwalk.
- 00:35:00 Broke out tubing hanger. Commenced redress of tubing hanger.
- 03:15:00 Completed re-assembly of tubing hanger with added pup joints.
- 03:35:00 Made up TRSCSSV to tubing hanger and landed out in rotary table.
- 03:52:00 Picked up and made up LLSA and SSTT.
- 04:20:00 Completed function testing LLSA.
- 04:20:00 Commenced pressure testing TRSCSSV control line to 5,000psi. Good test.
- 04:25:00 Commenced running in hole with LLSA.
- 05:02:00 Picked up and made up SSLV assembly. Repaired damage to SSLV umbilical line.
- 06:20:00 Continued running in hole with landing string.
- 06:24:00 Stopped Edge logging system for maintenance.
- 06:28:00 Re-started Edge logging system.
- 06:55:00 Rigged down 7" elevators. Rigged up 5" drill pipe elevators.
- 07:15:00 Picked up CTLF unit to derrick.
- 07:40:00 Completed making up Expro flowhead. Made up coflexip to production wing. Made up line from cement unit to kill wing.
- 08:55:00 Landed out completion in Subsea Tree (SST).
- 09:21:00 Locked tubing hanger. Good indication at control panel.
- 09:25:00 Commenced 50,000lbs overpull test. Good test, released overpull.
- 09:33:00 Commenced pressure annulus below tubing hanger to 1,500psi.
- 09:45:00 Good test. Bled off pressure.
- 09:51:00 Commenced pressure annulus below tubing hanger to 3,500psi.
- 10:03:00 Good test. Bled off pressure.
- 10:15:00 Commenced rigging up Expro wireline to pull isolation sleeve and drift completion.
- 11:30:00 Completed rigging up Expro wireline.
- 11:55:00 Commenced pressure testing against flow head master valve and SSTT upper ball to 2,000psi.

Well No. Patricia-2 Location Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

#### Time Comment

#### 02/07/02

- 12:03:00 Good test. Commenced pressure testing Expro wireline lubricator to 3,500psi.
- 12:13:00 Good test. Bled off pressure.
- 12:15:00 Closed flowhead kill wing valve. Pressure tested from cement unit to kill wing valve to 3,500psi.
- 12:20:00 Repaired leaks to lo-torque valve.
- 12:45:00 Good test. Opened kill wing valve. Opened production wing valve.
- 12:47:00 Commenced pressure testing SSTT upper ball to choke manifold to 3,500psi.
- 12:57:00 Good test. Bled off pressure. Opened SSTT upper ball.
- 13:00:00 Expro wireline commenced running in hole with GS pulling tool to retrieve isolation sleeve.
- 13:07:00 Expro wireline at surface. Closed Swab valve on flowhead.
- 13:10:00 Closed SSLV. Bled off lubricator pressure.
- 13:20:00 Broke out lubricator and laid out GS pulling tool and isolation sleeve.
- 13:25:00 Installed 4.5" gauge ring onto wireline toolstring. Stabbed lubricator and pressure tested to 3,500psi.
- 13:38:00 Good test. Bled off pressure.
- 13:40:00 Opened SSLV. Opened swab valve on flowhead. Commenced running in hole with gauge ring.
- 13:55:00 Expro wireline at surface. Closed SSLV. Closed swab valve on flowhead.
- 14:00:00 Commenced rigging down Expro wireline.
- 14:20:00 Completed rigging down Expro wireline.
- 14:30:00 BJ Coiled tubing commenced rigging up injector head.
- 23:00:00 Completed rigging up coiled tubing.
- 23:23:00 Closed procuction wing valve for pressure test.
- 23:30:00 Held JSA prior to coiled tubing operations.
- 23:50:00 Commenced flushing coiled tubing lines prior to pressure test.

- 00:26:00 Commenced pressure testing coil to 300psi.
- 00:29:00 Good test. Increased pressure to 3,000psi.
- 00:40:00 Good test.
- 00:43:00 Commenced slowly bleeding off line pressure.
- 00:50:00 Completed bleed down.
- 01:08:00 Opened kill wing valve on flowhead.
- 01:15:00 Opened flowhead master valve and locked open.
- 01:16:00 Opened SSLV.
- 01:21:00 Coil tubing commenced running in hole at 10m per minute. Open at Expro choke manifold on 64/64th adjustable choke to surge tank.
- 01:38:00 Coil tubing at depth 66mRT. Continued running in hole at 5m per minute.
- 01:56:00 Coil tubing at depth 200mRT. Continued running in hole at 6m per minute.
- 02:00:00 Coil tubing stopped at 221mRT due to problem with SRO pressure gauge.
- 02:28:00 Rectified SRO pressure gauge fault. Coiled tubing continued running in hole.
- 03:09:00 Coiled tubing stopped at 600mRT to allow nitrogen unit to cool down.
- 03:22:00 Coiled tubing commenced pumping nitrogen at 400 scf/m.
- 03:37:00 Coiled tubing at 786mRT. Increased adjustable choke to 72/64".
- 03:42:00 Expro observed brine returns at surge tank.
- 03:44:00 Total brine returns at surge tank 1.3bbls (calculated rate 1877b/d).
- 03:45:00 Total brine returns at surge tank 2.3bbls (calculated rate 1440b/d).
- 03:45:00 Coiled tubing stopped at 892mRT. Continued pumping nitrogen at 400scf/m.
- 03:47:00 Coiled tubing notified of leak in the injector.
- 03:50:00 Coil tubing pulled back up hole 20m due to suspected nitrogen loss in screens.
- 03:50:00 Total brine returns at surge tank 28.3bbls (calculated rate 8640b/d).
- 03:53:00 Coil tubing at depth 872m. Continued pumping.
- 03:53:00 Decreased adjustable choke to 64/64".
- 03:56:00 Total brine returns at surge tank 32.7bbls (calculated rate 6048b/d).
- 03:58:00 Coil tubing commenced pulling out of hole to 792mRT. Continued to pump at 400scf/m.

Well No. Patricia-2 Location Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

#### Time Comment

#### 03/07/02

04:00:00 Decreased adjustable choke to 58/64".

04:00:00 Total brine returns at surge tank - 43bbls (calculated rate - 2880b/d).

04:03:00 Expro observed nitrogen at surface with brine.

04:05:00 Total brine returns at surge tank - 57.7bbls (calculated rate - 4320b/d).

04:10:00 Increased adjustable choke to 64/64".

04:10:00 Total brine returns at surge tank - 71bbls (calculated rate - 3600b/d).

04:13:00 Coil tubing at depth 792mRT.

04:15:00 Decreased adjustable choke to 58/64".

04:15:00 Total brine returns at surge tank - 77bbls (calculated rate - 3456b/d).

04:17:00 Decreased adjustable choke to 52/64".

04:19:00 Total brine returns at surge tank - 90.5bbls (calculated rate - 3312b/d).

04:20:00 Coil tubing reduced nitrogen pump rate to 300scf/m.

04:24:00 Increased adjustable choke to 56/64".

04:25:00 Increased adjustable choke to 58/64".

04:25:00 Total brine returns at surge tank - 91.7bbls (calculated rate - 720b/d).

04:29:00 Decreased adjustable choke to 50/64".

04:30:00 Coil tubing commenced running in hole to 892mRT continued flowing at 300scf/m.

04:30:00 Total brine returns at surge tank - 96.1bbls (calculated rate - 1728b/d).

04:32:00 Increased adjustable choke to 52/64".

04:35:00 Increased adjustable choke to 56/64".

04:35:00 Total brine returns at surge tank - 97.4bbls (calculated rate - 1872b/d).

04:36:00 Increased adjustable choke to 58/64".

04:37:00 Increased adjustable choke to 64/64".

04:40:00 Coiled tubing at depth 892mRT.

04:40:00 Total brine returns at surge tank - 99.8bbls (calculated rate - 864b/d).

04:45:00 Total brine returns at surge tank - 106.6bbls (calculated rate - 1728b/d).

04:50:00 Total brine returns at surge tank - 109.4bbls (calculated rate - 2592b/d).

04:54:00 Coil tubing stopped pumping nitrogen and Expro choke shut in.

04:57:00 Total brine returns at surge tank - 119.4bbls (calculated rate - 1152b/d).

07:00:00 Function tested ESD system in presence of OMV company men.

07:05:00 Held JSA on drill floor prior to opening well.

07:14:00 Opened well to aft flare boom via 20/64" adjustable choke.

07:15:00 Gradually increased adjustable choke to 24/64".

07:17:00 Gradually increased adjustable choke to 46/64".

07:18:00 Gradually increased adjustable choke to 64/64". Hydrocarbon gas to surface.

07:20:00 Brine to surface.

07:23:00 Well slugging brine and gas.

07:29:00 Well flowing predominantly nitrogen.

07:37:00 Hydrocarbon gas to surface. Commenced gradually increasing adjustable choke to 72/64".

07:40:00 Gradually increased adjustable choke to 76/64".

07:42:00 Gradually increased adjustable choke to 80/64".

07:51:00 Manipulated adjustable choke to prevent plugging.

07:52:00 Gradually increased adjustable choke to 100/64".

07:54:00 Gradually increased adjustable choke to 112/64". Well slugging hydrocarbon gas and brine.

08:00:00 Gradually increased adjustable choke to 128/64".

08:00:00 BS&W = 100% brine, trace sediment, pH = 6 and Chloride contents from refractometer 117,000ppm.

08:00:00 Draeger showed 1.2 % CO2 by volume & 0 ppm H2S. S.G. of produced water - 1.095 @ 57F.

08:30:00 Well flowing predominantly brine, trace sediment.

09:00:00 BS&W = 100% brine, trace sediment, pH = 6 and Chloride contents from refractometer 120,000ppm.

09:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. S.G. of produced water - 1.096 @ 52F.

09:24:00 Inspected sand catcher for debris. Retrieved traces of rust fragments.

09:39:00 Diverted flow via test separator.

Well No. Patricia-2 Location Ocean Bounty

Completion **Start Date** 30/06 - 01/07/2002 Test No.

#### Time Comment 03/07/02 09:50:00 Installed 3.750" orifice plate into gas meter run. 09:51:00 Raised orifice plate. 09:53:00 Installed 3.500" orifice plate into gas meter run. 10:00:00 BS&W = 100% brine pH = 6 and Chloride contents from refractometer 120,000ppm. 10:00:00 Draeger showed 1.4 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.571. S.G. of produced water - 1.096 @ 52F. 10:15:00 Brine returns at surge tank - 5.25bbls (calculated rate - 504b/d). 10:30:00 Brine returns at surge tank - 10.5bbls (calculated rate - 504b/d). 10:45:00 Brine returns at surge tank - 15.7bbls (calculated rate - 499b/d). 11:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 120,000ppm. 11:00:00 Draeger showed 1.4 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.576. S.G. of produced water - 1.096 @ 52F. 11:00:00 Brine returns at surge tank - 19.8bbls (calculated rate - 394b/d). 11:15:00 Brine returns at surge tank - 24.2bbls (calculated rate - 422b/d). 11:30:00 Brine returns at surge tank - 27.7bbls (calculated rate - 336b/d). 11:45:00 Brine returns at surge tank - 30.9bbls (calculated rate - 302b/d). 12:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 225,000ppm. 12:00:00 Draeger showed 1.4 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.576. S.G. of produced water - 1.095 @ 53F. 12:00:00 Brine returns at surge tank - 33.9bbls (calculated rate - 288b/d). 12:05:00 Inspected sand catcher for debris. Retrieved traces of rust fragments. 12:15:00 Brine returns at surge tank - 36.1bbls (calculated rate - 211b/d). 12:30:00 Brine returns at surge tank - 38.4bbls (calculated rate - 221b/d). 12:45:00 Brine returns at surge tank - 40.8bbls (calculated rate - 230b/d). 13:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 13:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.578. S.G. of produced water - 1.093 @ 53F. 13:00:00 Brine returns at surge tank - 43.4bbls (calculated rate - 250b/d). 13:15:00 Brine returns at surge tank - 45.5bbls (calculated rate - 202b/d). 13:30:00 Brine returns at surge tank - 47.8bbls (calculated rate - 221b/d). 13:45:00 Brine returns at surge tank - 50.0bbls (calculated rate - 211b/d). 14:00:00 BS&W = 100% brine pH = 6 and Chloride contents from refractometer 110,000ppm. 14:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.578. S.G. of produced water - 1.093 @ 52F. 14:00:00 Brine returns at surge tank - 51.75bbls (calculated rate - 168b/d). 14:15:00 Brine returns at surge tank - 53.5bbls (calculated rate - 168b/d). 14:30:00 Brine returns at surge tank - 55.2bbls (calculated rate - 163b/d). 14:45:00 Brine returns at surge tank - 57.1bbls (calculated rate - 182b/d). 15:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 115.000ppm. 15:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.582. S.G. of produced water - 1.094 @ 48F. 15:00:00 Brine returns at surge tank - 58.9bbls (calculated rate - 173b/d). 15:00:00 Sample No. 1-1 (0.5 ltr water) and 1-2 (5 ltr water) taken from separator water line. 15:15:00 Brine returns at surge tank - 60.4bbls (calculated rate - 144b/d). 15:30:00 Brine returns at surge tank - 61.9bbls (calculated rate - 144b/d).

- 16:15:00 Brine returns at surge tank 66.4bbls (calculated rate 144b/d).
- 16:00:00 Brine returns at surge tank 64.9bbls (calculated rate 144b/d).

water - 1.094 @ 48F.

15:45:00 Brine returns at surge tank - 63.4bbls (calculated rate - 144b/d).

16:00:00 BS&W = 100% brine pH = 6 and Chloride contents from refractometer 115,000ppm.

16:30:00 Brine returns at surge tank - 67.7bbls (calculated rate - 125b/d).

16:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.580. S.G. of produced

Well No. Patricia-2 Location Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

#### Time Comment

#### 03/07/02

- 16:45:00 Brine returns at surge tank 69.1bbls (calculated rate 134b/d).
- 17:00:00 BS&W = 100% brine pH = 6 and Chloride contents from refractometer 115,000ppm.
- 17:00:00 Brine returns at surge tank 70.3bbls (calculated rate 115b/d).
- 17:00:00 Sample No. 1-3 (0.5 ltr water) and 1-4 (5 ltr water) taken from separator water line.
- 17:15:00 Brine returns at surge tank 71.5bbls (calculated rate 115b/d).
- 17:30:00 Brine returns at surge tank 72.7bbls (calculated rate 115b/d).
- 17:34:00 Raised orifice plate. Diverted flow via choke manifold bypass 3" line.
- 17:35:00 Installed 3.500" orifice plate into gas meter run.
- 17:45:00 Brine returns at surge tank 73.8bbls (calculated rate 106b/d).
- 18:00:00 S.G. of produced gas 0.580.
- 18:00:00 Brine returns at surge tank 75bbls (calculated rate 115b/d).
- 18:15:00 Brine returns at surge tank 76.4bbls (calculated rate 134b/d).
- 18:30:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
- 18:30:00 Brine returns at surge tank 77.5bbls (calculated rate 106b/d).
- 18:45:00 Brine returns at surge tank 78.6bbls (calculated rate 106b/d).
- 19:00:00 Brine returns at surge tank 79.7bbls (calculated rate 106b/d).
- 19:00:00 Sample No. 1-5 (0.5 ltr water) and 1-6 (5 ltr water) taken from separator water line.
- 19:15:00 Brine returns at surge tank 80.7bbls (calculated rate 95.9b/d).
- 19:30:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
- 19:30:00 Brine returns at surge tank 81.7bbls (calculated rate 95.9b/d).
- 19:45:00 Brine returns at surge tank 82.9bbls (calculated rate 115b/d).
- 20:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
- 20:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S.
- 20:00:00 S.G. of produced water 1.087 @ 60°F. S.G. of produced gas 0.584.
- 20:00:00 Brine returns at surge tank 84.1bbls (calculated rate 115b/d).
- 20:15:00 Brine returns at surge tank 85.1bbls (calculated rate 96b/d).
- 20:30:00 Brine returns at surge tank 86.1bbls (calculated rate 96b/d).
- 20:45:00 Brine returns at surge tank 87.1bbls (calculated rate 96b/d).
- 21:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
- 21:00:00 Brine returns at surge tank 88.1bbls (calculated rate 96b/d).
- 21:00:00 Sample No. 1-7 (0.5 ltr water) and 1-8 (5 ltr water) taken from separator water line.
- 21:15:00 Brine returns at surge tank 88.9bbls (calculated rate 77b/d).
- 21:30:00 Brine returns at surge tank 89.4bbls (calculated rate 48b/d).
- 21:45:00 Brine returns at surge tank 90.7bbls (calculated rate 125b/d).
- 22:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
- 22:00:00 S.G. of produced gas 0.586. S.G. of produced water 1.088 @ 59°F.
- 22:00:00 Brine returns at surge tank 91.4bbls (calculated rate 67b/d).
- 22:15:00 Brine returns at surge tank 92.2bbls (calculated rate 77b/d).
- 22:30:00 Brine returns at surge tank 93.1bbls (calculated rate 86b/d).
- 22:45:00 Brine returns at surge tank 93.9bbls (calculated rate 77b/d).
- 23:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
- 23:00:00 Brine returns at surge tank 94.5bbls (calculated rate 58b/d).
- 23:00:00 Sample No. 1-9 (0.5 ltr water) and 1-10 (4 ltr water) taken from separator water line.
- 23:15:00 Brine returns at surge tank 95.3bbls (calculated rate 77b/d).
- 23:30:00 Brine returns at surge tank 95.9bbls (calculated rate 58b/d).
- 23:45:00 Brine returns at surge tank 96.5bbls (calculated rate 67b/d).

- 00:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
- 00:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S.
- 00:00:00 S.G. of produced gas 0.584. S.G. of produced water 1.087 @ 59°F.
- 00:00:00 Brine returns at surge tank 97.3bbls (calculated rate 77b/d).

Well No. Patricia-2 Location Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

### Time Comment 04/07/02 00:15:00 Brine returns at surge tank - 98.3bbls (calculated rate - 96b/d). 00:30:00 Brine returns at surge tank - 98.9bbls (calculated rate - 58b/d). 00:45:00 Brine returns at surge tank - 99.5bbls (calculated rate - 58b/d). 01:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 01:00:00 Brine returns at surge tank - 100.4bbls (calculated rate - 86b/d). 01:00:00 Sample No. 1-11 (0.5 ltr water) and 1-12 (4 ltr water) taken from separator water line. 01:15:00 Brine returns at surge tank - 100.9bbls (calculated rate - 48b/d). 01:27:00 Bled down scrubber pots on differential cell due to pots being full of water. 01:30:00 Brine returns at surge tank - 101.6bbls (calculated rate - 67b/d). 01:45:00 Brine returns at surge tank - 102.6bbls (calculated rate - 96b/d). 02:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 02:00:00 S.G. of produced gas - 0.586. S.G. of produced water - 1.088 @ 58°F. 02:00:00 Brine returns at surge tank - 103bbls (calculated rate - 38b/d). 02:15:00 Brine returns at surge tank - 103.9bbls (calculated rate - 86b/d). 02:30:00 Brine returns at surge tank - 104.3bbls (calculated rate - 38b/d). 02:45:00 Brine returns at surge tank - 105.2bbls (calculated rate - 86b/d). 03:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 109,000ppm. 03:00:00 Brine returns at surge tank - 105.8bbls (calculated rate - 58b/d). 03:00:00 Sample No. 1-13 (0.5 ltr water) and 1-14 (4 ltr water) taken from separator water line. 03:15:00 Brine returns at surge tank - 106.4bbls (calculated rate - 58b/d). 03:30:00 Brine returns at surge tank - 107.4bbls (calculated rate - 96b/d). 03:42:00 Raised orifice plate to check Barton differential cell - drained excess water from scrubbers. 03:45:00 Brine returns at surge tank - 107.7bbls (calculated rate - 29b/d). 03:47:00 Installed 3.500" orifice plate into meter run. 04:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 04:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. 04:00:00 S.G. of produced gas - 0.586. S.G. of produced water - 1.088 @ 58°F. 04:00:00 Brine returns at surge tank - 108.3bbls (calculated rate - 58b/d). 04:15:00 Brine returns at surge tank - 109.2bbls (calculated rate - 86b/d). 04:30:00 Brine returns at surge tank - 109.8bbls (calculated rate - 58b/d). 04:45:00 Brine returns at surge tank - 110bbls (calculated rate - 19b/d). 05:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 05:00:00 Sample No. 1-15 (0.5 ltr water) and 1-16 (4 ltr water) taken from separator water line. 05:00:00 Brine returns at surge tank - 110.7bbls (calculated rate - 67b/d). 05:15:00 Brine returns at surge tank - 111.2bbls (calculated rate - 48b/d). 05:30:00 Brine returns at surge tank - 111.9bbls (calculated rate - 67b/d). 05:45:00 Brine returns at surge tank - 112.5bbls (calculated rate - 58b/d). 06:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 06:00:00 Brine returns at surge tank - 112.8bbls (calculated rate - 29b/d). 06:15:00 Brine returns at surge tank - 113.5bbls (calculated rate - 67b/d). 06:28:00 BJ coiled tubing conducted pick up weight test. Brief pressure increase observed at choke manifold. 06:30:00 Brine returns at surge tank - 114bbls (calculated rate - 48b/d). 06:45:00 Brine returns at surge tank - 114.6bbls (calculated rate - 58b/d). 07:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 07:00:00 Brine returns at surge tank - 115bbls (calculated rate - 38b/d). 07:00:00 Sample No. 1-17 (0.5 ltr water) and 1-18 (4 ltr water) taken from separator water line. 07:15:00 Brine returns at surge tank - 115.5bbls (calculated rate - 48b/d). 07:30:00 BJ coiled tubing commenced running in hole to 1365mRT for pressure/temperature log #1. 07:30:00 Brine returns at surge tank - 116.1bbls (calculated rate - 58b/d). 07:45:00 Brine returns at surge tank - 116.6bbls (calculated rate - 48b/d). 08:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 08:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S.

Well No. Patricia-2 Location Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

### Time Comment 04/07/02 08:00:00 S.G. of produced gas - 0.582. S.G. of produced water - 1.085 @ 59°F. 08:00:00 Brine returns at surge tank - 117.1bbls (calculated rate - 48b/d). 08:15:00 Brine returns at surge tank - 117.7bbls (calculated rate - 58b/d). 08:19:00 BJ coiled tubing on depth at 1365mRT. 08:30:00 Brine returns at surge tank - 118bbls (calculated rate - 29b/d). 08:33:00 BJ coiled tubing commenced pulling out of hole to 892mRT. 08:45:00 Brine returns at surge tank - 118.4bbls (calculated rate - 38b/d). 09:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 09:00:00 Brine returns at surge tank - 119bbls (calculated rate - 58b/d). 09:15:00 Brine returns at surge tank - 119.8bbls (calculated rate - 77b/d). 09:20:00 BJ coiled tubing on depth at 892mRT. 09:30:00 Brine returns at surge tank - 120.4bbls (calculated rate - 58b/d). 09:45:00 Brine returns at surge tank - 120.9bbls (calculated rate - 48b/d). 10:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 10:00:00 S.G. of produced gas - 0.582. S.G. of produced water - 1.085 @ 59°F. 10:00:00 Brine returns at surge tank - 121.5bbls (calculated rate - 58b/d). 10:15:00 Brine returns at surge tank - 121.9bbls (calculated rate - 38b/d). 10:30:00 Brine returns at surge tank - 122.5bbls (calculated rate - 58b/d). 10:45:00 Brine returns at surge tank - 122.9bbls (calculated rate - 38b/d). 10:55:00 Lifted orifice plate. Closed in well at choke manifold. 11:00:00 Inspected junk catcher. Observed small amounts of rock gravel. Samples supplied to OMV representative. 11:00:00 Total Brine returns at surge tank - 123.4bbls. 15:30:00 Well opened to Aft flare boom via 16/64" adjustable choke. 15:31:00 Increased adjustable choke to 20/64". 15:32:00 Increased adjustable choke to 24/64". 15:34:00 Increased adjustable choke to 28/64". 15:35:00 Increased adjustable choke to 32/64". 15:36:00 Diverted flow via 32/64" fixed choke. Diverted flow via test separator. 16:00:00 Diverted flow via 36/64" adjustable choke. 16:01:00 Increased adjustable choke to 40/64". Ceased methanol injection upstream of choke manifold. 16:03:00 Increased adjustable choke to 44/64". 16:07:00 Diverted flow via 40/64" fixed choke. 17:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 17:00:00 S.G. of produced gas - 0.582. S.G. of produced water - 1.085 @ 59°F. 17:30:00 Exal commenced taking 1st PVT sample No. 1-19 (gas - bottle No. 2357-C1-F). 17:45:00 Completed taking 1st PVT sample. 17:45:00 Exal commenced taking 2nd PVT sample No. 1-20 (gas - bottle No. 3416-C1-F). 18:00:00 Completed taking 2nd PVT sample. 18:00:00 BS&W showed dry gas. 18:00:00 S.G. of produced gas - 0.584. 19:00:00 BS&W showed dry gas. 20:00:00 Raised orifice plate. 20:00:00 Diverted flow through 44/64" adjustable choke. 20:01:00 Increased adjustable choke to 48/64". 20:03:00 Increased adjustable choke to 50/64". 20:05:00 Increased adjustable choke to 56/64". 20:07:00 Increased adjustable choke to 60/64". 20:11:00 Increased adjustable choke to 62/64". 20:12:00 Increased adjustable choke to 66/64". 20:15:00 Brine returns at surge tank - 124.2bbls (calculated rate - 77b/d). 20:18:00 Diverted flow via 64/64" fixed choke.

20:23:00 Installed 3.000" orifice plate into meter run.

Well No. Patricia-2 Location Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

### Time Comment 04/07/02 20:25:00 Raised orifice plate. 20:28:00 Installed 3.25" orifice plate into meter run. 20:30:00 Brine returns at surge tank - 125bbls (calculated rate - 77b/d). 21:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 21:00:00 S.G. of produced gas - 0.586. 21:30:00 Brine returns at surge tank - 125.4bbls (calculated rate - 38b/d). 21:45:00 Brine returns at surge tank - 126.2bbls (calculated rate - 77b/d). 22:00:00 Brine returns at surge tank - 126.7bbls (calculated rate - 48b/d). 23:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 23:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. 23:00:00 Exal commenced taking 3rd PVT sample No. 1-21 (gas - bottle No. 0687-C1-F). 23:00:00 Sample No. 1-22 (0.5 ltr water) and 1-23 (4 ltr water) taken from separator water line. 23:00:00 Brine returns at surge tank - 127.2bbls (calculated rate - 48b/d). 23:15:00 Completed taking 3rd PVT sample. 23:15:00 Brine returns at surge tank - 127.4bbls (calculated rate - 19b/d). 23:30:00 Brine returns at surge tank - 127.5bbls (calculated rate - 10b/d). 05/07/02 00:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 00:00:00 S.G. of produced gas - 0.586. 00:00:00 S.G. of produced water - 1.083 @ 52°F. 00:00:00 Brine returns at surge tank - 128bbls (calculated rate - 48b/d). 00:15:00 Brine returns at surge tank - 128.2bbls (calculated rate - 19b/d). 00:30:00 Brine returns at surge tank - 128.7bbls (calculated rate - 48b/d). 00:45:00 Brine returns at surge tank - 129.1bbls (calculated rate - 38b/d). 01:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 92,000ppm. 01:00:00 S.G. of produced gas - 0.586. 01:00:00 S.G. of produced water - 1.080 @ 54°F. 01:00:00 Brine returns at surge tank - 129.3bbls (calculated rate - 19b/d). 01:15:00 Brine returns at surge tank - 129.4bbls (calculated rate - 10b/d). 01:30:00 Brine returns at surge tank - 129.8bbls (calculated rate - 38b/d). 01:45:00 Brine returns at surge tank - 130.2bbls (calculated rate - 38b/d). 01:59:00 Raised orifice plate. 02:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 96,000ppm. 02:00:00 Diverted flow through 66/64" adjustable choke. 02:01:00 Increased adjustable choke to 70/64". 02:02:00 Increased adjustable choke to 74/64". 02:03:00 Increased adjustable choke to 78/64". 02:04:00 Increased adjustable choke to 82/64". 02:05:00 Increased adjustable choke to 86/64". 02:07:00 Increased adjustable choke to 90/64". 02:08:00 Increased adjustable choke to 94/64". 02:09:00 Increased adjustable choke to 98/64". 02:10:00 Increased adjustable choke to 102/64". 02:11:00 Increased adjustable choke to 106/64". 02:13:00 Increased adjustable choke to 110/64". 02:17:00 Increased adjustable choke to 128/64". 02:19:00 Opened bypass valve on choke manifold. 02:20:00 Diverted flow via choke manifold bypass 3" line. 02:24:00 Installed 3.750" orifice plate into meter run. 02:30:00 Brine returns at surge tank - 131.5bbls (calculated rate - 125b/d). 02:45:00 Brine returns at surge tank - 132.1bbls (calculated rate - 58b/d).

Well No. Patricia-2 Location Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

### Time Comment 05/07/02 03:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 03:00:00 S.G. of produced gas - 0.586. S.G. of produced water - 1.082 @ 58°F. 03:00:00 Draeger showed 1.3 % CO2 by volume & 0 ppm H2S. 03:00:00 Brine returns at surge tank - 132.9bbls (calculated rate - 77b/d). 03:15:00 Brine returns at surge tank - 133.5bbls (calculated rate - 58b/d). 03:30:00 Brine returns at surge tank - 134.3bbls (calculated rate - 77b/d). 03:45:00 Brine returns at surge tank - 134.5bbls (calculated rate - 19b/d). 04:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 04:00:00 S.G. of produced gas - 0.586. S.G. of produced water - 1.078 @ 61°F. 04:00:00 Brine returns at surge tank - 134.8bbls (calculated rate - 29b/d). 04:15:00 Brine returns at surge tank - 135.1bbls (calculated rate - 29b/d). 04:30:00 Brine returns at surge tank - 135.4bbls (calculated rate - 29b/d). 04:45:00 Brine returns at surge tank - 135.9bbls (calculated rate - 48b/d). 05:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 05:00:00 Brine returns at surge tank - 136.3bbls (calculated rate - 38b/d). 05:15:00 Brine returns at surge tank - 136.9bbls (calculated rate - 58b/d). 05:30:00 Brine returns at surge tank - 137.3bbls (calculated rate - 38b/d). 05:45:00 Brine returns at surge tank - 137.8bbls (calculated rate - 48b/d). 06:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 99,000ppm. 06:00:00 Brine returns at surge tank - 138.3bbls (calculated rate - 38b/d). 06:15:00 Brine returns at surge tank - 138.8bbls (calculated rate - 48b/d). 06:30:00 Brine returns at surge tank - 139.1bbls (calculated rate - 29b/d). 06:45:00 Brine returns at surge tank - 139.5bbls (calculated rate - 38b/d). 07:00:00 BS&W = 100% brine pH = 6 and Chloride contents from refractometer 100,000ppm. 07:00:00 S.G. of produced gas - 0.586. S.G. of produced water - 1.082 @ 63°F. 07:00:00 Brine returns at surge tank - 139.8bbls (calculated rate - 29b/d). 07:15:00 Brine returns at surge tank - 140bbls (calculated rate - 19b/d). 07:30:00 Brine returns at surge tank - 142bbls (calculated rate - 19b/d). 07:45:00 Brine returns at surge tank - 142.4bbls (calculated rate - 38b/d). 08:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 08:00:00 Brine returns at surge tank - 142.8bbls (calculated rate - 38b/d). 08:15:00 Brine returns at surge tank - 143.2bbls (calculated rate - 38b/d). 08:30:00 Brine returns at surge tank - 143.5bbls (calculated rate - 29b/d). 08:45:00 Brine returns at surge tank - 144.1bbls (calculated rate - 58b/d). 09:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 09:00:00 S.G. of produced gas - 0.582. S.G. of produced water - 1.082 @ 63°F. 09:00:00 Brine returns at surge tank - 144.6bbls (calculated rate - 48b/d). 09:15:00 Brine returns at surge tank - 144.8bbls (calculated rate - 19b/d). 09:30:00 Brine returns at surge tank - 145.2bbls (calculated rate - 38b/d). 09:45:00 Brine returns at surge tank - 145.7bbls (calculated rate - 19b/d). 09:55:00 Sample No. 1-24 (0.5 ltr water) taken from separator water line. 10:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 10:00:00 Well shut in at choke manifold. 13:24:00 BJ coiled tubing commenced pulling out of hole. 14:39:00 BJ coiled tubing at surface. 14:45:00 Closed TRSCSSV. Slowly bled off well head pressure to 775psi. 14:47:00 Wellhead pressure at 775psi. Commenced inflow test of TRSCSSV. 15:10:00 Closed SSLV. 15:10:00 Bled off pressure above SSLV via choke manifold to aft flare boom. 15:20:00 Completed bleeding off pressure. 15:22:00 Closed swab valve and master valve on Expro flowhead. 15:30:00 BJ coiled tubing commenced rigging down.

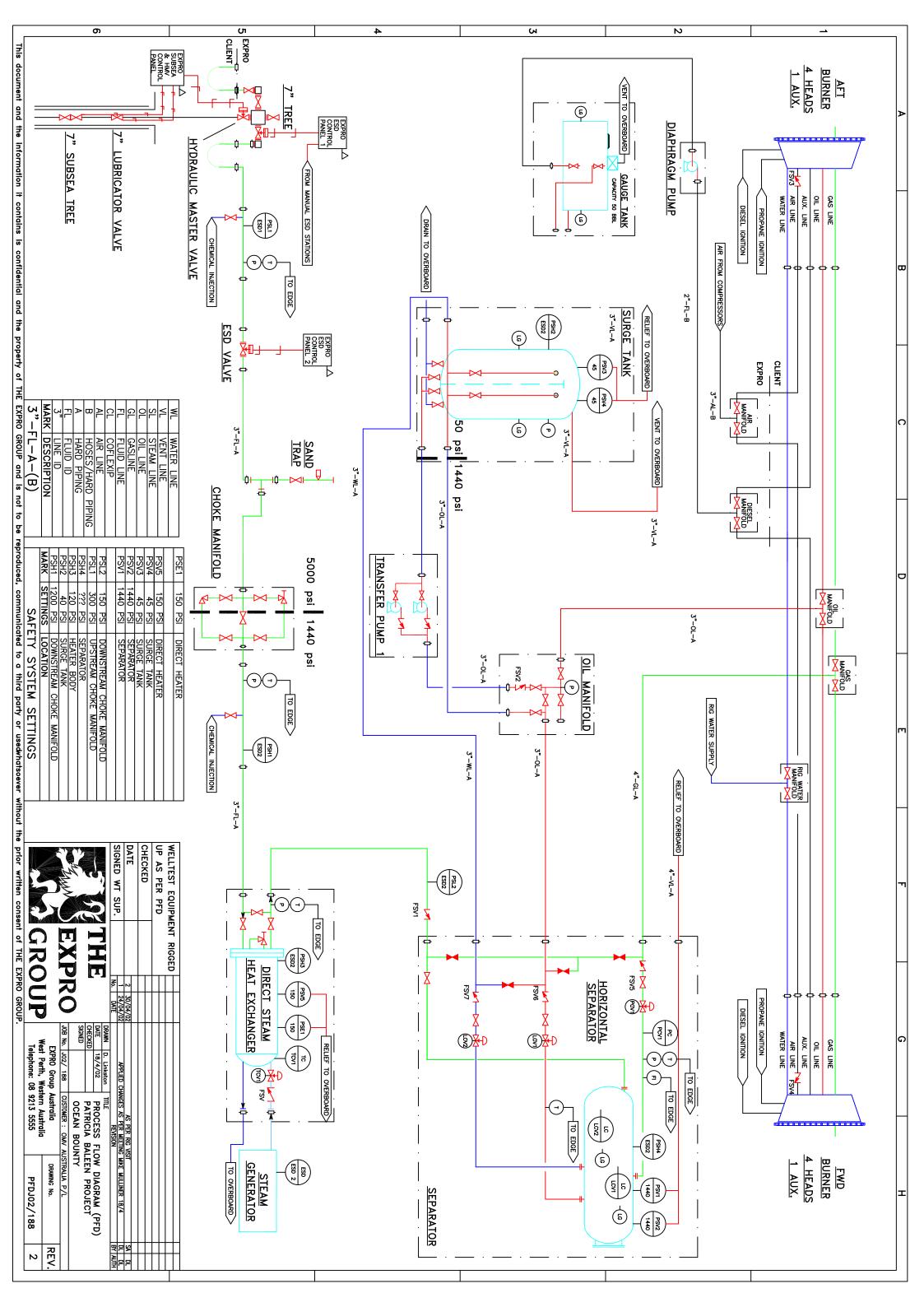
Well No. Patricia-2 Location Ocean Bounty

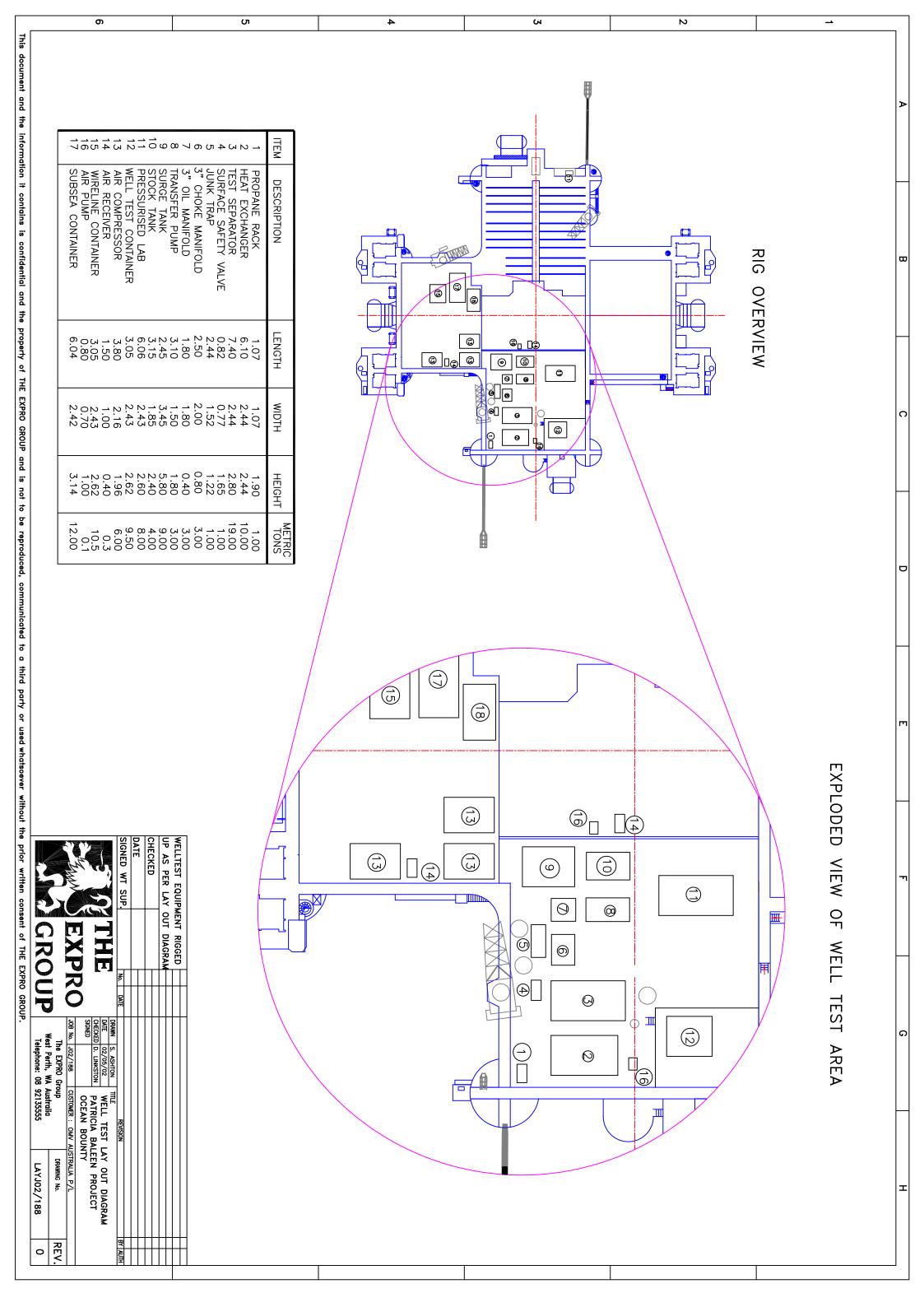
**Test No.** Completion **Start Date** 30/06 - 01/07/2002

#### Time Comment

### 05/07/02

- 17:30:00 BJ coiled tubing completed rigging down. Expro wireline commenced rigging up.
- 18:22:00 Opened swab valve and master valve on Expro flowhead.
- 18:27:00 Opened lo-torque valve on kill line.
- 18:30:00 Locked open master valve on flowhead.
- 18:43:00 Commenced pressure testing Expro wireline lubricator against SSLV to 3,000psi.
- 18:56:00 Good test. Bled off pressure to 980psi via choke manifold. Opened SSLV.
- 18:57:00 Expro wireline commenced running in hole with brush.
- 19:07:00 Expro wireline at surface.
- 19:10:00 Closed SSLV and master valve on flowhead.
- 19:17:00 Bled off pressure via choke manifold. Broke out lubricator. Inspected toolstring brush not present.
- 19:30:00 Made up fishing tool to Expro wireline toolstring. Stabbed lubricator.
- 19:52:00 Commenced pressuring up above flowhead master valve to 980psi.
- 20:00:00 Opened SSLV and master valve on flowhead.
- 20:06:00 Expro wireline commenced running in hole to fish brush.
- 20:10:00 Expro wireline at surface.
- 20:16:00 Closed SSLV and master valve on flowhead.
- 20:20:00 Bled off pressure vai choke manifold. Broke out lubricator. Removed brush and fishing tool.
- 20:45:00 Installed SSR plug onto wireline toolstring. Stabbed lubricator.
- 21:00:00 Pressured up above master valve on flowhead to 980psi. Opened SSLV and master valve.
- 21:05:00 Expro wireline commenced running in hole to set SSR plug in tubing hanger.
- 21:08:00 Expro wireline on depth with SSR plug. Commenced gradually pressuring up above SSR plug to 3,000psi to set.
- 21:25:00 Wellhead pressure at 3,000psi.
- 21:35:00 Expro wireline commenced hand jarring on plug to set.
- 21:41:00 Expro wireline sheared off plug. Commenced pulling out of hole.
- 21:45:00 Expro wireline at surface.
- 21:47:00 Commenced slowly bleeding down pressure above SSR plug via choke manifold.
- 21:58:00 Closed in choke manifold. Wellhead pressure at 200psi. Commenced in-flow testing plug.
- 22:17:00 Good test. Bled off pressure above SSR plug to zero via choke manifold.
- 22:27:00 Expro wireline commenced rigging down.
- 22:30:00 End of Completion Test.









## **GLOSSARY OF TERMS**

Client: OMV Australia Pty Ltd. Well No.: Patricia-2

**Test:** Completion **Date:** 30/6 - 06/07/2002

A	Average	MM/d	Millions of std cubic feet per day
a(v)	Average	MMcf	Millions of standard cubic feet
AMON	SST Annulus Monitor	MODU	Mobile Offshore Drilling Unit
AMV	SST Annulus Master Valve	mRT	Meters - Rotary Table
API	American Petroleum Institute	MWD	Measurement While Drilling
ASV	SST Annulus Swab Valve	o	Oil
AWV	SST Annulus Wing Valve	PLT	Production Logging Tool
Bbls	Barrel(s)	PMV	SST Production Master Valve
BHA	Bottom Hole Assembly	POOH	Pull Out Of Hole
BHFP	Bottom Hole Flowing Pressure	ppm	Parts per million
BHFT	Bottom Hole Flowing Temperature	psia	Pounds per square inch (absolute pressure)
BHP	Bottom Hole Pressure	psig	Pounds per square inch (gauge pressure)
BHT	Bottom Hole Temperature	PSR	Production Seal Rams
BOP	Blow Out Preventer	PSV	SST Production Swab Valve
BPV	Back Pressure Valve	PWV	Production Wing Valve
BRT	Below Rotary Table	Q	Flow rate
BS&W	Basic Sediment and Water	RIH	Run In Hole
CBL	Cement Bond Log	RT	Rotary Table
CCL	Casing Collar Locator	Sand	Sand
CITHP	Closed In Tubing Head Pressure	scf	Standard cubic feet
CO2	Carbon Dioxide	sep	Separator
Cum	Cumulative	sepb	Separator barrels
d	Day	sepd	Separator barrels per day
degF	Degrees F	SG	Specific Gravity
FTHP	Flowing Tubing Head Pressure	SIR	Sand impact rate
gas	Gas	SSSV	Sub Surface Safety Valve
GLV	Gas Lift Valve	SST	Sub Sea Tree
GOR	Gas oil ratio	stk	Stock tank
GR	Gamma Ray	stkb	Stock tank barrels
H2S	Hydrogen Sulphide	stkd	Stock tank barrels per day
i	Instantaneous	TD	Total Depth
JSA	Job Safety Analysis	THRT	Tubing Hanger Running Tool
KCl	Potassium Chloride	TRT	Tree Running Tool
MD	Measured Depth	TVD	True Vertical Depth
MDBRT	Measured Depth Below Rotary Table	Usfm	Ultrasonic flow meter
MF	Meter Factor	WHFP	Well Head Flowing Pressure
MM/b	Millions of std cubic feet per barrel	WHFT	Well Head Flowing Temperature





## TRANSDUCER INFORMATION

Client: OMV Australia Pty Ltd. Well No.: Patricia-2

**Test:** Completion **Date:** 30/6 - 06/07/2002

Probe No.	Location	Span	Serial No.	Tag
				_
1	Upstream Choke - Test Area	0-5,000 PSIG	7535407	UCP
2	Upstream Choke - Test Area	0-300 deg F	812518	UCT
3	Downstream Choke - Test Area	0-5,000 PSIG	1043225	DCP
4	Downstream Choke - Test Area	0-300 deg F	812519	DCT
5	Annulus	0-10,000 PSIG	7535403	AnnP
6	Separator Gas Line	0-1,500 PSIG	1033769	GasP
7	Separator Gas Line	0-300 deg F	812517	GasT
8	Separator Gas Line	0-400 INWG	7535420	GasD
9	Separator Oil Line	0-300 deg F	812521	OilT
10	Heater	0-5,000 PSIG	7535409	HeatP
11	Heater	0-300 deg F	812516	HeatT
12	Separator Oil Line	0-2,000 BBL/D	FLO-111	Oil1
13	Separator Oil Line	0-8,000 BBL/D	FLO-112	Oil2
14	Separator Oil Line	0-8,000 BBL/D	FLO-113	Oil3
15	Separator Water Line	0-2,000 BBL/D	FLO-114	Water





## **EXAL RESERVOIR SERVICES**

## **OIL FLOW RATE CALCULATION**

Vsep = Vm \* m \* (1-BSW)

where

Vsep = Corrected meter liquid volume.

Vm = Meter volume.

m = Meter factor determined during test flow periods. Applied to all volumes

recorded by EDGE.

BSW = Basic Sediment & Water value as measured at test separator.

Vstk = Vsep \* (1-Shr) \* Vcf \* Cf

where

Vstk = Volume of oil produced at standard conditions (14.73 psia @ 60°F)

Shr = Shrinkage, accounts for changes in oil volumes due to liberations of free

gas between separator and atmospheric pressure. Method of shrinkage, ie. Shrinkage Tester, Katz correlations, etc as determined by operating

company.

Vcf = Volume Correction Factor. Often applied as part of the shrinkage factor.

Corrects the volume at the shrinkage temperature to the volume at the

standard temperature (60°F).

re: API/NDS Standard petroleum measurement tables 1979.

Cf = Conversion factor = 1.

(Variable factor used for units output ie. Bbls/day, M3/day, etc)





## **EXAL RESERVOIR SERVICES**

## **GAS FLOW RATE CALCULATION**

 $Gas\ rate = Cf * C * Sqrt\ (hw * Pf)$ 

Orifice constant C = Fb \* Fpb \* Ftb \* Fg \* Ftf \* Fr \* Y \* Fpv

where

Fb = Basic orifice constant.

Fpb = Pressure base factor. Unity as pressure base used is 14.73 psia.

Ftb = Temperature base factor. Unity as temperature base used is 520°R (60°F).

Fg = Specific gravity factor. Unity if specified gravity of gas is 1.0.

Ftf = Flowing temperature factor. Unity if flowing temperature is 520°R (60°F).

Fr = Reynold number.

Y = Expansion factor.

Fpv = Supercompressibility factor. Z is calculated using the Dranchuk correlation,

correcting for mol % of CO2, N2, and H2S for a surface gas.

hw = Differential across orifice plate (inches of water).

Pf = Flowing pressure upstream of orifice plate (psia).

Cf = Coversion factor = 24e-6.

Note:

i Flange tap measurements across Daniel Orifice Box.

ii Fpv quoted as 1/2 in Gas Factor Listing





# Wellhead - Data Listing

Client OMV Australia Pty Ltd

Well No. Patricia-2

Test No. Completion

**Location** Ocean Bounty

**Start Date** 30/06 - 01/07/2002

**Country** Australia

Field VIC/L21

Job Number J02/188

Formation Gurnard

**Exal Engineer** M. Donald / N. Dowdell

Client Engineer A. Ion

Perforations n/a

AXAL

Client OMV Australia Pty Ltd

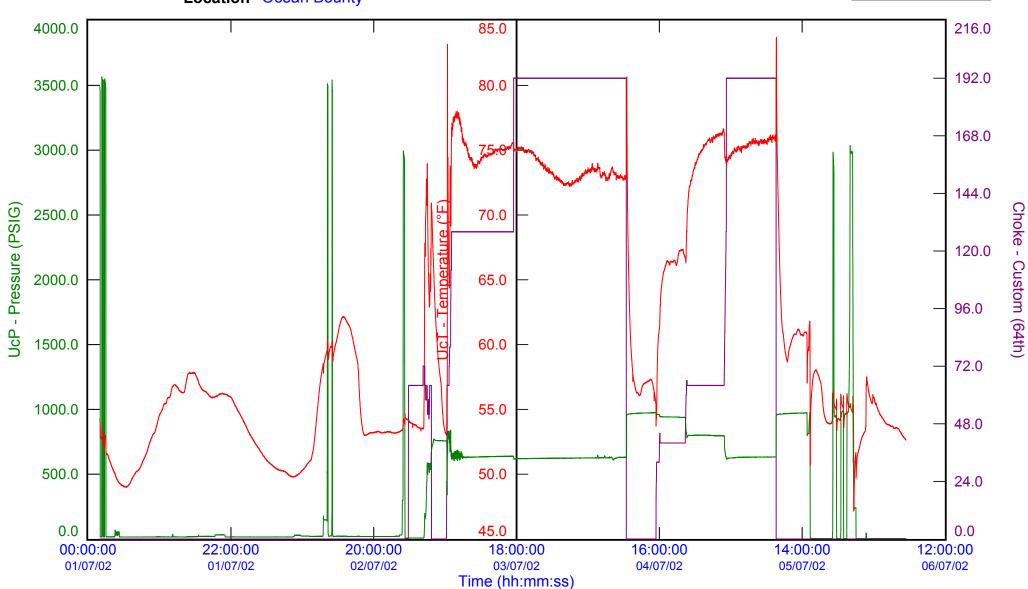
Well No. Patricia-2
Test No. Completion
-Location Ocean Bounty

Data Type EDGE Data

Comments Upstream Press / Temp vs Choke

-Complete Test





Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion **Start Date** 30/06 - 01/07/2002 Test No. **Time UcP** UcT **DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 29/06/02 14:00:00 Commenced pressure testing complete surface equipment. 14:00:00 Flushed surface lines to Fwd and Aft booms until clean. 15:05:00 Test #1 - Aft oil and gas lines to boom burners to 500psi. 15:17:00 Test #2 - Full equipment body test to oil and gas diverter manifolds to 500psi. 15:22:00 Test #3 - Full equipment body test to oil and gas diverter manifolds to 1,000psi. 15:33:00 Test #4 - Separator body test and gas, oil and water outlet valves to 500psi. 15:38:00 Test #5 - Separator body test and gas, oil and water outlet valves to 1,000psi. 15:52:00 Test #6 - Separator inlet and bypass valves to 500psi. 15:57:00 Test #7 - Separator inlet and bypass valves to 1,000psi. 16:10:00 Test #8 - Oil diverter manifold to 500psi. 16:15:00 Test #9 - Oil diverter manifold to 1,000psi. 16:26:00 Test #10 - Heater coil and bypass valves to 500psi. 16:31:00 Test #11 - Heater coil and bypass valves to 1,000psi. 16:46:00 Test #12 - Heater inlet and bypass valve to 500psi. 16:51:00 Test #13 - Heater inlet and bypass valve to 1,000psi. 17:05:00 Test #14 - Downstream choke manifold valves to 500psi. 17:10:00 Test #15 - Downstream choke manifold valves to 1,000psi. 17:23:00 Test #16 - Upstream choke manifold valves to 500psi. 17:28:00 Test #17 - Upstream choke manifold valves to 3,500psi. 17:45:00 Test #18 - Sandtrap valve to 500psi. 17:50:00 Test #19 - Sandtrap valve to 3,500psi. 18:03:00 Test #20 - ESD valve to 500psi. 18:08:00 Test #21 - ESD valve to 3,500psi. 18:20:00 All pressure tests successfully completed. 30/06/02 01:00:00 Set 1,500psi SLZXP hanger/packer. Commenced annular pressure test to confirm packer set. 01:30:00 Good test. Commenced operations to shear off and release HR running tool. 01:50:00 Commenced pulling out of hole with drill pipe and HR running tool. 06:30:00 Commenced running in hole with 5-1/2" 17ppf NK3SB tubing 07:00:01 7.7 53.0 54.0 10.1 10:48:00 Commenced making up TRSCSSV. 11:31:00 Completed making up TRSCSSV. Pressure tested hydraulic line to 5,000psi. 11:45:00 Good test. Continued running in hole with tubing. 14:00:00 Commenced making up Lower Landing String Assembly (LLSA). 14:30:00 Picked up and made up TH to THRT to SSTT. Attached umbilical. Flushed and checked lines. 15:21:00 Function tested THRT latch, un-latch, softland, vent/test and TH lock. 15:35:00 Latched TH in THRT 15:37:00 Pressure tested umbilical to 5.000psi. 15:42:00 Good test, Pressure tested control line to TRSCSSV to 5.000psi. 15:46:00 Good test. Unlocked TH. Opened lower and upper ball valves in SSTT. 16:15:00 Commenced running in hole with 7" landing string. 18:00:00 Commenced rigging up circulating head. 18:50:00 Tagged Polished Bore receptacle. Pulled up and broke out landing joint. 19:00:00 Prepared to rig up coil tubing lifting frame. 19:30:00 Conducted JSA on drill floor for Coil Tubing Lift Frame (CTLF) and Expro flowhead. 19:45:00 Commenced rigging up CTLF. 20:45:00 Completed rigging up CTLF. Picked up and made up flowhead. 21:15:00 Commenced rigging up Coflexip hose to flow wing. Rigged up casing elevator and bails.

Client	OMV Aust	ralia Pty	Ltd		Exal Engineer	M. Donald / N. Dowdell
Well No	. Patricia-2				Location	Ocean Bounty
Test No	. Completion	n			Start Date	30/06 - 01/07/2002
Time hh:mm:ss	UcP s PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	
30/06/02 22:20:00 23:00:00	Made up 7" cas Rigged up h Rigged up coil	ydraulic	control li	nes an	d cement pump	line to kill wing on flowhead.
01:42:00 01:47:00 01:47:31 01:52:00 02:00:00 02:02:00 02:06:00 02:11:00 02:15:00 02:15:00 02:16:00 02:23:00 02:27:00 02:32:00 02:32:00 02:44:00 02:45:00	Opened product Open choke made Commenced landing string. Closed SSLV. Good returns a Commenced production of Commenced product	ction wing anifold to a flushing continued to choke material states of the source test of	valve on flosurge tank a from cem pumping the anifold. Sto st on SSLV EdgeX surfaces ton SSTT eak at lo-to 5.9 st on SSTT eak at lo-to 5.5 st on SSTT re.  5.6 prior to circulation 5.2 4.8 all circulation 5.2 4.8 circulation 5.2 Subsea Ti	owhead. and lo-to ent uni nrough to pped pu against ace data 53.0 d SSLV. 53.0 against orque val against orque val 52.0 against 52.0 culating 52.0 ne BOP's 52.0 no finhib 51.0 51.0 51.0 cee (SST	rque valve. t across flowher t across fl	in at choke manifold. fold to 3,500psi.  fold to 3,500psi. rque valve. fold to 3,500psi. rque valve. fold to 3,500psi. rque valve.  fold to 3,500psi.
05:26:00 05:30:00 05:45:00 05:54:00	Closed middle 15.3 15.9	pipe rams 49.0 49.0	4.5 4.5	51.0 51.0	9.7 10.1 pe rams to 3,500ps	i. Good test.
06:00:00 06:06:00	15.3 Locked tubing I	49.0 nanger. Go	4.5 ood indicati	50.0 ion on lo	36.2 ck monitor on cont	

Client	OMV Austr	ralia Pty	Ltd		Exal Engineer	M. Donald / N. Dowdell
Well No.	Patricia-2				Location	Ocean Bounty
Test No.	Completion	1			Start Date	30/06 - 01/07/2002
Time hh:mm:ss	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	
01/07/02	test.					
06:15:00 06:30:00 06:36:00 06:44:00 06:45:00	15.5 15.5 Bled down tubir Commenced ov Overpull test fa	erpull tes iled.	t.		3444.1 3445.7	
	15.7 Pressured up o Closed middle			51.0 53,000p	8.4 osi. THRT not locked	d.
07:00:00	15.3	50.0	2.8	51.0	9.2	
					THRT failed to lock	
07:11:00 07:15:00	15.9	n i HRI id 50.0	2.4	,000psi. 51.0	THRT failed to loci 916.1	K.
						si. THRT failed to lock.
					pressured to 3,000p	si. THRT failed to lock.
	Bled off pressur			itor.		
07:30:00 07:30:00	Functioned SS <sup>-1</sup>	50.0	2.0	51.0	1890.0	
07:30:00	15.7	50.0	1.8	51.0	12.5	
08:00:00	15.3	50.0	1.3	51.0	11.7	
08:15:00	15.9	51.0	1.8	51.0	12.1	
08:30:00	15.9	51.0	1.4	52.0	12.1	
08:45:00	15.5	51.0	1.4	52.0	11.7	
09:00:00	16.1	52.0	1.4	52.0	11.7	
09:15:00	15.9	52.0	1.4	53.0	11.3	
09:30:00	16.5	52.0	1.4	53.0	12.1	
09:45:00	15.9	53.0	2.4	54.0	11.7	ing bonner to posiat in opposing
	Pressured up lock.		middle pip			ing hanger to assist in engaging
10:00:00	16.3	53.0	2.5	54.0	6.0	
10:15:00	16.5	53.0	2.1	54.0	3410.6	
10:30:00	16.7	54.0	1.7	54.0	3920.8	
10:45:00 11:00:00	17.5 17.5	54.0 55.0	1.4 2.1	54.0 55.0	13.8 12.9	
11:15:00	16.9	55.0	1.8	55.0	7.6	
11:30:00	16.1	55.0	1.4	55.0	8.0	
	Opened midd			Closed		bag. Pressured up annulus to
	3,500psi.					
	Attempted to se	•	•			
11:45:00	16.7	55.0	2.2	56.0	4899.7	
12:00:00	16.3	55.0 56.0	2.0	56.0 56.0	4786.8 16.2	
12:15:00 12:30:00	16.3 16.3	56.0 56.0	1.9 2.0	56.0	16.6	
						ock line to 2,000psi.
12:45:00	15.7	56.0	1.8	56.0	16.2	OCK III O 10 2,000 poi.
	Pressured up o					
	Opened TRSCS					
13:00:00	33.2	57.0	1.6	56.0	7.6	
	Closed TRSCS					
	Landed out con				aalatian! :	ad aguitu agal magaitas al s
		v to of	ben IRSC	220 I	solation valve ar	nd cavity seal monitor valve on
	SST.					

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Test No. Completion **Start Date** 30/06 - 01/07/2002 **Time UcP UcT DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 01/07/02 13:15:00 16.9 57.0 2.2 57.0 7.2 13:30:00 16.9 57.0 2.1 57.0 7.6 13:45:00 17.1 57.0 2.1 57.0 7.6 57.0 14:00:00 16.1 56.0 2.4 8.0 14:15:00 15.9 56.0 1.8 57.0 7.6 14:26:00 ROV opened TRSCSSV isolation valve on SST. 8.0 14:30:00 16.1 56.0 1.8 57.0 14:42:00 ROV opened cavity seal monitor valve on SST. 14:45:00 15.9 57.0 7.6 56.0 1.4 Bled off THRT soft land line. 14:46:00 14:49:00 Closed lower annular bag. Pressured up beneath annular bag to 3,500psi. 14:55:00 Bled off pressure below bag. 14:57:00 Pressured up on THRT lock line to 3,000psi. Opened lower annular bag. 15:00:00 Bled off pressure on THRT lock line. Conducted 20,000lbs overpull test. 15:00:00 15.9 57.0 57.0 11.3 15:05:00 Good test. Released overpull. 15:08:00 Closed middle pipe rams. 15:10:00 Commenced pressure testing tubing hanger and packer seal. 15:15:00 16.7 57.0 1.9 58.0 5.6 15:30:00 Held wireline JSA. 58.0 15:30:00 18.1 3.2 58.0 197.7 15:35:00 Commenced rigging up Expro wireline. 58.0 3374.2 15:45:00 18.1 58.0 2.8 16:00:00 16.5 58.0 1.9 58.0 6.4 16:15:00 18.1 58.0 2.2 58.0 6.8 16:20:00 Observed polished bore receptacle (PBR) leaking. 16:30:00 18.1 58.0 2.8 58.0 6.4 2.5 16:45:00 18.9 57.0 57.0 7.6 17:00:00 21.0 57.0 11.7 2.2 57.0 17:15:00 20.4 57.0 1.9 57.0 8.4 Commenced rigging down Expro wireline. 17:30:00 Prepared to rig down CTLF and flow head. 17:30:00 17:30:00 20.4 57.0 1.5 7.6 57.0 56.0 1.5 12.5 17:45:00 21.0 57.0 20.6 56.0 1.9 57.0 12.1 18:00:00 1.9 21.0 56.0 57.0 13.3 18:15:00 18:30:00 20.8 56.0 1.5 57.0 13.3 20.4 12.9 18:45:00 56.0 1.6 57.0 Pressured up tubing hanger unlock. Applied 30,000lbs over pull. 18:50:00 19:00:00 20.6 56.0 57.0 1.5 13.3 Applied neutral 19:01:00 weiaht on tubing hanger. increased unlock 40.000psi. applied to 50.000lbs over pull. 19:07:00 Bled off tubing hanger unlock, pressured up tubing hanger lock to 2000psi. 19:07:00 Bled off tubing hanger lock, bled off THRT latch. Pressured up tubing hanger unlock to 4,000psi, pressured up THRT latch to 3,000psi. 19:15:00 Applied 65,000lbs over pull. 19:15:00 20.6 56.0 1.9 57.0 13.3 19:25:00 Reduced over pull to 40,000lbs above string WT - total 270,000lbs. Tubing hanger released. 19:28:00 19:30:00 20.6 56.0 1.5 57.0 13.3 Commenced rigging down flowhead. 19:35:00 19:45:00 32.4 56.0 57.0 13.3 1.6

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion Start Date 30/06 - 01/07/2002 Test No. **Time UcP UcT DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 01/07/02 20:00:00 31.4 56.0 1.9 57.0 13.3 20:15:00 32.6 56.0 2.1 57.0 13.3 32.4 56.0 57.0 12.9 20:30:00 1.9 32.8 57.0 13.3 20:45:00 56.0 1.8 13.3 31.0 56.0 1.6 57.0 21:00:00 12.9 21:15:00 15.7 56.0 2.1 57.0 15.9 56.0 2.0 56.0 13.3 21:30:00 16.1 56.0 56.0 13.3 21:45:00 1.4 17.1 1.9 56.0 14.2 22:00:00 56.0 2.1 13.3 22:15:00 16.9 56.0 56.0 22:16:00 Laid down CTLF, continue pulling out of hole with landing string and tubing hanger. 22:30:00 16.5 55.0 2.0 56.0 13.3 22:42:00 Bled off SSLV open line. 16.1 55.0 1.5 56.0 14.2 22:45:00 23:00:00 15.9 55.0 1.9 56.0 13.8 23:15:00 16.1 55.0 1.9 56.0 13.8 23:20:00 Tubing hanger at surface. Commenced breaking out tubing hanger from tubing. 23:30:00 15.9 55.0 1.6 56.0 14.2 23:45:00 16.1 54.0 1.7 56.0 14.2 02/07/02 00:00:00 16.1 54.0 1.8 56.0 13.3 00:10:00 Unlatched SSTT assembly from tubing hanger. 00:15:00 54.0 55.0 13.3 16.1 2.1 00:20:00 Layed out SSTT assembly on catwalk. 00:30:00 54.0 1.6 55.0 13.8 16.1 00:35:00 Broke out tubing hanger. Commenced redress of tubing hanger. 00:45:00 15.7 53.0 1.6 55.0 13.8 16.1 55.0 01:00:00 53.0 1.6 13.8 01:15:00 15.9 53.0 1.6 55.0 13.3 16.3 1.6 54.0 14.2 01:30:00 53.0 16.1 1.9 54.0 13.3 01:45:00 52.0 02:00:00 15.9 52.0 1.6 54.0 13.3 52.0 54.0 02:15:00 16.1 1.3 13.8 1.6 54.0 02:30:00 15.7 52.0 13.3 15.9 54.0 02:45:00 52.0 1.6 13.3 03:00:00 15.5 51.0 1.6 54.0 13.3 Completed re-assembly of tubing hanger with added pup joints. 03:15:00 03:15:00 53.0 12.9 15.7 51.0 1.3 15.5 14.2 03:30:00 51.0 1.6 53.0 03:35:00 Made up TRSCSSV to tubing hanger and landed out in rotary table. 03:45:00 16.1 51.0 1.4 53.0 13.3 03:52:00 Picked up and made up LLSA and SSTT. 04:00:00 15.9 53.0 13.3 51.0 1.5 16.1 51.0 04:15:00 1.6 53.0 13.3 04:20:00 Completed function testing LLSA. Commenced pressure testing TRSCSSV control line to 5,000psi. Good test. 04:20:00 Commenced running in hole with LLSA. 04:25:00 51.0 04:30:00 16.5 1.5 53.0 13.3 04:45:00 16.1 51.0 1.6 53.0 13.8 1.6 12.9 05:00:00 16.1 50.0 53.0 05:02:00 Picked up and made up SSLV assembly. Repaired damage to SSLV umbilical line.

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location **Ocean Bounty** Test No. Completion **Start Date** 30/06 - 01/07/2002 **Time UcP DcP UcT DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 02/07/02 05:15:00 16.5 50.0 1.5 53.0 13.3 53.0 05:30:00 16.1 50.0 1.6 13.3 15.9 50.0 53.0 13.3 05:45:00 1.6 15.9 52.0 12.9 06:00:00 50.0 1.3 16.3 06:15:00 50.0 1.6 52.0 13.3 06:20:00 Continued running in hole with landing string. Stopped Edge logging system for maintenance. 06:24:00 Re-started Edge logging system. 06:28:00 06:30:00 15.9 50.0 52.0 12.9 1.9 06:45:00 16.5 50.0 1.6 52.0 13.3 06:55:00 Rigged down 7" elevators. Rigged up 5" drill pipe elevators. 07:00:00 16.3 50.0 1.6 52.0 13.8 07:15:00 Picked up CTLF unit to derrick. 07:15:00 16.3 50.0 1.3 52.0 12.9 07:30:00 16.1 50.0 1.6 52.0 13.3 07:40:00 Completed making up Expro flowhead. Made up coflexip to production wing. Made up line from cement unit to kill wing. 07:45:00 23.4 50.0 1.5 52.0 13.3 08:00:00 29.2 50.0 1.3 52.0 12.9 08:15:00 29.4 50.0 1.3 52.0 12.9 08:30:00 29.6 50.0 1.3 52.0 13.3 08:45:00 26.9 50.0 1.6 52.0 13.3 Landed out completion in Subsea Tree (SST). 08:55:00 09:00:00 23.0 50.0 0.9 52.0 13.3 09:15:00 22.6 50.0 0.5 52.0 8.4 Locked tubing hanger. Good indication at control panel. 09:21:00 Commenced 50,000lbs overpull test. Good test, released overpull. 09:25:00 09:30:00 22.8 51.0 1.2 53.0 09:33:00 Commenced pressure annulus below tubing hanger to 1,500psi. 09:45:00 Good test. Bled off pressure. 09:45:00 22.4 2.6 54.0 1480.7 51.0 09:51:00 Commenced pressure annulus below tubing hanger to 3,500psi. 10:00:00 23.2 51.0 54.0 3368.1 1.9 Good test. Bled off pressure. 10:03:00 Commenced rigging up Expro wireline to pull isolation sleeve and drift completion. 10:15:00 10:15:00 51.0 54.0 19.6 2.2 8.8 10:30:00 20.6 51.0 1.9 54.0 9.2 10:45:00 20.6 52.0 54.0 8.8 8.0 11:00:00 20.8 53.0 0.9 54.0 8.0 0.3 11:15:00 21.2 55.0 55.0 8.0 11:30:00 Completed rigging up Expro wireline. 56.0 56.0 8.8 11:30:00 21.0 2.6 11:45:00 21.0 57.0 3.2 56.0 8.0 against flow 11:55:00 Commenced pressure testing head master valve and SSTT upper ball to 2,000psi. 12:00:00 21.0 58.0 2.0 56.0 8.8 Good test. Commenced pressure testing Expro wireline lubricator to 3,500psi. 12:03:00 Good test. Bled off pressure. 12:13:00 Closed flowhead kill wing valve. Pressure tested from cement unit to kill wing valve to 12:15:00 3,500psi. 12:15:00 177.6 1.7 56.0 58.0 8.4 12:20:00 Repaired leaks to lo-torque valve.

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location **Ocean Bounty** Test No. Completion **Start Date** 30/06 - 01/07/2002 **Time UcT UcP DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 02/07/02 12:30:00 147.9 59.0 56.0 9.2 1.3 Good test. Opened kill wing valve. Opened production wing valve. 12:45:00 12:45:00 147.9 59.0 1.2 56.0 8.8 12:47:00 Commenced pressure testing SSTT upper ball to choke manifold to 3,500psi. Good test. Bled off pressure. Opened SSTT upper ball. 12:57:00 Expro wireline commenced running in hole with GS pulling tool to retrieve isolation sleeve. 13:00:00 37.5 59.0 0.3 56.0 9.2 13:07:00 Expro wireline at surface. Closed Swab valve on flowhead. Closed SSLV. Bled off lubricator pressure. 13:10:00 13:15:00 23.4 60.0 2.1 57.0 8.8 13:20:00 Broke out lubricator and laid out GS pulling tool and isolation sleeve. 13:25:00 Installed 4.5" gauge ring onto wireline toolstring. Stabbed lubricator and pressure tested to 3,500psi. 13:30:00 24.5 60.0 2.0 57.0 8.4 13:38:00 Good test. Bled off pressure. 13:40:00 Opened SSLV. Opened swab valve on flowhead. Commenced running in hole with gauge ring. 13:45:00 22.0 59.0 2.7 58.0 8.8 13:55:00 Expro wireline at surface. Closed SSLV. Closed swab valve on flowhead. 14:00:00 Commenced rigging down Expro wireline. 9.2 14:00:00 20.2 60.0 2.0 59.0 14:15:00 21.2 60.0 2.7 60.0 8.8 14:20:00 Completed rigging down Expro wireline. 14:30:00 BJ Coiled tubing commenced rigging up injector head. 14:30:00 61.0 22.4 61.0 3.0 8.8 22.0 2.9 9.7 14:45:00 61.0 61.0 22.0 15:00:00 62.0 3.0 62.0 9.2 22.0 62.0 2.6 62.0 9.7 15:15:00 15:30:00 22.0 62.0 4.0 62.0 9.7 2.9 21.6 62.0 62.0 9.7 15:45:00 20.6 62.0 1.6 62.0 10.5 16:00:00 16:15:00 20.0 61.0 2.1 62.0 9.2 20.6 61.0 2.9 61.0 9.2 16:30:00 20.2 61.0 2.7 61.0 10.1 16:45:00 2.2 9.7 20.2 60.0 61.0 17:00:00 17:15:00 20.2 59.0 1.7 60.0 9.7 20.6 59.0 2.1 60.0 9.7 17:30:00 17:45:00 22.2 57.0 2.2 58.0 9.7 19.3 55.0 1.2 57.0 9.2 18:00:00 56.0 9.2 18:15:00 19.6 54.0 1.1 18:30:00 19.8 53.0 8.0 56.0 9.7 18:45:00 19.1 53.0 1.2 56.0 9.2 19:00:00 19.3 53.0 1.1 55.0 9.7 20.0 9.7 19:15:00 53.0 1.3 55.0 19:30:00 20.2 53.0 1.5 55.0 9.7 9.2 19:45:00 19.6 53.0 1.5 55.0 20.2 53.0 1.9 55.0 9.7 20:00:00 55.0 9.2 19.1 53.0 1.6 20:15:00 55.0 9.2 20:30:00 19.3 53.0 1.9 19.6 53.0 1.9 55.0 9.2 20:45:00 21:00:00 19.8 53.0 1.6 55.0 9.2

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Test No. Completion **Start Date** 30/06 - 01/07/2002 **Time UcP UcT DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 02/07/02 21:15:00 19.3 53.0 55.0 8.8 1.6 21:30:00 19.1 53.0 1.2 55.0 8.8 21:45:00 19.6 53.0 1.5 55.0 9.2 55.0 9.2 22:00:00 19.6 53.0 1.9 9.2 19.8 1.6 55.0 22:15:00 53.0 22:30:00 19.8 53.0 1.4 54.0 9.2 22:45:00 19.3 53.0 1.5 54.0 8.8 23:00:00 Completed rigging up coiled tubing. 53.0 54.0 9.7 23:00:00 19.6 1.5 23:15:00 19.6 53.0 1.5 54.0 9.2 Closed procuction wing valve for pressure test. 23:23:00 23:30:00 Held JSA prior to coiled tubing operations. 23:30:00 22.0 53.0 1.5 54.0 8.8 22.2 53.0 1.5 54.0 9.2 23:45:00 23:50:00 Commenced flushing coiled tubing lines prior to pressure test. 03/07/02 00:00:00 31.6 53.0 1.6 54.0 9.2 00:15:00 31.0 53.0 1.6 54.0 9.7 00:26:00 Commenced pressure testing coil to 300psi. 00:29:00 Good test. Increased pressure to 3,000psi. 9.2 00:30:00 299.4 54.0 1.3 54.0 00:40:00 Good test. 00:43:00 Commenced slowly bleeding off line pressure. 00:45:00 2705.0 54.0 1.9 9.2 54.0 00:50:00 Completed bleed down. 01:00:00 54.0 6.2 55.0 7.5 8.8 01:08:00 Opened kill wing valve on flowhead. 01:15:00 Opened flowhead master valve and locked open. 01:15:00 7.5 54.0 6.0 55.0 8.8 Opened SSLV. 01:16:00 01:21:00 Coil tubing commenced running in hole at 10m per minute. Open at Expro choke manifold on 64/64th adjustable choke to surge tank. 01:30:00 7.5 54.0 6.2 54.0 01:38:00 Coil tubing at depth 66mRT. Continued running in hole at 5m per minute. 01:45:00 54.0 6.3 54.0 7.5 8.8 01:56:00 Coil tubing at depth 200mRT. Continued running in hole at 6m per minute. Coil tubing stopped at 221mRT due to problem with SRO pressure gauge. 02:00:00 02:00:00 54.0 54.0 9.5 6.5 10.1 9.2 02:15:00 7.5 54.0 5.9 54.0 02:28:00 Rectified SRO pressure gauge fault. Coiled tubing continued running in hole. 02:30:00 7.5 54.0 5.9 54.0 9.7 02:45:00 7.3 54.0 5.6 54.0 8.8 03:00:00 7.5 54.0 5.9 54.0 9.7 Coiled tubing stopped at 600mRT to allow nitrogen unit to cool down. 03:09:00 03:15:00 7.3 54.0 5.9 54.0 9.7 03:22:00 Coiled tubing commenced pumping nitrogen at 400 scf/m. 03:30:00 7.3 54.0 5.6 54.0 Coiled tubing at 786mRT. Increased adjustable choke to 72/64". 03:37:00 03:42:00 Expro observed brine returns at surge tank. 03:44:00 Total brine returns at surge tank - 1.3bbls (calculated rate - 1877b/d). 03:45:00 Total brine returns at surge tank - 2.3bbls (calculated rate - 1440b/d).

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion **Start Date** 30/06 - 01/07/2002 Test No. **Time UcP** UcT **DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 03/07/02 03:45:00 Coiled tubing stopped at 892mRT. Continued pumping nitrogen at 400scf/m. 03:45:00 14.8 55.0 9.8 03:47:00 Coiled tubing notified of leak in the injector. Coil tubing pulled back up hole 20m due to suspected nitrogen loss in screens. 03:50:00 03:50:00 Total brine returns at surge tank - 28.3bbls (calculated rate - 8640b/d). 03:53:00 Coil tubing at depth 872m. Continued pumping. 03:53:00 Decreased adjustable choke to 64/64". 03:56:00 Total brine returns at surge tank - 32.7bbls (calculated rate - 6048b/d). 03:58:00 Coil tubing commenced pulling out of hole to 792mRT. Continued to pump 400scf/m. 04:00:00 Decreased adjustable choke to 58/64". 04:00:00 Total brine returns at surge tank - 43bbls (calculated rate - 2880b/d). 04:00:00 177.8 70.0 64.1 69.0 8.8 04:03:00 Expro observed nitrogen at surface with brine. 04:05:00 Total brine returns at surge tank - 57.7bbls (calculated rate - 4320b/d). 04:10:00 Increased adjustable choke to 64/64". 04:10:00 Total brine returns at surge tank - 71bbls (calculated rate - 3600b/d). 04:13:00 Coil tubing at depth 792mRT. 04:15:00 Decreased adjustable choke to 58/64". 04:15:00 Total brine returns at surge tank - 77bbls (calculated rate - 3456b/d). 04:15:00 589.7 74.0 77.8 74.0 8.8 04:17:00 Decreased adjustable choke to 52/64". 04:19:00 Total brine returns at surge tank - 90.5bbls (calculated rate - 3312b/d). 04:20:00 Coil tubing reduced nitrogen pump rate to 300scf/m. 04:24:00 Increased adjustable choke to 56/64". 04:25:00 Increased adjustable choke to 58/64". 04:25:00 Total brine returns at surge tank - 91.7bbls (calculated rate - 720b/d). 04:29:00 Decreased adjustable choke to 50/64". 04:30:00 Coil tubing commenced running in hole to 892mRT continued flowing at 300scf/m. 04:30:00 Total brine returns at surge tank - 96.1bbls (calculated rate - 1728b/d). 04:30:00 576.2 64.0 37.9 59.0 9.2 04:32:00 Increased adjustable choke to 52/64". 04:35:00 Increased adjustable choke to 56/64". 04:35:00 Total brine returns at surge tank - 97.4bbls (calculated rate - 1872b/d). 04:36:00 Increased adjustable choke to 58/64". 04:37:00 Increased adjustable choke to 64/64". 04:40:00 Coiled tubing at depth 892mRT. 04:40:00 Total brine returns at surge tank - 99.8bbls (calculated rate - 864b/d). 04:45:00 Total brine returns at surge tank - 106.6bbls (calculated rate - 1728b/d). 04:45:00 567.6 64.0 34.1 56.0 9.7 04:50:00 Total brine returns at surge tank - 109.4bbls (calculated rate - 2592b/d). Coil tubing stopped pumping nitrogen and Expro choke shut in. 04:54:00 04:57:00 Total brine returns at surge tank - 119.4bbls (calculated rate - 1152b/d). 05:00:00 716.9 70.0 0.0 68.0 9.7 768.0 05:15:00 66.0 0.0 66.0 8.8 05:30:00 760.6 62.0 0.0 64.0 9.2 05:45:00 759.6 60.0 0.2 62.0 8.8 0.2 06:00:00 759.2 59.0 61.0 9.2 0.2 60.0 8.8 06:15:00 759.0 57.0 06:30:00 759.6 56.0 0.0 59.0 9.2 06:45:00 757.3 54.0 0.0 58.0 8.8

07:00:00 Function tested ESD system in presence of OMV company men.

Client	OMV Aust	ralia Pty	Ltd		Exal Engineer	M. Donald / N. Dowdell
Well No	. Patricia-2				Location	Ocean Bounty
Test No	. Completio	n			Start Date	30/06 - 01/07/2002
Time hh:mm:s	UcP s PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	
03/07/02 07:00:00 07:05:00 07:14:00 07:15:00 07:15:00 07:17:00 07:18:00 07:20:00 07:23:00 07:29:00	Brine to surface	aft flare bo ased adjus 53.0 ased adjus ased adjus e. rine and ga	oom via 20/ stable choke 11.2 stable choke stable choke as.	64" adju e to 24/6 55.0 e to 46/6	64". 8.8	as to surface.
07:30:00 07:37:00	771.7 Hydrocarbon	68.0 gas to	189.0	55.0 Commo	9.2 enced gradually	increasing adjustable choke to
07:40:00 07:42:00 07:45:00 07:51:00 07:52:00 07:54:00	,	ased adjus 69.0 Ijustable ch ased adjus	stable choke 362.6 noke to prev stable choke	e to 80/6 63.0 ent plug to 100	64". 9.7 gging.	ll slugging hydrocarbon gas and
08:00:00 08:00:00	Gradually incre	00% bri	ne, trace		/64". ment, pH = (	6 and Chloride contents from
08:00:00	Draeger show @ 57F.	ed 1.2 %	CO2 by	volume	e & 0 ppm H2S	S. S.G. of produced water - 1.095
08:00:00 08:15:00 08:30:00 08:30:00 08:45:00 09:00:00	635.5 592.4 Well flowing pro 607.9 627.7 BS&W = 1 refractometer 1	77.0 78.0 00% bri	498.0 508.9 ne, trace	76.0 75.0	9.7 9.7 nent. 9.7 9.7 ment, pH =	6 and Chloride contents from
09:00:00		ed 1.5 %	CO2 by			S. S.G. of produced water - 1.096
09:00:00 09:15:00 09:24:00 09:30:00 09:39:00 09:45:00 09:50:00	648.4 662.3 Inspected sand 653.3 Diverted flow v 628.3 Installed 3.750 Raised orifice p	76.0 ia test sepa 76.0 ' orifice pla	558.6 arator. 526.4	74.0 72.0	9.2 9.7 traces of rust fragr 9.2 9.2 un.	ments.
09:53:00 10:00:00 10:00:00 10:00:00 10:15:00	Installed 3.500 BS&W = 100% Draeger show S.G. of product 628.5	' orifice pla brine pH = ed 1.4 % ed water - 7 75.0	6 and Chlo CO2 by 1.096 @ 52 528.9	oride co volum F. 72.0	ntents from refracto	ometer 120,000ppm. S. S.G. of produced gas - 0.571.
10:15:00 10:30:00 10:30:00	632.2 Brine returns a 633.9	75.0 t surge tan 75.0	532.5 k - 10.5bbls 534.2	72.0 (calcul 71.0	8.8 ated rate - 504b/d) 9.7 ated rate - 499b/d)	

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Client
            OMV Australia Pty Ltd
                                                    Exal Engineer M. Donald / N. Dowdell
Well No. Patricia-2
                                                    Location
                                                                       Ocean Bounty
           Completion
                                                    Start Date
                                                                       30/06 - 01/07/2002
Test No.
Time
                UcP
                          UcT
                                    DcP
                                              DcT
                                                       AnnP
               PSIG
                                   PSIG
                                                °F
                                                       PSIG
hh:mm:ss
                            ٥F
03/07/02
10:45:00
              631.4
                          74.0
                                   533.5
                                              71.0
                                                         9.7
11:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 120,000ppm.
         Draeger showed 1.4 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.576.
11:00:00
          S.G. of produced water - 1.096 @ 52F.
         Brine returns at surge tank - 19.8bbls (calculated rate - 394b/d).
11:00:00
11:00:00
              632.2
                          74.0
                                   535.6
                                              70.0
11:15:00 Brine returns at surge tank - 24.2bbls (calculated rate - 422b/d).
11:15:00
                                                        10.1
              632.6
                          74.0
                                   536.3
                                              70.0
11:30:00 Brine returns at surge tank - 27.7bbls (calculated rate - 336b/d).
11:30:00
              632.2
                          74.0
                                   537.6
                                              70.0
                                                         9.7
11:45:00 Brine returns at surge tank - 30.9bbls (calculated rate - 302b/d).
11:45:00
              633.3
                          74.0
                                   538.7
                                              70.0
                                                        10.5
12:00:00
         BS&W = 100% brine pH = 7 and Chloride contents from refractometer 225,000ppm.
12:00:00 Draeger showed 1.4 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.576.
          S.G. of produced water - 1.095 @ 53F.
12:00:00 Brine returns at surge tank - 33.9bbls (calculated rate - 288b/d).
12:00:00
              632.2
                          74.0
                                   538.3
                                              70.0
                                                         9.2
12:05:00 Inspected sand catcher for debris. Retrieved traces of rust fragments.
         Brine returns at surge tank - 36.1bbls (calculated rate - 211b/d).
                                              70.0
12:15:00
              633.5
                          74.0
                                   539.7
                                                         9.7
12:30:00
         Brine returns at surge tank - 38.4bbls (calculated rate - 221b/d).
12:30:00
              635.1
                         74.0
                                  541.0
                                              70.0
                                                         9.7
12:45:00
         Brine returns at surge tank - 40.8bbls (calculated rate - 230b/d).
                          74.0
                                  541.6
                                              70.0
12:45:00
              634.9
                                                         9.7
13:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
13:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.578.
          S.G. of produced water - 1.093 @ 53F.
13:00:00
         Brine returns at surge tank - 43.4bbls (calculated rate - 250b/d).
13:00:00
              635.3
                          75.0
                                   542.2
                                              71.0
                                                        10.1
13:15:00
         Brine returns at surge tank - 45.5bbls (calculated rate - 202b/d).
                                   542.4
                                              71.0
13:15:00
              634.9
                          75.0
                                                        10.5
13:30:00
         Brine returns at surge tank - 47.8bbls (calculated rate - 221b/d).
13:30:00
                                   542.9
                                              71.0
              635.3
                          75.0
                                                        10.5
13:45:00 Brine returns at surge tank - 50.0bbls (calculated rate - 211b/d).
13:45:00
              635.5
                          75.0
                                   543.2
                                              71.0
                                                        10.1
14:00:00 BS&W = 100% brine pH = 6 and Chloride contents from refractometer 110,000ppm.
14:00:00
         Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.578.
          S.G. of produced water - 1.093 @ 52F.
         Brine returns at surge tank - 51.75bbls (calculated rate - 168b/d).
14:00:00
14:00:00
                         75.0
                                  544.1
              635.5
                                              71.0
                                                         9.7
14:15:00 Brine returns at surge tank - 53.5bbls (calculated rate - 168b/d).
                                              71.0
14:15:00
              636.1
                          75.0
                                   544.4
                                                        10.1
14:30:00 Brine returns at surge tank - 55.2bbls (calculated rate - 163b/d).
14:30:00
              636.7
                          75.0
                                   545.7
                                              71.0
                                                        10.1
14:45:00 Brine returns at surge tank - 57.1bbls (calculated rate - 182b/d).
14:45:00
                          75.0
                                   545.8
                                              71.0
              637.1
                                                        10.1
         BS&W = 100% brine pH = 7 and Chloride contents from refractometer 115,000ppm.
15:00:00
15:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.582.
          S.G. of produced water - 1.094 @ 48F.
15:00:00 Brine returns at surge tank - 58.9bbls (calculated rate - 173b/d).
15:00:00 Sample No. 1-1 (0.5 ltr water) and 1-2 (5 ltr water) taken from separator water line.
15:00:00
              638.0
                          75.0
                                   546.6
                                              71.0
                                                        10.5
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Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion **Start Date** 30/06 - 01/07/2002 Test No. **Time UcP** UcT **DcP DcT AnnP PSIG PSIG PSIG** hh:mm:ss °F °F 03/07/02 15:15:00 Brine returns at surge tank - 60.4bbls (calculated rate - 144b/d). 15:15:00 75.0 546.5 71.0 637.7 9.7 15:30:00 Brine returns at surge tank - 61.9bbls (calculated rate - 144b/d). 15:30:00 75.0 546.7 71.0 638.2 10.5 15:45:00 Brine returns at surge tank - 63.4bbls (calculated rate - 144b/d). 15:45:00 638.0 75.0 546.5 71.0 10.5 BS&W = 100% brine pH = 6 and Chloride contents from refractometer 115,000ppm. 16:00:00 16:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. S.G. of produced gas - 0.580. S.G. of produced water - 1.094 @ 48F. Brine returns at surge tank - 64.9bbls (calculated rate - 144b/d). 16:00:00 16:00:00 638.2 547.4 75.0 71.0 10.5 16:15:00 Brine returns at surge tank - 66.4bbls (calculated rate - 144b/d). 16:15:00 75.0 547.9 71.0 638.4 9.7 Brine returns at surge tank - 67.7bbls (calculated rate - 125b/d). 16:30:00 16:30:00 638.0 75.0 547.8 71.0 10.1 16:45:00 Brine returns at surge tank - 69.1bbls (calculated rate - 134b/d). 16:45:00 638.6 75.0 548.2 71.0 10.5 17:00:00 BS&W = 100% brine pH = 6 and Chloride contents from refractometer 115,000ppm. 17:00:00 Brine returns at surge tank - 70.3bbls (calculated rate - 115b/d). 17:00:00 Sample No. 1-3 (0.5 ltr water) and 1-4 (5 ltr water) taken from separator water line. 17:00:00 638.2 75.0 547.9 71.0 9.7 17:15:00 Brine returns at surge tank - 71.5bbls (calculated rate - 115b/d). 17:15:00 639.6 75.0 548.5 71.0 10.5 17:30:00 Brine returns at surge tank - 72.7bbls (calculated rate - 115b/d). 17:30:00 638.8 75.0 549.0 71.0 10.5 17:34:00 Raised orifice plate. Diverted flow via choke manifold bypass 3" line. 17:35:00 Installed 3.500" orifice plate into gas meter run. 17:45:00 Brine returns at surge tank - 73.8bbls (calculated rate - 106b/d). 17:45:00 618.9 75.0 562.1 72.0 10.5 18:00:00 S.G. of produced gas - 0.580. 18:00:00 Brine returns at surge tank - 75bbls (calculated rate - 115b/d). 18:00:00 620.2 75.0 563.3 72.0 10.1 18:15:00 Brine returns at surge tank - 76.4bbls (calculated rate - 134b/d). 18:15:00 621.0 75.0 564.0 73.0 9.7 18:30:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. Brine returns at surge tank - 77.5bbls (calculated rate - 106b/d). 18:30:00 18:30:00 75.0 563.9 73.0 620.2 10.5 18:45:00 Brine returns at surge tank - 78.6bbls (calculated rate - 106b/d). 18:45:00 620.4 75.0 564.1 73.0 10.1 19:00:00 Brine returns at surge tank - 79.7bbls (calculated rate - 106b/d). 19:00:00 Sample No. 1-5 (0.5 ltr water) and 1-6 (5 ltr water) taken from separator water line. 19:00:00 620.6 75.0 564.3 73.0 10.5 19:15:00 Brine returns at surge tank - 80.7bbls (calculated rate - 95.9b/d). 19:15:00 620.6 75.0 564.4 72.0 10.1 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. Brine returns at surge tank - 81.7bbls (calculated rate - 95.9b/d). 19:30:00 19:30:00 620.8 75.0 564.6 72.0 10.5 19:45:00 Brine returns at surge tank - 82.9bbls (calculated rate - 115b/d). 75.0 564.6 72.0 10.5 19:45:00 620.4 20:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 20:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. 20:00:00 S.G. of produced water - 1.087 @ 60°F. S.G. of produced gas - 0.584.

**OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion **Start Date** 30/06 - 01/07/2002 Test No. **Time UcP UcT DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 03/07/02 20:00:00 Brine returns at surge tank - 84.1bbls (calculated rate - 115b/d). 20:00:00 75.0 565.2 72.0 621.8 10.5 20:15:00 Brine returns at surge tank - 85.1bbls (calculated rate - 96b/d). 20:15:00 565.2 72.0 621.0 75.0 10.1 20:30:00 Brine returns at surge tank - 86.1bbls (calculated rate - 96b/d). 20:30:00 621.2 75.0 564.9 72.0 10.5 20:45:00 Brine returns at surge tank - 87.1bbls (calculated rate - 96b/d). 20:45:00 622.4 75.0 566.3 72.0 10.5 21:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 21:00:00 Brine returns at surge tank - 88.1bbls (calculated rate - 96b/d). Sample No. 1-7 (0.5 ltr water) and 1-8 (5 ltr water) taken from separator water line. 21:00:00 21:00:00 621.6 74.0 565.8 72.0 10.1 21:15:00 Brine returns at surge tank - 88.9bbls (calculated rate - 77b/d). 21:15:00 621.8 565.7 74.0 72.0 9.7 21:30:00 Brine returns at surge tank - 89.4bbls (calculated rate - 48b/d). 21:30:00 622.0 74.0 565.7 72.0 10.1 21:45:00 Brine returns at surge tank - 90.7bbls (calculated rate - 125b/d). 21:45:00 622.4 74.0 566.4 71.0 9.7 22:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 22:00:00 S.G. of produced gas - 0.586. S.G. of produced water - 1.088 @ 59°F. 22:00:00 Brine returns at surge tank - 91.4bbls (calculated rate - 67b/d). 22:00:00 622.4 74.0 566.2 71.0 9.7 22:15:00 Brine returns at surge tank - 92.2bbls (calculated rate - 77b/d). 22:15:00 622.2 74.0 566.4 71.0 9.7 22:30:00 Brine returns at surge tank - 93.1bbls (calculated rate - 86b/d). 22:30:00 622.2 74.0 566.4 71.0 9.7 22:45:00 Brine returns at surge tank - 93.9bbls (calculated rate - 77b/d). 22:45:00 622.8 73.0 566.9 71.0 9.7 23:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. Brine returns at surge tank - 94.5bbls (calculated rate - 58b/d). 23:00:00 Sample No. 1-9 (0.5 ltr water) and 1-10 (4 ltr water) taken from separator water line. 23:00:00 23:00:00 624.9 73.0 568.7 71.0 10.1 Brine returns at surge tank - 95.3bbls (calculated rate - 77b/d). 23:15:00 566.6 23:15:00 622.4 73.0 71.0 9.7 23:30:00 Brine returns at surge tank - 95.9bbls (calculated rate - 58b/d). 23:30:00 625.3 73.0 569.2 71.0 10.5 23:45:00 Brine returns at surge tank - 96.5bbls (calculated rate - 67b/d). 23:45:00 624.1 73.0 568.6 70.0 9.7 04/07/02 00:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110.000ppm. Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. 00:00:00 00:00:00 S.G. of produced gas - 0.584. S.G. of produced water - 1.087 @ 59°F. 00:00:00 Brine returns at surge tank - 97.3bbls (calculated rate - 77b/d). 00:00:00 625.3 73.0 568.7 70.0 10.5 00:15:00 Brine returns at surge tank - 98.3bbls (calculated rate - 96b/d). 00:15:00 624.1 73.0 567.9 70.0 10.1 00:30:00 Brine returns at surge tank - 98.9bbls (calculated rate - 58b/d). 00:30:00 623.2 73.0 567.4 70.0 10.1 00:45:00 Brine returns at surge tank - 99.5bbls (calculated rate - 58b/d). 00:45:00 623.8 73.0 567.8 70.0 10.1 01:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.

Client

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion **Start Date** 30/06 - 01/07/2002 Test No. **Time UcP** UcT **DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 04/07/02 01:00:00 Brine returns at surge tank - 100.4bbls (calculated rate - 86b/d). Sample No. 1-11 (0.5 ltr water) and 1-12 (4 ltr water) taken from separator water line. 01:00:00 623.6 72.0 568.0 70.0 10.5 01:15:00 Brine returns at surge tank - 100.9bbls (calculated rate - 48b/d). 01:15:00 623.6 72.0 10.5 568.0 70.0 01:27:00 Bled down scrubber pots on differential cell due to pots being full of water. Brine returns at surge tank - 101.6bbls (calculated rate - 67b/d). 01:30:00 01:30:00 72.0 567.8 623.4 70.0 9.7 01:45:00 Brine returns at surge tank - 102.6bbls (calculated rate - 96b/d). 01:45:00 624.7 72.0 568.6 70.0 9.7 02:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 02:00:00 S.G. of produced gas - 0.586. S.G. of produced water - 1.088 @ 58°F. Brine returns at surge tank - 103bbls (calculated rate - 38b/d). 02:00:00 623.8 73.0 568.5 70.0 02:00:00 02:15:00 Brine returns at surge tank - 103.9bbls (calculated rate - 86b/d). 02:15:00 623.6 72.0 568.0 70.0 9.7 02:30:00 Brine returns at surge tank - 104.3bbls (calculated rate - 38b/d). 02:30:00 625.5 72.0 569.3 70.0 9.7 02:45:00 Brine returns at surge tank - 105.2bbls (calculated rate - 86b/d). 02:45:00 625.1 72.0 568.7 70.0 9.7 03:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 109,000ppm. Brine returns at surge tank - 105.8bbls (calculated rate - 58b/d). 03:00:00 Sample No. 1-13 (0.5 ltr water) and 1-14 (4 ltr water) taken from separator water line. 03:00:00 03:00:00 624.5 73.0 568.7 70.0 9.7 03:15:00 Brine returns at surge tank - 106.4bbls (calculated rate - 58b/d). 624.7 70.0 03:15:00 73.0 568.6 9.7 03:30:00 Brine returns at surge tank - 107.4bbls (calculated rate - 96b/d). 03:30:00 625.1 73.0 569.1 70.0 10.1 03:42:00 Raised orifice plate to check Barton differential cell - drained excess water from scrubbers. Brine returns at surge tank - 107.7bbls (calculated rate - 29b/d). 03:45:00 566.5 03:45:00 622.6 73.0 70.0 9.7 03:47:00 Installed 3.500" orifice plate into meter run. 04:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 04:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. 04:00:00 S.G. of produced gas - 0.586. S.G. of produced water - 1.088 @ 58°F. 04:00:00 Brine returns at surge tank - 108.3bbls (calculated rate - 58b/d). 04:00:00 625.1 73.0 569.2 70.0 9.2 04:15:00 Brine returns at surge tank - 109.2bbls (calculated rate - 86b/d). 04:15:00 73.0 625.5 569.4 70.0 10.1 04:30:00 Brine returns at surge tank - 109.8bbls (calculated rate - 58b/d). 04:30:00 625.1 73.0 569.1 71.0 10.1 Brine returns at surge tank - 110bbls (calculated rate - 19b/d). 04:45:00 04:45:00 625.3 73.0 569.4 71.0 9.2 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. 05:00:00 05:00:00 Sample No. 1-15 (0.5 ltr water) and 1-16 (4 ltr water) taken from separator water line. 05:00:00 Brine returns at surge tank - 110.7bbls (calculated rate - 67b/d). 05:00:00 625.1 73.0 569.4 71.0 Brine returns at surge tank - 111.2bbls (calculated rate - 48b/d). 05:15:00 05:15:00 625.7 73.0 569.9 71.0 9.2 Brine returns at surge tank - 111.9bbls (calculated rate - 67b/d). 05:30:00 569.7 71.0 05:30:00 625.7 73.0 9.7

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Client
            OMV Australia Pty Ltd
                                                     Exal Engineer M. Donald / N. Dowdell
Well No. Patricia-2
                                                     Location
                                                                         Ocean Bounty
           Completion
                                                      Start Date
                                                                         30/06 - 01/07/2002
Test No.
Time
                UcP
                           UcT
                                     DcP
                                               DcT
                                                        AnnP
               PSIG
                             °F
                                    PSIG
                                                 °F
                                                        PSIG
hh:mm:ss
04/07/02
05:45:00
          Brine returns at surge tank - 112.5bbls (calculated rate - 58b/d).
05:45:00
               626.5
                          74.0
                                   570.7
                                               71.0
                                                         10.5
06:00:00
          BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
          Brine returns at surge tank - 112.8bbls (calculated rate - 29b/d).
06:00:00
06:00:00
                          73.0
                                   570.3
               625.5
                                               71.0
                                                          9.7
06:15:00
          Brine returns at surge tank - 113.5bbls (calculated rate - 67b/d).
                                               71.0
06:15:00
               626.1
                          73.0
                                   570.3
                                                          9.7
06:28:00 BJ coiled tubing conducted pick up weight test. Brief pressure increase observed at
          choke manifold.
          Brine returns at surge tank - 114bbls (calculated rate - 48b/d).
06:30:00
06:30:00
               646.9
                          74.0
                                   591.6
                                               71.0
                                                         10.1
06:45:00
          Brine returns at surge tank - 114.6bbls (calculated rate - 58b/d).
                                                         10.5
06:45:00
               627.1
                          74.0
                                   571.7
                                               71.0
07:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
          Brine returns at surge tank - 115bbls (calculated rate - 38b/d).
07:00:00
          Sample No. 1-17 (0.5 ltr water) and 1-18 (4 ltr water) taken from separator water line.
07:00:00
               627.1
                          73.0
                                   572.2
                                               70.0
                                                         10.5
07:15:00
          Brine returns at surge tank - 115.5bbls (calculated rate - 48b/d).
07:15:00
               627.7
                          73.0
                                   572.4
                                               70.0
                                                         10.5
07:30:00
          BJ coiled
                      tubing commenced
                                             running in hole to 1365mRT for pressure/temperature
          log #1.
07:30:00
          Brine returns at surge tank - 116.1bbls (calculated rate - 58b/d).
07:30:00
               627.9
                          73.0
                                   572.7
                                               70.0
07:45:00
          Brine returns at surge tank - 116.6bbls (calculated rate - 48b/d).
07:45:00
               627.5
                          73.0
                                   572.8
                                               70.0
                                                          9.2
08:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
08:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S.
08:00:00 S.G. of produced gas - 0.582. S.G. of produced water - 1.085 @ 59°F.
          Brine returns at surge tank - 117.1bbls (calculated rate - 48b/d).
08:00:00
08:00:00
               626.1
                          73.0
                                   571.4
                                               70.0
                                                          9.2
08:15:00
          Brine returns at surge tank - 117.7bbls (calculated rate - 58b/d).
               627.5
                                   573.0
08:15:00
                          73.0
                                               70.0
                                                         10.5
08:19:00 BJ coiled tubing on depth at 1365mRT.
08:30:00
          Brine returns at surge tank - 118bbls (calculated rate - 29b/d).
08:30:00
               630.4
                                   575.4
                                               70.0
                          73.0
08:33:00 BJ coiled tubing commenced pulling out of hole to 892mRT.
08:45:00
          Brine returns at surge tank - 118.4bbls (calculated rate - 38b/d).
                          74.0
08:45:00
               622.0
                                   567.5
                                               71.0
                                                         10.1
          BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
09:00:00
          Brine returns at surge tank - 119bbls (calculated rate - 58b/d).
09:00:00
09:00:00
               616.1
                          73.0
                                   560.5
                                               71.0
                                                         10.5
09:15:00
          Brine returns at surge tank - 119.8bbls (calculated rate - 77b/d).
09:15:00
               624.9
                          73.0
                                               70.0
                                   569.1
                                                         10.1
09:20:00 BJ coiled tubing on depth at 892mRT.
09:30:00
          Brine returns at surge tank - 120.4bbls (calculated rate - 58b/d).
09:30:00
                                               70.0
               629.0
                          73.0
                                   573.8
                                                         10.5
09:45:00
          Brine returns at surge tank - 120.9bbls (calculated rate - 48b/d).
                                               70.0
09:45:00
               629.6
                          73.0
                                   574.5
                                                         10.5
10:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm.
          S.G. of produced gas - 0.582. S.G. of produced water - 1.085 @ 59°F.
          Brine returns at surge tank - 121.5bbls (calculated rate - 58b/d).
10:00:00
10:00:00
                          73.0
                                               70.0
               629.8
                                   574.4
                                                         10.5
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Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Test No. Completion **Start Date** 30/06 - 01/07/2002 **Time UcP UcT DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 04/07/02 10:15:00 Brine returns at surge tank - 121.9bbls (calculated rate - 38b/d). 10:15:00 73.0 574.9 70.0 630.0 10:30:00 Brine returns at surge tank - 122.5bbls (calculated rate - 58b/d). 10:30:00 575.1 629.8 73.0 70.0 11.3 10:45:00 Brine returns at surge tank - 122.9bbls (calculated rate - 38b/d). 10:45:00 630.0 73.0 575.5 70.0 10:55:00 Lifted orifice plate. Closed in well at choke manifold. Inspected junk catcher. Observed small amounts of rock gravel. Samples supplied to 11:00:00 OMV representative. Total Brine returns at surge tank - 123.4bbls. 11:00:00 11:00:00 958.9 79.0 2.1 11.7 64.0 11:15:00 963.8 66.0 1.0 65.0 10.5 11:30:00 965.7 61.0 1.8 63.0 8.0 967.1 59.0 62.0 8.0 11:45:00 1.4 12:00:00 968.1 57.0 1.0 61.0 7.6 12:15:00 969.1 57.0 1.4 60.0 7.2 12:30:00 969.7 56.0 1.4 59.0 6.4 12:45:00 970.4 56.0 1.4 59.0 6.4 13:00:00 970.8 56.0 1.4 59.0 6.0 13:15:00 971.4 57.0 1.1 59.0 6.4 13:30:00 972.2 57.0 1.8 59.0 6.4 13:45:00 972.6 57.0 1.9 59.0 6.0 59.0 14:00:00 973.0 57.0 1.4 6.0 14:15:00 973.4 57.0 1.5 59.0 6.0 14:30:00 973.2 57.0 59.0 6.0 1.4 1.5 14:45:00 974.2 57.0 59.0 5.6 975.1 1.9 6.0 15:00:00 57.0 58.0 15:15:00 974.9 56.0 1.6 58.0 6.4 Well opened to Aft flare boom via 16/64" adjustable choke. 15:30:00 15:30:00 975.5 55.0 0.6 6.4 57.0 Increased adjustable choke to 20/64". 15:31:00 15:32:00 Increased adjustable choke to 24/64". Increased adjustable choke to 28/64". 15:34:00 15:35:00 Increased adjustable choke to 32/64". 15:36:00 Diverted flow via 32/64" fixed choke. Diverted flow via test separator. 15:45:00 23.0 960.1 60.0 345.6 6.8 16:00:00 Diverted flow via 36/64" adjustable choke. 6.4 16:00:00 958.7 61.0 263.9 25.0 Increased adjustable choke to 40/64". Ceased methanol injection upstream of choke 16:01:00 manifold. 16:03:00 Increased adjustable choke to 44/64". Diverted flow via 40/64" fixed choke. 16:07:00 16:15:00 943.8 64.0 379.3 32.0 7.2 16:30:00 943.2 65.0 384.9 7.2 34.0 35.0 16:45:00 942.6 66.0 384.4 8.0 17:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 110,000ppm. S.G. of produced gas - 0.582. S.G. of produced water - 1.085 @ 59°F. 17:00:00 942.3 17:00:00 66.0 383.4 35.0 8.8 17:15:00 942.3 67.0 9.2 383.5 36.0 17:30:00 Exal commenced taking 1st PVT sample No. 1-19 (gas - bottle No. 2357-C1-F). 17:30:00 942.3 66.0 385.2 36.0 10.1 17:45:00 Completed taking 1st PVT sample.

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion **Start Date** 30/06 - 01/07/2002 Test No. **Time UcP UcT DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 04/07/02 17:45:00 Exal commenced taking 2nd PVT sample No. 1-20 (gas - bottle No. 3416-C1-F). 17:45:00 942.3 66.0 36.0 384.5 18:00:00 Completed taking 2nd PVT sample. BS&W showed dry gas. 18:00:00 18:00:00 S.G. of produced gas - 0.584. 18:00:00 941.7 66.0 383.5 36.0 10.9 36.0 11.7 18:15:00 941.3 67.0 384.8 18:30:00 36.0 12.5 941.3 66.0 383.2 18:45:00 940.9 66.0 382.4 35.0 12.9 19:00:00 BS&W showed dry gas. 940.7 67.0 384.1 36.0 12.5 19:00:00 19:15:00 938.9 67.0 384.5 37.0 12.9 19:30:00 938.5 67.0 383.8 37.0 12.5 938.9 67.0 383.9 37.0 13.3 19:45:00 20:00:00 Raised orifice plate. Diverted flow through 44/64" adjustable choke. 20:00:00 20:00:00 938.5 67.0 378.3 36.0 13.8 20:01:00 Increased adjustable choke to 48/64". 20:03:00 Increased adjustable choke to 50/64". 20:05:00 Increased adjustable choke to 56/64". 20:07:00 Increased adjustable choke to 60/64". 20:11:00 Increased adjustable choke to 62/64". 20:12:00 Increased adjustable choke to 66/64". 20:15:00 Brine returns at surge tank - 124.2bbls (calculated rate - 77b/d). 20:15:00 778.4 69.0 415.6 49.0 13.8 20:18:00 Diverted flow via 64/64" fixed choke. 20:23:00 Installed 3.000" orifice plate into meter run. 20:25:00 Raised orifice plate. 20:28:00 Installed 3.25" orifice plate into meter run. 20:30:00 Brine returns at surge tank - 125bbls (calculated rate - 77b/d). 20:30:00 71.0 799.9 432.7 52.0 15.0 72.0 52.0 15.4 20:45:00 798.6 424.3 21:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. S.G. of produced gas - 0.586. 21:00:00 798.8 21:00:00 73.0 425.0 53.0 14.6 21:15:00 799.7 426.0 54.0 73.0 14.6 21:30:00 Brine returns at surge tank - 125.4bbls (calculated rate - 38b/d). 21:30:00 801.7 74.0 426.1 54.0 14.2 Brine returns at surge tank - 126.2bbls (calculated rate - 77b/d). 21:45:00 74.0 426.2 14.6 21:45:00 800.3 54.0 22:00:00 Brine returns at surge tank - 126.7bbls (calculated rate - 48b/d). 22:00:00 800.9 74.0 426.4 55.0 14.2 22:15:00 801.1 75.0 425.5 55.0 13.8 22:30:00 801.7 75.0 426.2 55.0 13.8 75.0 22:45:00 801.1 425.8 56.0 13.8 23:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 23:00:00 Draeger showed 1.5 % CO2 by volume & 0 ppm H2S. Exal commenced taking 3rd PVT sample No. 1-21 (gas - bottle No. 0687-C1-F). 23:00:00 Sample No. 1-22 (0.5 ltr water) and 1-23 (4 ltr water) taken from separator water line. 23:00:00 23:00:00 Brine returns at surge tank - 127.2bbls (calculated rate - 48b/d). 23:00:00 801.1 56.0 75.0 425.0 23:15:00 Completed taking 3rd PVT sample.

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion **Start Date** 30/06 - 01/07/2002 Test No. **Time UcP UcT DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 04/07/02 23:15:00 Brine returns at surge tank - 127.4bbls (calculated rate - 19b/d). 23:15:00 801.9 76.0 424.9 56.0 12.9 23:30:00 Brine returns at surge tank - 127.5bbls (calculated rate - 10b/d). 23:30:00 800.7 76.0 424.9 12.9 56.0 23:45:00 799.7 76.0 424.1 56.0 12.9 05/07/02 00:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 00:00:00 S.G. of produced gas - 0.586. 00:00:00 S.G. of produced water - 1.083 @ 52°F. 00:00:00 Brine returns at surge tank - 128bbls (calculated rate - 48b/d). 00:00:00 800.1 76.0 424.4 56.0 13.3 00:15:00 Brine returns at surge tank - 128.2bbls (calculated rate - 19b/d). 00:15:00 798.4 423.5 56.0 13.3 76.0 00:30:00 Brine returns at surge tank - 128.7bbls (calculated rate - 48b/d). 00:30:00 797.0 76.0 421.6 57.0 12.1 00:45:00 Brine returns at surge tank - 129.1bbls (calculated rate - 38b/d). 00:45:00 797.0 76.0 422.2 57.0 11.7 01:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 92,000ppm. 01:00:00 S.G. of produced gas - 0.586. 01:00:00 S.G. of produced water - 1.080 @ 54°F. 01:00:00 Brine returns at surge tank - 129.3bbls (calculated rate - 19b/d). 01:00:00 796.6 76.0 423.3 57.0 12.1 01:15:00 Brine returns at surge tank - 129.4bbls (calculated rate - 10b/d). 57.0 01:15:00 797.2 76.0 422.5 12.5 01:30:00 Brine returns at surge tank - 129.8bbls (calculated rate - 38b/d). 01:30:00 797.0 76.0 422.0 57.0 12.1 01:45:00 Brine returns at surge tank - 130.2bbls (calculated rate - 38b/d). 01:45:00 795.8 76.0 421.5 57.0 12.1 Raised orifice plate. 01:59:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 96,000ppm. 02:00:00 Diverted flow through 66/64" adjustable choke. 02:00:00 02:00:00 76.0 795.8 417.8 57.0 12.1 02:01:00 Increased adjustable choke to 70/64" 02:02:00 Increased adjustable choke to 74/64". 02:03:00 Increased adjustable choke to 78/64". 02:04:00 Increased adjustable choke to 82/64". 02:05:00 Increased adjustable choke to 86/64". 02:07:00 Increased adjustable choke to 90/64". 02:08:00 Increased adjustable choke to 94/64". 02:09:00 Increased adjustable choke to 98/64". 02:10:00 Increased adjustable choke to 102/64". 02:11:00 Increased adjustable choke to 106/64". 02:13:00 Increased adjustable choke to 110/64". 02:15:00 637.3 74.0 537.8 69.0 11.3 02:17:00 Increased adjustable choke to 128/64". 02:19:00 Opened bypass valve on choke manifold. Diverted flow via choke manifold bypass 3" line. 02:20:00 02:24:00 Installed 3.750" orifice plate into meter run. 02:30:00 Brine returns at surge tank - 131.5bbls (calculated rate - 125b/d). 02:30:00 620.2 74.0 564.4 72.0 11.3 02:45:00 Brine returns at surge tank - 132.1bbls (calculated rate - 58b/d).

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion **Start Date** 30/06 - 01/07/2002 Test No. **Time UcP** UcT **DcP DcT AnnP** °F **PSIG PSIG** °F **PSIG** hh:mm:ss 05/07/02 72.0 02:45:00 624.9 74.0 569.3 11.3 03:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. S.G. of produced gas - 0.586. S.G. of produced water - 1.082 @ 58°F. 03:00:00 Draeger showed 1.3 % CO2 by volume & 0 ppm H2S. Brine returns at surge tank - 132.9bbls (calculated rate - 77b/d). 03:00:00 03:00:00 625.7 75.0 570.2 72.0 10.1 03:15:00 Brine returns at surge tank - 133.5bbls (calculated rate - 58b/d). 03:15:00 570.5 625.7 75.0 72.0 10.1 03:30:00 Brine returns at surge tank - 134.3bbls (calculated rate - 77b/d). 03:30:00 627.3 75.0 571.6 72.0 10.5 03:45:00 Brine returns at surge tank - 134.5bbls (calculated rate - 19b/d). 03:45:00 627.7 75.0 572.4 72.0 10.1 04:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. S.G. of produced gas - 0.586. S.G. of produced water - 1.078 @ 61°F. 04:00:00 04:00:00 Brine returns at surge tank - 134.8bbls (calculated rate - 29b/d). 04:00:00 629.8 75.0 574.7 73.0 10.5 04:15:00 Brine returns at surge tank - 135.1bbls (calculated rate - 29b/d). 04:15:00 630.0 75.0 574.6 73.0 10.9 04:30:00 Brine returns at surge tank - 135.4bbls (calculated rate - 29b/d). 04:30:00 630.2 75.0 575.1 72.0 10.5 04:45:00 Brine returns at surge tank - 135.9bbls (calculated rate - 48b/d). 04:45:00 630.8 75.0 575.8 73.0 10.1 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 05:00:00 05:00:00 Brine returns at surge tank - 136.3bbls (calculated rate - 38b/d). 05:00:00 75.0 576.3 73.0 631.2 10.9 05:15:00 Brine returns at surge tank - 136.9bbls (calculated rate - 58b/d). 576.2 05:15:00 75.0 10.5 631.2 73.0 05:30:00 Brine returns at surge tank - 137.3bbls (calculated rate - 38b/d). 05:30:00 631.4 75.0 576.5 73.0 10.5 05:45:00 Brine returns at surge tank - 137.8bbls (calculated rate - 48b/d). 75.0 577.0 73.0 10.5 05:45:00 631.8 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 99,000ppm. 06:00:00 06:00:00 Brine returns at surge tank - 138.3bbls (calculated rate - 38b/d). 06:00:00 632.0 76.0 577.0 73.0 10.5 06:15:00 Brine returns at surge tank - 138.8bbls (calculated rate - 48b/d). 06:15:00 632.0 76.0 577.0 73.0 10.1 06:30:00 Brine returns at surge tank - 139.1bbls (calculated rate - 29b/d). 06:30:00 632.2 76.0 577.3 73.0 10.5 06:45:00 Brine returns at surge tank - 139.5bbls (calculated rate - 38b/d). 76.0 577.0 73.0 10.1 06:45:00 631.4 BS&W = 100% brine pH = 6 and Chloride contents from refractometer 100.000ppm. 07:00:00 S.G. of produced gas - 0.586. S.G. of produced water - 1.082 @ 63°F. 07:00:00 07:00:00 Brine returns at surge tank - 139.8bbls (calculated rate - 29b/d). 07:00:00 631.6 76.0 577.1 73.0 10.1 07:15:00 Brine returns at surge tank - 140bbls (calculated rate - 19b/d). 577.0 07:15:00 76.0 631.8 73.0 12.5 07:30:00 Brine returns at surge tank - 142bbls (calculated rate - 19b/d). 07:30:00 632.6 76.0 577.8 73.0 12.9 Brine returns at surge tank - 142.4bbls (calculated rate - 38b/d). 07:45:00 07:45:00 632.8 76.0 577.7 73.0 13.3 08:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 08:00:00 Brine returns at surge tank - 142.8bbls (calculated rate - 38b/d).

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion **Start Date** 30/06 - 01/07/2002 Test No. **UcP Time UcT DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 05/07/02 12.9 08:00:00 633.0 76.0 577.9 73.0 08:15:00 Brine returns at surge tank - 143.2bbls (calculated rate - 38b/d). 08:15:00 632.8 76.0 577.8 73.0 12.1 08:30:00 Brine returns at surge tank - 143.5bbls (calculated rate - 29b/d). 76.0 577.5 12.1 08:30:00 632.2 73.0 08:45:00 Brine returns at surge tank - 144.1bbls (calculated rate - 58b/d). 08:45:00 631.4 76.0 577.2 73.0 12.1 09:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 09:00:00 S.G. of produced gas - 0.582. S.G. of produced water - 1.082 @ 63°F. Brine returns at surge tank - 144.6bbls (calculated rate - 48b/d). 09:00:00 09:00:00 632.8 76.0 577.8 73.0 12.5 09:15:00 Brine returns at surge tank - 144.8bbls (calculated rate - 19b/d). 09:15:00 632.6 76.0 577.6 73.0 11.7 09:30:00 Brine returns at surge tank - 145.2bbls (calculated rate - 38b/d). 09:30:00 632.6 76.0 577.6 74.0 11.3 09:45:00 Brine returns at surge tank - 145.7bbls (calculated rate - 19b/d). 09:45:00 633.0 76.0 577.8 73.0 11.7 09:55:00 Sample No. 1-24 (0.5 ltr water) taken from separator water line. 10:00:00 BS&W = 100% brine pH = 7 and Chloride contents from refractometer 100,000ppm. 10:00:00 Well shut in at choke manifold. 580.0 10:00:00 641.4 75.0 74.0 15.8 960.5 69.0 12.1 10:15:00 73.0 0.5 67.0 0.2 66.0 11.7 10:30:00 963.4 10:45:00 964.4 63.0 0.2 64.0 11.3 11:00:00 964.0 61.0 0.0 63.0 11.3 967.5 60.0 0.2 10.9 11:15:00 62.0 967.7 59.0 0.4 61.0 10.5 11:30:00 11:45:00 967.1 59.0 0.1 60.0 10.9 969.3 60.0 0.0 59.0 10.9 12:00:00 12:15:00 970.2 60.0 0.0 59.0 10.9 969.7 60.0 0.0 59.0 10.5 12:30:00 61.0 0.0 59.0 12:45:00 969.5 10.1 13:00:00 969.9 61.0 0.0 59.0 10.9 13:15:00 971.4 61.0 0.0 59.0 10.1 13:24:00 BJ coiled tubing commenced pulling out of hole. 61.0 0.9 10.1 13:30:00 972.2 60.0 13:45:00 971.6 61.0 1.0 60.0 10.1 972.0 61.0 61.0 10.9 14:00:00 0.3 14:15:00 971.0 61.0 0.0 61.0 10.9 972.8 14:30:00 61.0 0.5 61.0 10.9 14:39:00 BJ coiled tubing at surface. Closed TRSCSSV. Slowly bled off well head pressure to 775psi. 14:45:00 974.9 14:45:00 61.0 61.0 1.9 10.9 14:47:00 Wellhead pressure at 775psi. Commenced inflow test of TRSCSSV. 15:00:00 813.4 60.0 0.6 52.0 10.1 15:10:00 Closed SSLV. Bled off pressure above SSLV via choke manifold to aft flare boom. 15:10:00 15:15:00 15.5 51.0 10.5 46.0 11.3 15:20:00 Completed bleeding off pressure. 15:22:00 Closed swab valve and master valve on Expro flowhead. 15:30:00 BJ coiled tubing commenced rigging down. 15:30:00 3.4 56.0 1.2 10.5 54.0

Client **OMV Australia Pty Ltd** Exal Engineer M. Donald / N. Dowdell Well No. Patricia-2 Location Ocean Bounty Completion **Start Date** 30/06 - 01/07/2002 Test No. **Time UcP** UcT **DcP DcT AnnP PSIG** °F **PSIG** °F **PSIG** hh:mm:ss 05/07/02 15:45:00 58.0 0.6 55.0 10.5 3.8 16:00:00 2.8 58.0 0.5 56.0 10.9 58.0 57.0 10.5 16:15:00 3.0 0.2 57.0 16:30:00 2.4 58.0 0.3 10.9 10.1 2.2 57.0 0.2 58.0 16:45:00 17:00:00 3.4 57.0 1.0 57.0 10.1 17:15:00 1.6 55.0 0.3 56.0 10.9 17:30:00 BJ coiled tubing completed rigging down. Expro wireline commenced rigging up. 54.0 17:30:00 0.3 56.0 10.1 1.8 54.0 0.3 55.0 10.9 17:45:00 2.4 18:00:00 2.0 54.0 0.0 55.0 10.1 18:15:00 1.8 54.0 0.0 55.0 10.1 18:22:00 Opened swab valve and master valve on Expro flowhead. Opened lo-torque valve on kill line. 18:27:00 18:30:00 Locked open master valve on flowhead. 18:30:00 2.6 54.0 0.0 55.0 10.5 18:43:00 Commenced pressure testing Expro wireline lubricator against SSLV to 3,000psi. 18:45:00 2220.5 56.0 0.6 56.0 10.5 18:56:00 Good test. Bled off pressure to 980psi via choke manifold. Opened SSLV. 18:57:00 Expro wireline commenced running in hole with brush. 19:00:00 946.8 55.0 0.6 57.0 19:07:00 Expro wireline at surface. Closed SSLV and master valve on flowhead. 19:10:00 19:15:00 0.7 9.7 952.0 55.0 57.0 19:17:00 Bled off pressure via choke manifold. Broke out lubricator. Inspected toolstring - brush not present. 19:30:00 Made up fishing tool to Expro wireline toolstring. Stabbed lubricator. 19:30:00 2.2 54.0 0.6 56.0 9.7 54.0 19:45:00 2.0 0.0 56.0 10.1 19:52:00 Commenced pressuring up above flowhead master valve to 980psi. Opened SSLV and master valve on flowhead. 20:00:00 20:00:00 961.4 56.0 0.0 56.0 10.1 20:06:00 Expro wireline commenced running in hole to fish brush. Expro wireline at surface. 20:10:00 20:15:00 988.3 55.0 0.0 56.0 9.2 Closed SSLV and master valve on flowhead. 20:16:00 20:20:00 Bled off pressure vai choke manifold. Broke out lubricator. Removed brush and fishing tool. 20:30:00 0.3 2.2 54.0 56.0 9.2 20:45:00 Installed SSR plug onto wireline toolstring. Stabbed lubricator. 20:45:00 55.0 0.2 56.0 10.1 Pressured up above master valve on flowhead to 980psi. Opened SSLV and master 21:00:00 valve. 21:00:00 979.8 56.0 0.0 56.0 10.5 21:05:00 Expro wireline commenced running in hole to set SSR plug in tubing hanger. 21:08:00 Expro wireline on depth with SSR plug. Commenced gradually pressuring up above SSR plug to 3,000psi to set. 1222.0 9.7 21:15:00 55.0 0.1 56.0 Wellhead pressure at 3,000psi. 21:25:00 21:30:00 2972.4 55.0 56.0 0.1 21:35:00 Expro wireline commenced hand jarring on plug to set. 21:41:00 Expro wireline sheared off plug. Commenced pulling out of hole.

Client	OMV Au	OMV Australia Pty Ltd					er M. I	M. Donald / N. Dowdell				
Well No	. Patricia-	2			Location	1	Oce	ean Bounty				
Test No	. Complet	ion			Start Da	te	30/0	06 - 01/07/20	02			
Time hh:mm:s	UcP s PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG							
05/07/02 21:45:00 21:45:00	Expro wirelin 2981.3	e at surface 55.0	e. 0.3	56.0	9.7							
21:47:00		•	_	•					in flour	tooting		
21:58:00	plug.	choke ma	ariiioid.	vveiirieau	pressure	aı	zoopsi.	Commenced	in-flow	testing		
22:00:00	233.6	48.0	0.2	36.0	9.7							
22:15:00	241.8	52.0	0.2	41.0	9.7							
22:17:00					g to zero via	chok	ke manifo	old.				
22:27:00	Expro wirelin	e commend	ed riggin	g down.								
22:30:00	End of Comp	letion Test.										





# **Separator Data Listing**

Client OMV Australia Pty Ltd

Well No. Patricia-2

Test No. Completion

**Location** Ocean Bounty

**Start Date** 30/06 - 01/07/2002

**Country** Australia

Field VIC/L21

Job Number J02/188

Formation Gurnard

Exal Engineer M. Donald / N. Dowdell

Client Engineer A. Ion

Perforations n/a

Page 1

Client **OMV Australia Pty Ltd Data Type EDGE Data Comments** GasP vs GasT - Cleanup Flow Well No. Patricia-2 EXPRO GROUP Test No. Completion -Location Ocean Bounty 450.0 70.0 65.0 400.0 60.0 350.0 55.0 300.0 GasP - Pressure (PSIG) 50.0 250.0 200.0 45.0 150.0 40.0 100.0 35.0 50.0 30.0

21:00:00

03/07/02

Time (hh:mm:ss)

01:40:00

04/07/02

06:20:00

04/07/02

0.0 \_\_\_\_

03/07/02

11:40:00

03/07/02

16:20:00

03/07/02

GasT - Temperature (°F)

25.0

11:00:00

04/07/02

AXAL

Client OMV Australia Pty Ltd

Well No. Patricia-2
Test No. Completion

-Location Ocean Bounty

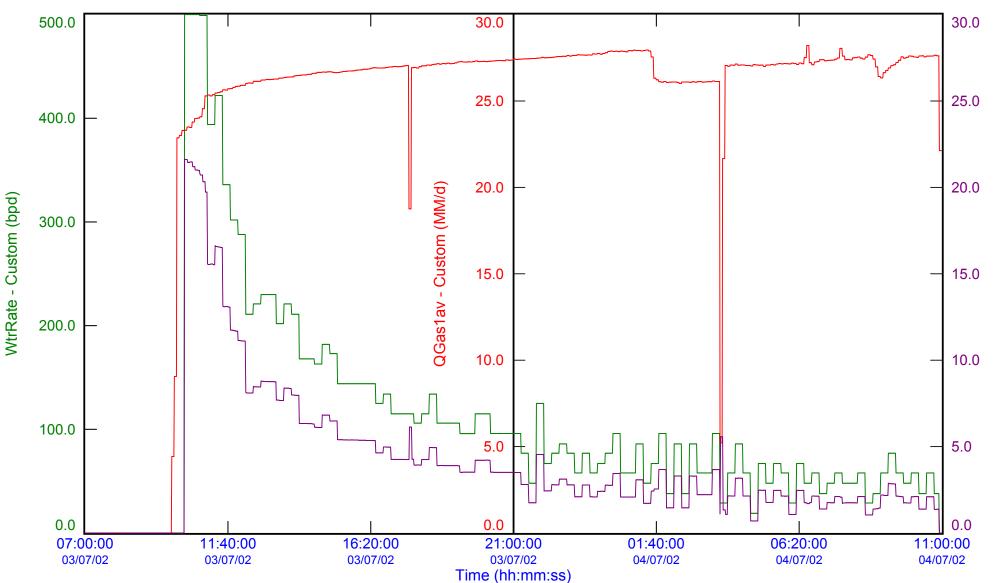
Data Type EDGE Data

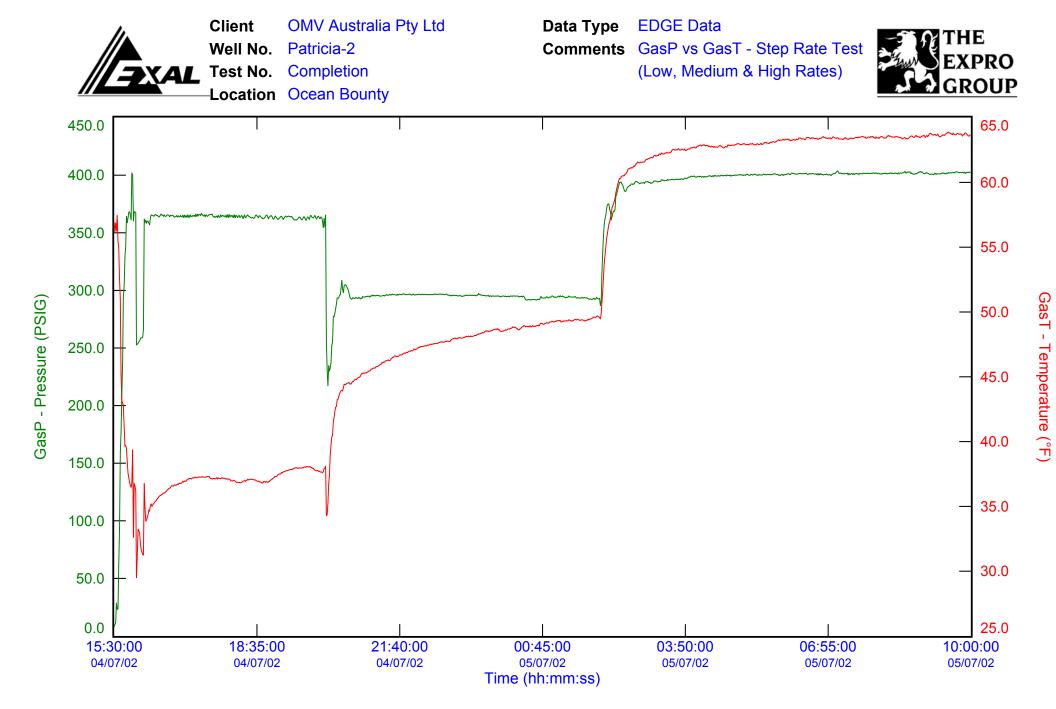
Comments WaterRate / GasRate / WGR

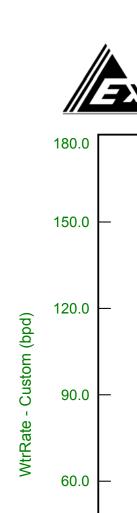
- Cleanup Flow



WGR - Custom (b/MM)







Client **OMV Australia Pty Ltd** 

Well No. Patricia-2 Test No. Completion -Location Ocean Bounty

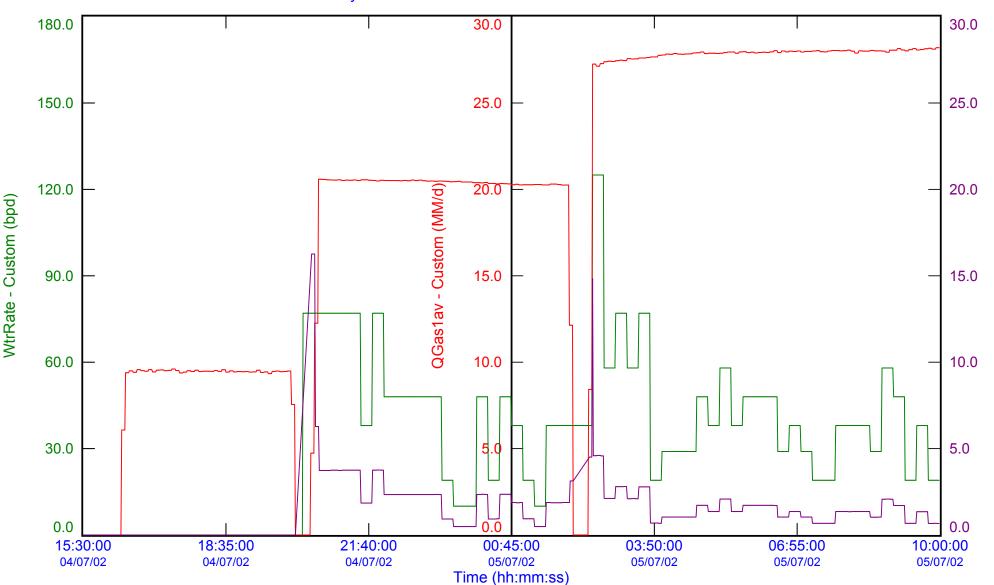
**EDGE Data Data Type** 

Comments WaterRate / GasRate / WGR

- StepRate (Low, Medium & High



WGR - Custom (b/MM)



Client	OMV Au	istralia P	ty Ltd				Exa	al Engine	er M. D	onald / N	I. Dowde	ell	
Well No.	Patricia-	2					Loc	cation	Ocea	an Bount	y		
Test No.	Complet	ion					Sta	rt Date	30/0	6 - 01/07	/2002		
Time hh:mm:ss	Choke 64th	Orifice ins	UcP PSIG	GasP PSIG	GasT °F	GasD INWG	CondR bpd	CondCum bbls	WtrRate bpd	WtrCum bbls	QGas1av MM/d	Gas1Cum MMcf	WGR b/MM
03/07/02 06:00:00	0	0.000	759.2	2.0	54.4	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
06:10:00	0	0.000	759.0	2.3	54.5	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
06:20:00	Ō	0.000	759.0	2.2	54.5	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
06:30:00	0	0.000	759.6	2.3	54.5	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
06:40:00	0	0.000	758.4	2.7	54.5	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
06:50:00	0	0.000	757.5	2.3	54.6	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
07:00:00	0	0.000	757.3	2.2	54.6	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
07:10:00	0	0.000	757.3	2.3	54.5	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
07:20:00	64	0.000	463.4	2.6	54.6	0.1	0.0	0.0	0.0	0.0	0.00	0.000	
07:30:00	64	0.000	769.8	2.3	54.5	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
07:40:00	76	0.000	758.6	2.5	54.7	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
07:50:00	80	0.000	840.5	2.0	54.7	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
08:00:00	128	0.000	633.0	2.3	54.8	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
08:10:00	128	0.000	643.3	2.3	55.0	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
08:20:00	128	0.000	650.4	2.3	55.1	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
08:30:00	128	0.000	637.8	2.3	55.2	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
08:40:00	128	0.000	652.1	2.3	55.3	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
08:50:00	128	0.000	658.2	2.3	55.2	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
09:00:00	128	0.000	641.8	2.4	55.3	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
09:10:00	128	0.000	635.3	2.3	55.3	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
09:20:00	128	0.000	632.2	2.3	55.4	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
09:30:00	128	0.000	651.9	2.3	55.5	0.0	0.0	0.0	0.0	0.0	0.00	0.000	
09:40:00	128	0.000	630.8	336.5	68.6	15.5	0.0	0.0	0.0	0.0	0.00	0.000	
09:50:00	128	3.750	636.5	332.8	63.7	134.6	0.0	0.0	0.0	0.0	4.43	0.020	
10:00:00	128	3.500	627.7	338.6	63.2	199.8	0.0	0.0	0.0	0.0	22.87	0.130	0.0
10:10:00	128	3.500	630.4	339.9	63.2	203.3	0.0	0.0	0.0	0.0	23.30	0.290	0.0
10:20:00	128	3.500	628.3	344.0	63.0	209.0	0.0	0.0	504.0	5.3	23.50	0.450	21.6
10:30:00	128	3.500	634.3	347.8	62.9	211.4	0.0	0.0	504.0	10.5	23.78	0.610	21.5
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Client	OMV Au	istralia P	ty Ltd				Exa	al Engine	er M. D	onald / N	I. Dowde	ell	
Well No.	Patricia-	2					Loc	cation	Ocea	an Bount	у		
Test No.	Complet	ion					Sta	rt Date	30/06	6 - 01/07	//2002		
Time	Choke	Orifice	UcP	GasP	GasT	GasD	CondR	CondCum	WtrRate	WtrCum	QGas1av	Gas1Cum	WGR
hh:mm:ss	64th	ins	PSIG	PSIG	°F	INWG	bpd	bbls	bpd	bbls	MM/d	MMcf	b/MM
03/07/02													
11:10:00	128	3.500	630.2	352.9	61.7	232.6	0.0	0.0	394.0	19.8	25.37	1.300	15.6
11:20:00	128	3.500	632.6	354.5	61.4	233.4	0.0	0.0	422.0	24.2	25.49	1.480	16.6
11:30:00	128	3.500	632.2	357.2	61.0	234.4	0.0	0.0	336.0	27.7	25.65	1.660	13.2
11:40:00	128	3.500	632.6	357.3	61.0	235.5	0.0	0.0	336.0	27.7	25.71	1.830	13.1
11:50:00	128	3.500	633.9	358.8	60.9	237.3	0.0	0.0	302.0	30.9	25.79	2.010	11.7
12:00:00	128	3.500	632.6	359.7	61.0	237.5	0.0	0.0	288.0	33.9	25.86	2.190	11.1
12:10:00	128	3.500	633.9	360.5	61.2	238.8	0.0	0.0	288.0	33.9	25.91	2.370	11.1
12:20:00	128	3.500	633.9	361.9	61.1	239.1	0.0	0.0	211.0	36.1	26.05	2.550	8.1
12:30:00	128	3.500	634.5	362.8	61.1	239.8	0.0	0.0	221.0	38.4	26.14	2.730	8.5
12:40:00	128	3.500	634.3	363.4	61.3	240.0	0.0	0.0	221.0	38.4	26.14	2.920	8.5
12:50:00	128	3.500	634.1	363.3	61.3	240.5	0.0	0.0	230.0	40.8	26.22	3.100	8.8
13:00:00	128	3.500	635.5	363.8	61.4	241.3	0.0	0.0	230.0	43.4	26.24	3.280	8.8
13:10:00	128	3.500	635.5	364.8	61.5	241.5	0.0	0.0	230.0	43.4	26.27	3.460	8.8
13:20:00	128	3.500	634.9	366.5	61.5	241.4	0.0	0.0	202.0	45.5	26.32	3.650	7.7
13:30:00	128	3.500	635.3	367.0	61.4	241.7	0.0	0.0	221.0	47.8	26.37	3.830	8.4
13:40:00	128	3.500	636.1	366.9	61.4	242.3	0.0	0.0	221.0	47.8	26.39	4.010	8.4
13:50:00	128	3.500	635.5	368.6	61.4	243.2	0.0	0.0	211.0	50.0	26.46	4.190	8.0
14:00:00	128	3.500	635.7	368.6	61.4	243.1	0.0	0.0	168.0	51.8	26.49	4.380	6.3
14:10:00	128	3.500	636.5	368.6	61.4	242.3	0.0	0.0	168.0	51.8	26.51	4.560	6.3
14:20:00	128	3.500	637.3	369.7	61.4	243.6	0.0	0.0	168.0	53.5	26.55	4.750	6.3
14:30:00	128	3.500	636.9	370.7	61.5	244.3	0.0	0.0	163.0	55.2	26.61	4.930	6.1
14:40:00	128	3.500	637.8	371.2	61.6	245.0	0.0	0.0	163.0	55.2	26.66	5.120	6.1
14:50:00	128	3.500	636.5	370.8	61.7	244.9	0.0	0.0	182.0	57.1	26.67	5.300	6.8
15:00:00	128	3.500	638.2	372.0	61.7	245.1	0.0	0.0	173.0	58.9	26.69	5.490	6.5
15:10:00	128	3.500	638.0	372.2	61.7	245.5	0.0	0.0	173.0	58.9	26.64	5.670	6.5
15:20:00	128	3.500	637.5	372.4	61.6	245.3	0.0	0.0	144.0	60.4	26.68	5.860	5.4
15:30:00	128	3.500	638.0	373.0	61.6	246.0	0.0	0.0	144.0	61.9	26.72	6.040	5.4
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Client	OMV Au	ıstralia P	ty Ltd				Exa	al Engine	er M. D	onald / N	I. Dowde	ell	
Well No.	Patricia-	2					Loc	cation	Ocea	an Bount	y		
Test No.	Complet	tion					Sta	rt Date	30/0	6 - 01/07	/2002		
Time	Choke	Orifice	UcP	GasP	GasT	GasD	CondR	CondCum	WtrRate	WtrCum	QGas1av	Gas1Cum	WGR
hh:mm:ss	64th	ins	PSIG	PSIG	°F	INWG	bpd	bbls	bpd	bbls	MM/d	MMcf	b/MM
03/07/02													
16:20:00	128	3.500	638.8	374.7	61.7	247.6	0.0	0.0	144.0	66.4	26.90	6.970	5.4
16:30:00	128	3.500	638.2	374.7	61.6	247.7	0.0	0.0	125.0	67.7	26.92	7.160	4.6
16:40:00	128	3.500	638.6	374.7	61.7	246.7	0.0	0.0	125.0	67.7	26.91	7.350	4.6
16:50:00	128	3.500	638.8	375.8	61.7	247.6	0.0	0.0	134.0	69.1	26.94	7.540	5.0
17:00:00	128	3.500	638.8	375.7	61.8	247.7	0.0	0.0	115.0	70.3	26.98	7.720	4.3
17:10:00	128	3.500	638.8	376.7	61.9	247.5	0.0	0.0	115.0	70.3	26.99	7.910	4.3
17:20:00	128	3.500	639.0	376.4	62.0	249.0	0.0	0.0	115.0	71.5	27.01	8.100	4.3
17:30:00	128	3.500	638.8	377.5	62.0	249.3	0.0	0.0	115.0	72.7	27.06	8.290	4.3
17:40:00	192	3.500	620.0	386.8	62.8	240.6	0.0	0.0	115.0	72.7	26.93	8.440	6.1
17:50:00	192	3.500	618.7	386.7	62.9	241.5	0.0	0.0	106.0	73.8	26.91	8.630	3.9
18:00:00	192	3.500	620.6	387.4	62.9	242.6	0.0	0.0	115.0	75.0	27.04	8.820	4.3
18:10:00	192	3.500	619.5	387.8	62.9	243.1	0.0	0.0	115.0	75.0	27.08	9.010	4.3
18:20:00	192	3.500	620.2	388.4	63.0	243.0	0.0	0.0	134.0	76.4	27.11	9.190	5.0
18:30:00	192	3.500	620.0	389.1	63.1	243.7	0.0	0.0	106.0	77.5	27.16	9.380	3.9
18:40:00	192	3.500	620.6	389.2	63.1	243.3	0.0	0.0	106.0	77.5	27.17	9.570	3.9
18:50:00	192	3.500	621.0	389.2	63.1	243.9	0.0	0.0	106.0	78.6	27.19	9.760	3.9
19:00:00	192	3.500	620.4	388.9	63.1	244.1	0.0	0.0	106.0	79.7	27.17	9.950	3.9
19:10:00	192	3.500	620.4	389.9	62.9	245.1	0.0	0.0	106.0	79.7	27.26	10.140	3.9
19:20:00	192	3.500	620.6	389.5	62.9	244.1	0.0	0.0	95.9	80.7	27.26	10.330	3.5
19:30:00	192	3.500	620.8	389.6	62.8	245.3	0.0	0.0	95.9	81.7	27.27	10.520	3.5
19:40:00	192	3.500	621.8	389.8	62.8	244.0	0.0	0.0	95.9	81.7	27.28	10.710	3.5
19:50:00	192	3.500	621.4	390.1	62.9	245.3	0.0	0.0	115.0	82.9	27.28	10.900	4.2
20:00:00	192	3.500	621.8	390.1	62.9	244.7	0.0	0.0	115.0	84.1	27.30	11.090	4.2
20:10:00	192	3.500	621.8	391.6	62.8	246.2	0.0	0.0	115.0	84.1	27.30	11.270	4.2
20:20:00	192	3.500	621.8	391.3	62.8	245.8	0.0	0.0	96.0	85.1	27.32	11.460	3.5
20:30:00	192	3.500	621.2	391.4	62.7	246.4	0.0	0.0	96.0	86.1	27.35	11.650	3.5

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Client	OMV Au	stralia P	ty Ltd				Exa	al Engine	er M. D	onald / N	I. Dowde	ell		
Well No.	Patricia-	2					Loc	cation	Ocea	an Bount	y			
Test No.	Complet	ion					Sta	rt Date	30/0	6 - 01/07	/2002			
Time hh:mm:ss	Choke 64th	Orifice ins	UcP PSIG	GasP PSIG	GasT °F	GasD INWG	CondR bpd	CondCum bbls	WtrRate bpd	WtrCum bbls	QGas1av MM/d	Gas1Cum MMcf	WGR b/MM	
03/07/02 21:30:00	192	3.500	621.8	391.5	62.0	247.1	0.0	0.0	48.0	89.4	27.45	12.800	1.8	
21:40:00	192	3.500	621.6	391.6	61.8	248.8	0.0	0.0	48.0	89.4	27.45	12.800	1.8	
21:50:00	192	3.500	621.6	391.7	61.7	249.0	0.0	0.0	125.0	90.7	27.49	13.180	4.5	
22:00:00	192	3.500	622.2	392.2	61.7	249.8	0.0	0.0	67.0	91.4	27.50	13.370	2.4	
22:10:00	192	3.500	622.6	393.0	61.5	248.0	0.0	0.0	67.0	91.4	27.51	13.560	2.4	
22:20:00	192	3.500	622.0	393.0	61.4	248.9	0.0	0.0	77.0	92.2	27.55	13.750	2.8	
22:30:00	192	3.500	622.2	392.5	61.3	250.0	0.0	0.0	86.0	93.1	27.57	13.940	3.1	
22:40:00	192	3.500	622.6	393.1	61.2	250.4	0.0	0.0	86.0	93.1	27.59	14.130	3.1	
22:50:00	192	3.500	623.0	393.5	61.3	249.8	0.0	0.0	77.0	93.9	27.60	14.330	2.8	
23:00:00	192	3.500	624.7	393.2	61.1	250.0	0.0	0.0	58.0	94.5	27.64	14.520	2.1	
23:10:00	192	3.500	623.0	394.3	61.1	250.4	0.0	0.0	58.0	94.5	27.67	14.710	2.1	
23:20:00	192	3.500	623.2	393.9	61.0	250.6	0.0	0.0	77.0	95.3	27.65	14.900	2.8	
23:30:00	192	3.500	625.1	393.6	60.9	250.4	0.0	0.0	58.0	95.9	27.66	15.090	2.1	
23:40:00	192	3.500	623.2	394.3	60.9	252.4	0.0	0.0	58.0	95.9	27.72	15.290	2.1	
23:50:00	192	3.500	623.4	394.3	60.6	251.7	0.0	0.0	67.0	96.5	27.71	15.480	2.4	
04/07/02														
00:00:00	192	3.500	625.5	394.6	60.6	250.5	0.0	0.0	77.0	97.3	27.80	15.670	2.8	
00:10:00	192	3.500	623.4	394.9	60.4	251.9	0.0	0.0	77.0	97.3	27.89	15.870	2.8	
00:20:00	192	3.500	624.3	394.6	60.4	254.4	0.0	0.0	96.0	98.3	27.88	16.060	3.4	
00:30:00	192	3.500	623.0	394.1	60.3	254.2	0.0	0.0	58.0	98.9	27.89	16.250	2.1	
00:40:00	192	3.500	623.2	394.3	60.3	252.4	0.0	0.0	58.0	98.9	27.85	16.450	2.1	
00:50:00	192	3.500	624.5	395.2	60.2	253.1	0.0	0.0	58.0	99.5	27.91	16.640	2.1	
01:00:00	192	3.500	623.9	395.1	60.1	254.2	0.0	0.0	86.0	100.4	27.93	16.830	3.1	
1:10:00	192	3.500	623.6	394.5	60.1	253.2	0.0	0.0	86.0	100.4	27.90	17.030	3.1	
1:20:00	192	3.500	623.4	394.9	60.0	252.9	0.0	0.0	48.0	100.9	27.95	17.220	1.7	
1:30:00	192	3.500	623.9	394.2	59.9	225.7	0.0	0.0	67.0	101.6	27.55	17.380	2.4	
01:40:00	192	3.500	624.5	394.9	60.0	221.0	0.0	0.0	67.0	101.6	26.23	17.560	2.5	
01:50:00	192	3.500	624.3	395.4	60.0	221.6	0.0	0.0	96.0	102.6	26.09	17.740	3.7	
02:00:00	192	3.500	623.9	395.4	60.0	220.2	0.0	0.0	38.0	103.0	26.07	17.920	1.4	
02:10:00	192	3.500	624.5	394.3	59.8	221.6	<b>0.0</b> Page 5	0.0	38.0	103.0	26.10	18.100	1.5	

Client	OMV Au	istralia P	ty Ltd				Exa	I Engine	er M. D	onald / N	I. Dowde	ell	
Well No.	Patricia-	2					Loc	ation	Ocea	an Bount	y		
Test No.	Complet	ion					Sta	rt Date	30/06	6 - 01/07	/2002		
Time	Choke	Orifice	UcP	GasP	GasT	GasD	CondR	CondCum	WtrRate	WtrCum	QGas1av	Gas1Cum	WGR
hh:mm:ss	64th	ins	PSIG	PSIG	°F	INWG	bpd	bbls	bpd	bbls	MM/d	MMcf	b/MM
0.4/0=/00													
04/07/02	400	0.500	000.0	005.0	<b>50.0</b>	000.0	0.0		00.0	400.0	00.00	40.000	0.0
02:20:00	192	3.500	623.6	395.0	59.9	220.6	0.0	0.0	86.0	103.9	26.08	18.280	3.3
02:30:00	192	3.500	624.7	394.0	59.9	222.5	0.0	0.0	38.0	104.3	26.10	18.460	1.5
02:40:00	192	3.500	624.5	395.3	60.0	220.9	0.0	0.0	38.0	104.3	26.10	18.650	1.5
02:50:00	192	3.500	624.7	395.3	60.0	221.2	0.0	0.0	86.0	105.2	26.12	18.830	3.3
03:00:00	192	3.500	624.7	395.6	60.0	221.3	0.0	0.0	58.0	105.8	26.12	19.010	2.2
03:10:00	192	3.500	624.9	395.4	60.1	220.8	0.0	0.0	58.0	105.8	26.09	19.190	2.2
03:20:00	192	3.500	624.9	395.3	60.2	221.6	0.0	0.0	58.0	106.4	26.12	19.370	2.2
03:30:00	192	3.500	626.7	395.3	60.2	222.3	0.0	0.0	96.0	107.4	26.16	19.550	3.7
03:40:00	192	3.500	625.1	395.7	60.2	220.7	0.0	0.0	96.0	107.4	26.13	19.730	3.7
03:50:00	192	3.500	624.9	396.0	60.2	238.7	0.0	0.0	29.0	107.7	21.67	19.830	5.6
04:00:00	192	3.500	624.9	395.7	60.3	237.0	0.0	0.0	58.0	108.3	27.01	20.010	2.1
04:10:00	192	3.500	625.9	396.4	60.5	238.0	0.0	0.0	58.0	108.3	27.07	20.200	2.1
04:20:00	192	3.500	625.3	396.4	60.5	238.4	0.0	0.0	86.0	109.2	27.07	20.390	3.2
04:30:00	192	3.500	624.9	396.0	60.7	238.7	0.0	0.0	58.0	109.8	27.08	20.580	2.1
04:40:00	192	3.500	625.9	396.4	60.8	237.5	0.0	0.0	58.0	109.8	27.06	20.770	2.1
04:50:00	192	3.500	625.7	396.5	60.7	238.4	0.0	0.0	19.0	110.0	27.11	20.950	0.7
05:00:00	192	3.500	625.1	396.4	60.8	238.6	0.0	0.0	67.0	110.7	27.07	21.140	2.5
05:10:00	192	3.500	626.7	396.2	60.9	236.6	0.0	0.0	67.0	110.7	27.00	21.330	2.5
05:20:00	192	3.500	625.7	397.0	60.9	239.1	0.0	0.0	48.0	111.2	27.08	21.520	1.8
05:30:00	192	3.500	625.7	397.2	61.0	238.7	0.0	0.0	67.0	111.9	27.09	21.710	2.5
05:40:00	192	3.500	626.9	398.1	61.2	240.1	0.0	0.0	67.0	111.9	27.17	21.900	2.5
05:50:00	192	3.500	625.5	397.3	61.1	239.6	0.0	0.0	58.0	112.5	27.17	22.080	2.1
06:00:00	192	3.500	625.5	397.3	60.9	239.0	0.0	0.0	29.0	112.8	27.15	22.270	1.1
06:10:00	192	3.500	626.1	397.0	61.0	238.9	0.0	0.0	29.0	112.8	27.17	22.460	1.1
06:20:00	192	3.500	627.7	397.0	60.9	240.3	0.0	0.0	67.0	113.5	27.20	22.650	2.5
06:30:00	192	3.500	647.0	415.9	61.2	245.2	0.0	0.0	48.0	114.0	27.51	22.840	1.8
06:40:00	192	3.500	624.9	393.2	61.1	239.4	0.0	0.0	48.0	114.0	27.22	23.030	1.7
06:50:00	192	3.500	627.1	399.0	61.0	240.7	0.0	0.0	58.0	114.6	27.26	23.220	2.1
07:00:00	192	3.500	627.3	400.4	60.5	240.7	0.0	0.0	38.0	115.0	27.39	23.410	1.4
07:10:00	192	3.500	627.3	399.7	60.4	240.6	0.0	0.0	38.0	115.0	27.33	23.600	1.4
07:20:00	192	3.500	627.3	398.7	60.6	241.1	0.0	0.0	48.0	115.5	27.36	23.790	1.8

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Client	OMV Au	ıstralia P	ty Ltd				Exa	al Engine	er M. D	onald / N	I. Dowde	ell	
Well No.	Patricia-	2					Loc	cation	Ocea	an Bount	y		
Test No.	Complet	tion					Sta	rt Date	30/0	6 - 01/07	/2002		
Time hh:mm:ss	Choke 64th	Orifice ins	UcP PSIG	GasP PSIG	GasT °F	GasD INWG	CondR bpd	CondCum bbls	WtrRate bpd	WtrCum bbls	QGas1av MM/d	Gas1Cum MMcf	WGR b/MM
04/07/02													
07:30:00	192	3.500	627.9	399.3	60.6	243.0	0.0	0.0	58.0	116.1	27.42	23.980	2.1
07:40:00	192	3.500	633.0	408.0	60.6	247.2	0.0	0.0	58.0	116.1	28.05	24.170	2.1
07:50:00	192	3.500	626.7	398.7	60.3	241.3	0.0	0.0	48.0	116.6	27.39	24.370	1.7
08:00:00	192	3.500	626.1	399.4	60.3	241.9	0.0	0.0	48.0	117.1	27.38	24.560	1.8
08:10:00	192	3.500	626.7	400.3	60.5	243.3	0.0	0.0	48.0	117.1	27.51	24.750	1.8
08:20:00	192	3.500	627.1	399.3	60.4	240.8	0.0	0.0	58.0	117.7	27.48	24.940	2.1
08:30:00	192	3.500	630.2	401.3	60.5	243.5	0.0	0.0	29.0	118.0	27.54	25.130	1.1
08:40:00	192	3.500	630.2	404.8	60.9	237.3	0.0	0.0	29.0	118.0	27.63	25.320	1.1
08:50:00	192	3.500	617.1	390.2	61.0	236.8	0.0	0.0	38.0	118.4	26.98	25.510	1.4
09:00:00	192	3.500	616.1	386.2	61.0	229.4	0.0	0.0	58.0	119.0	26.34	25.690	2.2
09:10:00	192	3.500	618.9	391.9	60.7	235.9	0.0	0.0	58.0	119.0	26.77	25.880	2.2
09:20:00	192	3.500	623.4	395.7	60.7	236.0	0.0	0.0	77.0	119.8	27.05	26.070	2.9
09:30:00	192	3.500	629.4	399.3	60.6	238.1	0.0	0.0	58.0	120.4	27.23	26.250	2.1
09:40:00	192	3.500	630.8	401.0	60.6	242.1	0.0	0.0	58.0	120.4	27.56	26.440	2.1
09:50:00	192	3.500	630.0	402.0	60.5	241.1	0.0	0.0	48.0	120.9	27.53	26.640	1.8
10:00:00	192	3.500	629.6	401.4	60.7	242.3	0.0	0.0	58.0	121.5	27.59	26.830	2.1
10:10:00	192	3.500	629.8	401.7	60.6	242.1	0.0	0.0	58.0	121.5	27.53	27.020	2.1
10:20:00	192	3.500	630.8	402.0	60.5	241.6	0.0	0.0	38.0	121.9	27.62	27.210	1.4
10:30:00	192	3.500	629.8	402.3	60.4	241.6	0.0	0.0	58.0	122.5	27.60	27.400	2.1
10:40:00	192	3.500	631.2	402.6	60.6	243.4	0.0	0.0	58.0	122.5	27.61	27.590	2.1
10:50:00	192	3.500	631.0	403.0	60.5	243.2	0.0	0.0	38.0	122.9	27.62	27.790	1.4
11:00:00	0	0.000	959.1	3.7	33.0	0.0	0.0	0.0	0.0	123.4	0.00	27.860	0.0
11:10:00	0	0.000	962.4	2.7	45.7	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
11:20:00	0	0.000	964.6	3.2	50.7	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
11:30:00	0	0.000	965.9	3.2	52.8	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
11:40:00	0	0.000	966.7	3.2	53.9	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
11:50:00	0	0.000	967.9	2.9	54.6	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
12:00:00	0	0.000	968.3	2.7	55.1	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
12:10:00	0	0.000	968.7	3.1	55.6	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
12:20:00	0	0.000	969.3	3.4	55.9	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
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Client	OMV Au	istralia P	ty Ltd				Ex	al Engine	er M. D	onald / N	I. Dowde	ell	
Well No.	Patricia-	2					Lo	cation	Ocea	an Bount	y		
Test No.	Complet	ion					Sta	art Date	30/0	6 - 01/07	/2002		
Time	Choke	Orifice	UcP	GasP	GasT	GasD	CondR	CondCum	WtrRate	WtrCum	QGas1av	Gas1Cum	WGF
hh:mm:ss	64th	ins	PSIG	PSIG	°F	INWG	bpd	bbls	bpd	bbls	MM/d	MMcf	b/MN
04/07/02													
12:40:00	0	0.000	970.4	2.9	56.4	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
12:50:00	Ö	0.000	971.0	2.9	56.6	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
13:00:00	0	0.000	971.0	2.9	56.6	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
13:10:00	0	0.000	970.8	2.7	56.9	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
13:20:00	0	0.000	972.0	3.1	57.3	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
13:30:00	0	0.000	972.4	3.4	57.4	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
13:40:00	0	0.000	972.6	3.3	57.3	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
13:50:00	0	0.000	972.6	2.9	57.2	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
14:00:00	0	0.000	973.0	2.9	57.2	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
14:10:00	0	0.000	973.2	3.0	57.2	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
14:20:00	0	0.000	973.6	3.0	57.2	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
14:30:00	0	0.000	973.4	3.0	57.3	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
14:40:00	0	0.000	973.6	3.3	57.5	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
14:50:00	0	0.000	974.0	3.8	57.5	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
15:00:00	0	0.000	975.1	3.7	57.4	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
15:10:00	0	0.000	974.5	3.2	57.0	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
15:20:00	0	0.000	975.5	3.7	56.6	0.0	0.0	0.0	0.0	123.4	0.00	27.860	
15:30:00	16	0.000	977.9	8.1	56.9	0.5	0.0	0.0	0.0	123.4	0.00	27.860	
15:40:00	32	0.000	962.4	210.3	43.1	12.1	0.0	0.0	0.0	123.4	0.00	27.860	
15:50:00	32	0.000	959.5	368.2	36.9	11.3	0.0	0.0	0.0	123.4	0.00	27.860	
16:00:00	36	0.000	959.1	253.4	31.3	15.0	0.0	0.0	0.0	123.4	0.00	27.860	
16:10:00	40	0.000	948.3	359.0	35.0	12.3	0.0	0.0	0.0	123.4	0.00	27.860	
16:20:00	40	2.250	943.6	365.1	35.1	192.9	0.0	0.0	0.0	123.4	6.08	27.880	_

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Client	OMV Au	ıstralia P	ty Ltd				Exa	I Engine	er M. D	onald / N	I. Dowde	ell	
Well No.	Patricia-	2					Loc	ation	Ocea	an Bount	y		
Test No.	Complet	tion					Sta	rt Date	30/0	6 - 01/07	/2002		
Time	Choke	Orifice	UcP	GasP	GasT	GasD	CondR	CondCum	WtrRate	WtrCum	QGas1av	Gas1Cum	WGR
hh:mm:ss	64th	ins	PSIG	PSIG	°F	INWG	bpd	bbls	bpd	bbls	MM/d	MMcf	b/MM
04/07/02													
17:50:00	40	2.250	942.4	364.9	37.2	191.6	0.0	0.0	0.0	123.4	9.46	28.480	0.0
18:00:00	40	2.250	941.9	363.7	37.1	206.2	0.0	0.0	0.0	123.4	9.46	28.540	0.0
18:10:00	40	2.250	941.5	363.2	36.9	197.7	0.0	0.0	0.0	123.4	9.48	28.610	0.0
18:20:00	40	2.250	940.7	363.1	36.9	209.1	0.0	0.0	0.0	123.4	9.52	28.670	0.0
18:30:00	40	2.250	941.1	362.9	37.1	204.4	0.0	0.0	0.0	123.4	9.57	28.740	0.0
18:40:00	40	2.250	941.1	363.8	36.9	207.2	0.0	0.0	0.0	123.4	9.50	28.810	0.0
18:50:00	40	2.250	940.7	362.3	36.9	200.9	0.0	0.0	0.0	123.4	9.46	28.870	0.0
19:00:00	40	2.250	940.7	363.4	37.3	208.9	0.0	0.0	0.0	123.4	9.46	28.940	0.0
19:10:00	40	2.250	938.9	362.9	37.7	187.7	0.0	0.0	0.0	123.4	9.44	29.000	0.0
19:20:00	40	2.250	938.7	364.3	37.9	196.8	0.0	0.0	0.0	123.4	9.41	29.070	0.0
19:30:00	40	2.250	938.7	363.8	38.0	198.2	0.0	0.0	0.0	123.4	9.34	29.130	0.0
19:40:00	40	2.250	938.5	363.0	38.1	194.9	0.0	0.0	0.0	123.4	9.49	29.200	0.0
19:50:00	40	2.250	938.9	365.0	37.8	200.1	0.0	0.0	0.0	123.4	9.46	29.270	0.0
20:00:00	40	0.000	938.7	359.9	37.6	12.1	0.0	0.0	0.0	123.4	7.56	29.320	0.0
20:10:00	60	0.000	821.7	232.7	39.0	14.0	0.0	0.0	0.0	123.4	0.00	29.320	
20:20:00	64	0.000	794.3	293.1	43.3	12.2	0.0	0.0	77.0	124.2	0.00	29.320	
20:30:00	64	3.250	800.1	304.8	44.4	238.6	0.0	0.0	77.0	125.0	12.26	29.380	16.3
20:40:00	64	3.250	799.5	293.4	44.6	251.2	0.0	0.0	77.0	125.0	20.58	29.530	3.7
20:50:00	64	3.250	798.6	293.4	45.2	250.7	0.0	0.0	77.0	125.0	20.55	29.670	3.7
21:00:00	64	3.250	799.0	295.1	45.5	250.6	0.0	0.0	77.0	125.0	20.56	29.810	3.8
21:10:00	64	3.250	799.7	295.8	45.8	250.8	0.0	0.0	77.0	125.0	20.54	29.950	3.8
21:20:00	64	3.250	800.7	295.1	46.1	250.7	0.0	0.0	77.0	125.0	20.55	30.100	3.8
21:30:00	64	3.250	801.7	296.7	46.5	250.7	0.0	0.0	38.0	125.4	20.56	30.240	1.9
21:40:00	64	3.250	800.7	296.7	46.7	250.8	0.0	0.0	38.0	125.4	20.53	30.380	1.9
21:50:00	64	3.250	800.9	296.4	46.9	250.2	0.0	0.0	77.0	126.2	20.49	30.530	3.8
22:00:00	64	3.250	800.9	296.1	47.1	249.0	0.0	0.0	48.0	126.7	20.52	30.670	2.3
22:10:00	64	3.250	801.3	296.6	47.3	249.6	0.0	0.0	48.0	126.7	20.51	30.810	2.3
22:20:00	64	3.250	801.7	296.3	47.5	249.7	0.0	0.0	48.0	126.7	20.50	30.950	2.3
22:30:00	64	3.250	801.7	296.6	47.6	251.3	0.0	0.0	48.0	126.7	20.50	31.090	2.3
22.40.00	6.4	2 250	004.0	206.7	47.7	250.2	0.0	0.0	40 0	426.7	20 54	24 240	2.2

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Client	OMV Au	ıstralia P	ty Ltd				Exa	al Engine	er M. D	onald / N	I. Dowde	ell		
Well No.	Patricia-	-2					Loc	cation	Ocea	an Bount	y			
Test No.	Complet	tion					Sta	rt Date	30/0	6 - 01/07	/2002			
	•			0	07	05			14/4-D-4-	14/4-0	004	040	won	
Time hh:mm:ss	Choke 64th	Orifice ins	UcP PSIG	GasP PSIG	GasT °F	GasD INWG	CondR bpd	CondCum bbls	WtrRate bpd	WtrCum bbls	QGas1av MM/d	Gas1Cum MMcf	WGR b/MM	
	0401		1 0.0	1 010	•		bpu	5513	bpu	5513	iiiiii/G	Million	D/MM	
04/07/02														
23:00:00	64	3.250	801.3	295.1	48.0	251.7	0.0	0.0	48.0	127.2	20.49	31.520	2.3	
23:10:00	64	3.250	802.5	295.8	48.1	250.4	0.0	0.0	48.0	127.2	20.49	31.660	2.4	
23:20:00	64	3.250	801.1	295.8	48.3	249.3	0.0	0.0	19.0	127.4	20.47	31.810	0.9	
23:30:00	64	3.250	800.5	295.6	48.5	250.7	0.0	0.0	10.0	127.5	20.45	31.950	0.5	
23:40:00	64	3.250	799.9	295.2	48.6	250.5	0.0	0.0	10.0	127.5	20.43	32.090	0.5	
23:50:00	64	3.250	800.7	295.0	48.5	249.5	0.0	0.0	10.0	127.5	20.43	32.230	0.5	
05/07/02														
00:00:00	64	3.250	799.9	294.7	48.7	248.9	0.0	0.0	48.0	128.0	20.39	32.370	2.4	
00:10:00	64	3.250	799.0	295.0	48.8	249.9	0.0	0.0	48.0	128.0	20.40	32.520	2.4	
00:20:00	64	3.250	798.8	295.1	48.9	248.0	0.0	0.0	19.0	128.2	20.35	32.660	0.9	
00:30:00	64	3.250	797.2	291.8	48.9	250.9	0.0	0.0	48.0	128.7	20.34	32.800	2.4	
00:40:00	64	3.250	796.8	292.0	49.0	250.5	0.0	0.0	48.0	128.7	20.32	32.940	2.4	
00:50:00	64	3.250	796.8	294.5	49.2	246.9	0.0	0.0	38.0	129.1	20.30	33.080	1.9	
01:00:00	64	3.250	796.4	294.0	49.2	249.1	0.0	0.0	19.0	129.3	20.27	33.220	0.9	
01:10:00	64	3.250	796.2	294.7	49.3	246.8	0.0	0.0	19.0	129.3	20.27	33.360	0.9	
01:20:00	64	3.250	796.2	294.7	49.4	246.2	0.0	0.0	10.0	129.4	20.28	33.500	0.5	
01:30:00	64	3.250	796.8	293.7	49.4	249.4	0.0	0.0	38.0	129.8	20.26	33.640	1.9	
01:40:00	64	3.250	796.6	293.5	49.3	248.3	0.0	0.0	38.0	129.8	20.31	33.780	1.9	
01:50:00	64	3.250	795.6	292.4	49.5	249.1	0.0	0.0	38.0	130.2	20.25	33.930	1.9	
02:00:00	66	0.000	795.8	286.9	49.5	14.3	0.0	0.0	38.0	130.2	12.14	34.040	1.9	
02:10:00	102	0.000	663.5	374.9	56.4	13.8	0.0	0.0	38.0	130.2	0.00	34.040		
02:20:00	192	0.000	617.1	381.7	59.2	13.0	0.0	0.0	38.0	130.2	0.00	34.040		
02:30:00	192	3.750	619.8	388.9	60.5	177.8	0.0	0.0	125.0	131.5	27.25	34.160	14.8	
02:40:00	192	3.750	623.4	392.4	61.1	175.3	0.0	0.0	125.0	131.5	27.28	34.350	4.6	
02:50:00	192	3.750	625.3	393.2	61.5	178.1	0.0	0.0	58.0	132.1	27.42	34.540	2.1	
03:00:00	192	3.750	626.3	394.3	61.8	175.8	0.0	0.0	77.0	132.9	27.45	34.730	2.8	
03:10:00	192	3.750	625.7	394.9	62.1	177.0	0.0	0.0	77.0	132.9	27.45	34.920	2.8	
03:20:00	192	3.750	626.7	396.0	62.2	178.6	0.0	0.0	58.0	133.5	27.55	35.110	2.1	
03:30:00	192	3.750	627.3	396.0	62.3	180.0	0.0	0.0	77.0	134.3	27.61	35.300	2.8	
00.40.00	400	2750	CO7 E	2000	CO E	470.0	^ ^		77.0	4040	07.00	25 500	0.0	

**0.0** Page 10

03:40:00

192

3.750

627.5

396.6

62.5

178.9

0.0

77.0

134.3

27.63

35.500

Client	OMV Au	istralia P	ty Ltd				Exa	I Engine	er M. D	onald / N	I. Dowde	ell	
Well No.	Patricia-	2					Loc	ation	Ocea	an Bount	y		
Test No.	Complet	ion					Sta	rt Date	30/0	6 - 01/07	/2002		
Time	Choke	Orifice	UcP	GasP	GasT	GasD	CondR	CondCum	WtrRate	WtrCum	QGas1av	Gas1Cum	WGR
hh:mm:ss	64th	ins	PSIG	PSIG	°F	INWG	bpd	bbls	bpd	bbls	MM/d	MMcf	b/MM
05/07/02	400	0.750	000.0	007.0	00.5	400.0			40.0	404.5	07.07	05.000	
03:50:00	192	3.750	629.0	397.3	62.5	180.3	0.0	0.0	19.0	134.5	27.67	35.690	0.7
04:00:00	192	3.750	630.0	398.9	62.7	181.1	0.0	0.0	29.0	134.8	27.78	35.880	1.0
04:10:00	192	3.750	630.2	399.0	62.9	179.1	0.0	0.0	29.0	134.8	27.82	36.070	1.0
04:20:00	192	3.750	630.4	399.3	62.8	181.9	0.0	0.0	29.0	135.1	27.83	36.270	1.0
04:30:00	192	3.750	630.2	399.3	62.7	178.9	0.0	0.0	29.0	135.4	27.84	36.460	1.0
04:40:00	192	3.750	630.8	399.7	62.6	181.0	0.0	0.0	29.0	135.4	27.90	36.660	1.0
04:50:00	192	3.750	631.2	399.7	62.9	181.8	0.0	0.0	48.0	135.9	27.95	36.850	1.7
05:00:00	192	3.750	631.4	400.3	63.0	181.1	0.0	0.0	38.0	136.3	27.88	37.040	1.4
05:10:00	192	3.750	631.4	400.9	62.9	179.6	0.0	0.0	38.0	136.3	27.87	37.240	1.4
05:20:00	192	3.750	631.6	401.0	62.9	181.5	0.0	0.0	58.0	136.9	27.92	37.430	2.1
05:30:00	192	3.750	631.4	400.2	62.9	180.9	0.0	0.0	38.0	137.3	27.95	37.620	1.4
5:40:00	192	3.750	631.4	400.4	63.1	182.7	0.0	0.0	38.0	137.3	27.96	37.820	1.4
5:50:00	192	3.750	631.8	400.6	63.3	181.1	0.0	0.0	48.0	137.8	27.92	38.010	1.7
06:00:00	192	3.750	631.8	400.6	63.3	181.3	0.0	0.0	48.0	138.3	27.90	38.210	1.7
06:10:00	192	3.750	632.0	401.6	63.3	180.0	0.0	0.0	48.0	138.3	27.94	38.400	1.7
06:20:00	192	3.750	632.2	401.4	63.4	180.8	0.0	0.0	48.0	138.8	27.96	38.590	1.7
06:30:00	192	3.750	631.8	401.2	63.5	180.7	0.0	0.0	29.0	139.1	27.92	38.790	1.0
06:40:00	192	3.750	633.5	400.6	63.4	181.1	0.0	0.0	29.0	139.1	27.96	38.980	1.0
06:50:00	192	3.750	631.8	400.6	63.5	184.0	0.0	0.0	38.0	139.5	27.98	39.180	1.4
07:00:00	192	3.750	631.6	400.6	63.4	181.6	0.0	0.0	29.0	139.8	27.95	39.370	1.0
07:10:00	192	3.750	632.6	401.9	63.4	181.6	0.0	0.0	29.0	139.8	27.99	39.570	1.0
07:20:00	192	3.750	632.8	401.7	63.3	181.1	0.0	0.0	19.0	140.0	28.03	39.760	0.7
07:30:00	192	3.750	632.6	401.4	63.5	181.6	0.0	0.0	19.0	142.0	27.96	39.950	0.7
07:40:00	192	3.750	631.8	401.6	63.5	183.2	0.0	0.0	19.0	142.0	28.04	40.150	0.7
07:50:00	192	3.750	632.2	401.6	63.5	182.3	0.0	0.0	38.0	142.4	28.02	40.340	1.4
08:00:00	192	3.750	633.0	401.6	63.5	182.7	0.0	0.0	38.0	142.8	28.06	40.540	1.4
08:10:00	192	3.750	632.6	401.3	63.4	181.4	0.0	0.0	38.0	142.8	27.89	40.730	1.4
08:20:00	192	3.750	632.0	401.5	63.5	180.8	0.0	0.0	38.0	143.2	28.00	40.930	1.4
08:30:00	192	3.750	632.4	401.7	63.4	184.2	0.0	0.0	29.0	143.5	28.05	41.120	1.0
08:40:00	192	3.750	634.5	402.7	63.5	182.3	0.0	0.0	29.0	143.5	28.02	41.320	1.0
08:50:00	192	3.750	632.6	401.3	63.5	182.8	0.0	0.0	58.0	144.1	27.94	41.510	2.1

Client	OMV Au	ıstralia P	ty Ltd				Exa	al Engine	er M. D	onald / N	I. Dowde	ell		
Well No.	Patricia-	2					Loc	cation	Ocea	an Bount	у			
Test No.	Complet	tion					Sta	rt Date	30/06	6 - 01/07	/2002			
Time hh:mm:ss	Choke 64th	Orifice ins	UcP PSIG	GasP PSIG	GasT °F	GasD INWG	CondR bpd	CondCum bbls	WtrRate bpd	WtrCum bbls	QGas1av MM/d	Gas1Cum MMcf	WGR b/MM	
05/07/02 09:00:00 09:10:00 09:20:00 09:30:00 09:40:00 09:50:00 10:00:00	192 192 192 192 192 192 0	3.750 3.750 3.750 3.750 3.750 3.750 0.000	632.8 631.6 632.4 632.6 634.1 633.3 641.4	401.4 400.9 401.3 401.6 402.9 402.5 400.8	63.6 63.7 63.5 63.9 63.7 63.7 64.6	181.3 182.8 183.4 180.3 183.0 181.9	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0	48.0 48.0 19.0 38.0 38.0 19.0 0.0	144.6 144.8 145.2 145.2 145.7 145.7	28.06 28.07 28.09 28.07 28.14 28.12 22.55	41.710 41.900 42.100 42.290 42.490 42.680 42.860	1.7 1.7 0.7 1.4 1.4 0.7	





# **Gas Calcs Data Listing**

Client OMV Australia Pty Ltd

Well No. Patricia-2

Test No. Completion

**Location** Ocean Bounty

**Start Date** 30/06 - 01/07/2002

**Country** Australia

Field VIC/L21

Job Number J02/188

Formation Gurnard

Exal Engineer M. Donald / N. Dowdell

Client Engineer A. Ion

Perforations n/a

Client	<b>OMV Australia Pty</b>	td Exal Engineer	M. Donald / N. Dowdell

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

	<u> </u>		-																
Time hh:mm:ss	Orifice ins	GasP PSIG	GasT °F	GasD INWG	Co2 mol%	H2S ppm	GasSG fact	GasFb fact	GasFr fact	GasY fact	GasFpb fact	GasFtb fact	GasFtf fact	GasFgr fact	GasFpv fact	GasC fact	GasPf PSIA	QGas1av MM/d	Gas1Cum MMcf
03/07/02																			
07:00:00	0.000	2.2	54.6	0.0	0.0	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	16.9	0.00	0.000
07:10:00	0.000	2.3	54.5	0.0	0.0	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
07:20:00	0.000	2.6	54.6	0.1	0.0	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.3	0.00	0.000
07:30:00	0.000	2.3	54.5	0.0	0.0	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
07:40:00	0.000	2.5	54.7	0.0	0.0	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.3	0.00	0.000
07:50:00	0.000	2.0	54.7	0.0	0.0	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	16.7	0.00	0.000
08:00:00	0.000	2.3	54.8	0.0	1.2	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
08:10:00	0.000	2.3	55.0	0.0	1.2	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
08:20:00	0.000	2.3	55.1	0.0	1.2	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
08:30:00	0.000	2.3	55.2	0.0	1.2	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
08:40:00	0.000	2.3	55.3	0.0	1.2	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
08:50:00	0.000	2.3	55.2	0.0	1.2	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
09:00:00	0.000	2.4	55.3	0.0	1.5	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.2	0.00	0.000
09:10:00	0.000	2.3	55.3	0.0	1.5	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
09:20:00	0.000	2.3	55.4	0.0	1.5	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
09:30:00	0.000	2.3	55.5	0.0	1.5	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.0	0.00	0.000
09:40:00	0.000	336.5	68.6	15.5	1.5	0.0	0.571	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	351.2	0.00	0.000
09:50:00	3.750	332.8	63.7	134.6	1.5	0.0	0.571	3172.2	1.0	0.995	1.0	1.0	0.996	1.323	1.026	4269.4	347.5	4.43	0.015
10:00:00	3.500	338.6	63.2	199.8	1.4	0.0	0.571	2695.1	1.0	0.993	1.0	1.0	0.997	1.323	1.026	3623.2	353.3	22.87	0.126
10:10:00	3.500	339.9	63.2	203.3	1.4	0.0	0.571	2695.1	1.0	0.993	1.0	1.0	0.997	1.323	1.026	3623.4	354.6	23.30	0.287
10:20:00	3.500	344.0	63.0	209.0	1.4	0.0	0.571	2695.1	1.0	0.993	1.0	1.0	0.997	1.323	1.027	3624.9	358.8	23.50	0.450
10:30:00	3.500	347.8	62.9	211.4	1.4	0.0	0.571	2695.1	1.0	0.993	1.0	1.0	0.997	1.323	1.027	3626.3	362.5	23.78	0.614
10:40:00	3.500	346.8	62.2	212.2	1.4	0.0	0.571	2695.1	1.0	0.993	1.0	1.0	0.998	1.323	1.027	3628.5	361.5	24.01	0.780
10:50:00	3.500	350.0	61.9	228.6	1.4	0.0	0.571	2695.1	1.0	0.992	1.0	1.0	0.998	1.323	1.027	3629.0	364.7	24.55	0.949
11:00:00	3.500	352.1	61.7	231.1	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.998	1.318	1.028	3616.0	366.9	25.35	1.125
11:10:00	3.500	352.9	61.7	232.6	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.998	1.318	1.028	3616.0	367.6	25.37	1.301
11:20:00	3.500	354.5	61.4	233.4	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.999	1.318	1.028	3617.7	369.2	25.49	1.478
11:30:00	3.500	357.2	61.0	234.4	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.999	1.318	1.028	3620.1	371.9	25.65	1.656
11:40:00	3.500	357.3	61.0	235.5	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.999	1.318	1.028	3619.9	372.0	25.71	1.834
11:50:00	3.500	358.8	60.9	237.3	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.999	1.318	1.029	3620.9	373.5	25.79	2.013
12:00:00	3.500	359.7	61.0	237.5	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.999	1.318	1.029	3620.7	374.5	25.86	2.192

Client	OMV Australia Pty Ltd	Exal Engineer M. Donald / N. Dowdell	

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

Test No	o. Con	ipielioi	1						<u> </u>	tart D	ale	30/00	5 - 0 1/0	7772002					
Time hh:mm:ss	Orifice ins	GasP PSIG	GasT °F	GasD INWG	Co2 mol%	H2S ppm	GasSG fact	GasFb fact	GasFr fact	GasY fact	GasFpb fact	GasFtb fact	GasFtf fact	GasFgr fact	GasFpv fact	GasC fact	GasPf PSIA	QGas1av MM/d	Gas1Cum MMcf
03/07/02																			
12:10:00	3.500	360.5	61.2	238.8	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.999	1.318	1.029	3620.0	375.2	25.91	2.372
12:20:00	3.500	361.9	61.1	239.1	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.999	1.318	1.029	3620.9	376.6	26.05	2.553
12:30:00	3.500	362.8	61.1	239.8	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.999	1.318	1.029	3621.0	377.5	26.14	2.734
12:40:00	3.500	363.4	61.3	240.0	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.999	1.318	1.029	3620.6	378.1	26.14	2.916
12:50:00	3.500	363.3	61.3	240.5	1.4	0.0	0.576	2695.1	1.0	0.992	1.0	1.0	0.999	1.318	1.029	3620.2	378.0	26.22	3.098
13:00:00	3.500	363.8	61.4	241.3	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.999	1.315	1.029	3614.0	378.5	26.24	3.280
13:10:00	3.500	364.8	61.5	241.5	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.999	1.315	1.029	3614.2	379.5	26.27	3.462
13:20:00	3.500	366.5	61.5	241.4	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.999	1.315	1.029	3614.8	381.3	26.32	3.645
13:30:00	3.500	367.0	61.4	241.7	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.999	1.315	1.029	3615.3	381.7	26.37	3.828
13:40:00	3.500	366.9	61.4	242.3	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.999	1.315	1.029	3615.1	381.6	26.39	4.011
13:50:00	3.500	368.6	61.4	243.2	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.999	1.315	1.029	3615.7	383.3	26.46	4.195
14:00:00	3.500	368.6	61.4	243.1	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.999	1.315	1.029	3615.7	383.4	26.50	4.379
14:10:00	3.500	368.6	61.4	242.3	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.999	1.315	1.029	3615.6	383.4	26.51	4.563
14:20:00	3.500	369.7	61.4	243.6	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.999	1.315	1.029	3615.8	384.5	26.55	4.747
14:30:00	3.500	370.7	61.5	244.3	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.999	1.315	1.030	3615.6	385.4	26.61	4.932
14:40:00	3.500	371.2	61.6	245.0	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.998	1.315	1.030	3615.4	385.9	26.66	5.117
14:50:00	3.500	370.8	61.7	244.9	1.5	0.0	0.578	2695.1	1.0	0.992	1.0	1.0	0.998	1.315	1.030	3614.8	385.6	26.67	5.302
15:00:00	3.500	372.0	61.7	245.1	1.5	0.0	0.582	2695.1	1.0	0.992	1.0	1.0	0.998	1.311	1.030	3604.2	386.7	26.69	5.488
15:10:00	3.500	372.2	61.7	245.5	1.5	0.0	0.582	2695.1	1.0	0.992	1.0	1.0	0.998	1.311	1.030	3604.2	387.0	26.64	5.673
15:20:00	3.500	372.4	61.6	245.3	1.5	0.0	0.582	2695.1	1.0	0.992	1.0	1.0	0.998	1.311	1.030	3604.5	387.1	26.68	5.858
15:30:00	3.500	373.0	61.6	246.0	1.5	0.0	0.582	2695.1	1.0	0.992	1.0	1.0	0.998	1.311	1.030	3604.8	387.7	26.72	6.043
15:40:00	3.500	373.3	61.7	246.3	1.5	0.0	0.582	2695.1	1.0	0.992	1.0	1.0	0.998	1.311	1.030	3604.6	388.0	26.74	6.229
15:50:00	3.500	374.0	61.6	247.0	1.5	0.0	0.582	2695.1	1.0	0.992	1.0	1.0	0.998	1.311	1.030	3604.9	388.8	26.78	6.415
16:00:00	3.500	374.3	61.6	246.8	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.998	1.313	1.030	3610.7	389.1	26.80	6.601
16:10:00	3.500	374.1	61.6	247.2	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.998	1.313	1.030	3610.7	388.8	26.84	6.788
16:20:00	3.500	374.7	61.7	247.6	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.998	1.313	1.030	3610.5	389.4	26.90	6.974
16:30:00	3.500	374.7	61.6	247.7	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.998	1.313	1.030	3610.6	389.4	26.92	7.161
16:40:00	3.500	374.7	61.7	246.7	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.998	1.313	1.030	3610.5	389.4	26.91	7.348
16:50:00	3.500	375.8	61.7	247.6	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.998	1.313	1.030	3610.7	390.5	26.94	7.535
17:00:00	3.500	375.7	61.8	247.7	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.998	1.313	1.030	3610.5	390.5	26.98	7.722
17:10:00	3.500	376.7	61.9	247.5	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.998	1.313	1.030	3610.3	391.4	26.98	7.910
									D	0									

Client	OMV Australia Pty Ltd	Exal Engineer	M. Donald / N. Dowdell
Well No.	Patricia-2	Location	Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

1621 140	J. COI	прісцої	<u> </u>							tait D	al <del>c</del>	30/00	3 - 0 1/0	7112002					
Time hh:mm:ss	Orifice ins	GasP PSIG	GasT °F	GasD INWG	Co2 mol%	H2S ppm	GasSG fact	GasFb fact	GasFr fact	GasY fact	GasFpb fact	GasFtb fact	GasFtf fact	GasFgr fact	GasFpv fact	GasC fact	GasPf PSIA	QGas1av MM/d	Gas1Cum MMcf
03/07/02																			
17:20:00	3.500	376.4	62.0	249.0	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.998	1.313	1.030	3609.6	391.1	27.01	8.097
17:30:00	3.500	377.5	62.0	249.3	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.998	1.313	1.030	3609.7	392.3	27.06	8.285
17:40:00	3.500	386.8	62.8	240.6	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3610.7	401.6	26.93	8.444
17:50:00	3.500	386.7	62.9	241.5	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3610.1	401.4	26.91	8.631
18:00:00	3.500	387.4	62.9	242.6	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3610.2	402.2	27.04	8.818
18:10:00	3.500	387.8	62.9	243.1	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3610.3	402.6	27.08	9.006
18:20:00	3.500	388.4	63.0	243.0	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3610.2	403.2	27.11	9.194
18:30:00	3.500	389.1	63.1	243.7	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3609.8	403.8	27.16	9.383
18:40:00	3.500	389.2	63.1	243.3	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3609.9	403.9	27.17	9.572
18:50:00	3.500	389.2	63.1	243.9	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3609.9	403.9	27.19	9.760
19:00:00	3.500	388.9	63.1	244.1	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3609.9	403.7	27.17	9.949
19:10:00	3.500	389.9	62.9	245.1	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3611.0	404.6	27.26	10.138
19:20:00	3.500	389.5	62.9	244.1	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3610.7	404.2	27.26	10.327
19:30:00	3.500	389.6	62.8	245.3	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3611.2	404.3	27.27	10.517
19:40:00	3.500	389.8	62.8	244.0	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3611.6	404.5	27.28	10.706
19:50:00	3.500	390.1	62.9	245.3	1.5	0.0	0.580	2695.1	1.0	0.992	1.0	1.0	0.997	1.313	1.031	3611.0	404.9	27.29	10.896
20:00:00	3.500	390.1	62.9	244.7	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.997	1.309	1.031	3600.3	404.9	27.30	11.085
20:10:00	3.500	391.6	62.8	246.2	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.997	1.309	1.032	3600.7	406.3	27.30	11.275
20:20:00	3.500	391.3	62.8	245.8	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.997	1.309	1.032	3601.0	406.0	27.32	11.464
20:30:00	3.500	391.4	62.7	246.4	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.997	1.309	1.032	3601.2	406.1	27.35	11.654
20:40:00	3.500	391.5	62.6	246.3	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.998	1.309	1.032	3601.8	406.2	27.33	11.844
20:50:00	3.500	391.4	62.5	246.4	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.998	1.309	1.032	3602.1	406.2	27.36	12.034
21:00:00	3.500	392.2	62.2	246.8	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.998	1.309	1.032	3603.6	406.9	27.43	12.225
21:10:00	3.500	391.6	62.1	248.2	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.998	1.309	1.032	3603.4	406.3	27.42	12.415
21:20:00	3.500	391.9	62.2	248.7	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.998	1.309	1.032	3603.3	406.7	27.44	12.605
21:30:00	3.500	391.5	62.0	247.1	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.998	1.309	1.032	3604.1	406.2	27.45	12.796
21:40:00	3.500	391.6	61.8	248.8	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.998	1.309	1.032	3604.7	406.3	27.46	12.987
21:50:00	3.500	391.7	61.7	249.0	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.998	1.309	1.032	3605.2	406.4	27.49	13.178
22:00:00	3.500	392.2	61.7	249.8	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.998	1.306	1.032	3599.9	407.0	27.50	13.369
22:10:00	3.500	393.0	61.5	248.0	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3601.1	407.7	27.51	13.560
22:20:00	3.500	393.0	61.4	248.9	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3601.5	407.7	27.55	13.751
									_										

Client	OM'	V Austr	alia Pt	y Ltd					E	xal En	gineer	M. D	onald /	N. Do	wdell				
Well No.	Patr	ricia-2							L	ocatio	n	Ocea	ın Bou	nty					
Test No.	Con	npletion	1						S	tart Da	ate	30/06	6 - 01/0	7/2002	2				
Time hh:mm:ss	Orifice ins	GasP PSIG	GasT °F	GasD INWG	Co2 mol%	H2S ppm	GasSG fact	GasFb fact	GasFr fact	GasY fact	GasFpb fact	GasFtb fact	GasFtf fact	GasFgr fact	GasFpv fact	GasC fact	GasPf PSIA	QGas1av MM/d	Gas1Cum MMcf
03/07/02																			
22:30:00	3.500	392.5	61.3	250.0	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3601.7	407.3	27.57	13.942
22:40:00	3.500	393.1	61.2	250.4	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3602.1	407.8	27.59	14.134
22:50:00	3.500	393.5	61.3	249.8	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3602.0	408.2	27.60	14.326
23:00:00	3.500	393.2	61.1	250.0	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3602.7	407.9	27.64	14.518
23:10:00	3.500	394.3	61.1	250.4	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3603.1	409.0	27.67	14.710
23:20:00	3.500	393.9	61.0	250.6	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3603.3	408.6	27.65	14.902
23:30:00	3.500	393.6	60.9	250.4	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3603.7	408.4	27.66	15.094
23:40:00	3.500	394.3	60.9	252.4	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3603.6	409.0	27.72	15.287
23:50:00	3.500	394.3	60.6	251.7	1.5	0.0	0.586	2695.1	1.0	0.992	1.0	1.0	0.999	1.306	1.032	3605.0	409.0	27.71	15.479
04/07/02		2012		050.5	4.5		0.504	0005.4	4.0		4.0	4.0		4 000	4 000	2012.2	400.4	07.00	45.070
00:00:00	3.500	394.6	60.6	250.5	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	0.999	1.309	1.032	3610.9	409.4	27.80	15.672
00:10:00	3.500	394.9	60.4	251.9	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	1.000	1.309	1.032	3611.6	409.7	27.89	15.866
00:20:00 00:30:00	3.500 3.500	394.6 394.1	60.4 60.3	254.4 254.2	1.5 1.5	0.0 0.0	0.584 0.584	2695.1 2695.1	1.0 1.0	0.992 0.992	1.0 1.0	1.0 1.0	1.000 1.000	1.309 1.309	1.032 1.032	3611.0 3611.3	409.4 408.9	27.88 27.89	16.059 16.253
00:40:00	3.500	394.1	60.3	252.4	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	1.000	1.309	1.032	3611.8	409.0	27.85	16.233
00:50:00	3.500	395.2	60.2	253.1	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	1.000	1.309	1.032	3612.4	409.9	27.03	16.640
01:00:00	3.500	395.1	60.1	254.2	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	1.000	1.309	1.032	3612.6	409.9	27.93	16.834
01:10:00	3.500	394.5	60.1	253.2	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	1.000	1.309	1.032	3612.3	409.2	27.90	17.028
01:20:00	3.500	394.9	60.0	252.9	1.5	0.0	0.584	2695.1	1.0	0.992	1.0	1.0	1.000	1.309	1.032	3613.1	409.6	27.95	17.222
01:30:00	3.500	394.2	59.9	225.7	1.5	0.0	0.584	2695.1	1.0	0.993	1.0	1.0	1.000	1.309	1.032	3616.5	408.9	27.55	17.376
01:40:00	3.500	394.9	60.0	221.0	1.5	0.0	0.584	2695.1	1.0	0.993	1.0	1.0	1.000	1.309	1.032	3616.9	409.7	26.23	17.558
01:50:00	3.500	395.4	60.0	221.6	1.5	0.0	0.584	2695.1	1.0	0.993	1.0	1.0	1.000	1.309	1.032	3617.0	410.1	26.09	17.740
02:00:00	3.500	395.4	60.0	220.2	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3611.4	410.1	26.07	17.921
02:10:00	3.500	394.3	59.8	221.6	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3611.7	409.1	26.10	18.102
02:20:00	3.500	395.0	59.9	220.6	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3611.8	409.7	26.08	18.283
02:30:00	3.500	394.0	59.9	222.5	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3611.3	408.8	26.10	18.464
02:40:00	3.500	395.3	60.0	220.9	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3611.5	410.0	26.10	18.645
02:50:00	3.500	395.3	60.0	221.2	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3611.6	410.0	26.12	18.827
03:00:00	3.500	395.6	60.0	221.3	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3611.3	410.3	26.12	19.008
03:10:00	3.500	395.4	60.1	220.8	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3611.2	410.1	26.09	19.189

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

Test No.	. 001	ilpictioi	<u> </u>							tait De	al <del>e</del>	30/00	) - 0 1/0	J112002	_				
Time hh:mm:ss	Orifice ins	GasP PSIG	GasT °F	GasD INWG	Co2 mol%	H2S ppm	GasSG fact	GasFb fact	GasFr fact	GasY fact	GasFpb fact	GasFtb fact	GasFtf fact	GasFgr fact	GasFpv fact	GasC fact	GasPf PSIA	QGas1av MM/d	Gas1Cum MMcf
04/07/02																			
03:20:00	3.500	395.3	60.2	221.6	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3610.5	410.0	26.12	19.371
03:30:00	3.500	395.3	60.2	222.3	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3610.3	410.0	26.16	19.552
03:40:00	3.500	395.7	60.2	220.7	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3610.6	410.4	26.13	19.734
03:50:00	3.500	396.0	60.2	238.7	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3608.7	410.8	21.67	19.827
04:00:00	3.500	395.7	60.3	237.0	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3608.4	410.5	27.01	20.015
04:10:00	3.500	396.4	60.5	238.0	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3607.6	411.1	27.07	20.203
04:20:00	3.500	396.4	60.5	238.4	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3607.7	411.1	27.07	20.391
04:30:00	3.500	396.0	60.7	238.7	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3606.7	410.7	27.08	20.579
04:40:00	3.500	396.4	60.8	237.5	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3606.4	411.1	27.06	20.767
04:50:00	3.500	396.5	60.7	238.4	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3606.7	411.2	27.11	20.955
05:00:00	3.500	396.4	60.8	238.6	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3606.4	411.1	27.07	21.143
05:10:00	3.500	396.2	60.9	236.6	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3606.2	410.9	27.00	21.331
05:20:00	3.500	397.0	60.9	239.1	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3606.2	411.7	27.08	21.519
05:30:00	3.500	397.2	61.0	238.7	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3605.9	411.9	27.09	21.707
05:40:00	3.500	398.1	61.2	240.1	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3604.9	412.8	27.17	21.896
05:50:00	3.500	397.3	61.1	239.6	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3605.4	412.1	27.17	22.084
06:00:00	3.500	397.3	60.9	239.0	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3606.1	412.0	27.16	22.273
06:10:00	3.500	397.0	61.0	238.9	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3605.9	411.7	27.17	22.462
06:20:00	3.500	397.0	60.9	240.3	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3606.0	411.8	27.20	22.650
06:30:00	3.500	415.9	61.2	245.2	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.034	3610.6	430.6	27.51	22.840
06:40:00	3.500	393.2	61.1	239.4	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.032	3603.7	407.9	27.22	23.032
06:50:00	3.500	399.0	61.0	240.7	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3606.0	413.7	27.27	23.221
07:00:00	3.500	400.4	60.5	240.7	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3608.8	415.1	27.39	23.411
07:10:00	3.500	399.7	60.4	240.6	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3609.0	414.4	27.33	23.601
07:20:00	3.500	398.7	60.6	241.1	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3607.9	413.4	27.36	23.791
07:30:00	3.500	399.3	60.6	243.0	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.033	3607.7	414.0	27.42	23.981
07:40:00	3.500	408.0	60.6	247.2	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	0.999	1.306	1.034	3610.5	422.7	28.05	24.174
07:50:00	3.500	398.7	60.3	241.3	1.5	0.0	0.586	2695.1	1.0	0.993	1.0	1.0	1.000	1.306	1.033	3608.8	413.4	27.39	24.365
08:00:00	3.500	399.4	60.3	241.9	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	1.000	1.311	1.032	3619.9	414.1	27.38	24.555
08:10:00	3.500	400.3	60.5	243.3	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	1.000	1.311	1.033	3619.6	415.1	27.51	24.746
08:20:00	3.500	399.3	60.4	240.8	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	1.000	1.311	1.032	3619.8	414.0	27.48	24.937
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Client	OMV Australia Pty Ltd	Exal Engineer M. Donald / N. Dowdell
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**Test No.** Completion **Start Date** 30/06 - 01/07/2002

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Time hh:mm:ss	Orifice ins	GasP PSIG	GasT °F	GasD INWG	Co2 mol%	H2S ppm	GasSG fact	GasFb fact	GasFr fact	GasY fact	GasFpb fact	GasFtb fact	GasFtf fact	GasFgr fact	GasFpv fact	GasC fact	GasPf PSIA	QGas1av MM/d	Gas1Cum MMcf
04/07/02																			
08:30:00	3.500	401.3	60.5	243.5	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.033	3619.5	416.0	27.54	25.128
08:40:00	3.500	404.8	60.9	237.3	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.033	3619.9	419.5	27.63	25.320
08:50:00	3.500	390.2	61.0	236.8	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.032	3614.5	404.9	26.98	25.509
09:00:00	3.500	386.2	61.0	229.4	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.031	3614.1	401.0	26.34	25.692
09:10:00	3.500	391.9	60.7	235.9	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.032	3616.3	406.6	26.77	25.878
09:20:00	3.500	395.7	60.7	236.0	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.032	3617.6	410.4	27.05	26.065
09:30:00	3.500	399.3	60.6	238.1	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.032	3619.0	414.0	27.23	26.254
09:40:00	3.500	401.0	60.6	242.1	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.033	3619.5	415.7	27.55	26.445
09:50:00	3.500	402.0	60.5	241.1	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.033	3620.1	416.7	27.53	26.636
10:00:00	3.500	401.4	60.7	242.3	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.033	3619.2	416.1	27.59	26.827
10:10:00	3.500	401.7	60.6	242.1	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.033	3619.7	416.4	27.53	27.018
10:20:00	3.500	402.0	60.5	241.6	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.033	3620.1	416.7	27.61	27.210
10:30:00	3.500	402.3	60.4	241.6	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	1.000	1.311	1.033	3620.5	417.0	27.60	27.402
10:40:00	3.500	402.6	60.6	243.4	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	0.999	1.311	1.033	3619.9	417.3	27.61	27.593
10:50:00	3.500	403.0	60.5	243.2	1.5	0.0	0.582	2695.1	1.0	0.993	1.0	1.0	1.000	1.311	1.033	3620.4	417.8	27.62	27.785
11:00:00	0.000	3.7	33.0	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.4	0.00	27.862
11:10:00	0.000	2.7	45.7	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.4	0.00	27.862
11:20:00	0.000	3.2	50.7	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.0	0.00	27.862
11:30:00	0.000	3.2	52.8	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.0	0.00	27.862
11:40:00	0.000	3.2	53.9	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.0	0.00	27.862
11:50:00	0.000	2.9	54.6	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.6	0.00	27.862
12:00:00	0.000	2.7	55.1	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.4	0.00	27.862
12:10:00	0.000	3.1	55.6	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.8	0.00	27.862
12:20:00	0.000	3.4	55.9	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.1	0.00	27.862
12:30:00	0.000	3.1	56.0	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.8	0.00	27.862
12:40:00	0.000	2.9	56.4	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.6	0.00	27.862
12:50:00	0.000	2.9	56.6	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.6	0.00	27.862
13:00:00	0.000	2.9	56.6	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.6	0.00	27.862
13:10:00	0.000	2.7	56.9	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.4	0.00	27.862
13:20:00	0.000	3.1	57.3	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.8	0.00	27.862
13:30:00	0.000	3.4	57.4	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.1	0.00	27.862
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Client Oliv Australia i ty Ltu Exal Engineer IVI. Donatu / IV. Dowael	Client	OMV Australia Pty Ltd	Exal Engineer M. Donald / N. Dowdell
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**Test No.** Completion **Start Date** 30/06 - 01/07/2002

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Time hh:mm:ss	Orifice ins	GasP PSIG	GasT °F	GasD INWG	Co2 mol%	H2S ppm	GasSG fact	GasFb fact	GasFr fact	GasY fact	GasFpb fact	GasFtb fact	GasFtf fact	GasFgr fact	GasFpv fact	GasC fact	GasPf PSIA	QGas1av MM/d	Gas1Cum MMcf
04/07/02																			
13:40:00	0.000	3.3	57.3	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.0	0.00	27.862
13:50:00	0.000	2.9	57.2	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.6	0.00	27.862
14:00:00	0.000	2.9	57.2	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.6	0.00	27.862
14:10:00	0.000	3.0	57.2	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.7	0.00	27.862
14:20:00	0.000	3.0	57.2	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.7	0.00	27.862
14:30:00	0.000	3.0	57.3	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	17.7	0.00	27.862
14:40:00	0.000	3.3	57.5	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.0	0.00	27.862
14:50:00	0.000	3.8	57.5	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.5	0.00	27.862
15:00:00	0.000	3.7	57.4	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.4	0.00	27.862
15:10:00	0.000	3.2	57.0	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.0	0.00	27.862
15:20:00	0.000	3.7	56.6	0.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	18.4	0.00	27.862
15:30:00	0.000	8.1	56.9	0.5	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	22.8	0.00	27.862
15:40:00	0.000	210.3	43.1	12.1	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	225.1	0.00	27.862
15:50:00	0.000	368.2	36.9	11.3	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	382.9	0.00	27.862
16:00:00	0.000	253.4	31.3	15.0	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	268.1	0.00	27.862
16:10:00	0.000	359.0	35.0	12.3	1.5	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	373.7	0.00	27.862
16:20:00	2.250	365.1	35.1	192.9	1.5	0.0	0.582	1039.5	1.0	0.994	1.0	1.0	1.025	1.311	1.036	1437.6	379.8	6.08	27.883
16:30:00	2.250	365.4	35.8	207.2	1.5	0.0	0.582	1039.5	1.0	0.994	1.0	1.0	1.024	1.311	1.035	1435.7	380.1	9.50	27.949
16:40:00	2.250	365.6	36.3	200.0	1.5	0.0	0.582	1039.5	1.0	0.994	1.0	1.0	1.024	1.311	1.035	1435.2	380.3	9.57	28.015
16:50:00	2.250	364.1	36.6	203.3	1.5	0.0	0.582	1039.5	1.0	0.994	1.0	1.0	1.023	1.311	1.035	1434.3	378.9	9.48	28.081
17:00:00	2.250	363.5	36.9	200.6	1.5	0.0	0.582	1039.5	1.0	0.994	1.0	1.0	1.023	1.311	1.035	1433.9	378.2	9.44	28.147
17:10:00	2.250	364.3	37.1	206.2	1.5	0.0	0.582	1039.5	1.0	0.994	1.0	1.0	1.023	1.311	1.035	1433.3	379.0	9.56	28.213
17:20:00	2.250	366.1	37.3	195.8	1.5	0.0	0.582	1039.5	1.0	0.994	1.0	1.0	1.023	1.311	1.035	1433.8	380.8	9.53	28.279
17:30:00	2.250	365.1	37.3	207.3	1.5	0.0	0.582	1039.5	1.0	0.994	1.0	1.0	1.023	1.311	1.035	1433.1	379.8	9.52	28.346
17:40:00	2.250	364.3	37.2	186.3	1.5	0.0	0.582	1039.5	1.0	0.994	1.0	1.0	1.023	1.311	1.035	1434.1	379.0	9.43	28.411
17:50:00	2.250	364.9	37.2	191.6	1.5	0.0	0.582	1039.5	1.0	0.994	1.0	1.0	1.023	1.311	1.035	1433.9	379.6	9.46	28.477
18:00:00	2.250	363.7	37.1	206.2	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.023	1.309	1.035	1431.1	378.4	9.46	28.543
18:10:00	2.250	363.2	36.9	197.7	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.023	1.309	1.035	1431.8	378.0	9.48	28.609
18:20:00	2.250	363.1	36.9	209.1	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.023	1.309	1.035	1431.2	377.8	9.52	28.675
18:30:00	2.250	362.9	37.1	204.4	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.023	1.309	1.035	1431.1	377.6	9.57	28.741
18:40:00	2.250	363.8	36.9	207.2	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.023	1.309	1.035	1431.5	378.6	9.50	28.806

Client	<b>OMV Australia Pty</b>	td Exal Engineer	M. Donald / N. Dowdell

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

Test No	Test No. Completio						Start Date					30/00 - 01/07/2002							
Time hh:mm:ss	Orifice ins	GasP PSIG	GasT °F	GasD INWG	Co2 mol%	H2S ppm	GasSG fact	GasFb fact	GasFr fact	GasY fact	GasFpb fact	GasFtb fact	GasFtf fact	GasFgr fact	GasFpv fact	GasC fact	GasPf PSIA	QGas1av MM/d	Gas1Cum MMcf
04/07/02																			
18:50:00	2.250	362.3	36.9	200.9	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.023	1.309	1.035	1431.5	377.0	9.46	28.872
19:00:00	2.250	363.4	37.3	208.9	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.023	1.309	1.035	1430.5	378.1	9.46	28.938
19:10:00	2.250	362.9	37.7	187.7	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.022	1.309	1.035	1430.8	377.6	9.44	29.003
19:20:00	2.250	364.3	37.9	196.8	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.022	1.309	1.035	1430.2	379.0	9.41	29.069
19:30:00	2.250	363.8	38.0	198.2	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.022	1.309	1.035	1429.9	378.5	9.34	29.134
19:40:00	2.250	363.0	38.1	194.9	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.022	1.309	1.035	1429.7	377.7	9.49	29.200
19:50:00	2.250	365.0	37.8	200.1	1.5	0.0	0.584	1039.5	1.0	0.994	1.0	1.0	1.022	1.309	1.035	1430.3	379.7	9.46	29.266
20:00:00	0.000	359.9	37.6	12.1	1.5	0.0	0.584	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	374.6	7.56	29.325
20:10:00	0.000	232.7	39.0	14.0	1.5	0.0	0.584	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	247.4	0.00	29.325
20:20:00	0.000	293.1	43.3	12.2	1.5	0.0	0.584	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	307.8	0.00	29.325
20:30:00	3.250	304.8	44.4	238.6	1.5	0.0	0.584	2276.6	1.0	0.991	1.0	1.0	1.015	1.309	1.028	3080.9	319.6	12.26	29.384
20:40:00	3.250	293.4	44.6	251.2	1.5	0.0	0.584	2276.6	1.0	0.990	1.0	1.0	1.015	1.309	1.027	3074.3	308.1	20.58	29.527
20:50:00	3.250	293.4	45.2	250.7	1.5	0.0	0.584	2276.6	1.0	0.990	1.0	1.0	1.015	1.309	1.027	3072.5	308.2	20.55	29.669
21:00:00	3.250	295.1	45.5	250.6	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.014	1.306	1.027	3067.4	309.8	20.56	29.812
21:10:00	3.250	295.8	45.8	250.8	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.014	1.306	1.027	3066.4	310.5	20.54	29.955
21:20:00	3.250	295.1	46.1	250.7	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.014	1.306	1.027	3065.0	309.9	20.55	30.097
21:30:00	3.250	296.7	46.5	250.7	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.013	1.306	1.027	3064.4	311.4	20.56	30.240
21:40:00	3.250	296.7	46.7	250.8	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.013	1.306	1.027	3063.5	311.4	20.53	30.383
21:50:00	3.250	296.4	46.9	250.2	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.013	1.306	1.027	3062.8	311.1	20.50	30.525
22:00:00	3.250	296.1	47.1	249.0	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.013	1.306	1.027	3062.1	310.8	20.52	30.668
22:10:00	3.250	296.6	47.3	249.6	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.012	1.306	1.027	3061.3	311.4	20.51	30.810
22:20:00	3.250	296.3	47.5	249.7	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.012	1.306	1.027	3060.5	311.1	20.50	30.953
22:30:00	3.250	296.6	47.6	251.3	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.012	1.306	1.027	3060.2	311.4	20.50	31.095
22:40:00	3.250	296.7	47.7	250.2	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.012	1.306	1.027	3059.9	311.4	20.51	31.238
22:50:00	3.250	295.6	48.0	252.5	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.012	1.306	1.027	3058.4	310.4	20.50	31.380
23:00:00	3.250	295.1	48.0	251.7	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.012	1.306	1.027	3058.2	309.9	20.49	31.522
23:10:00	3.250	295.8	48.1	250.4	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.012	1.306	1.027	3058.2	310.5	20.49	31.664
23:20:00	3.250	295.8	48.3	249.3	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.012	1.306	1.027	3057.8	310.6	20.47	31.807
23:30:00	3.250	295.6	48.5	250.7	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.027	3056.8	310.4	20.45	31.949
23:40:00	3.250	295.2	48.6	250.5	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.026	3056.3	309.9	20.43	32.091
23:50:00	3.250	295.0	48.5	249.5	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.026	3056.6	309.8	20.43	32.233
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Client	OMV Australia Pty Ltd	Exal Engineer	M. Donald / N. Dowdell
Well No.	Patricia-2	Location	Ocean Bounty
Test No.	Completion	Start Date	30/06 - 01/07/2002

		Other But		00/00 01/01/2002															
Time hh:mm:ss	Orifice ins	GasP PSIG	GasT °F	GasD INWG	Co2 mol%	H2S ppm	GasSG fact	GasFb fact	GasFr fact	GasY fact	GasFpb fact	GasFtb fact	GasFtf fact	GasFgr fact	GasFpv fact	GasC fact	GasPf PSIA	QGas1av MM/d	Gas1Cum MMcf
05/07/02																			
00:00:00	3.250	294.7	48.7	248.9	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.026	3055.9	309.4	20.39	32.374
00:10:00	3.250	295.0	48.8	249.9	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.026	3055.5	309.8	20.40	32.516
00:20:00	3.250	295.1	48.9	248.0	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.026	3055.4	309.9	20.36	32.657
00:30:00	3.250	291.8	48.9	250.9	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.026	3054.0	306.5	20.34	32.798
00:40:00	3.250	292.0	49.0	250.5	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.026	3053.7	306.7	20.32	32.939
00:50:00	3.250	294.5	49.2	246.9	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.026	3054.4	309.2	20.30	33.080
01:00:00	3.250	294.0	49.2	249.1	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.026	3053.7	308.7	20.27	33.221
01:10:00	3.250	294.7	49.3	246.8	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.011	1.306	1.026	3054.2	309.4	20.27	33.362
01:20:00	3.250	294.7	49.4	246.2	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.010	1.306	1.026	3053.8	309.4	20.28	33.503
01:30:00	3.250	293.7	49.4	249.4	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.010	1.306	1.026	3052.9	308.4	20.26	33.643
01:40:00	3.250	293.5	49.3	248.3	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.010	1.306	1.026	3053.4	308.2	20.31	33.784
01:50:00	3.250	292.4	49.5	249.1	1.5	0.0	0.586	2276.6	1.0	0.990	1.0	1.0	1.010	1.306	1.026	3052.1	307.1	20.25	33.925
02:00:00	0.000	286.9	49.5	14.3	1.5	0.0	0.586	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	301.7	12.14	34.038
02:10:00	0.000	374.9	56.4	13.8	1.5	0.0	0.586	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	389.6	0.00	34.038
02:20:00	0.000	381.7	59.2	13.0	1.5	0.0	0.586	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	396.4	0.00	34.038
02:30:00	3.750	388.9	60.5	177.8	1.5	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	1.000	1.306	1.032	4250.6	403.7	27.25	34.161
02:40:00	3.750	392.4	61.1	175.3	1.5	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.999	1.306	1.032	4249.2	407.1	27.27	34.350
02:50:00	3.750	393.2	61.5	178.1	1.5	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.999	1.306	1.032	4247.2	407.9	27.42	34.541
03:00:00	3.750	394.3	61.8	175.8	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.998	1.306	1.032	4247.4	409.0	27.45	34.731
03:10:00	3.750	394.9	62.1	177.0	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.998	1.306	1.032	4246.0	409.6	27.45	34.922
03:20:00	3.750	396.0	62.2	178.6	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.998	1.306	1.032	4245.5	410.7	27.55	35.113
03:30:00	3.750	396.0	62.3	180.0	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.998	1.306	1.032	4244.8	410.7	27.61	35.305
03:40:00	3.750	396.6	62.5	178.9	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.998	1.306	1.032	4244.1	411.3	27.63	35.497
03:50:00	3.750	397.3	62.5	180.3	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.998	1.306	1.032	4244.6	412.1	27.67	35.689
04:00:00	3.750	398.9	62.7	181.1	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4243.9	413.6	27.78	35.882
04:10:00	3.750	399.0	62.9	179.1	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4243.3	413.8	27.82	36.075
04:20:00	3.750	399.3	62.8	181.9	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4243.6	414.0	27.83	36.268
04:30:00	3.750	399.3	62.7	178.9	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4244.2	414.0	27.84	36.461
04:40:00	3.750	399.7	62.6	181.0	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4244.5	414.4	27.90	36.655
04:50:00	3.750	399.7	62.9	181.8	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4243.3	414.4	27.95	36.849
05:00:00	3.750	400.3	63.0	181.1	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4243.2	415.0	27.88	37.042

Client	OMV Australia Pty Ltd	Exal Engineer	M. Donald / N. Dowdell
Well No.	Patricia-2	Location	Ocean Bounty

**Test No.** Completion **Start Date** 30/06 - 01/07/2002

Test No	Test No. Completion			Start Date 30/00 - 01/07/2002															
Time hh:mm:ss	Orifice ins	GasP PSIG	GasT °F	GasD INWG	Co2 mol%	H2S ppm	GasSG fact	GasFb fact	GasFr fact	GasY fact	GasFpb fact	GasFtb fact	GasFtf fact	GasFgr fact	GasFpv fact	GasC fact	GasPf PSIA	QGas1av MM/d	Gas1Cum MMcf
05/07/02																			
05:10:00	3.750	400.9	62.9	179.6	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4243.9	415.7	27.87	37.236
05:20:00	3.750	401.0	62.9	181.5	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4243.7	415.7	27.92	37.430
05:30:00	3.750	400.2	62.9	180.9	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4243.3	414.9	27.95	37.624
05:40:00	3.750	400.4	63.1	182.7	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4242.3	415.1	27.96	37.818
05:50:00	3.750	400.6	63.3	181.1	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.7	415.4	27.92	38.012
06:00:00	3.750	400.6	63.3	181.3	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.6	415.4	27.90	38.206
06:10:00	3.750	401.6	63.3	180.0	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4242.0	416.4	27.94	38.400
06:20:00	3.750	401.4	63.4	180.8	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.4	416.1	27.96	38.594
06:30:00	3.750	401.2	63.5	180.7	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.1	415.9	27.92	38.788
06:40:00	3.750	400.6	63.4	181.1	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.1	415.4	27.96	38.982
06:50:00	3.750	400.6	63.5	184.0	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4240.4	415.4	27.98	39.177
07:00:00	3.750	400.6	63.4	181.6	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.0	415.3	27.95	39.371
07:10:00	3.750	401.9	63.4	181.6	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.7	416.7	27.99	39.565
07:20:00	3.750	401.7	63.3	181.1	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.8	416.4	28.03	39.760
07:30:00	3.750	401.4	63.5	181.6	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.0	416.1	27.96	39.954
07:40:00	3.750	401.6	63.5	183.2	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4240.5	416.3	28.04	40.149
07:50:00	3.750	401.6	63.5	182.3	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4240.7	416.4	28.02	40.344
08:00:00	3.750	401.6	63.5	182.7	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.0	416.4	28.06	40.538
08:10:00	3.750	401.3	63.4	181.4	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.2	416.0	27.89	40.732
08:20:00	3.750	401.5	63.5	180.8	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4240.9	416.2	28.00	40.927
08:30:00	3.750	401.7	63.4	184.2	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4240.9	416.4	28.05	41.121
08:40:00	3.750	402.7	63.5	182.3	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4241.4	417.4	28.02	41.316
08:50:00	3.750	401.3	63.5	182.8	1.3	0.0	0.586	3172.2	1.0	0.994	1.0	1.0	0.997	1.306	1.033	4240.5	416.0	27.94	41.510
09:00:00	3.750	401.4	63.6	181.3	1.3	0.0	0.582	3172.2	1.0	0.994	1.0	1.0	0.997	1.311	1.032	4253.3	416.1	28.06	41.705
09:10:00	3.750	400.9	63.7	182.8	1.3	0.0	0.582	3172.2	1.0	0.994	1.0	1.0	0.996	1.311	1.032	4252.5	415.7	28.07	41.900
09:20:00	3.750	401.3	63.5	183.4	1.3	0.0	0.582	3172.2	1.0	0.994	1.0	1.0	0.997	1.311	1.032	4253.3	416.0	28.09	42.095
09:30:00	3.750	401.6	63.9	180.3	1.3	0.0	0.582	3172.2	1.0	0.994	1.0	1.0	0.996	1.311	1.032	4252.1	416.3	28.07	42.290
09:40:00	3.750	402.9	63.7	183.0	1.3	0.0	0.582	3172.2	1.0	0.994	1.0	1.0	0.996	1.311	1.032	4253.2	417.6	28.14	42.486
09:50:00	3.750	402.5	63.7	181.9	1.3	0.0	0.582	3172.2	1.0	0.994	1.0	1.0	0.996	1.311	1.032	4253.1	417.3	28.13	42.681
10:00:00	0.000	400.8	64.6	181.7	1.3	0.0	0.582	0.0	0.0	0.000	0.0	0.0	0.000	0.000	0.000	0.0	415.6	22.55	42.857



## **SAMPLE LISTING**

QAD 065 Rev. 4 Issued Oct 1994

Client:OMV AustraliaWell No:Patricia-2Field:Vic/L21Test:CompletionRig:Ocean BountyJob No:J02/188

Sample No.	Test No.	Time	Date	Nature	Sampling Points	Container Description/ Sample Volume	Cylinder No.	Comments
1-1	Completion	15:00	03/07/2002	Water	Water Line	500ml Pyrex	1-1	
1-2	Completion	15:00	03/07/2002	Water	Water Line	5lt Steel Drum	1-2	
1-3	Completion	17:00	03/07/2002	Water	Water Line	500ml Pyrex	1-3	
1-4	Completion	17:00	03/07/2002	Water	Water Line	5lt Steel Drum	1-4	
1-5	Completion	19:00	03/07/2002	Water	Water Line	500ml Pyrex	1-5	
1-6	Completion	19:00	03/07/2002	Water	Water Line	5lt Steel Drum	1-6	
1-7	Completion	21:00	03/07/2002	Water	Water Line	500ml Pyrex	1-7	
1-8	Completion	21:00	03/07/2002	Water	Water Line	5lt Steel Drum	1-8	
1-9	Completion	23:00	03/07/2002	Water	Water Line	500ml Pyrex	1-9	
1-10	Completion	23:00	03/07/2002	Water	Water Line	4lt Steel Drum	1-10	
1-11	Completion	01:00	04/07/2002	Water	Water Line	500ml Pyrex	1-11	
1-12	Completion	01:00	04/07/2002	Water	Water Line	4lt Steel Drum	1-12	
1-13	Completion	03:00	04/07/2002	Water	Water Line	500ml Pyrex	1-13	
1-14	Completion	03:00	04/07/2002	Water	Water Line	4lt Steel Drum	1-14	
1-15	Completion	05:00	04/07/2002	Water	Water Line	500ml Pyrex	1-15	
1-16	Completion	05:00	04/07/2002	Water	Water Line	4lt Steel Drum	1-16	
1-17	Completion	07:00	04/07/2002	Water	Water Line	500ml Pyrex	1-17	
1-18	Completion	07:00	04/07/2002	Water	Water Line	4lt Steel Drum	1-18	
1-19	Completion	17:30	04/07/2002	Sep Gas	Sep Gas Line	20 Litre Luxfer	2357-CI-F	



## **SAMPLE LISTING**

QAD 065 Rev. 4 Issued Oct 1994

Client:OMV AustraliaWell No:Patricia-2Field:Vic/L21Test:CompletionRig:Ocean BountyJob No:J02/188

Sample No.	Test No.	Time	Date	Nature	Sampling Points	Container Description/ Sample Volume	Cylinder No.	Comments
1-20	Completion	17:45	04/07/2002	Sep Gas	Sep Gas Line	20 Litre Luxfer	3416-CI-F	
1-21	Completion	23:00	04/07/2002	Sep Gas	Sep Gas Line	20 Litre Luxfer	0687-CI-F	
1-22	Completion	23:00	04/07/2002	Water	Water Line	500ml Pyrex	1-22	
1-23	Completion	23:00	04/07/2002	Water	Water Line	5lt Steel Drum	1-23	
1-24	Completion	09:55	05/07/2002	Water	Water Line	500ml Pyrex	1-24	



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-1 Cylinder No: 1-1

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 03/07/2002 Time Start/Finish : 15:00 - 15:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 500ml Pyrex

Sample Volume : 500mls

H2S Concentration : Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company EXPRO



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-2 Cylinder No: 1-2

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 03/07/2002

Time Start/Finish : 15:00 - 15:15
Sampling Point : Water Line

: Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 5lt Steel Drum

Sample Volume : 5 Litres

H2S Concentration : Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-3 Cylinder No: 1-3

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 03/07/2002

Time Start/Finish : 17:00 - 17:15
Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 500ml Pyrex

Sample Volume : 500mls
H2S Concentration :

Liquid Gravity

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-4 Cylinder No: 1-4

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 03/07/2002

Time Start/Finish : 17:00 - 17:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 5lt Steel Drum

Sample Volume : 5 Litres

H2S Concentration :

Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-5 Cylinder No: 1-5

IDENTIFICATION

Sample Nature : Water
Date of Sampling : 03/07/2002

Time Start/Finish : 19:00 - 19:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 500ml Pyrex

Sample Volume : 500mls

H2S Concentration : Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company EXPRO



#### ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-6 Cylinder No: 1-6

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 03/07/2002

Time Start/Finish : 19:00 - 19:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 5lt Steel Drum

Sample Volume : 5 Litres

H2S Concentration :

Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-7 Cylinder No: 1-7

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 03/07/2002

Time Start/Finish : 21:00 - 21:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 500ml Pyrex

Sample Volume : 500mls

H2S Concentration :

Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



#### ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-8 Cylinder No: 1-8

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 03/07/2002

Time Start/Finish : 21:00 - 21:15
Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 5lt Steel Drum

Sample Volume : 5 Litres

H2S Concentration : Liquid Gravity :

Elquid Cravity .

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-9 Cylinder No: 1-9

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 03/07/2002
Time Start/Finish : 23:00 - 23:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS
Sample Container Type / Volume

Sample Container Type / Volume : 500ml Pyrex

Sample Volume : 500mls
H2S Concentration :

Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-10 Cylinder No: 1-10

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 03/07/2002

Time Start/Finish : 23:00 - 23:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 4lt Steel Drum

Sample Volume : 4 Litres

H2S Concentration :

Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-11 Cylinder No: 1-11

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 04/07/2002
Time Start/Finish : 01:00 - 01:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 500ml Pyrex

Sample Volume : 500

H2S Concentration :

Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-12 Cylinder No: 1-12

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 04/07/2002

Time Start/Finish : 01:00 - 01:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 4lt Steel Drum

Sample Volume : 4 Litres

H2S Concentration :

Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

**Sample No:** 1-13 **Cylinder No:** 1-13

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 04/07/2002

Time Start/Finish : 03:00 - 03:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 500ml Pyrex

Sample Volume : 500mls

H2S Concentration : Liquid Gravity :

**EXPRO** 

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-14 Cylinder No: 1-14

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 04/07/2002

Time Start/Finish : 03:00 - 03:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 4lt Steel Drum

Sample Volume : 4 Litres

H2S Concentration :

Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.



500ml Pyrex

500mls

## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-15 Cylinder No: 1-15

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 04/07/2002

Time Start/Finish : 05:00 - 05:15
Sampling Point : Water Line

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company

**EXPRO** 

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume

Sample Volume

Liquid Gravity

**H2S Concentration** 



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-16 Cylinder No: 1-16

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 04/07/2002
Time Start/Finish : 05:00 - 05:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 4lt Steel Drum

Sample Volume : 4 Litres

H2S Concentration :

Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.



## ATMOSPHERIC SAMPLE

**QAD 070** Rev. 6 Issued Jul 2000

**OMV** Australia Well No: Patricia-2 Client:

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-17 **Cylinder No:** 1-17

**IDENTIFICATION** 

Sample Nature Water Date of Sampling

04/07/2002 Time Start/Finish 07:00 - 07:15

Sampling Point Water Line FINAL TRANSPORTATION CONDITIONS

500ml Pyrex Sample Container Type / Volume

500mls Sample Volume

**H2S Concentration** 

Liquid Gravity

COMMENTS EXAL Sample Taken By:

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

**Sample No:** 1-18 **Cylinder No:** 1-18

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 04/07/2002

Time Start/Finish : 07:00 - 07:15

Sampling Point : Water Line

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 4lt Steel Drum

Sample Volume : 4 Litres

H2S Concentration :

Liquid Gravity :

COMMENTS Sample Taken By: EXAL

Data and Flowrates (averaged) entered manually from 3rd Party systems.

Production Conditions supplied by Well Test Company



## SURFACE SAMPLE

QAD 066

Rev. 6 Issued Feb 2000

Client:OMV AustraliaWell No:Patricia-2Test:CompletionRig:Ocean Bounty

Field: Vic/L21 Perforations:

**Sample No:** 1-19 **Cylinder No:** 2357-CI-F

**IDENTIFICATION** 

Sample Nature : Sep Gas

Date of Sampling : 04/07/2002

Time Start/Finish : 17:30 - 17:45

Sampling Point : Sep Gas Line

FINAL TRANSPORTATION CONDITIONS

Sample Cylinder Type : 20 Litre Luxfer
Volume of Cylinder : 20 Litres
Sample Volume : 20 Litres
Volume H2O removed for Gas Cap : n/a
Volume H2O left in Cylinder : n/a
Final Pressure : 364psig
Final Temperature : 37

SAMPLING CONDITIONS

Sampling Pressure : 364psig Sampling Temperature : 37degF

Sampling Method : Evacuated Cylinder

Sampling Duration : 15min(s)

**COUPLED WITH SAMPLES** 

Sample No. 1-20 in Cylinder No. 3416-CI-F

PRODUCTION CONDITIONS DURING SAMPLING

Bottom Hole Pressure : Gas prodn. rate st std. conditions : 9.51MM/scf

Bottom Hole Temperature : Gas gravity (Air = 1) : 0.582

at Depth : Gas line pressure : 365psig

Date/Time : Gas line temperature : 37DegF

Fpv (supercompressibility factor) : 1.035
Wellhead Pressure : 942psig Fb (basic orifice factor) : 1039.5

Wellhead Temperature : 66DegF Stock tank oil prodn. rate at std. conditions : n/a

Corrected by (shrinkage tester or tank) : n/a

Separator Pressure: 365psigShrinkage factor used: n/aSeparator Temperature: 37DegFSeparator oil production rate: n/a

Meter factor used : n/a
Carbon Dioxide (CO2) : 2mol% Oil gravity at 60 degF : n/a

Hydrogen Sulphide (H2S) : 0ppm Oil line temperature : n/a

Base Sediment Water production rate at separator conds. : 0

& Water (BS&W) : 0 Separator gas oil ratio (GOR) : n/a

Separator condensate gas ratio (CGR) : n/a

STANDARD CONDITIONS
Stock tank gas oil ratio (GOR) : n/a

Pressure : 14.73 psiA Stock tank condensate gas ratio (CGR) : n/a

Temperature : 60 degF Well producing through choke size : 40/64"

Time elapsed since stabilisation : 1 hour

Well Testing Company : EXPRO

COMMENTS Sample taken by: EXAL



## SURFACE SAMPLE

**QAD 066** 

Rev. 6 Issued Feb 2000

Client:OMV AustraliaWell No:Patricia-2Test:CompletionRig:Ocean Bounty

Field: Vic/L21 Perforations:

**Sample No:** 1-20 **Cylinder No:** 3416-CI-F

**IDENTIFICATION** 

Sample Nature : Sep Gas

Date of Sampling : 04/07/2002

Time Start/Finish : 17:45 - 18:00

Sampling Point : Sep Gas Line

FINAL TRANSPORTATION CONDITIONS

Sample Cylinder Type : 20 Litre Luxfer

Volume of Cylinder : 20 Litres

Sample Volume : 20 Litres

Volume H2O removed for Gas Cap : n/a

Volume H20 left in Cylinder : n/a

Final Pressure : 364psig

Final Temperature : 37DegF

SAMPLING CONDITIONS

Sampling Pressure : 364psig

Sampling Temperature : 37DegF

Sampling Method : Evacuated Cylinder

Sampling Duration : 15min(s)

COUPLED WITH SAMPLES

Sample No. 1-19 in Cylinder No. 2357-CI-F

PRODUCTION CONDITIONS DURING SAMPLING

Bottom Hole Pressure : Gas prodn. rate st std. conditions : 9.46MM/scf

Bottom Hole Temperature : Gas gravity (Air = 1) : 0.584

at Depth : Gas line pressure : 364psig

Date/Time : Gas line temperature : 37DegF

Fpv (supercompressibility factor) : 1.035
Wellhead Pressure : 941psig Fb (basic orifice factor) : 1039.5

Wellhead Temperature : 66DegF Stock tank oil prodn. rate at std. conditions : n/a

Corrected by (shrinkage tester or tank) : n/a
Separator Pressure : 364psig Shrinkage factor used : n/a
Separator Temperature : 37DegF Separator oil production rate : n/a

Meter factor used : n/a
Carbon Dioxide (CO2) : 2mol% Oil gravity at 60 degF : n/a

Carbon Dioxide (CO2) : 2mol% Oil gravity at 60 degF : n/a
Hydrogen Sulphide (H2S) : 0ppm Oil line temperature : n/a

Base Sediment Water production rate at separator conds. : 0

& Water (BS&W) : 0 Separator gas oil ratio (GOR) : n/a

Separator condensate gas ratio (CGR) : n/a

STANDARD CONDITIONS
Stock tank gas oil ratio (GOR) : n/a

Pressure : 14.73 paid.

Pressure : 14.73 psiA Stock tank condensate gas ratio (CGR) : n/a
Temperature : 60 degF Well producing through choke size : 40

Time elapsed since stabilisation : 1.25 hours Well Testing Company : EXPRO

COMMENTS Sample taken by: EXAL



## SURFACE SAMPLE

**QAD 066** 

Rev. 6 Issued Feb 2000

Client:OMV AustraliaWell No:Patricia-2Test:CompletionRig:Ocean Bounty

Field: Vic/L21 Perforations:

**Sample No:** 1-21 **Cylinder No:** 0687-CI-F

**IDENTIFICATION** 

Sample Nature : Sep Gas

Date of Sampling : 04/07/2002

Time Start/Finish : 23:00 - 23:15

Sampling Point : Sep Gas Line

FINAL TRANSPORTATION CONDITIONS

Sample Cylinder Type : 20 Litre Luxfer

Volume of Cylinder : 20 Litres

Sample Volume : 20 Litres

Volume H2O removed for Gas Cap : n/a

Volume H20 left in Cylinder : n/a

Final Pressure : 296psig

Final Temperature : 48DegF

SAMPLING CONDITIONS

Sampling Pressure : 295psig

Sampling Temperature : 48DegF

Sampling Method : Evacuated Cylinder

Sampling Duration : 15min(s)

COUPLED WITH SAMPLES

Sample No. in Cylinder No.

PRODUCTION CONDITIONS DURING SAMPLING

Bottom Hole Pressure : Gas prodn. rate st std. conditions : 20.5MM/scf
Bottom Hole Temperature : Gas gravity (Air = 1) : 0.586

at Depth : Gas line pressure : 296psig
Date/Time : Gas line temperature : 48DegF

Fpv (supercompressibility factor) : 1.027
Wellhead Pressure : 802psig Fb (basic orifice factor) : 2276.6

Wellhead Temperature : 76DegF Stock tank oil prodn. rate at std. conditions : n/a

Corrected by (shrinkage tester or tank) : n/a

Separator Pressure : 296psig Shrinkage factor used : n/a
Separator Temperature : 48DegF Separator oil production rate : n/a
Meter factor used : n/a

Carbon Dioxide (CO2) : 1.5%vol Oil gravity at 60 degF : n/a
Hydrogen Sulphide (H2S) : 0ppm Oil line temperature : n/a

Base Sediment Water production rate at separator conds. :

& Water (BS&W) : 0 Separator gas oil ratio (GOR) : n/a Separator condensate gas ratio (CGR) : n/a

STANDARD CONDITIONS
Stock tank gas oil ratio (GOR): n/a

Pressure : 14.73 psiA Stock tank condensate gas ratio (CGR) : n/a

Temperature : 60 degF Well producing through choke size : 64

Time elapsed since stabilisation : 5.75 Hours Well Testing Company : EXPRO

19b/d

COMMENTS Sample taken by: EXAL



500ml Pyrex

500mls

1.083

EXAL

## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-22 Cylinder No: 1-22

IDENTIFICATION

COMMENTS

Sample Nature : Water

Date of Sampling : 04/07/2002

Time Start/Finish : 23:00 - 23:15

Sampling Point : Water Line

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Sample Taken By:

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume

Sample Volume

Liquid Gravity

H2S Concentration



## ATMOSPHERIC SAMPLE

QAD 070 Rev. 6 Issued Jul 2000

Client: OMV Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

**Sample No:** 1-23 **Cylinder No:** 1-23

IDENTIFICATION

Sample Nature : Water

Date of Sampling : 04/07/2002
Time Start/Finish : 23:00 - 23:15

Sampling Point : Water Line Liquid Gravity

FINAL TRANSPORTATION CONDITIONS

Sample Container Type / Volume : 5lt Steel Drum

Sample Volume : 5 Litres
H2S Concentration : 0
Liquid Gravity : 1.083

COMMENTS Sample Taken By: EXAL

Water Line



## ATMOSPHERIC SAMPLE

**QAD 070** Rev. 6 Issued Jul 2000

Client: **OMV** Australia Well No: Patricia-2

Test: Completion Rig: Ocean Bounty

Field: Vic/L21 Perforations:

Sample No: 1-24 **Cylinder No:** 1-24

**IDENTIFICATION** 

Sample Nature Water Date of Sampling 05/07/2002 Time Start/Finish 09:55 Sampling Point

FINAL TRANSPORTATION CONDITIONS

5lt Steel Drum Sample Container Type / Volume Sample Volume 500mls

H2S Concentration 1.083 Liquid Gravity

COMMENTS EXAL Sample Taken By:





### **DISK INFORMATION**

Client: OMV Australia Pty Ltd. Well No.: Patricia-2

**Test:** Completion **Date:** 30/6 - 06/07/2002

### PATRICIA2 EVENTS.TXT

A diary of events. In particular all information on events which affect the readings of the transducers is recorded, eg opening of valves, power shut-downs, bleeding of lines, etc.

#### WELLHEAD.TAB

Contains the raw data readings taken from sensors on the choke manifold and annulus throughout the complete test period

Column 1	:	Date	dd/mm/yy
Column 2	:	Time	hh:mm:ss
Column 3	:	Up Choke Pressure	psia
Column 4	:	Up Choke Temperature	degF
Column 5	:	Down Choke Pressure	psig
Column 6	:	Down Choke Temperature	degF
Column 7	:	Annulus Pressure	psig

### FINALRAWDATA.TAB

Contains the raw data readings taken from sensors on the choke manifold, annulus and separator throughout the complete test period.

Column 1	:	Date	dd/mm/yy
Column 2	:	Time	hr:min:sec
Column 3	:	Choke size	/64th
Column 4	:	Orifice	inches
Column 5	:	Gas SG	fact
Column 6	:	Oil SG	fact
Column 7	:	Up Choke Pressure	psia
Column 8	:	Up Choke Temperature	degF
Column 9	:	Down Choke Pressure	psig
Column 10	:	Down Choke Temperature	degF
Column 11	:	Annulus Pressure	psig
Column 12	:	Gas Pressure	psig
Column 13	:	Gas Temperature	degF
Column 14	:	Gas Differential	inHg
Column 15	:	Oil Temperature	degF
Column 16	:	Heater Pressure	psig
Column 17	:	Heater Temperature	degF
Column 18	:	Condensate Rate	bbl/d
Column 19	:	Condensate Cummulative	Bbls
Column 20	:	Water Rate	bbl/d
Column 21	:	Water Cummulative	Bbls
Column 22	:	Average Gas Rate	Mmscf/d
Column 23	:	Gas Cummulative	Mmscf
Column 24	:	Condensate Gas Ratio (CGR)	Bbls/MMscf
Column 25	:	Water Gas Ratio (WGR)	Bbls/MMscf
Column 26	:	Sand Impact Rate	I/sec
Column 27	:	Sand Rate	gms/hr





## **DISK INFORMATION**

Client: OMV Australia Pty Ltd. Well No.: Patricia-2

**Test:** Completion **Date:** 30/6 - 06/07/2002

#### **GASCAL.TAB**

Contains the oil calculation factors and manual inputs for main flow period.

Column 1 Date dd/mm/yy Column 2 : Time hr:min:sec Column 3 Orifice inches Column 4 Gas Pressure psig Column 5 Gas Temperature degF Column 6 Gas Differential inHg Column 7 CO2 % % H2S Column 8 Column 9 Gas SG fact Column 10 Gas Fb fact Column 11 Gas Fr fact Column 12 Gas Y fact Column 13 Gas Fpb fact Column 14 Gas Ftb fact Column 15 Gas Ftf fact Column 16 Gas Fg fact Column 17 Gas Fpv fact Column 18 GasC fact Column 19 Gas Pf fact Average Gas Rate Column 20 MMcf/d Gas Cummulative MMcf Column 21





### **DISK INFORMATION**

OMV Australia Pty Ltd. Patricia-2 **Client:** Well No.:

Completion 30/6 - 06/07/2002 Test: Date:

File Name	Start Date/time	End Date/time	Description	Compression Type
PATRICIA2_EVEN	ΓS.TXT		Sequence of events	0
WELLHEAD.TAB			All upstream / downstream choke data and annulus	1
FINALRAWDATA.	ГАВ		All choke, annulus and separator data	1
GASCALCS.TAB			Gas calculation factors	1

#### **Compression Type**

0 = None

1 = Self Extracting

(PKUNZIP program supplied. YES/NO) 2 = Zip

### Self Extracting Tip

Type @ DOS prompt A:\ARCHIVE C: -d

where

A:\ARCHIVE is name of .EXE file on floppy in A: drive

is destination drive

-d restores all sub-directories automatically. ZIP Tip

Type @ DOS prompt C:

where

is destination drive C:

Type @ DOS prompt CD\

where

moves system to root directory Type @ DOS prompt A:\PKUNZIP -d A:\ARCHIVE

where

A:\PKUNZIP is name of .EXE file on floppy in A: drive

restores all sub-directories automatically

**A:\ARCHIVE** is name of .ZIP file on floppy in A: drive.







Date: 20 June 2002 Rig: Ocean Bounty

**Report Number:** Bit Diameter: 17 1/2" 1

00:00 - 24:00 Hours 30" x 20" @ 111.0 m MDRT **Report Period:** Last Casing:

Spud Date: 20/Jun/2002 16:00 Hours FIT:

**Days From Spud:** Mud Weight: 0.3 1.04 SG

Depth @ 2400 Hrs: 111.5 m MDRT ECD: 1.04SG 111.5 m TVDRT Mud Type: Seawater/Gel Sweeps

Lag Depth: Mud Chlorides: Returns to Seafloor Last Depth: **Est. Pore Pressure:** 0 m MDRT

**Progress:** 112.0 m DXC:

Water Depth: 52.5 m Last Survey: 111.5 m MDRT (Totco)

RT: 25.0 m **Deviation:** Inc. 0.25 °

## **OPERATIONS SUMMARY**

24 HOUR SUMMARY: Moved rig to Patricia-2 location. Set anchors and positioned rig. Spudded well at

1600hrs, 20/6/02. Drilled 26"/36" hole from 77.5 to 111.5m. Ran and cemented

30" casing.

**NEXT 24 HOURS:** Drill 17 1/2" section. Run and cement 13 3/8" casing.

CURRENT OPERATION @ 07:00 HRS (21/06/2002): Drilling 17 1/2" hole at 255m MDRT.

## **GEOLOGICAL SUMMARY**

#### **LITHOLOGY**

INTERVAL: 77.5 to 111.5 m MDRT

ROP (Range): 10 to 170 m/hr

Av. ROP: 55 m/hr

Returns to Seafloor

**GAS SUMMARY No Gas Data** 

#### **MUDLOGGING EQUIPMENT / PERSONNEL**

All Gas equipment working and calibrated. Waiting on new torque sensor. All personnel on board.

#### **WELLSITE GEOLOGISTS**



Date: 21 June 2002 Rig: Ocean Bounty

Report Number: 2 Bit Diameter: 17 ½

**Report Period:** 00:00 - 24:00 Hours **Last Casing:** 13 3/8" @ 326.0 m MDRT

**Spud Date:** 20/Jun/2002 16:00 Hours **FIT:** 

 Days From Spud:
 1.3
 Mud Weight:
 1.04 SG

 Depth @ 2400 Hrs:
 334.0 m MDRT
 ECD:
 1.04 SG

332.4 m TVDRT Mud Type: Seawater/Gel Sweeps

Lag Depth:Returns to SeafloorMud Chlorides:Last Depth:111.5 m MDRTEst. Pore Pressure:

**Progress:** 222.0 m **DXC:** 

Water Depth: 52.5 m Last Survey: 314.8 m MDRT RT: 52.0 m Deviation:  $11.75^{\circ}$ 

Az. 244.06 º

## **OPERATIONS SUMMARY**

24 HOUR SUMMARY: Made up and ran in hole with 17 ½ BHA. Drilled cement and shoe. Drilled from

111.5m to 334m (section TD). Pulled out of hole. Performed wiper trip. Ran and

cemented 13 3/8' casing.

**NEXT 24 HOURS:** Run and land Xmas tree. Run BOP and marine riser.

CURRENT OPERATION @ 07:00 HRS (22/06/2002) : Running Xmas tree.

## **GEOLOGICAL SUMMARY**

#### **LITHOLOGY**

INTERVAL: 111.5 to 190 m MDRT

**ROP (Range):** 12 to 260 m/hr

**Av. ROP:** 85 m/hr

Returns to Seafloor

INTERVAL: 190 to 334 m MDRT ROP (Range): 20 to 120 m/hr Av. ROP: 55 m/hr

Returns to Seafloor

GAS SUMMARY No Gas Data

#### **MUDLOGGING EQUIPMENT / PERSONNEL**

All Gas equipment working and calibrated.

#### **WELLSITE GEOLOGISTS**



Date: 22 June 2002 Rig: Ocean Bounty

Report Number: 3 Bit Diameter: 12 1/4"

**Report Period:** 00:00 - 24:00 Hours **Last Casing:** 13 3/8" @ 326.0 m MDRT

**Spud Date:** 20/Jun/2002 16:00 Hours **FIT:** 

Days From Spud: 2.3 Mud Weight: 1.04 SG

**Depth @ 2400 Hrs:** 334.0 m MDRT **ECD:** 

332.4 m TVDRT Mud Type: Seawater/Gel Sweeps

Lag Depth:Returns to seafloorMud Chlorides:Last Depth:334.0 m MDRTEst. Pore Pressure:

**Progress:** 0 m **DXC:** 

Water Depth: 52.5 m Last Survey: 314.8 m MDRT RT: 52.0 m Deviation:  $11.75^{\circ}$ 

Az. 244.06 º

## **OPERATIONS SUMMARY**

**24 HOUR SUMMARY:** Rigged up and ran subsea Xmas tree. Rigged up and ran riser and BOPs.

NEXT 24 HOURS: Complete running of BOPs. RIH with 12 1/4" BHA. Drill cement and shoetrack.

Drill 3m and perform FIT. Drill ahead.

CURRENT OPERATION @ 07:00 HRS (23/06/2002) : Making up 12 1/4 BHA

## **GEOLOGICAL SUMMARY**

No Drilling

#### **MUDLOGGING EQUIPMENT / PERSONNEL**

All Gas equipment working and calibrated.

#### **WELLSITE GEOLOGISTS**

1.73 SG EMW @ 334.0m MDRT

1.06 SG



### CONFIDENTIAL

Date: 23 June 2002 Rig: Ocean Bounty

Report Number: 4 Bit Diameter: 12.25 "

**Report Period:** 00:00 - 24:00 Hours **Last Casing:** 13 3/8" @ 326.0 m MDRT

**Spud Date:** 20/Jun/2002 16:00 Hours **FIT:** 

Days From Spud: 3.3 Mud Weight:

**Depth @ 2400 Hrs**: 404.0 m MDRT **ECD**: 1.07 SG

400.8 m TVDRT **Mud Type**: PHPA/KCI/Glycol 400.0 m MDRT **Mud Chlorides**: 42000 mg/l

 Lag Depth:
 400.0 m MDRT
 Mud Chlorides:
 42000 mg/l

 Last Depth:
 334.0 m MDRT
 Est. Pore Pressure:
 1.03 SG

 Progress:
 70.0 m
 DXC:
 Normal

 Water Depth:
 52.5 m
 Last Survey:
 383.7 m MDI

 Water Depth:
 52.5 m
 Last Survey:
 383.7 m MDRT

 RT:
 25.0 m
 Deviation:
 Inc. 13.44 °

 Az. 229.93 °

### **OPERATIONS SUMMARY**

24 HOUR SUMMARY: Completed running BOPs and riser. Commenced making up 12 1/4" BHA. RIH

and drilled out cement and shoe track. Drilled 3m new formation to 337m.

Performed leak off test to EMW of 1.73 SG. Drilled with sliding to 404m.

**NEXT 24 HOURS:** Drill with sliding to section TD. Commence running 9 5/8" casing.

CURRENT OPERATION @ 07:00 HRS (24/06/2002): Drilling and sliding ahead at 507 mMDRT

(499.7mTVDRT).

## **GEOLOGICAL SUMMARY**

#### **LITHOLOGY**

INTERVAL: 334 to 400 m MDRT

**ROP (Range):** 5 to 80 m/hr **Av. ROP:** 15 m/hr

Sequence of interbedded ARGILLACEOUS CALCILUTITE and ARGILLACOUS CALCISILTITE

ARGILLACEOUS CALCILUTITE: (40 - 100%) white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, sticky in part, 10-15% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 10-25% siliceous clay content, 10 to 20% calcisilt, grades to Argillaceous Calcisiltite in part, trace fine dark green glauconite.

ARGILLACEOUS CALCISILTITE: (0 - 60%) white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, 10-15% fossil fragments and forams (coral debris, bryozoa, spicules, shell fragments, forams), 15-30% siliceous clay content, 5 to 10% micrite, trace to 5% very fine to fine calcite grains, grades to Argillaceous Calcilutite in part, trace fine dark green glauconite.

#### **GAS SUMMARY**

**Background Gas** 

INTERVAL	Total Gas	C1	C2	C3	iC4	nC4	C5
mMDRT	(%)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
334 - 400	0	0	0	0	0	0	0



#### **CALCIMETRY**

Interval	Calcite	Dolomite
(m MDRT)	Range	Range
	(%)	(%)
334 - 400	55 - 84 %	0

Calcimetry being conducted at 5 to 10m intervals

### FORMATION PRESSURE ESTIMATION

Gas is very low and cuttings are normally shaped. These and all other indications suggest the formation is normally pressured.

#### **SAMPLE QUALITY**

Sampling conducted at 5 to 10m intervals depending on ROP.

#### MUDLOGGING EQUIPMENT / PERSONNEL

All Gas equipment working and calibrated.

### **MWD**

Sensor distances behind bit

Resistivity(EWR) 11.83m Gamma Ray(DGR) 14.75m Survey(DM) 18.33m

### **WELLSITE GEOLOGISTS**

1.73 SG EMW @ 334.0m MDRT



### CONFIDENTIAL

Date: 24 June 2002 Ria: Ocean Bounty

**Report Number:** Bit Diameter: 5 12 1/4"

13 3/8" @ 326.0 m MDRT **Report Period:** 00:00 - 24:00 Hours Last Casing:

Spud Date: 20/Jun/2002 16:00 Hours FIT:

**Days From Spud:** 4.3

Mud Weight: 1.08 SG Depth @ 2400 Hrs: 708.0 m MDRT ECD: 1.11 SG

646.6 m TVDRT Mud Type: PHPA/KCI/Glycol

Mud Chlorides: Lag Depth: 700.0 m MDRT 35000 mg/l **Est. Pore Pressure: Last Depth:** 404.0 m MDRT 1.03 SG **Progress:** DXC: 304.0 m Normal

Last Survey: Water Depth: 52.5 m 691.3 m MDRT **Deviation:** RT: 25.0 m Inc. 56.22 °

Az. 230.56 °

### OPERATIONS SUMMARY

Drilled (sliding and rotating) from 404 to 708m MDRT. 24 HOUR SUMMARY:

**NEXT 24 HOURS:** Drill to section TD. Run and cement 9 5/8" casing.

CURRENT OPERATION @ 07:00 HRS (25/06/2002) : Drill ahead at 850m.

## **GEOLOGICAL SUMMARY**

#### **LITHOLOGY**

**INTERVAL:** 400 to 490 m MDRT

ROP (Range): 6 to 12 m/hr Av. ROP: 19 m/hr

Interbedded ARGILLACEOUS CALCISILTITE and CALCILUTITE grading to ARGILLACEOUS **CALCILUTITE** 

ARGILLACEOUS CALCISILTITE (50-90%): light to light medium grey, light to medium olive grey, trace orange, soft, dispersive in parts, firm in parts amorphous, 5-10% fossil fragments (coral debris, bryozoa, spicules, shell fragments, forams), 20-35% siliceous clay content, recrystallised calcite in parts, 5 to 10% fine, clear to orange calcite grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Argillaceous Calcilutite.

CALCILUTITE (10-50%): very light to light medium grey, light to medium olive grey, soft, dispersive in parts, amorphous, trace to 5% fossil fragments and forams, 15-20% siliceous clay content, 5 to 10% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite.

**INTERVAL:** 490 to 520 m MDRT

ROP (Range): 9 to 65 m/hr Av. ROP: 16 m/hr

ARGILLACEOUS CALCISILTITE with interbedded MARL

ARGILLACEOUS CALCISILTITE (60-90%): light to light medium grey, light to medium olive grey, trace dark grey, soft to occasionally firm, dispersive in parts, firm in parts amorphous, 5% fossil fragments, 20-35% siliceous clay content, 5 to 10% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Argillaceous Calcilutite.

MARL (10-40%): very light to light medium grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30-40% siliceous clay content, trace to 5% calcisilt, trace very OMV Australia

fine dark green glauconite, grades to Argillaceous Calcilutite.

**INTERVAL:** 520 to 555 m MDRT

**ROP (Range):** 5 to 34 m/hr **Av. ROP:** 14 m/hr

Predominantly a CALCISILTITE sequence with interbeds of CALCARENITE and MARL

CALCISILTITE: (40 - 70%) very light to light medium grey, light to medium olive grey, soft to occasionally firm, amorphous, 5% fossil fragments, 10-15% siliceous clay content, 10 to 20% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Calcarenite.

MARL: (20 - 40%) very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30-40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite.

CALCARENITE: (0 - 20%) very light to light medium grey, white in parts, soft to firm, amorphous, silt to very fine clear to very light grey calcite grains, 5% fossil fragments, 10-15% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.

INTERVAL: 555 to 590 m MDRT

**ROP (Range):** 4 to 28 m/hr **Av. ROP:** 11 m/hr

An ARGILLACEOUS CALCISILTITE sequence with interbedded MARL and minor CALCARENITE.

ARGILLACEOUS CALCISILTITE: (50 - 75%) very light to light medium grey, light to medium olive grey, soft to occasionally firm, 5% fossil fragments, 10-25% siliceous clay content, 10 to 20% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to Calcarenite.

MARL: (20 - 35%) very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30-40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to Argillaceous Calcilutite

CALCARENITE: (5 - 30%) very light to light medium grey, white in parts, soft to firm, silt to fine clear to very light grey calcite grains, 5% fossil fragments, 10-15% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.

**INTERVAL:** 590 to 700 m MDRT

**ROP (Range):** 2 to 80 m/hr **Av. ROP:** 30 m/hr

Sequence of ARGILLACEOUS CALCISILTITES interbedded with CALCARENITE and MARL.

ARGILLACEOUS CALCISILTITE: (45 - 70%) very light to light medium grey, light to medium olive grey, soft to occasionally firm, trace to 5% fossil fragments, 10-25% siliceous clay content, 10 to 20% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated pyrite, grades to Calcarenite.

CALCARENITE: (5 - 30%) very light to light medium grey, white in parts, soft to firm, silt to fine clear to very light grey calcite grains, 5% fossil fragments, 5-10% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.



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MARL: (10 - 45%) white to very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, trace to 5% fossil fragments and forams, 20-30% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, trace disseminated and rare nodular pyrite, commonly grades to Argillaceous Calcilutite

#### **GAS SUMMARY**

<b>Background Gas</b>	Ba	ckq	rou	nd	Gas
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INTERVAL	Total Gas	C1	C2	C3	iC4	nC4	C5
	(%)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
400 - 490	0.01	67	0	0	0	0	0
490 - 520	0.01	112	0	0	0	0	0
520 - 555	0.02	172	0	0	0	0	0
555 - 590	0.03	277	0	0	0	0	0
590 - 700	0.08	650	0	0	0	0	0

#### **CALCIMETRY**

Interval (m MDRT)	Calcite Range (%)	Dolomite Range (%)		
400 - 490	56 - 89 %	0%		
490 - 520	49 - 66 %	0%		
520 - 555	53 - 78 %	0%		
555 - 590	56 - 82 %	0 - 4 %		
590 - 700	46 - 74 %	0 - 4 %		

#### **FORMATION PRESSURE ESTIMATION**

Backgound gas is relatively low. There is no connection gas. Cuttings are normally shaped. There is a slight deviation in the Dxc between 710 to 725m. A change in lithology also occurred at this interval and this Dxc change may be attributed to the formation change. It is interpreted that the formation is normally pressured.

#### **SAMPLE QUALITY**

Sampling conducted at 5m samples where ROP permits.

#### MUDLOGGING EQUIPMENT / PERSONNEL

All Gas equipment working and calibrated.

#### **MWD**

Sensor distances behind bit

Resistivity(EWR) 11.83m Gamma Ray(DGR) 14.75m Survey(DM) 18.33m

#### **WELLSITE GEOLOGISTS**

1.73 SG EMW @ 334.0m MDRT



### CONFIDENTIAL

Date: 25 June 2002 Rig: Ocean Bounty

Report Number: 6 Bit Diameter: 12 1/4"

**Report Period:** 00:00 - 24:00 Hours **Last Casing:** 13 3/8" @ 327.1 m MDRT

**Spud Date:** 20/Jun/2002 16:00 Hours **FIT:** 

 Days From Spud:
 5.3
 Mud Weight:
 1.10 SG

 Depth @ 2400 Hrs:
 884.0 m MDRT
 ECD:
 1.14 SG

701.3 m TVDRT Mud Type: PHPA/KCI/Glycol

 Lag Depth:
 884.0 m MDRT
 Mud Chlorides:
 45000 mg/l

 Last Depth:
 708.0 m MDRT
 Est. Pore Pressure:
 1.03 SG

 Progress:
 176.0 m
 DXC:
 Normal

 Water Depth:
 52.5 m
 Last Survey:
 862.9 m MDRT

 RT:
 25.0 m
 Deviation:
 Inc. 85.19 °

Az. 229.80 °

### OPERATIONS SUMMARY

24 HOUR SUMMARY: Continued to drill (sliding and rotating) 12 1/2" hole from 708 to 884m. POOH.

Conducted wiper trip. Circulated hole clean. POOH and rig up to run 9 5/8"

casing.

NEXT 24 HOURS: Run and cement 9 5/8" casing. Perform pressure tests. Make up 8 1/2" BHA.

RIH and drill to Total Depth.

CURRENT OPERATION @ 07:00 HRS (26/06/2002): Cemented casing. Preparing to run seal assembly.

## **GEOLOGICAL SUMMARY**

#### **LITHOLOGY**

INTERVAL: 700 to 721 m MDRT ROP (Range): 11 to 43 m/hr

**Av. ROP:** 29 m/hr

MARL and minor interbedded ARGILLACEOUS CALCISILTITE

MARL: (80%) medium grey, light to medium olive grey, minor dark grey, soft, rarely dispersive, amorphous to blocky, trace to 5% fossil fragments and forams, 20-35% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, trace disseminated and nodular pyrite. Grades to Calcareous Claystone.

ARGILLACEOUS CALCISILTITE: (20%) very light to medium grey, light to medium olive grey, soft to occasionally firm, blocky, trace to 5% fossil fragments, 15-25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to Calcarenite.

**INTERVAL:** 721 to 770 m MDRT

**ROP (Range):** 12 to 57 m/hr **Av. ROP:** 31 m/hr

MARL with interbedded ARGILLACEOUS CALCISILTITE

MARL: (40-90%) light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, 5-10% fossil fragments and forams, 20-40% siliceous clay content, trace to 5% calcisilt, 1-5% fine to medium dark green glauconite, trace disseminated and nodular pyrite. Grades to Calcareous Claystone.



ARGILLACEOUS CALCISILTITE: (10-60%) very light to medium grey, light to medium olive grey, soft to occasionally firm, blocky, trace to 5% fossil fragments, 15-25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to Calcarenite.

**INTERVAL:** 770 to 819 m MDRT ROP (Range): 10 to 103 m/hr

**Av. ROP:** 40 m/hr

Interbedded CALCAREOUS CLAYSTONE, MARL and GREENSAND with minor ARGILLACEOUS CALCISILTITE

CALCAREOUS CLAYSTONE (40-70%): light to medium greyish brown, light grey, light brownish yellow in parts, soft, amorphous to blocky, 15-25% calcareous content, 0-5% calcisilt, 1-10% fine to medium dark green glauconite, trace to 5% siderite(?) nodules.

MARL (10 - 60%): light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, 5% fossil fragments and forams, 20-35% siliceous clay content, trace to 5% calcisilt, 1-3% fine to medium dark green glauconite, trace disseminated and nodular pyrite. Grades to Calcareous Claystone.

GLAUCONITIC SANDSTONE(GREENSAND): (0 - 30%) medium to very dark green, firm, soft in parts, very fine to medium glauconite, sub angular to sub rounded. Increasing towards base of interval.

ARGILLACEOUS CALCISILTITE: (0 - 10%) very light to medium grey, light to medium olive grey, soft to occasionally firm, blocky, trace to 5% fossil fragments, 15-25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to Calcarenite

**INTERVAL:** 819 to 885 m MDRT **ROP (Range):** 11 to 120 m/hr

**Av. ROP:** 40 m/hr

SILTY SANDSTONE with minor CALCAREOUS CLAYSTONE

SILTY SANDSTONE: (50 - 95%) light to dark yellowish brown, loose and friable, minor firm, clear to translucent quartz grains, very fine to fine, poorly to moderately sorted, sub angular to sub rounded, 15-25% quartz silt, 5-15% argillaceous content, 1-3% glauconite, trace -1% mica, trace to 5% siderite nodules, trace multicoloured lithics, fair to good inferred porosity, no fluorescence.

CALCAREOUS CLAYSTONE: (5 - 50%) light to medium greyish brown, light grey, light brownish yellow, soft, firm in parts, amorphous to blocky, 10-25% calcareous content, 5-10% calcisilt, 5-15% fine to medium dark green glauconite. Grades to Claystone.

#### **HYDROCARBON FLUORESCENCE**

No Fluorescence

**GAS SUMMARY** 



# **OMV** Australia

• 111 • 7 10								
Background	d Gas							
INTERVAL	Total Gas	C1	C2	C3	iC4	nC4	C5	
	(%)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
700 - 721	0.12	1084	0	0	0	0	0	
721 - 770	0.12	1068	0	0	0	0	0	
770 - 819	0.19	1640	0	0	0	0	0	
819 - 884	4.1	38267	0	0	0	0	0	
Gas Peak								
INTERVAL	Total Gas	C1	C2	C3	iC4	nC4	C5	
	(%)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
842 - 842	12.5	99471	0	0	0	0	0	
858 - 858	5.13	48253	0	0	0	0	0	
871 - 871	10.65	92381	0	0	0	0	0	

#### **CALCIMETRY**

Interval (m MDRT)	Calcite Range (%)	Dolomite Range (%)
700 - 721	44 - 46 %	0%
721 - 770	44 - 64 %	0%
770 - 819	28 - 35 %	0%
819 - 884	2 - 8 %	0%

#### **FORMATION PRESSURE ESTIMATION**

There are no indications of overpressure.

#### **SAMPLE QUALITY**

Sampling conducted at 5m samples where ROP permits.

### MUDLOGGING EQUIPMENT / PERSONNEL

All Gas equipment working and calibrated.

#### **MWD**

Sensor distances behind bit

Resistivity(EWR) 11.83m Gamma Ray(DGR) 14.75m Survey(DM) 18.33m

#### **WELLSITE GEOLOGISTS**



Date: 26 June 2002 Rig: Ocean Bounty

Report Number: 7 Bit Diameter: 8 ½"

**Report Period:** 00:00 - 24:00 Hours **Last Casing:** 9-5/8" @ 872.4 m MDRT

**Spud Date:** 20/Jun/2002 16:00 Hours **FIT**: 1.4 SG EMW @ 872.4 m MDRT

Days From Spud: 6.3 Mud Weight: 1.07 SG

**Depth @ 2400 Hrs**: 884.0 m MDRT **ECD**:

 701.3 m TVDRT
 Mud Type:
 FLO-PRO/KCI

 884.0 m MDRT
 Mud Chlorides:
 32000 mg/l

 884.0 m MDRT
 Est. Pore Pressure:
 1.03 SG

Last Depth:884.0 m MDRTEst. Pore Pressure:1.03 SGProgress:0 mDXC:NormalWater Depth:52.5 mLast Survey:862.9 m MDRT

RT: 25.0 m Deviation: lnc. 85.19 °
Az. 229.80 °

### OPERATIONS SUMMARY

24 HOUR SUMMARY: Ran and cemented 9 5/8" casing. Tested seal assembly and BOPs. Made up 8

1/2" BHA and RIH. Tagged TOC at 848m. Commenced drilling shoe track.

**NEXT 24 HOURS:** Drill and slide to Total Depth.

CURRENT OPERATION @ 07:00 HRS (27/06/2002): Drilling and sliding at 945m MDRT.

## **GEOLOGICAL SUMMARY**

### LITHOLOGY No new drilling

Lag Depth:

#### **MUDLOGGING EQUIPMENT / PERSONNEL**

All Gas equipment working and calibrated.

#### **MWD**

Sensor distances behind bit

Survey (DM) 9.07m Gamma Ray(DGR) 11.69m Density (SLD) 14.89m Resistivity(EWR) 17.69m Porosity (CNP) 20.65m

#### **WELLSITE GEOLOGISTS**



Date: 27 June 2002 Rig: Ocean Bounty

Report Number: 8 Bit Diameter: 8 ½"

**Report Period:** 00:00 - 24:00 Hours **Last Casing:** 9-5/8" @ 872.4 m MDRT

**Spud Date:** 20/Jun/2002 16:00 Hours **FIT:** 1.4 SG EMW @ 872.0m MDRT

Days From Spud: 7.3 Mud Weight: 1.12 SG

**Depth @ 2400 Hrs:** 1365.0 m MDRT **ECD:** 1.28 SG

701.5 m TVDRT **Mud Type**: FLO-PRO/KCI-POLYMER

Lag Depth:1385.0 m MDRTMud Chlorides:72000 mg/lLast Depth:884.0 m MDRTEst. Pore Pressure:1.03 SGProgress:481.0 mDXC:Normal

 Water Depth:
 52.5 m
 Last Survey:
 1368.2 m MDRT

 RT:
 25.0 m
 Deviation:
 Inc. 90.46 °

Az. 234.02 °

### OPERATIONS SUMMARY

**24 HOUR SUMMARY:** Continued to drill shoe track. Drilled 3m of new formation from 884 to 887m.

Performed FIT to an EMW of 1.4 SG. Drilled (rotating and sliding) from 887 to

1365m (midnight depth).

NEXT 24 HOURS: Drilled from 1365 to total depth of 1385m MDRT (701m TVDRT). Reached TD at

0100hrs, 28/06/02. Circulate. Perform wiper trip. Circulate hole clean. Flow

check. Pump clean out pills. POOH and run sand screens.

CURRENT OPERATION @ 07:00 HRS (28/06/2002) : POOH to shoe

## **GEOLOGICAL SUMMARY**

#### **LITHOLOGY**

INTERVAL: 885 to 960 m MDRT

**ROP (Range):** 3 to 80 m/hr **Av. ROP:** 25 m/hr

Massive SILTY SANDSTONE

SILTY SANDSTONE: (100%) light to dark yellowish brown, greyish brown, loose and friable to hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 15-30% quartz silt, 5-15% argillaceous content, trace -2% glauconite, trace -1% mica, trace to 3% siderite nodules, trace multicoloured lithics, nil to trace forams, fair to very good inferred porosity, no fluorescence.

INTERVAL: 960 to 1060 m MDRT

**ROP (Range):** 3 to 100 m/hr **Av. ROP:** 40 m/hr

SILTY SANDSTONE grading to SANDSTONE

SILTY SANDSTONE: (100%) light to dark yellowish brown, greyish brown, loose and friable to rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 15-25% quartz silt, 5% argillaceous content, tr-1% glauconite, trace -1% mica, trace siderite nodules, trace multicoloured lithics, nil to trace forams, fair to good inferred porosity, no fluorescence. Grades to SANDSTONE

## **OMV** Australia

INTERVAL: 1060 to 1180 m MDRT

ROP (Range): 8 to 100 m/hr Av. ROP: 50 m/hr

Massive ARGILLACEOUS and SILTY SANDSTONE

ARGILLACEOUS / SILTY SANDSTONE (100%): light to dark yellowish brown, medium greyish brown, 5-10% friable to hard cemented siderite aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, angular to sub rounded, 20-30% quartz silt, 15-25% argillaceous content, trace - 1% glauconite, trace - 1% mica, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair inferred porosity, no fluorescence.

INTERVAL: 1180 to 1290 m MDRT

**ROP (Range):** 5 to 120 m/hr **Av. ROP:** 45 m/hr

SILTY SANDSTONE grading to SIDERITIC SANDSTONE (Silty) with proximity to the entry and exit to the Sub Grid Unit 4.

SILTY SANDSTONE: (80%) light to dark yellowish brown, medium greyish brown, dominantly loose and friable, trace hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 15-20% quartz silt, 10% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -2% mica, trace to 2% siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.

SIDERITIC / ARGILLACEOUS SANDSTONE: (20%) light to commonly dark yellowish brown, dark greyish brown, dominantly loose and friable, common hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, rare medium, poor to moderately sorted, angular to sub rounded, 15-20% quartz silt, 15-30% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -1% mica, 15-20% siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair inferred porosity, no fluorescence.

INTERVAL: 1290 to 1385 m MDRT

**ROP (Range):** 4 to 75 m/hr **Av. ROP:** 25 m/hr

Massive SANDSTONE grading to ARGILLACEOUS SANDSTONE

SANDSTONE: (70%) light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 10-15% quartz silt, 10% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -2% mica, trace siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, good inferred porosity, no fluorescence. Grades to Argillaceous Sandstone

ARGILLACEOUS SANDSTONE: (30%) light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 10-15% quartz silt, 15-30% argillaceous content (suspect clay content being dispersed into mud system), trace-1% glauconite, trace -2% mica, trace to 5% dark yellowish brown siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.

#### **HYDROCARBON FLUORESCENCE**

No Fluorescence



### **GAS SUMMARY**

Background	l Gas						
INTERVAL	Total Gas	C1	C2	C3	iC4	nC4	C5
	(%)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
885 - 960	2.25	17620	0	0	0	0	0
960 - 1060	3.68	26925	0	0	0	0	0
1060 - 1180	3.28	22200	0	0	0	0	0
1290 - 1385	2.6	19000	0	0	0	0	0
Gas Peak							
INTERVAL	Total Gas	C1	C2	C3	iC4	nC4	C5
	(%)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
950	4.16	31930	0	0	0	0	0
980	5.7	41970	0	0	0	0	0
1000	7.17	53680	0	0	0	0	0
1032	5.19	40350	0	0	0	0	0
1108	5.97	44450	0	0	0	0	0
1158	4.6	33950	0	0	0	0	0
1193	4.24	31980	0	0	0	0	0
1206	4.63	34800	0	0	0	0	0
1256	7.95	60000	0	0	0	0	0
1285	7.1	52000					
1374	4.65	30200					
Trip Gas							
INTERVAL	Total Gas	C1	C2	C3	iC4	nC4	C5
	(%)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
884	0.86						

### **CALCIMETRY**

Interval	Calcite	Dolomite	
(m MDRT)	Range	Range	
	(%)	(%)	
885 - 1385	0 - 2 %	0	

Calcimetry discontinued due to the addition of CaCO3 to the FloPro mud system (used to reduce water loss).

### FORMATION PRESSURE ESTIMATION

All indications suggest the formation is normally pressured.

#### **SAMPLE QUALITY**

Sampling conducted at 5 to 10m intervals dependant on ROP.

### MUDLOGGING EQUIPMENT / PERSONNEL

All Gas equipment working and calibrated.

### **MWD**

Sensor distances behind bit

Survey (DM) 9.07m Gamma Ray(DGR) 11.69m Density (SLD) 14.89m Resistivity(EWR) 17.69m Porosity (CNP) 20.65m

### **WELLSITE GEOLOGISTS**







### End of Well Report for OMV

Rig: Ocean Bounty

Well: Patricia-2

Field: Patricia

Country: Australia

Job No: AU-FE-02022

Date: 20-Jun-02

API No:



### **Table of Contents**

- 1. General Information
- 2. Operational Overview
- 3. Summary of MWD Runs
- 4. Bitrun Summary
- 5. Directional Survey Data



### General Information

Company: OMV

Rig: Ocean Bounty

Well: Patricia-2
Field: Patricia
Country: Australia

API Number:

Sperry-Sun Job Number: AU-FE-02022
Job start date: 20-Jun-02
Job end date: 28-Jun-02

North reference: Grid

Declination: 13.120 deg
Dip angle: -68.561 deg
Total magnetic field: 59948.832 nT

Date of magnetic data: 21-Jun-02

Wellhead coordinates N: 38 deg. 1 min 39.95 sec South
Wellhead coordinates E: 148 deg. 26 min 57.78 sec East

Vertical section direction: 231.56 deg

MWD Engineers: P. O'Shea P. Allen

M. Pope

Company Representatives: G. Howard

Company Geologist: P. Boothby R. Tolliday

Lease Name: VIC/L21
Unit Number: LT 1087
State: Victoria

County:



### Operational Overview

Sperry Sun Drilling Services was contracted by OMV to provide Logging While Drilling (LWD) services on the drilling of their well, Patricia-2. The well was drilled in permit VIC/L21 by Diamond Offshore General Company's rig the Ocean Bounty.

### 445mm Hole Section:

A basic suite of 8" LWD tools were run to log this hole section. The toolstring consisted of Dual Gamma Ray (DGR) and four phase Electromagnetic Wave Resistivity (EWRP4) that were used for formation evaluation. A Directional Module (DM) was run for deviation control, also providing Surveys on the Fly (SOTF). A Dynamic Drillstring Sensor (DDS) was also run for vibration analysis. This section was completed in one bit rut to 334.0 mMDRT. All tools performed well and all recorded data was obtained.

### 311 mm Hole Section:

A basic suite of 8" LWD tools (as run in the 445mm hole section) were run to log this hole section. This section was completed in one bit run from 334.0 to 884.0 mMDRT. All tools performed well and all recorded data was obtained.

### 216mm Hole Section:

A Triple Combo suite of 6 ¾" LWD tools were run in this hole section. The toolstring consisted of Dual Gamma Ray (DGR), four phase Electromagnetic Wave Resistivity (EWR-P4), Stabilised Litho Density (SLD), Compensated Neutron Porosity (CNP) tools that were used for formation evaluation. A Dynamic Drillstring Sensor was run for vibration analysis. A Position Monitor (PM) was run for deviation control. This section was completed in one bit run from 884.0 to 1385.0 mMDRT. All tools per and all recorded data was obtained.



### Summary of MWD runs

Run No.		Bit No.	Ho Siz (mm	e Sensors	Start Depth (m)	•		iReun Start oDeate Time	Run End Date Time	BRT Hrs.	Oper. Hrs.	Hrs	:Max. Temp. (degC)	Serv. Int.	Trip for MWD	Failure Type
0100	2		445.00	DIR-FE	111.56	334.00	222.44	21-Jun-02 00:42	21-Jun-02 14:32	13.85	13.8	6.59	17.00	No	No	
0200	3		311.00	DIR-FE	334.00	884.00	550.00	23-Jun-02 10:45	25-Jun-02 18:42	55.96	55.91	44.05	53.00	No	No	
0300	4		216.00	DIR-FE-NUKE	884.00	1385.00	501.00	26-Jun-02 19:47	28-Jun-02 11:44	39.95	39.9	22.98	47.00	No	No	

Job NoAU-FE-02022 Well No.: Patricia-2 End of Well Report Page 3

109.75 109.76 73.62

0

0

1273.44

TOTALS ====>



### Bitrun Sm mary

Ru	un Time Data	Drillin	ng Data	Mud Data					
MWD Run:	0100	Start Depth :	111.56 m	Mud Type: Sea V	Vater				
Rig Bit No:	2	End Depth :	334.00 m	Weight / Visc :1.06	sg / 100.00	spqt			
Hole Size :	445.00 mm	Footage :	222.44 m	Chlorides: 0.00	ppm				
Run Start :	21-Jun-02 00:42	Avg. Flow Rate :	780.00 gpm	PV / YP: 0.00	cp / 0.00	lhf2			
Run End :	21-Jun-02 14:32	Avg. RPM :	102.00 rpm	Solids/Sand : N/A	% / N/A	%			
BRT Hrs :	13.85	Avg. WOB :	7.50 klb	%Oil / O:W : N/A	% / N/A				
Circ. Hrs :	6.59	Avg. ROP :	55.50 m/hr	pH/Fluid Loss0.00	pH / 0.00	mptm			
Oper. Hrs :	13.85	Avg. SPP :	1220.00 psig	Max. Temp. : 17.00	degC				
MW	D Schematics		BHA Schematics						
(8)	8.Pulse	(14)	Component		Length O.D. (m) (mm)	I.D. (mm)			
(7)	SN: 59420 7.Cross Over <b>\$</b> u SN: 175215	(12)	44 IIWDD		440 5 407 000	70.000			
	6.DM	(10)	14. HWDP		140.45 127.000				
	SN: 29034		13. Cross O	ver Sub	1.08 203.000	49.000			
(5)	19.69 m Distance from B	(9)	12. Drill colla	ar	9.22 203.200	49.000			
(5)	5.Cross Over <b>S</b> u		11. Drill colla	ar	9.26 203.200	49.000			
(4)	SN: 43488	(8)	10. Drilling J	ars	9.69 203.000	49.000			
	4.HCM	(7)	09. Drill colla	ar	9.53 203.200	49.000			
(4)	SN: 100206	(7)	08. Drill colla	ar	9.39 203.200	50 800			
(3)		(6)							
	3.DGR-D <b>B</b>	(6) (5)	07. Drill colla		9.52 203.200	/1.3/0			
	SN: 102971		06. Float Su	b	0.70 50.800	25.400			
(2)	16.11 m Distance from B 2.EWR-P4	(4)	05. 8" MPT v	w/Dir	6.27 203.000	49.000			
	SN: 121428		04. 8" RLL v	//DGR + EWR	6.99 203.000	49.000			
	13.19 m Distance from B	<b>(</b> 3)	03. Cross O	ver Sub	1.22 203.000	49 000			
	1.Cross Over <b>S</b> u	(2)	02. 9-5/8" Sp		9.59 244.470				
(1)	SN: DA8001		01. Security	•	0.42 445.000				
	Co	mments	OT. Occurry	<del>-</del>	/D Performance				
Drilled from	111.5 to section TD at 334.0		ded data recov						
surface.	111.5 to section 1D at 554.0	IIIWDKT. All Tecor	ueu uata recov	MWD Real-time %25					
				MWD Recorded%:0					
]				Min. Inc.: 0.					
					.89 deg/ 308.				
					14.06 deg				
				Max Op. Press.: 88	ŭ				
					שידים די				



### Bitrun Sm mary

Ru	ın Time Data		Drillin	g Data	 a	Mud Data				
MWD Run :	0200	Start	Depth :	334.00		Mud Type: KCI/F				
Rig Bit No:	3		Depth :	884.00		Weight / Visc 1.08	sg /	54.00	spqt	
Hole Size :	311.00 mm	Foota	•	550.00		Chlorides: 3500	-	34.00	<b>ορ</b> γι	
Run Start :	23-Jun-02 10:45		_	847.00		PV / YP : 9.00		10.00	lhf2	
Run End :	25-Jun-02 18:42	_	Flow Rate:	67.00	-	Solids/Sand : 5	cp /	18.00	%	
BRT Hrs :	55.96	_	RPM:		rpm klb	%Oil / O:W: 3	% / % /	tr 3/92	70	
			WOB:	14.80					4	
Circ. Hrs :	44.05	_	ROP:	19.10		pH/Fluid Loss8.70	pH /	5.60	mptm	
Oper. Hrs :	55.96	Avg.	SPP:	2102.0		Max. Temp. : 53.00				
MWE					BHA Schematic	CS				
(8)	(11)		Com	ponent		Length	O.D.	I.D.		
			Щ				(m)	(mm)	(mm)	
	8.Pulse		Щ							
	SN: 59420	(10)	- 11							
(7)			- 11							
	7.Cross Over <b>S</b> u	(9)								
(6)	SN: 175215	(-)	Н							
			П							
	6.DM	(8)								
	SN: 29034 18.33 m Distance from B	+	Щ							
(5)	5.Cross Over <b>S</b> u			11 2	0 x HW	חם	277 10	127.000	76 200	
(4)	SN: 43488	(7)	Щ							
			Щ	10. 3	0 x Dril	l Pipe	289. <b>8</b>	127.0 <b>0</b>	108.610	
	4.HCM	(6)		09. 3	x HWD	)P	27.5	127.000	76.200	
(2)	SN: 100206	(5)		08. E	rilling J	lars	9.22	203.000	49.000	
(3)		(4)			x HWI		26 /R	127.000	76 200	
	3.DGR-D <b>B</b>		- 11							
	SN: 102971	<b>.</b>		06. C	cross O	ver Sub	1.08	203.000	49.000	
(2)	14.75 m Distance from B 2.EWR-P4	(3)		05. F	loat Su	b	0.70	50.800	25.400	
	SN: 121428		- 11	04. 8	" MPT \	w/Dir	6.27	203.000	49.000	
	11.83 m Distance from B	<b>t</b> (2)		03 8	" RII v	v/DGR + EWR	6.99	203.000	49 000	
	1.Cross Over <b>S</b> u		- 11		" Sperr			203.200		
(1)	SN: DA8001	(1)								
		(1)		UI. R	teed IVII	HT13GC		311.000		
		mme					/D Perf			
Drilled from 3 surface.	334.0 to section TD at 884.0	) mME	ORT. All reco	rded da	ta recov	1		m/ FE		
						MWD Real-time%25		/ 95.		
						MWD Recorded%:0			0.00 %	
								•	7.81 m	
								•	2.88 m	
							29.80 de	•		
						Max Op. Press. : 17	700.00 ps	sig		



### Bitrun Sm mary

Run Time Data	Dri	Iling Data	I м	ud Data				
MWD Run : 0300	Start Depth :	884.00 m	Mud Type: Flo-P					
Rig Bit No: 4	End Depth :	1385.00 m	Weight / Visc 1.12	sg / 60.00	spqt			
Hole Size: 216.00 mm	Footage :	501.00 m	Chlorides: 72000	· ·	op 4.			
Run Start : 26-Jun-02 19:47	Avg. Flow Rate		PV / YP : 11.00	cp / 32.00	lhf2			
Run End : 28-Jun-02 11:44	Avg. RPM:	66.00 rpm	Solids/Sand: 8	% / 0.25	%			
BRT Hrs: 39.95	Avg. WOB:	11.10 klb	%Oil / O:W : N/A	% / N/A/92				
Circ. Hrs: 22.98	Avg. ROP :		pH/Fluid Loss 9.50	pH / 4.80	mptm			
Oper. Hrs: 39.95	Avg. SPP:		Max. Temp. : 47.00	•	,			
MWD Schematics		BHA Schematics						
9.Cross Over <b>S</b> u					<del></del>			
(9) SN: 170531	(9)	Component		Length O.D.	I.D.			
(8)				(m) (mm)	(mm)			
8.HCM	<u> </u>							
SN: 110409	(8)							
7.CNP	Ш							
SN: 117334								
20.65 m Distance fro	m B (7)							
(6) 6.EWR- <b>P</b>	- 1							
SN: 81799								
17.69 m Distance fro	n B (6)							
5.Cross Over <b>3</b> u (5) SN: 21692	(5)							
SIV. 21002								
(4) 4.SLD		09. 3 x HW[	)P	27.5 127.000	76.200			
SN: 105255	(4)			9.64 165.000				
14.89 m Distance fro	m B t	08. Drilling						
(3) 3.DGR		07. 3 x HW[	)P	26.48 127.000	76.200			
SN: 43991	(3)	06. Float Su	b	0.70 165.000	73.000			
11.69 m Distance fro	n B t	05. 6-3/4 MI	PT	3.47 171.450	46.740			
2.Cross Over <b>S</b> u SN: 170533		04. 6-3/4 RI	L w/DGR+EWR+SL	<b>IO+C3N2</b> 171.450	48.510			
(1)	(2)	03. 6-3/4 Di	r	2.73 171.450	49.000			
1.PM		02. 6-3/4" S		7.49 171.450				
SN: 106311	5/1)		•					
9.07 m Distance fro		01. Reed El	1	0.26 216.000				
	Comments			D Performano				
Drilled from 884.0 to section Td at 13 recovered at surface.	85.0 mMDRT, well	TD. All recorded of			le Combo			
Todayorda di dunido.			MWD Real-time%:0					
			MWD Recorded%:0		.00 %			
				· ·	6.95 m			
				· ·	.39 m			
				4.02 deg				
			Max Op. Press. : 25	psig				



### **Directional Survey Data**

Measured Depth	Inclination	Direction	Vertical Depth	Latitude	Departure	Vertical Section	Dogleg
(metres)	(degrees)	(degrees)	(metres)	(metres)	(metres)	(metres)	(deg/30m
75.9	0.00	0.00	75.9	0.00N	0.00E	0.00	TIE-IN
137.95	0.98	9.90	137.95	0.52N	0.09E	-0.40	0.47
165.42	1.05	16.3	165.41	0.99N	0.20E	-0.78	0.15
192.59	1.25	321.00	192.58	1.46N	0.09E	-0.98	1.19
221.64	2.72	262.28	221.61	1.62N	0.79W	-0.38	2.40
250.74	6.36	248.26	250.62	0.93N	2.98W	1.75	3.90
280.05	10.5	243.19	279.60	0.89\$	6.88W	5.94	4.36
314.81	11.7	244.06	313.71	3.87S	12.9 W	12.5	1.04
337.81	11.6	239.93	336.23	6.06S	17.0: W	17.0!	1.10
355.14	12.1	235.45	353.19	7.96S	20.0: W	20.6	1.80
382.28	13.4	229.93	379.66	11.6 S	24.7! W	26.6	1.99
411.60	14.4	228.68	408.11	16.2: S	30.1 W	33.6	1.08
436.36	15.7	229.40	432.02	20.4 S	35.0 W	40.1	1.59
463.50	16.4	229.88	458.09	25.3; S	40.7! W	47.6	0.79
490.85	20.2	230.66	484.05	30.8 S	47.3 W	56.2	4.18
520.47	25.0 <sup>°</sup>	231.57	511.37	37.9°S	56.2\ W	67.6 <sup>-</sup>	4.89
545.72	30.2	231.75	533.73	45.2; S	65.4 W	79.3	6.12
574.70	36.0	230.71	557.99	55.1(S	77.7! W	95.2	6.10
601.82	41.6	229.84	579.10	66.0; S	90.8I W	112.22	6.14
632.62	46.7	229.27	601.19	79.9¦S	107.18W	133.65	4.97
661.71	51.6	229.87	620.20	94.2; S	123.94W	155.65	5.13
691.25	56.2	230.56	637.59	109.49S	142.28W	179.51	4.67
720.54	59.5	230.67	653.15	125.23S	161.46W	204.32	3.44
749.62	64.1	230.16	666.85	141.57S	181.22W	229.96	4.78
778.45	66.8	230.06	678.79	158.40S	201.35W	256.18	2.78
807.00	71.9	230.46	688.84	175.47S	221.89W	282.89	5.34
836.59	78.1	230.03	696.48	193.75S	243.86W	311.46	6.31
862.88	85.1	229.80	700.29	210.49S	263.75W	337.44	8.05
890.03	90.2	230.02	701.37	227.95S	284.49W	364.55	5.59
918.39	91.0	230.36	701.06	246.11S	306.28W	392.90	0.89
946.77	90.8	230.25	700.60	264.23S	328.11W	421.27	0.19
975.03	89.5	229.75	700.51	282.40S	349.76W	449.52	1.53
1002.56	90.6	230.40	700.48	300.07S	370.87W	477.04	1.42
1030.12	88.9	232.09	700.59	317.32S	392.36W	504.59	2.62
1056.95	87.9 <sup>-</sup>	231.93	701.32	333.82S	413.50W	531.41	1.07
1086.87	90.0	231.90	701.85	352.27S	437.04W	561.33	2.04
1112.97	90.6	232.56	701.71	368.26S	457.68W	587.42	1.03
1140.50	89.6	233.10	701.65	384.89S	479.61W	614.95	1.17
1170.64	89.9	233.29	701.74	402.95S	503.75W	645.07	0.36
1198.27	90.7	233.79	701.57	419.37S	525.97W	672.69	0.94



### **Directional Survey Data**

Measured Depth	Inclination	Direction	Vertical Depth	Latitude	Departure	Vertical Section	Dogleg
(metres)	(degrees)	(degrees)	(metres)	(metres)	(metres)	(metres)	(deg/30m
1224.64	89.5	231.69	701.50	435.33S	546.95W	699.05	2.70
1252.22	89.91	231.72	701.62	452.42S	568.60W	726.63	0.34
1281.21	90.9	232.67	701.40	470.19S	591.51W	755.62	1.49
1310.13	89.6	232.72	701.24	487.71S	614.51W	784.53	1.35
1339.08	89.8	233.39	701.37	505.11S	637.64W	813.47	0.72
1368.17	90.4	234.02	701.30	522.33S	661.09W	842.54	0.92
1385.00	90.4	234.02	701.16	532.22S	674.71W	859.35	0.01



### **Directional Survey Data**

CALCULATION BASED ON MINIMUM CURVATURE METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD

VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 231.56 DEGREES (GRID)

A TOTAL CORRECTION OF 14.01 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 1385.00 METRES
IS 859.36 METRES ALONG 231.73 DEGREES (GRID)

Surveys have been SAG corrected.
Final survey extrapolated to TD.



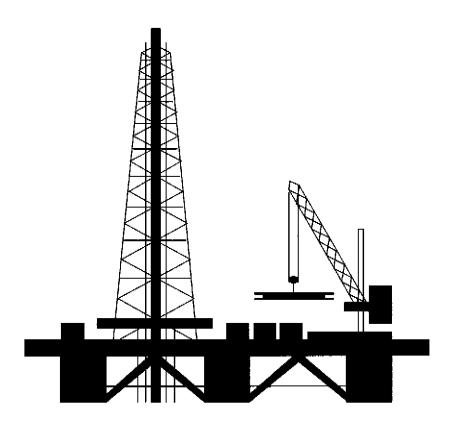
### Sperry-Sun, A Halliburton Company







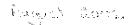
### OMV AUSTRALIA PTY. LTD.



### DIRECTIONAL DRILLING END OF WELL REPORT









### OMV AUSTRALIA PTY. LTD.

WELL: PATRICIA #2

### TABLE OF CONTENTS

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DAILY DIRECTIONAL

DRILLING REPORTS

OMV Australia Ptv. Ltd. \_\_\_\_\_Patricia #2

Client

OMV Australia Pty. Ltd.

Well Name

Patricia #2

### Job Objectives:

To drill a horizontal producer to optimally drain the Patricia gas reservoir.

### Summary of Results;

### 36" Hole

BHA #1 was run in the 36" hole at 75.98mMD. The bit used was a 26" Smith DSJC tooth bit with a 36" hole opener. The bit was ran with a total flow area of 0.967 in2mm2, with the bit having a total of 3 x 18/32nds and 1 x 17/32nd jets. The average flow rate used was 525gpm. The drilling fluid used was a seawater system. The circulating pressure averaged 1000psi. The average WOB was 8 klbs to a maximum of 10 klbs. The ROP averaged 60 m/hr. This assembly was pulled at 111.50 metres. This assembly drilled the 36" inch hole with no difficulty and the bit, which had been run on the Balcen #3 well, came out 1-1-NO-A-E-I-NO-TD.

### Additional Comments

The Toteo survey showed @ 1/4°.

### BHA#1 Hours

BHI Mudloggers- 0.6 drilling hours and 0.8 total circulating hours.

IADC Tour Book- 1.0 drilling hours and 1.5 total circulating hours.

### 171/2" Hole

This section was drilled without incident using a 9-5/8" Sperry-Drill set at 1.5° bent housing. Angle was built to 12° along the proposed 240° Azimuth without problem, the assembly being capable of up to 5°/30m with 800 gpm in 100% oriented mode.

### Additional Comments

Flow rates could have been increased upon reaching TD of this section to 1000 GPM to aid in hole cleaning. It was necessary to keep it low for the build or we would have washed all our angle away.

### BHA # 2 Hours

MWD/LWD loggers- 4.01 drilling hours and 6.59 total circulating hours.

IADC Tour Book- 5.5 drilling hours and 8.0 total circulating hours.

### 12¼" Hole

An 8" Performance Sperry Drill 1.5° was used to drill this section. Proposed build rates were 4°/30m, and from experience on Balleen 3 it was decided a 1.5° bent housing would be required. A Reed Milled tooth, type MHT13GC was selected to drill the section, and this performed well, being graded 1-1-NO-E-I-NO-TD.

Average flow rate used for this section was 850 GPM, with only 50 to 100 psi Differential pressure being generated with an average of 30klb oriented and 12-15 klb while rotating. ROP averaged 11m/hr in slide mode and 17 m/hr in rotary, and the 550m section was drilled in one 39 hr, run at an overall ROP of 14m/hr.

The motor averaged 5°/30m doglegs with an average set of 10 meters per stand. This assembly was capable of 10°/30m doglegs. On reaching TD in the top Gurnard a wiper trip was made back to the shoe and no fill or tight hole was encountered. The trip out was without incident, and 9-5/8" casing was run to bottom without any problems.

### Additional Comments

Again this assembly was pumped at high rates and working the pipe Highside once TDed, to avoid losing angle in the soft sands of the Gurnard. A wiper trip went very well with no fill or tight spots. As a precaution the first few stands were pumped out.

### BHA#3 Hours

MWD/LWD loggers- 28.8 drilling hours and 44.05 total circulating hours.

IADC Tour Book- 39.25 drilling hours and 44.00 total circulating hours.

### 81/2" Hole

A 6-3/4" 6/7 lobe Sperry-Drill was picked up and set to 1.5 degrees. The float shoe and cement were drilled with reduced parameters to minimize vibration, and drilling then proceeded according to the Directional proposal. The well was landed with a 6"/30m dogleg severity at 701m TVD, and the horizontal section was drilled in one run to 1385m MD. TVD ranged through the run from 701.1m to 701.7m. The motor averaged 2.5"/30m doglegs with an average set of 8 meters. It is estimated that in full slide mode the assembly could achieve 9"/30m doglegs. The assembly was pulled at a measured depth of 1385 meters, with an extrapolated inclination of 90.5° at a direction of 234.0°, after reaching TD of the well.

Stiding after the first couple of singles became difficult until HWDP was added and the flow rate was increased from 550 GPM to 580 GPM. It slowed down again for the last 3 stands prior to TD.

Throughout the run a total of 43m was drilled in oriented mode at an average of 8m/hr, and 458m was drilled in rotary mode at an average 24m/hr. This resulted in the 501m section being drilled in 22 hours at an overall ROP of 23m/hr.

OMV Australia Pty. Ltd. Patricia #2

### Additional Comments

Sliding after the first couple of singles became difficult until HWDP was added and the flow rate was increased from 550 GPM to 580 GPM. It slowed down again when we got a couple of stands from Final TD.

### BHA#4 Hours

MWD/LWD loggers- 14.4 drilling hours and 22.98 total circulating hours. IADC Tour Book- 22.00 drilling hours and 27.00 total circulating hours.

### **Discussion:**

BHA #	Bit #	Motor Run#	Hole Size (in)	MD In (m)	MD Out (m)	TVD In (m)	TVD Out (m)	inc in (deg)	inc Out (deg)	Azi In (deg)	Azi Out (deg)	Drig hrs	Circ hrs
1 1	1771		26.000	/8	111	/8	111	0.0	0.6	10	10	1	1
2	2rr1	1 1	17.500	111	334	111	332	0.6	11.6	10	241	6	3
3	3	2	12.250	334	884	332	701	11.6	89.1	241	230	39	5
4	4	3	8.500	884	1385	701	701	89.1	90.5	230	234	22	5

Table 1 - BHA Summary

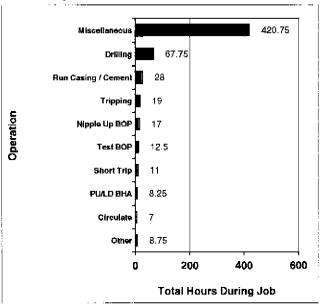
Motor Run #	Manufacturer	Туре	Lobe	OD (in)	Gauge (in)	Bend (deg)	Adj	DLS (Ori) (°/30m)	ROP (Ori) (m/hr)	ROP (Rot) (m/hr)
1	SSDS	SperryDrill	6/7	9.625	17.250	1.50	Υ		30	45
2	\$\$DS	SperryDrill	4/5	8.000	12.125	1.50	Ÿ		11	17
. 3	SSDS	SperryDrill	6/7	6.750	8.250	1.50	Ÿ.	1.50	8	24

Table 2 - Motor Run Summary

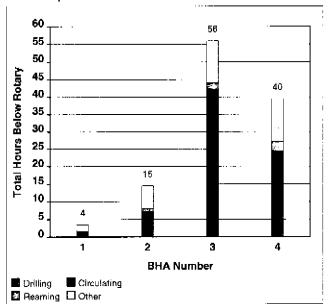
Bit #	Menufacturer	Style	OD (in)	Gge Len (in)	Nozzles (/32's)	TFA (ln²)	Dull Grades	Ftge (m)	Drig hrs	ROP (m/hr)
1rr1	Smith	DSJC	26.000		3x18, 1x17	0.967	0-0-NO-A -E-I-NO-TD	34	1.00	34
2rr1	Security DBS	XT1C	17.500		3x24	1.325	1-1 BU A -E-I-NO-TD	222	5,50	40
ј з	Reed	MHT13GC	12.250	1.000	3x15, 1x24	0.960	1-1-WT-G ET-NO-TD	550	39.25	14]
4	Reed	EHP41ALKD	8.500		3x14	0.451	1-2-ER-G -E-I-WT-TD	501	22.00	23
		Н			ļ					

Table 3 - Bit Run Summary

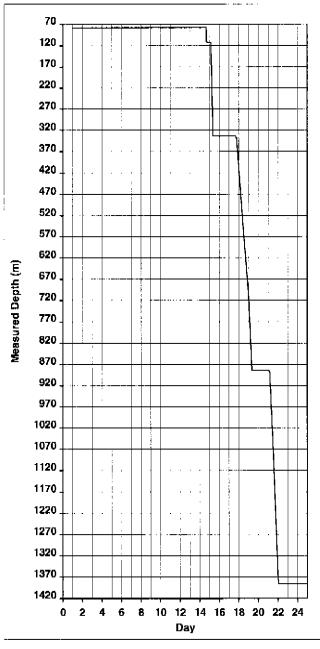
### Hours by Operation Summary



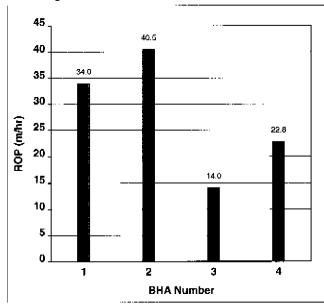
### Hours per BHA Breakdown



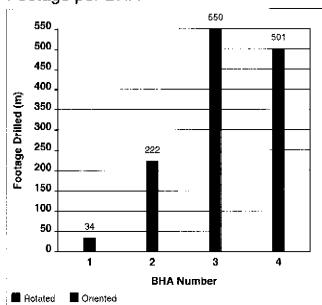
Days vs. Depth



### Average Rate of Penetration per BHA



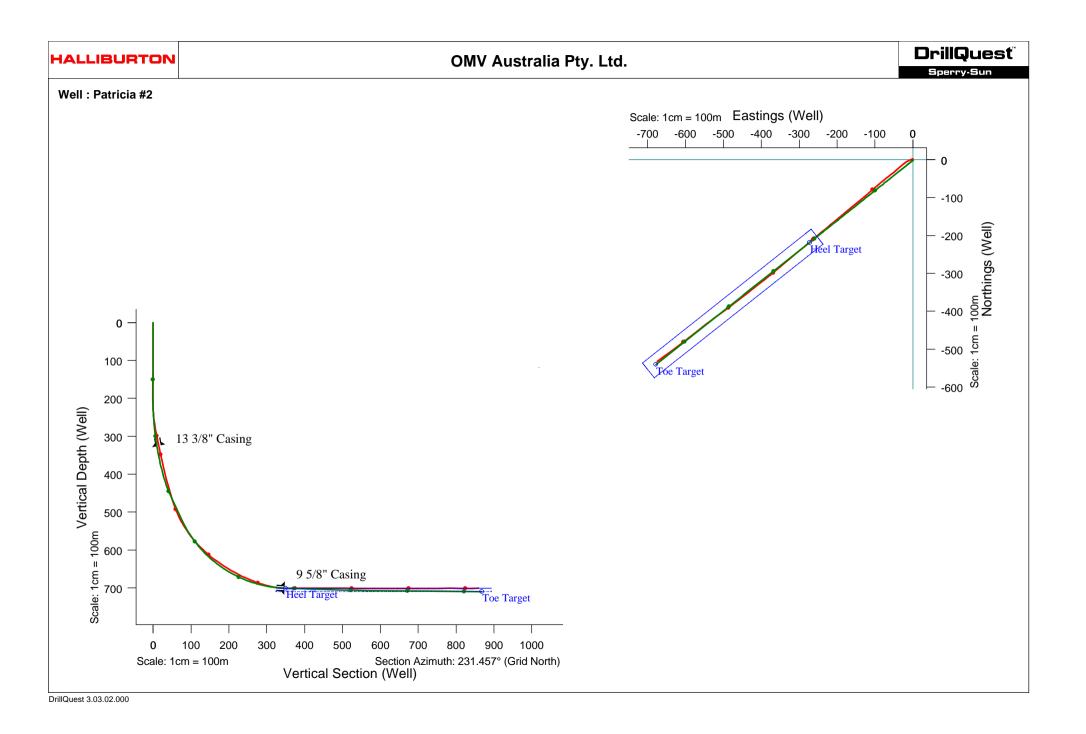
### Footage per BHA



Gippsland Sub Basin AU-DD-02022 Vic/L21 BHAID おるコ #2 @ 334 林 @ 984 # 69 78 Ditled to 334m. Wiper trip to shoe. Run to borkon, 200H to run 13-338" easing Comments Orilled to 111.5m. POOH to run 20" conductor PAU 6 3/4 Mater + LWD 17.250 in @ 1.45 m 12.125 in # 1.18 m BHA Stabilizers 8.250 in @ 1.02 m 8.188 in S-Sign SperyDr.II 6/7 L 1.50° ABH 6-3/4 SpenyOrit 67 L 1.50" ABH 8' SpenyDrill 4'5 L 1.50" ABH Motor OMV Australia Pty. Ltd. Patricia #2 Ocean Bounty Drilling Parameters WOB 8 Mbs PPM 50 FLO 525 gam SPP 1000 psi WOB 16 klbs PPM 53 FLO 854 gpm SPP 1770 psi WOB 13 klbs HPM B0 FLO 575 gpm SPP 1724 ssi WOB 8 klbs RPM 50 FLO 806 gem SPP : 219 psi DSJC 3x18, 1x17 (32's 1.86 thmin 1.00 hrs XT1C 3x24 (32's 2.21 thmin 5.50 hrs MHT13GC 3x15, 1x24./32's 0.77 thmin 39.25 frs EHP41ALKDH 3x14/32's 1.25 ft/min 22.00 hrs Bit Data 100 Inclination —— DLS —— 8 cə. 읔. S Sperry-Sun Drilling Services SG3 Top going down 959 / 700 SG4 Top gang down 1061 / 701 Top Gurnard 819 / 692 SG2 Top Porosity 845 / 698 Formation Name MD/TVD Lakes Entrance FM 721 / 654 SG4 Top going up 1168 / 702 SG3 Top going up 1291 / 701 70-170-470-570-1070-1170-1470-270 926 0.29 970 978 770 1270 1370 8€

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OMV Australia Pty. Ltd. Patricia

Patricia #2:81/2" MWD Survey

Sperry-Sun

**Survey Report** 

13 August, 2002

Surface Coordinates: 5790098.70 N, 627207.70 E (38° 01'39.9460" S, 148° 26' 57.7775" E) Grid Coordinate System: UTM Zone 55S on Australian Geodetic Datum 1966, Meters

Kelly Bushing: 25.00m above Mean Sea Level

Survey Ref: svy5214

0

# Survey Report for Patricia #2

Comment			13 3/8" Casing
Vertical	0.00 0.00 0.40 0.78	-0.38 1.75 5.94 12.51	14.83 17.09 20.63 26.62 33.68 47.65 67.66 67.66 79.38 112.22 113.65 15.65
Dogleg Rate (°/30m)	0.00 0.47 0.15	2.41 3.90 4.36 1.04	1.10 1.10 1.99 1.99 1.08 1.08 1.08 1.18 6.12 6.12 6.09 6.13 6.13 6.13 6.13
ordinates Eastings (m)	627207.70 E 627207.70 E 627207.79 E 627207.90 E 627207.79 E	627206.90 E 627204.72 E 627200.81 E 627194.79 E	627192 68 E 627190 68 E 627182.91 E 627177.55 E 627172 68 E 627166.95 E 627166.95 E 627160.32 E 627129.91 E 627129.91 E 627129.91 E 627129.91 E 62700.51 E 62700.51 E
Global Coordinates Northings Eastir (m)	5790098.70 N 5790098.70 N 5790099.22 N 5790099.70 N 5790100.16 N	5790093.2 N 579009.63 N 5790097.81 N 5790094.83 N	5790093.76 N 5790092.64 N 5790090.74 N 5790082.48 N 5790078.26 N 5790067.38 N 5790067.39 N 5790067.34 N 5790067.89 N 5790067.89 N 5790067.89 N 5790067.89 N 5790067.80 N 5790067.81 N 5790068.81 N 5790018.75 N 5790018.75 N
dinates Eastings (m)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.80 W 2.98 W 6.89 W 12.91 W	15.02 W 17.02 W 20.03 W 24.79 W 30.15 W 40.75 W 47.38 W 56.26 W 65.45 W 77.79 W 107.19 W 123.94 W
Local Coordinates Northings Easti (m) (rr	0.00 N 0.00 N 0.52 N 1.00 N 1.46 N	1.62 N 0.93 N 0.89 S 3.87 S	4.94 S 6.06 S 7.96 S 11.61 S 16.22 S 20.44 S 37.97 S 45.23 S 55.16 S 68.03 S 79.95 S
Vertical Depth (m)	0.00 75.98 137.95 165.41 192.58	221.61 250.62 279.60 313.70	325.12 336.23 353.19 379.66 408.11 432.02 458.09 484.05 511.37 533.73 557.98 620.20 637.59
Sub-Sea Depth (m)	-25.00 50.98 112.95 140.41	196.61 225.62 254.60 288.70	300.12 311.23 328.19 354.66 383.11 407.02 433.09 459.05 486.37 508.73 508.73 576.19 554.10 576.19 595.20 612.69
Azim.	0.000 0.000 9.900 16.310 321.000	262.280 248.260 243.190 244.060	241.977 239.930 229.930 229.930 229.880 229.880 230.660 231.570 231.750 230.710 229.870
Incl.	0.000 0.000 0.980 1.050	2.720 6.360 10.560 11.750	11.682 11.630 12.110 13.440 14.450 16.450 20.250 25.070 36.080 41.610 46.700 51.650
Measured Sub-Se Depth Incl. Azim. Depth (m) (m) Patricia #2:17%" MWD Survey	0.00 75.98 137.95 165.42	221.64 2.720 262.280 196.6 250.74 6.360 248.260 225.6 280.05 10.560 243.190 254.6 314.81 11.750 244.060 288.7 Patricia #2 - 12%" MWD Survey	326.47 337.81 355.14 382.28 411.60 463.50 490.85 520.47 574.70 601.82 632.62 691.25

DrillQuest 3.03.02.000

# Survey Report for Patricia #2

Comment	Lakes Entrance	Top Gu <b>mar</b> d SG2 Top Porosity	9 5/8" Casing
Vertical Section	204.32 205.06 229.96 256.19 282.89	294.76 311.46 317.55 337.45	346.90 364.56 392.91 421.28 449.53 477.05 561.34 587.44 587.44 614.96 645.08 672.69
Dogleg Rate (*/30m)	3.44 4.78 2.78 5.34	6.31 6.31 8.05 8.05	5.58 0.08 0.20 0.20 4.5.1 7.0.1 5.04 6.06 6.06 6.06 6.07 6.07 6.07 6.07 6.07
ordinates Eastings (m)	627046.24 E 627045.66 E 627028.48 E 627008.35 E 626985.80 E	626976.66 E 626963.84 E 626959.17 E 626943.95 E	626936.72 E 626923.20 E 626971.42 E 626879.59 E 626815.34 E 626770.65 E 626770.65 E 626728.09 E 626733.5 E 62660.75 E 626639.10 E 626639.10 E
Global Coordinates Northings Eastin (m)	5789973.47 N 5789973.00 N 5789957.13 N 5789940.30 N 5789923.22 N	5789915.65 N 5789904.95 N 5789901.03 N 5789888.21 N	5789882.11 N 5789862.59 N 5789862.59 N 5789816.30 N 5789781.38 N 5789784.38 N 578976.42 N 5789746.42 N 5789713.80 N 5789713.80 N 5789695.75 N 5789693.36 N 5789693.36 N 5789693.36 N
rdinates Eastings (m)	161.46 W 162.04 W 181.22 W 201.35 W 221.90 W	231.04 W 243.86 W 248.53 W 263.75 W	270.98 W 284.50 W 306.28 W 328.11 W 349.76 W 370.87 W 413.50 W 437.05 W 457.68 W 457.68 W 563.75 W 563.75 W 568.60 W
Local Coordinates Northings Easti	125,23 S 125,70 S 141,57 S 158,40 S 175,48 S	183.05 S 193.75 S 197.67 S 210.49 S	216.59 S 227.96 S 246.11 S 264.24 S 300.07 S 317.32 S 333.83 S 333.83 S 368.26 S 368.26 S 402.95 S 419.37 S 435.34 S
Vertical Depth (m)	653.15 653.58 666.85 678.79 688.84	692.41 696.47 697.66 700.28	700.93 701.06 701.06 700.50 700.50 701.31 701.84 701.73 701.64 701.73
Sub-Sea Depth (m)	628.15 628.58 641.85 653.79 663.84	667.41 671.47 672.66 675.28	675.93 675.93 676.36 675.59 675.50 676.31 676.31 676.84 676.71 676.64 676.73 676.64
Azim.	230.670 230.654 230.160 230.060 230.460	230.277 230.030 229.975 229.800	229.877 229.877 230.360 230.250 230.250 230.400 232.030 231.900 231.900 231.900 231.900 231.900 231.900 231.900 231.900 231.900
Incl.	59.580 59.716 64.190 66.860 71.930	74.532 78.140 79.805 85.190	86.853 90.240 90.240 90.860 90.630 89.500 90.000 90.600 90.600 90.600 90.600 90.600 90.600
Measured Depth (m)	720.54 721.40 749.62 778.45 807.00	819.40 836.59 842.80 862.86	Patricia #2 : 81%" MWD Survey         872.36       86.953       229.877       675.890.03         890.03       90.240       230.020       676.91         946.77       90.860       230.250       675.97         975.03       89.500       229.750       675.75         1002.56       90.830       230.400       675.10         1030.12       88.910       232.090       675.10         1056.95       87.970       231.900       676.11         1112.97       90.600       232.560       676.11         1170.64       89.990       233.790       676.11         1182.7       90.700       233.790       676.12         1170.64       89.990       233.290       676.12         1224.64       89.590       231.690       676.12         1225.22       89.900       231.720       676.12

DrillQuest 3.03.02.000

# Survey Report for Patricia #2

	Comment					욘
Vertical	Section	755.62	784.53	813.47	842.54	859.35
Dogleg	Rate (°/30m)	1.49	1.36	0.71	0.93	0.00
ordinates	Eastings (m)	626616.20 E	626593.19 E	626570.06 E	626546.61 E	626532.99 E
Global Co	Northings Eastin (m) (m)	5789628.50 N	5789610.98 N	5789593.58 N	5789576.36 N	5789566.47 N
rdinates	Eastings (m)	591.50 ₩	614.51 W	637.64 W	661.09 W	674.71 W
Local Cool	th Northings Easting) (m)	470.20 S	487.72 S	505.12 S	522.34 S	532.23 S
Vertical	Depth (m)	701.39	701.23	701.36	701.29	701.15
Sub-Sea	Depth (m)	626.39	676.23	676.36	676.29	676.15
	Azim.	232.670	232.720	233.390	234.020	234.020
	<u>15</u>	90.980	89.670	89.820	90.460	90.460
Measured	Depth (m)	1281.21	1310.13	1339.08	1368.17	1385.00

All data is in Metres unless otherwise stated. Directions and coordinates are relative to Grid North. Vertical depths are relative to Well.

Global Northings and Eastings are relative to UTM Zone 55S on Australian Geodetic Datum 1966, Meters.

The Dogleg Severity is in Degrees per 30 metres. Vertical Section is from Well and calculated along an Azimuth of 231.457\* (Grid).

Coordinate System is UTM Zone 55S on Australian Geodetic Datum 1966, Meters. Grid Convergence at Surface is -0.893°. Magnetic Convergence at Surface is -14.003° (01-Jul-02)

Based upon Minimum Curvature type calculations, at a Measured Depth of 1385.00m., The Bottom Hole Displacement is 859.36m., in the Direction of 231.732° (Grid).

Casing depths and formation tops are provisional, and should only be used as a guide.

DrillQuest 3.03.02.000

# Survey Report for Patricia #2

### Comments

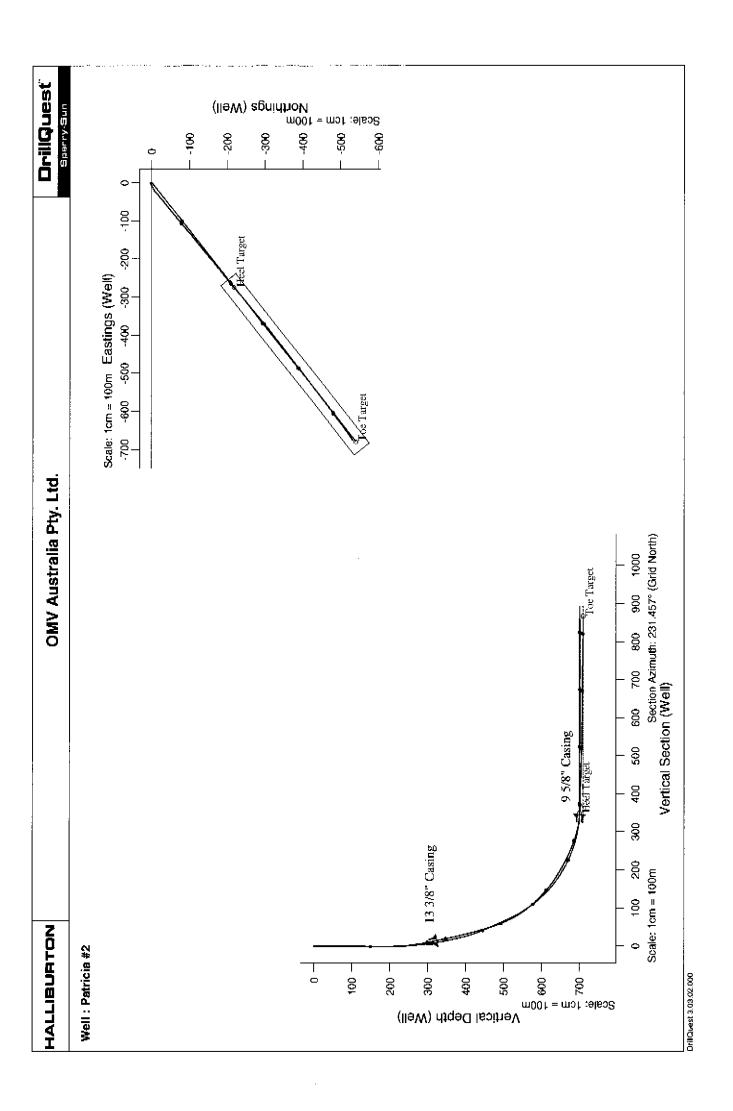
	Comment	10
nates	Eastings (m)	674,71 W
tion Coordii	VD Northings Eastings Com m) (m) (m)	532.23 S
Sta	Z Œ	701.15
Measured	Depth (m)	1385.00

### Formation Tops

Formation Nате	Lakes Entrance Top Gumard SG2 Top Porosity
Up-Dip Dim.	0.000
Dip Angle	0.000
Eastings (m)	162.04 W 231.04 W 248.53 W
Northings (m)	125.70 S 183.05 S 197.67 S
Sub-Sea Depth (m)	628.58 667.41 672.66
Vertical Depth (m)	653.58 692.41 697.66
Measured Depth (m)	721.40 819.40 842.80

### Casing details

	Casing Detail	13 3/8" Casing 9 5/8" Casing
	Vertical Depth (m)	325.12 700.93
ř	Measured Depth (m)	326.47 872.36
From	Vertical Depth (m)	<surface></surface>
Ŧ	Measured Depth (m)	<surface></surface>



Spenny-sun

Survey and Drilling Parameters DRILLING SERVICES

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2

RIg: Ocean Bounty

Block: Vic/L21

Page: 1

Location: Gippsland Sub Basin

Job #: AU-DD-02022

VS Dir: 231.55\* (from Wellhead) Declination: North Ref: Grid

	BHA Comment			Tieon																												
	돸.	ું ∰				N	N	N	сv	N	N	N	N	N	N	ന	ď	ď	ተን	ო	က	m	m	m	m	co.	ന	ന	ന	ന	ന	m
TERS	ROP B	Face P (deg) (m/hr) (				120	120	8	8		8		2		ጽ	ይ	25	22	20	20	20	20	20	20	20	4	4	45	45	20	8	
ARAME		Face (deg)						232m	232m	232m	232m	232m	232m	10L	구		85L	80F	25L	20R		쭚	뚮	쯗	2	효	뭅	Œ	10R	귝	ᅜ	돲
DRILLING PARAMETERS	ation	e E						193	210	222	238	251	267	280	291		347	366	395	429		485	512	3,	569	597	820	845	676	721	724	750
DRIL	Orientation	Fo E						192	193	219	222	248	251	277	280		340	328	387	424		469	496	523	551	581	607	635	664	711	721	740
	Stand	Pipe (psi)				1950	1050	1200	1200	•	1250		1350	**	1450	1450	1350	1350	1350	1550	1550	1650	. 1650	1650	1650	1800	1875	1900	1900	1900	2000	
	Flow	Rate (gpm)	i			800	800	810	810		810		810		810	810	820	850	850	850	850	850	850	850	850	850	850	880	880	859	95g	
	RPM					ଝ	8								ጽ	ዴ	ୟ	쫎	22	22	옶	ස	S	ß	S	£	8	8	8			
	WOB	(klbs)				ľ	ĸo	6	တ		5		₽		₽	4	10	\$	₽	₽	₽	5	ਨ	5	ਨ	12	5	12	12	23	25	
	Turn	Rate (*/30m)		0.00	0.00	0.00	0.00	-61.07	-60.64		-14.45		-5.19		0.75	-5.39	-7.76	-6.10	-1.28	0.87	0.53	0.86	0.92	0.21	-1.08	-0.96	-0.56	0.62	0.70	0.11	-0.53	
	Pling	Rate . (°/30m)		0.00	0.00	0.47	0.08	0.22	1.52		3,75		4.30		1.03	<b>D.16</b>	0.83	1.47	1.03	1.58	0.77	4.17	4.88	6.12	6.07	6.12	4.96	5.10	4.64 4	3.44	4.76	
	DLS	("/30m)		0.00	0.00	0.47	0.15	1.19	2.41		3.90		4.36		1.04	1.10	1.80	1.99	1.08	1.59	0.79	4.18	4.89	6.12	60.9	6,15	4.97	5.13	4.68	3.44	4.78	
	sel	<u> </u>	1	0.0	0.0	0.1	0.2	0.1	9.0		-3.0		<del>-</del> 9.0		-12.9	-17.0	-20.0	-24 8	-30.1	-35.0	40.8	47.4	-56.3	65.5	-77.8	90.9	-107.2	-123.9	-142.3	-161.5	-181.2	
VEY	rdina	¥Œ		0:0	0.0	0.5	1.0	<u>7.</u>	9		<del>0</del> .		6.0 O	•	 9.0	φ.	9	-11.6	-16.2	-20.4	-25.3	30.8	-38.0	45.2	-55.2	-66.0	40.0	-94.2	-109.5	125.2	-141.6	
WELLBORE SURVEY		Section N (m)		0.0	0.0	40	9.0	-10	<b>7</b> 0		<del>6</del> .		5.9 6.0		12.5	17.1	20.6	26.6	33.7	40.1	47.7	56.3	67.7	79.4	95.2	112.2	133.7	155.7	179.5	204.3	230.0 -1	
WEI		E deb	- ;	 0.0	76.0	137.9	165.4	192.6	221.6		250.6		279.6		313.7	336.2	353.2	379.7	408.1	432.0	458.1	484.0	511.4	533.7	558.0	579.1	601.2	620.2	637.6	653.1	8.999	
	Azi	(deg)		0.00	0.00	9.90	16.31	321.00	262.28		248.26		243.19		244.06	239.93	235.45	229.93	228.68	229.40	229.88	230.66	231.57	231.75	230.71	229.84	229.27	229.87	230.56	230.67	230.16	
	Incl	Angle (deg)		0.00	0.00	0.98	1.05	1.25	2.72		6.36		10.56		11.75	11.63	12.11	13,44	14.45	15.75	16.45	20.25	25.07	30.22	36.08	41.61	46.70	51.65	56.22	59.58	64.19	
	ъ	Depth (m)		90.0	75.98	137,95	165.42	192.59	221.64		250.74		280.05		314.81	337.81	355.14	382,28	411.60	436.36	463.50	490.85	520.47	545.72	574.70	601.82	632.62	661.71	691.25	720.54	749.62	

rins-fundes DRILLING SERVICES

Survey and Drilling Parameters

Client: OMV Australia Pty. Ltd.

Rig: Ocean Bounty Well Name: Patricia #2

Block: Vic/L21

Page: 2

Location: Gippsland Sub Basin

Job #: AU-DD-02022

VS Dir: 231.55° (from Wellhead) Declination: \* North Ref: Grid

		_																										<del>-</del> ·	 		$\neg$
	ment																														
	Comment																														1
	BHA C	ó		<u>ب</u>	m	m	m	m	m	च	 च	- <del></del>	<b>₩</b>	<b>⊸</b>	- <del>-</del>	<b>ч</b>	- <del>-</del>	4	<u> </u>	<del></del>	4		4	₩	···	4	4	₩			İ
S S	自	Ś	¥	40 3		2	8	8	_	8	99	60	65	65	65 4	55	55	. 60	60.	60	80	ري م	8	8	30.4	30	35	`			
ETER	ROP	_	) (m/hr)								<u>u</u>							<b>ني</b> ا 		<del>ك</del>	Ľ			(L)		65	6.3			<u>-</u>	
ARAM	700 100	Face	(deg)	고	궇	£	Ÿ	유	왚	£		150L	S	_	160R	170L	<b>S</b>	_	S	_	_	120L	120L		160L						
DRILLING PARAMETERS	tion	ဥ	Ê	753	775	807	837	840	883	8		923	996		1023	1045	1 28 4		1128			1225	1225		1305; 160L						
DRILL	Orlentation	From	Œ	750	769	790	819	837	848	863		920	959		1015	1042	1081		1125			1217	125		1297						
		-	(bsi) (	1950		2100	2150	2150	<u></u> ·	1400	1400	1350	1600	1600	1600 1	1700 1	1700 1	1750	1750 1	1750	1750	1900	1900	190	1950	1950	2000				
				850 19		850 21	850 21	850 21		550	550 74	550 13	580	580	580 16	580 17	580 17	580 11	580 17	<del>280</del> 11	580 17	580 45	580 . 15	580 15	580 19	580 19	580 20				
	Flow	Rate	(mdß)				čó	ðó														<i>አ</i> ን									
	RPM			55		9				99	8	22	8	8	8	 			8		9		8	8	8	8	8				
	WOB	_	(klbs)	12		15	30	೫	_	40	₽	₽	10	10	12	12	12	2	<b>Q</b>	ᅌ	5	8	5	2	2	Φ	2		 	_	
	Tur	Rate	(°/30m)	-0.10	_	0.42	0.44	-0.26		0.24	0.36	0.12	-0.53	0.71	1.84	-0.18	-0.03	0.76	0.59	0.19	0.54	-2.39	0.03	0.98	0.05	0.69	0.65	0.0			
	Build	Rate	(°/30m) (	2.78		5.33	6.30	8.04		5.58	0.81	-0.16	44.1-	1.23	-1.87	-1.05	2.04	0.69	-1.00	0.31	0.77	-1.26	93.34	1.12	-1.36	0.16	0.66	0.00			
	DLS		(°/30m) (°	2.78		5.34	6.31	8.05		5.59	0.89	0.20	42.7	1.42	2.62	1.07	2.04	1.03	1.16	96.0	0.94	2.70	0.34	1.49	1.36	0.71	0.93	0.00			
		E/W	(m) (°)	-201.4		-221.9	-243.9	-263.7		-284.5	-306.3	-328.1	-349.8	-370.9	-392.4	413.5	437.0	457.7	479.6	-503.7	-526.0		-568.6	-591.5	-614.5	-637.6	-661.1	-674.7	 		$\dashv$
	Coordinates	Щ	=							·																					
SURVE	Cool	옷	Œ	-158.4		-175.5	-193.8	-210.5		-228.0	-246.1	-264.2	-282.4	-300.1	-317.3	333.8	-352.3	-368.3	-384.9	-403.0	419.4	-435.3	-452.4	-470.2	-487.7	-505.1	-522.3	-532.2			
WELLBORE SURVEY	Vertical	Section	( <b>m</b> )	256.2		282.9	311.5	337.4		364.6	392.9	421.3	449.5	477.0	504.6	531.4	561.3	587.4	615.0	645.1	672,7	699.1	726.6	755,6	784.5	813.5	842.5	859.4	 		
WE	Vertical Vertical	Depth	Ê	678.8		688.8	696.5	700.3		701.4	701.1	700.6	700.5	700.5	9.007	701,3	701.8	7.01.7	701.6	7.01.7	701.6	701.5	701.6	701.4	701.2	701.4	701.3	701.2			
	Azi	吉	(deb)	230.06		230.46	230.03	229.80		230.02	230.36	230.25	229.75	230.40	232.09	231.93	231.90	232.56	233.10	233.29	233.79	231.69	231.72	232.67	232.72	233.39	234.02	234.02			
	말	Angle	(GeG)	66.86		71.93	78.14	85,19	-	90.24	91.01	98'06	89.50	90.63	88.91	87.97	90.00	90.60	89.68	89.99	90.70	89.59	89.90	90.98	69.67	89.82	90.46	90.46			
	Measured	Depth J	Œ	778.45		807.00	836.59	862.88			918.39	946.77	975.03	1002.56	1030.12	1056.95	1086.87	1112.97	1140.50	1170.64	1198.27	1224.64	1252.22	1281.21	1310.13	1339.08	1368.17	1385.00			
-	_		$\rightarrow$																						~				 		

### DRILLING SERVICES

BHA Report

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty

Job #: AU-DD-02022

**BHA#1** 

BHA	<b>\# 1</b> :	Date	n:20/06/200 MD In	(m): 78 TVD	In (m): 78 Date	Out 20/06/2002 <b>N</b>	ID Out (m)	: 111	TVD (	Dut (m): 111
ВІТ	DATA									
Bit	<b>#</b> OE	(in)	MFR	Style	Serial#	Nozz)es (/3	2's) TFA	(in²)	Dull	Condition
1rr	1 26.	.000	Smith	DSJC	KP2374	3x18, 1x	17 0.	.967	0-0-NO-	A -E-I-NO-TD
MO	TOR DA	\TA			-				2.5	1
Run	# OE	) (in)	MFR	Model	Serial#	Bend N	lzi (/32's)	Avg C	)if (psi)	Cum Circ Hrs

СОМ	PONENT DATA				:A		West and		
Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	26" Milled Tooth Bit	KP2374	26.000		26.000		P 7-5/8" Reg	0.62	
2	36" Hole Opener	46367	9.500	3.000	36.000	217.48	P 7-5/8" Reg	2.22	
3	9-1/2" Bit Sub w/ Float & Totco Ring	975	9.500	3.000	:	217.48	B 7-5/8" Reg	0.97	
4	3 x 9-1/2" Spiral Drill collar		9.500	3.000		217.00	B 7-5/8" Reg	27.85	l D
- 5	Cross Over Sub	144-211	9.500	3.000			B 6-5/8" Reg	1.17	
6	3 x 8" Spiral Drill collar		8.000	2.810			B 6-5/8" Reg	28,44	
7	Cross Over Sub	144-204	8.000	2.880		149.10	B 4-1/2" IF	0.97	
			]						
			i				:	62.24	
							1		
							]		
							ĺ		1
							ĺ		1
1							1		

	Min	Max	Ave
:	8	8	8
:	50	50	50
:	525	52 <b>5</b>	525
;	1000	1000	1000
	: : : : :	: 8 : 50 : 525	: 8 8 : 50 50 : 525 525

ACTIVITY	nis
Drilling :	1.00
Reaming :	0.00
Circ-Other:	0.50
Total :	1.50

BHA Weight							
;							
:							
;	0						
:							

Drill String	OD(in) Len(m)

PERFORMANCE	7	
	ln	Out
Inclination (deg)	0.02	0.56
Azimuth (deg)	9.90	9.90

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	0.00	0			6.00
Rotated :	34.00	34	0.30	0.30	6.00 0.47
Total :	34.00	34	0.47	0.00	0.47

### COMMENTS

Drilled to 111.5m. POOH to run 20" conductor.



**BHA Report** 

page 2

Client: OMV Australia Pty. Ltd.

Well Name : Patricia #2 Block : Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty

Job # : AU-DD-02022 BHA# 1

### **OBJECTIVES:**

Spud well and drill 36" hole vertically to 112mMD.

### **RESULTS:**

RIH 36" hole opener assembly. Tagged seabed at 77.5m and drilled to 111.5m. Circulate clean then dropped a TOTCO survey prior to POOH. Survey showed 4 inclination.

### spenny-sun

### DRILLING SERVICES

**BHA** Report

Client: OMV Australia Pty. Ltd.

Well Name : Patricia #2 Block : Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty

Job #: AU-DD-02022

BHA# 2

	# 2 : Dat					TVD In (m)					ut (m): 334	TVD Out	
ВІТС	)ATA								100			1777	
Bit#	OD (in)	***************************************	MFR		Sty	0	Serial#		Nozzie	s (/32's)	TFA (in²)	Dull Cor	dition
2rr1	17.500		ecurity DE	88	XT1	С	740844		Ş	3x24	1.325 1	-1-BU-A -E	-I-NO-TD
003	OR DATA	7.000				10.2		TY:	- 3				
Run		Nation/Assess	MFR	Mart of Association (Colors	Mod	iel	Seria	]#	Benc	i Nzi (/	32's) Avg Dif	(psi) Cu	ım Circ Hrs
1	9.625		SSDS		Spen	yDrlll	9632	12	1.50°		32		15.50
	PONENT D					2.2		- 16					
Item	Descripti					Serial	OD	ID	Gauge	Weight	Top Con	Length	Bit - Center
#					, ,	#	(ln)	(ln)	(in)	(lbs/ft)		(m <u>)</u>	Blade (m)
1	17½" Mille					740844	17.500		17.500		P 7-5/8" Reg	0.42	
2	9-5/8" Spa	-		- 5.0 stg		963212	9.625	6.135	17.250		B 7-5/8" Reg	9.59	1.45
3	Non-Mag					A-545	9.500	3.000			B 6-5/8" Reg	1.22	
4	8" RLL w/l 8" MPT w/		EWK			DM1515HGVR	8.000	1.920			B 6-5/8" Reg	6.99	1 #
5 6	8" Float S					DM01535KF8   A-317	8.000 8.000	1.920 3.000		161.44 147.22		6.27 0.70	
7	3 x 8" Drill		•			A-317	8.000	2.810		150.00	_	28.44	m.
8	Drilling Ja		,			DAH01965	8.250	3.000		158.09	-	9.69	
9	2 x 8" Drill		<u>.</u>			DAI101303	8.000	2.810		150.00	_	18.48	
10	Cross Ove		•		!	144-200	6.500	2.810	ļ	91.95	_	1.08	
11	15 x 5"HV					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	5.000	3.000	i	49.30		136.39	:
													į <b>I</b>
											 	219.27	
					İ								
									İ			1	
													l
a i													
							;	!				ļ	
												ĺ	
									İ				
							İ	j	ŀ				
Parar	meter	Min	Max	Ave	Acti	/ity Hrs	BHA W	eight	(lb	) Drl	II String	OD(I	n) Len(m)
W———	(klbs) :	5	10	8		ling: 5.50	in Air		: 6446	<del>`</del>	S)-NC50(XH)-1		
M	(rpm) :	50	50	50		ing: 1.00	1	(Total)	: 5602	1 1 '			
E4	(gpm) :	800	810	806	Circ-O		1	(Bel Jars	s): 2795	6		i	
SPP	(psi) :	1050	1450	1219	Т	otal : 8.00	in Mud	(Bel Jan	sj: 2429	7			
PERF	ORMANCE												
			In	Out		Dis	tance (m)	RÓP	(m/hr)	Build (°/	30m) Turn (°/	30m) DI	LS (°/30m)
W		. 1			·				,,		, ,		· · · · · · · · · · · · · · · · · · ·

70.00

152.50

222.50

30

45

40

1,49

0.00

1.62

мм	IEN!	

Azimuth

Inclination (deg)

(deg)

Drilled to 334m. Wiper trip to shoe. Run to bottom. POOH to run 13-3/8" casing

11.65

240.62

Orlented:

Rotated:

Total:

0.56

9.90



Cilent: OMV Australia Pty. Ltd.

Well Name : Patricia #2 Block : Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty

Job # : AU-DD-02022 BHA# 2

**BHA Report** 

Rotary drill from the 20" shoe to 200m MD then kick off, nudging the well at 2.2°/30m to 10" inclination on a 231° azimuth by section TD at 334m.

### **RESULTS:**

**OBJECTIVES:** 

The 17½" assembly was made up and RIH, with the motor bend set to 1.5° and surface tested. Tagged top of cement at 102m and drilled out the shoetrack, then continued to drill in rotary to kick-off point at 192m (8m higher than proposal). Set magnetic toolface on 231° and commenced sliding to nudge the well to 10° inclination as per wellplan. With a flow rate of 800 gpm there were no problems achieving build

The assembly showed a dogleg capability of 6°/30m throughout the run.. It built at +/- 0.2°/30m in rotary, with a right hand walk tendency of 0.4°/30m.

Drilled to section TD at 334m, circulated bottoms up and POOH. Some overpull was seen and the hole was backreamed from 325m to 230m. RIH assembly to bottom then pulled straight to run 13 3/8" casing.

On surface the blt was found to be heavily balled up. All BHA components in good condition.

page 2

Total Orlg Hours: 4.0 Total Circ. Hours: 6.6 Total BRT Hours: 14.5

### perry-sun

DRILLING SERVICES

BHA Report

Inclination (deg)

(deg)

Azimuth

COMMENTS

11.65

240.62

89.12

229.97

Oriented:

Rotated:

Total:

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty

Job #: AU-DD-02022

**BHA#** 3

BHA	#3:Da	te in :2	3/06/200	MD In (	m): 334	4 TVD In (m)	: 332	Date O	ut 25/06/2	002 <b>MD O</b>	ut (m): 884	TVD Out	(m): 701
BIT	)ATA												rannin sa
Bit#	OD (in	)	MFR		Sty	/le	Serial#		Nozzle	s (/32's)	TFA (in²)	Dull Cor	ndition
3	12.250		Reed		MHT1	13GC	NL5007		3×15	i, 1x24	0.960 1-	-1-WT-Ģ -E	E-I-NQ-TD
мот	OR DATA								45				
Run		)	MFR	SOS OCCUPANTAL SERVICES	Μ¢	del	Şerlal	#	Bend	Nzi (/	32's) Avg Dif	(psi) Cu	ım Circ Hrs
2	8.000		SSDS		Spe	rryDrill	80005	62	1.50°		65		79.00
COM	PONENT D	ΔΤΔ	T.									eco.	
NO	Descripti		1997-1010-1019-1019			Serial	OD	ID	Gauge	Weight	Top Con	Length	Bit - Center
#	·					#	(in)	(in)	(în)	(lbs/ft)	-	(m)	Blade (m)
1	12-1/4" M					NL5007	12.250		12.250		P 6-5/8" Reg	0.34	1 8
2	8" Sperryl			5.3 stg		800052	8.000	5.000	12.125		B 6-5/8" Reg	9.53	1 8
3	8" RLL w/		EWR			DM1515HGVR	!	1.920	:		B 6-5/8" Reg	6.99	5
<b>4</b> 5	8" MPT w 8" Float S					DM01535KF8 A-317	8.000	1.920 3.000			B 6-5/8" Reg B 6-5/8" Reg	6.27 0.70	1 10
6	Cross Ov					:A-317 :144-200	6.500				B 4-1/2" IF	1.08	1 70
7	3 x 5"HW					:	5.000				B 4-1/2" IF	26.43	1 0
8	Drilling Ja					00211	6.750	2.750		101.71		9.22	1 0
9	3 x 5"HW						5.000	3.000			B 4-1/2" IF	27.51	
10	30x DP (S	3) - NC	50(XH) -	19.50#			5.000	4.276		22.60	B 4-1/2" IF	289.88	
11	30x HWD	P					5.000	3.000		49.30	B 4-1/2" IF	277.42	
												655.37	'
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1 2 3 4 5 6 7 8 9 10 11						]		:	1				
						Į.			<u> </u>				
Parai	meter	Min	Max	Ave	Act	ivity Hrs	BHA W	eight	(lb	Drl	II String	OD(	n) Len(m)
WOR	(kibs) :	8	30	16		IIIIng: 39.25	in Air		: 8954		S)-NC50(XH)-1		000 229
RPM	(rpm) :	50	60	53	Rear	ming: 2.00	in Mud		: 7702	1 1			
Flow	(gpm) :	810	880	854	Circ-C	Other: 2.75	in Air	(Bel Jar	s): 1565	1			!
SPP	(psi) :	1350	2150	1770		Total: 44.00	in Mud	(Bel Jar	s: 1346	<u>3</u> ] [			
RPM Flow SPP PERF	ORMANCE												
		1	ln	Out		Di	stance (m)	ROP	(m/hr)	Bulld (°/	30m) Turn (°/	/30m) D	LS (°/30m)
368		. 1											

251.00

299.00

550.00

11

17

14

4.23

-0.58

4.24



Client: OMV Australia Pty. Ltd.

Well Name : Patricia #2 Block : Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty

Job #: AU-DD-02022

**BHA#3** 

### BHA Report

page 2

### **OBJECTIVES:**

Drill to 88.28° at 701.22 TVD to land 9-5/8" casing, adjusting as per geology departments requests.

### spenny-sun

DRILLING SERVICES

BHA Report

Client: OMV Australia Pty. Ltd.

Well Name : Patricia #2 Block : Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty

Job # : AU-DD-02022

BHA#4

886		· · · · · · · · · · · · · · · · · · ·			4			<u> </u>
	BHA# 4	4 : Date	tn :26/06/200 <b>MD</b> I	n (m): 884 TVD In	(m): 701 Date (	Cur. 30/06/2002 <b>MD C</b> u	r (m): 1385 TVD	Cur(m): 701
ſ	BIT DAT	ГА				100		
	Bit#	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (ln²) Dull	Condition
M	4	8.500	Reed	EHP41ALKDH	M25485	3x14	0.451 1-2-ER	·G -E-I-WT-TD
Ĭ	MOTOR	DATA			Security Control			
	Run#	OD (in)	MFR	Model	Serial#	Bend Nzl (/3	2's) Avg Dif (psi)	Cum Circ Hrs
	3	<b>6</b> .750	SSDS	SperryDrill	<del>6</del> 75188	1.50°	50	97.25
			-				6.44.9	

PONENTDATA	STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET,	Managas an Cambridge	caevacam menam				AND THE PARTY OF T	
Description	Serial #	OD (in)	ID (in)	Gauge (In)	Weight	Top Con	_	Bit - Center Blade (m)
8 1/2" Tricone Insert Bit	M25485	8.500		8.500		P 4-1/2" Reg	0.26	· · · · · · · · · · · · · · · · · · ·
6-3/4" SperryDrill Lobe 6/7 - 5.0 stg	675188	6.750	4.498	8.250	67.81	B 4-1/2" IF	7.49	1.02
6-3/4" MPT w/Dir	DM01540M6	6.750	2.810		100.82	B 4-1/2" IF	2.73	
6-3/4" RLL w/DGR + EWR + CNO	DM1537HNRL	6.750	2.810	8.188	100.82	B 4-1/2" IF	13.21	
Pulser	DM01528K6	6.500	2.810		91.95	B 4-1/2" IF	3.47	j
6 3/4" Float Sub	A-225	6.500	2.810		91.95	B 4-1/2" IF	0.70	
3 x 5"HWDP		5.000	3.000	ļ	49.30	B 4-1/2" IF	26.43	
Drilling Jar	DAH2122	6.500	2.750	ļ	92.85	B 4-1/2" IF	9.64	
3 x 5"HWDP		5.000	3.000	ļ	49.30	B 4-1/2" IF	27.51	
93x DP (\$) - NC50(XH) - 19.50#		5.000	4.276	-	22.60	B 4-1/2" IF	897.93	
30x HWDP		5.000	3.000		49.30	B 4-1/2" IF	277.42	
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						i I		
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								]
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	Description  8 1/2" Tricone Insert Bit 6-3/4" SperryDrill Lobe 6/7 - 5.0 stg 6-3/4" MPT w/Dir 6-3/4" RLL w/DGR + EWR + CNO Pulser 6 3/4" Float Sub 3 x 5"HWDP Drilling Jar 3 x 5"HWDP 93x DP (S) - NC50(XH) - 19.50#	Description         Serial #           8 1/2" Tricone Insert Bit         M25485           6-3/4" SperryDrill Lobe 6/7 - 5.0 stg         675188           6-3/4" MPT w/Dir         DM01540M6           6-3/4" RLL w/DGR + EWR + CNO         DM1537HNRL           Pulser         DM01528K6           6 3/4" Float Sub         A-225           3 x 5"HWDP         DAH2122           93x DP (S) - NC50(XH) - 19.50#         DAH2122	Description         Serial (in)         OD (in)           8 1/2" Tricone Insert Bit         M25485         8.500           6-3/4" SperryDrill Lobe 6/7 - 5.0 stg         675188         6.750           6-3/4" MPT w/Dir         DM01540M6         6.750           6-3/4" RLL w/DGR + EWR + CNO         DM1537HNRL         6.750           Pulser         DM01528K6         6.500           6 3/4" Float Sub         A-225         6.500           3 x 5"HWDP         5.000           Drilling Jar         DAH2122         6.500           3 x 5"HWDP         5.000           93x DP (S) - NC50(XH) - 19.50#         5.000	Description         Serial # (in)         OD (in)         ID (in)           8 1/2" Tricone Insert Bit         M25485         8.500           6-3/4" SperryDrill Lobe 6/7 - 5.0 stg         675188         6.750         4.498           6-3/4" MPT w/Dir         DM01540M6         6.750         2.810           6-3/4" RLL w/DGR + EWR + CNO         DM1537HNRL         6.750         2.810           Pulser         DM01528K6         6.500         2.810           6 3/4" Float Sub         A-225         6.500         2.810           3 x 5"HWDP         5.000         3.000           Drilling Jar         DAH2122         6.500         2.750           3 x 5"HWDP         5.000         3.000           93x DP (\$) - NC50(XH) - 19.50#         5.000         4.276	Description         Serial # (in)         OD (in)         ID (in)         Gauge (in)           8 1/2" Tricone Insert Bit         M25485         8.500         8.500         8.500           6-3/4" SperryDrill Lobe 6/7 - 5.0 stg         675188         6.750         4.498         8.250           6-3/4" MPT w/Dir         DM01540M6         6.750         2.810         8.188           Pulser         DM01537HNRL         6.750         2.810         8.188           Pulser         DM01528K6         6.500         2.810         8.188           6 3/4" Float Sub         A-225         6.500         2.810         8.188           3 x 5"HWDP         5.000         3.000         9.00         2.750         3.000           93x DP (S) - NC50(XH) - 19.50#         5.000         3.000         4.276         4.276	Description         Serial #         OD (in)         ID (in)         Gauge (in) (ibs/ft)           8 1/2" Tricone Insert Bit         M25485         8.500         8.500         172.25           6-3/4" SperryDrlll Lobe 6/7 - 5.0 stg         675188         6.750         4.498         8.250         67.81           6-3/4" MPT w/Dir         DM01540M6         6.750         2.810         100.82           6-3/4" RLL w/DGR + EWR + CNO         DM1537HNRL         6.750         2.810         8.188         100.82           Pulser         DM01528K6         6.500         2.810         91.95           6 3/4" Float Sub         A-225         6.500         2.810         91.95           3 x 5"HWDP         5.000         3.000         49.30           Drilling Jar         DAH2122         6.500         2.750         92.85           3 x 5"HWDP         5.000         3.000         49.30           93x DP (\$) - NC50(XH) - 19.50#         5.000         4.276         22.60	Description         Serial #         OD (in)         ID (in)         Gauge (in)         Weight (ibs/ft)         Top Con (ibs/ft)           8 1/2" Tricone Insert Bit         M25485         8.500         8.500         172.25         P 4-1/2" Reg           6-3/4" SperryDrill Lobe 6/7 - 5.0 stg         675188         6.750         4.498         8.250         67.81         B 4-1/2" IF           6-3/4" MPT w/Dir         DM01540M6         6.750         2.810         100.82         B 4-1/2" IF           6-3/4" RLL w/DGR + EWR + CNO         DM1537HNRL         6.750         2.810         8.188         100.82         B 4-1/2" IF           Pulser         DM01528K6         6.500         2.810         91.95         B 4-1/2" IF           6 3/4" Float Sub         A-225         6.500         2.810         91.95         B 4-1/2" IF           3 x 5"HWDP         5.000         3.000         49.30         B 4-1/2" IF           3 x 5"HWDP         5.000         3.000         49.30         B 4-1/2" IF           93x DP (\$) - NC50(XH) - 19.50#         5.000         4.276         22.60         B 4-1/2" IF	Description         Serial # (in)         OD (in)         ID (in) (in)         Gauge (in) (ibs/ft)         Weight (ibs/ft)         Top Con (ibs/ft)         Length (m)           8 1/2" Tricone Insert Bit         M25485         8.500         8.500         172.25         P 4-1/2" Reg         0.26           6-3/4" SperryDrill Lobe 6/7 - 5.0 stg         675188         6.750         4.498         8.250         67.81         B 4-1/2" IF         7.49           6-3/4" MPT w/Dir         DM01540M6         6.750         2.810         100.82         B 4-1/2" IF         2.73           6-3/4" RLL w/DGR + EWR + CNO         DM1537HNRL         6.750         2.810         8.188         100.82         B 4-1/2" IF         13.21           Pulser         DM01528K6         6.500         2.810         91.95         B 4-1/2" IF         3.47           6 3/4" Float Sub         A-225         6.500         2.810         91.95         B 4-1/2" IF         0.70           3 x 5"HWDP         5.000         3.000         49.30         B 4-1/2" IF         26.43           93x DP (\$) - NC50(XH) - 19.50#         5.000         3.000         49.30         B 4-1/2" IF         27.51           93x DP (\$) - NC50(XH) - 19.50#         5.000         3.000         49.30         B 4-1/2" I

Parameter		Min	Max	_ Ave
WOB (klbs)	;	8	50	13
RPM (rpm)	:	55	60	60
Flow (gpm)	:	550	580	575
SPP (psi)	;	1325	2000	1724

Activity	Hrs
Drilling :	22.00
Reaming:	2.75
Circ-Other:	2.25
Total :	27.00

BHA Weight		(lb)
in Air (Total)	:	131455
in Mud (Total)	:	112746
in Air (Bei Jars)	:	12619
in Mud (Bel Jars)	÷	10823

### PERFORMANCE

		ln.	Out
Inclination	(deg)	89.12	90.46
Azimuth	(deg)	229.97	234.02

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	43.00	8			1.50
Rotated :	458.00	24	1.00	0.50	•
Total:	501.00	23	0.08	0.24	0.26

### COMMENTS

P/U 6 3/4" Motor + LWD



**BHA** Report

Client: OMV Australia Pty. Ltd.

Well Name : Patricia #2 Block : Vic/L21

Location: Gippsland Sub Basin

Rig : Ocean Bounty

Job #: AU-DD-02022 BHA# 4

### .

**OBJECTIVES:** 

Drill 8-1/2" lateral section as per geology and obtain a minimum of 400 metres of pay up to 500 metres.

page 2

### MOTOR PERFORMANCE REPORT

M-AU-DD-02022-2

Motor Serial # : 963212

Directional Driller(s): Frank van Noord, lan Cobban

Location: Gippsland Sub Basin

Well Name: Patricia #2

Depth In/Out : 111 / 334

2 3 4 5 6 7

Application Details: Kickoff

Job # : AU-DD-02022

Client: OMV Australia Pty. Ltd.

Rig: Ocean Bounty

Bit Run # : 2m1 BHA# 2

Date In/Out : 21/06/2002 / 21/06/2002 Motor Run #: 1

Hole Size: 17,500 in

MOTOR CC	ONFIGURATION						
	77.		From Bit (m)	Component		Туре	Diam In/Out (in)
UprStado	<b>#</b>	1	1.45	Sleeve Stab/Pad	Yes	Stab: 5 l 0"	17.250 17.250
Ø I	ini <b>7</b> /	2	3.68	Bent Housing	Yes	Adjustable: 1.50° bend	
LverStelle ox PortSult	<b>#</b>	3	3.70	Housing Tool Used	Yes	Pad 0.250 in Th	
Means Top		4	10.01	Stator Elastomer	Nitrile	Staton Standard	
Pad	-	5		Bent Sub / 2nd Bent Hsg	No		
Gend (Flouring)		6		Lower String Stab	No		
Maria de la companya della companya della companya della companya de la companya della companya		7		Upper String Stab	Nο		
		Addi	tional Eastures	-			Arr Ret

Additional Features

Brg Cfg (Off/On) : 3/3

Flex Collar : No Short Brg Pack : No

Rtr Noz / Size : /32'8 BHA OD/ID : 9.500 / 3.000 in Pick Up Sub No No

Bit Box Protr : Yes Yes

MOTOR RUN DATA													
Max Dogleg While Rotating	:	4.36	"/30m	RPM	:	50		Motor Stal	led :	No	Prev Job/Well Hrs	:	7.50
Max Dogleg Overpulled in	:	4.36	%30m	Force	<b>.</b> .	ibf		Float Va	ilve :	Yes	Drilling Hrs	:	5.50
Max Dogleg Pushed Through	:	4.36	%30m	Force	: ;	lbF		DP Fi	lter :	No	Circ Hrs	1	1.50
Hole Azimuth Start / End :		9.90" / 2	240.62°		Inc (	Start / End	:	0.56° / 11.6	5°		Reaming Hrs	:	1.00
Interval Oriented / Rot. :		70 / 15	53 m	Directiona	al Perf	Ori / Rot	:	1	930	m	Total Hrs This Run	:	8.00
Jarring Occured : No											New Cumulative Hrs	:	15.50
N				_			1						

Lobe Cfg : 6/7

	Diff Press (psi)	Str RPM	Rotn Torque (#t-/bs)	Drag Up/Dn (lbf)	WOB (klbs)	ROP Oriented (m/hr)	ROP Rotated (m/hr)
Avg :	32	50	2500	1000 / 1000	8	30	45
Max:	50	50	3000	2000 / 2000	10	70	120

#### **PRE-RUN TESTS**

Motor Tested Pre-Run **Dump Sub Operating** 

: Yes with : 2 Collars, Bit

Yes

: N/A

**Brg Play** 3.0 mm

Pressure 1 700 psi Pressure 2

gorn **Oriveshaft Rotation Observed**:

900 gpm

Bearing Leakage Observed : Yes

#### POST-RUN TESTS

Motor Tested Post-Run

Dump Sub Operating : N/A

**Brg Play** 

3.0 mm

Flow 1 :

Flow 2 :

gpm

gpm

Pressure 1 Pressure 2 JD:S/

Driveshaft Rotation Observed : Yes

Bearing Leakage Observed : Yes Driveshaft Rotated to Drain Mud : Yes

> Fluid Flushed No Fluid Used :

## MUD DATA

Flow 1 :

Flow 2

Base : Water

Additives :

Mud Wt : 1.03 sg

% Sand

SPP Start/End :

psi

% Qil/Water /

% Solids :

1

YP: 1.0 (b)/10002 Chloride Content : pH :

DH Temp Avg/Max : Principle Formation Name(s)

: Seabed/Gippsland LS

FlowRate Avg/Max : 808 / 810 gpm

ррт

Lithology

PV

#### BIT DATA

: Security DBS Pre Existing Hours From Other Wells: 6.5

Type: XT1C

Serial #: 740844

**Dull Grade** 

Prev Drilling Hrs : 0.00 Prev Reaming Hrs : 0.00

Jet Sizes (/32's) : 3x24

TFA: 1.325 ω<sup>2</sup>

No of Runs This Bit: 1

Gage Length:

₿U ĺπ

NО TΩ NO

### PERFORMANCE COMMENTS

Problem Perceived

: No

Problem Date

Service interrupt : No

Service Interrupt Hrs

Performance Motor

: Yes

Tandem Motor : No

LIH : No

PPR Ref# :

Customer Representative's Signature (optional):

Date:

#### MOTOR PERFORMANCE REPORT

M-ALI-DD-02022-3

Motor Serial #: 800052

Job # : AU-DD-02022

Directional Driller(s): Frank van Noord, lan Cobban

Client: OMV Australia Pty. Ltd.

Location: Gippsland Sub Basin

Rig: Ocean Bounty

Well Name: Patricia #2

Bit Run #: 3

Depth In/Out: 334 / 884

BHA # : 3 Date In/Out: 23/06/2002 / 25/06/2002 Motor Run #: 2

Hole Size: 12.250 in

Application Details: Medium Radius

MOTOR	CONFIGURATION	W

MOTOR C	ONF	GUI	R/	١T	IC	N	
Upr State							
Lwr Stab or Pad Sub	M					Т	-
Motor Top	<u> </u>			Τ	- [		
Ped	ä				1	1	
Rend (Housing)	Ø	-1	1			1	
Sleave Tool		1 2	3	4	5	6	7
		1 1	- 1	- 1	- 1	•	

	From Bit (m)	Component		Type	Diam In/Out (in)
1	1.16	Sleeve Stab/Pad	Yes	Stab: 4 I 0*	12.125 12.125
2	3.13	Bent Housing	Yes	Adjustable: 1,50° bend	
3	3.15	Housing Tool Used	Yes	Pad 0.250 in Th	
4	9.87	Stator Elastomer	Nitrite	Stator: Standard	
5		Bent Sub / 2nd Bent Hsg	No		
6		Lower String Stab	No		
7		Upper String Stab	No		

Flex Collar : No Short Brg Pack : No Rtr Noz / Size : /32's Pick Up Sub : Yes Yes	
	res
Brg Cfg (Off/On): 3/3 Lobe Cfg: 4/5 BHA OD/ID: 8.000 / 1.920 /n Bit Box Protr; Yes Ye	

#### MOTOR RUN DATA

MOTOR ROLL M	(MANAGAMAN)		V(V)V(V(V)	J. Victoria		MATIMATAN PA	L ROLL WATER	WARATANI NA JANSANSA		<u> </u>	76.000.000.000.000.000.000.000	2000-00-697-02100-05-1-01-02677	2000	
Max Dogleg While Rotating	9	: 8,0	5 %30m	RPN	<b>4</b> :	50		Motor	r Stalled:	Yes	Prev	Job/Well Hrs	. :	35.00
Max Dogleg Overpulled In		: 8.0	5 % <b>30</b> m	Fore	ce :	230000	'bf	Flo	at Valve	Yes		Driffing Hrs	:	39.25
Max Dogleg Pushed Throu	gh	: 8.0	5 %30m	For	CO :	180000	ъг	<u> </u>	P Filter :	No		Circ Hrs	. :	2.75
Hole Azimuth Start / End	;	240.62	° / 229.97°		Inc	Start / E	nd :	11 65°	/ 89.12°			Reaming Hrs	. :	2.00
Interval Oriented / Rot.	:	251 /	299 m	Directio	nal Per	f Orl / Re	ot :	1	9/36	מאָנ	Total	Hrs This Run	:	44.00
Jarring Occured : No											New Co	umulative Hrs	: :	79.00
Diff Press (psi)	Str R	PM .	Rotn Torq	jue (ft-fbs)	Drag U	lp/Dn (ε	5 <i>(</i> ) <b>V</b>	VOB (kibs	) RO	P Orlente	<b>d</b> (m/hr)	ROP Rotate	ệd	(m/lu)

	Diff Press (psi)	Str RPM	Rotn Torque (ft-fbs)	Drag Up/Dn (ibi)	WOB (kibs)	ROP Oriented (m/hr)	ROP Rotated (m/hr)
Avg:	65	53	3357	10000 / 10000	16	11	17
Max:	100	60	4500	30000 / 20000	30	30	70

#### PRE-RUN TESTS

Motor Tested Pre-Run with : 0 Collars, Bit : Yes Dump Sub Operating : N/A Brg Play 2.0 mm  $600~\mu st$ Flow 1 : 400 gpm Pressure 1 Flow 2 : Pressure 2 gpm

Driveshaft Rotation Observed : Yes Bearing Leakage Observed : Yes

#### POST-RUN TESTS

Motor Tested Post-Run with: **Dump Sub Operating** : N/A **Brg Play** 20 mm Flow 1 : Pressure 1  $g\rho m$ psi Flow 2 : Pressure 2 gpin

Driveshaft Rotation Observed Bearing Leakage Observed : Yes Driveshaft Rotated to Drain Mud : Yes

> Fluid Flushed : Fluid Used : No

#### **MUD DATA**

Base : Water Additives : Mud Wt : 1.12 sg SPP Start/End : 1450 / 2150 % Oll/Water : 3,00 / 89.90 % Solids : 7.00 % Sand : 0.10 PV ; 14 cp YP : 30.0 IbF/10082 pH: 8.7 DH Temp Avg/Max : FlowRate Avg/Max : 854 / 880 gpm Chloride Content : 45000 ppm

Principle Formation Name(s) Seabed/Gippsland LS, Lakes Entrance FM, Top Gumard, SG2 T Lithology : Sand

#### BIT DATA

Make : Reed Pre Existing Hours From Ot	Type: MHT13GC her Wells:	Serial #: NL5007	Dull Grade	1	2	3	4	5	6	7	8
Prev Drilling Hrs : 0.00	Prev Reaming Hrs : 0.00 No e	of Runs This Bit : 1	In								NEW
Jet Sizes (/92/5) : 3x15, 1	1x24 <b>TFA</b> : 0.960 in <sup>2</sup>	Gage Length: 1.000 in	Out	1	1	WT	Ģ	Ε	ŀ	NO	TD

## PERFORMANCE COMMENTS

Problem Perceived	:	No	Problem Date :	Service Interrupt : No	Service Interrupt Hrs	;
Performance Motor	:	Yes	Tandem Motor : No	Liff : No	PPR Ref #	:

Customer Representative's Signature (optional) :	***************************************	Date:	***************************************
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#### MOTOR PERFORMANCE REPORT

M-AU-DD-02022-4

Motor Serial # : 675188

Job # : AU-DD-02022

Directional Driller(s): Frank van Noord, S. Wainwright-

Client: OMV Australia Pty. Ltd.

Rig: Ocean Bounty

Well Name: Patricia #2

Location: Gippsland Sub Basin

Bit Run #: 4

BHA# : 4

Motor Run # : 3

Depth In/Out: 884 / 1385 m

Date In/Out : 26/06/2002 / 30/06/2002 Hole Size: 8.500 in

Application Details: Horizontal

URATIO	NFIG	CO	TOR	MOI
--------	------	----	-----	-----

Upr Strets	<u></u>
Lwr Stab or Pad Sub	- I
Motor Top	
Pad	
Send (Housing)	
Sleave Tool	1234557

	From Bit (m)	Component		Туре	Diam In/Out (in)
 1	1.02	Sleeve Stab/Pad	Yes	Stab: 4 I 0"	8.250 8.250
2	2.00	Bent Housing	Yes	Adjustable: 1.50" bend	
3		Housing Tool Used	No		
4	7.75	Stator Elastomer			
5		Bent Sub / 2nd Bent Hsg	No		
6		Lower String Stab	No		
7		Upper String Stab	Nο		
				<b></b>	N.

Additional Features

1/30m

"/30nt

Flex Collar : No

Arr Ret

Short Brg Pack : No

Rtr Noz / Size :

Pick Up Sub

Brg Cfg (Off/On)

Lobe Cfg : 6/7 3/3

BHA OD/ID : 6.750 / 2.810 in

Bit Box Protr

: Yes Yes Yes No

2.25

#### MOTOR RUN DATA

Max Dogleg While Rotating	
Max Dogleg Overpulled In	
Max Dogleg Pushed Through	۱

 $\frac{930m}{}$ 

8.00

Force Jbf Force lbf Motor Stalled : Float Valve : Yes DP Filter: No

Prev Job/Well Hrs Drilling Hrs 22.00

Hole Azimuth Start / End Interval Oriented / Rot.

229.97° / 234.02°

Inc Start / End

89 12° / 90.46°

Circ Hrs Reaming Hrs 2.75 Total Hrs This Run : 27.00

Jarring Occured : No.

43 / 458 m Directional Perf Orl / Rot

RPM

1.50 / 1.12 %30m

New Cumulative Hrs 97.25

1	Diff Press (psi)	Str RPM	Rotn Torque (#-(bs)	Drag Up/Dri (lbf)	WOB (klbs)	ROP Oriented (m/hr)	ROP Rotated (m/hr)
Avg:	50	60	6375	5000 / 5000	13	8	24
Max:	50	60	7500	10000 / 10000	50	45	65

### PRE-RUN TESTS

Motor Tested Pre-Run Dump Sub Operating

350 april

with: 0 Collars, Bit, MWD **Brg Play** 4.0 mm

Pressure 1 600 ps/ Pressure 2 asi

Flow 2 : gpm Driveshaft Rotation Observed : Yes Bearing Leakage Observed :

#### POST-RUN TESTS

Dump Sub Operating

Motor Tested Post-Run

with: ; No

: N/A **Brg Play** 

5.0 mm

Flow 1 : Flow 2 :

DOM qpm Pressure 1 Pressure 2

D3I*Dai* 

Driveshaft Rotation Observed Yes Bearing Leakage Observed : No Driveshaft Rotated to Drain Mud Yes

> Fluid Used : Water Fluid Flushed

#### MUD DATA

Flow 1 :

Base : Water

Additives :

Mud Wt : 1.12 sg

FlowRate Avg/Max : 575 / 580 gpm

No of Runs This Bit: 1

Gage Length:

SPP Start/End :

1400 / 2000

% Oit/Water : /

% Solids : 8.00

: 0.00 Prev Reaming Hrs : 0.00

% Sand : 0.25

PV : 11 ap

YP: 32.0 lbf/100ft2

**pH** ; 9.5

NEW

WT TD

DH Temp Avg/Max :

TFA: 0.451 m<sup>2</sup>

Chloride Content : 72000 ppm

Lithology : Sand Principle Formation Name(s) : SG2 Top Porosity, SG3 Top going down, SG4 Top going down.

BIT DATA

Make Reed

Prev Drilling Hrs

Type: EMP41ALKOH Serial # : M25485

Pre Existing Hours From Other Wells: 0

**Dull Grade** 

ER G

## PERFORMANCE COMMENTS

**Problem Perceived** 

: No

3x14

Problem Date :

lπ

Tandem Motor : No

Service Interrupt : No

LIH : No

Service Interrupt Hrs PPR Ref#

Performance Motor : Yes

Customer Representative's Signature (optional) :



**Daily Drilling Report** 

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2

Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 1

Total Depth (m)

78

**Casing Depth** (m) : Operator Reps

Drilled last 24 hrs

(m)

(in)

Casing Diameter (in):

SSDS Reps

Casing ID

0

(in):

LAST SURVEY

**Hole Size** 

Inclination Azimuth Depth (m) TVD (m) 75.98 0.00 0.00 75.98

Displ (m) Direction N00.00E 0.00

LAST FORMATION TOP

Formation Name MD Top (m) TVD Top (m) Seabed/Gippsland LS 77.50 77.50

**BHA SUMMARY** 

MUD DATA Type

Saltwater

Weight (sg)

1.03

PV (cp) FV (sec) 26

BHA#

YP (lbf/100ft<sup>2</sup>) 1.0

Activity

Gels 1.0 / 1.0 Fluid Loss

Solids (%) Sand (%)

Oil (%)

TIME BREAKDOWN

From Τọ Hours 00:00 00:00 24.00

77.50

TMD (m)

Tools on standby



**Daily Drilling Report** 

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

07/06/2002 CURRENT STATUS Report # 2

Total Depth (m) 0

78 **Casing Depth**  (m) : **Operator Reps** 

Drilled last 24 hrs (m) **Hole Size** (in)

Casing Diameter (in):

SSDS Reps

Casing ID (in) :

LAST SURVEY LAST FORMATION TOP

Displ (m) Depth (m) Inclination Azimuth TVD (m) Direction 0.00 0.00 75.98 0.00 N00.00E

**Formation Name** MD Top (m) TVD Top (m) Seabed/Gippsland LS 77.50 77.50

BHA SUMMARY

MUDDAIA		(1) The second			72.4	4				756
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100ft	<sup>a</sup> ) Gels	Fluid Loss	рΗ	Solids (%)	Sand (%)	Oil (%)
Saltwater	1.03	26	1	1.0	1.0 / 1.0					

TIME BREAKDOWN

From	То	Hours	TMD (m)	BHA#	Activity
00:00	00:00	24.00	77.50		Tools on standby
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**Daily Drilling Report** 

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

08/06/2002 CURRENT STATUS Report # 3

Total Depth (m)Drilled last 24 hrs (m)

78 0

**Casing Depth** (m): Casing Diameter (in): **Operator Reps** 

SSDS Reps

**Hole Size** (in)

Casing ID (in) :

LAST SURVEY

Depth (m) Inclination Azimuth 75.98 0.00 0.00

TVD (m) Displ (m) Direction 75.98 0.00 N00.00E

LAST FORMATION TOP **Formation Name** MD Top (m) TVD Top (m) 77.50 Seabed/Gippsland LS 77.50

**BHA SUMMARY** 

TIME BREAKDOWN

MUD DATA Weight (sg) FV (sec) PV (cp) YP (lbf/100ft²) Gels Fluid Loss Solids (%) Sand (%) Oil (%) 1.0 / 1.0 Saltwater 1.03 26 1.0

From To Hours TMD (m) BHA# Activity 00:00 00:00 24.00 77.50 Tools on standby



Daily Drilling Report

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2

Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS	Danam # 4	09/06/2002
CURRENT STATUS	кероп # 4	US/OD/ZOOZ

**Total Depth** Drilled last 24 hrs (m) 78 0

Casing Depth (m) : Casing Diameter (in): **Operator Reps** 

**Hole Size** 

(in)

Casing ID (in): SSDS Reps

LAST SURVEY

Depth (m) Inclination Azimuth TVD (m) Direction Displ (m) 75.98 0.00 0.00 75.98 0.00 N00.00E

LAST FORMATION TOP Formation Name MD Top (m) TVD Top (m) 77.50 77.50 Seabed/Gippsland LS

BHA SUMMARY

TIME BREAKDOWN

MUD DATA		700					Articles .		4,737	
Туре	Welght (sg)	FV (sec)	PV (cp)	YP (lbf/100ff	²) Gels	Fluid Loss	pН	Solids (%)		Oil (%)
Saltwater	1.03	26	1	1.0	1.0 / 1.0					

From	TO	Hours	TMD (m)	BHA#	Activity	
00:00	00:00	24.00	77.50		Tools on Standby	



Daily Drilling Report

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 5 10/06/2002

Total Depth (m) Drilled last 24 hrs (m)

(in)

0

Casing Depth (m) : Operator Reps

Casing Diameter (in): Casing ID

(in) :

SSDS Reps

LAST SURVEY

Hole Size

Depth (m) Inclination Azimuth TVD (m) Displ (m) Direction 0.00 0.00 75.98 N00.00E 75.98 0.00

LAST FORMATION TOP MD Top (m) TVD Top (m) Formation Name 77.50 77.50 Seabed/Gippsland LS

BHA ŞUMMARY

MUD DATA	A LONG TO SERVICE SERV									
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100f	t²) Gels	Fluid Loss		Solids (%)	Sand (%)	Oil (%)
Saltwater	1.03	26	1	1.0	1.0 / 1.0					
AV	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		KANGKATAN PAKAKANAN	ZATOOOTIA AASTAA KA OO OO OO OO			A CONTRACTOR OF THE STATE OF TH	A STATE OF THE STA	ALCOHOLOGICA CONTRACTOR	Services (International Asset)

TIME BRE	AKDOWN				
From	To	Hours	TMD (m)	BHA#	
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DRILLING

**Daily Drilling Report** 

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 6 11/06/2002

**Total Depth** Drilled last 24 hrs 0

**Casing Depth** 

Casing Diameter (in):

**Operator Reps** 

Hole Size (in)

Casing ID

(in) :

SSDS Reps

LAST FORMATION TOP

LAST SURVEY

75.98

Depth (m) Inclination Azimuth 0.00 0.00

(m)

TVD (m) Displ (m) 75.98 0.00

Direction N00.00E

MD Top (m) TVD Top (m) Formation Name 77.50 77.50 Seabed/Gippsland LS

BHA SUMMARY

MUD DATA

Type Weight (sg) FV (sec) PV (cp) YP (lbf/100ft2) Gels Fluid Loss Solids (%) Sand (%) Oil (%) Saltwater 1.03 26 1.0 1.0 / 1.0

TIME BREAKDOWN

TMD (m) From To Hours BHA# Activity 00:00 00:00 24.00 77.50 Tools on standby



Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 7 12/06/2002

**Total Depth** (m) Drilled last 24 hrs

(m)

0

78 Casing Depth

Casing Diameter (in):

0.00

**Operator Reps** SSDS Reps

Casing ID (in) :

LAST SURVEY

Hole Size

Depth (m) Inclination Azimuth TVD (m) Displ (m) 0.00 0.00 75.98 75.98

(in)

LAST FORMATION TOP

MD Top (m) TVD Top (m) Formation Name 77.50 77.50 Seabed/Gippsland LS

BHA SUMMARY

MUD DATA			Marie San Company	<u> </u>					25	
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/1001	ft²) Gels	Fluid Loss	pН	Solids (%)	Sand (%)	Oil (%)
Saltwater	1.03	26	1	1.0	1.0 / 1.0				***	

Direction

N00.00E

TIME BRE	AKDOWN			- 1 <b>- 1</b>	Company of the compan
From	To	Hours	TMD (m)	BHA#	Activity
00:00	00:00	24.00	77.50		Tools on standby
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Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2

Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 8 13/06/2002

Total Depth

Casing Depth (m): **Operator Reps** 

Drilled last 24 hrs (m) 0

0.00

Casing Diameter (in) :

SSDS Reps

**Hole Size** 

(in)

Casing ID (in) :

0.00

LAST SURVEY Depth (m) Inclination Azimuth Displ (m) Direction TVD (m)

75.98

LAST FORMATION TOP Formation Name Seabed/Gippsland LS

TVD Top (m) MD Top (m) 77.50 77.50

BHA SUMMARY

75.98

MUD DATA									Part News	
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	pН	Solids (%)	Sand (%)	Oil (%)
Saltwater	1.03	26	1	1.0	1.0 / 1.0	:				

N00.00E

TIME BREAKDOWN From To Hours TMD (m) BHA# Activity

0.00

00:00 00:00 24,00 77.50 Tools on standby



Daily Drilling Report

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 9 14/06/2002

Total Depth (m)

78 Q **Casing Depth** 

**Operator Reps** 

Drilled last 24 hrs

(in)

Casing Diameter (in) :

(m) :

SSDS Reps

Casing ID (ln):

LAST FORMATION TOP

LAST SURVEY Depth (m) Inclination Azimuth TVD (m) Displ (m) Direction 75.98 0.00 0.00 75.98 0.00 N00.00E

**Formation Name** MD Top (m) TVD Top (m) Seabed/Gippsland LS 77.50 77.50

BHA ŞUMMARY

Hole Size

MUD DATA										
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100f	t²) Gels	Fluid Loss	рΗ	Solids (%)	Sand (%)	Oil (%)
Şaltwater	1.03	26	1	1.0	1.0 / 1.0					

TIME BRE	AKDOWN				
From	To	Hours	TMD (m)	BHA#	
00:00	00:00	24.00	77.50		Tools on standby
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**Daily Drilling Report** 

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 10 15/06/2002

Total Depth (m) 78

Casing Depth (m): **Operator Reps** 

LAST FORMATION TOP

Drilled last 24 hrs (m) 0

Casing Diameter (in):

SSDS Reps

Hole Size (in) Casing ID

(in) :

LAST SURVEY

Depth (m) Inclination Azimuth 0.00 0.00

TVD (m) Displ (m) 75.98 0.00

Direction Formation Name N00.00E Seabed/Gippsland LS

TVD Top (m) MD Top (m) 77.50 77.50

**BHA SUMMARY** 

MUD DATA					<del></del>					
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100ft <sup>2</sup> )	Gels	Fluid Loss	ρН	Solids (%)	Sand (%)	Oil (%)
Saltwater	1.03	26	1	10 i	10/10	,				

TIME BREAKDO
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From	To	Hours	TMD (m)	ВНА#	
00:00	00:00	24.00	77.50		Tools on standby
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**Daily Drilling Report** 

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 11 16/06/2002

**Total Depth** 78 Drilled last 24 hrs (m)

**Casing Depth** 0 Casing Diameter (in): Operator Reps

SSDS Reps

Hole Size (in) Casing ID

LAST SURVEY

Depth (m) Inclination Azimuth TVD (m) Displ (m) Direction 0.00 0.00 75,98 0.00 N00.00E 75.98

LAST FORMATION TOP Formation Name MD Top (m) TVD Top (m) Seabed/Gippsland LS 77.50 77.50

BHA SUMMARY

**MUD DATA** 

YP (lbf/100ft<sup>2</sup>) Gels Fluid Loss Solids (%) Sand (%) Oil (%) Weight (sg) FV (sec) PV (cp) Туре 1.0 / 1.0 1.0 Şaltwater 1.03 26

(in):

TIME BREAKDOWN

From	To	Hours	TMD (m)	BHA#	Activity
00:00	00:00	24.00	77.50		Tools on standby
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Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 12 17/06/2002

**Total Depth** 78 **Drilled last 24 hrs** (m)

Casing Depth 0

Guy Howard, John Kenrick Operator Reps

SSDS Reps

: Frank van Noord (1), lan Cobban (1)

**Hole Size** 

(in)

Casing Diameter (in) : Casing ID (in):

LAST FORMATION TOP

Depth (m) Inclination Azimuth TVD (m) Displ (m) Direction 75.98 0.00 N00.00E 75.98 0.00 0.00

Formation Name MD Top (m) TVD Top (m) 77.50 77.50 Seabed/Gippsland LS

**BHA SUMMARY** 

TIME BREAKDÓWN

**LAST SURVEY** 

MUD DATA		1.0				77.00			
Type	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100f	t²) Gels	Fluid Loss	pН	Solids (%) Sand (%)	Oil (%)
Saltwater	1.03	26	1	1.0	1.0 / 1.0				

From Τo Hours TMD (m) BHA# Activity 00:00 00:00 24.00 77.50 Tools on standby, SSDS personnel leave Perth and arrive Melbourne



Client: OMV Australia Pty. Ltd.

Well Name : Patricia #2 Block : Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty
Job#: AU-DD-02022

CURRENT STATUS Report # 13 18/06/2002

Total Depth (m): 78

Casing Depth (m):
Casing Diameter (in):

(in) :

Operator Reps : Guy Howard, John Kenrick

Hole Size (in)

Casing ID

SSDS Reps

: Frank van Noord (2), Ian Cobban (2)

LAST SURVEY

Drilled last 24 hrs

 Depth (m)
 Inclination
 Azimuth
 TVD (m)
 Displ (m)
 Direction

 75.98
 0.00
 0.00
 75.98
 0.00
 N00.00E

LAST FORMATION TOP

Formation Name MD Top (m) TVD Top (m)
Seabed/Gippsland LS 77.50 77.50

**BHA SUMMARY** 

MUD DATA			ML since	3.07						
Type	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100f	t²) Gels	Fluid Loss	pН	Solids (%)	Sand (%)	Oil (%)
Saltwater	1.03	26	1	1.0	1.0 / 1.0					

TIME BRE	AKDOWN	(A)		The state of the s
From	Τo	Hours	TMD (m) BHA#	Activity
00:00	06:30	6.50	77.50	WOW.Tools on standby, SSDS personnel depart for Ocean Bounty
06:30	00:00	17,50	77.50	WOW.Fly to rig and check equipment



Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 14 19/06/2002

(in)

**Total Depth** 78 Casing Depth (m)

Drilled last 24 hrs 0 Casing Diameter (in): (m) **Hole Size** 

Casing ID (in) : Operator Reps : Guy Howard, John Kenrick

SSDS Reps : Frank van Noord (3), Ian Cobban (3)

LAST SURVEY LAST FORMATION TOP

Depth (m) Inclination Azimuth TVD (m) Displ (m) Direction Formation Name MD Top (m) TVD Top (m) 0.00 N00.00E Seabed/Glppsland LS 77.50 77.50 75.98 0.00 75.98 0.00

BHA SUMMARY

MUDDAIA	A NAME OF STREET	and a Majority of the second	70, c 2047/300 (10, c 204			(100 mg - 400 mg - 10	8::: (A	NO. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	1000
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	рH	Solids (%) Sand (%	) Oil (%)
Saltwater	1.03	26	1	10	1.0 / 1.0	:			·

TIME BRE	AKDOWN				and the second s
From	To	Hours	TMD (m)	BHA#	
00:00	04:30	4.50	77.50		ROV / Cameron operations
04:30	12:00	7.50	77.50		Anchor handling operations
12:00	19:30	7.50	77.50		ROV / Cameron operations
19:30	00:00	4.50	77.50		Anchor handling operations
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Daily Drilling Report

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2

Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 15 20/06/2002

(m)

Total Depth (m) 111

34

**Casing Depth** Casing Diameter (in) :

(m) : 111.50 30.000

Operator Reps

Guy Howard, John Kennick

SSDS Reps

Hole Size (in) 26.000 Casing ID (in) :

: Frank van Noord (4), Ian Cobban (4)

MATERIAL PROPERTY OF THE STATE LAST SURVEY

Drilled last 24 hrs

Depth (m) Inclination Azimuth TVD (m) Displ (m) 75.98 0.00 0.00 75.98 0.00

LAST FORMATION TOP Direction **Formation Name** N00.00E Seabed/Gippsland LS

MD Top (m) TVD Top (m) 77.50 77.50

BHA SUMMARY

BHA 1: 62.24 m; Bit #1rr1 (1. hrs), Other, Sub, 3 x DC, Sub, 3 x DC, Sub

	YEARAN MARKAMAN AND AND AND AND AND AND AND AND AND A	ZA MININTERATORIO	O WAREN AND THE REST	SOUDS CONTRACTOR OF THE SECOND	CHILD COLUMN AND AND AND AND AND AND AND AND AND AN	STORT TO THE POST OF THE POST				
MUD DATA				<u> </u>	Section 2	2.00				
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	Gels	Fluid Loss	рΗ	Solids (%)	Sand (%)	Oil (%)
Saltwater	1.03	26	1	1.0	40/40			<u> </u>		70.

	AKDOWN			14 (14 (14 (14 (14 (14 (14 (14 (14 (14 (	
From	То	Hours	TMD (m)	BHA#	Activity
00:00	00:30	0.50	77.50		Continue anchor handling operations
00:30	03:45	3.25	77.50		Rig under tow to Patricia-2
03:45	12:00	8.25	77.50		Anchor handling operations
12:00	14:45	2.75	77.50	!	M/U 30" x 20" Casing flow test joint
14:45	15:00	0.25	77.50	1	M/U 26" x 36" BHA # 1
15:00	16:00	1.00	77.50	1	Trip in and tag sea bed @ 77.5 m.
16:00	17:00	1.00	111.50	1	Drilling 26" hole with 36" hole opener from 77.5 to 111.5 m.
17:00	17:30	0.50	111.50	1	Circulate hole 1-1/2 times, drop totco survey 1/4°
17:30	18:30	1.00	111.50	1	Trlp Out (at Surface) to run 13-3/8" casing
18:30	20:00	1.50	111.50		M/U 30" R/T stinger, attempt to stab casing
20:00	20:30	0.50	111.50		Move rig to ald stab in.
20:30	22:30	2.00	111,50		Continue RIH with casing then cement same
22:30	00:00	1.50	111.50	i	Release R/T, POOH, L/D 30" R/T side entry TIW
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Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 16 . 21/06/2002

**Total Depth** 334 (m) Drilled last 24 hrs (m) 222 Casing Depth (m) : 326.47 Casing Diameter (in) : 13.375 Operator Reps : Guy Howard, John Kenrick

SSDS Reps : Frank van Noord (5), lan Cobban (5)

Hole Size (in) 17.500 Casing ID (in) : 12.415

LAST SURVEY Azimuth Depth (m) Inclination TVD (m) Displ (m) Direction 314.81 11.75 244.06 313.70 13.48 S73.31W

LAST FORMATION TOP Formation Name MD Top (m) TVD Top (m) Seabed/Gippsland LS 77.50 77.50

BHA ŞUMMARY

BHA 2: 219.27 m; Bit #2rr1 (6.5 hrs), PDM #1 (15.5 hrs), Sub, MWD, MWD, Sub, 3 x DC, Jar, 2 x DC, Sub, HWDP

MUD DAT	TA MARIE					(1) (2) (d)				representation of	
Туре	W	eight (sg)	FV (sec)	PV (cp)	YP (lbf/100ft <sup>2</sup>	•	Fluid Loss	рH	Solids (%)	Sand (%)	Oil (%)
Saltwater		1.03	26	1	1.0	1.0 / 1.0					
TIME BRE						a de la companya de la companya de la companya de la companya de la companya de la companya de la companya de	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				
From	То	Hours	TMD (m)	BHA#	Activity				THE OWNER OF THE OWNER O		
00:00	00:30	0.50	111.50	İ	Make up 171/2" B	HA, upload L	WD				
00:30	02:30	2.00	111.50	2	Rih BHA, pick up	jars, ROV o	bserve stab in				
02:30	03:30	1.00	111.50	2	Reaming / Wash	ing					
03:30	09:00	5.50	334.00	2	Drill 17½" hole fr	om 111.5m to	334m				
09:00	10:00	1.00	334.00	2	Circulate,work pi	pe. Sweep 10	00 bbls hi-vis, sj	pot 30 t	bls PHG		į
10:00	11:30	1.50	334.00	2	Wiper trip to sho	e (Backream	325m - 230m)				
11:30	12:30	1.00	334.00	2	RIH from 20" sho	e, no fill					
12:30	13:00	0.50	334.00	2	Circulate, sweep	hole w/seaw	ater & displace	w/PHG	, increase flo	w to 1000 g	ıpm
13:00	15:00	2.00	334.00	2	Trip Out (at Surfa	açe) to run ça	sing, download	LWD, i	no drag.		
15:00	18:30	3.50	334.00		Hold JSA, Rig up		•				
18:30	00:00	5.50	334.00	ľ	P/U wellhead,M/l	J plugs & run	wellhead + 50	k overp	ull, test & ce	ment as per	r prog
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Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 17 Z2/06/2002

**Total Depth** (m)

334

**Casing Depth** 326.47 13.375 Operator Reps : Guy Howard, John Kenrick

Drilled last 24 hrs

0 (m)

Casing Diameter (in) :

SSDS Reps

**Hole Size** 

(in)

Casing ID (in) : 12.415 : Frank van Noord (6), Ian Cobban (6)

LAST SURVEY

Depth (m) Inclination Azimuth TVD (m) Displ (m) Direction 11.75 244.06 313.70 13.48 S73.31W 314.81

LAST FORMATION TOP **Formation Name** MD Top (m) TVD Top (m) Seabed/Glppsland LS 77.50 77.50

**BHA SUMMARY** 

MUD DATA		No. of the last of								
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100f	t²) Gels	Fluid Loss	рΗ	Solids (%)	Sand (%)	Oil (%)
Saltwater	1.03	26	1	1.0	1.0 / 1.0			T I		

TIME BRE	AKDOWN				
From	To	Hours	TMD (m)	BHA#	Activity
00:00	01:30	1.50	334.00		Release 18-3/4"running tool. Pooh,lay out same
01:30	02:00	0.50	334.00		Lay out cement head
02:00	05:30	3.50	334.00		Rig up to run SST
05:30	08:30	3.00	334.00	;	Rih SST & umbilical control line.Land,latch,pressure test same,ok
08:30	11:00	2.50	334.00	į	Pooh SST running tool & umbilical control line.
11:00	12:00	1.00	334.00	į	Rig up riser handling equipment to run BOP
12:00	14:00	2.00	334.00		Hold JSA, P/U 2x50'+1x10' Riser & stand in derrick
14:00	15:30	1.50	334.00		Move BOP's to Beams, Nipple up to riser, rig moved 50' off location
15:30	17:00	1.50	334.00		Function test BOP's on Beams
17:00	17:30	0.50	334.00		Run BOP's Into splash zone
17:30	18:00	0.50	334.00		Pressure test choke & kill lines
18:00	20:30	2.50	334.00		Pick up slip joint & landing joint & install goosenecks
20:30	21:00	0.50	334.00		Pressure test goosenecks
21:00	23:30	2.50	334.00		Hook up riser tensioners to slip joint
23:30	00:00	0.50	334.00		Land out BOP's, perform 50 k overpull test
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## Daily Drilling Report

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 18 23/06/2002

Total Depth 404 (m) Drilled last 24 hrs (m) 70 **Casing Depth** 326.47 (m) : Casing Diameter (in): 13.375 Operator Reps : Guy Howard, John Kenrick

Hole Size (in) : 12.250 Casing ID (in) : 12.415 SSDS Reps : Frank van Noord (7), Jan Cobban (7)

LAST SURVEY Depth (m) Inclination Azimuth TVD (m) Displ (m) Direction 229.93 379.66 27.37 \$64.91W

LAST FORMATION TOP TVD Top (m) Formation Name MD Top (m) Seabed/Gippsland LS 77.50 77.50

BHA SUMMARY

MUD DATA

BHA 3: 655.37 m; Bit #3 (8.5 hrs), PDM #2 (43.5 hrs), MWD, MWD, Sub, Sub, 3 x HWDP, Jar, 3 x HWDP, 30x DP (\$), 30x HWDP

Туре	We	ight (sg)	FV (sec)	PV (cp)	YP (lbf/100ft <sup>2</sup> )	Gels	Fluid Loss	рΗ	Solids (%)	Sand (%)	Oil (%)
KCI/Polyn	ner	1.06	55	10	20.0	8.0 / 10.0	6	9.0	2.50		0.00
TIME BRE	AKDOWN		g.,				77.26	20			
From	То	Hours	TMD (m)	BHA#	Activity		A STATE OF THE STA	W. W. W. W. W. W. W. W. W. W. W. W. W. W	44144000000000000000000000000000000000	M. 17-374-1100 1100 1100 1100 1100 1100 1100 110	<u> </u>
00:00	00:30	0.50	334.00	j	Pressure test with	connector					
00:30	02:00	1.50	334.00		Nipple up landing	joint					
02:00	02:30	0.50	334.00		Pick up diverter, la	and & latch					
02:30	03:15	0.75	334.00		Rig down riser har	ndling equipr	ment				
03:15	04:00	0.75	334.00		Make up cement h	nead and sta	ind In derrick				
04:00	05:15	1.25	334.00		Make up 9-5/8" ca	sing hanger	running tool &	SS plu	gs, lay out sa	ame	
05:15	05:45	0.50	334.00		Make up wear bus	hing running	tool on HWDF	<b>,</b>			
05:45	06:15	0.50	334.00		RIH and set wear	bushing					
06:15	07:00	0.75	334.00	i	POOH wear bushi	ng running te	ool and lay out	same			
07:00	08:00	1.00	334.00		Lay out 17-1/2" bit	t and 9-5/8" r	motor				
08:00	10:00	2.00	334.00		Make up BHA # 3,	12-1/4" bit,	8" motor w/ben	d @1.	5° & downloa	ad LWD	
10:00	10:30	0.50	334.00		Service Rig and to	p drive.					
10:30	12:00	1.50	334.00	3	Trip In with BHA#	3					ĺ
12:00	12:30	0.50	334.00	3	Close diverter bag	, flush and c	heck				
12:30	13:30	1.00	334.00	3	Trip In BHA #3 ab	ove cement					
13:30	14:00	0.50	334.00	3	Close upper Annu	lar and test l	LMRP connecto	r			
14:00	14:30	0.50	334.00	3	Trip In and tag top	of cement (	<u>20</u> 300 m				
14:30	16:30	2.00	334.00	3	Drill out cement pl	ugs, cement	and 13-3/8" ca	sing sl	noe		
16:30	17:30	1.00	337.00	3	Drilling 12-1/4" hol	le from 334 t	o 337m				
17:30	18:30	1.00	337.00	3	Perform Leak Off	Test					
18:30	00:00	5.50	404.00	3	Drilling 12-1/4" hol	e from 337 t	o 404m				
17:30 18:30											
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**Daily Drilling Report** 

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 19 24/06/2002 8.

Total Depth 708 (m)

Casing Depth (m) : 326.47 Operator Reps : Guy Howard, John Kenrick

Drilled last 24 hrs 304 Casing Diameter (in): 13.375 SSDS Reps

**Hole Size** 

(in) 12.250

Casing ID (in): 12.415 : Frank van Noord (8), Ian Cobban (8)

LAST SURVEY

TVD (m) Direction Depth (m) Inclination Azimuth Displ (m) 691.25 56.22 230.56 637.59 179.54 S52.42W

LAST FORMATION TOP Formation Name MD Top (m) TVD Top (m) Seabed/Gippsland LS 77.50 77.50

BHA SUMMARY

BHA 3: 655.37 m; Bit #3 (32.5 hrs), PDM #2 (67.5 hrs), MWD, MWD, Sub, Sub, 3 x HWDP, Jar, 3 x HWDP, 30x DP (S), 30x HWDP

MUD DATA			14444					Alegania A		
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100ft²	) Gels	Fluid Loss	pН	Solids (%)	Sand (%)	Oil (%)
KCl/Polymer	1.04	50	9	18.0	7.0 / 11.0	6	8.7	5.00	0.10	3.00
Carriera como con a contrata de la como contrata de la como contrata de la como contrata de la como contrata d	patra contrato Atolicate da Calenda esta colocio meso Atoliciat cumero es contagia de	10000000000000000000000000000000000000	and the second s	ALGO DESCRIPTION OF THE PROPERTY OF THE PROPER	ngaga/Abakata magamit kepita) nyaga	ACALAUS (CASCILLA MARCOL PROPERTY ALASSA)	O THE ROOM OF THE PARTY OF THE	A DESCRIPTION OF THE PROPERTY		IIIIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIII

TIMEB	REAKDOWN				66 C C C C C C C C C C C C C C C C C C
From	То	Hours	TMD (m)	BHA#	Activity
00:00		12.00	558.00	3	Drill 12¼" hole from 404 - 558m
12:00	00:00	12.00	708.00	3	Drilling 12-1/4" hole from 558 to 708m
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Daily Drilling Report

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 20 25/06/2002

Total Depth 884 Casing Depth 872.36 Guy Howard, Gavin Othen

Drilled last 24 hrs 176 Casing Diameter (in) : 9.625 SSDS Reps : Frank van Noord (9), Ian Cobban (9) (m)

**Hole Size** 12.250 8.681 (in) Casing ID (in) :

LAST SURVEY LAST FORMATION TOP Depth (m) Inclination Azimuth Direction Formation Name MD Top (m) TVD Top (m) TVD (m) Displ (m)

337.45 842.80 697.66 862.88 85.19 229.80 700.28 S51.41W SG2 Top Porosity

BHA SUMMARY

BHA 3: 655.37 m; Bit #3 (41.25 hrs), PDM #2 (79. hrs), MWD, MWD, Sub, Sub, 3 x HWDP, Jar, 3 x HWDP, 30x DP (\$), 30x HWDP

MUD DATA		<b>504</b>	4 -4				12311	(a) (c)		
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100f	t³) Gels	Fluid Loss	pН	Solids (%)	Sand (%)	Oil (%)
KCI/Polymer	1.12	55	14	30.0	13.0 / 18.0	6 :	8.7	7.00	0.10	3.00
TIME BREAKE	OWN -								Maria de Cara	wew.
	Paramana Programma Paramana Paramana Paramana Paramana Paramana Paramana Paramana Paramana Paramana Paramana P		***************************************	Maria de la companion de la companion de la companion de la companion de la companion de la companion de la co	INVIORITION CONTRACTOR AND AND AND AND AND AND AND AND AND AND		MARKON MARKATAN	21-4-1-4-1-11 Hill Hill Hill Hill	IIII III III III II ALA III ALA III ALA III ALA	THE REAL PROPERTY OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED

TIME BRE	AKDOWN			74 · · · ·	
From	To	Hours	TMD (m)	BHA#	Activity
00:00	08:45	8.75	884.00	3	Drilling 12-1/4" hole from 708 to 884m, 12-1/4" TD
08:45	10:00	1.25	884.00	3	Circulate and increase mud weight to 1.12 SG.
10:00	12:00	2.00	884.00	3	Wiper trlp from 884 to 655m, max overpull 35 k.
12:00	12:30	0.50	884.00	3	Continue wiper trip to 13-3/8" casing shoe
12:30	14:00	1.50	884.00	3	Finish wiper trip running in to 884m, no fill
14:00	15:30	1.50	884.00	3	Circulate bottoms up, gas peaked at 12.47%, continue circ until gas 0.5%
15:30	18:30	3.00	884.00	3	Trip Out BHA #3 (at Surface)
18:30	19:00	0.50	884.00	3	Download LWD tools and rack in derrick with motor
19:00	20:30	1.50	884.00		Make up wear bushing retrieval tool, retrieve wearbushing and lay down same
20:30	00:00	3.50	884.00		Hold JSA, rlg up and run casing
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**Daily Drilling Report** 

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 21 26/06/2002

**Total Depth** 884 (m) 0

Depth (m) Inclination Azimuth

Casing Depth (m): 872.36

Operator Reps : Guy Howard, Gavin Othen

Drilled last 24 hrs

Casing Diameter (in):

9.625

SSDS Reps

Frank van Noord (10), S. Wainwright

**Hole Size** 

(in)

229.80

8.500

TVD (m)

700.28

Casing ID

Displ (m)

337.45

(in) : 8.681

Direction

\$51.41W

LAST FORMATION TOP

Formation Name MD Top (m) TVD Top (m) 842.80 697.66 SG2 Top Porosity

**BHA SUMMARY** 

LAST SURVEY

862.88

**MUD DATA** 

BHA 4: 1266.79 m; Bit #4 (0.5 hrs), PDM #3 (70.75 hrs), MWD, MWD, MWD, Sub, 3 x HWDP, Jar, 3 x HWDP, 93x DP (S), 30x HWDP

Type KÇI/P TIME I	W	elght (sg)	FV (sec)	PV (cp)	YP (lbf/100f	<sup>2</sup> ) Gels	Fluid Loss	рΗ	Solids (%)	Sand (%)	Oil (%)
KÇI/P	olymer	1.12	55	14	30.0	13.0 / 18.0	6	8.7	7.00	0.10	3.00
TIME	BREAKDOWN										
From		Hours	TMD (m)	BHA#	Activity						
Fror 00:0 03:3 04:0 04:3 07:0 08:0 10:0 12:3 13:3 16:3 17:0 17:3		3.50	884.00	i i i	Make up casing	hanger and ri	un on drill pipe				
03:3	0 04:00	0.50	884.00		Rig up cement l	hose and land	casing				
04:0	0 04:30	0.50	884.00		Circulate 1-1/2	times casing v	olume				
04:3	07:00	2.50	884.00		Hold JSA and c	ement.					
07:0	08:00	1.00	884.00		Release and red	cover casing r	unning tool				
08:0	0 10:00	2.00	884.00	!	Make up and ru	n seal assemb	oly				
10:0	0 10:30	0.50	884.00		Test BOP						
10:3	0 12:00	1.50	884.00		POOH with sea	l assembly rur	ning tool				
12:0	0 12:30	0.50	884.00		Lay down 12-1/4	4" BHA # 3					
12:3	0 13:30	1.00	884.00		Make up & RIH	with BQP test	tool				
13:3	0 16:30	3.00	884.00		Pressure test B	QΡ					
16:3	0 17:00	0.50	884.00	ĺ	POOH with BOF	⊃ test tool					
17:0	0 17:30	0.50	884.00		Service break a	nd lay out cen	nent head				
17.3		3.00	884.00	4	Make up 8-1/2"	BHA #4, mote	or bend @ 1.5°	, servic	e LWD & loa	d radioactiv	e source
20:3		1.50	884.00	4	RIH with 8-1/2"		50m				
22:0		0.50	884.00	4	Service top drive						
22:3		1.00	884.00	4	Continue RIH to	-					
23:3	00:00	0.50	884.00	4	Drill cement and	d casing float p	olugs.				
23:3											
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Daily Drilling Report

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

**Location**: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 22 27/06/2002

**Total Depth** 1365 Drilled last 24 hrs 481 (m)

Depth (m) Inclination Azimuth

89.82

Casing Depth Casing Diameter (in) :

Displ (m)

813.47

872.36 9.625 Operator Reps

Guy Howard, Gavin Othen

SSDS Reps

Frank van Noord (11), S. Wainwright

**Hole Size** 

(in)

233.39

8.500 Casing ID

TVD (m)

701.36

(in) :

8.681

LAST FORMATION TOP

MD Top (m) TVD Top (m) **Formation Name** SG3 Top going up 1290.80 701.27

BHA SUMMARY

LAST SURVEY

1339.08

BHA 4: 1266.79 m; Bit #4 (23.75 hrs), PDM #3 (94.25 hrs), MWD, MWD, MWD, Sub, 3 x HWDP, Jar, 3 x HWDP, 93x DP (S), 30x HWDP

Direction

S51.61W

MUD DATA						<u> </u>				, <b>(</b>
Туре	Weight (sg)	FV (sec)	PV (cp)	YP (lbf/100f	t²) Gels	Fluid Loss	рΗ	Solids (%)	Sand (%)	Oil (%)
KCI/Polymer	1.09	69	11	34.0	18.0 / 22.0	5	9.5	6.00	0.25	
TIME BREAKDO	wn									

33							
From	To	Hours	TMD (m)	BHA#	Activity		
00:00	02:15	2.25	884.00	4	Continue drilling plugs, float, cement and 9-5/8" casing shoe		
02:15	02:45	0.50	887.00	4	Drilling 8-1/2" hole from 684 to 687m		
02:45	03:00	0.25	887.00	4	Circulate and condition mud, displace to new mud, displace choke & kill lines		
03:00	03:30	0.50	887.00	4	Perform F.I.T., with 1.07sg mud to 330 psi. Equivalent mud weight = 1.40sg		
03:30	12:00	8.50	1064.00	4	Drilling 8-1/2" hole from 887 to 1064m		
12:00	00:00	12.00	1365.00	4	Drilling 8-1/2" hole from 1064 to 1365m		
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Daily Drilling Report

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2

Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 23 28/06/2002

**Total Depth** 1385 (m)

Depth (m) Inclination Azimuth

90.46

**Casing Depth** 

872.36 (m) :

Operator Reps

: Guy Howard, Gavin Othen

Drilled last 24 hrs

234.02

Casing Diameter (in):

9.625

SSDS Reps

: Frank van Noord (12), S.Wainwright

**Hole Size** 

(in)

8.500

TVD (m)

701.15

Casing ID

Displ (m)

859.36

8.681 (in) :

Direction

\$51.73W

LAST FORMATION TOP

Formation Name MD Top (m) TVD Top (m) 701.27 SG3 Top going up 1290.80

BHA SUMMARY

LAST SURVEY

1385.00

BHA 4: 1266.79 m; Bit #4 (24.75 hrs), PDM #3 (97.25 hrs), MWD, MWD, MWD, Sub, 3 x HWDP, Jar, 3 x HWDP, 93x DP (S), 30x HWDP

MUD DA	ΓΑ				**************************************	<b>5</b> 00 - 20 - 1					W
Type	We	ight (sg)	FV (sec)	PV (cp)	YP (lbf/100ft²)	the model that continues to	Fluid Loss	pН	Solids (%)		Oli (%)
KÇI/Polyn		1.12	60	11	32.0	15.0 / 18.0	5	9.5	8.00	0.25	
TIME BRE	AKDOWN				1 1 1 1	14.00 miles					
From	To	Hours	TMD (m)	BHA#	Activity	OPPOSED AND DESCRIPTION OF THE SECOND	#.####################################				
	01:00	1.00	1385.00	4	Drilling 8-1/2" hole	e from 1365	to 1385m, Final	TD of	Patricia 2.		
01:00	01:30	0.50	1385.00	4	Circulate bottoms		•				
01:30	06:00	4.50	1385.00	4	Wiper trip to 9-5/8	3" casing sho	e, retturn to bot	ttom no	fill		
06:00	06:30	0.50	1385.00	4	Circulate						
06:30	09:00	2.50	1385.00	4	Trip Out to 9-5/8"	casing shoe	;				
09:00	10:00	1.00	1385.00	4	Circulate to Inhibi	ted brine					
10:00	12:00	2.00	1385.00	4	Trip Out (at Surfa	çe) Remove	LWD source ar	nd dow	nload.		
12:00	13:00	1.00	1385.00	4	Lay down BHA #4						
13:00	00:00	11.00	1385.00	4	Rig out and wait o	on location fo	or screen liner to	get to	bottom as p	er company	man
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**Daily Drilling Report** 

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty
Job #: AU-DD-02022

CURRENT STATUS Report # 24 29/06/2002

Total Depth (m): 1385

385 Casing Depth

(m): 872.36

Operator Reps

: Guy Howard, Gavin Othen

Drilled last 24 hrs

(m) :

O Casing Diameter (in) :

9.625

SSDS Reps

Frank van Noord (13), S.Wainwright

(2)

Hole Size

(in)

Casing ID

(in): 8.681

(2)

LAST SURVE	V		71. T. T. T. T. T. T. T. T. T. T. T. T. T.		4.0
Depth (m)	Inclination	Azimuth	TVD (m)	Dispi (m)	Direction
1385.00	90.46	234.02	701.15	859.36	S51.73W

8.500

 LAST FORMATION TOP
 MD Top (m)
 TVD Top (m)

 SG3 Top going up
 1290.80
 701.27

BHA SUMMARY

BHA 4: 1266.79 m; Bit #4 (24.75 hrs), PDM #3 (97.25 hrs), MWD, MWD, MWD, Sub, 3 x HWDP, Jar, 3 x HWDP, 93x DP (S), 30x HWDP

MUD DAT											
Туре		ight (sg)	FV (sec)	PV (cp)	YP (lbf/100ft°)		Fluid Loss	рΗ	Solids (%)	Sand (%)	Oil (%)
KCI/Polyn	ner	1.12	60	11	32.0	15.0 / 18.0	5	9.5	8.00	0.25	
TIME BRE	AKDOWN										
From	То	Hours	TMD (m)	BHA#	Activity			en el ser el ser el ser el ser el ser el ser el ser el ser el ser el ser el ser el ser el ser el ser el ser el			
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Daily Drilling Report

Client: OMV Australia Pty. Ltd.

Well Name: Patricia #2 Block: Vic/L21

Location: Gippsland Sub Basin

Rig: Ocean Bounty Job #: AU-DD-02022

CURRENT STATUS Report # 25 30/06/2002

**Total Depth** (m) **Drilled last 24 hrs** 

Depth (m) Inclination Azimuth

1385 0 Casing Depth Casing Diameter (in):

872.36 (m) : 9.625 **Operator Reps** SSDS Reps

Guy Howard, Gavin Othen

Frank van Noord (14), S.Wainwright

**Hole Size** 

(ln)

8.500

Casing ID

Displ (m)

859.36

TVD (m)

701.15

8.681 (In) :

Direction

\$51.73W

LAST FORMATION TOP

Formation Name MD Top (m) TVD Top (m) 1290.80 701,27 SG3 Top going up

BHA SUMMARY

LAST SURVEY

1385.00

MUD DATA

BHA 4: 1266.79 m; Bit #4 (24.75 hrs), PDM #3 (97.25 hrs), MWD, MWD, MWD, Sub, 3 x HWDP, Jar, 3 x HWDP, 93x DP (\$), 30x HWDP

Туре	We	lght (sg)	FV (sec)	PV (cp)	YP (lbf/100ft³)	) Gels	Fluid Loss	pН	Solids (%)	Sand (%)	Oil (%)
KCI/Polyr	пег	1.12	60 :	11	32.0	15.0 / 18.0	5	9.5	8.00	0.25	
TIME BRE	AKDOWN				44-76					Tanata J	
From	То	Hours	TMD (m)	BHA#	Activity	(PET IN THE STATE OF THE STATE		Manage Ma			2224
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## Patricia-2 Site Survey Report

Prepared for OMV Australia Pty. Ltd.

Report No: 3346C1

Thales GeoSolutions (Australasia) Limited

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DOCUMENT TITLE : PATRICIA-2 SITE SURVEY REPORT

CLIENT : OMV AUSTRALIA PTY LTD

LOCATION : BASS STRAIT, TASMANIA

PERMIT : VIC/L21

REPORT REF. : 3346C1

REPORT REV NO. : 0

REPORT ISSUE DATE : 8 APRIL 2002

**SURVEY DATE** : 15 - 19 MARCH 2002

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Survey Date: 15 - 19 March 2002

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- A SAFETY REPORTS
- B OFFSET DIAGRAM BLUEFIN
- C GNS SYSTEM DATA PRINTOUT
- D GYROCOMPASS CALIBRATIONS PRINTOUTS
- E STATIC DIFFERENTIAL GPS CHECK PRINTOUTS
- F BAR CHECK & MOTION SENSOR CHECK
- G SIDE SCAN SONAR WET TEST & RUB TEST
- H BOOMER WET TEST AND PULSE TEST
- I VELOCITY OF SOUND IN SEAWATER PROFILE
- J SURVEY LINE LOGS
- K FIELD SEABED SAMPLE DESCRIPTIONS
- L TIDAL PREDICTIONS
- M DAILY FIELD PROGRESS REPORT SHEETS

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Survey Date: 15 - 19 March 2002



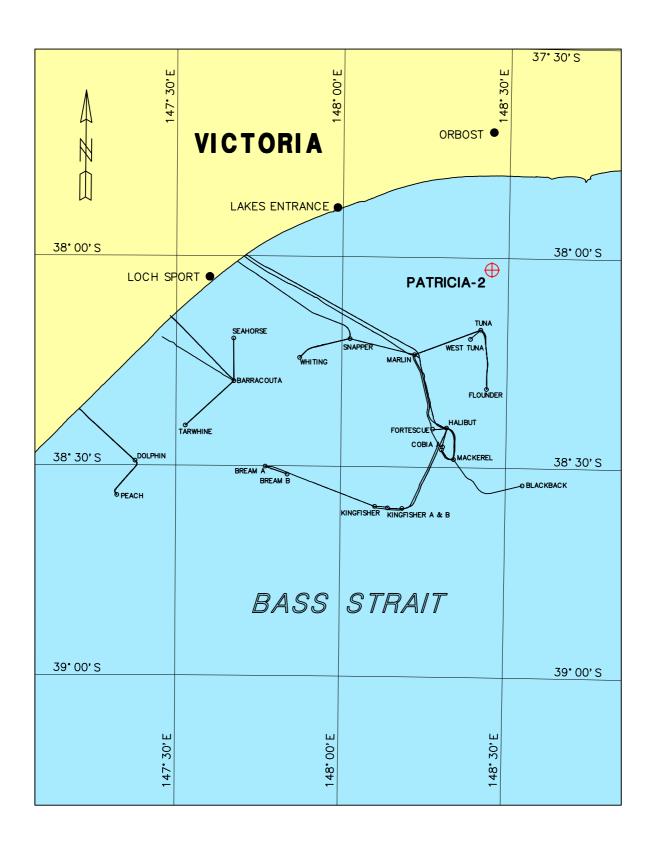
## **DRAWINGS**

3346C1-01	TRACK DRAWING	Scale 1:5000
3346C1-02	BATHYMETRY DRAWING	Scale 1:5000
3346C1-03	SEABED FEATURES DRAWING	Scale 1:5000
3346C1-04	ISOPACH DRAWING	Scale 1:5000
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# LOCATION DIAGRAM



#### 1. INTRODUCTION

Positioning, bathymetric and geophysical services were provided by Thales GeoSolutions (Australasia) Limited (Thales) to OMV Australia Pty Limited (OMV), for a survey of the proposed Patricia-2 location, in the Gippsland Basin, Bass Strait. All survey requirements and operating procedures were undertaken in accordance with the agreement between Thales and OMV. The survey was undertaken to investigate the suitability of the area for the positioning of a semi-submersible rig.

The survey vessel, Bluefin, was used to conduct the survey. All necessary survey positioning, geophysical and geotechnical equipment were installed and calibrated prior to the commencement of the survey. A Trimble 4000 Series Global Positioning System (GPS) was used in conjunction with Thales' SkyFix/SkyFix Spot Differential GPS and associated equipment to provide on-line positioning. An Atlas Deso 15 single beam echo sounder, a GeoAcoustics side scan sonar towfish with CODA data logging, an EG & G surface tow boomer sub-bottom profiling system with CODA data logging and a Geometrics G-880 magnetometer were used for geophysical data acquisition.

The survey site is a rectangle 3.0km x 2.0km with a total area of 6.0km<sup>2</sup>.

OMV supplied the proposed Patricia-2 location:

Datum: AGD66

Latitude : 38° 01' 39.97" South Longitude : 148° 26' 57.83" East

Projection: AMG Zone 55, CM 147° East

Easting : 627 209.0m Northing : 5 790 097.8m

The survey area consisted of 21 primary lines 3.0km long, on an orientation of 051°/231° with a line spacing of 100m. The cross lines consisted of 3 lines 2.0km long, on an orientation of 141°/321° with a line spacing of 500m. Geophysical equipment consisting of echo sounder, side scan sonar and boomer profiler was run simultaneously on these lines. Two additional 1.0km lines were run: the first on an orientation of 359° and the second on an orientation of 089°, to correlate the position of the Patricia-1 wellhead. The full suite of geophysical equipment consisting of echo sounder, side scan sonar, boomer profiler and magnetometer was run simultaneously on these lines.

Seabed sampling was successfully undertaken across the site survey area, and the results have been used to ground truth the geophysical data.

The survey was carried out on 18 and 19 March 2002. All times are quoted in Eastern Daylight Time (UTC+11 hours).

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# 2. SUMMARY OF SURVEY RESULTS

# **Bathymetry**

All soundings have been reduced to the Lowest Astronomical Tide (LAT) based on tidal predictions obtained from WNI (38° 01' 00" South, 148° 26' 57" East). LAT is approximately 0.7m below Mean Sea Level (MSL) or the Australian Height Datum (AHD).

The nearest observable water depth to the proposed Patricia-2 location is 52.5m LAT. The minimum water depth observed within the site survey area was 51.6m LAT, 800m southeast of the proposed Patricia-2 location. The maximum water depth observed was 53.7m LAT, 900m northeast of the proposed Patricia-2 location.

Overall, the seabed is essentially flat, across the site with only a 2.1m variation in seabed height. The seabed within the site survey area shows no overall geographic trend but undulates with a very gentle gradient <1° (<1:57).

#### Seabed features

A low reflectivity seabed interpreted as loose/soft clayey SAND with some shell fragments occupies approximately 35% of the Patricia-2 site survey area. The occurrence of this seabed type is elongate and indicates a probable current direction trending east to west. The proposed Patricia-2 location lies within this seabed type. One gravity corer sample was recovered within this seabed type.

The remaining 65% of the seabed within the site survey area is a moderate reflectivity seabed interpreted as fine to coarse SAND with some shell and ROCK fragments. The moderately reflective character of this seabed type may be indicative of a slightly coarser average grain size compared to the other seabed type. One grab sample was recovered within this seabed type.

One sonar contact was identified, approximately 5.4m across and 1.7m in height interpreted as the Patricia-1 wellhead, which was drilled in 1987 and has not been removed. The Patricia-1 wellhead is surrounded by a small area of disturbed seabed believed to be associated with former drilling activities and also possibly indicative of drilling muds.

### Shallow geology

The shallow stratigraphy in the survey area has been defined as follows:

Stratigraphy	Description
Unit A	Loose to medium dense shelly SANDS and soft to stiff CLAYS.
Unit B	Medium dense to dense shelly SANDS and stiff CLAYS.
Unit C	Variably cemented SANDS.
Unit D	Cemented sediments.

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The shallow stratigraphy at the proposed Patricia-2 location has been defined as follows:

Top of Unit	Depth Below Seabed (m)	Unit Thickness (m)	Predicted Lithology
А	0	2.0	Loose to medium dense shelly SANDS and soft to stiff CLAYS.
В	2.0	1.0	Medium dense to dense shelly SANDS and stiff CLAYS.
С	3.0	1.0	Variably cemented SANDS.
D	4.0	>8.0 to beyond the approximate limit of seismic penetration	Cemented sediments.

### **Shallow Gas Risk Assessment**

Using the method of shallow gas risk assessment outlined in section 3.5 of this report, the risk of shallow gas is defined as slight (gas unlikely) at the proposed Patricia-2 location and within the limit of useful boomer penetration.

# **Seabed Sampling**

One gravity corer sample and one grab sample of the seabed were collected near the proposed Patricia-2 location the results of which have been used to ground truth the geophysical data.

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# 3. SURVEY RESULTS

#### 3.1 BATHYMETRY

Analogue and digital soundings of the seafloor were obtained using an Atlas Deso 15 Single Beam echo sounder. The data was corrected for heave using a TSS DMS 2-05 motion sensor. The transducers were mounted onto the starboard side of the vessel and a bar check was carried out prior to commencement of the survey. A draft setting of 1.54m was obtained for the 33kHz and 210kHz transducers on 16 March 2002. These were entered into the echo sounder (refer Appendix F).

All soundings have been reduced to LAT based on the tidal predictions obtained from WNI for the survey area (38° 01' 00" South, 148° 26' 57" East refer Drawing No. 3346C1-02). LAT is approximately 0.7m below Mean Sea Level (MSL) or the Australian Height Datum (AHD) (refer Appendix L).

Bathymetric data quality was generally good with minimal miss-ties. Maximum miss-ties observed were up to 0.4m.

The velocity of sound in seawater was determined prior to the commencement of the survey by the deployment of an Applied Microsystems Model SVPlus Velocity Profiler Probe. A mean velocity of sound of 1515.7m/s was determined and entered into the echo sounder on 18 March 2002 (refer Appendix I).

The bathymetric soundings are representative of the seafloor topography and are plotted on Drawing No. 3346C1-02 (Scale 1:5000) and contoured at 1m intervals.

The nearest observable water depth to the proposed Patricia-2 location is 52.5m LAT. The minimum water depth observed within the site survey area was 51.6m LAT, 800m southeast of the proposed Patricia-2 location. The maximum water depth observed was 53.7m LAT, 900m northeast of the proposed Patricia-2 location.

Overall, the seabed is essentially flat, across the site with only a 2.1m variation in seabed height. The seabed within the site survey area shows no overall geographic trend but undulates with a very gentle gradient <1° (<1:57).

The seabed within a 100.0m radius of the proposed Patricia-2 location appears clear of any topographical features which may be considered hazardous to drilling operations.

A single beam echo sounder data example at the proposed location is shown as Figure 1.

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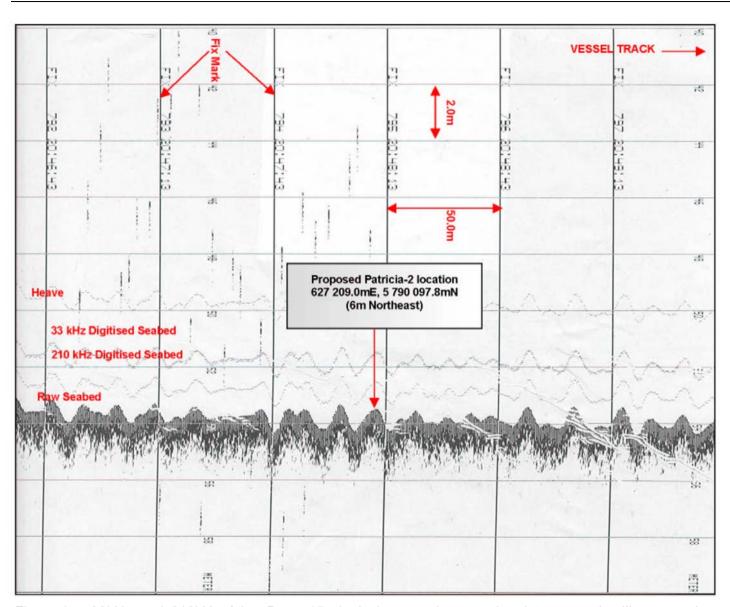


Figure 1: 33kHz and 210kHz Atlas Deso 15 single beam echo sounder data example. Illustrates the seabed bathymetry at the proposed Patricia-2 location.

Line PX2. Heading 321°

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# Client: OMV AUSTRALIA PTY LTD

# 3.2 SEABED FEATURES

The textural characteristics and reflective strengths of the seafloor around the survey area were investigated by the deployment of a GeoAcoustics side scan sonar system. The system consists of the GeoAcoustics side scan sonar towfish & transceiver operated at 100kHz, a CODA DA200 Digital Recorder and an Alden 9315 CTP printer. The data was digitally recorded using the CODA Acquisition System to allow further processing or replay. The side scan sonar was set with a slant range of 125m, with interval scale lines of 10m, providing over 100% data overlap on a 100m primary line spacing.

One gravity corer sample and one grab sample were recovered within the site survey area. These samples were used to ground truth the geophysical data. Correlation between seabed sample data and sonar acoustic reflectivity across the survey area enables textural characteristics to be interpreted in terms of sediment lithology and plotted on the seabed features drawing (refer Drawing No. 3346C1-03).

The quality of the side scan sonar data was good. Insonification of the seabed was generally achieved to the limit of the selected slant range, and adequate to produce the required coverage.

Seabed sediments within the survey area have been interpreted and classified into the following acoustic and lithological seabed categories:

# Low reflectivity seabed interpreted as loose/soft clayey SAND with some shell fragments.

This seabed type occupies 35% of the Patricia-2 site survey area and consists of loose/soft clayey SAND with some shell fragments. It is characterised by a flat, low reflectivity seabed with well defined sediment textural boundaries. The textural boundaries are elongate indicating a probable current direction trending west to east.

One gravity core sample recovered in this seabed type consists of loose shelly SAND at the seabed, overlaying firm to stiff CLAY. The proposed Patricia-2 location lies within this seabed type (see Figure

# Moderate reflectivity seabed interpreted as fine to coarse SAND with some shell and ROCK fragments.

This seabed type occupies 65% of the Patricia-2 site survey area and consists of fine to coarse SAND with some shell and ROCK fragments. It is characterised by a flat, moderate reflectivity seabed with well defined sediment textural boundaries (see Figure 4).

The moderately reflective character of this seabed type may be indicative of a slightly coarser average grain size compared to the other seabed type.

One grab sample recovered in this seabed type consists of loose, coarse SAND with some shell fragments.

# Moderate reflectivity seabed interpreted as disturbed loose/soft clayey SAND with some shell fragments.

This seabed type occupies <1% of the Patricia-2 site survey area and occurs exclusively around the Patricia-1 wellhead position. It is believed to consist of loose/soft clayey SAND with some shell fragments. It is characterised by a moderate reflectivity seabed with a well define sediment textural boundary.

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It is believed to be disturbed seabed associated with former drilling activities and may also be indicative of drilling muds around the former wellhead (see Figure 3).

#### **Sonar Contacts**

One sonar contact was identified with approximately 5.4m across and with a height of approximately 1.7m. It is interpreted as the Patricia-1 wellhead, which was drilled in 1987 and has not been removed (see Figure 3). The as-found (side scan sonar) position of the contact can be found below and correlates closely to the as-supplied position of the Patricia-1 wellhead.

Datum: AGD66 Projection: AMG Zone 55, CM 147° East

Description	Easting (m)	Northing (m)
Patricia-1 Wellhead (as supplied)	626 945.0	5 789 700.3
Patricia-1 Wellhead (as found sss)	626 948	5 789 695

#### **Positional Considerations**

The accuracy of derived dimensions is dependent on the quality of the side scan sonar data. Adverse operating conditions can produce effects such as tow fish heave and yaw, which reduce interpretation accuracy.

The accuracy with which a sonar contact or seabed feature can be positioned is dependent on a number of factors. Survey considerations are of primary importance, as position accuracy ultimately depends on the accuracy with which both the vessel and tow fish can be positioned. Running adjacent survey lines in opposite directions reduces the effects of tow fish position inaccuracy, as miss-ties between lines can then be averaged to produce a best-fit position.

The position accuracy of features derived from an interpretation of side scan sonar data, is subject to additional considerations that are independent of the data quality issues discussed above. Such potential errors include those associated with scaling, plotting and subsequent digitising of features. Additionally, certain features require a subjective interpretation.

In the survey area, the accuracy of positioning is estimated at  $\pm$  15m and the accuracy of height measured above and below ambient seabed is estimated at  $\pm$  0.5m.

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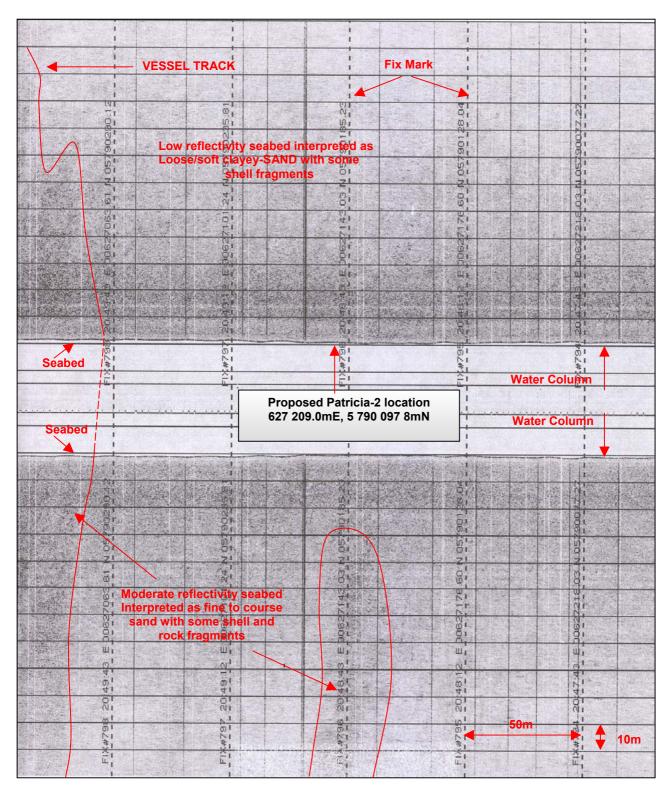


Figure 2: 100kHz slide scan sonar data example. Illustrates low reflectivity seabed interpreted as loose/soft clayey SAND with some shell fragments at the proposed Patricia-2 location.

Line PX2. Heading 321°

Revision:  $\varnothing$ 

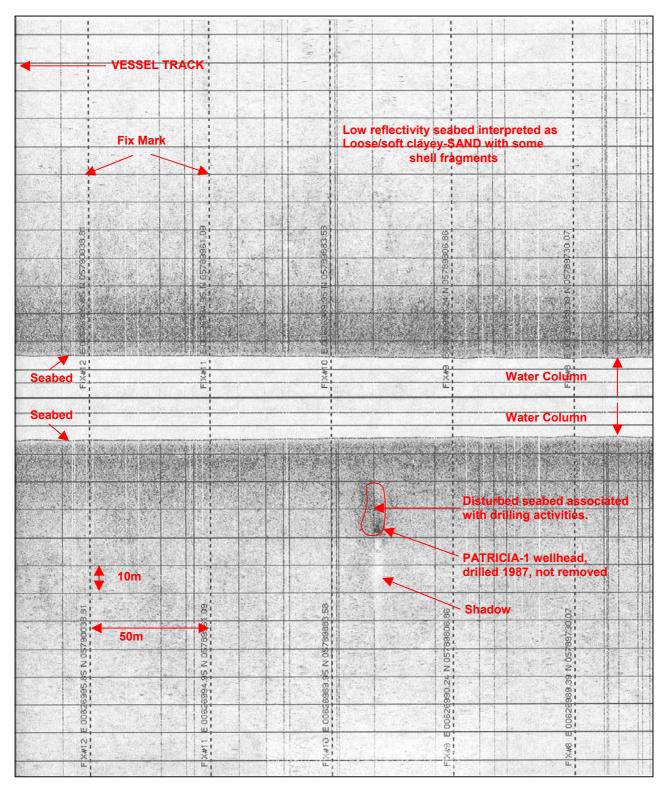


Figure 3: 100kHz slide scan sonar data example. Illustrates Patricia-1 wellhead location and the surrounding seabed.

Line P1NS+50. Heading 051°

Revision:  $\varnothing$ 

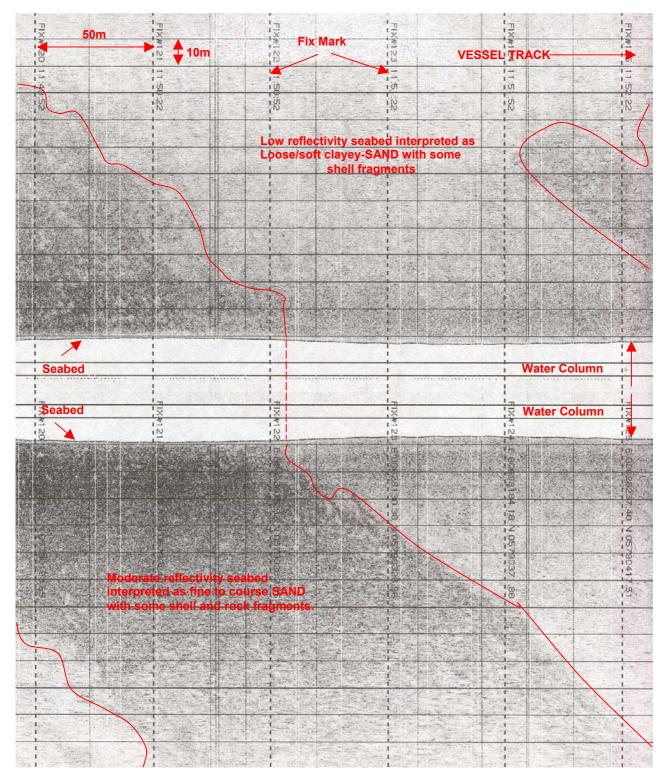


Figure 4: 100kHz slide scan sonar data example. Illustrates the boundary between low reflectivity seabed interpreted as loose/soft clayey SAND with some shell fragments and moderate reflectivity seabed interpreted as fine to coarse SAND with some shell and ROCK fragments.

Line PP7. Heading 051°

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# 3.3 WELL HEAD MAGNETOMETER SURVEY

Analogue and digital magnetometer data were obtained using a Geometrics G-880 caesium marine deep tow magnetometer. The G-880 tow fish was towed from the stern of the vessel. The aim of the magnetometer survey was to confirm the location of the Patricia-1 wellhead.

Confirmation of the wellhead location was reported separately to OMV.

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#### 3.4 SHALLOW GEOLOGY

The shallow geology of the survey area was interpreted from data acquired by the deployment of an EG&G 230 surface tow boomer. Analogue seismic data was recorded on a CODA DA200 Digital Recorder and an Alden 9315 CTP printer. The data was digitally recorded using the CODA Acquisition System to allow further processing or replay. The boomer data was recorded with a sweep of 135ms of which 85ms was displayed on a hard copy printout using an Alden 9315 CTP printer. The firing interval was 410ms and a power level of 300 Joules was supplied by an Applied Acoustics, high voltage energy source. The printed sub-bottom data was TVG amplified to compensate for signal loss and a band-pass filter (400Hz to 4.0kHz) was applied.

Sub-bottom profiler data quality was good considering the poor weather conditions. The limit of penetration reached with the sub-bottom profiler (or limit of useful acoustic penetration) was up to 16.0m below seabed. Boomer data could not be interpreted below this depth.

Sediment thickness was calculated using an assumed acoustic velocity of 1600m/s for the time to depth conversion. The stratigraphy in the survey area has been categorised as follows:

Stratigraphy	Description	
Unit A	Loose to medium dense shelly SANDS and soft to stiff CLAYS.	
Unit B	Medium dense to dense shelly SANDS and stiff CLAYS.	
Unit C	Variably cemented SANDS.	
Unit D	Cemented sediments.	

The shallow geology is relatively homogenous across the site survey area. Unit A and Unit B are generally flat lying and continuous across the entire site survey area. Unit C is continuous across the entire site survey area but the thickness of Unit C is much more variable, becoming much thicker in the north and west of the site survey area. Unit D underlies the first three Units across the entire site survey area and in the north and west occurs at greater depth below the seabed.

# Unit A: Loose to medium dense shelly SANDS and soft to stiff CLAYS

The seabed and reflector R1 bound the uppermost unit, designated Unit A. By correlation with seabed sampling, Unit A comprises loose to medium dense shelly SANDS and soft to stiff CLAYS. Unit A is present over the entire site survey area. Its thickness varies from 2.0m to 4.0m thick. Unit A is flat lying and its thickness is relatively homogenous across the survey area.

Reflector R1 has a relatively low reflection amplitude and is continuous to gradational across the entire survey area.

The thickness of Unit A (seabed to reflector R1) has been mapped across the survey area and presented as an isopach drawing at one metre contour interval (refer Drawing No. 3346C1-04).

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# Unit B: Medium dense to dense shelly SANDS and stiff CLAYS.

The top of Unit B is defined by reflector R1, and its base by reflector R2, which are both laterally continuous to gradational across the entire survey area and of relatively low reflection amplitude. The acoustic properties of Unit B are similar to Unit A. No seabed sampling was obtained within Unit B. Unit B is interpreted as consisting medium dense to dense shelly SANDS and stiff CLAYS. Unit B is also flat lying and its thickness is relatively homogenous across the entire survey area varying from 0.5m to 1.5m.

# Unit C: Variably cemented SANDS

The top of Unit C is defined by the reflector R2 and the base by reflector R3. No seabed sampling was obtained within Unit C. Unit C is interpreted as consisting variably cemented SANDS. The thickness of Unit C is relatively homogenous across most of the site survey area, varying from 0.5m to 1.5m thick. In the north and west of the site survey area however the depth of the base of Unit C below the seabed is more variable and generally deeper. In the north and west of the site survey area the thickness of Unit C varies from approximately 1.5m to 8.0m (see Figure 6).

# **Unit D: Cemented sediments**

The top of Unit D is defined by the reflector R3 and continues to below the limit of useful acoustic penetration. No seabed sampling was obtained within Unit D. Unit D is interpreted as consisting cemented sediments to beyond the limit of useful acoustic penetration.

The reflector R3 has a relatively high reflection amplitude and although continuous to gradational across the site survey area is not always clearly defined. This would indicate a relatively large, although variable change in density, between Unit C and Unit D. This has been interpreted as the result of the change to the cemented sediments of Unit D. There is also an angular unconformity between Unit C and Unit D and the top of Unit D may comprise a weathered surface probably related to a Pleistocene era sea level regression. The depth of reflector R3 is relatively constant across some of the site survey area except in the north and west of the site survey area where it becomes more variable and generally deeper.

Numerous internal reflectors have been identified within Unit D (refer Drawing No. 3346C1-05). These have been interpreted as possibly representing bedding planes within Unit D, dipping southerly. These internal reflectors could also be indicative of lithological changes within Unit C. (see Figures 5 and 6).

The predicted lithology at the proposed Patricia-2 location can be seen below:

Top of Unit	Depth Below Seabed (m)	Unit Thickness (m)	Predicted Lithology
А	0	2.0	Loose to medium dense shelly SANDS and soft to stiff CLAYS.
В	2.0	1.0	Medium dense to dense shelly SANDS and stiff CLAYS.
С	3.0	1.0	Variably cemented SANDS.
D	4.0	>8.0 to beyond the approx. limit of seismic penetration	Cemented sediments.

A boomer data example at the proposed Patricia-2 location is presented as Figure 5.

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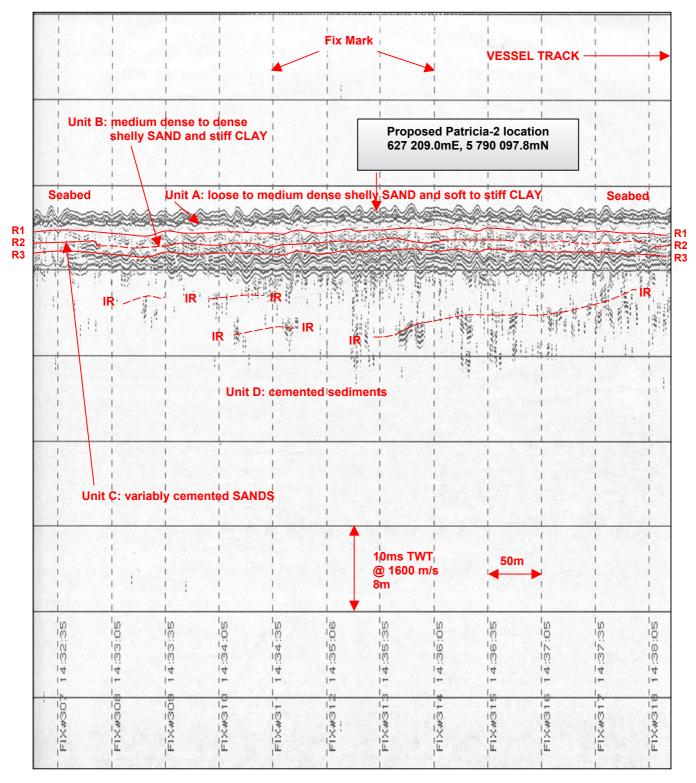


Figure 5: Boomer sub-bottom data examples. Illustrates the shallow geology at the proposed Patricia-2 location.

Line PP11. Heading 051°

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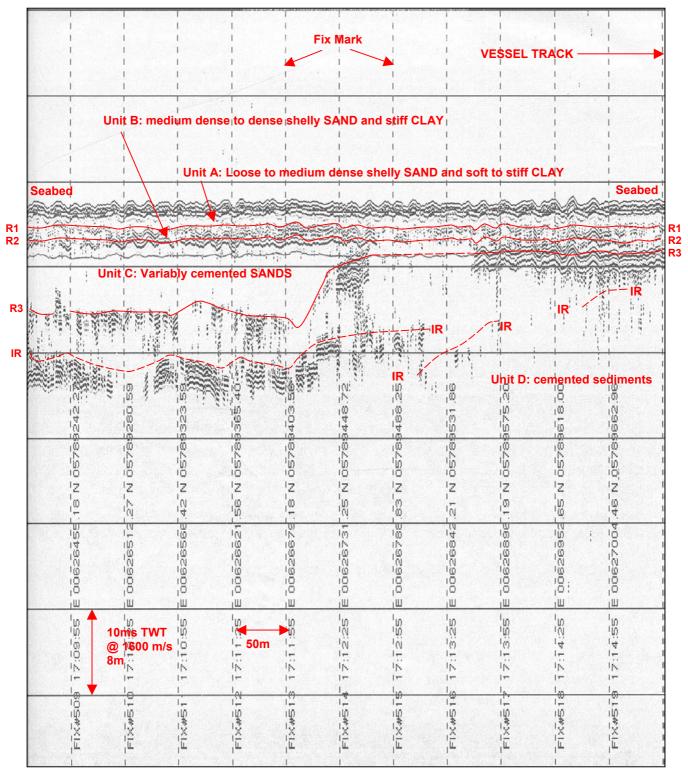


Figure 6: Boomer sub-bottom data examples. Illustrates a zone of high amplitude reflection exhibited by reflector R3 and change in depth of top of Unit D. Line PP9. Heading 051°

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#### 3.5 SHALLOW GAS RISK ASSESSMENT

The limit of penetration reached with the subbottom profiler (or limit of useful acoustic penetration) was up to 16.0m below the seabed. Boomer data could not be interpreted below this depth due to the strongly cemented and relative hard nature of the shallow geology encountered.

In places reflector R3 exhibits anomalously high amplitude reflection. This has been interpreted as indicating a higher degree of cementation in Unit D than in Unit C. This could also be an indication of the presence of shallow gas accumulation in the upper part of Unit D. No other criterion suggesting the presence of shallow gas were observed from the bathymetry, side scan sonar, boomer or seabed sampling data.

Using the method of shallow gas risk assessment outlined in section 3.6 of this report, the risk of shallow gas is defined as slight (gas unlikely) at the proposed Patricia-2 location.

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### 3.6 STANDARD METHOD OF SHALLOW GAS RISK ASSESSMENT

The shallow gas hazard assessment consisted of the following:

- Analysis of side scan sonar / echo sounder data attributes, which included the following:
  - Disturbed seabed and / or numerous pockmarks.
  - Areas of high reflectivity seabed.
  - Evidence of gas within the water column.
- Lithological / structural evidence e.g. faults.
- Analysis of seismic data attributes which included the following:
  - Anomalously high amplitude reflectors: high acoustic impedance contrast.
  - Acoustic blanking: high signal attenuation.
  - Velocity pull down of underlying reflectors: velocity reduction.
  - Phase reversal: negative reflection coefficient.
  - Edge effects: diffraction hyperbolae.

The risk assessment criteria in this report is summarised in the following table and is dependant on the type and number of attributes observed and the magnitude or severity of these attributes.

# **Shallow Gas Risk Assessment Criteria**

Level of Risk	Probability of Gas	Typical Seismic Characteristics		
High	Gas most probable	High amplitude with 3 or 4 other well defined features (closure, phase reversal etc.).		
Moderate	Gas likely	High amplitude with 2 other subsidiary gas-like features.		
Low	Gas possible	Moderate amplitude with 1 or 2 other features or very high reflector amplitude alone.		
Slight	Gas unlikely	Usually 1 or more features, but unremarkable reflector amplitude.		

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# 3.7 SEABED SAMPLING

Two gravity corer sample attempts were made returning one sample and one grab sample attempt was made which returned a sample within the Patricia-2 site survey area. The recovered samples were photographed and logged upon recovery and sealed in plastic bags and returned to Thales (Perth) for storage.

The sample descriptions are summarised in the table below and sample logs are presented in Appendix K.

Datum : AGD66 Projection: AMG Zone 55 South, CM 147° East

Sample Reference Number	Location		Brief Description
	Easting (m)		Brief Description
GC1	627 204	5 790 101	No Recovery
GC1a	627 198	5 790 098	Layered firm to stiff CLAY and loose shelly SAND
GS1	626 096	5 790 282	Loose coarse SAND, with some shell fragments (up to 40mm)

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#### 4. CONCLUSIONS

The nearest observable water depth to the proposed Patricia-2 location is 52.5m LAT. The seabed within a 100.0m radius of the proposed Patricia-2 location appears clear of any topographical features, debris or other obstruction which may be considered hazardous to drilling operations.

One sonar contact was identified, approximately 445m southwest of the proposed Patricia-2 location, with dimensions approximately 5.4m across and 1.7m in height interpreted as the Patricia-1 wellhead, which was drilled in 1987 and has not been removed. The Patricia-1 wellhead is surrounded by a small area of disturbed seabed believed to be associated with former drilling activities and also possibly indicative of drilling muds.

The predicted lithology at the proposed Patricia-2 location can be seen below:

Top of Unit	Depth Below Seabed (m)	Unit Thickness (m)	Predicted Lithology
А	0	2.0	Loose to medium dense shelly SANDS and soft to stiff CLAYS.
В	2.0	1.0	Medium dense to dense shelly SANDS and stiff CLAYS.
С	3.0	1.0	Variably cemented SANDS.
D	4.0	>8.0 to beyond the approximate limit of seismic penetration	Cemented sediments.

Anchoring conditions across the survey area will be dictated by the geotechnical properties of Units A, B and C which have a combined thickness of 4m to 8m across most of the site survey area. The sediments of Units A and B are believed to consist of loose to dense SANDS and firm to stiff CLAYS overlaying variably cemented SANDS of Unit C. Cementation in the lower part of Unit C and Unit D is expected to be significant. Although it is not possible to predict geotechnical properties, it is reasonable to assume that these sediments will become more dense with increasing depth below the seabed.

Within the limit of useful boomer penetration, there is no evidence of shallow faults or any other characteristics of shallow gas in the vicinity of the proposed Patricia-2 location that could be considered hazardous to drilling operations. Using the method of shallow gas risk assessment outlined in section 3.5 of this report, the risk of shallow gas is defined as slight (gas unlikely) at the proposed Patricia-2 location.

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# 5. SAFETY

# **Objective**

The prevention of accidents and injury is the primary objective on this and all Thales projects, and great importance is placed on ensuring and maintaining the health and safety of employees. Furthermore, Thales wishes to protect all persons with whom employees may have association during work activities. It is therefore the policy of Thales; to observe and comply with all statutory provisions and to take additional measures that it sees fit in the pursuance of safety. Thales maintains a safe working environment by employing the following measures:

- a) Observe and comply with all statutory provisions.
- b) Ensure that all work places are suitably equipped and free from recognised hazards that are liable to cause death, injury or illness.
- c) Encourage employees to improve health and safety awareness in their own sphere of activity, to prevent injury to themselves and to other people and to report accidents and hazards to their superiors.
- d) Hold all supervisory personnel responsible for developing and maintaining safety equipment where appropriate.
- e) Provide employees with suitable safety equipment where appropriate.
- f) Seek ways of improving health and safety in the work environment.
- g) Encouraging the use of the 'Stand Back, 5 by 5' work safety ethic.

To facilitate the implementation of these measures Thales produces the following documents; Survey Safety Manual, Project Manual (includes Safety Management Plan), and Emergency Response Plan.

#### **Project Induction and Safety Meeting**

A general Project Induction and Safety Meeting was held at 0800 on 15 March 2002 onboard the Bluefin, prior to the start of mobilisation. A further safety meeting and fire & abandonment drill was held at 1730 on 16 March 2002. The subsequent safety meeting was held to go into further detail of the safety requirements expected from the Client, Thales and Australian Maritime College (AMC). The Client Representative, Thales and AMC personnel attended the Project Induction and Safety Meeting.

### The Thales Party Chief discussed the Following topics:

- 1. Thales personnel introductions.
- 2. Project briefing of the survey campaign.
- 3. Introduction of Thales Operations Policies including Thales Health and Safety Policy, Environmental Policy, Drugs and Alcohol Policy, Injury Management Policy and Procedures, and Quality Policy.
- 4. The effective implementation of Thales Policies under the Thales Safety Management Systems (SMS).
- 5. Legislation and Regulations applicable to Thales Operations, particularly offshore operations.
- 6. Hazard Identification and Assessment (the introduction of Thales U-See, U-Act Safety System and the Stepback 5x5 process), Risk Assessment and Job Safety Analysis (JSA) with particular discussion directed toward equipment deployment / recovery and geotechnical coring operations.

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7. Thales Emergency Response Plan and the process for accident / incident reporting and investigations.

- 8. Safety documentation supporting Thales SMS including Thales Manuals, Legislation and Acts, Safety Work Instructions, Safety Notes, Safety Forms, Codes of Practice and Guidance Notes.
- 9. The appropriate use of Personal Protective Equipment (PPE) including coveralls, safety footwear, safety helmets, safety glasses, hearing protection devices, safety gloves and the mandatory use of life vests during operations near the vessels stern.
- 10. Thales' Underwater Engineers to control all back deck operations involving equipment deployment / recovery and geotechnical coring.

# The AMC Vessel Master discussed the Following topics:

- 1. AMC personnel introductions.
- 2. Vessel safety onboard the Bluefin.
- 3. Emergency procedures, muster points and alarms.
- 4. General reinforcement of Thales Safety Management System (SMS).

#### **Vessel Inductions**

AMC held vessel inductions onboard the Bluefin on 15 March 2002. All Thales personnel and the Client Representative were required to undertake the vessel induction.

# Job Safety Analysis (JSA) Meetings

Job Safety Analysis meetings were undertaken prior to all facets of the survey. A JSA was held for the following operations; vessel mobilisation, equipment installation, vessel operations, deployment / recovery of equipment, velocity profile dip and coring operations. Particular emphasis was directed towards safety near the stern of the vessel, with all non-essential personnel required to remain clear of equipment deployment and geotechnical coring operations. The use of PPE was re-iterated. The process of communication between the back deck and bridge was outlined during each JSA to ensure personnel wee informed during each phase of the operation.

JSA worksheets are detailed in the Thales Safety Management Plan.

#### **Incidents**

There were no safety incidents reported for the project.

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# 6. GEODETIC PARAMETERS

Co-ordinates shown in this report are referred to the Australian Geodetic Datum 1966 (AGD66). The Global Positioning System (GPS) is referenced to the World Geodetic System 1984 (WGS84).

#### 6.1 DATUMS

Datum : ITRF92 (Epoch 1994.0) WGS84 G730

Spheroid : WGS84

Semi-major Axis (a): 6 378 137.000mSemi-minor Axis (b): 6 356 752.314mEccentricity Squared ( $e^2$ ): 0.006 694 380Flattening ( $^{1}/_{f}$ ): 298.257 223 563

Datum : Australian Geodetic Datum AGD66

Spheroid : Australian National Spheroid

Semi-major Axis (a) : 6 378 160.000m

Flattening (1/f) : 298.25

#### 6.2 PROJECTION

Projection Name : Australian Map Grid 1966 (AMG66)

Projection Type : Universal Transverse Mercator (UTM)

AMG Zone : 55

Central Meridian (CM): 147° EastScale factor on the CM: 0.9996False Easting: 500 000mFalse Northing: 10 000 000mLatitude of Origin: 0° (Equator)

Unit of Measure : International Metre

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### **6.3 DATUM TRANSFORMATION**

The following 7-parameter datum transformation was used to convert WGS84 co-ordinates to AGD66 co-ordinates:

Dx	=	+123.314m
Dy	=	+47.223m
Dz	=	-136.594m
Rx	=	+0.264"
Ry	=	+0.322"
Rz	=	+0.270"
Scale (K)	=	+1.384 p.p.m.

The sign convention applied by Thales in GNS2 software is that used by the US Department of Defence, where a positive sign about the z axis is an anti-clockwise movement of the x and y-axes (when viewed from the North Pole looking towards the centre of the Earth).

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# 7. EQUIPMENT DESCRIPTIONS

#### 7.1 GNS2

GNS2 (General Navigation System) is Thales' third generation of On-line Navigation Survey Control software. Thales' Software Support Group in C++ has written it for operation under Windows® 95 or Windows® 98 or Windows® NT. GNS2 adheres to the operation and dialogue conventions of the Microsoft Windows® environment. Attention has been paid to preserving a consistent operator interface, while at the same time modifying individual dialogue boxes to reflect specific logical circumstances. It has been designed for operation with a pointing device such as a mouse or a tracker ball but control can still be effected in case of the absence or failure of such a device.

The program has the ability to accommodate a large number and variety of mobiles, including surface vessels/ships, anchor-handling vessels, tugs, barges, ROVs, towfish, aircraft, vehicles and submersibles etc. The only limiting factors on the number of mobiles that can be tracked in GNS2 are the number of input/output serial communication ports available on the computer and the computer's memory.

For the input/output (I/O) of navigation and sensor data, GNS2 employs intelligent multi-channel serial communications boards to expand a computer's serial input/output facility. Currently GNS2 can support up to 26 communication (Comm) ports, which would consist of the computer's two internal Comm ports and three 8 channel serial communications boards fitted in the computer's internal expansion slots.

If Least Squares Computations (LSCs) are employed for positional calculations, whether two-dimensional (2D), three-dimensional (3D) or altitude aided, GNS2 uses standard iteration routines for the minimisation of residuals using 'variation of co-ordinate' algorithms. The number of I/O serial communication ports available on the computer and the computer's memory, limits the number of positioning systems/computations that GNS2 can handle.

All input observables are accepted on interrupt. Screen updates and other internal triggers are paced to once per second but time critical activities occur at discrete moments as required.

The GNS2 application workspace can extend beyond the display area, which is normally restricted to a single monitor connected to the computer. By using one or more multiple VGA cards, an enlarged display area can spread across multiple monitors.

Currently GNS2 can display 14 different types of view windows. Several copies of the same type of view window can be invoked at any one time. This may be required when several mobiles are being tracked and a Plan, Helmsman's or Bullseye display are required for each one or when the data on several Comm ports are to be viewed simultaneously. Each window can be individually sized to optimise use of the available display area.

GNS2 can be operated in 2 modes: GNS2 Master or GNS2 Remote. GNS2 Master has the full functionality of GNS2. GNS2 Remote is run on a separate computer and allows independent configuration of the graphics display and its associated numeric information. GNS2 Remote is operated on Anchor Handling Vessels or anywhere where positional information is required (e.g. Vessel Masters, ROV Pilots, Winch Control Stations). The link between GNS2 Master and GNS2 Remote can be via a telemetry link or hard-wired cable.

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# 7.2 GLOBAL POSITIONING SYSTEM (GPS)

# **System Description**

The NAVSTAR GPS (Navigational Satellite Timing and Ranging Global Positioning System) is a USA Military all-weather, space-based positioning system that transmits signals from a constellation of satellites orbiting the Earth. It is capable of providing suitably equipped users worldwide with accurate three-dimensional positions on, or near, the Earth's surface. The accuracy of these determined positions can vary from a few millimetres to several 10's of metres depending on the GPS receiver and on the method of data acquisition and processing. System design consists of three integrated parts: the Ground Control Segment, the Space Segment and the User Segment.

The operational space segment consists of 24 production satellites and 3 active spares; the term Space Vehicle (SV) is used as a synonym for satellite. The satellites are in high orbits, at approximately 20,200km, having an orbit period of 12 hours. They are arranged in 6 orbital planes, inclined at 55 degrees with near circular orbits. The configuration provides complete 4-satellite (3D) coverage worldwide.

### **GPS Observations**

There are two important types of GPS observations (observables): Pseudo-range and Carrier Phase. Carrier phase is sometimes also referred to as carrier beat phase. Pseudo-range techniques are generally used for navigation. In high-precision baseline surveying the carrier phase is used. Although the (undifferenced) phase can be used directly, it has become common practice, at least in surveying applications, to process certain linear combinations of the original carrier phase observations (double differences and triple differences).

# **Pseudo-ranges**

The pseudo-range is a measure of the distance between the satellite and the receiver at the epochs of transmission and reception of the signals. The transit time of the signals is measured by comparing (correlating) identical pseudo-random noise (PRN) codes generated by the satellite and by the receiver. A code-tracking loop within the receiver shifts the internal replica of the PRN code in time until maximum correlation occurs. The codes generated at the receiver are derived from the receiver's own clock, and the codes of the satellite transmissions are generated by the satellite system of clocks. It follows that unavoidable timing errors in both the satellite and the receiver clock will cause the measured quantity (pseudo-range) to differ from the geometric distance.

Where instantaneous positions are required, pseudo-range is the preferred observable. Given the satellite ephemeris (i.e. the position of the satellite at the epoch of transmission), there are seven unknowns: two clock errors, three receiver co-ordinates and the ionospheric and tropospheric delays. The effect of the satellite clock error is negligible for the typical navigation solution, particularly considering that the time errors are indistinguishable from the ionospheric and tropospheric delays. The satellite clocks are constantly monitored and synchronised with GPS time as maintained by the control centre. Actual offsets of the satellite clocks are approximated by polynomials in time and transmitted as part of the navigation message to the user for the correction of the measured pseudoranges. The ionospheric and tropospheric delays can be computed on the basis of ionospheric and tropospheric models, thus there are four unknowns left X, Y, Z and receiver clock error. These can be determined from four pseudo-ranges measured simultaneously to four GPS satellites.

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#### **Carrier Phase**

The phase observable is the difference between the phase of the carrier signal of the satellite, measured at the receiver, and the phase of the local oscillator within the receiver at the epoch of measurement. This can be regarded as a biased range measurement of the satellite-receiver distance with the integer number of carrier waves being unknown. The wavelength of the L1 carrier is about 19cm. Because of the fraction of the carrier phase is measured, the term "interferometry" is often used to describe carrier phase techniques.

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### 7.3 SKYFIX/SKYFIX SPOT DIFFERENTIAL GPS (DGPS)

# **Differential GPS (DGPS)**

GPS is primarily a USA Defence space-based positioning system capable of operating worldwide and in all weather conditions. The USA Military can degrade the accuracy of GPS with the use of Selective Availability (SA) to control the accuracy of Pseudo-range measurements. Essentially, the user is given a false Pseudo-range for each satellite so that the resulting measurement is in error by a controlled amount. On the 1 May 2000 SA was discontinued conditionally and coincided with the successful demonstration of the ability to selectively deny GPS signals on a regional basis. SA has been set to zero and can be reinstated during periods of heightened global tension.

GPS signals are affected by several sources of positional bias, the largest of which was SA. The remaining biases of the ionosphere, the troposphere, time, satellite ephemeris and inherent receiver noise also give rise to substantial bias of position.

Differential GPS is a means by which the civil user can improve the accuracy and quality of GPS to the 1-3m level. It requires a receiver be located at a precisely known point from which pseudo-range corrections for each satellite can be determined and monitored. These pseudo-range corrections are then communicated by means of a telecommunications link to users at unknown locations. In the relative mode, most of the important systematic errors common to the known station and at the unknown location cancel out to improve the accuracy of the computed position.

# SkyFix/SkyFix Spot Differential

# SkyFix

Thales GeoSolutions (Australasia) Limited introduced its SkyFix Differential GPS System in Australia in February 1991, using the Inmarsat Pacific and Indian Ocean marine communications satellites as the differential data broadcast link. Extensive performance trials and projects undertaken to date have shown SkyFix to meet the best industry expectations in terms of quality of service and accuracy.

Satellite communications systems, particularly at the Inmarsat L-band frequencies of 1.5 GHz are reliable and free of the interference associated with the crowded MF/HF bands. This high data integrity gives users confidence that the corrections will be continuously received without interference.

The SkyFix Australian network comprises of reference stations at Dampier, Broome, Perth, Adelaide, Melbourne, Sydney, Cairns and Darwin.

# SkyFix Spot

The SkyFix Spot Differential GPS System was launched in Australia in December 1994, using the OPTUS high powered focused communications satellite as the differential data broadcast link. Projects undertaken to date have shown SkyFix Spot to meet the industry expectations in terms of quality of service and accuracy.

The SkyFix Spot system has a link capacity of 1200 bits per second, similar to the SkyFix system but because it is only transmitting corrections from the Australian network an update rate of better than five seconds is achieved.

The OPTUS satellites uses the L-band frequencies of 1.5586 GHz and are very reliable and free of interference avoiding data loss associated with the crowded MF/HF bands.

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The SkyFix Spot network comprises of reference stations at Dampier, Broome, Perth, Adelaide, Melbourne, Sydney, Cairns, Darwin, Alice Springs and also Ujung Pandang and Jakarta in Indonesia and Wellington, New Zealand.

The differential corrections generated at each reference station are brought via landline links to the data hub and control centre in Singapore, where the system is monitored for performance and quality. From there, a composite message containing full RTCM 104 version 2 formatted data from all reference stations are sent via dual redundant links to Satellite Earth Stations at Sentosa Island, Singapore, O.T.C. Perth, Western Australia and OPTUS, Perth, Western Australia, for uplink and broadcast over the Inmarsat Pacific and Indian Ocean Region satellites and the OPTUS Satellite.

The SkyFix/SkyFix Spot system includes a 24 hour monitoring facility to ensure the validity of data received at the control centre from the Differential GPS reference stations, and that the same data are received over the SkyFix/SkyFix Spot satellite data link.

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#### 7.4 TRIMBLE SERIES 4000 GPS RECEIVER

The Trimble Series 4000 GPS receiver is designed for moderate precision static and dynamic positioning applications. The GPS receiver provides time and three-dimensional station co-ordinates at a once-per-second update rate.

The receiver receives the civilian coded signal (C/A) from the GPS NAVSTAR satellites. The receiver automatically acquires and simultaneously tracks GPS satellites and precisely measures code phase and computes position and velocity.

Latitude, longitude and height values are output on the World Geodetic System (WGS 84) Earthcentred, Earth-fixed co-ordinate system.

The receiver is designed to measure the following observables:

- Coarse/Acquisition (C/A) code Pseudo-ranges
- Rate of change of Pseudo-range
- Integrated Carrier

C/A code correlation techniques measure the propagation time of the signal from the satellite to the antenna. Latitude, longitude, height and time can be determined from measurements made from at least 4 satellites, by a process similar to triangulation.

To determine speed and heading, the receiver calculates the rate of change of Range (the range-rate) by measuring the Doppler shift of the carrier.

It is capable of receiving and processing differential corrections from other reference sources using the standard format of the Radio Technical Commission for Maritime Services, Special Committee 104 (RTCM SC-104), Version 1.0 or 2.0 protocols.

The Trimble Series 4000 GPS receiver has several options available, including internal data logging memory, event marker logging etc. and therefore may be used alone or as part of a more extensive navigation system.

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#### 7.5 MULTIFIX 3

# 7.5.1 System Overview

MultiFix 3 is Thales GeoSolutions third generation *multiple reference station* differential GPS (DGPS) real time position computation and quality control program. It is an integral part of the Thales SkyFix Premier service but can also be used with the standard SkyFix service. MultiFix 3 has more advanced features than its predecBSOCr, MultiFix 2, including being able to use dual frequency receivers and form real time 'lono-Free DGPS position solutions'.

MultiFix 3 is one of a series of programs available under the group name Zero, which includes other tools and utilities with a similar user interface and layout structure, like static and dynamic position comparison programs, a correction monitor program, a terminal program and a replay utility.

MultiFix 3 takes in Almanac, Ephemeris and Raw Code and Carrier measurements from a single or dual frequency GPS receiver (or, for replay, from logged files). It takes in RTCM SC104 Version 2 differential correction messages from one or more RTCM correction delivery systems. It also takes in RTCM Type 15 or Thales Proprietary RTCM Type 55 lonospheric range corrections generated at selected SkyFix Premier reference stations and broadcast via the Thales global network of high (SkyFix Spot-Optus) and low (SkyFix-Inmarsat) power satellite based L-Band beams.

Key features of the program are:

- No limit on the number of RTCM correction delivery systems (data links)
- No limit on the number of RTCM differential reference stations
- No limit on the number of computations (solutions)
- Each computation can employ corrections from any combination of reference stations available
- Computations are weighted least squares with statistical evaluation based upon the UKOOA recommendations
- No limit on the number of outputs
- No limit on the number of view windows
- View windows can be customised
- Extra NMEA outputs can be defined
- TCP/IP communication via sockets for GPS, RTCM and position data transfer between networked computers

MultiFix 3 has been designed in a modular fashion such that data is passed between modules as if over a computer network. The core module MultiFix 3 performs the computation of position. Additional modules are available and more will be made available in the future. While a single computer can be used, the various modules will equally be able to be run on different computers, provided there is a network interconnection.

MultiFix 3 uses the EGM96 geoid/spheroid separation model.

The RTCM corrections that are generated at reference stations are contaminated by a variety of error components, one of which is lonospheric delay. The lonospheric delay is currently more variable because of greater sun spot activity. MultiFix 2 and MultiFix 3's standard computation uses the Klobuchar lonospheric delay model. This model is updated periodically but is not responsive to the current short-term variability. MultiFix 3 has an additional calculation option when working with dual frequency receivers and in receipt of Type 15 or 55 RTCM messages. With dual frequency receivers, estimates can be made of the lonospheric delay by examining the differences between the measurements from the two frequencies. If the same procedure for estimation of lonospheric delay is performed at the reference stations and on the mobile, both the RTCM corrections and the pseudoranges can have the lonospheric delay removed, effectively providing an lono-Free DGPS position solution.

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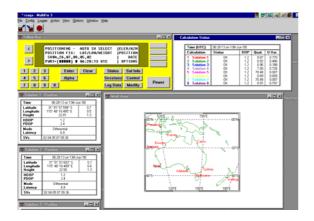
7.5.2 Hardware Requirements

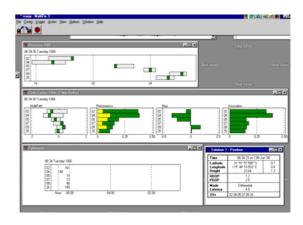
Optimum requirements for MultiFix 3 are:

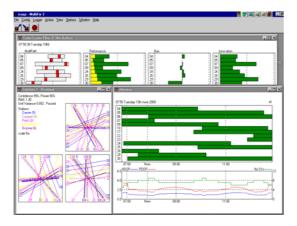
- 350 MHz Pentium II computer
- 32 Mb RAM
- Windows 95, 98 or NT operating system
- Graphics resolution of at least 800 x 600 pixels
- Intelligent multi-port serial I/O board

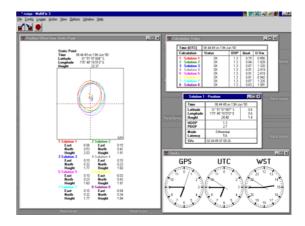
# 7.5.3 Positioning and Quality Control Displays

MultiFix 3 has a large number of features to accomodate the user requirements of highly accurate positions with quality control (QC) information and outputs in different formats. MultiFix 3 runs in a Windows environment, which allows the user to design a preferred screen layout by opening, sizing and placing the numerous displays that are available. Examples of the various displays can be found below.





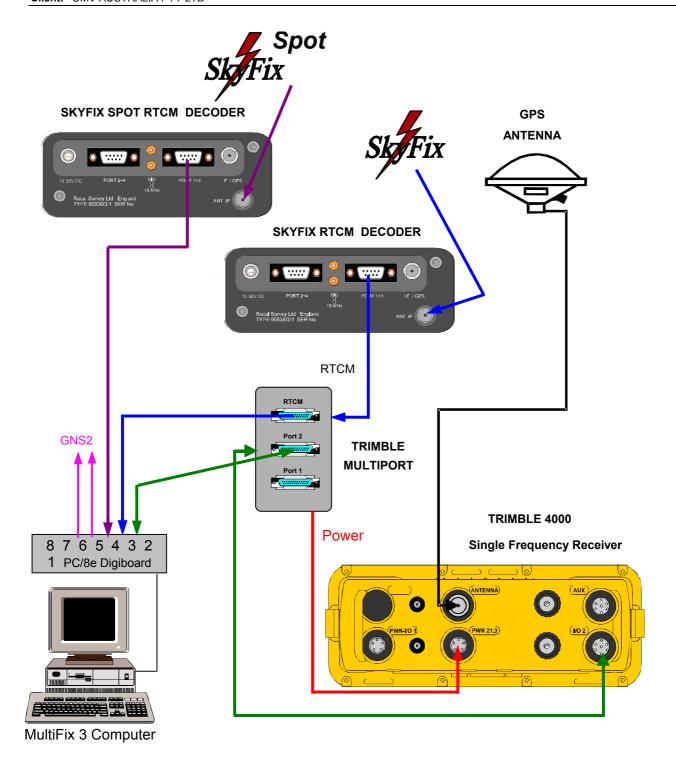




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Typical MultiFix 3 Interconnection With Trimble 4000 GPS Receiver

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# 7.6 ATLAS DESO 15 ECHO SOUNDER

The Atlas Deso 15 echo sounder is a dual frequency system operating at 33kHz and 210kHz. Digital technology is employed so that the equipment comprises one unit incorporating an analogue/digital thermal recorder, transceiver electronics and digitiser. The transducers may be hull or over-the-side mounted.

To measure water depth the Atlas Deso 15 echo sounder uses ultrasonic sound waves. A short burst of ultrasound is transmitted vertically downwards into the water by a transducer, which converts electrical energy into mechanical energy. A proportion of the sound energy is reflected by the bottom or by other solid media such as fish, and returns as an echo to the transducer. The time which elapses between the transmission of the signal and the return of its echo is proportional to the depth. The accuracy of the depth measurement depends on such factors such as the print speed and index errors, although the primary influence on depth accuracy is the measurement (and concomitant accuracy) of the velocity of sound through the water column, which is set by the operator in the echo sounder. Bar checks are also carried out to calibrate the system for index errors. Print speed checks are carried out as part of the mobilisation procedures. The echo sounder controls the generation, timing and length of outgoing pulses that are transmitted from the transducer.

High frequency transmissions will tend to be reflected by the seafloor whilst lower frequency signals penetrate soft mud and sediment to produce shaded echoes of the various layers on the analogue recorder. The echo sounder contains two digitisers, one for each transmitted frequency. Returns from several transmissions are stored, weighted and summed so that faint returns from the seabed will be recognised from the background noise. Digital information is indicated in the display window of the echo sounder and is also available for external use. The digitiser can be set to track either or both of the two frequencies.

System specifications are as follows:

Operational Voltage: 18 - 32 V DC or 240 V AC

Power Consumption: Approx. 100 VA

Transducer Frequencies: 33kHz

210kHz

Beam Widths: 33kHz - 16°

210kHz - 9°

Depth Capability: 0.5 - 650 metres

Power Output: 300W, 600W & 1,000W

Measuring Accuracy: 33kHz - better than 10cm

210kHz - better than 1cm

Water Sound Velocity: 1400 m/s to 1600 m/s in 1 m/s steps

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# 7.7 TSS DMS 2-05 MOTION SENSOR

The TSS DMS 2-05 Motion Sensor is used to provide heave, pitch and roll data to the single beam echo sounder system. The TSS DMS 2-05 is a small portable system for measuring the vertical displacement and altitude of a vessel when no stationary reference is available.

# **Sensor Package**

The standard sensor package contains the solid state sensing elements that resolve the magnitude and direction of forces acting upon the sensor so that it can supply motion measurements. High speed circuitry converts the signals from the sensing elements into actual measurements of attitude and motion. These are then communicated via RS232 or RS422 to a receiving PC, or terminal, or to the appropriate receiving equipment (echo sounder, datalogger etc.).

Installation of the DMS System is simple, and the compact design allows it to be mounted close to the point for which measurements are required.

#### **Software**

Software resident within the sensor electronics package allows a PC or terminal to control the DMS System so that its configuration can be optimised for any particular installation. The software can be utilised to check the analogue output values, and to measure the roll and pitch mount angles.

# **Auxiliary Input**

The DMS System can accept signals from auxiliary equipment such as a Global Positioning System (GPS) or a gyrocompass. The sensor uses these 'aiding' inputs to maintain the accuracy and stability of measurements throughout vessel turns.

# **Principle of Operation**

The DMS includes an array of solid-state sensing elements that measures the instantaneous linear accelerations and angular rates affecting the sensor at any time. These measurements allow the system to derive the attitude of the platform on which the sensor is mounted with respect to the true vertical.

Additionally, velocity and heading information supplied by external GPS and gyrocompass systems can be used by the DMS system to maintain the measurement accuracy of the sensor throughout vessel turns.

The digital output from the sensor is updated and supplied as a digital data string transmitted to external equipment using either RS232 or RS422.

To support the requirement of applications that require an analogue input (i.e. the Elac Multibeam System), the sensor provides scalable analogue outputs for roll, pitch and heave.

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# System specifications are as follows:

#### Heave

Range :  $\pm 10$  meters

Resolution : 1cm

Bandwidth : 0.05 to >10 Hz

Accuracy : The greatest of 5cm or 5%

Measurement Datum : All measurements are with respect to the centre of the

bottom surface of vertically mounted Sensor.

Acceleration Range (vertical) : 2g

Noise (at cut-off frequency 0.05 Hz) : <1cm RMS

Roll, Pitch

Range : ±30°

Resolution : Digital 0.01°
Bandwidth : 0 to >10 Hz

Accuracy

 $\begin{array}{cccc} \text{(Dynamic) DMS 2-05} & \vdots & \pm 0.05^{\circ} \\ \text{(Static) DMS 2-05} & \vdots & \pm 0.05^{\circ} \\ \text{Angular rate change} & \vdots & 100^{\circ}/\text{second} \\ \text{Noise} & \vdots & <0.05^{\circ} \text{ RMS} \\ \end{array}$ 

Cross axis coupling : <1%

**Electrical** 

Power Requirement : 12V to 36V DC 12W at 24V Digital Interface : RS232C, RS422 user selectable

Digital Output Data Rate : Dependent upon output format and baud rate. The

Sensor will supply data packets at the highest possible transfer rate. Using the default settings (format TSS1 at 9600 baud), the digital output rate will be 32

packets/second.

**Environmental** 

Temperature Range

(Operating) : 0 to +40°C {32°F to 104°F} (Storage) : -20 to +70°C {-4°F to 158°F}

Shock (Survival) : 30g peak

40ms half-sine

Vibration (Operating) : Meet Lloyd's Register ENV2 (1996) specification

for vibration

Meet ABS Table 4/11.1 (1996) No. 12 IEC

Publication 68-2-6 (1995) Test F.

Transverse Acceleration : 500mg peak

0.1s sine

Enclosure Ingress Protection : 3000m {9840ft} depth rated

Tilt : ±30° any plane

Operating Transit/Storage : No limit

Yaw Immunity : 10° per second with 30° roll and pitch

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# 7.8 GEOACOUSTICS DUAL FREQUENCY SIDE SCAN SONAR SYSTEMS

The GeoAcoustics Dual Frequency Side Scan Sonar system provides mapping of the seabed and consists of a GeoAcoustics combined towfish (159D), a pair of dual frequency sonar transducers (196D) and a Sonar Transceiver (SS941).

The GeoAcoustics combined towfish contains side scan sonar transducers which transmit short pulses of high frequency acoustic energy in fan shaped beams at right angles to the fish's track. The beams are narrow in the horizontal plane and wide in the vertical plane. In the nose of the towfish are the transmitting and receiving circuitry and on receipt of a trigger pulse from the ship-borne recorder the transducers are energized. The receiving circuitry amplifies the returned echoes and sends them via the tow cable to the recorder for display.

The transceiver unit allows the operator a simple means of controlling various Side Scan operating parameters. The unit includes standard controls such as: Gain, Time Varying Gain (TVG), Automatic Gain Control (AGC), with duplicated controls for port and starboard transducers. The operating frequency can also be switched from 100kHz to 500kHz directly from the transceiver. The choices of frequencies means that long range scanning and short range high resolution investigations are possible. The output of the transceiver can be recorded digitally if interfaced to a digital recording system.

System specifications are as follows:

# **GeoAcoustics 196D Dual Frequency Transducers**

Source level 223 ± 3 dB re 1µPa @ 1 m

50° by 1°/40° by 0.5° Beamwidth

Sensitivity 190 dB re 1 V/µPa

Angle 10° ±1° down. Depression

**Transmitter** 

100/500 kHz ±1%. Frequency

Power output 1.2 kW/1 kW pulse ±20%.

Pulse length 167 µsec/88 µsec ±1%

Pulse repetition rate 50 pulses per second maximum.

Protection Open and short circuit protected.

Efficiency Greater than 80%.

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### Receiver

Port channel 100/500kHz, heterodyned to 135kHz.

Starboard channel 100/500kHz, heterodyned to 65kHz.

Bandwidth 20kHz. TVG Transmission loss curve compensated at both

frequencies. Approximately + 40dB at 100m range.

Keyburst Frequency 455kHz ± 2%.

Pulse length 300µsec for 110 kHz operation. 600µsec for 410kHz operation.

Power 150V DC at 100mA.

Size Diameter 10.2cm

Length 34.5cm

Weight 3.2kg in air, 0.45kg in water.

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#### 7.9 BOOMER SUB-BOTTOM PROFILING SYSTEM - CSP1000

A Boomer sub-bottom profiling system consisting of an Applied Acoustics CSP1000 power source, EG&G Model 230 Boomer seismic source, and an EG&G Model 265 Type hydrophone is used to determine the nature of the sub-seafloor geology. The boomer catamaran and the 10-element hydrophone are towed astern of the vessel.

The raw analogue signal is firstly filtered using a Krohn-Hite 3700 filter before it is digitally displayed and recorded.

The system is operated and fired by an Applied Acoustics CSP1000 Triggered Capacitor Bank and Power Source. The data can be processed and recorded by a digital recording system, which includes a band pass filter.

The Boomer Sub-bottom Profiling system comprises the following components:

#### **Applied Acoustics CSP1000 Power Source**

The Applied Acoustics CSP1000 Power Source provides a high-voltage direct current for charging the capacitor banks used in sub-bottom profiling systems. The Applied Acoustics CSP1000 Power Source will charge at 1100 Joules per second. This allows the operator to select sound-pulse repetition rates as fast as six pulses per second at an energy level of 1000 Joules:

System specifications are as follows:

Size: 19" rack mounted 7U high 550mm deep

Weight: 55 kg

Operating Temperature: 0-37°C at maximum output

Mains input: 207-206 VAC

45-65Hz @ 2.5kVA 3 pin connector

Voltage Output: 3550 or 3800 volts DC

4 pin interlocked connector

Output Energy: 100 to 1000J in 100J increments

Charging Rate: 1100J per second

Capacitance:  $144\mu\text{F}$ . 1 x  $10^8$  shot life

Trigger: +ive key opto isolated or closure set by front panel switch. BNC connector

on front panel and remote.

Repetition Rate: To 6pps

Earth: M8 stainless steel stud on front panel

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#### **EG&G Model 230 Boomer Seismic Source**

The EG&G Model 230 Boomer (or Uniboom) is an electromechanical source fixed to a surface towed catamaran. The boomer source consists of an induction coil against which an aluminium plate is applied by a system of springs. With each discharge, from the ship-borne capacitor banks, the eddy currents induced in the conductive plate cause it to move violently away from the coil. The initial movement of the plate triggers the acoustic pulse, the duration of the boomer signal is limited to about 0.2ms.

#### **EG&G Model 265 Type Hydrophone**

The EG&G Model 265 Type Hydrophone uses 10 elements connected in series and incorporates a current summing amplifier. The hydrophone elements and preamplifier are enclosed in a one-inch, oil filled tube designed to minimise turbulent noise from towing, this part of the hydrophone is called the active section. In addition to the active section, the hydrophone includes a tail for stabilisation, a tow cable that incorporates the conductors for transmitting the electric signals and a battery box attached to the shipboard end of the cable which supplies the DC voltage for operating the preamplifier.

System specifications are as follows:

Input Power: 9v DC Battery

Sensitivity: -61 dB/volt/microbar

Bandwidth: 400Hz - 5kHz

Hydrophone Element:

Sensitivity -103 dB/volt/microbar (single element)

Gain (Preamplifier) 42 dB (including gain of 10 elements in series)

Output 2 kohms

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#### 7.10 GEOMETRICS G-880 MAGNETOMETER

The Geometrics G-880 magnetometer is a high resolution marine Cesium magnetometer system, which features very high sensitivity measurements of total field and gradient combined with rapid sampling. A Larmor counter provides direct connection to a host CPU for integrated side scan sonar applications. The G-880 is completely digital, unaffected by shipboard noise, easily deployed and simple to operate.

A key element in the high performance of the system is the conditioning and the counting of the Larmor signal. Using a proprietary design mounted into the electronics pressure vessel, sensitivity, measurement rates and data format are selected by operator commands. Counters from multiple sensors may be concatenated together to provide a sequential stream of RS232 data for transmittal through the tow cable. A basic software package for data logging and system control is provided with each model G-880.

Magnetic field variations are measured using the Geometrics G-880 magnetometer, towed from the stern of the vessel. Data are processed and recorded as ASCII files (containing numerical values for latitude, longitude, magnetic field, magnetometer altitude, time, and date) using Sandia Research Associates MagSea logging program software, on the magnetometer control notebook computer. Data are also displayed on a hardcopy using a printer.

Additional Plot software allows any portion of the data recorded on disk to be called up for display or printing; and CsAz for determining optimum sensor orientation.

Deviations from the ambient magnetic field (caused by metallic objects such as pipelines) produce anomaly spikes on the hardcopy printout that can be correlated with GPS navigation information to derive an anomaly location.

### **Magnetometer Electronics**

Operating Principle: Self-oscillating split-beam Cesium Vapor (non-radioactive Cs133) with

automatic hemisphere switching.

Operating Range: 17,000nT to 100,000nT

Heading Error: +/- 0.5nT

Sensitivity: 90% of all readings will fall within the following Peak-to-Peak envelopes:

0.05nT at 0.1 second cycle rate
 0.03nT at 0.2 second cycle rate
 0.01nT at 1.0 second cycle rate

Operating Zones: For highest signal-to-noise ratio, the sensor long axis should be oriented at

45°, +/- 30° to the earth's field angle, but operation will continue through 45°,

+/- 35°.

Gradient Tolerance: > 500nT / inch; >20,000nT / meter

Data Output: Three wire RS232, magnetics, up to 6 A/D channels for other sensors if

present

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#### **Larmor Counter:**

- Integrated into sensor electronics in 'fish'
- 5. Ref Osc: Nominal 22MHz
- 6. Output data concatenated with other counters or data sources if present
- 7. A/D converters: 3 single and 3 differential, 12 bit resolution.8. Control functions: Keyboard commands from surface

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## 7.11 CODA DA200 DIGITAL RECORDING/PROCESSING SYSTEM

The CODA-DA200 Sonar Data Acquisition and Playback System is used to convert the analogue signal from the GeoAcoustics Transceivers to digital format, and to record the digital data on magneto-optical disk. The CODA is a Unix-based hardware and software system developed for recording and processing of analogue or digital signals from a dual channel side scan sonar.

In real time the data can be recorded to the hard disk, to removable disk drives, or to magneto-optical disk. Processing parameters such as slant range correction, TVG enhancement, image enhancement, zoom facilities, real-time cursor navigation position and on-screen management, scrolling speed adjustment, multi-resolution data display and single/dual channel waterfall display, can be applied while on-line or during playback. Only the raw data will be recorded to magneto-optical disk.

#### CODA-DA200

#### **Physical**

Flight-cased industrial 19" rackmount chassis - 21" x 22" x 13" Monitor flight casing - 20.75" x 19.75" x 19.5"

#### **Hardware**

Dedicated acquisition board
Dual Independent input/output triggers
High-spec Pentium PC
High Resolution 17" monitor
Mouse or Trackball

#### Data Storage/Retrieval

Shock mounted high speed DDS DAT (4mm) SCSI tape (Exabyte tape, Optical Disk optional) Shock mounted 1GB SCSI HDD

#### **Data Format**

CODA, SEG-Y, SDEF, Q-MIPS<sup>TM</sup> compatible

#### **Hard Copy**

Continuous real-time output to various thermal recorders: Ultra Wideline 200, Ultra Wideline 195 Ultra 3710, EPC1086, Alden 9315 Screen dump to disk or printer in EPS or TIFF format SCSI, GPIB, Parallel interface

#### **DATA INTERFACES**

### **Analogue Input**

200 kHz throughput Fully independent triggers Input signal range  $\pm$  1.25 to  $\pm$ 10V 12-bit resolution, dynamic range 72dB (16-bit optional) Up to 10,240 samples per channel

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#### **Triggering**

2 fully independent triggers
Master Trigger Output
Trigger period 33ms to 65s
TTL (user-specifiable duty cycle)
Slave Trigger Input
Trigger period minimum 33ms
TTL (min. pulse width 40ns)
Negative/Positive Edge Triggered

#### **Digital Input/Output**

TCP/IP Ethernet link, or customer-specified (e.g. SCSI, GPIB), RS-232, DMA compatible parallel External event input by TTL

#### **Navigational Interface**

RS-232 serial interface
Data rate up to 9600 baud, user-configurable
User-configurable RS-232 data format
Corrected navigation input from floppy disk

#### **SOFTWARE**

#### **General On-line Processing**

Simultaneous, real-time, dual sensor display windows Real-time, on-line corrective processing including independent channel TVG Automatic seabed detection and display Full colour image enhancement

#### Side scan On-line Processing

Slant range correction Across-track smoothing

#### **Shallow Seismic On-line Processing**

High, low, and band-pass filtering Trace mixing and anti-mixing User selectable sound velocity for measurements Swell filtering

#### **High-Resolution Display**

Multi-channel window displays including horizontal and vertical waterfall display and 3D mesh plot (optional)

Multi-resolution, independent channel display

3-mode zoom

Freeze-frame with auto-release during acquisition

A-scan oscilloscope display

Geo-referenced screen and cursor

On-screen measurement and event marking

User configurable scale lines

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#### **High Speed Tape Operating System**

Random data access with intuitive controls including GoTo, Stop, Play, Fast Forward, Rewind, Cue and review

Tape copying facility including data format and tape conversion Continuous recording with dual type system CODA, SEG-Y, SDEF, Q-MIPS™ compatible data formats

#### Acquisition

Navigation input and survey parameter QC Software-configurable acquisition setup Time-synchronised navigation input User-programmable nav. string input

#### General

X windows/Motif user interface (version X11R6)

UNIX SVR4 operating system

Additional software modules available for pipeline inspection (PI100), site survey interpretation and reporting (GeoKit), survey overview (Trackplot and Trackplot Plus), on-line mosaicing (Coda Mosaic), swathe bathymetry acquisition and processing (Coda Swathe module)

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#### 7.12 S.G. BROWN 1000S GYROCOMPASS

The S.G. Brown 1000S Gyrocompass is a compact, simple-to-operate master heading reference instrument employing the effect of gravity and the earth's rotation to produce a True North reference. This reference may be read off the compass card or from a digital display and can be interfaced to the GNS2 navigation system.

The normal starting cycle of the instrument is fully automatic and is initiated when the system power supply is switched on. A fail safe control circuit is incorporated which ensures that the compass is not damaged after a power failure when power is restored; the compass will restart automatically and carry out its normal settling program.

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#### 7.13 APPLIED MICROSYSTEMS MODEL SVPLUS SOUND VELOCITY PROFILER

The SVPlus is a multi-parameter, self-contained, intelligent instrument designed for the measurement of sound velocity, temperature and pressure. The SVPlus features microprocessor based CMOS circuitry, two A/D converters (1 part in 40,000, 1 part in 16,000) and 128 Kbytes of battery backed-up random access memory (RAM) for data storage. The SVPlus has the options of logging data continuously, by depth increments, by time increments, by sound velocity increments, or logging individual scans.

Prior to deployment the SVPlus is connected to an IBM compatible computer via a 3-conductor cable, the instruments output is standard ASCII RS-232. When connected to a computer the SVPlus is programmed using Applied Microsystems Ltd's Total System Software. The SVPlus is configured for logging, choosing sample time units, sampling interval, depth logging increment, sound velocity increment and log file name. Logging begins when the SVPlus is immersed in water and when the instrument receives a valid sound velocity value it begins recording the data. Logging stops when the instrument cannot detect a sound velocity signal and it will assume it is out of the water.

Deployment of the SVPlus is either by hand or winch. As the instrument is lowered to and raised from the seabed, data is stored in memory.

When recovered the SVPlus is re-connected to a computer to view, edit and graph the data logged by the instrument. When a file (or cast) has been completely loaded an analysis of the data automatically begins. The purpose of this analysis is to compute the engineering values of the data and to determine the maximum and minimum values for graphing.

The SVPlus records the temperature, pressure and sound velocity at user specified logging increments. The sound velocity is measured by injecting an acoustic pulse into the water and measuring the time taken for that pulse to travel across a fixed distance.

The SVPlus's sensors must be calibrated occasionally. These should remain within published specifications for periods of 1 - 2 years, depending on the amount of use, and depth of deployment. Sensors are calibrated by recording the instruments raw data at known reference points. This data is applied to a curve fitting algorithm to produce calibration coefficients which are permanently stored in the instruments memory.

System specifications are as follows:

Type: Keller stainless steel pressure transducer Pressure:

Range: Assorted pressure ranges up to 5000 dBars

Accuracy: 0.15% of Full scale Resolution: 0.005% of Full scale

Response Time: 10 ms

Temperature: Type: Pressure protected precision aged thermistor

> Range: -02°c to 32°C Accuracy: ±0.005°C Resolution: 0.001°C Response Time: 100 ms

Sound Velocity: Type: 1 Megahertz piezoelectric transducer. INVAR stabilised path length

 $(\pm 5.5 \text{nm/}^{\circ}\text{C})$ 

Range: 1400 - 1550 m/s Accuracy: <0.06 m/s (r.m.s) Resolution: 0.015 m/s

Sample Rate: When recording internally without sending data, the scan rate is selectable

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from 10 scans/second to one every 24 hours.

Memory: 128 Kb battery backed-up RAM, expandable to 40 Mbytes. The standard

RAM can record 6400 scans of date, time, pressure, sound velocity and

battery.

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#### 8. EQUIPMENT CALIBRATIONS AND CHECKS

#### 8.1 GYROCOMPASS CALIBRATION

The S.G.Brown survey gyrocompass was calibrated at 1130 on 16 March 2002. Calibration of the survey gyrocompass was performed using total station observations, while the Bluefin was alongside the Australian Maritime College (AMC) Wharf, Beauty Point, Tasmania.

Survey Mark AMC5 on the AMC Wharf was occupied by total station. The observed reference object was Survey Mark AMC2 on the AMC Wharf. A series of horizontal angles and distances were measured to reflective prisms located along the centreline of the vessel, at the bow and stern. Simultaneous survey gyrocompass observations were recorded within the Thales GNS2 software. The gyrocompass Calculated minus Observed (C-O) was reset to zero before commencing logging data to file.

The vessels Calculated (C) heading was compared to the Observed (O) survey gyrocompass heading to determine the gyrocompass C-O. The gyrocompass C-O was entered into GNS2 and used throughout the site survey campaign. The results of the calibrations are tabulated below.

#### Control Point Co-ordinates

Datum: AGD66 Projection: AMG Zone 55, CM 147° East

Control Mark	Easting (m)	Northing (m)
AMC5	485 188.128	5 443 443.762
AMC2	485 232.088	5 443 475.890

#### **Observations**

Date: 16 March 2002 Instrument Station: AMC5

AMC2 Backsight Station:

Time (hh:mm:ss)	Observation Point	Observed Bearing	Observed Distance (m)	Observed (O) True Heading
11:34:40	Bow	343° 21' 35"	70.910	338.80°
11:35:20	Stern	001° 12' 00"	61.880	339.20°
11:35:50	Bow	343° 30' 25"	70.840	339.00°
11:36:20	Stern	001° 03' 05"	61.935	339.00°
11:36:50	Bow	343° 20' 05"	70.830	338.80°
11:37:20	Stern	001° 03' 40"	61.930	338.50°
11:37:50	Bow	343° 23' 55"	70.730	338.20°
11:38:20	Stern	001° 10' 45"	61.890	337.80°
11:40:10	Bow	343° 19' 05"	70.720	338.80°
11:40:40	Stern	001° 10' 55"	61.980	338.20°
11:41:00	Bow	343° 20' 25"	70.750	337.70°
11:41:40	Stern	001° 16' 25"	61.835	338.70°
11:42:20	Bow	343° 17' 40"	70.935	339.00°
11:43:00	Stern	001° 06' 30"	61.970	339.30°
11:43:30	Bow	343° 23' 40"	70.910	339.00°
11:44:00	Stern	001° 06' 30"	62.000	338.30°
11:44:30	Bow	343° 22' 40"	70.685	338.20°
11:45:00	Stern	001° 12' 45"	61.815	339.00°

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Revision: Ø

Survey Date: 15 -19 March 2002

THALES

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Time (hh:mm:ss)	Observation Point	Observed Bearing	Observed Distance (m)	Observed (O) True Heading
11:45:40	Bow	343° 19' 45"	70.500	338.80°
11:46:10	Stern	001° 21' 05"	62.020	338.70°

### Results

Calculated (C)	Observed (O)	C-O
Vessel Heading (True)	Survey Gyrocompass (True)	
339.66°	339.00°	+0.66°
339.73°	339.00°	+0.73°
339.42°	338.65°	+0.77°
339.32°	338.00°	+1.32°
338.94°	338.50°	+0.44°
339.34°	338.20°	+1.14°
339.44°	339.15°	+0.29°
339.48°	338.65°	+0.83°
339.25°	338.60°	+0.65°
339.54°	338.75°	+0.79°
	Mean	+0.76°

The mean gyrocompass C-O =  $+0.76^{\circ}$  was entered into the GNS2 configuration parameters.

The printouts for the pre-survey gyrocompass calibration are located in Appendix D.

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#### 8.2 STATIC DIFFERENTIAL GPS CHECK

A static check of the SkyFix/SkyFix Spot Differential GPS was carried out at 1150 on 16 March 2002 while the Bluefin was alongside the AMC Wharf.

Survey Mark AMC5 on the AMC Wharf was occupied by total station. The observed reference object was Survey Mark AMC2. A series of horizontal angles and distances were measured to the vessel datum (echo sounder transducer pole) installed onboard the Bluefin. Simultaneous Differential GPS position fixes were recorded within Thales GNS2 software.

The calculated datum position was then compared to the observed datum position to provide verification of the Differential GPS positioning system. The results of the static Differential GPS check are tabulated below.

#### **Control Point Co-ordinates**

Datum: AGD66 Projection: AMG Zone 55, CM 147° East

Control Mark	Easting (m)	Northing (m)
AMC5	485 188.128	5 443 443.762
AMC2	485 232.088	5 443 475.890

#### Results

Date: 16 March 2002

Instrument Station: AMC5
Backsight Station: AMC2

Time (hhummuss)	Calculated	Co-ordinates	Obse DGPS Co	Linear Misclose	
(hh:mm:ss)	Easting (m)	Northing (m)	Easting (m)	Northing (m)	(m)
11:49:50	485 234.330	5 443 500.347	485 235.440	5 443 500.200	1.12
11:50:15	485 234.300	5 443 500.436	485 235.460	5 443 500.320	1.17
11:50:35	485 234.452	5 443 500.466	485 235.350	5 443 500.040	0.99
11:50:55	485 234.447	5 443 500.490	485 235.300	5 443 499.640	1.20
11:51:15	485 234.450	5 443 500.494	485 235.120	5 443 499.300	1.37
11:51:30	485 234.397	5 443 500.460	485 234.930	5 443 498.870	1.68
11:51:45	485 234.310	5 443 500.415	485 234.910	5 443 498.780	1.74
11:52:05	485 234.401	5 443 500.327	485 234.790	5 443 498.780	1.60
11:52:20	485 234.346	5 443 500.243	485 234.700	5 443 498.870	1.42
11:52:35	485 234.375	5 443 500.181	485 234.740	5 443 499.020	1.22
	_		_	Mean	1.35

#### **Mean Linear Misclosure = 1.35m**

Printouts of the static Differential GPS checks are located in Appendix E of this report.

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Survey Date: 15 -19 March 2002

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Client: OMV AUSTRALIA PTY LTD
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#### 8.3 VELOCITY OF SOUND IN SEAWATER PROFILES

A velocity of sound in seawater profile was carried out at the Patricia-2 survey site on 17 March 2002, using a SV Plus Sound Velocity Probe.

A mean velocity of sound of 1515.7m/s was determined and entered into the echo sounder.

The water column velocity profile is detailed in Appendix I of this report.

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#### 8.4 ECHO SOUNDER TRANSDUCER DRAFT MEASUREMENT AND MOTION SENSOR TEST

#### 8.4.1 Echo Sounder Transducer Draft Measurements

The Atlas Deso 15 echo sounder transducer draft settings were established by undertaking a bar check. A bar check was performed after vessel mobilisation on 16 March 2002, while Bluefin was alongside the AMC Wharf. The draft was measured as 1.54m for the 33kHz and 210kHz transducers.

Copies of the bar check are included in Appendix F of this report.

#### 8.4.2 Motion Sensor Test

A motion sensor test was carried out prior to departure from the AMC Wharf on 16 March 2002. This involved physically lifting the DMS-05 Motion Sensor up and down whilst watching the echo sounder screen for the correct movement in the raw heave trace.

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#### 8.5 SIDE SCAN SONAR RUB TESTS & WET TESTS

Side scan sonar rub tests and wet tests were performed on the primary and back-up towfish alongside the AMC Wharf on 16 March 2002. The purpose of these tests was to ensure that the fish mounted transducers were operating within specification and connected to the correct recorder channels. The Client Representative accepted the results.

The results of these tests are presented as Appendix G of this report.

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#### **8.6 BOOMER WET TESTS**

A boomer wet-test was performed while the Bluefin was alongside the AMC Wharf on 16 March 2002. The purpose of the test was to check the overall operation and performance of the seismic equipment. The Client Representative was present during the test and accepted the results.

The results of this test are presented as Appendix H of this report.

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#### 9. SUMMARY OF EVENTS

The Bluefin commenced mobilisation at the AMC Wharf on 15 March 2002 to conduct a series of site surveys for OMV, in Gippsland Basin in the Bass Strait.

A vessel induction, pre-mobilisation safety meeting including a JSA for the mobilisation was conducted for Thales and Bluefin personnel on arrival at the vessel. The induction and safety meeting commenced at 0800 on 15 March 2002.

Thales survey equipment was loaded onto the Bluefin at 0830 and all crane, welders and labour work were completed by 1545. The Gyrocompasses were powered up at 1300. At 1600 a power failure was encountered but power returned by 1630. At 2000 Thales personnel departed the vessel for the night.

At 0700 on 16 March 2002 mobilisation recommenced. Boomer wet test and side scan sonar rub tests and wet tests were completed by 1000. An echo sounder bar check, gyrocompass calibration and DPGS health check were completed by 1345. Another power failure was encountered from 1515 to 1530. By 1600 the magnetometer was operational. An emergency muster including a fire and abandonment drill was held at 1730.

At 1800 on 16 March 2002 the vessel departed the AMC wharf. The vessel arrived at the Patricia-2 site survey location at 1845 on 17 March 2002. From 1845 17 March 2002 until 0400 on 18 March 2002 the vessel went on weather standby. Equipment was tuned from 0400 until 1030.

Data acquisition on the Patricia-2 site survey was conducted from 1043 until 2119 on 18 March 2002. Data acquisition on the Baleen-3 site survey was conducted from 2148 on 18 March 2002 until 1233 on 19 March 2002. Magnetometer and seabed sampling were carried out to complete both site survey areas until 2053.

From 2200 on 19 March 2002 until 0828 on 20 March 2002 data acquisition was carried out on the Patricia-Baleen pipe route survey. At 0900 on 20 March 2002 the vessel commenced transit to the Sole-2 site survey location but poor conditions forced the vessel to divert to shelter. At 1700 the vessel dropped anchor for weather down time in the lee of Gabo Island. The anchor was recovered at 2359 on 21 March 2002 and the vessel transited to the Sole-2 site, arriving at 0800 on 22 March 2002. All survey operations were completed on Sole-2 at 2000 on 23 March 2002.

At 2041 on 23 March 2002 data acquisition commenced on the scouting line from Sole-2 to meet with the Patricia-Baleen survey line. This was completed at 0330 on 24 March 2002 and transit commenced to Port Welshpool at 0400.

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### 10. PERSONNEL AND EQUIPMENT

#### 10.1 PERSONNEL

The following personnel were employed on this project:

### For: Thales GeoSolutions (Australasia) Limited

Chris Shuttleworth - Team Leader/Senior Surveyor

Marc Dybala - Surveyor

Laurie Etheridge - Senior Underwater Engineer

Jeremy Antao - Underwater Engineer
Patrick Fournier - Offshore Geophysicist
Luis McArthur - Interpretation Geophysicist

### For: OMV Australia Pty Limited

Rick Glanville - Client Representative

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#### **10.2 EQUIPMENT**

#### **NAVIGATION**

- 2 x Trimble 4000 Series GPS Receivers
- 3 x SkyFix/LandStar Demodulators
- 2 x LandStar Whip Antennae
- 1 x Skyfix Minidome plus controller
- 2 x Compaq Pentium Desktop GNS2 Computers
- 1 x Compaq 486/66 MHz Desktop MultiFix3 Computer
- 2 x Epson LX300 Printers
- 2 x SG Brown 1000S Gyro Compass
- 2 x Helmsman's GNS2 Remote Display
- 1 x 3KVA Un-interruptible Power Supply

#### **GEOPHYSICAL**

#### **ECHO SOUNDER**

- 2 x Atlas Deso 15 Single Beam Echo Sounder
- 2 x Overboard Transducer (Dual Frequency)
- 1 x Model XR-666 230vac to 24vdc Power Converter
- 2 x SV-Plus Velocity Probe
- 1 x E/S Bar Check
- 1 x TSS DMS 2-05 Motion Sensor
- 1 x TSS 335 Motion Sensor

#### SIDE SCAN SONAR

- 2 x GeoAcoustics Transceiver Units
- 2 x Dual Frequency (100 and 500 kHz) Towfish Assemblies
- 2 x Side Scan Sonar Deck Cables
- 2 x CODA DA200 Acoustic Recorder
- 2 x Alden 9315 CTP printer
- 1 x Seamac Winch
- 1 x Electric/Hydraulic Winch

#### **BOOMER SYSTEM**

- 2 x EG&G Surface Tow Source
- 2 x CSP 1000 Cap/Disch Power supplies
- 1 EG&G Power Supply Model 232-A
- 1 EG&G Triggered Capacitor Bank Model 231
- 2 x EG&G Type Hydrophones
- 2 x TSS 307 TVG amplifiers

Auto transformer

2x Krohne-Hite Filters

#### **MAGNETOMETER**

- 2 x Geometrics G-800 marine caesium magnetometers
- 2 x Magnetometer Deck Leads
- 2 x Geometrics MagSea Computer System

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### 11. DISTRIBUTION

Copies of this report have been distributed as follows:

OMV Australia Pty Ltd : 4 copies

Attn: Mr Ron King

Thales GeoSolutions (Australasia) Limited : 1 copy

Luis McArthui

Interpretation Geophysicist

John Graindorge Senior Geophysicist

Anthony Kerr Survey Manager

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## **APPENDIX A**

**SAFETY REPORTS** 

## THALES GEOSOLUTIONS (AUSTRALASIA) LTD ABN 82 000 601 909

VESSEL INDUCTION/PRE-MOBILISATION MEETING

FORM:

F-SMS-SMM

#### **MINUTES**

0800	<b>Location:</b>	AMC, Beauty Point
ΓGA Personnel and Bluefin Marine Crev	V	
		TGA Personnel and Bluefin Marine Crew

The Party Chief opened the meeting & made the following points.

- 1) Everything to be proven & tested prior to departure.
- 2) A detailed discussion on where all the equipment to be positioned & what required welding & testing.
- 3) An explanation of the site, including size, water depth & procedures.
- 4) Talk of the safety requirements during mobilisation, including hot work certificates, PPE, cranage, etc.
- 5) Explanation of survey crew shift pattern & responsibilities.
- 6) Safety environment & hierarchy, need to keep hazard free as possible.

The First Officer.

- 1) No smoking within the vessel. Restrictions on smoking on deck.
- 2) Restriction on personnel in working areas on back deck.
- 3) Safety chains on stern when applicable.
- 4) No work boots in accommodation, keep clean environment.

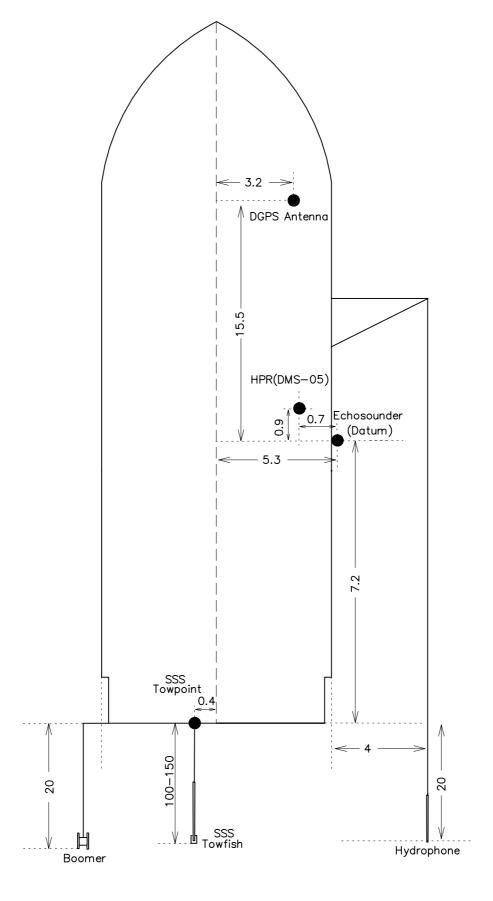
The Party Chief then thanked all attendees, the survey crew were then taken on the vessel induction tour by the First Officer.

## **APPENDIX B**

**OFFSET DIAGRAM - BLUEFIN** 

# FTV BLUEFIN

(NOT TO SCALE)



UNITS IN METRES

## **APPENDIX C**

**GNS SYSTEM DATA PRINTOUT** 

## GNS II CONFIGURATION FILE C:\3346C1\_Site Surveys\Bass Strait.gns JOB DETAILS Job Number : 3346C1 Job Description : Site Surveys Company : Thales GeoSolutions Group Ltd Client : OMV Time Zone : GMT +11:00 WORKING SPHEROID AGD 1966 Semi-major : 6378160.000 m e Squared : 0.0066945418 : 0.006694541855 WORKING PROJECTION AMG Zone 55 Lat of Origin : 00°00'00.000"N Long of Origin : 147°00'00.000"E False Easting : 500000.00 False Northing : 10000000.00 Scale Factor : 0.999600 Units : Metres GPS TRANSFORMATION From : WGS 84 Semi-major : 6378137.000 m e Squared : 0.006694380067 To : AGD 1966 Dx: 123.314 m Dy : 47.223 m Dz : -136.594 m Rot x : 0.2640 secs Rot y : 0.3220 secs Rot z: 0.2700 secs Scale: 1.3840 ppm MOBILES Blue Fin (ship) Shape Definition: Bluefin Line:- $X: -10.30 \text{ m} \quad Y: -7.00 \text{ m}$ X: -10.30 m Y: 13.00 m X: -5.30 m Y: 23.00 mX: -0.30 m Y: 13.00 m $X: -0.30 \text{ m} \quad Y: -7.00 \text{ m}$ $X: -10.30 \text{ m} \quad Y: -7.00 \text{ m}$ Tracking Point : Datum Pitch and Roll Centre: HPR Selected Sources:-Primary Position: T1 Thales UKOOA (Using Antenna Offset: GPS) Backup Position : T3 Thales UKOOA (Using Antenna Offset : GPS) Primary Heading : S1 SGB 1000S Primary Height : Datum Displacement Verified by: (sign) \_\_\_\_\_ (print)

#### GNS II CONFIGURATION FILE C:\3346C1\_Site Surveys\Bass Strait.gns Pitch and Roll : T2 TSS DMS-05 Heave Sensor : T2 TSS DMS-05 Soundings : A1 Atlas Deso 15 Ch1 Speed : Position Filter Course Made Good : Posn Filter CMG Equipment:-T1 Thales UKOOA Status: ON Interface: COM3 Antenna Offset Selected: GPS -2.10 m Y: 15.49 m Z: 0.00 m Rng: 15.63 m Brg:352.3° Apply Pitch Roll: Instantaneous Stale Time: 5.0 s Posn SD: 3.0 m Ht 5 Update posn regardless of whether diff corrected Filter: Off Time Constant:60.0 s Sample Dwell: 0.5 s Gate: Off Gate Width: 9.0 xSD Minimum Gate: 0.0 m T3 Thales UKOOA Status: ON Interface: COM4 Antenna Offset Selected: GPS X: -2.10 m Y: 15.49 m Z: 0.00 m Rng: 15.63 m Brg:352.3° Apply Pitch Roll: Instantaneous Stale Time: 5.0 s Posn SD: 3.0 m Ht S Update posn regardless of whether diff corrected Filter: Off Time Constant: 60.0 s Sample Dwell: 0.5 s Gate: Off Gate Width: 9.0 xSD Minimum Gate: 0.0 m S1 SGB 1000S Status: ON Interface: COM5 C-O: 0.8 degs Stale Time: 5.0 s SD: 0.1 degs Filter: Off Gate: Off Time Constant: 5.0 s Sample Dwell: 0.5 s T2 TSS DMS-05 Status: ON Interface: COM7 Pitch C-O: 0.0 degs Roll C-O: 0.0 degs Stale Time: 0.2 s C1 CODA DA200 Status: ON Interface: COM8 Antenna Offset Selected: Datum X: 0.00 m Y: 0.00 m Z: 0.00 m Rng: 0.00 m Brg: 0.0° Al Atlas Deso 15 Status: ON Interface: COM6 Tdr 1:Datum 0.00 m Y: 0.00 m Z: 0.00 m Rng: 0.00 m Brg: 0.0° X: Tdr 2:Datum х: 0.00 m Y: 0.00 m Z: 0.00 m Rng: 0.00 m Brg: 0.0° Stale Time: 5.0 s Corrections Applied:-Is Heave Compensated: Yes Tdr Draught entered in E/S: 0.00 m Apply Corrections:-Heave Compensate: No Correct for Draught: No Correct for Pitch and Sounding Selection:-Mode: All Gate: No Gate Window: 25.00 Annotation: Yes Every: 1 fixes

Verified by:	(sign)	(print)

GNS II CONFIGURATION FILE C:\3346C1\_Site Surveys\Bass Strait.gns

Defined	Offs	ets	:-						
Datum									
х:	0.00	m	Y:	0.00	m	Z:	0.00 m Rng:	0.00 m	Brg: 0.0°
GPS									
X:	-2.10	m	Y:	15.49	m	Z:	0.00 m Rng:	15.63 m	Brg:352.3°
Stern									
х:	-5.30	m	Y:	-7.17	m	Z:	0.00 m Rng:	8.92 m	Brg:216.5°
555									
X:	-5.70	m	Y:	-7.17	m	Z:	0.00 m Rng:	9.16 m	Brg:218.5°
HPR									
	-0.70	m	Y:	0.93	m	Z:	0.00 m Rng:	1.16 m	Brg:323.0°

Verified by: (sign) \_\_\_\_\_ (print)\_\_\_\_

## **APPENDIX D**

**GYROCOMPASS CALIBRATIONS PRINTOUTS** 



## Thales GeoSolutions (Australasia) Limited

ABN 82 000 601 909

## **Gyrocompass Calibration**

Thales Job Number: 3346C1

Job Description: Bass Strait Site Surveys

Client: OMV

Party Chief: C.Shuttleworth
Surveyor: M.Dybala
Wharf: Beauty Point
Vessel: Blue Fin
Date: 16 March 2002

#### **Control Point Co-ordinates**

**Backsight Station:** 

Datum: AGD66 Projection: AMG Zone 55 CM 147° East

Instrument Station: AMC5 Easting (m): 485 188.128

Northing (m): 5 443 443.762 AHD Height (m): 0.000

7 tilb Height (III).

AMC2

Easting (m): 485 232.088

Northing (m): 5 443 475.890

AHD Height (m): 0.000

Calculated Grid Bearing (DMS): 053 50 20

Calculated Grid Convergence (DMS): 000 06 58 Negative-Grid North East of True North

#### **Gyrocompass Observations**

Backsight Observation (DMS): 000 00 00

Time	Observation	0	Observed		Observed	Observed (O)
(hh:mm:ss)	Point	Dire	Direction (DMS)		Distance (m)	True Heading (D.D)
11:34:40	Bow	343	21	35	70.910	338.80
11:35:20	Stern	001	12	00	61.880	339.20
11:35:50	Bow	343	30	25	70.840	339.00
11:36:20	Stern	001	03	05	61.935	339.00
11:36:50	Bow	343	20	05	70.830	338.80
11:37:20	Stern	001	03	40	61.930	338.50
11:37:50	Bow	343	23	55	70.730	338.20
11:38:20	Stern	001	10	45	61.890	337.80
11:40:10	Bow	343	19	05	70.720	338.80
11:40:40	Stern	001	10	55	61.980	338.20
11:41:00	Bow	343	20	25	70.750	337.70
11:41:40	Stern	001	16	25	61.835	338.70
11:42:20	Bow	343	17	40	70.935	339.00
11:43:00	Stern	001	6	30	61.970	339.30
11:43:30	Bow	343	23	40	70.910	339.00
11:44:00	Stern	001	6	30	62.000	338.30
11:44:30	Bow	343	22	40	70.685	338.20
11:45:00	Stern	001	12	45	61.815	339.00
11:45:40	Bow	343	19	45	70.500	338.80
11:46:10	Stern	001	21	5	62.020	338.70

Signature			
	SURVEYOR/PARTY CHIEF	_	CLIENT SURVEY REPRESENTATIVE



# Thales GeoSolutions (Australasia) Limited ABN 82 000 601 909

## **Gyrocompass Calibration**

**Thales Job Number:** 3346C1

Bass Strait Site Surveys Job Description:

Client: OMV

Party Chief: C.Shuttleworth Surveyor: M.Dybala Wharf: **Beauty Point** Vessel: Blue Fin Date: 16 March 2002

Datum: AGD66 Projection: AMG Zone 55 CM 147° East

Time	Observation	Ol	oserv	ed	Observed	Plan	ne Bea	ring	Plane	Calculated	Co-ordinates	Calc (C) True	Obs (O) True	C-O
(hh:mm:ss)	Point	Direc	tion (	DMS)	Distance (m)		(DMS)		Distance (m)	Easting (m)	Northing (m)	Heading (D.D)	Heading (D.D)	(D.D)
11:34:40	Bow	343	21	35	70.910	037	11	55	70.882	485 230.982	5 443 500.222	339.66	339.00	0.66
11:35:20	Stern	001	12	00	61.880	055	02	20	61.855	485 238.821	5 443 479.206			
11:35:50	Bow	343	30	25	70.840	037	20	45	70.812	485 231.084	5 443 500.056	339.73	339.00	0.73
11:36:20	Stern	001	03	05	61.935	054	53	25	61.910	485 238.774	5 443 479.369			
11:36:50	Bow	343	20	05	70.830	037	10	25	70.802	485 230.909	5 443 500.177	339.42	338.65	0.77
11:37:20	Stern	001	03	40	61.930	054	54	00	61.905	485 238.776	5 443 479.358			
11:37:50	Bow	343	23	55	70.730	037	14	15	70.702	485 230.911	5 443 500.050	339.32	338.00	1.32
11:38:20	Stern	001	10	45	61.890	055	01	05	61.865	485 238.816	5 443 479.230			
11:40:10	Bow	343	19	05	70.720	037	09	25	70.692	485 230.826	5 443 500.102	338.94	338.50	0.44
11:40:40	Stern	001	10	55	61.980	055	01	15	61.955	485 238.892	5 443 479.280			
11:41:00	Bow	343	20	25	70.750	037	10	45	70.722	485 230.866	5 443 500.110	339.34	338.20	1.14
11:41:40	Stern	001	16	25	61.835	055	06	45	61.810	485 238.830	5 443 479.115			
11:42:20	Bow	343	17	40	70.935	037	80	00	70.907	485 230.932	5 443 500.291	339.44	339.15	0.29
11:43:00	Stern	001	06	30	61.970	054	56	50	61.945	485 238.838	5 443 479.339			
11:43:30	Bow	343	23	40	70.910	037	14	00	70.882	485 231.016	5 443 500.196	339.48	338.65	0.83
11:44:00	Stern	001	06	30	62.000	054	56	50	61.975	485 238.862	5 443 479.356			
11:44:30	Bow	343	22	40	70.685	037	13	00	70.657	485 230.863	5 443 500.030	339.25	338.60	0.65
11:45:00	Stern	001	12	45	61.815	055	03	05	61.790	485 238.775	5 443 479.158			
11:45:40	Bow	343	19	45	70.500	037	10	05	70.472	485 230.704	5 443 499.919	339.54	338.75	0.79
11:46:10	Stern	001	21	05	62.020	055	11	25	61.995	485 239.029	5 443 479.152			

Mean	$C_{-}O$	0.76

Signature SURVEYOR/PARTY CHIEF CLIENT SURVEY REPRESENTATIVE

## **APPENDIX E**

STATIC DIFFERENTIAL GPS CHECK PRINTOUTS



## Thales GeoSolutions (Australasia) Limited

ABN 82 000 601 909

## **Static Differential GPS Check**

Thales Job Number: 3346C1

Job Description: Bass Strait Site Surveys

Client: OMV

Party Chief: C.Shuttleworth
Surveyor: M.Dybala
Wharf: Beauty Point
Vessel: Blue Fin
Date: 16 March 2002

**Control Point Co-ordinates** 

Datum: AGD66 Projection: AMG Zone 55 CM 147° East

Instrument Station: AMC5 Easting (m): 485 188.128

Northing (m): 5 443 443.762

AHD Height (m): 0.000

Backsight Station: AMC2 Easting (m): 485 232.088

Northing (m): 5 443 475.890

Northing (m): 5 443 475.890 AHD Height (m): 0.000

Calculated Grid Bearing (DMS): 053 50 20

Calculated Grid Convergence (DMS): 000 06 58 Negative-Grid North East of True North

Observations To: Vessel Datum

Backsight Observation (DMS): 000 00 00

Time (hh:mm:ss)	Observed		bserve		Positioning System DGPS Co-ordinates		
(1111.111111.55)	Distance (m)	Dire	ction (I	JIVI3)	Easting (m)	Northing (m)	
11:49:50	73.080	345	23	35	485 235.440	5 443 500.200	
11:50:15	73.130	345	19	50	485 235.460	5 443 500.320	
11:50:35	73.250	345	24	30	485 235.350	5 443 500.040	
11:50:55	73.265	345	23	35	485 235.300	5 443 499.640	
11:51:15	73.270	345	23	35	485 235.120	5 443 499.300	
11:51:30	73.210	345	22	40	485 234.930	5 443 498.870	
11:51:45	73.120	345	20	50	485 234.910	5 443 498.780	
11:52:05	73.110	345	26	45	485 234.790	5 443 498.780	
11:52:20	73.010	345	27	15	485 234.700	5 443 498.870	
11:52:35	72.980	345	30	10	485 234.740	5 443 499.020	

Signature		
	SURVEYOR/PARTY CHIEF	CLIENT SURVEY REPRESENTATIVE



## Thales GeoSolutions (Australasia) Limited

ABN 82 000 601 909

## **Static Differential GPS Check**

Thales Job Number: 3346C1

Job Description: Bass Strait Site Surveys

Client: OMV

Party Chief: C.Shuttleworth
Surveyor: M.Dybala
Wharf: Beauty Point
Vessel: Blue Fin

**Date:** 16 March 2002

Datum: AGD66 Projection: AMG Zone 55 CM 147° East

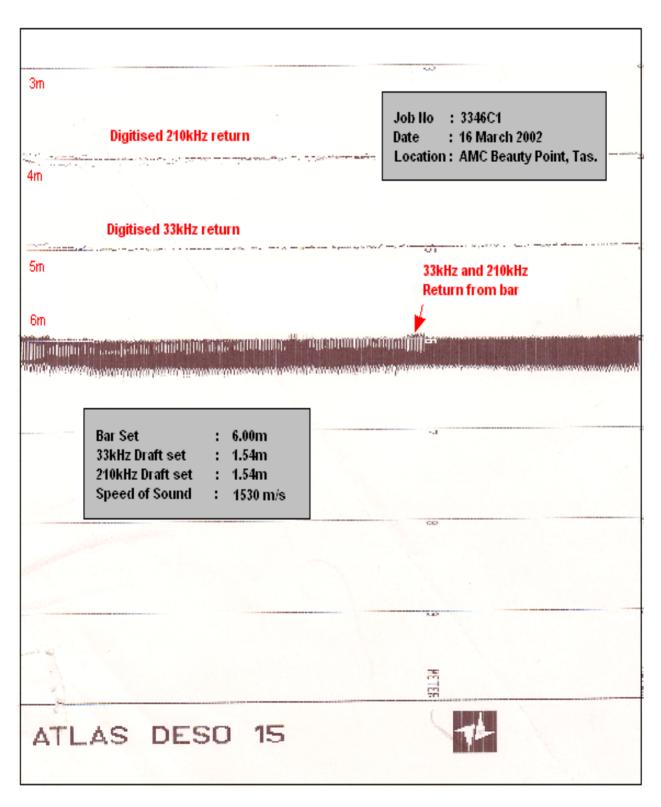
Observations To: Vessel Datum

Time		bserve		Observed Distance (m)	Plane Bearing (DMS)		Plane Distance (m)	Calculated Co-ordinates		Positioning System DGPS Co-ordinates		Linear	
(1111.111111.55)	Direc	tion (	DIVIS	Distance (III)			,	Distance (III)	Easting (m)	Northing (m)	Easting (m)	Northing (m)	Misclose (m)
11:49:50	345	23	35	73.080	039	13	55	73.051	485 234.330	5 443 500.347	485 235.440	5 443 500.200	1.12
11:50:15	345	19	50	73.130	039	10	10	73.101	485 234.300	5 443 500.436	485 235.460	5 443 500.320	1.17
11:50:35	345	24	30	73.250	039	14	50	73.221	485 234.452	5 443 500.466	485 235.350	5 443 500.040	0.99
11:50:55	345	23	35	73.265	039	13	55	73.236	485 234.447	5 443 500.490	485 235.300	5 443 499.640	1.20
11:51:15	345	23	35	73.270	039	13	55	73.241	485 234.450	5 443 500.494	485 235.120	5 443 499.300	1.37
11:51:30	345	22	40	73.210	039	13	00	73.181	485 234.397	5 443 500.460	485 234.930	5 443 498.870	1.68
11:51:45	345	20	50	73.120	039	11	10	73.091	485 234.310	5 443 500.415	485 234.910	5 443 498.780	1.74
11:52:05	345	26	45	73.110	039	17	05	73.081	485 234.401	5 443 500.327	485 234.790	5 443 498.780	1.60
11:52:20	345	27	15	73.010	039	17	35	72.981	485 234.346	5 443 500.243	485 234.700	5 443 498.870	1.42
11:52:35	345	30	10	72.980	039	20	30	72.951	485 234.375	5 443 500.181	485 234.740	5 443 499.020	1.22

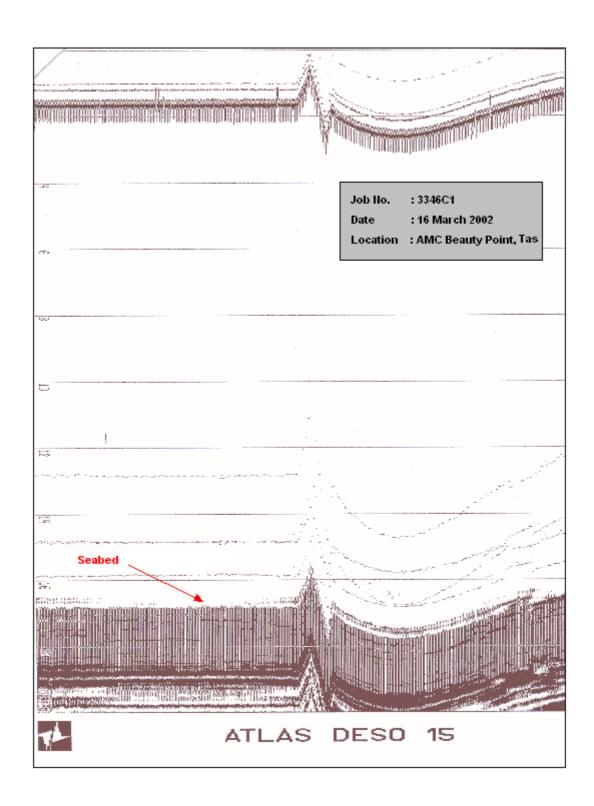
			Mean Linear Misclose (m) 1.35	;
Surveyor _	SURVEYOR/PARTY CHIEF	CLIENT SURVEY REPRESENTATIVE		
	SOLVETOIN AINT OHIE	CEILINI SORVET REI RESERTATIVE		

### **APPENDIX F**

**BAR CHECK & MOTION SENSOR CHECK** 



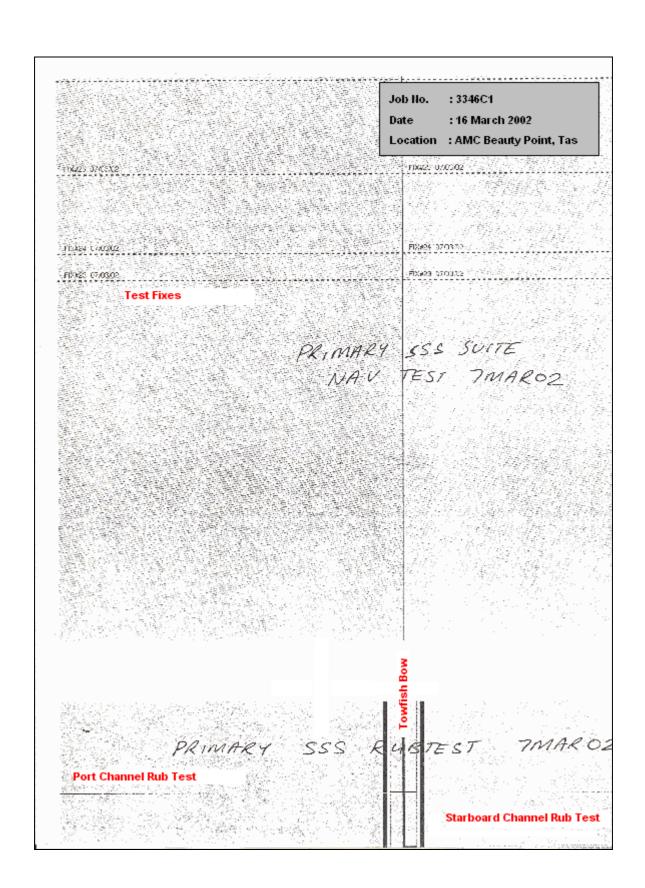
Primary Atlas Deso 15 Echo Sounder Bar Check

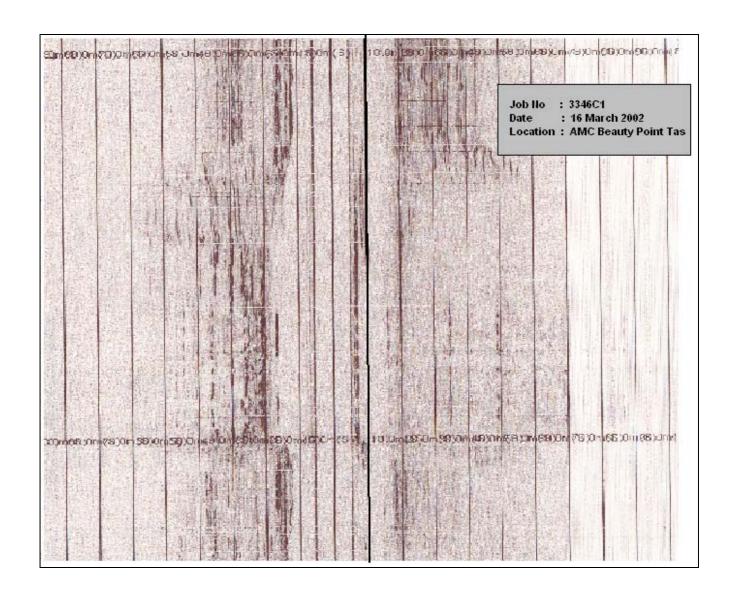


**TSS DMS-05 Motion Sensor Test** 

### **APPENDIX G**

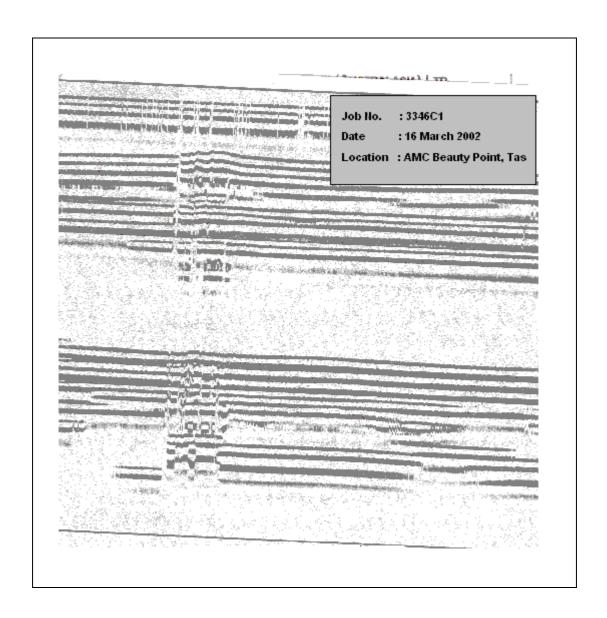
SIDE SCAN SONAR WET TEST & RUB TEST





**Primary Side Scan Sonar Towfish Wet Test** 

# APPENDIX H BOOMER WET TEST AND PULSE TEST



### **APPENDIX I**

**VELOCITY OF SOUND IN SEAWATER PROFILE** 

# Sound Velocity Profile Date: 17 March 2002

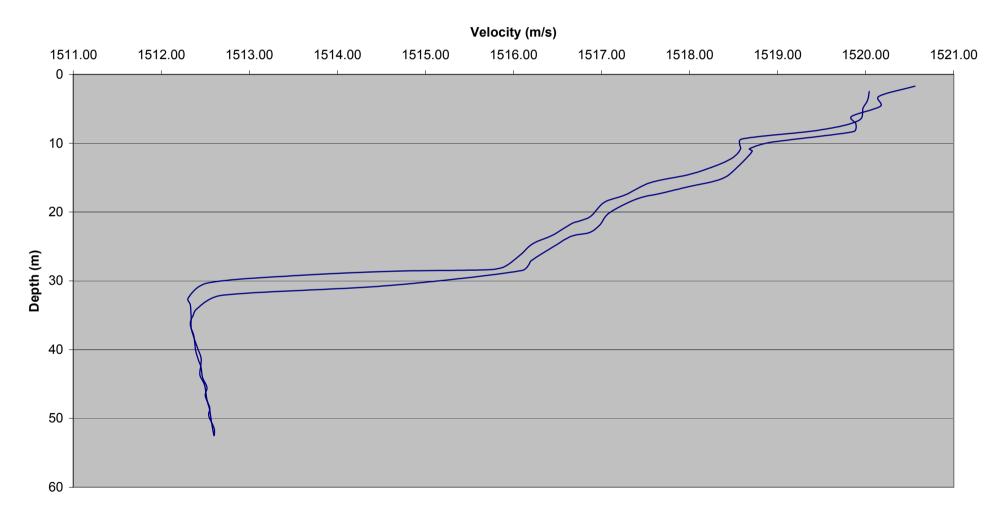
Location : Bass Strait Patricia-2 Site Survey						
	Job No. : 3346C1					
	Model : Applied Microsystems SV Plus					
Pressure	Temperature	Sndvel	Battery			
1.7	19.246	1520.56	12.16			
3.2	19.233	1520.15	12.16			
4.6	19.232	1520.17	12.16			
6.1	19.196	1519.84	12.16			
7.2	19.152	1519.89	12.16			
8.3	19.137	1519.86	12.16			
9.9	18.98	1518.91	12.16			
10.8	18.802	1518.68	12.16			
11.2	18.739	1518.71	12.16			
13.5	18.703	1518.54	12.16			
15.2	18.638	1518.36	12.16			
16.4	18.547	1517.96	12.16			
17.3	18.45	1517.67	12.16			
18.1	18.319	1517.40	12.16			
20.1	18.18	1517.09	12.16			
21.9	18.126	1516.98	12.16			
23	18.077	1516.86	12.16			
23.5	18.028	1516.66	12.16			
24.9	17.951	1516.47	12.16			
27.1	17.873	1516.20	12.16			
28.5	17.795	1516.09	12.17			
30.7	17.614	1514.57	12.17			
32.1	17.219	1512.69	12.17			
34	16.624	1512.41	12.17			
35.1	16.547	1512.36	12.17			
36.2	16.485	1512.33	12.17			
37.8	16.479	1512.36	12.17			
39.7	16.476	1512.41	12.17			
41.1	16.477	1512.45	12.17			
42.2	16.473	1512.45	12.17			
43.7	16.471	1512.44	12.17			
45.1	16.472	1512.49	12.17			
47.3	16.471	1512.52	12.17			
48.8	16.472	1512.55	12.17			
51.2	16.47	1512.58	12.17			
52.5	16.47	1512.60	12.17			
51.4	16.47	1512.60	12.17			
49.6	16.47	1512.54	12.17			
48.4	16.469	1512.55	12.17			
46.7	16.469	1512.50	12.17			
45.5	16.468	1512.52	12.18			
44.1	16.467	1512.47	12.17			
42.5	16.467	1512.45	12.17			
41.4	16.468	1512.42	12.17			
40.1	16.469	1512.39	12.17			
38	16.467	1512.37	12.17			
36.8	16.466	1512.34	12.17			
35.3	16.466	1512.34	12.17			
33.5	16.468	1512.33	12.17			
00.0	10.700	1012.00	15.11			

	Average	1515.69	
2.5	19.191	1520.04	12.17
3.8	19.179	1520.02	12.17
4.9	19.146	1519.97	12.17
6.7	19.063	1519.92	12.18
8.1	18.796	1519.47	12.17
9.4	18.663	1518.59	12.17
10.8	18.635	1518.58	12.17
12.2	18.564	1518.48	12.17
13.5	18.468	1518.25	12.17
14.6	18.339	1517.98	12.17
15.7	18.239	1517.56	12.17
17.5	18.167	1517.27	12.17
18.6	18.061	1517.03	12.17
20.6	18.019	1516.88	12.17
21.3	17.951	1516.75	12.17
21.7	17.916	1516.66	12.18
23.4	17.848	1516.44	12.17
24.6	17.757	1516.22	12.17
26.2	17.708	1516.08	12.17
28	17.582	1515.89	12.17
28.4	17.501	1515.70	12.17
28.6	16.83	1514.63	12.17
29.2	16.611	1513.56	12.17
30.3	16.513	1512.53	12.18
32.4	16.472	1512.31	12.17

### Sound Velocity Profile Date: 17 March 2002

**Location : Bass Strait Patricia-2 Site Survey** 

Job No.: 3346C1



### **APPENDIX J**

**SURVEY LINE LOGS** 

SIDE SCAN SONAR AND SUB BOTTOM PROFILER ANALOGUE LOG SHEET

Page No 1 of 1

JOB NO: 3346C1 SITE: Patricia-2 OPERATORS: LE - JA

Date	Line No.	Fix	es	Tin	nes	SS	SS	s	ВР	ES	Cable Out	Comments
		SOL	EOL	SOL	EOL	Disc	Roll	Disc	Roll	Roll	@SOL	
18/03/02	PP1NS+50	2	16	06:39	06:46	1A	1	1A	1	1	150	HRB @20M, HYDRPHONE 20M
18/03/02	PPEW+50	17	30	07:08	07:15	1A	1	1A	1	1	150	
18/03/02	PP1	31	63	10:43	10:59	1A	1	1A	1	1	115	
18/03/02	PP4	64	95	11:12	11:28	1A	1	1A	1	1	120	
18/03/02	PP7	96	127	11:37	11:53	1A	1	1A	1	1	130	
18/03/02	PP10	128	160	12:07	12:23	1A	1	1A	1	1	121	#151-#152 PORT CHNL PAT-1 WELLHEAD
18/03/02	PP13	161	193	12:37	12:53	1A	1	1A	1	1	117	
18/03/02	P16	194	225	13:03	13:18	1A	1	1A	1	1	136	
18/03/02	PP19	226	261	13:29	13:46	1A	1	1A	1	1	111	
18/03/02	PP14	262	296	13:58	14:15	1A	1	1A	1	1	130	
18/03/02	PP11	297	329	14:27	14:43	1A	2	1A	2	2	137	
18/03/02	PP8	330	372	14:52	15:13	1A	2	1A	2	2	130	#368 POSS BASIN IN SBP
18/03/02	PP5	373	406	15:28	15:45	1A	2	1A	2	2	117	
18/03/02	PP2	407	440	15:53	16:09	1A	2	1A	2	2	103	
18/03/02	PP3	441	474	16:19	16:36	1B	2	1B	2	2	110	
18/03/02	PP6	475	508	16:44	17:10	1B	2	1B	2	2	100	
18/03/02	PP9	509	542	17:10	17:26	1B	2	1B	2	2	105	#520-#521 STBD CHNL PAT-1 WELLHEAD
18/03/02	PP12	543	576	17:35	17:51	1B	2	1B	2	2	100	
18/03/02	PP15	577	610	18:02	18:16	1B	2	1B	2	2	109	
18/03/02	PP18	611	644	18:28	18:44	1B	2	1B	2	2	100	
18/03/02	PP21	645	678	18:56	19:21	1B	2	1B	2	2	109	
18/03/02	PP20	679	711	19:21	19:37	1B	2	1B	2	2	105	
18/03/02	PP17	712	745	19:44	20:01	1B	2	1B	2	2	105	
18/03/02	PX03	746	777	20:15	20:30	1B	2	1B	2	2	105	
18/03/02	PX02	778	811	20:38	20:56	1B	2	1B	2	2	105	
18/03/02	PX01	812	845	21:03	21:19	1B	2	1B	2	2	105	

SIDI	SIDE SCAN SONAR CABLE OUT LOG					
Job No: 3346c1	Site Name: Patricia-2	Operators:				

### NB - ONLY FILL OUT LOG IF THERE ARE ANY ADDITIONAL CABLE CHANGES OTHER THAN THAT AT START OF LINE

Line Number	Fix Number	Cable Out
PP1	36-63	150
PP4	64-95	120
PP7	96-127	130
PP10	128-160	130
PP13	161-193	117
PP16	194-225	136
PP19	226-261	111
PP14	262-296	130
PP11	297-329	137
PP8	330-372	130
PP5	373-406	117
PP2	407-440	103
PP3	441-474	110
PP6	475-508	100
PP9	509-542	115
PP12	543-576	100
PP15	577-610	109
PP18	611-641	100
PP21	645-678	110
PP20	679-711	105

	1	
Line Number	Fix Number	Cable Out
PP17	712-745	107
PX3	746-777	111
PX2	778-811	100
PX1	812-845	107

Line Number	Fix Number	Cable Out

Line Number	Fix Number	Cable Out

	NAVIGATION AND ECHO S INFORMATION	ELOG	Page 1 of 1	
Client	OMV		·	
Project	Site Surveys			
Job No	3346C1 - 3349C1, 3375C1	Vessel	FTV Bluefin	
Area	Bass Strait	Sites	Patricia-2, Baleen-3 and Sole-2	
Date(s)	18 – 23 March 2002	Operators	ECS/MD	

Equipment	Make/Model	Serial No (Bar Code)	Software Version
Positioning System	Multifix 3	ARR000867	1.28
Navigation System	GNS II	ARR000866	2.35
Echo Sounder	Atlas Deso 15	ARR000607	
Motion Sensor	TSS DMS-05		

Datum	E/S Pole
<b>GPS Ant Offset from Datum</b>	X=-2.10, Y=+15.49
Stern Offset from Datum	X=-5.30, Y=-7.17

	Echo Sounder Settings					
From Fix To Fix 210Khz Draft SOS Comments		Comments				
1	2988	1.54 m	1.54 m	1516 m/s	Heave applied in GNS II, not in echo sounder.	
2989	5940	1.54 m	1.54 m	1518 m/s	Heave applied in GNS II, not in echo sounder.	

### **NAVIGATION AND ECHO SOUNDER ANALOGUE LOG SHEET**

Job No: 3346C1 Operators: ECS/MD

Page 1 of 9

Date	Line No	Fix	ces	Tin	nes	ES Roll	Heading	Comments	
Date	Line No	SOL	EOL	SOL	EOL	ES ROII	пеаціпу		
18/03/02	P1NS+50	2	16	0639	0646	1	359	Dynamic SSS Check. No heave in E/S; applied in GNS.	
	P1EW+50	17	30	0708	0715	1	89	Dynamic SSS Check. No heave in E/S; applied in GNS.	
	PP1	31	63	1043	1059	1	51	Start Patricia-2 site survey.	
	PP4	64	95	1112	1128	1	231		
	PP7	96	127	1137	1153	1	51		
	PP10	128	160	1207	1223	1	231		
	PP13	161	193	1237	1253	1	51		
	PP16	194	225	1303	1318	1	231		
	PP19	226	261	1329	1346	1	51		
	PP14	262	296	1358	1415	1	231		
	PP11	297	329	1427	1444	1	51		
	PP8	330	372	1452	1513	2	231		
	PP5	373	406	1528	1545	2	51		
	PP2	407	440	1553	1609	2	231		
	PP3	441	474	1619	1636	2	51		
	PP6	475	508	1644	1701	2	231		
	PP9	509	542	1709	1726	2	51		
	PP12	543	576	1735	1751	2	231		
	PP15	577	610	1801	1818	2	51		
	PP18	611	644	1828	1845	2	231		
	PP21	645	678	1856	1912	2	51		
	PP20	679	711	1921	1937	2	231		

### **NAVIGATION AND ECHO SOUNDER ANALOGUE LOG SHEET**

Job No: 3346C1 Operators: ECS/MD

Page 2 of 9

Date	Line No	Fix	ces	Tin	nes	ES Roll	Heading	Comments
Date	LINE NO	SOL	EOL	SOL	EOL	ES RUII	пеацііц	Comments
10/02/02	DD47	740	745	1011		2	F1	No beauty in E/C) applied in CNC
18/03/02	PP17	712	745	1944	2001			No heave in E/S; applied in GNS.
	PX3	746	777	2015	2030	2	141	
	PX2	778	811	2039	2056	2	321	
	PX1	812	845	2103	2119	2	141	Patricia-2 site complete.

### **NAVIGATION AND ECHO SOUNDER ANALOGUE LOG SHEET**

Job No: 3347C1 Operators: ECS/MD

Page 3 of 9

Date	Line No	Fix	es	Tin	nes	ES Roll	Heading	Comments	
Date	LINE NO	SOL	EOL	SOL	EOL	LO IXUII	ricading	Comments	
18/03/02	BP1	846	891	2148	2211	3	51	No heave in E/S; applied in GNS. Start of Baleen-3 site.	
	BP4	892	941	2219	2243	3	231		
	BP7	942	1023	2309	2349	3	51	Long run-in to cover Baleen-2 wellhead.	
19/03/02	BP10	1024	1072	2359	0023	3	231		
	BP13	1073	1116	0031	0052	3	51		
	BP16	1117	1163	0103	0126	3	231		
	BP19	1164	1209	0134	0156	3	51		
	BP20	1210	1256	0211	0234	3	231		
	BP17	1257	1300	0242	0303	3	51		
	BP14	1301	1349	0313	0337	3	231		
	BP11	1350	1395	0344	0407	3	51		
	BP8	1396	1442	0417	0440	3	231		
	BP5	1443	1488	0448	0511	3	51		
	BP2	1489	1536	0520	0544	3	231		
	BP3	1537	1582	0552	0615	3	51		
	BP6	1583	1666	0623	0705	3	231	Long run-out to cover Baleen-2 wellhead.	
	BP6S	1667	1672	0712	0715	-	51	SSS only over Baleen-2 wellhead.	
	BP9	1673	1719	0728	0751	3	51		
	BP12	1720	1769	0759	0824	3	231		
	BP15	1770	1812	0832	0853	3	51		
	BP18	1813	1862	0902	0927	3	231		
	BP21	1863	1907	0938	1000	4	51		

### **NAVIGATION AND ECHO SOUNDER ANALOGUE LOG SHEET**

Job No: 3347C1 Operators: ECS/MD

Page 4 of 9

Date	Line No	Fix	es	Tin	nes	ES Roll	Heading	Comments
Date	LITIE NO	SOL	EOL	SOL	EOL	ES RUII	пеаціпу	Comments
19/03/02	BX5	1908	1937	1019	1033	4		No heave in E/S; applied in GNS. Mast blocking Spot antenna, switch Skyfix mini-dome to primary.
	BX4	1938	1970	1045	1101	4	321	
	BX3	1971	2003	1111	1127	4	141	
	BX2	2004	2034	1143	1158	4	321	
	Bx1	2035	2063	1209	1233	4	141	End of Baleen-3 site.
	P1NS	2064	2084	1353	1404		180	Magnetometer only at Patricia-1 wellhead.
	P1EW	2085	2101	1422	1430		270	
	B2EW	2102	2119	1447	1456		270	Magnetometer only at Baleen-2 wellhead.
	B2Ewa	2120	2135	1509	1516		090	
	B2NS	2136	2153	1534	1542		000	
	B2NSa	2154	2168	1559	1606		180	
	B1NS	2169	2186	1635	1644		000	
	B1NSa	2187	2203	1652	1700		180	
	B1EW	2204	2221	1715	1723		270	
	B1Ewa	2222	2244	1731	1742		090	

### **NAVIGATION AND ECHO SOUNDER ANALOGUE LOG SHEET**

Job No: 3348C1 Operators: ECS/MD

Page 5 of 9

Date	Line No	Fix	es	Tin	nes	ES Roll	Heading	Comments
Date	Line No	SOL	EOL	SOL	EOL	= E2 K0II	Heading	Comments
19/03/02	R1	2250	2263	2205	2211	5	180	Start of ridge survey. No heave in E/S; applied in GNS.
	R4	2265	2276	2225	2230	5	360	No ES paper record
	R7	2278	2290	2244	2250	5	180	
	R2	2291	2304	2300	2307	5	360	
	R5	2305	2316	2320	2326	5	180	
	R6	2317	2328	2337	2343	5	360	
	R3	2329	2340	2356	0002	5	180	
	R4A	2341	2350	0010	0014	5	360	Ridge survey complete.
20/03/02	Centre-seg1	2351	2426	0117	0155	5	180	Start pipe route
	Centre-seg2	2427	2502	0155	0233	5	167	
	Centre-WL-75- seg2	2503	2574	0245	0320	5	347	
	Centre-WL-75- seg1	2575	2644	0321	0355	5	360	
	Centre-WL75- seg1	2645	2714	0411	0446	5	180	
	Centre-WL75- seg2	2715	2787	0446	0522	5	167	
	Centre-XL5	2788	2799	0612	0617	5	270	Pipe route complete.
	EXT1	2800	2988	0654	0828	5	360	Scout line from ridge to 15m contour.

### **NAVIGATION AND ECHO SOUNDER ANALOGUE LOG SHEET**

Job No: 3349C1 Operators: ECS/MD

Page 6 of 9

Date	Line No	Fix	es	Tin	nes	ES Roll	Hooding	Comments
Date	LITIE NO	SOL	EOL	SOL	EOL	ES ROII	Heading	Comments
22/3/02	SP29	2989	3043	0956	1023	6	269	No heave in E/S; applied in GNS. Start of Sole-2 site survey.
	SP26	3044	3100	1039	1107	6	89	
	SP23	3101	3151	1120	1145	6	269	
	SP20	3152	3210	1200	1229	6	89	
	SP17	3211	3268	1239	1308	6	269	
	SP14	3269	3324	1329	1357	6	89	
	SP11	3325	3377	1409	1439	6	269	
	SP8	3378	3430	1454	1521	6	89	100m missed @ SOL
	SP5	3431	3492	1534	1605	6	269	250m of ES paper record missed at SOL
	SP2	3493	3552	1617	1647	6	89	Early SOL to cover Sole-1 wellhead
	SP1	3553	3607	1729	1757	6	89	Shooting head to wind only due boomer interference
	SP3	3608	3668	1806	1836	6	269	Return to 2 way shooting
	SP6	3669	3724	1853	1920	7	89	
	SP9	3725	3781	1934	2002	7	269	
	SP12	3782	3838	2019	2047	7	89	
	SP15	3830	3892	2102	2129	7	269	
	SP18	3893	3945	2145	2112	7	89	
	SP21	3946	3997	2226	2252	7	269	
	SP24	3998	4055	2310	2339	7	89	
	SP27	4056	4111	2352	0019	8	269	
23/3/02	SP28	4112	4168	0034	0103	8	89	
	SP25	4169	4222	0120	0146	8	269	

### **NAVIGATION AND ECHO SOUNDER ANALOGUE LOG SHEET**

Job No: 3349C1 Operators: ECS/MD

Page 7 of 9

Date	Line No	Fix	es	Tin	nes	ES Roll	Hooding	Commente
Date	Line No	SOL	EOL	SOL	EOL	= E2 K0II	Heading	Comments
23/3/02	SP22	4223	4275	0202	0228	8	89	
	SP19	4276	4330	0244	0311	8	269	
	SP16	4331	4383	0332	0358	8	89	
	SP13	4384	4440	0415	0443	8	269	
	SP10	4441	4495	0501	0528	8	89	
	SP7	4496	4552	0549	0617	8	269	
	SP4	4553	4615	0635	0706	8	89	Long run-out to pass Sole-1 wellhead
	SX6	4616	4663	0737	0801	8	359	
	SX5	4664	4709	0821	0844	8	179	
	SX4	4710	4756	0906	0929	8	359	
	SX3	4757	4803	0948	1011	8	179	
	SX2	4804	4851	1035	1059	8	359	
	SX1	4852	4895	1118	1140	8	179	Sole-2 site survey complete.
	S1EW	4896	4907	1259	1305		89	Magnetometer on Sole-1 wellhead, 100m cable out.
	S1NS	4908	4919	1343	1348		179	
	S15	4920	4936	1402	1410		359	
	S12	4937	4949	1417	1423		179	
	S3	4950	4967	1428	1437		359	
	S14	4968	4981	1443	1450		179	
	S5	4982	5000	1458	1507		359	
	S2	5001	5015	1513	1521		179	

### **NAVIGATION AND ECHO SOUNDER ANALOGUE LOG SHEET**

Job No: 3349C1 Operators: ECS/MD

Page 8 of 9

Date	Line No	Fixes Times		Tin	nes	ES Roll Heading	Comments
Date	LINE INC	SOL EOL SOL EOL		ES Roll   Heading	Comments		
23/03/02	S13	5016	5033	1528	1536	359	
	S4	5034	5047	1544	1550	179	
	S!	5048	5065	1612	1620	359	150-200m of Cable out
	S1a	5066	5081	1630	1638	179	
	S1b	5082	5098	1650	1658	359	
	S1Ewa	5099	5115	1709	1717	269	
	S1Ewb	5116	5130	1730	1737	089	

### NAVIGATION AND ECHO SOUNDER ANALOGUE LOG SHEET

Job No: 3375C1 Operators: ECS/MD

Page 9 of 9

Date	Line No	Fix	es	Tim	nes	ES Roll	Heading	Comments		
Date	LINE INO	SOL	EOL	SOL	EOL	ES RUII	rieaurig	Comments		
23/03/02	SS	5134	5940	2041	0323	9		Scout line from Sole-2 site to intersect with Patricia/Baleen pipe route.		

### **APPENDIX K**

FIELD SEABED SAMPLE DESCRIPTIONS



#### THALES GEOSOLUTIONS (AUSTRALASIA) LTD

CLIENT: OMV SAMPLE No.: GC1

PROJECT: Patricia-2 WATER DEPTH (mLAT): 52.5

 JOB No.:
 3346C1
 DATE: 19-Mar-02

 VESSEL:
 Bluefin
 TIME:
 19:02

LOGGED BY Pat FournierTYPE OF CORER Gravity corerPOSITION EAST: 627 203.79BARREL LENGTH (m): 2.0mPOSITION NORTH: 5 790 101.17CORER WEIGHT: 500kg

RECOVERY (m): CUTTER CONDITION ON RECOVERY:

RECOVE	RY (m):		CUTTER CONDITION ON RECOVERY:		
DЕРТН (m)	ГІТНОСОБУ	SAMPLE NUMBER	VISUAL DESCRIPTION	TORVANE (Kn/m²)	PENETROMETER (Kn/m²)
			No recovery		

Sample has been described by visual identification. A pocket penetrometer and a Torvane have been used to define the unconfined compressive strength and shear strength respectively, of the soil. The undrained shear strength of the soil is taken as half the unconfined compressive strength.

	l identification for			(AS 1726 - 19	93)	Undrained	d shear strength
						kN/m <sup>2</sup>	kgf/cm <sup>2</sup>
Very soft	Exudes between	en fingers wl	nen squeezed in	fist		< 12	< 0.12
Soft	Easily moulded	d in the finge	ers			12 to 25	0.12 to 0.25
Firm	Can be moulde	ed in the fing	ers by strong pre	essure		25 to 50	0.25 to 0.50
Stiff	Cannot be mou	ulded in the t	fingers, can be in	dented by thur	nb	50 to 100	0.50 to 1.00
Very stiff	Can be indente	ed by thumb	nailVery tough			100 to 200	1.00 to 2.00
Hard	Can be indente	ed with diffic	ulty by thumb nai	l		>200	>2.00
	CLAY	$\times$ $\times$ $\times$	SILT		SAND		sandy GRAVEL
×—× ×—× ×—×	silty CLAY	×—× ×—×	clayey SILT		clayey SAND	× ; ; ;	sandy silty GRAVEL
	sandy CLAY	$\times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times $	sandy SILT	×××>	silty SAND		
×> ×>	silty sandy CLAY	_		× <u>×</u> >	clayey silty SAND		ROCK



#### THALES GEOSOLUTIONS (AUSTRALASIA) LTD

CLIENT: OMV SAMPLE No.: GC1

PROJECT: Patricia-2 WATER DEPTH (mLAT): 52.5

 JOB No.:
 3346C1
 DATE: 19-Mar-02

 VESSEL:
 Bluefin
 TIME:
 19:20

LOGGED BY Pat FournierTYPE OF CORER Gravity corerPOSITION EAST:627 197.97BARREL LENGTH (m):2.0mPOSITION NORTH:5 790 097.56CORER WEIGHT:500kg

RECOVERY (m): 40cm CUTTER CONDITION ON RECOVERY:

KE	COVE	-K1 (III).	40cm	COTTER CONDITION ON RECOVERT.		
	DEPTH (m)	LITHOLOGY	SAMPLE NUMBER	VISUAL DESCRIPTION	TORVANE (Kn/m²)	PENETROMETER (Kn/m²)
	0		GC1a	Layered firm to stiff clays and loose shelly SAND	85	45
(	0.2	· · · · · · · · ·				
(	0.4			**************		
				Maricia-2		
				221/6		
				20H6C		

Sample has been described by visual identification. A pocket penetrometer and a Torvane have been used to define the unconfined compressive strength and shear strength respectively, of the soil. The undrained shear strength of the soil is taken as half the unconfined compressive strength.

taken as half the unconfined compressive strength.										
Note: field	Note: field identification for strength of cohesive soils (AS 1726 - 1993)  Undrained shear strength									
			kN/m <sup>2</sup>	kgf/cm <sup>2</sup>						
Very soft	Exudes between	en fingers wl		< 12	< 0.12					
Soft	Easily moulded	d in the finge	ers			12 to 25	0.12 to 0.25			
Firm	Can be moulde	ed in the fing	ers by strong pres	sure		25 to 50	0.25 to 0.50			
Stiff	Cannot be mor	ulded in the	fingers, can be ind	ented by thur	nb	50 to 100	0.50 to 1.00			
Very stiff	Can be indente	ed by thumb	nailVery tough			100 to 200	1.00 to 2.00			
Hard	Can be indente	ed with diffic	ulty by thumb nail			>200	>2.00			
	CLAY	× × ×	SILT		SAND		sandy GRAVEL			
—×—> ×—×—>	silty CLAY	×-× ×-× ×-×	clayey SILT		clayey SAND		sandy silty GRAVEL			
<del></del> -	sandy CLAY	$\times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot$	sandy SILT	$\times^{\times} \times^{>}$	silty SAND					
×-×->	silty sandy CLAY			× <u>×</u> ×>	clayey silty SAND		ROCK			



#### THALES GEOSOLUTIONS (AUSTRALASIA) LTD

CLIENT: OMV **SAMPLE No.:** GS1

PROJECT: Patricia-2 WATER DEPTH (mLAT): 52.5

JOB No.: 3346C1 **DATE**: 19-Mar-02 VESSEL: Bluefin TIME: 19:40

**LOGGED BY** Pat Fournier TYPE OF CORER Van Veen **POSITION EAST: 626 095.53 BARREL LENGTH (m): POSITION NORTH: 5 790 281.87 CORER WEIGHT:** 

TORVANE (Kn/m²)	PENETROMETER (Kn/m²)
HINNACT	(Kn/m <sup>2</sup> )

Sample has been described by visual identification. A pocket penetrometer and a Torvane have been used to define the unconfined compressive strength and shear strength respectively, of the soil. The undrained shear strength of the soil is taken as half the unconfined compressive strength.

Note: field	d identification fo	r strength o	93)	Undrained shear strength			
						kN/m²	kgf/cm <sup>2</sup>
Very soft	Exudes betwe	en fingers wh		< 12	< 0.12		
Soft	Easily moulde	d in the finge	rs			12 to 25	0.12 to 0.25
Firm	Can be mould	ed in the fing	ers by strong pre	essure		25 to 50	0.25 to 0.50
Stiff	Cannot be mo	ulded in the f	ingers, can be in	dented by thun	nb	50 to 100	0.50 to 1.00
Very stiff	Can be indent	ed by thumb	nailVery tough			100 to 200	1.00 to 2.00
Hard	Can be indent	ed with difficu	ulty by thumb nai	l		>200	>2.00
	CLAY	$\times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times $	SILT		SAND		sandy GRAVEL
—×—> ×—×—>	silty CLAY	$\stackrel{\times - \times}{\overset{\times}{-}}$	clayey SILT		clayey SAND		sandy silty GRAVEL
<del></del>	sandy CLAY	$\times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot$	sandy SILT	×××>	silty SAND		
×> >	silty sandy CLAY			<u>×××</u> >	clayey silty SAND		ROCK



#### THALES GEOSOLUTIONS (AUSTRALASIA) LTD

**CLIENT:** OMV **SAMPLE No.:** GS1

PROJECT: Baleen WATER DEPTH (mLAT): 52.5

JOB No.: 3347C1 **DATE**: 19-Mar-02 VESSEL: Bluefin **TIME: 20:36** 

**LOGGED BY** Pat Fournier TYPE OF CORER Van Veen **POSITION EAST:** 627 451.21 **BARREL LENGTH (m): POSITION NORTH:** 5 792 364.59 **CORER WEIGHT:** 

RECOVE	ERY (m):		CUTTER CONDITION ON RECOVERY:		
DEPTH (m)	LITHOLOGY	SAMPLE NUMBER	VISUAL DESCRIPTION	TORVANE (Kn/m²)	PENETROMETER (Kn/m²)
		GS1	Green/grey medium to coarse SAND with abundant rock and shell		
			fragments and one piece of sponge coral.		
			Average size of rock fragment 5cm x 4cm.		
			Rocks show evidence of early stages of cementation with shell	1	
			fragments cemented together.	]	
			Balee N3 3547C1 19/3/02 CLS 1		

Sample has been described by visual identification. A pocket penetrometer and a Torvane have been used to define the unconfined compressive strength and shear strength respectively, of the soil. The undrained shear strength of the soil is taken as half the unconfined compressive strength.

Note: field	l identification for	Undrained shear strength					
						kN/m²	kgf/cm <sup>2</sup>
Very soft	Exudes between	en fingers wh		< 12	< 0.12		
Soft	Easily moulded	d in the finge	rs			12 to 25	0.12 to 0.25
Firm	Can be moulde	ed in the fing	ers by strong pres	sure		25 to 50	0.25 to 0.50
Stiff	Cannot be mou	ulded in the f	ingers, can be inde	ented by thur	nb	50 to 100	0.50 to 1.00
Very stiff	Can be indente	ed by thumb	nailVery tough			100 to 200	1.00 to 2.00
Hard	Can be indente	ed with diffici	ulty by thumb nail			>200	>2.00
	CLAY	× × ×	SILT		SAND		sandy GRAVEL
—×—> ×—×—>	silty CLAY	×-× ×-×	clayey SILT		clayey SAND		sandy silty GRAVEL
<del></del>	sandy CLAY	$\times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot$	sandy SILT	$\times^{\times} \times^{>}$	silty SAND		
	silty sandy CLAY			×××>	clayey silty SAND		ROCK



#### THALES GEOSOLUTIONS (AUSTRALASIA) LTD

**CLIENT:** OMV **SAMPLE No.:** GS2 **PROJECT:** Baleen WATER DEPTH (mLAT):

JOB No.: 3347C1 **DATE**: 19-Mar-02 VESSEL: Bluefin **TIME:** 20:53

**LOGGED BY** Pat Fournier TYPE OF CORER Van Veen **POSITION EAST: 626 681.98 BARREL LENGTH (m): POSITION NORTH:** 5 792 553.88 **CORER WEIGHT:** 

RECOVE	ERY (m):		CUTTER CONDITION ON RECOVERY:		
DEPTH (m)	ГІТНОГОСУ	SAMPLE NUMBER	VISUAL DESCRIPTION	TORVANE (Kn/m²)	PENETROMETER (Kn/m²)
	×××	GS2	Green/grey Fine to coarse silty SAND with abundant shell fragments		
			and minor rock fragments.		
			Average size of rock fragment 5cm x 4cm.		
			Average shell size 5cm x 2cm		
			Baleen-3 3347c1 19/3/02 C(52,		

Sample has been described by visual identification. A pocket penetrometer and a Torvane have been used to define the unconfined compressive strength and shear strength respectively, of the soil. The undrained shear strength of the soil is taken as half the unconfined compressive strength.

Note: field	l identification fo	93)	Undrained shear strength					
						kN/m²	kgf/cm <sup>2</sup>	
Very soft	Exudes betwe	en fingers wh		< 12	< 0.12			
Soft	Easily moulde	d in the finge	rs			12 to 25 0.12 to 0.2		
Firm	Can be mould	ed in the fing	ers by strong pre	essure		25 to 50	0.25 to 0.50	
Stiff	Cannot be mo	ulded in the f	ingers, can be in	dented by thun	nb	50 to 100	0.50 to 1.00	
Very stiff	Can be indent	ed by thumb	nailVery tough			100 to 200	1.00 to 2.00	
Hard	Can be indent	ed with difficu	ılty by thumb nail	1		>200	>2.00	
	CLAY	$\times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times \times $	SILT		SAND		sandy GRAVEL	
—×—> ×—×—>	silty CLAY	$\stackrel{\times - \times}{\overset{\times}{-}}$	clayey SILT		clayey SAND		sandy silty GRAVEL	
<del></del>	sandy CLAY	$\times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot \times \cdot$	sandy SILT	$\times^{\times}\times^{>}$	silty SAND			
	silty sandy CLAY			× <u>×</u> ×	clayey silty SAND		ROCK	

### **APPENDIX L**

**TIDAL PREDICTIONS** 

TIDE HEIGHT PREDICTIONS

LOCATION : Baleen-3/Patricia-2

LATITUDE : 38 1 0 S LONGITUDE : 148 26 57 E

CLIENT : THALES

TIME ZONE : -1000 (EST)

DATUM : LAT (~0.70M < MSL/AHD) PERIOD : 18/3/2002 - 20/3/2002

INTERVAL : 30 MINUTES

1.14

100: 0 19 3 2002

130: 200: 230: 300: 300: 300: 300: 400: 430: 500: 530: 600: 730: 800: 930: 1000: 1130: 1230: 1400: 1230: 1430: 1500: 1530: 1400: 1530: 1400: 1230: 1230: 1230: 130: 1200: 2130: 2200: 230: 230: 230: 230: 230: 230:	0 19 0 19 0 19 0 19 0 19 0 19 0 19 0 19	3 2002 3 2002	1.07 0.99 0.90 0.79 0.68 0.49 0.35 0.30 0.29 0.32 0.36 0.42 0.57 0.65 0.77 0.88 0.82 0.77 0.65 0.88 0.82 0.77 0.65 0.43 0.43 0.44 0.50 0.58 0.43 0.43 0.43 0.44 0.50 0.45 0.45 0.45 0.45 0.45 0.45
400:	0 20	3 2002	0.78
430:	0 20	3 2002	0.67
500:	0 20	3 2002	0.57

### **APPENDIX M**

**DAILY FIELD PROGRESS REPORT SHEETS** 



Date:15 March 2002 Client: OMV Job No.: 3346C1 Vessel: Blue Fin Location: Bass Strait

PAGE 1 OF 10

Equipment	Ор	
SkyFix	Mob	
SkyFix Spot	Mob	
Gyro	Mob	
GNS 2	Mob	
MultiFix 3	Mob	
GRREP	Mob	

Equipment	Op	
Echo Sounder	Mob	
Sidescan	Mob	
Boomer	Mob	
Heave Comp	Mob	
Velocity Probe	Mob	
ENSIN/CODA	Mob	

Racal Personnel
EC Shuttleworth
M.Dybala
J Antao
L.Ethridge
P Fournier
Client Personnel
R Glanville

WX	Sea State	Swell	Wind Dir.
0000			
0600			
1200			
1800			

#### **DIARY OF OPERATIONS**

TIME	Time Zone=UTC+11
0800	Thales personnel at vessel. Project Briefing & vessel induction
0830	Truck, crane, welders & labour commence work.
1115	All equipment loaded to vessel
1300	Gyros powered up.
1545	Crane, welders & labour complete work
1600	Power failure.
1630	Power return
2000	Thales personnel depart vessel for night.
_	

				-	
Signature		WHITE	: Accounts Department	Signature	
•	SURVEYOR/ENGINEER	BLUE	:Operations Department Cl	CLIENT REPRESENTATIVE	
		YELLOW	: Clients Representative		



Date:16 March 2002 Client: OMV Job No.: 3346C1 Vessel: Blue Fin Location: Bass Strait

PAGE 2 OF 10

Equipment	Ор	
SkyFix	Υ	
SkyFix Spot	Υ	
Gyro	Υ	
GNS 2	Υ	
MultiFix 3	Υ	
GRREP	Υ	

Ор	
Υ	
Υ	
Υ	
Υ	
Υ	
Υ	
	Op Y Y Y Y

Racal Personnel
EC Shuttleworth
M.Dybala
J Antao
L.Ethridge
P Fournier
Client Personnel
R Glanville

	_	_	
WX	Sea State	Swell	Wind Dir.
0000			
0600			
1200			
1800			

#### **DIARY OF OPERATIONS**

TIME	Time Zone=UTC+11
0700	Thales personnel at vessel.
0800	Boomer in water
1000	SSS rub & wet test
1100	ES deployed. Deso 15 problem.
1200	DGPS Health check & gyro calibration complete.
1300	ES operational
1345	ES bar check complete.
1430	Spare magnetometer arrive.
1515	Power failure.
1530	Power back. Reboot equipment
1600	Magnetometer operational
1730	Fire & Abandonment drill
1800	Depart Beauty Point.
2400	Transit to Patricia
	to be completed daily in duplicate on all vessels. Each form should be countersigned by the Clients Penrosentative, the original being retained on heard

				-	
Signature		WHITE	: Accounts Department	Signature	
•	SURVEYOR/ENGINEER	BLUE	:Operations Department Cl	CLIENT REPRESENTATIVE	
		YELLOW	: Clients Representative		



Date:17 March 2002 Client: OMV Job No.: 3346C1 Vessel: Blue Fin Location: Bass Strait

PAGE 3 OF 10

Equipment	Ор	
SkyFix	Υ	
SkyFix Spot	Υ	
Gyro	Υ	
GNS 2	Υ	
MultiFix 3	Υ	
GRREP	Υ	

Ор	
Υ	
Υ	
Υ	
Υ	
Υ	
Υ	
	Op Y Y Y Y

Racal Personnel
EC Shuttleworth
M.Dybala
J Antao
L.Ethridge
P Fournier
Client Personnel
R Glanville

	_	_	
WX	Sea	Swell	Wind
VVA	State		Dir.
0000	6	2m	NW
0600	6	2m	SW
1200	6	2m	SW
1800	3/4	2m	SW

#### **DIARY OF OPERATIONS**

TIME	Time Zone=UTC+11
0000	Transit to Patricia
1100	DMS2-05 reset itself to 1200 baud rate. Reset GNS2 & Deso 15 to same.
1845	Drop anchor at Patricia site. Wx standby. Wind dec., seas 2m+
2100	SVP check during wx dt. 1515.7 m/s
2400	Standby for wx on Patricia 2 site
Forms are	to be completed daily in duplicate on all vessels. Each form should be countersigned by the Clients Representative, the original being retained on board

until the next crew change or at the end of job, whichever is the earlier, when they should be returned to the PERTH office.

Signature		WHITE	: Accounts Department	Signature	
	SURVEYOR/ENGINEER	BLUE	:Operations Department	· ·	CLIENT REPRESENTATIVE
		YELLOW	Clients Representative		



Date:18 March 2002 Client: OMV Job No.: 3346C1 Vessel: Blue Fin Location: Bass Strait

PAGE 4 OF 10

Equipment	Ор	
SkyFix	Υ	
SkyFix Spot	Υ	
Gyro	Υ	
GNS 2	Υ	
MultiFix 3	Υ	
GRREP	Υ	

Equipment	Ор	
Echo Sounder	Υ	
Sidescan	Υ	
Boomer	Υ	
Heave Comp	Υ	
Velocity Probe	Υ	
ENSIN/CODA	Υ	

Racal Personnel
EC Shuttleworth
M.Dybala
J Antao
L.Ethridge
P Fournier
Client Personnel
R Glanville

_	_		_
WX	Sea	Swell	Wind
VVA	State	Sweii	Dir.
0000	3/4	2m	SW
0600	3/4	1m	NW
1200	3	<1m	NE
1800	3	<1m	NE

#### **DIARY OF OPERATIONS**

TIME	Time Zone=UTC+ 11
0000	Standby for wx on Patricia 2 site
0400	Deploy and tune E/S. No heave into E/S as causes loss of soundings. Heave applied in GNS.
0520	Recover anchor.
0530	Deploy SSS. Tuning SSS.
0639	Start SSS dynamic check Patricia 2.
0715	End of dynamic check.
0730	Deploy hydrophone. Tuning boomer.
1030	Commence run-in to line PP1.
1043	Commenced SSS, ES & Boomer on Patricia 2 site.
2119	Analogue acquisition completed at Patricia 2.
2148	Commence analogue acquisition at Baleen 3 site.
2400	Continue on Baleen 3 site.

Signature		WHITE	: Accounts Department	Signature	
Ü	SURVEYOR/ENGINEER	BLUE	:Operations Department	· ·	CLIENT REPRESENTATIVE
		YFLLOW	· Clients Representative		



Date:19 March 2002 Client: OMV Job No.: 3347C1 Vessel: Blue Fin Location: Bass Strait

PAGE 5 OF 10

Equipment	Ор	
SkyFix	Υ	
SkyFix Spot	Υ	
Gyro	Υ	
GNS 2	Υ	
MultiFix 3	Υ	
GRREP	Υ	

Equipment	Ор	
Echo Sounder	Υ	
Sidescan	Υ	
Boomer	Υ	
Heave Comp	Υ	
Velocity Probe	Υ	
ENSIN/CODA	Υ	

Racal Personnel
EC Shuttleworth
M.Dybala
J Antao
L.Ethridge
P Fournier
Client Personnel
R Glanville

	_	_	
WX	Sea	Swell	Wind
VVA	State		Dir.
0000	4	1-2m	SW
0600	3	1-2m	SW
1200	3	1-2m	SW
1800			

#### **DIARY OF OPERATIONS**

TIME	Time Zone=UTC+ 11
0000	Continue on Baleen 3 site.
1233	Analogue acquisition complete on Baleen 3. Recover SSS & Boomer, deploy magnetometer.
1315	Magnetometer deployed.
1353	Commence magnetometer checks on wellheads.
1800	Magnetometer recovered. Rig for coring.
1845	JSA/Toolbox for coring.
1902	Gravity core attempt on Patricia 2. Fail.
1920	Gravity core attempt on Patricia 2. Sample.
1940	Grab Sample 1 (Patricia site.)
2007	Grab Sample 2 (Patricia site.)
2036	Grab Sample 3 (Baleen site.)
2053	Grab Sample on Baleen 3 site. Derig corer, hd for pipe route ridge.
2200	SSS deployed. Commence ridge examination

Signature		WHITE	: Accounts Department	Signature	
J	SURVEYOR/ENGINEER	BLUE	:Operations Department	Ü	CLIENT REPRESENTATIVE
		YELLOW	Clients Representative		



Date:20 March 2002 Client: OMV Job No.: 3347C1 Vessel: Blue Fin Location: Bass Strait

PAGE 6 OF 10

Equipment	Ор	
SkyFix	Υ	
SkyFix Spot	Υ	
Gyro	Υ	
GNS 2	Υ	
MultiFix 3	Υ	
GRREP	Υ	

Equipment	Ор	
Echo Sounder	Υ	
Sidescan	Υ	
Boomer	Υ	
Heave Comp	Υ	
Velocity Probe	Υ	
ENSIN/CODA	Υ	

Racal Personnel
EC Shuttleworth
M.Dybala
J Antao
L.Ethridge
P Fournier
Client Personnel
R Glanville

	_	_	_
WX	Sea	Swell	Wind
VVA	State	Sweii	Dir.
0000	3	1	NW
0600	3	1	NW
1200	5/6	2m+	SW
1800			

#### **DIARY OF OPERATIONS**

TIME	Time Zone=UTC+ 11			
0000	Continue on ridge survey.			
0014	Complete ridge survey. Deploy Boomer for	route development		
0115	Commenced pipe route development.			
0617	Pipe route completed.			
0654	Commence scout line to 15m contour.			
0828	Scout line complete. Start recovering sprea	nd.		
0900	Commence transit to Sole-2 site.			
1100	Divert to shelter off Gabo Island. Wind SW	ly, force 6, seas 2m+. F'	cast W/SW 30	– 40 kn.
1700	Drop anchor in lee of Gabo Island.			
	are to be completed daily in duplicate on all vessels. Each form a next crew change or at the end of job, whichever is the earlier, v			, the original being retained on board
Signature	ure WHITE BLUE	: Accounts Department :Operations Department	Signature	CLIENT REPRESENTATIVE

YELLOW

: Clients Representative



Date:21 March 2002 Client: OMV Job No.: 3349C1 Vessel: Blue Fin Location: Bass Strait

PAGE 7 OF 10

Equipment	Ор	
SkyFix	Υ	
SkyFix Spot	Υ	
Gyro	Υ	
GNS 2	Υ	
MultiFix 3	Υ	
GRREP	Υ	

Equipment	Ор	
Echo Sounder	Υ	
Sidescan	Y	
Boomer	Υ	
Heave Comp	Υ	
Velocity Probe	Υ	
ENSIN/CODA	Υ	

Racal Personnel
EC Shuttleworth
M.Dybala
J Antao
L.Ethridge
P Fournier
Client Personnel
R Glanville

WX	Sea State	Swell	Wind Dir.
0000			
0600			
1200			
1800			

#### **DIARY OF OPERATIONS**

TIME	Time Zone=UTC+ 11				
0000	At anchor in lee of Gabo Island.				
1300	Deployed Sub-tow boomer for testing. Deployed ES pole to check HeCo.				
1700	Recovered all equipment.				
2400	Commence recover anchor.				
_	·				

Signature		WHITE	: Accounts Department	Signature	
Ū	SURVEYOR/ENGINEER	BLUE YELLOW	:Operations Department : Clients Representative	CLIENT REPRESE	CLIENT REPRESENTATIVE
		TELLOW	. Cilettis Representative		



Date:22 March 2002 Client: OMV Job No.: 3349C1 Vessel: Blue Fin Location: Bass Strait

PAGE 8 OF 10

	-	-
Equipment	Ор	
SkyFix	Υ	
SkyFix Spot	Υ	
Gyro	Υ	
GNS 2	Υ	
MultiFix 3	Υ	
GRREP	Υ	

·		
Equipment	Ор	
Echo Sounder	Υ	
Sidescan	Υ	
Boomer	Υ	
Heave Comp	Υ	
Velocity Probe	Υ	
ENSIN/CODA	Υ	

Racal Personnel
EC Shuttleworth
M.Dybala
J Antao
L.Ethridge
P Fournier
Client Personnel
R Glanville

WX	Sea State	Swell	Wind Dir.
0000		na	
0600	4	2m	SW
1200	3	1m	E
1800	5	1-2m	Е

#### **DIARY OF OPERATIONS**

TIME	Time Zone=UTC+ 11
0000	Enroute to Sole-2 site
0800	Arrive Sole-2 site. Deploy E/S pole.
0815	Deploy SVP probe. SV = 1517.8m/s.
0840	Deploy boomer and SSS.
0900	Deploy hydrophone. Start tuning gear.
0930	Heading for SOL
0956	Commenced analogue acquisition on Sole 2 site.
1700	Shooting from west to east, into prevailing seas, due to excess noise on boomer data.
1800	Return to shooting both directions.
2400	Continue on Sole 2 site survey.
	•

Signature		WHITE	: Accounts Department	Signature	
· ·	SURVEYOR/ENGINEER	BLUE	:Operations Department	ŭ	CLIENT REPRESENTATIVE
		YELLOW	: Clients Representative		



Date:23 March 2002 Client: OMV Job No.: 3349C1 Vessel: Blue Fin Location: Bass Strait

PAGE 9 OF 10

Equipment	Ор	
SkyFix	Υ	
SkyFix Spot	Υ	
Gyro	Υ	
GNS 2	Υ	
MultiFix 3	Υ	
GRREP	Υ	

Equipment	Op	
Echo Sounder	Υ	
Sidescan	Υ	
Boomer	Υ	
Heave Comp	Υ	
Velocity Probe	Υ	
ENSIN/CODA	Υ	

Racal Personnel
EC Shuttleworth
M.Dybala
J Antao
L.Ethridge
P Fournier
Client Personnel
R Glanville

WX	Sea State	Swell	Wind Dir.
0000	5	1-2m	E
0600	4	1-2m	NE
1200	3	1m	NE
1800	4	1-2m	NE

#### **DIARY OF OPERATIONS**

TIME	Time Zone=UTC+ 11
0000	Continue analogue acquisition on Sole 2 site.
1140	Complete analogue on Sole 2 site. Recover gear, deploy magnetometer.
1240	Magnetometer deployed, hdg wellhd.
1800	Magnetometer recovered. Preparing corer.
1910	Core S1 on Sole 2 site
1934	Core S2 On Sole 2 site
2000	Corer de-rigged. Analogue gear deployed. Hdg for line.
2041	Commenced scout line from Sole to meet scout line running north from Patricia Baleen,
Forme are	to be completed daily in duplicate on all yessels. Each form should be countersigned by the Clients Representative, the original being retained on board

Signature		WHITE	: Accounts Department	Signature	
Ü	SURVEYOR/ENGINEER	BLUE	:Operations Department	Ü	CLIENT REPRESENTATIVE
		YELLOW	: Clients Representative		



Date:24 March 2002 Client: OMV Job No.: 3349C1 Vessel: Blue Fin Location: Bass Strait

PAGE 10 OF 10

		-
Equipment	Ор	
SkyFix	Υ	
SkyFix Spot	Υ	
Gyro	Υ	
GNS 2	Υ	
MultiFix 3	Υ	
GRREP	Υ	

Equipment	Op	
Echo Sounder	Υ	
Sidescan	Υ	
Boomer	Υ	
Heave Comp	Υ	
Velocity Probe	Υ	
ENSIN/CODA	Υ	

Racal Personnel
EC Shuttleworth
M.Dybala
J Antao
L.Ethridge
P Fournier
Client Personnel
R Glanville
·

WX	Sea State	Swell	Wind Dir.
0000	5	1-2m	Е
0600	4	1-2m	NE
1200	3	1m	NE
1800	4	1-2m	NE

#### **DIARY OF OPERATIONS**

TIME	Time Zone=UTC+ 11
0000	Continue analogue acquisition on scout line from Sole-2 to Patricia/Baleen pipe route.
0330	Finish scout line. Recover survey spread.
0400	Commence transit to Port Welshpool.
_	

Signature		WHITE	: Accounts Department	Signature	
· ·	SURVEYOR/ENGINEER	BLUE	Operations Department	J	CLIENT REPRESENTATIVE
		YELLOW	: Clients Representative		

### **DAILY PROJECT REPORT**

#### **ALL TIMES ARE WST**

VESSEL	: Blue Fin	PROJECT No.:	3346C1	REPORT No.:	1	DATE:	15 March 2002
To:	TGA Perth	Attn:	Operations - N. Mackay				Fax 08 9344 8783
To	OMV Australia Pty Ltd	Attn:	Ron King			Via:	TGA Perth
Copy:	TGGL Compass House	Attn:	Audrey Maysh			Via:	TGA Perth

AA. LOCATION AT 2359 hrs:

Beauty Point, Tasmania

BB. WEATHER:

Na

CC. OPERATIONAL DATA:

C2. PERSONNEL

OZ. TENOON					Total		
	Racal	Sub-Cont	Client	Vessel	Today	Project To Date	
No. of Persons	4	0	1	0	5	5	
Man-Hours	96	0	24	0	120	120	
No. On Today	4	0	1	4	9	9	
No. Off Today	0	0	0	0	0	0	

C3. SURVEY PROGRESS

Area of Activity	Percent Complete (at end of today)
Mobilisation	(60
Patricia 2	0
Baleen 3	0
Pipe route	0
Sole 2	0
Demobilisation	0

C4. RE RUNS TODAY

C5. SUMMARY OF CHARGEABLE TIME

	Today (hours)				Total (hours)			
	Working	Transit	Downtim	Weather	Working	Transit	Downtim	Weather
			е				е	
Patricia 2 Baleen 3 Pipe route Sole 2	0	0	0	0	0	0	0	0

	Today	To Date
TOTAL HAZARDS/INCIDENTS REPORTED:	0	0
TOTAL MINOR INJURIES:	0	0
TOTAL LTI:	0	0
DETAILS OF INCIDENTS AND DRILLS TODAY:	Vessel Induction and Pre	e-MOB Safety Meeting

From	To	Activity	Code	Hours
0000	0800	Wait on equipment	MOB/DEMO	8
0800	2000	Mobilisation	MOB/DEMO	12
2000	2400	Standby	MOB/DEMO	4

#### FF. TIME SUMMARY:

Rate	Code	Hours	Acc. Hours
Standby and/or Weather	STBY	0	0
Disputed Time	DT	0	0
Transit	TR	0	0
Downtime	TD	0	0
Working	OP	0	0
Mobilisation / Demobilisation	MOB/DEMO	24	24
Breakdown (Vessel)	VD/STBY	0	0
Other Nil Revenue Time	CT	0	0
	TOTAL	24	24

#### GG. EXPECTED WEATHER FOR NEXT 24 HOURS:

Na

#### HH. TECHNICAL & PARTY CHIEF'S COMMENTS:

Mob progressing satisfactorily.

#### II. CLIENT REPRESENTATIVE'S COMMENTS:

Ni

#### JJ. PROGRAMME FOR NEXT 24 HOURS:

Continue Mobilisation and Equipment testing. Expect to depart 1800 hrs.

Signed for Thales GeoSolutions

Signed for OMV Australia Pty Ltd

Chris Shuttleworth (Party Chief)

Rick Glanville (Client Representative)

#### **DAILY PROJECT REPORT**

#### **ALL TIMES ARE WST**

VESSEL	: Blue Fin	PROJECT No.:	3346C1	REPORT No.:	2	DATE:	16 March 2002
To:	TGA Perth	Attn:	Operations - N	I. Mackay			Fax 08 9344 8783
To	OMV Australia Pty Ltd	Attn:	Ron King			Via:	TGA Perth
Copy:	TGGL Compass House	Attn:	Audrey Maysh	1		Via:	TGA Perth

AA. LOCATION AT 2359 hrs:

40° 58" S, 146° 46" E

BB. WEATHER:

NW 30 kn, 2m seas

CC. OPERATIONAL DATA:

C2. PERSONNEL

02. 7 ENOON					Total		
	Racal	Sub-Cont	Client	Vessel	Today	Project To Date	
No. of Persons	5	0	1	5	11	16	
Man-Hours	120	0	24	120	262	382	
No. On Today	1	0	0	1	2	11	
No. Off Today	0	0	0	0	0	0	

C3. SURVEY PROGRESS

Area of Activity	Percent Complete (at end of today)
Mobilisation	100
Patricia 2	0
Baleen 3	0
Pipe route	0
Sole 2	0
Demobilisation	0

C4. RE RUNS TODAY

C5. SUMMARY OF CHARGEABLE TIME

	Today (hours)				Total (hours)			
	Working	Transit	Downtim	Weather	Working	Transit	Downtim	Weather
			е				е	
Patricia 2 Baleen 3 Pipe route Sole 2	0	6	0	0	0	6	0	0

	Today	To Date
TOTAL HAZARDS/INCIDENTS REPORTED:	0	0
TOTAL MINOR INJURIES:	0	0
TOTAL LTI:	0	0
DETAILS OF INCIDENTS AND DRILLS TODAY:	Fire & Abandon Boat Drill	

From	To	Activity	Code	Hours
0000	0700	Standby	MOB/DEMO	7
0700	1800	Mobilisation	MOB/DEMO	11
1800	2400	Transit. Depart Beauty Point	TR	6

#### FF. TIME SUMMARY:

Rate	Code	Hours	Acc. Hours
Standby and/or Weather	STBY	0	0
Disputed Time	DT	0	0
Transit	TR	6	6
Downtime	TD	0	0
Working	OP	0	0
Mobilisation / Demobilisation	MOB/DEMO	18	42
Breakdown (Vessel)	VD/STBY	0	0
Other Nil Revenue Time	CT	0	0
	TOTAL	24	48

#### GG. EXPECTED WEATHER FOR NEXT 24 HOURS:

NW 20-30 kn, back SW 20-30 kn, then moderating

#### HH. TECHNICAL & PARTY CHIEF'S COMMENTS:

Mob completed.

#### II. CLIENT REPRESENTATIVE'S COMMENTS:

Ni

#### JJ. PROGRAMME FOR NEXT 24 HOURS:

Transit to Patricia. ETA 1400 hrs 17/03/02. Commence proof of wellheads. Acquisition.

Signed for Thales GeoSolutions

Signed for OMV Australia Pty Ltd

Chris Shuttleworth (Party Chief)

Rick Glanville (Client Representative)

## **DAILY PROJECT REPORT**

#### **ALL TIMES ARE WST**

VESSEL:	Blue Fin	PROJECT No.:	3346C1	REPORT No.:	3	DATE:	17 March 2002
To:	TGA Perth	Attn:	Operations - N	N. Mackay			Fax 08 9344 8783
То	OMV Australia Pty Ltd	Attn:	Ron King			Via:	TGA Perth
Copy:	TGGL Compass House	Attn:	Audrey Maysh	1		Via:	TGA Perth

AA. LOCATION AT 2359 hrs:

At anchor on Patricia 2 site

BB. WEATHER:

SW 15 kn, 2m seas

CC. OPERATIONAL DATA:

C2. PERSONNEL

02. 7 ENGON	712				Total		
	Racal	Sub-Cont	Client	Vessel	Today	Project To Date	
No. of Persons	5	0	1	5	11	27	
Man-Hours	120	0	24	120	262	644	
No. On Today	0	0	0	0	0	11	
No. Off Today	0	0	0	0	0	0	

C3. SURVEY PROGRESS

Area of Activity	Percent Complete (at end of today)
Mobilisation	100
Patricia 2	0
Baleen 3	0
Pipe route	0
Sole 2	0
Demobilisation	0

C4. RE RUNS TODAY

C5. SUMMARY OF CHARGEABLE TIME

	Today (hours)			Total (hours)				
	Working	Transit	Downtim	Weather	Working	Transit	Downtim	Weather
			е				е	
Patricia 2 Baleen 3 Pipe route Sole 2	0	18.75	0	5.25	0	24.75	0	5.25

	Today	To Date
TOTAL HAZARDS/INCIDENTS REPORTED:	0	0
TOTAL MINOR INJURIES:	0	0
TOTAL LTI:	0	0
DETAILS OF INCIDENTS AND DRILLS TODAY:		0

From	То	Activity	Code	Hours
0000	1845	Transit	TR	18.75
1845	2400	Standby at anchor, Patricia 2 site	STBY	5.25

#### FF. TIME SUMMARY:

Rate	Code	Hours	Acc. Hours
Standby and/or Weather	STBY	5.25	5.25
Disputed Time	DT	0	0
Transit	TR	18.75	24.75
Downtime	TD	0	0
Working	OP	0	0
Mobilisation / Demobilisation	MOB/DEMO	18	42
Breakdown (Vessel)	VD/STBY	0	0
Other Nil Revenue Time	CT	0	0
	TOTAL	24	72

#### GG. EXPECTED WEATHER FOR NEXT 24 HOURS:

SW back NW inc 20-30 kn. Seas dec to 1m then inc again.

#### HH. TECHNICAL & PARTY CHIEF'S COMMENTS:

Expect seas to remain low when wind is NW from off the land. Geko Beta 30m south of sites.

#### II. CLIENT REPRESENTATIVE'S COMMENTS:

Nil

#### JJ. PROGRAMME FOR NEXT 24 HOURS:

SSS dynamic position on Patricia 1 wellhead. Commence acquisition Patricia 2.

Signed for Thales GeoSolutions

Signed for OMV Australia Pty Ltd

Chris Shuttleworth (Party Chief)

Rick Glanville (Client Representative)

### **DAILY PROJECT REPORT**

#### **ALL TIMES ARE WST**

VESSEL:	Blue Fin	PROJECT No.:	3346C1	REPORT No.:	4	DATE:	18 March 2002
			3347C1				
To:	TGA Perth	Attn:	Operations - N	N. Mackay			Fax 08 9344 8783
To	OMV Australia Pty Ltd	Attn:	Ron King			Via:	TGA Perth
Copy:	TGGL Compass House	Attn:	Audrey Maysh	1		Via:	TGA Perth

AA. LOCATION AT 2359 hrs:

On Baleen 3 site

BB. WEATHER:

SW 15 kn, 1m seas

CC. OPERATIONAL DATA:

C2. PERSONNEL

						Total
	Racal	Sub-Cont	Client	Vessel	Today	Project To Date
No. of Persons	5	0	1	5	11	38
Man-Hours	120	0	24	120	262	906
No. On Today	0	0	0	0	0	0
No. Off Today	0	0	0	0	0	0

C3. SURVEY PROGRESS

Area of Activity	Percent Complete (at end of today)
Mobilisation	100
Patricia 2	90
Baleen 3	10
Pipe route	0
Sole 2	0
Demobilisation	0

C4. RE RUNS TODAY

C5. SUMMARY OF CHARGEABLE TIME

	Today (hours)				Total (hours)			
	Working	Transit	Downtim	Weather	Working	Transit	Downtim	Weather
			е				е	
Patricia 2 Baleen 3 Pipe route Sole 2	18.5	0	0	5.5	18.5	24.75	0	10.75

	Today	To Date
TOTAL HAZARDS/INCIDENTS REPORTED:	0	0
TOTAL MINOR INJURIES:	0	0
TOTAL LTI:	0	0
DETAILS OF INCIDENTS AND DRILLS TODAY:		0

From	То	Activity	Code	Hours
0000	0530	Standby at anchor on Patricia site.	STBY	5.5
0530	2130	Analogue acquisition on Patricia 2 site	OP	16
2130	2400	Analogue acquisition on Baleen 3 site	OP	2.5

#### FF. TIME SUMMARY:

Rate	Code	Hours	Acc. Hours
Standby and/or Weather	STBY	5.5	10.75
Disputed Time	DT	0	0
Transit	TR	0	24.75
Downtime	TD	0	0
Working	OP	18.5	18.5
Mobilisation / Demobilisation	MOB/DEMO	0	42
Breakdown (Vessel)	VD/STBY	0	0
Other Nil Revenue Time	CT	0	0
	TOTAL	24	96

#### GG. EXPECTED WEATHER FOR NEXT 24 HOURS:

W/SW 20-30 kn, seas 2-4m, dec 10-20 kn, seas 1-2m

#### HH. TECHNICAL & PARTY CHIEF'S COMMENTS:

Patricia 2 site completed excepting coring. No heave on Deso 15 ES, but applied in GNS.

#### II. CLIENT REPRESENTATIVE'S COMMENTS:

Nil

#### JJ. PROGRAMME FOR NEXT 24 HOURS:

Continue Baleen 3 analogue acquisition, then magnetometer over wellheads, then coring.

Signed for Thales GeoSolutions

Signed for OMV Australia Pty Ltd

Chris Shuttleworth (Party Chief)

Rick Glanville (Client Representative)

#### **DAILY PROJECT REPORT**

#### **ALL TIMES ARE WST**

VESSEL:	Blue Fin	PROJECT No.:	3347C1	REPORT No.:	5	DATE:	19 March 2002
To:	TGA Perth	Attn:	Operations - N	I. Mackay			Fax 08 9344 8783
То	OMV Australia Pty Ltd	Attn:	Ron King			Via:	TGA Perth
Copy:	TGGL Compass House	Attn:	Audrey Maysh	1		Via:	TGA Perth

AA. LOCATION AT 2359 hrs:

On pipe route, 37 56 S 148 26 E

BB. WEATHER:

SW 15 kn, 1m seas

CC. OPERATIONAL DATA:

C2. PERSONNEL

					Total		
	Racal	Sub-Cont	Client	Vessel	Today	Project To Date	
No. of Persons	5	0	1	5	11	49	
Man-Hours	120	0	24	120	262	1168	
No. On Today	0	0	0	0	0	0	
No. Off Today	0	0	0	0	0	0	

C3. SURVEY PROGRESS

Area of Activity	Percent Complete (at end of today)
Mobilisation	100
Patricia 2	100
Baleen 3	100
Pipe route	10
Sole 2	0
Demobilisation	0

C4. RE RUNS TODAY

C5. SUMMARY OF CHARGEABLE TIME

	Today (hours)			Total (hours)				
	Working	Transit	Downtime	Weather	Working	Transit	Downtime	Weather
Patricia 2 Baleen 3 Pipe route Sole 2	24	0	0	0	42.5	24.75	0	10.75

HOL INLI OINT.		
	Today	To Date
TOTAL HAZARDS/INCIDENTS REPORTED:	0	0
TOTAL MINOR INJURIES:	0	0
TOTAL LTI:	0	0
DETAILS OF INCIDENTS AND DRILLS TODAY:		0

From	To	Activity	Code	Hours
0000	1230	Analogue acquisition on Baleen 3	OP	12.5
1230	1800	Magnetometer check on wellheads		5.5
1800	2130	Core & grab samples, Patricia & Baleen		3.5
2130	2400	Pipe route development		2.5

#### FF. TIME SUMMARY:

Rate	Code	Hours	Acc. Hours
Standby and/or Weather	STBY	0	10.75
Disputed Time	DT	0	0
Transit	TR	0	24.75
Downtime	TD	0	0
Working	OP	24	42.5
Mobilisation / Demobilisation	MOB/DEMO	0	42
Breakdown (Vessel)	VD/STBY	0	0
Other Nil Revenue Time	CT	0	0
	TOTAL	24	120

#### GG. EXPECTED WEATHER FOR NEXT 24 HOURS:

NW inc 25-35 kn, back W/SW inc 30-40 kn.

#### HH. TECHNICAL & PARTY CHIEF'S COMMENTS:

Patricia 2 & Baleen 3 sites complete.

#### II. CLIENT REPRESENTATIVE'S COMMENTS:

Ni

#### JJ. PROGRAMME FOR NEXT 24 HOURS:

Complete pipe route development, transit & commence on Sole, weather permitting.

Signed for Thales GeoSolutions

Signed for OMV Australia Pty Ltd

Chris Shuttleworth (Party Chief)

Rick Glanville (Client Representative)

#### **DAILY PROJECT REPORT**

#### **ALL TIMES ARE WST**

VESSEL	: Blue Fin	PROJECT No.:	3348C1	REPORT No.:	6	DATE:	20 March 2002
			3349C1				
To:	TGA Perth	Attn:	Operations - N	N. Mackay			Fax 08 9344 8783
То	OMV Australia Pty Ltd	Attn:	Ron King			Via:	TGA Perth
Copy:	TGGL Compass House	Attn:	Audrey Maysh	1		Via:	TGA Perth

**LOCATION AT 2359 hrs:** AA.

At anchor, lee of Gabo Isl., 37 33, S. 149 55, E

BB. WEATHER:

SW 35 kn.

CC. OPERATIONAL DATA:
C2. PERSONNEI

					Total		
	Racal	Sub-Cont	Client	Vessel	Today	Project To Date	
No. of Persons	5	0	1	5	11	60	
Man-Hours	120	0	24	120	262	1430	
No. On Today	0	0	0	0	0	0	
No. Off Today	0	0	0	0	0	0	

C3. SURVEY PROGRESS

Area of Activity	Percent Complete (at end of today)
Mobilisation	100
Patricia 2	100
Baleen 3	100
Pipe route	100
Sole 2	0
Demobilisation	0

C4. RE RUNS TODAY

C5. SUMMARY OF CHARGEABLE TIME

	Today (hours)			Total (hours)				
	Working	Transit	Downtime	Weather	Working	Transit	Downtime	Weather
Patricia 2 Baleen 3 Pipe route Sole 2	9	2	0	13	51.5	26.75	0	23.75

#### DD. HSE REPORT:

	Today	To Date
TOTAL HAZARDS/INCIDENTS REPORTED:	0	0
TOTAL MINOR INJURIES:	0	0
TOTAL LTI:	0	0
DETAILS OF INCIDENTS AND DRILLS TODAY:		0

From	То	Activity	Code	Hours
0000	0900	Pipe route development	OP	9
0900	1100	Transit to Sole	TR	2
1100	1700	Divert to Gabo Isl	STBY	6
1700	2400	At anchor in lee of Gabo Island	STBY	7

#### FF. TIME SUMMARY:

Rate	Code	Hours	Acc. Hours
Standby and/or Weather	STBY	13	23.75
Disputed Time	DT	0	0
Transit	TR	2	26.75
Downtime	TD	0	0
Working	OP	9	51.5
Mobilisation / Demobilisation	MOB/DEMO	0	42
Breakdown (Vessel)	VD/STBY	0	0
Other Nil Revenue Time	CT	0	0
	TOTAL	24	120

#### GG. EXPECTED WEATHER FOR NEXT 24 HOURS:

Continue SW 30 kn

#### HH. TECHNICAL & PARTY CHIEF'S COMMENTS:

Pipe route development completed.

#### II. CLIENT REPRESENTATIVE'S COMMENTS:

Nil

#### JJ. PROGRAMME FOR NEXT 24 HOURS:

Commence on Sole, weather permitting.

Signed for Thales GeoSolutions

Signed for OMV Australia Pty Ltd

Chris Shuttleworth (Party Chief)

Rick Glanville (Client Representative)

### **DAILY PROJECT REPORT**

#### **ALL TIMES ARE WST**

VESSEL	Blue Fin	PROJECT No.:	3349C1	REPORT No.:	7	DATE:	21 March 2002
To:	TGA Perth	Attn:	Operations - N	N. Mackay			Fax 08 9344 8783
То	OMV Australia Pty Ltd	Attn:	Ron King			Via:	TGA Perth
Copy:	TGGL Compass House	Attn:	Audrey Maysh	1		Via:	TGA Perth

AA. LOCATION AT 2359 hrs:

At anchor, lee of Gabo Isl., 37 33, S. 149 55, E

BB. WEATHER:

In lee.

CC. OPERATIONAL DATA:

C2. PERSONNEL

					Total		
	Racal	Sub-Cont	Client	Vessel	Today	Project To Date	
No. of Persons	5	0	1	5	11	71	
Man-Hours	120	0	24	120	262	1692	
No. On Today	0	0	0	0	0	0	
No. Off Today	0	0	0	0	0	0	

C3. SURVEY PROGRESS

Area of Activity	(at end of today)			
Mobilisation	100			
Patricia 2	100			
Baleen 3	100			
Pipe route	100			
Sole 2	0			
Demobilisation	0			

C4. RE RUNS TODAY

C5. SUMMARY OF CHARGEABLE TIME

	Today (hours)			Total (hours)				
	Working	Transit	Downtime	Weather	Working	Transit	Downtime	Weather
Patricia 2 Baleen 3 Pipe route Sole 2	0	0	0	24	51.5	26.75	0	47.75

	Today	To Date
TOTAL HAZARDS/INCIDENTS REPORTED:	0	0
TOTAL MINOR INJURIES:	0	0
TOTAL LTI:	0	0
DETAILS OF INCIDENTS AND DRILLS TODAY:		0

FromToActivityCodeHours17002400At anchor in lee of Gabo IslandSTBY24

#### FF. TIME SUMMARY:

Rate	Code	Hours	Acc. Hours
Standby and/or Weather	STBY	24	47.75
Disputed Time	DT	0	0
Transit	TR	0	26.75
Downtime	TD	0	0
Working	OP	0	51.5
Mobilisation / Demobilisation	MOB/DEMO	0	42
Breakdown (Vessel)	VD/STBY	0	0
Other Nil Revenue Time	CT	0	0
	TOTAL	24	144

#### GG. EXPECTED WEATHER FOR NEXT 24 HOURS:

SW 15-25 kn., dec 10-15kn, swell dec 3-4 to <2m

#### HH. TECHNICAL & PARTY CHIEF'S COMMENTS:

Anchor recover at midnight. ETA on location 0700hrs 220302.

#### II. CLIENT REPRESENTATIVE'S COMMENTS:

Nil

#### JJ. PROGRAMME FOR NEXT 24 HOURS:

Commence on Sole with analogue acquisition

Signed for Thales GeoSolutions

Signed for OMV Australia Pty Ltd

Chris Shuttleworth (Party Chief)

Rick Glanville (Client Representative)

### **DAILY PROJECT REPORT**

#### **ALL TIMES ARE WST**

VESSEL:	Blue Fin	PROJECT No.:	3349C1	REPORT No.:	8	DATE:	22 March 2002
To:	TGA Perth	Attn:	Operations - N	I. Mackay			Fax 08 9344 8783
То	OMV Australia Pty Ltd	Attn:	Ron King			Via:	TGA Perth
Copy:	TGGL Compass House	Attn:	Audrey Maysh	1		Via:	TGA Perth

AA. LOCATION AT 2359 hrs:

Sole 2 location

BB. WEATHER:

NE 20 kn, 1-2m seas

CC. OPERATIONAL DATA:

C2. PERSONNEL

					Total		
	Racal	Sub-Cont	Client	Vessel	Today	Project To Date	
No. of Persons	5	0	1	5	11	82	
Man-Hours	120	0	24	120	262	1954	
No. On Today	0	0	0	0	0	0	
No. Off Today	0	0	0	0	0	0	

C3. SURVEY PROGRESS

Area of Activity	(at end of today)
Mobilisation	100
Patricia 2	100
Baleen 3	100
Pipe route	100
Sole 2	50
Scout pipe route	0
Demobilisation	0

C4. RE RUNS TODAY

C5. SUMMARY OF CHARGEABLE TIME

	Today (hours)			Total (hours)				
	Working	Transit	Downtime	Weather	Working	Transit	Downtime	Weather
Patricia 2 Baleen 3 Pipe route Sole 2	16	0	0	8	67.5	26.75	0	55.75

	Today	To Date
TOTAL HAZARDS/INCIDENTS REPORTED:	0	0
TOTAL MINOR INJURIES:	0	0
TOTAL LTI:	0	0
DETAILS OF INCIDENTS AND DRILLS TODAY:		0

From	То	Activity	Code	Hours
0000	0800	En route Gabo Isl. To Sole 2 site	STBY	8
0800	1000	Deploy & tune equipment	OP	2
1000	2400	Analogue acquisition on Sole 2 site	OP	14

#### FF. TIME SUMMARY:

Rate	Code	Hours	Acc. Hours
Standby and/or Weather	STBY	8	55.75
Disputed Time	DT	0	0
Transit	TR	0	26.75
Downtime	TD	0	0
Working	OP	16	67.5
Mobilisation / Demobilisation	MOB/DEMO	0	42
Breakdown (Vessel)	VD/STBY	0	0
Other Nil Revenue Time	CT	0	0
	TOTAL	24	168

#### GG. EXPECTED WEATHER FOR NEXT 24 HOURS:

Cont. E/NE 10-15 kn

#### HH. TECHNICAL & PARTY CHIEF'S COMMENTS:

Scout line pipe route from Sole 2 location to meet line Patricia Ballen-15m contour added to programme

#### II. CLIENT REPRESENTATIVE'S COMMENTS:

Nil

#### JJ. PROGRAMME FOR NEXT 24 HOURS:

Continue on Sole with analogue acquisition, magnetometer search, coring & scout line, head Welshpool.

Signed for Thales GeoSolutions

Signed for OMV Australia Pty Ltd

Chris Shuttleworth (Party Chief)

Rick Glanville (Client Representative)

#### **DAILY PROJECT REPORT**

#### **ALL TIMES ARE WST**

VESSEL:	Blue Fin	PROJECT No.:	3349C1	REPORT No.:	9	DATE:	23 March 2002
			3375C1				
To:	TGA Perth	Attn:	Operations - N	N. Mackay			Fax 08 9344 8783
To	OMV Australia Pty Ltd	Attn:	Ron King			Via:	TGA Perth
Copy:	TGGL Compass House	Attn:	Audrey Maysh	1		Via:	TGA Perth

**LOCATION AT 2359 hrs:** AA.

On scout line 38 03 S, 148 53 E

BB. **WEATHER:** 

NE 20 kn, 1-2m seas

CC. OPERATIONAL DATA:
C2. PERSONNEI

OZ. TEROOM	1 V L L				Total		
	Racal	Sub-Cont	Client	Vessel	Today	Project To Date	
No. of Persons	5	0	1	5	11	93	
Man-Hours	120	0	24	120	262	2216	
No. On Today	0	0	0	0	0	0	
No. Off Today	0	0	0	0	0	0	

C3. SURVEY PROGRESS

Area of Activity	Percent Complete
Alea Of Activity	(at end of today)
Mobilisation	100
Patricia 2	100
Baleen 3	100
Pipe route	100
Sole 2	100
Scout pipe route	50
Demobilisation	0

C4. RE RUNS TODAY

C5. SUMMARY OF CHARGEABLE TIME

	Today (hours)			Total (hours)				
	Working	Transit	Downtime	Weather	Working	Transit	Downtime	Weather
Patricia 2 Baleen 3 Pipe route Sole 2	24	0	0	0	91.5	26.75	0	55.75

	Today	To Date
TOTAL HAZARDS/INCIDENTS REPORTED:	0	0
TOTAL MINOR INJURIES:	0	0
TOTAL LTI:	0	0
DETAILS OF INCIDENTS AND DRILLS TODAY:	(	0

From	То	Activity	Code	Hours
0000	1200	Analogue acquisition on Sole 2 site	OP	12
1200	1800	Magnetometer search for Sole 1 wellhead	OP	6
1800	2000	Coring	OP	2
2000	2400	Scout line, Sole to line north of Patricia Baleen	OP	4

#### FF. TIME SUMMARY:

Rate	Code	Hours	Acc. Hours
Standby and/or Weather	STBY	0	55.75
Disputed Time	DT	0	0
Transit	TR	0	26.75
Downtime	TD	0	0
Working	OP	24	91.5
Mobilisation / Demobilisation	MOB/DEMO	0	42
Breakdown (Vessel)	VD/STBY	0	0
Other Nil Revenue Time	CT	0	0
	TOTAL	24	216

#### GG. EXPECTED WEATHER FOR NEXT 24 HOURS:

Cont. E/NE 10-15 kn

#### HH. TECHNICAL & PARTY CHIEF'S COMMENTS:

ETA Port Welshpool now delayed to approx 1600 hrs 24/03/02

#### II. CLIENT REPRESENTATIVE'S COMMENTS:

Sole 1 magnetometer runs proved location of seabed disturbance as observed on sidescan to be wellhead position.

#### JJ. PROGRAMME FOR NEXT 24 HOURS:

Complete scout line, head Port Welshpool for data drop & discharge magnetometers

Signed for Thales GeoSolutions

Signed for OMV Australia Pty Ltd

Chris Shuttleworth (Party Chief)

Rick Glanville (Client Representative)









## **INTEQ**

Company OMV Australia Pty Ltd

Well Patricia-2

Permit VIC/L21

Region Gippsland Sub Basin

**Designation** Field Development

Coordinates 038° 01' 39.95" S Lat

148° 26' 57.78" E Long

Ref Elevation RT 25 m

Total Depth 1385 mRT

Contractor Diamond Offshore General Co.

Rig MODU Ocean Bounty

Type Semi-Submersible

**LOG INTERVAL** 

Depth 77.5 mRT to 1385 mRT

Date 20 – 28 June 2002

Scale 1:500

Data Engineers R. Tadiar, J. Wilson, R. Tena

Loggers E. Spence, M. Dixon, T. Liang

#### **INTEQ LOG SUITE**

Formation Evaluation Pressure Data Plot Pressure Summary Plot

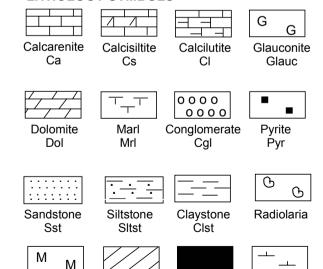
#### **ABBREVIATIONS**

NB	New Bit	MD	Measured Depth
RR	Rerun Bit	GPM	Gallons per Min
СВ	Core Bit	PP	Pump Pressure
WOB	Weight on Bit	MW	Mud Weight sg
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FLC	Flow Check	F	Filtrate - API
CR	Circulate Returns	FC	Filter Cake
PR	Poor Returns	PV	Plastic Viscosity
NR	No Returns	ΥP	Yield Point
BG	Background Gas	Sol	Solids %
WTG	Wiper Trip Gas	Sd	Sand %
TG	Trip Gas	CI	Chlorides
POG	Pumps Off Gas	RM	Mud Resistivity
CG	Connection Gas	RMF	Filtrate Resistivty
SG	Swab Gas	TVD	True Vertical Depth

#### LITHOLOGY SYMBOLS

Mica

Mic



Cement

Cmt

Coal

С

Calc Claystone

CalcClst



Permanent Datum - LAT Sealevel 25mRT 52.5m (LAT)

Seabed @ 77.5m

Drilling Fluid: Seawater / Hi-vis sweeps

36" hole to 111.5m 30" x 20" csg set @ 111.5m

Drilling Fluid: Seawater / Hi-vis sweeps

17.5" hole to 334m 13.375" csg set @ 327.1m

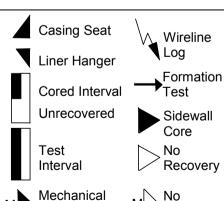
Drilling Fluid: KCI / PHPA / Glycol

12.25" hole to 884m 9.625" csg set @ 872.3m

Drilling Fluid: FLO - PRO

8.5" hole to 1385m TD

Recovery



Sidewall Core

Sliding while drilling



## FORMATION EVALUATION LOG

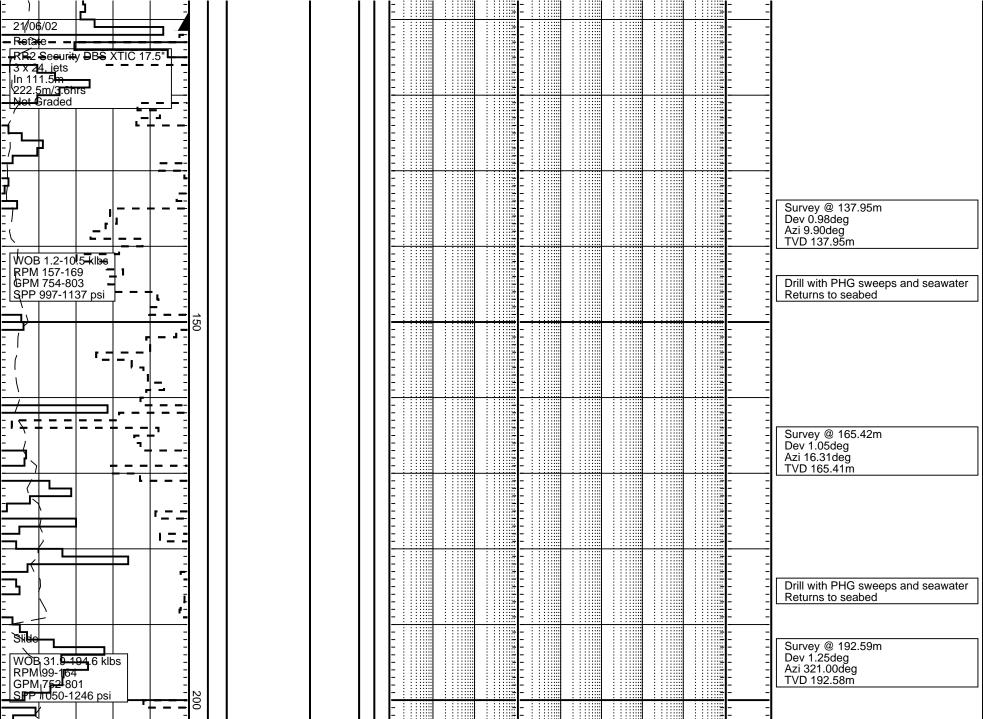
CHROMATOGRAPH

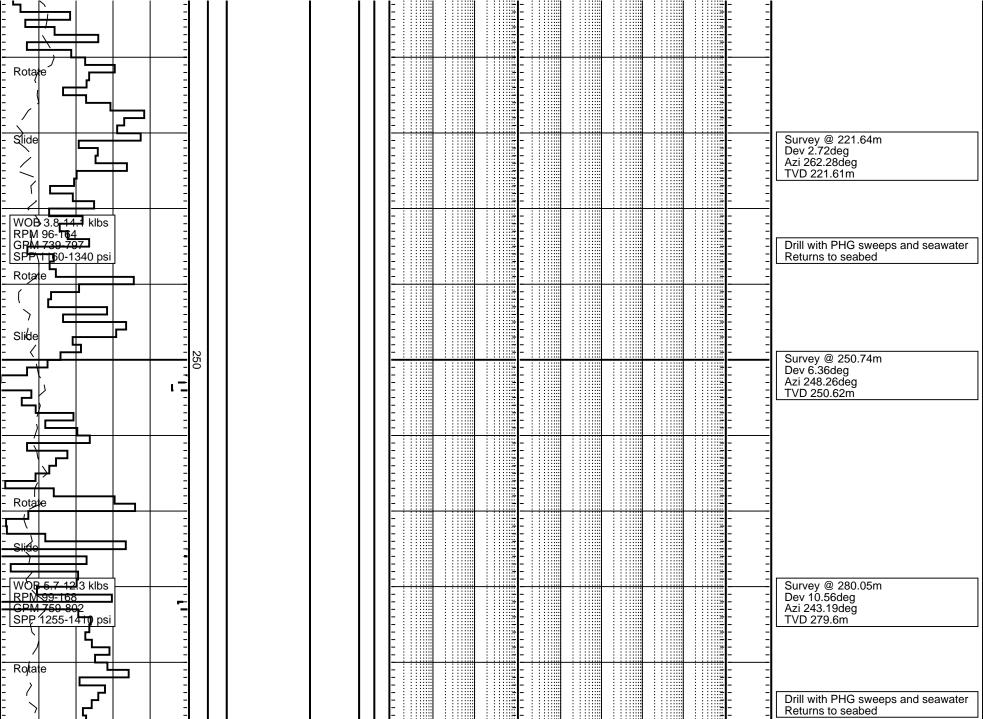
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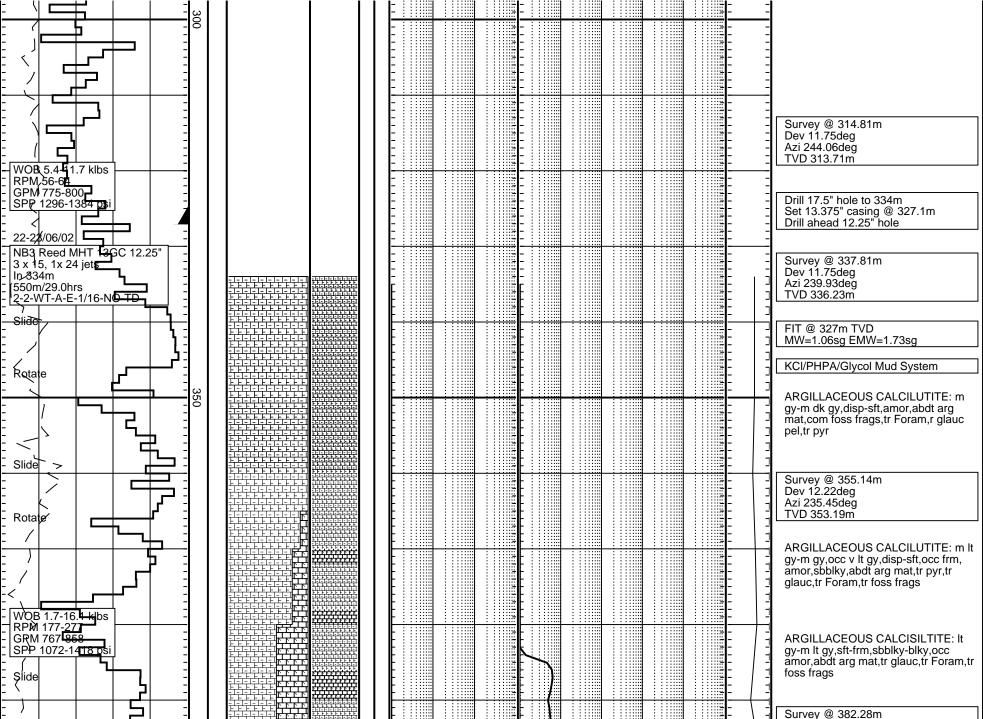
**OMV** Australia

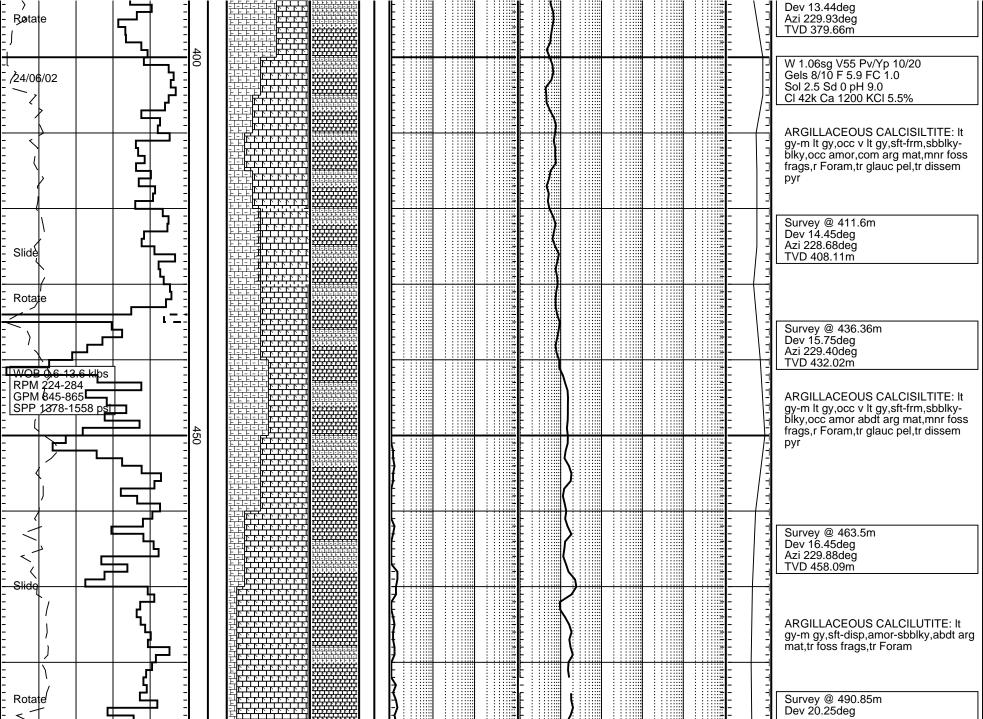
REMARKS

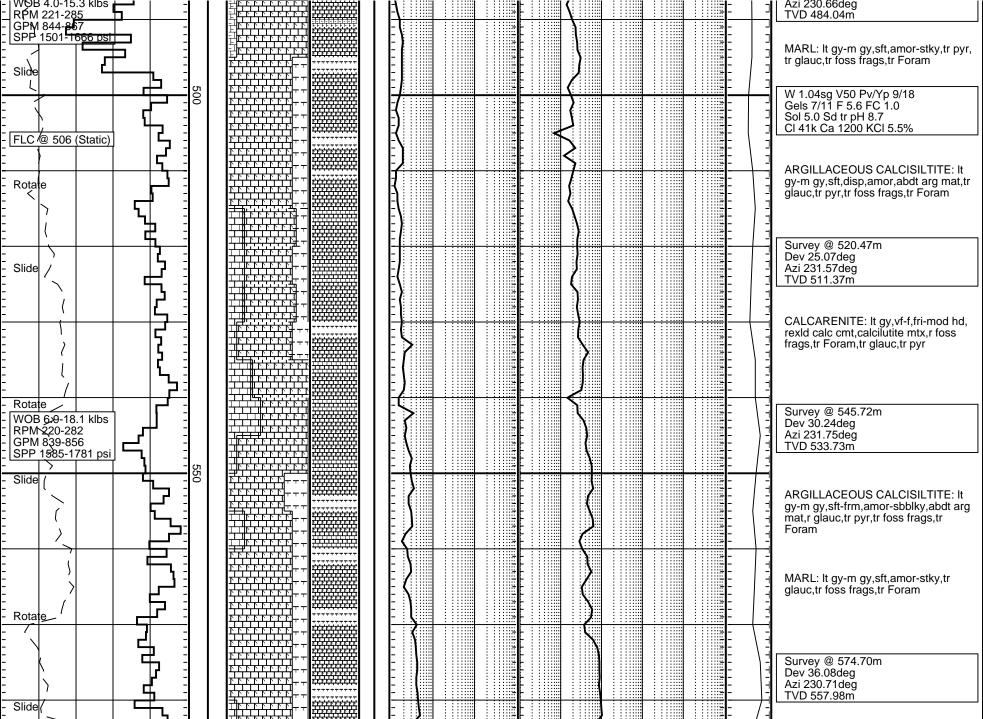
Patricia-2 SCALE: 1:500 TOTAL GAS

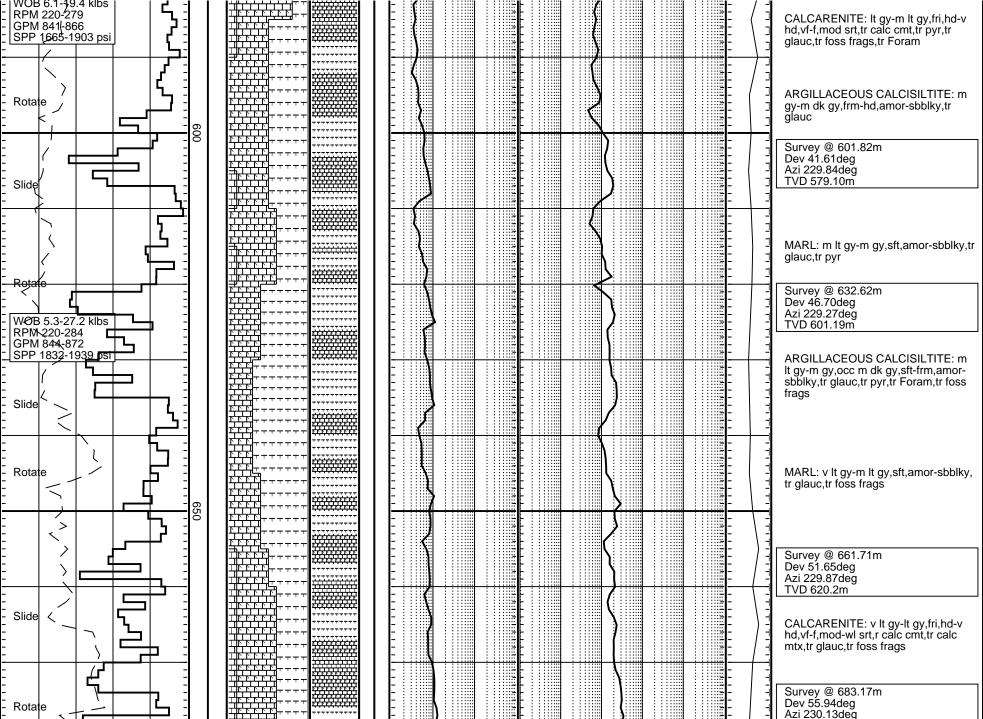


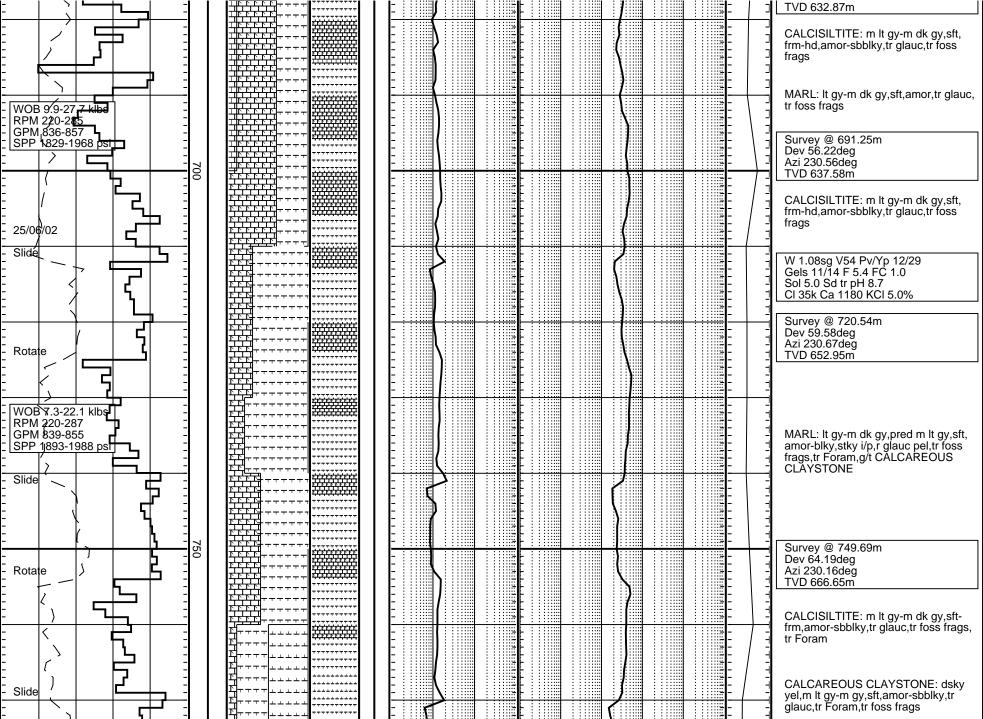


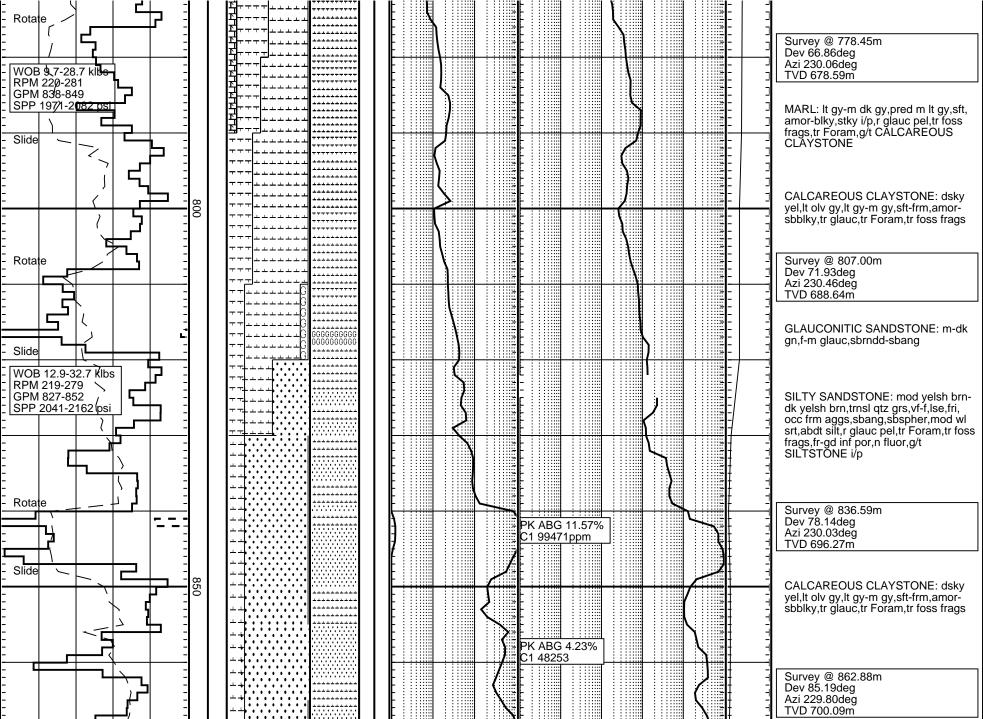


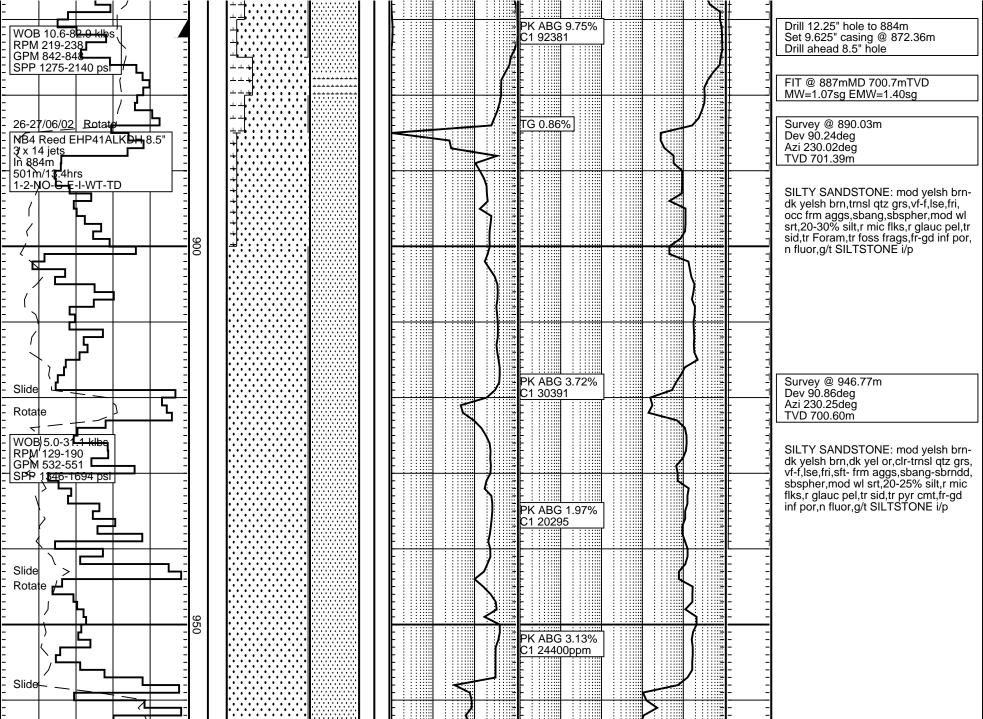


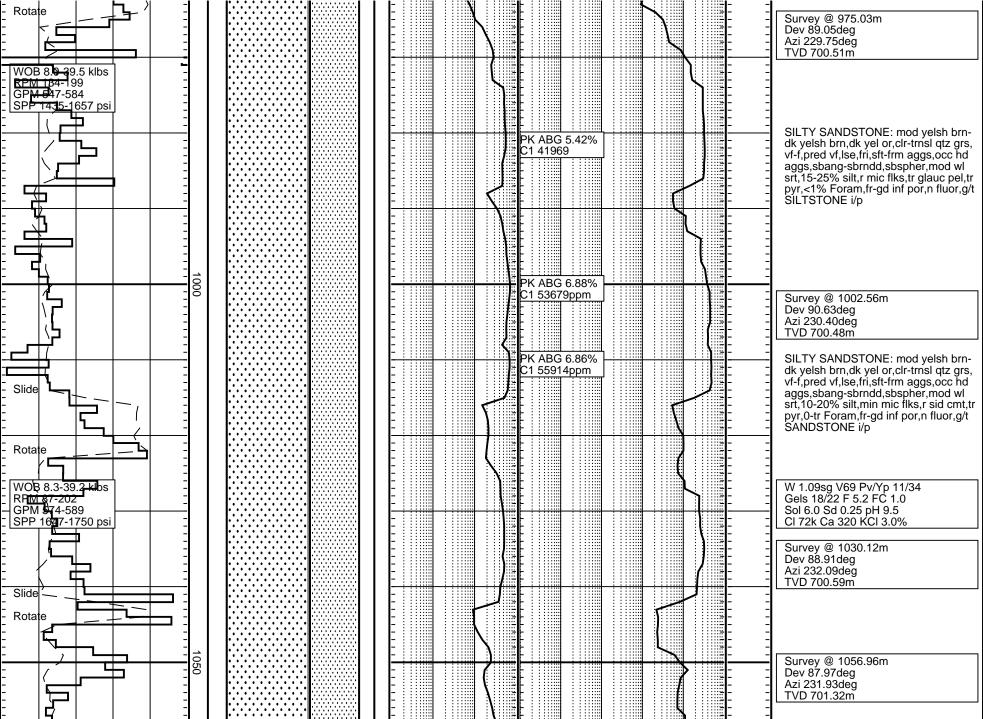


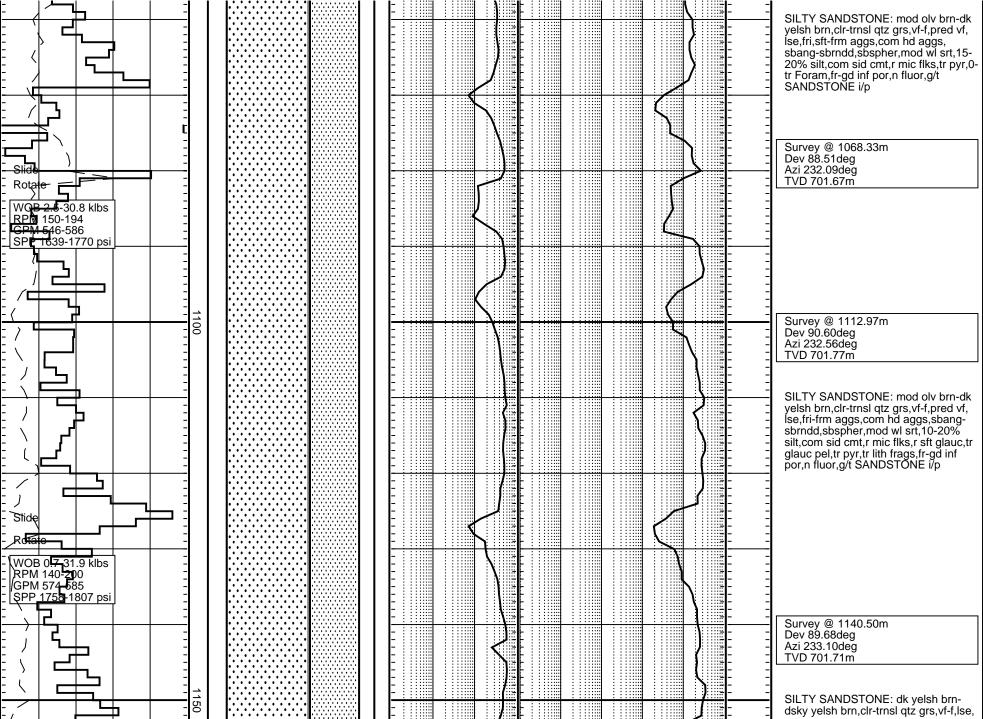


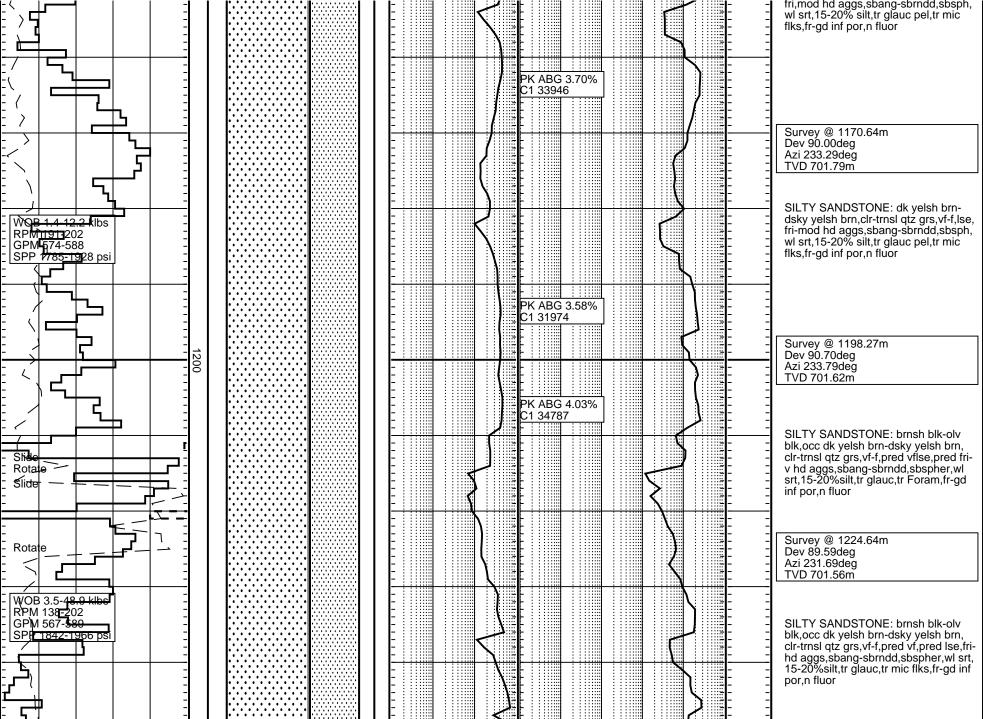


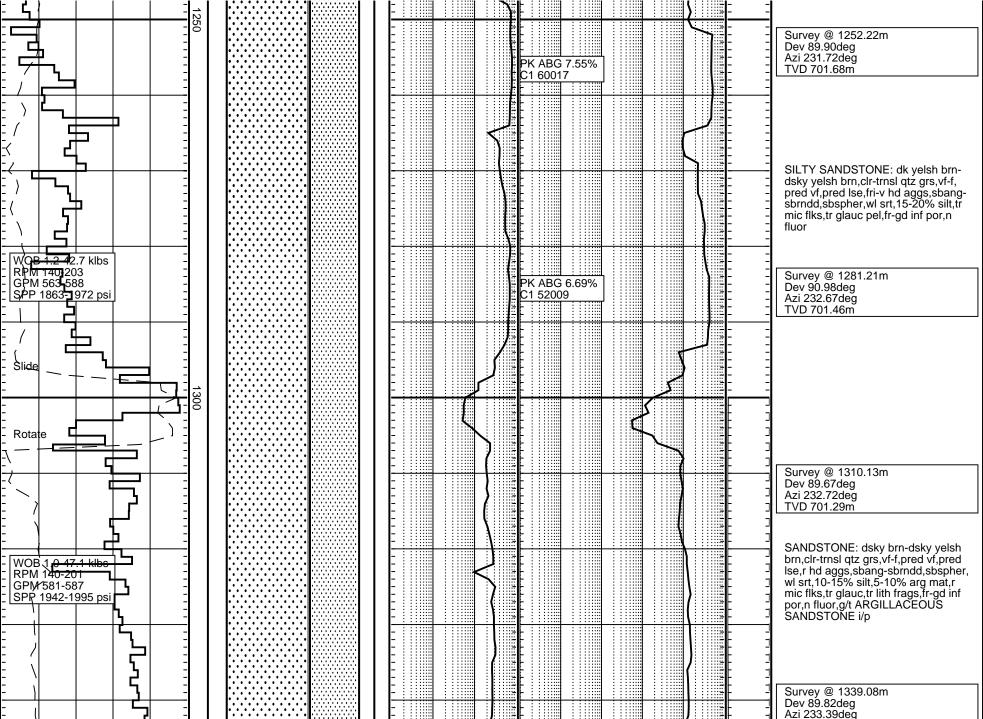


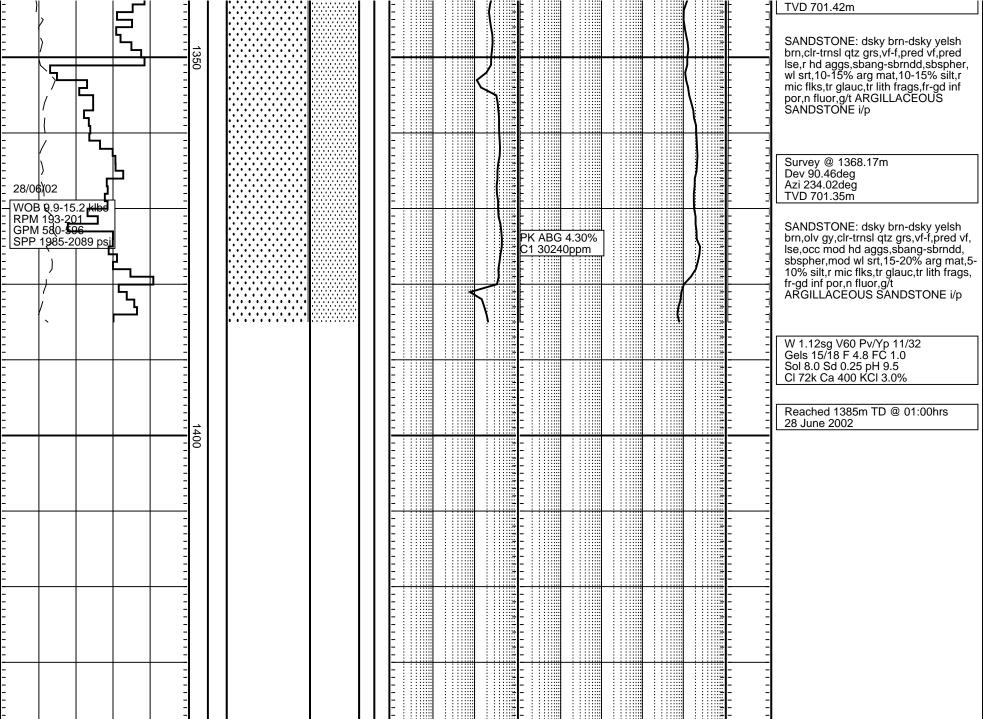












WOB (klb) 100 ROP (m/hr) 100 ROP (Backup) (m/hr) 100 200			0.01	Total Gas %	CHROMATOGRAPH Methane EthanePropaneIso-ButaneNormal-ButaneIso-PentaneNormal-Pentane (ppm)10	









Company OMV Australia Pty Ltd

Well Patricia-2

Permit VIC/L21

Region Gippsland Sub Basin

**Designation** Field Development

Coordinates 038° 01' 39.95" S Lat 148° 26' 57.78" E Long

Ref Elevation RT 25 m

Total Depth 1385 mRT

Contractor Diamond Offshore General Co.

Rig MODU Ocean Bounty

Type Semi-Submersible

**LOG INTERVAL** 

Depth 77.5 mRT to 1385 mRT

Date 20 – 28 June 2002

Scale 1:500

Data Engineers R. Tadiar, J. Wilson, R. Tena

Loggers E. Spence, M. Dixon, T. Liang

#### **INTEQ LOG SUITE**

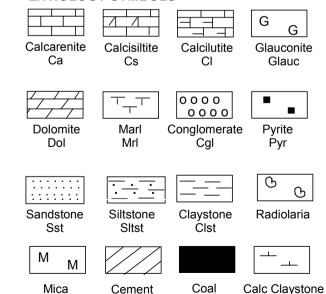
Formation Evaluation Pressure Data Plot Pressure Summary Plot

## **ABBREVIATIONS**

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FLC	Flow Check	F	Filtrate - API
CR	Circulate Returns	FC	Filter Cake
PR	Poor Returns	PV	Plastic Viscosity
NR	No Returns	ΥP	Yield Point
BG	Background Gas	Sol	Solids %
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POG	Pumps Off Gas	RM	Mud Resistivity
CG	Connection Gas	RMF	Filtrate Resistivty
SG	Swab Gas	TVD	True Vertical Depth

## LITHOLOGY SYMBOLS

Mic



Cmt

С

CalcClst



Permanent Datum - LAT Sealevel 25mRT 52.5m (LAT)

Seabed @ 77.5m

Drilling Fluid: Seawater / Hi-vis sweeps

36" hole to 111.5m 30" x 20" csg set @ 111.5m

Drilling Fluid: Seawater / Hi-vis sweeps

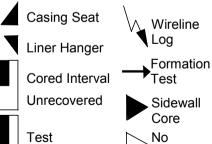
17.5" hole to 334m 13.375" csg set @ 327.1m

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12.25" hole to 884m 9.625" csg set @ 872.3m

Drilling Fluid: FLO - PRO

8.5" hole to 1385m TD



Test Interval

Recovery

Mechanical Sidewall Core

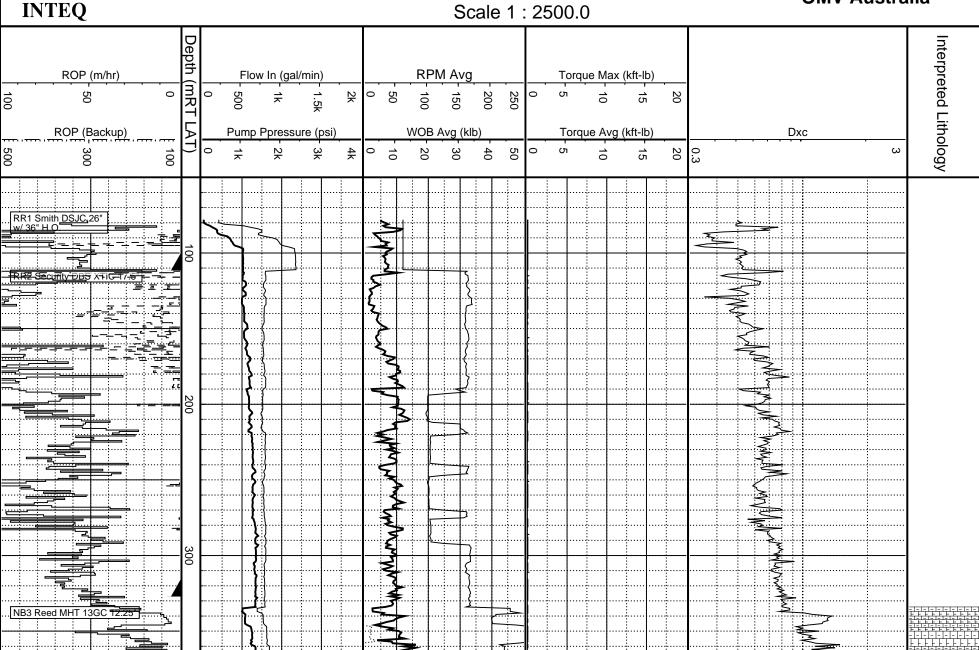
и No Recovery

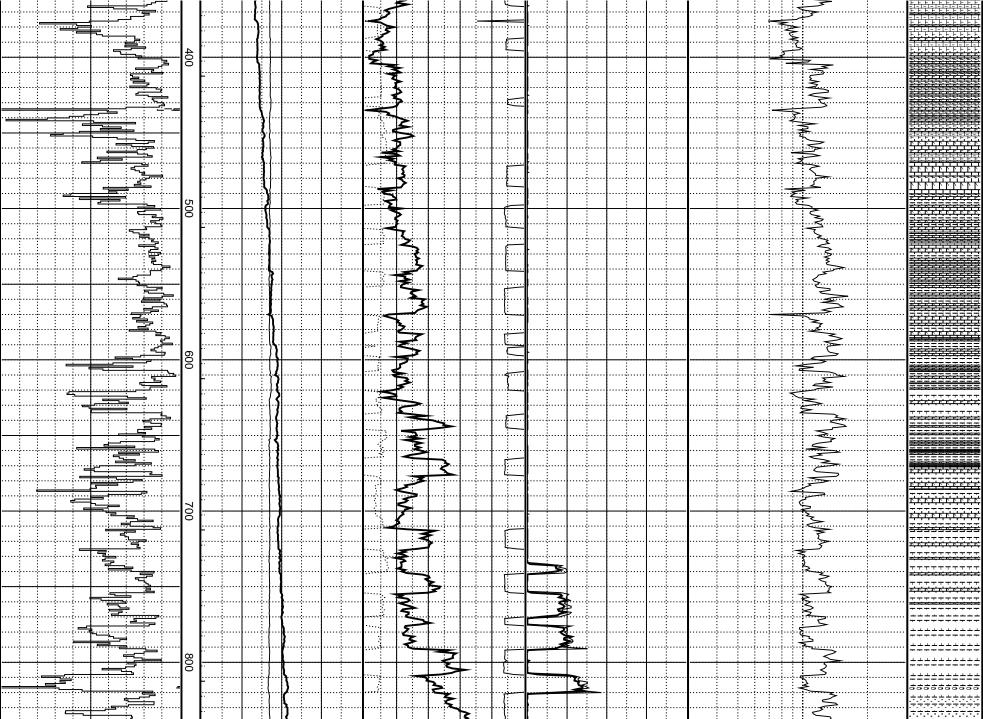


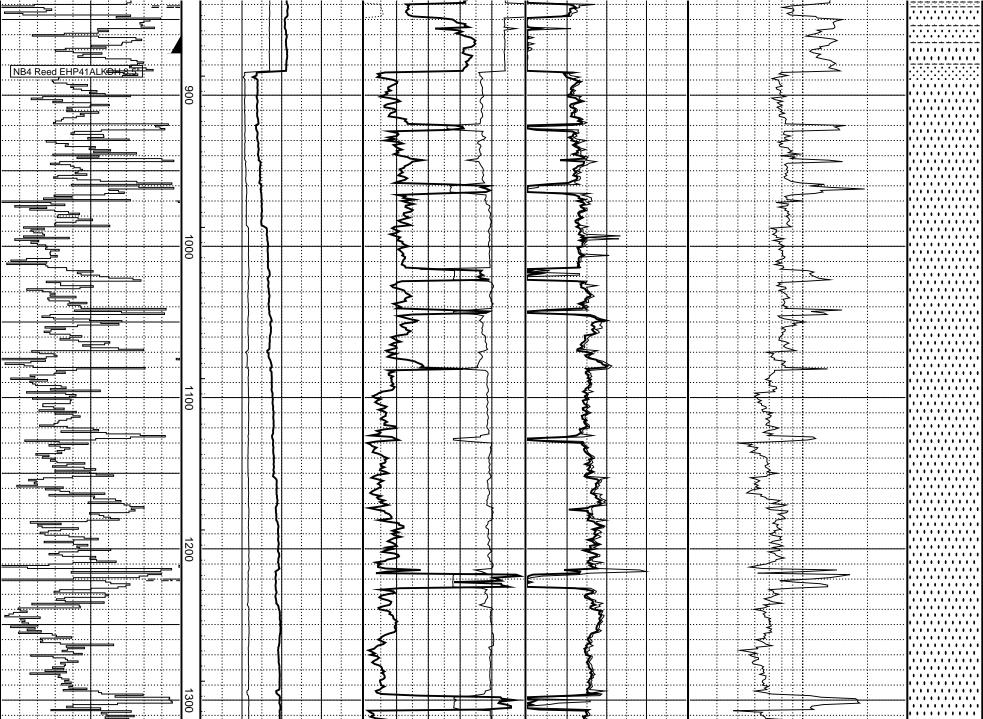
## **Drilling Data Plot**

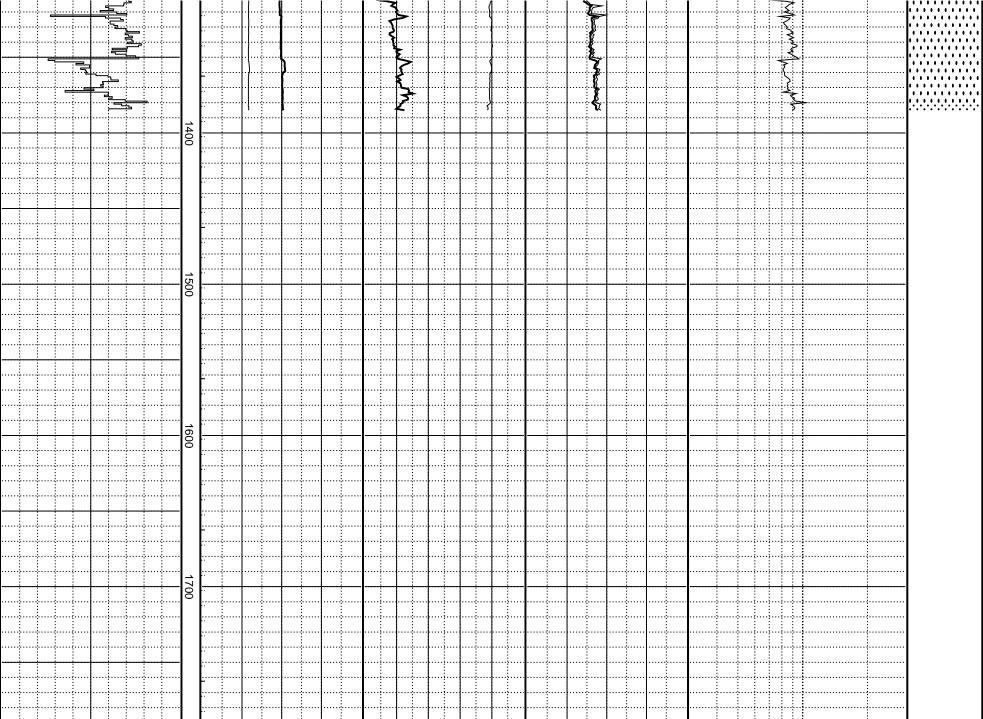
Patricia-2











÷ 500	100	
ROP (Backup) 30	- 50	ROP (m/hr)
100	0	
AT)	mRT L	Depth (mRT
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Pump <del>*</del>	500	Flov
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10	50	
WOB 2 20	100	RPI
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lb) 40	200	)
50	250	
0	0	
σ <sub>1</sub>	Ω	Torqı
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Company OMV Australia Pty Ltd

Well Patricia-2

Permit VIC/L21

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Rig MODU Ocean Bounty

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Depth 77.5 mRT to 1385 mRT

Date 20 – 28 June 2002

Scale 1:500

Data Engineers R. Tadiar, J. Wilson, R. Tena

Loggers E. Spence, M. Dixon, T. Liang

#### **INTEQ LOG SUITE**

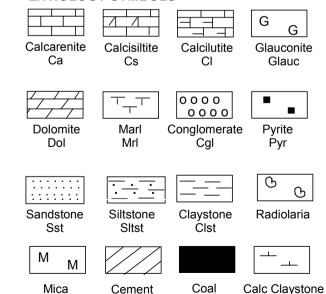
Formation Evaluation Pressure Data Plot Pressure Summary Plot

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Mic



Cmt

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CalcClst



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Seabed @ 77.5m

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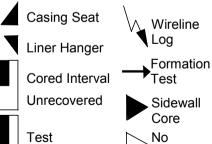
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Drilling Fluid: FLO - PRO

8.5" hole to 1385m TD



Test Interval

Recovery

Mechanical Sidewall Core

и No Recovery

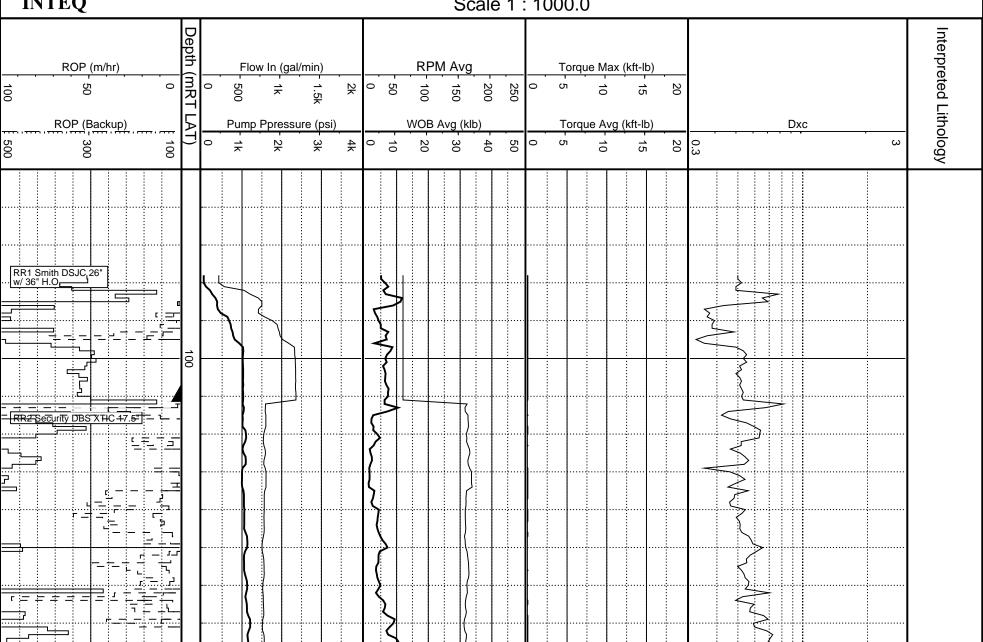


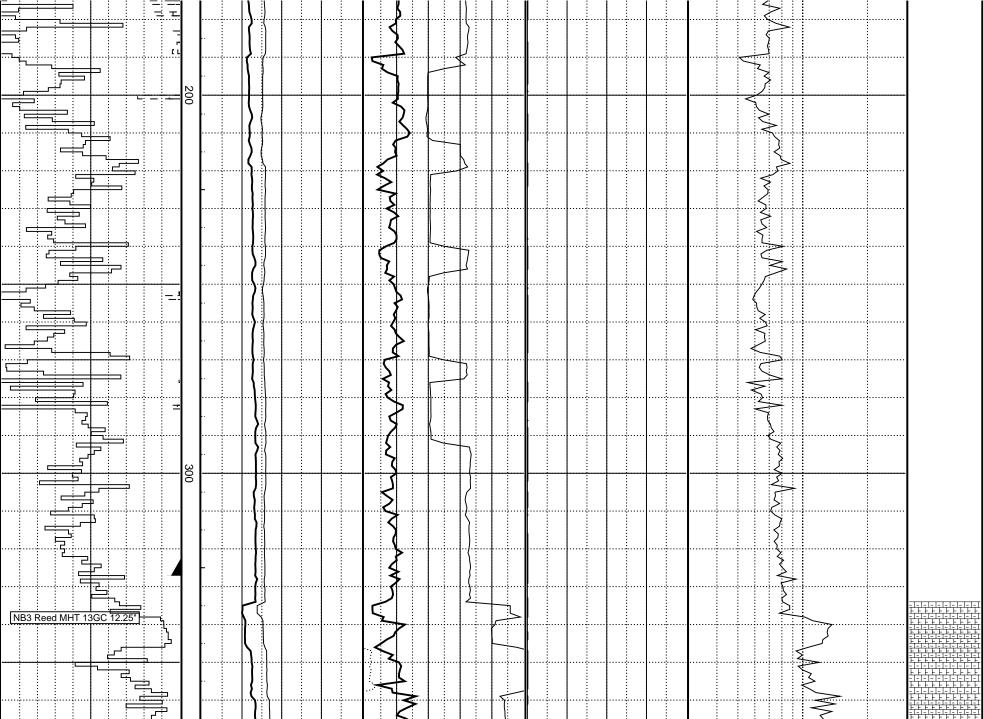
## **Drilling Data Plot**

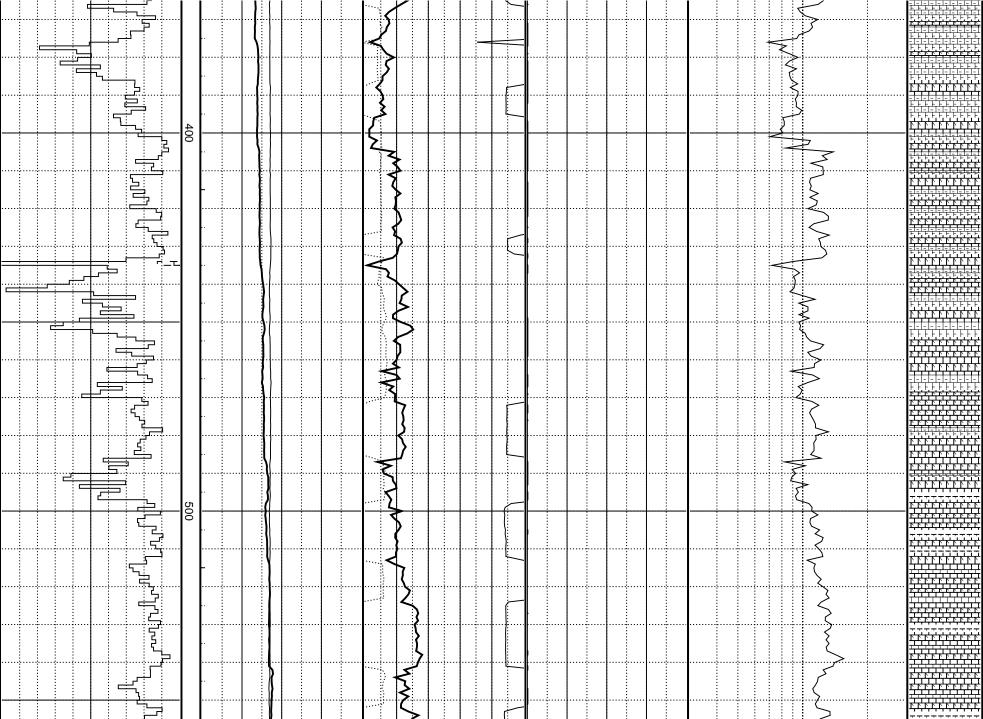
Patricia-2

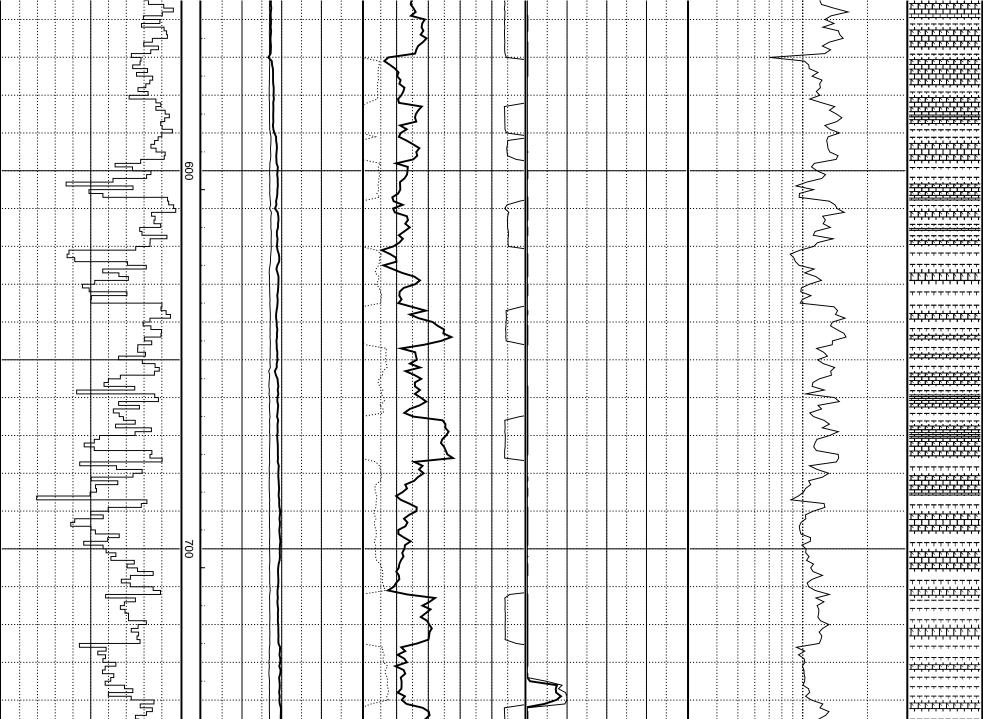
**OMV** Australia

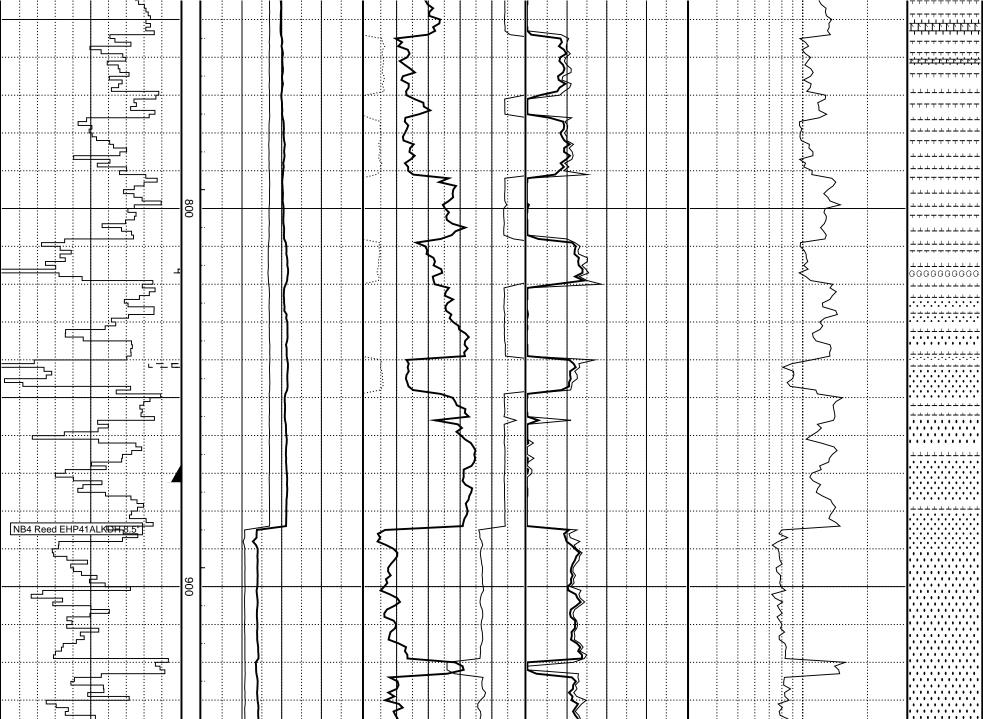
Scale 1: 1000.0

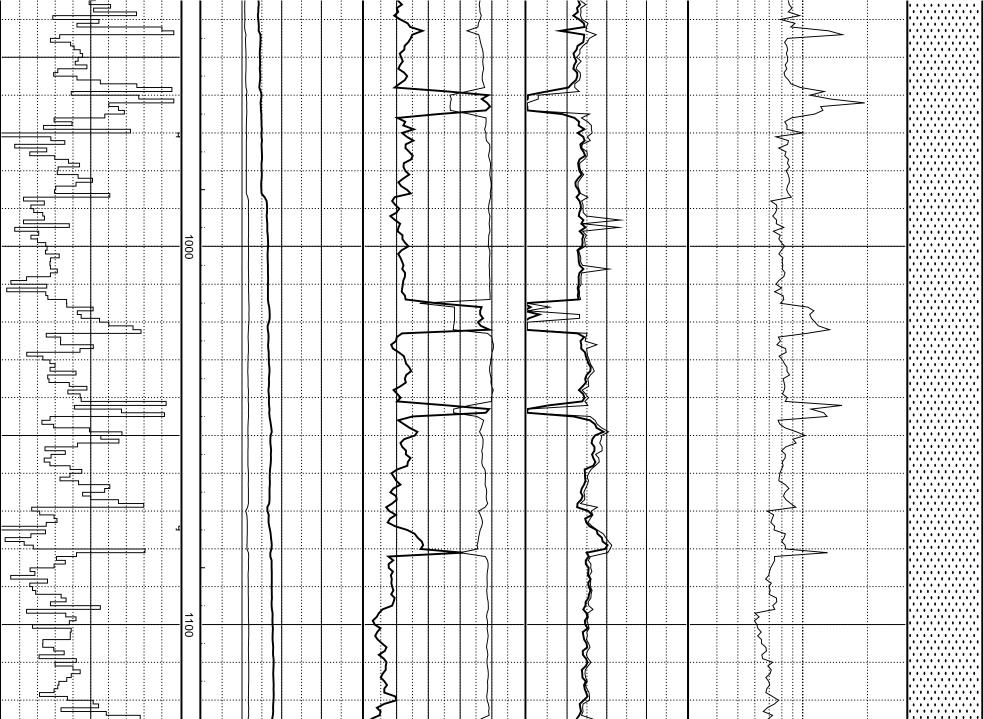


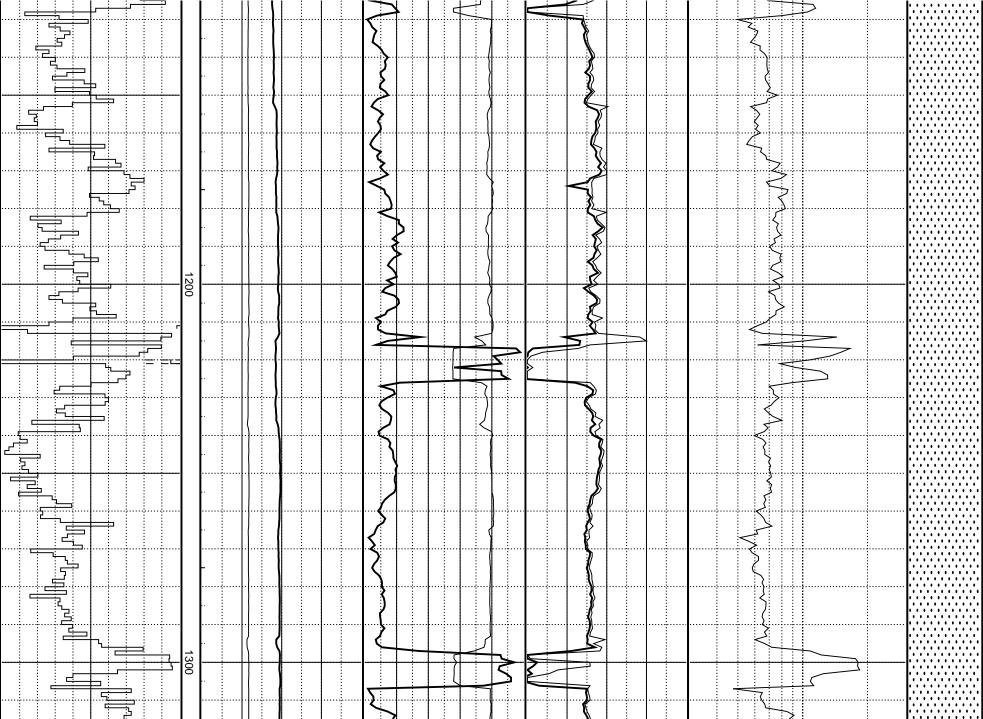


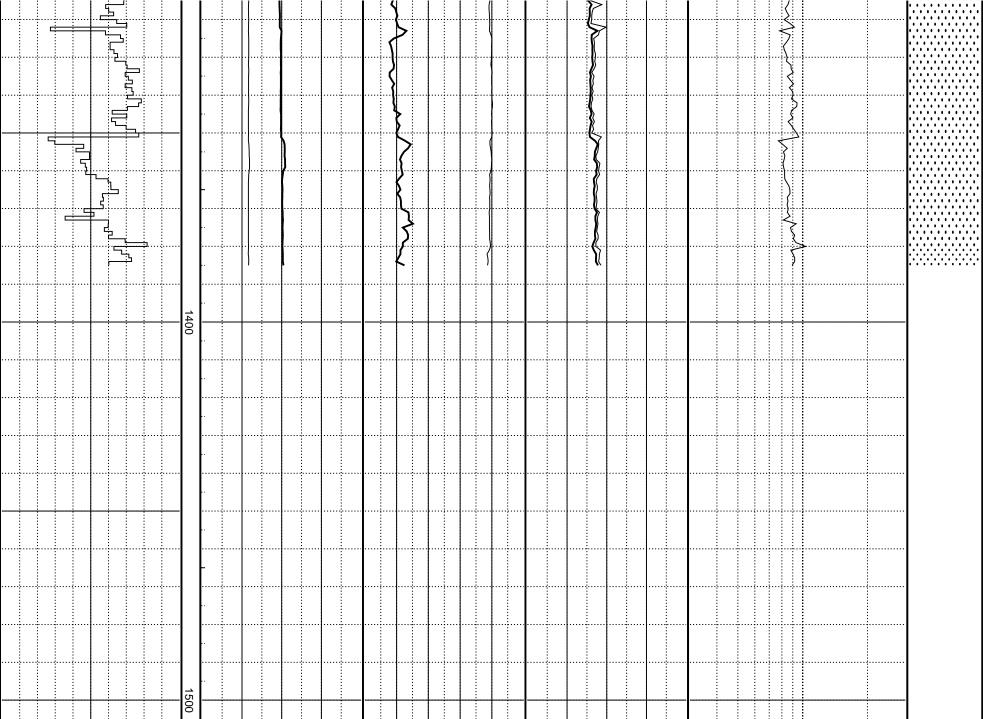












÷ 500	100	
ROP (Backup) 30	- 50	ROP (m/hr)
100	0	
AT)	mRT L	Depth (mRT
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Pump <del>*</del>	500	Flov
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	2k	
0	0	
10	50	
WOB 2 20	100	RPI
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lb) 40	200	)
50	250	
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σ <sub>1</sub>	Ω	Torqı
ue Avg	10	ue Max
(kft-lb)	15	(kft-lb)
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Company OMV Australia Pty Ltd

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Formation Evaluation Pressure Data Plot Pressure Summary Plot

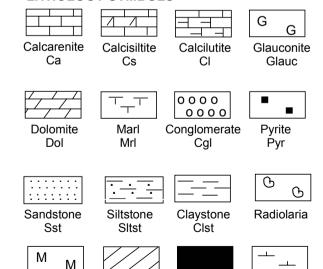
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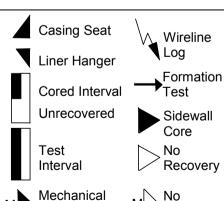
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8.5" hole to 1385m TD

Recovery

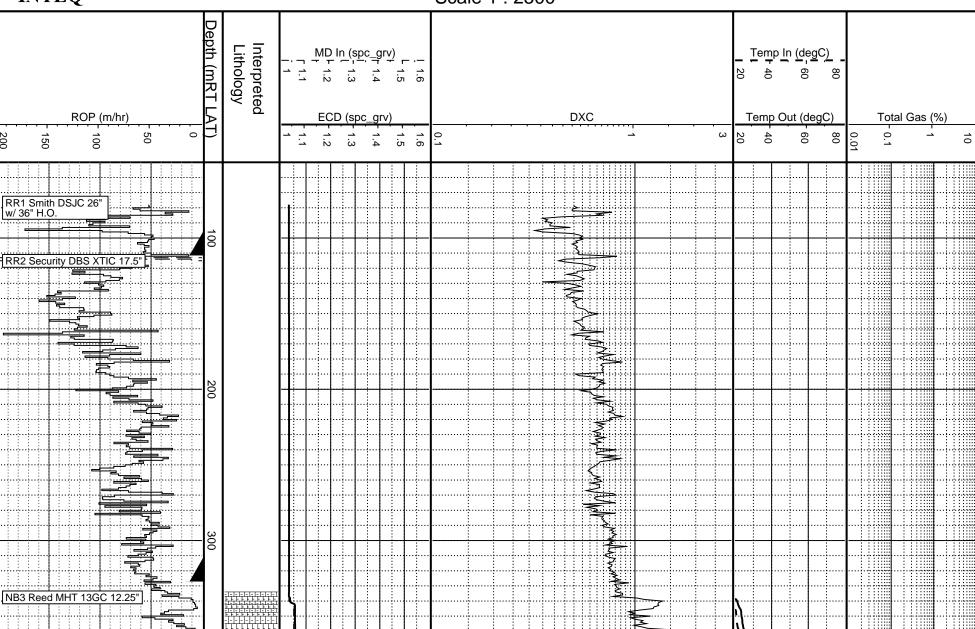


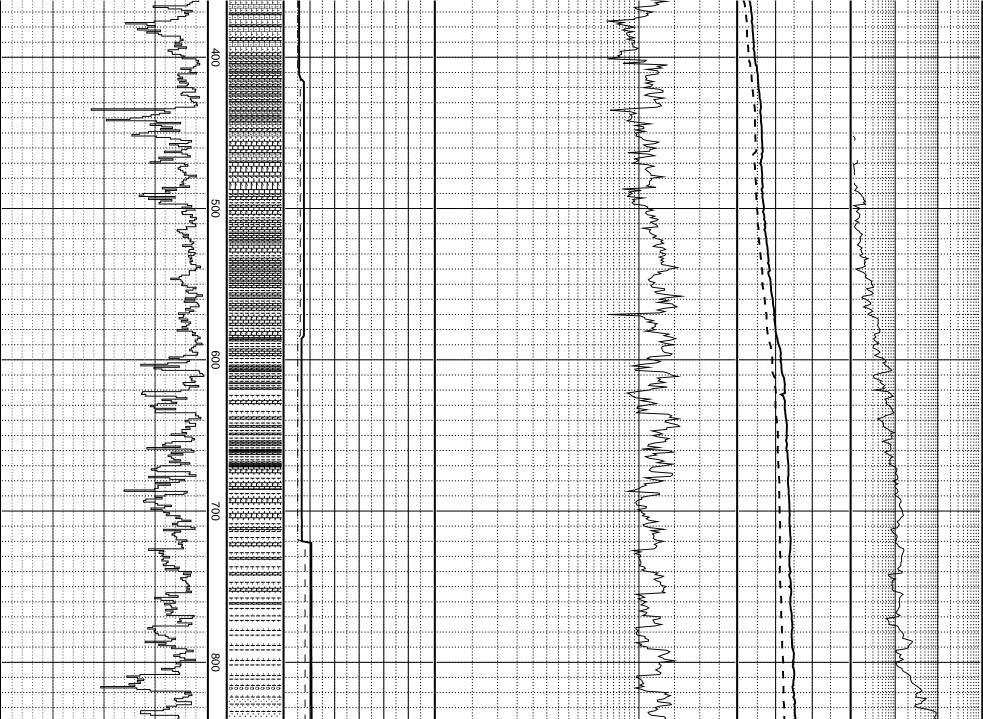
Sidewall Core

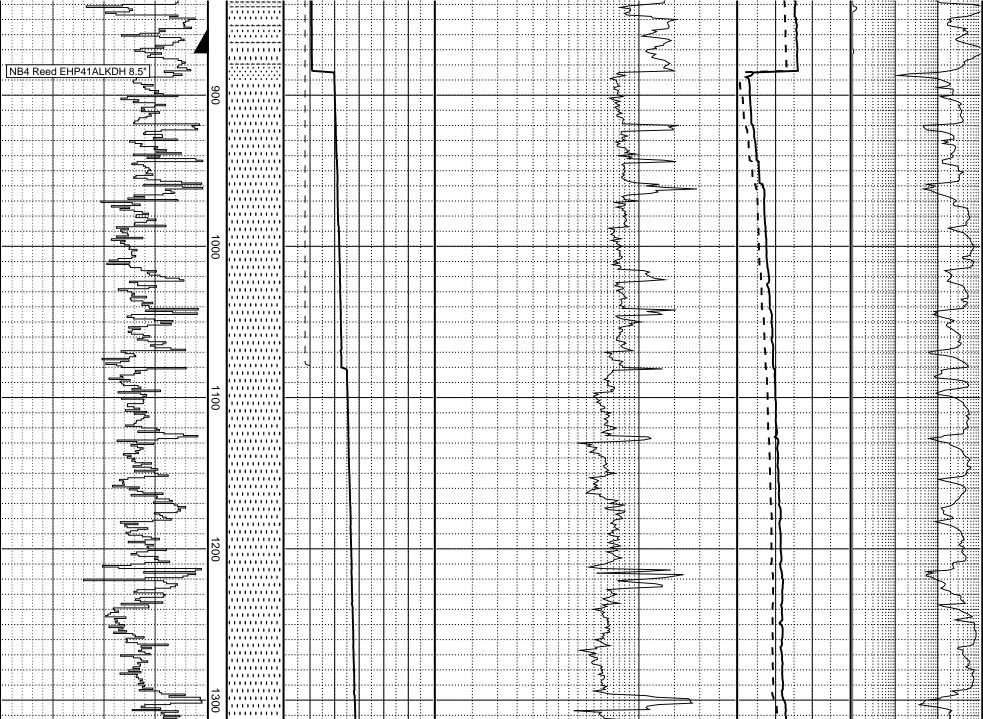
BAKER HUGHES INTEQ

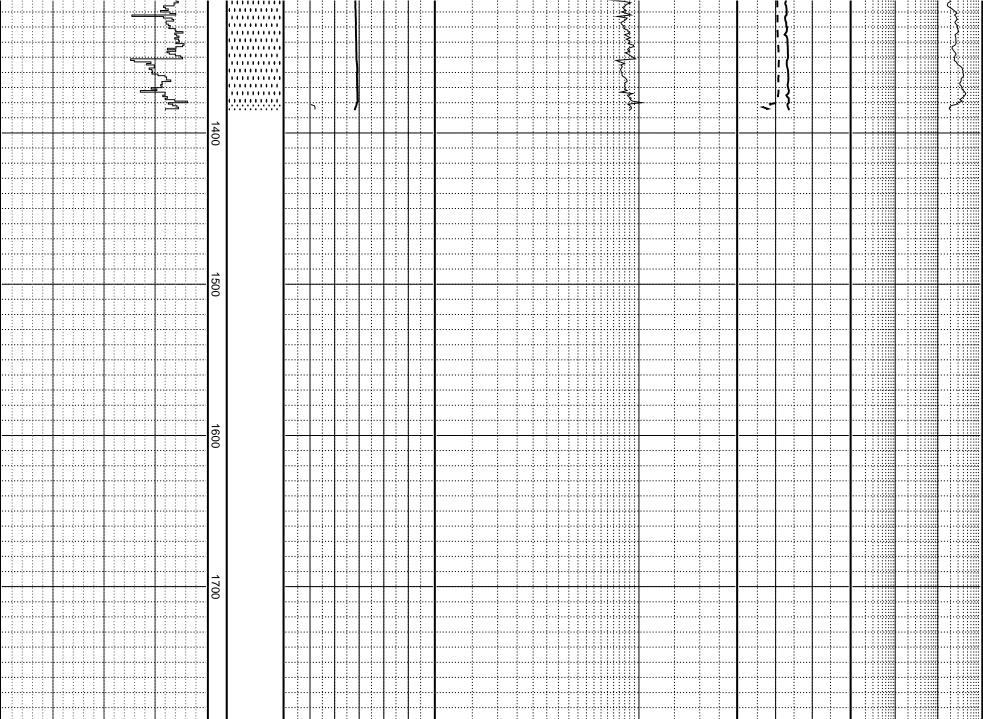
## **Pressure Data Plot**

Patricia-2 Scale 1 : 2500 OMV Australia









. 200
- 150
ROP (r
m/hr)
50
line 0
Depth (mRT LAT)
11 11
1.1
1.2 ECD
(spc_
grv)
L 1.6 . 1.6 . 1.5
χα
(C
ω
20 T
40
ut (deg
80
0.01
Total
Gas (%) 
10
-









Company OMV Australia Pty Ltd

Well Patricia-2

Permit VIC/L21

Region Gippsland Sub Basin

**Designation** Field Development

Coordinates 038° 01' 39.95" S Lat

148° 26' 57.78" E Long

Ref Elevation RT 25 m

Total Depth 1385 mRT

Contractor Diamond Offshore General Co.

Rig MODU Ocean Bounty

Type Semi-Submersible

**LOG INTERVAL** 

Depth 77.5 mRT to 1385 mRT

Date 20 – 28 June 2002

Scale 1:500

Data Engineers R. Tadiar, J. Wilson, R. Tena

Loggers E. Spence, M. Dixon, T. Liang

#### **INTEQ LOG SUITE**

Formation Evaluation Pressure Data Plot Pressure Summary Plot

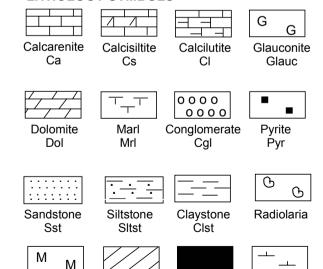
## **ABBREVIATIONS**

NB	New Bit	MD	Measured Depth
RR	Rerun Bit	GPM	Gallons per Min
СВ	Core Bit	PP	Pump Pressure
WOB	Weight on Bit	MW	Mud Weight sg
RPM	Revs per Minute	FV	Funnel Viscosity
FLC	Flow Check	F	Filtrate - API
CR	Circulate Returns	FC	Filter Cake
PR	Poor Returns	PV	Plastic Viscosity
NR	No Returns	ΥP	Yield Point
BG	Background Gas	Sol	Solids %
WTG	Wiper Trip Gas	Sd	Sand %
TG	Trip Gas	CI	Chlorides
POG	Pumps Off Gas	RM	Mud Resistivity
CG	Connection Gas	RMF	Filtrate Resistivty
SG	Swab Gas	TVD	True Vertical Depth

## LITHOLOGY SYMBOLS

Mica

Mic



Cement

Cmt

Coal

С

Calc Claystone

CalcClst



Permanent Datum - LAT Sealevel 25mRT 52.5m (LAT)

Seabed @ 77.5m

Drilling Fluid: Seawater / Hi-vis sweeps

36" hole to 111.5m 30" x 20" csg set @ 111.5m

Drilling Fluid: Seawater / Hi-vis sweeps

17.5" hole to 334m 13.375" csg set @ 327.1m

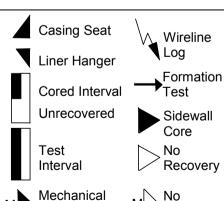
Drilling Fluid: KCI / PHPA / Glycol

12.25" hole to 884m 9.625" csg set @ 872.3m

Drilling Fluid: FLO - PRO

8.5" hole to 1385m TD

Recovery



Sidewall Core



# PRESSURE SUMMARY PLOT Patricia-2

PRESSURE GRADIENTS



SCALE: 1:5000.0

LITHOLOGY VERTICAL DEPTH (m) Overburden Gradient Fracture Pressure Gradient **Effective Circulating Density Estimated Pore Pressure Gradient** 0.5 1.5 2.5 FIT@327mRT 325.7mTVD 1.73sg EMW 500

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	 	 			 	 	 	 	 <b>4</b> ∓@8	72mR	F-707.7	mTVD	1.40s	EMW		 	 毉
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PRESSURE GRADIENTS  Overburden Gradient												
Fracture Pressure Gradient Effective Circulating Density												
Estimated Pore Pressure Gradient           0.5         1         1.5         2         2.5         3												