REPORT FOR THE OCEAN PATRIOT RIG MOVE TO CULVERIN-1 LOCATION

FUGRO SURVEY JOB NO. - P0373

Client : Upstream Petroleum Pty Ltd
342 Flinders Street
Melbourne
Victoria 3000

Date of Survey : 03 November – 07 November 2005
09 December – 17 December 2005

0	Final			28 December 2005
Rev	Description	Checked	Approved	Date

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ABSTRACT

Between 03 and 07 November 2005, and 09 and 17 December 2005, Fugro Survey Pty Ltd (Fugro) provided equipment and personnel for the semi-submersible Mobile Offshore Drilling Unit Ocean Patriot rig move from Fur Seal-1 to Culverin-1 location in Permit VIC/P56 in Bass Strait, Victoria.

Surface positioning was provided by Fugro's Multiple Reference Differential Global Positioning System (MRDGPS) and Starfix Seis Navigation Software.

The final position for the drill stem derived from DGPS observations at Culverin-1 location is:

Location Name:	**Culverin-1**
Easting (m):	644437.3
Northing (m):	5748256.4
Latitude:	38° 24' 08.14" S
Longitude:	148° 39' 14.92" E
Rig Heading:	272.54° (True)

This position is 7.0m on a bearing of 337.0° (Grid) from the proposed Culverin-1 location.

All coordinates in this report are referenced to the Geocentric Datum of Australia 1994 (GDA94) and projected onto the Map Grid of Australia 1994 (MGA94) Zone 55 (CM 147° E), unless otherwise stated.

All times in this report are quoted in Australian Eastern Daylight-Saving Time (EDST) unless otherwise stated.

1.0 INTRODUCTION

Fugro Survey Pty Ltd (Fugro) was contracted by Upstream Petroleum Pty Ltd (Upstream) to provide navigation and positioning survey services on board the semi-submersible Mobile Offshore Drilling Unit (MODU) *Ocean Patriot*, during the rig move to Culverin-1 location in Permit VIC/P56 in Bass Strait, Victoria.

A general location diagram is shown as Figure 1-1.

This report details the equipment used, survey parameters adopted, procedures employed and the results achieved. A section on safety is included in Section 3.0 of this report.

1.1 Scope of Work

Personnel and equipment were provided on a 24 hour per day basis for:

- Calibration and function testing of the survey equipment on board the rig and the two Anchor Handling Vessels (AHVs).
- Surface navigation for the *Ocean Patriot*, using Fugro's MRDGPS (Multi Reference DGPS) and Starfix Spot DGPS services.
- Surface navigation for AHVs during anchoring operations, using Starfix Spot DGPS.
- Final rig surface positioning for the Culverin-1 location using DGPS observations.
- Final reporting of the positioning results.

1.2 Sequence of Events

On 03 November 2005, J. Cohen and S. Bradley departed Perth for the *Ocean Patriot*. After equipment calibrations, the anchors were recovered at Fur Seal-1 location on 05 November 2005, and the rig tow to Culverin-1 commenced. However, #4 anchor winch malfunctioned during anchor deployment at Culverin-1. The rig was towed to Eden Bay, NSW, for repairs and Fugro personnel returned to Perth.

On 10 December 2005, R. Risah joined the rig while the rig was anchored at Eden Bay. Anchors were recovered at Eden Bay anchorage and the rig was towed to Culverin-1 on 12 December 2005. M. Karklin joined the rig whist undertow to Culverin-1 location.

Between 13 and 15 December 2005, the rig was positioned on location at Culverin-1. Fugro personnel departed the rig on 17 December 2005.

Further details of Fugro's involvement in the rig move are presented in the Daily Operations Reports included in Appendix A.

GENERAL LOCATION DIAGRAM

FIGURE 1–1

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2.0 RESULTS

2.1 Final Position

The final position of the *Ocean Patriot* drill stem was established by calculating the mean position from two hours of DGPS data logged between 17:00hr and 19:00hr on 16 December 2005. During this period, calculated drill stem coordinates from the primary and secondary positioning systems were logged at a five second interval in Starfix Seis. Data from the primary positioning system were used for the final position calculation.

Differential GPS corrections were derived using a multi-reference solution with base station data from Melbourne, Bathurst and Cobar.

GDA94 geographical positions for the Culverin-1 location are shown in Table 2-1.

GDA94			
Position	**Method**	**Latitude**	**Longitude**
Drill Stem at Surface	MRDGPS	38° 24' 08.14" S	148° 39' 14.92" E
Proposed Location	-	38° 24' 08.35" S	148° 39' 15.04" E

TABLE 2-1 : GEOGRAPHICAL POSITIONS FOR CULVERIN-1

GDA94 grid coordinates (CM 147° E) for Culverin-1 location are shown in Table 2-2.

GDA94, MGA, CM147°E			
Position	**Method**	**Easting (m)**	**Northing (m)**
Drill Stem at Surface	MRDGPS	644437.3	5748256.4
Proposed Location	-	644440.0	5748250.0

TABLE 2-2 : GRID COORDINATES FOR CULVERIN-1

This position is 7.0m at a bearing of 337.0° (Grid) from the design location.

A copy of the original rig position field report is contained in Appendix B.

2.2 Rig Heading

The heading of the *Ocean Patriot* was established by calculating the average heading during two hours of corrected gyro compass readings logged between 17:00hr and 19:00hr on 16 December 2005. During this period, gyro readings were logged at a five second interval in Starfix Seis.

The *Ocean Patriot's* heading is shown in Table 2-3.

Description	Method	True	Grid
Rig Heading	Gyro	272.54°	273.57°
Proposed Heading	-	270.00°	271.03°

TABLE 2-3 : RIG HEADING

2.3 Anchor Positions

The approximate locations of the *Ocean Patriot's* anchors are shown in Table 2-4.

GDA94, MGA, CM147°E				
Anchor	**Easting (m)**	**Northing (m)**	**Azimuth**	**Deployed By**
1	643461	5748853	299.9°	*Pacific Wrangler*
2	643944	5749115	330.0°	*Pacific Wrangler*
3	644964	5749099	30.7°	*Far Grip*
4	645480	5748869	59.2°	*Pacific Wrangler*
5	645467	5747566	122.1°	*Pacific Wrangler*
6	645023	5747233	149.3°	*Far Grip*
7	643852	5747274	208.8°	*Far Grip*
8	643454	5747792	244.2°	*Pacific Wrangler*

TABLE 2-4 : ANCHOR POSITIONS

The approximate coordinates of the *Ocean Patriot*'s anchors were calculated from:

- The azimuth from the fairlead position to the AHVs stern position at the time of anchor deployment.
- The range from the fairlead position to the anchor, as obtained from the on board chain counter, corrected for catenary.

3.0 SAFETY

All work undertaken by Fugro personnel during the project was performed within the guidelines of Fugro's Safety Policy, as defined in Fugro's Safety Manual (SMS-P01) and Offshore Survey Safety Practices (SMS-SP26).

Fugro personnel worked within all project safety guidelines and plans adopted by Upstream and Diamond Offshore.

No safety incidents involving Fugro personnel were reported during the project.

Fugro personnel attended a vessel induction, pre-rig move meeting and muster drill whilst on board.

A Project Specific Safety Plan was developed for positioning services on board the *Ocean Patriot* for the Culverin-1 rig move.

4.0 SURVEY OPERATIONS

4.1 Mobilisation

After the completion of #4 anchor winch repairs, a Fugro personnel departed Perth on 09 December 2005 and arrived on board the rig on 10 December 2005, whilst it was located at Eden Bay anchorage. Following an arrival briefing, the survey equipment on board was powered up and system and function tests completed. The second Fugro personnel joined the rig on 12 December 2005 whilst the rig was undertow.

4.2 General Survey Procedures

The tow was conducted with the *Far Grip* connected to the main tow wire.

About 5 kilometres from Culverin-1 location, the *Pacific Wrangler* was connected to the #4 anchor. The *Far Grip* and *Pacific Wrangler* manoeuvred the rig onto the proposed Culverin-1 location. Once the rig was positioned over Culverin-1 location with the assistance of the *Far Grip*, #4 anchor was deployed by *the Pacific Wrangler.*

After establishing that #4 anchor was holding and the rig was maintaining its position at Culverin-1, the *Pacific Wrangler* then ran anchors #8, #5 and #1. When the primary anchors were successfully deployed, the *Far Grip* was released from the tow wire and assisted the *Pacific Wrangler* in deploying the remaining anchors.

Once all anchors were deployed, the anchors were systematically cross-tensioned to a specified tension of 200 tonnes for 10 minutes and then slackened down to working tension.

During the deployment of each anchor, the AHVs were provided with a waypoint and the corresponding run line via the Wombat telemetry system. The AHVs ran out the anchor chain along this line to the desired drop point. The anchor chain was stretched out and the anchor lowered to the seabed. After confirming that the anchor was holding, the vessel then stripped the chain chaser back to the rig.

The *Ocean Patriot* was positioned over the Culverin-1 location with all anchoring and pre-tensioning completed at 09:10hr on 15 December 2005. Final position data were logged between 17:00hr and 19:00hr on 16 December 2005. A rig positioning field report was issued to the Upstream Company Representative (see Appendix B).

4.3 Demobilisation

All navigation systems on board the *Ocean Patriot* and AHVs were switched off during demobilisation and left on board the vessels for the anchor recovery at Culverin-1.

Fugro personnel departed the rig and returned to Perth on 17 December 2005.

5.0 EQUIPMENT CALIBRATION

5.1 DGPS Navigation Integrity Check

In order to check the correct operation of the navigation systems installed on board the *Ocean Patriot* DGPS data were logged for 30 minutes on 04 November 2005, whilst the rig was located at Fur Seal-1.

A comparison of the primary and secondary DGPS was also conducted. The results from both of these tests are provided in Table 5-1.

GDA94, MGA, CM 147°E		
	Easting (m)	**Northing (m)**
Established Well Coordinates	600995.50	5779136.70
Observed Coordinates	600995.95	5779146.60
Difference	-0.45	-9.90
Primary Navigation	600995.95	5779146.60
Secondary Navigation	600996.61	5779146.16
Difference	-0.66	+0.43

TABLE 5-1 : DGPS NAVIGATION INTEGRITY CHECK

The DGPS check described above demonstrated that the navigation systems on board the *Ocean Patriot* were set up and working correctly.

A positioning check list was completed at Culverin-1 location to confirm the proposed rig position and to ensure that the correct geodetic datum, transformation and projection parameters were being used. Geodetic calculations were performed using both Starfix Seis and the off-line geodetic calculation package GEO.

Details of all positioning checks are provided in Appendix C.

5.2 Gyro Compass Calibration

The calibration of the survey gyro compass was carried out on 04 November 2005, whilst the rig was located at Fur Seal-1.

A series of observations were made to the sun from which the rig heading was calculated. The calculated values were then compared to the observed gyro compass values logged in Starfix Seis and a mean C-O value of +1.88° was determined. This correction was applied in the navigation suite.

Details of the gyro calibration are included in Appendix C.

6.0 SURVEY PARAMETERS

6.1 Geodetic Parameters

All coordinates are referenced to the Geocentric Datum of Australia 1994 (GDA94) unless otherwise noted. The Global Positioning System (GPS) operates on the World Geodetic System 1984 (WGS84) datum. Fugro's Differential GPS Reference Stations are currently defined in the International Terrestrial Reference Frame 2000 (ITRF2000 Epoch 2005.75) datum. Due to the continual refinement of the WGS84 reference frame, for all cases, the transformation parameters indicate that the WGS84 and ITRF2000 reference frames are essentially identical.

Datum	**:**	**World Geodetic System 1984 (WGS84)**
Reference Spheroid	:	World Geodetic System 1984
Semi Major Axis	:	6378137.000m
Inverse flattening	:	298.257223563

Datum	**:**	**Geocentric Datum of Australia 1994 (GDA94)**
Reference Spheroid	:	Geodetic Reference System 1980 (GRS80)
Semi Major Axis	:	6378137.000m
Inverse flattening	:	298.257222101

The following seven parameter datum transformation (Table 6-1) was used in Fugro's software, to transform WGS84 (ITRF2000 Epoch 2005.50) coordinates to GDA94 coordinates. These parameters are calculated from the 14 parameter transformation defined by Geoscience Australia. Fugro follows the Coordinate Frame Rotation convention (as defined by UKOOA) for datum transformations.

Transformation Parameters from WGS84 (ITRF2000 Epoch 2005.50) to GDA94			
dX	-0.0156m	rX	+0.01445"
dY	-0.0348m	rY	+0.013050"
dZ	-0.0513m	rZ	+0.015037"
		dS	+0.004977ppm

TABLE 6-1 : TRANSFORMATION PARAMETERS

The proposed drilling location and all project coordinates are grid coordinates on the Map Grid of Australia.

Grid	**:**	**Map Grid of Australia (MGA94)**
Projection	:	Transverse Mercator
Latitude of Origin	:	0°
Central Meridian	:	147° E (UTM Zone 55)
Central Scale Factor	:	0.9996
False Easting	:	500000m
False Northing	:	10000000m
Units	:	Metres

6.2 Differential GPS Reference Stations

Fugro's Differential GPS Reference Stations are currently defined in the ITRF2000 (Epoch 2005.50) datum and are shown in Table 6-2.

ITRF 2000, EPOCH 2005.75					
Station	**Id**	**Latitude**	**Longitude**	**Height (m)**	**Uplink**
Melbourne	385	37° 48' 29.008" S	144° 57' 48.029" E	82.06	Optus/APSat
Bathurst	336	33° 25' 46.882" S	149° 34' 01.968" E	756.66	Optus/APSat
Cobar	316	31° 29' 57.434" S	145° 50' 20.344" E	270.17	Optus/APSat

TABLE 6-2 : DGPS REFERENCE STATIONS

6.3 Project Coordinates and Tolerances

Project target coordinates and surface tolerance for Culverin-1 location were supplied by Upstream and are shown in Table 6-3. Project procedures are provided in Appendix D.

GDA94, MGA, CM 147°E			
Location	**Easting (m)**	**Northing (m)**	**Tolerances**
Culverin-1	644440.0	5748250.0	15m radius

TABLE 6-3 : PROJECT DESIGN COORDINATES

7.0 SURVEY EQUIPMENT, VESSEL AND PERSONNEL

7.1 Equipment

Survey equipment used for the positioning of the *Ocean Patriot* was as follows:

Ocean Patriot

2 x Starfix satellite DGPS (1 Optus link, 1 APSat link)
2 x Trimble 4000 series GPS receivers
2 x Pentium IV computers, running Fugro's Starfix Seis navigation software suite
3 x 17" monitors (2 Seis, 1 Helm)
2 x SG Brown gyro compass
2 x Uninterruptible power supply units (UPS)
1 x Teledesign radio/modem
1 x Theodolite, tripod and dark glass
1 x Printer

AHVs (complete system per vessel, plus one complete set of spares)

1 x Pentium III computers, running Starfix Display/Wombat
1 x Monitors
1 x Starfix VBS units
1 x Fluxgate compasses
1 x Teledesign radio/modems

All systems were provided complete with all necessary cabling, connectors, power supplies, antennae, accessories, manuals and consumables.

Refer to Figure 7-1 for an equipment flow diagram for the *Ocean Patriot* and Figure 7-2 for the equipment flow diagram for the AHVs.

7.2 Vessels

The vessels used for anchor handling and towing the *Ocean Patriot* were the *Pacific Wrangler* and the *Far Grip*. Refer to Figure 7-3, Figure 7-4 and Figure 7-5 for the vessel offset diagrams.

7.3 Personnel

Fugro personnel involved in the rig move and positioning operations were as follows:

R. Risah	Surveyor / Party Chief	09 – 17 December 2005
M. Karklin	Technician	12 – 17 December 2005
J. Cohen	Surveyor	03 – 07 November 2005
S. Bradley	Technician	03 – 07 November 2005

FIGURE 7-1 : EQUIPMENT FLOW DIAGRAM – MODU *OCEAN PATRIOT*

FIGURE 7-2 : EQUIPMENT FLOW DIAGRAM – AHVS

VESSEL OFFSET DIAGRAM – OCEAN PATRIOT

FIGURE 7–3

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VESSEL OFFSET DIAGRAM – PACIFIC WRANGLER

FIGURE 7–4

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VESSEL OFFSET DIAGRAM – FAR GRIP

FIGURE 7–5

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8.0 CONCLUSIONS AND RECOMMENDATIONS

- The *Ocean Patriot* was successfully positioned during the towing and anchoring operations and at Culverin-1.
- The *Pacific Wrangler* and *Far Grip* were successfully positioned during the towing and anchoring operations.
- The surface position of the Culverin-1 well was determined.

9.0 DISTRIBUTION

Copies of this report have been distributed as follows:

Upstream Petroleum	: 3 paper copies
Attn: John Ah-Cann	: 1 electronic copy
Fugro Survey Pty Ltd	: 1 paper copy
	: 1 electronic copy

APPENDIX A
DAILY OPERATIONS REPORTS

Fugro Survey Pty Ltd
PM-F50

DAILY OPERATIONS REPORT

CLIENT: UPSTREAM	LOCATION: CULVERIN-1	DATE: 03/11/2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
1200	1830	Travel to Melbourne
1900		Check Inn Holiday Inn Melbourne

EQUIPMENT	NO.	EQUIPMENT	NO.

PERSONNEL	TITLE
J.Cohen	Surveyor
S. Bradley	Engineer

VEHICLES:

CONSUMABLES:

ACCOMMODATION: 2 X HOLIDAY INN MELBOURNE

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
J. Coh		P0373-1

Approved by the Operations Manager – 12/05/04

Fugro Survey Pty Ltd
PM-F50
DAILY OPERATIONS REPORT

CLIENT: UPSTREAM	LOCATION: CULVERIN-1	DATE: 04/11/2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
0715		Check-out Holiday Inn Melbourne
0730	800	Travel to Essendon Airport
0900	1030	Helicopter to Ocean Patriot
1230		All equipment online and operational
1300		Pre-rig move meeting
1500		#6 PCC to Pacific Wrangler, changing out #6 anchor
1822		Gyro Calibration to Snapper Platform (C-O = +1.77°)
1920		Gyro Calibration by Solar Observations (C-O = +1.88°)
1938		Gyro Calibration by Solar Observations (C-O = +1.93°)
		Mean C-0 = +1.86° (entered into SEIS)
2201	2231	DGPS Check Fix
2210		#2 PCC to Far Grip

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
SEIS Computer	1	Laptop	1	J.Cohen	Surveyor
Gyrocompass	1	Trimble Receivers	2	S. Bradley	Engineer
Demodulators	2	Theodolite	1		
AHV x 2 (Wombat)	2	Radio Modem	1		
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
J. Cohen		P0373-2

Approved by the Operations Manager – 12/05/04

Fugro Survey Pty Ltd
PM-F50
DAILY OPERATIONS REPORT

CLIENT: UPSTREAM	LOCATION: CULVERIN-1	DATE: 05/11/2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
0001		#6 anchor racked
0014		#7 PCC to Pacific Wrangler
0200		#2 anchor racked
0212		#3 PCC to Far Grip
0230		#7 anchor racked
0312		Pacific Wrangler connected to tow bridle
0430		#3 anchor racked
0455		#4 PCC to Far Grip
0857		#4 anchor racked
1053		#8 PCC to FG
1236		#8 anchor racked
1310		#1 PCC to Far Grip
1555		#1 anchor racked
1614		#5 PCC to Far Grip
1800		**Rig official handover from Apache to Upstream**
1815		#5 anchor racked
1830		#5 PCC back to rig, begin transit to Culverin-1
2359		Continue transit to Culverin-1

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
SEIS Computer	1	Laptop	1	J.Cohen	Surveyor
Gyrocompass	1	Trimble Receivers	2	S. Bradley	Engineer
Demodulators	2	Theodolite	1		
AHV x 2 (Wombat)	2	Radio Modem	1		

VEHICLES:

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS: 1800 - RIG OFFICIAL HANDOVER FROM APACHE TO UPSTREAM

Party Chief Signature:	Client Representative Signature:	D O R Number
J. Cohen		P0373-3

Fugro Survey Pty Ltd
PM-F50
DAILY OPERATIONS REPORT

CLIENT: UPSTREAM	LOCATION: CULVERIN-1	DATE: 06/11/2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
0001		Continue transit to Culverin-1
0315		Pacific Wrangler turning onto final run-in to Culverin-1
0356		#4 PCC to Far Grip
0430		Rig on location
0900		#4 anchor on bottom (646024, 5749133)
1030		Abandon rig drill
1217		#8 PCC to Far Grip
1300		J. Cohen attends weekly safety meeting
1445		#4 winch failure – chain spooled off drum, heaving in #8 anchor, Static tow with
		Pacific Wrangler. #4 bitter end approx position 644438mE, 5748284mN
1654		#8 anchor racked
1704		#8 PCC back to rig, Pacific Wrangler begin tow to Eden for rig repairs
1900		S. Bradley attends weekly safety meeting

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
SEIS Computer	1	Laptop	1	J.Cohen	Surveyor
Gyrocompass	1	Trimble Receivers	2	S. Bradley	Engineer
Demodulators	2	Theodolite	1		
AHV x 2 (Wombat)	2	Radio Modem	1		

VEHICLES:

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
J. Cohen		P0373-4

Approved by the Operations Manager – 12/05/04

Fugro Survey Pty Ltd
PM-F50

DAILY OPERATIONS REPORT

CLIENT: UPSTREAM	LOCATION: CULVERIN-1	DATE: 07/11/2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
1000		All equipment powered down, remains mobilized for next rig move
1100	1330	Travel Ocean Patriot to Essendon Airport
1640	1740	Travel Melbourne to Perth

EQUIPMENT	NO.	EQUIPMENT	NO.	PERSONNEL	TITLE
SEIS Computer	1	Laptop	1	J.Cohen	Surveyor
Gyrocompass	1	Trimble Receivers	2	S. Bradley	Engineer
Demodulators	2	Theodolite	1		
AHV x 2 (Wombat)	2	Radio Modem	1		

VEHICLES:

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
J. Cohen		P0373-5

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT: UPSTREAM PETROLEUM	LOCATION: CULVERIN-1	DATE: 9 DEC 2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
1515	2200	R. Risah travels from Perth to Sydney
2245		Check-in Mercure Inn hotel at Sydney airport

RIG EQUIPMENT	NO.	AHV EQUIPMENT	NO.	PERSONNEL	TITLE
				R. Risah	Surveyor / PC

VEHICLES: 1x Taxi

CONSUMABLES:

ACCOMMODATION: 1x Mercure Inn Hotel

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		P0373-6

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT: UPSTREAM PETROLEUM	LOCATION: CULVERIN-1	DATE: 10 DEC 2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
0700		Check-out of hotel
0850	1030	Travel from Sydney to Merimbula
1030	1105	Travel from Merimbula to Eden
1200		Arrive onboard rig
1400		Navigation system onboard rig power-up and operational

RIG EQUIPMENT	NO.	AHV EQUIPMENT	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Seis (remote)	3	R. Risah	Surveyor / PC
Starfix.Spot DGPS	2	Fluxgate compass	3		
Gyro Compass	2	Radio Modem	3		
Radio Modem	2	UPS	3		
UPS	2				
Theodolite	1				
Printer	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION: onboard rig					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		P0373-7

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT: UPSTREAM PETROLEUM	LOCATION: CULVERIN-1	DATE: 11 DEC 2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
1030	1800	Transfer on FRC to Far Grip to set-up navigation system
1600	2030	M. Karklin travels from Perth to Melbourne
1700		Navigation system onboard Far Grip operational
1830	2359	Anchor recovery at Eden anchorage
2100		M. Karklin checks-in Holiday Inn hotel at Melbourne airport

RIG EQUIPMENT	NO.	AHV EQUIPMENT	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Seis (remote)	3	R. Risah	Surveyor / PC
Starfix.Spot DGPS	2	Fluxgate compass	3	M. Karklin	Engineer
Gyro Compass	2	Radio Modem	3		
Radio Modem	2	UPS	3		
UPS	2				
Theodolite	1				
Printer	1				

VEHICLES: 1x Taxi

CONSUMABLES:

ACCOMMODATION: 1x Holiday Inn hotel, 1x onboard rig

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		P0373-8

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT: UPSTREAM PETROLEUM	LOCATION: CULVERIN-1	DATE: 12 DEC 2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
0000	0630	Anchor recover at Eden anchorage
0630	2359	Rig undertow to Culverin-1 location
0830	1000	M. Karklin travels (helo) from Melbourne to rig
1000	1130	M. Karklin arrives on the rig and attends arrival & safety induction
1030		Muster & fire drill
2130		P. Wrangler joins rig
2300		Navigation system onboard P. Wrangler operational

RIG EQUIPMENT	NO.	AHV EQUIPMENT	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Seis (remote)	3	R. Risah	Surveyor / PC
Starfix.Spot DGPS	2	Fluxgate compass	3	M. Karklin	Engineer
Gyro Compass	2	Radio Modem	3		
Radio Modem	2	UPS	3		
UPS	2				
Theodolite	1				
Printer	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION: 2x onboard rig					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		P0373-9

DAILY OPERATIONS REPORT

CLIENT: UPSTREAM PETROLEUM	LOCATION: CULVERIN-1	DATE: 13 DEC 2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
0000	0800	Rig undertow to Culverin-1 location
0800		Commence run-in approach to #4 anchor drop location
0830		P. Wrangler connects to #4 anchor
1000		Commence anchor deployment at Culverin-1 location
1202		#4 anchor on seabed E645674 N5748964 (P. Wrangler)
1700		#4 anchor dragging, rig moves off location
2020		#4 anchor off seabed
2020	2220	P. Wrangler recovering #4 anchor to stern roller for inspection
2220	2245	P. Wrangler turning #4 anchor to correct orientation
2245	2359	P. Wrangler re-deploying #4 anchor

RIG EQUIPMENT	NO.	AHV EQUIPMENT	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Seis (remote)	3	R. Risah	Surveyor / PC
Starfix.Spot DGPS	2	Fluxgate compass	3	M. Karklin	Engineer
Gyro Compass	2	Radio Modem	3		
Radio Modem	2	UPS	3		
UPS	2				
Theodolite	1				
Printer	1				

VEHICLES:

CONSUMABLES:

ACCOMMODATION: 2x onboard rig

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		P0373-10

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT: UPSTREAM PETROLEUM	LOCATION: CULVERIN-1	DATE: 14 DEC 2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS			
0000	0110	Re-deployment of #4 anchor			
0110		#4 anchor on seabed	E645980	N5749156	(P. Wrangler)
0456		#8 anchor on seabed	E643054	N5747606	(P. Wrangler)
0942		#5 anchor on seabed	E645843	N5747319	(P. Wrangler)
1416		#1 anchor on seabed	E643342	N5748969	(P. Wrangler)
1604		#1 anchor off seabed, re-deploying anchor			
1648		#1 anchor on seabed	E642986	N5749135	(P. Wrangler)
2045		#3 anchor on seabed	E645351	N5749728	(Far Grip)
	2359	Anchor deployment ops at Culverin-1 location			

RIG EQUIPMENT	NO.	AHV EQUIPMENT	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Seis (remote)	3	R. Risah	Surveyor / PC
Starfix.Spot DGPS	2	Fluxgate compass	3	M. Karklin	Engineer
Gyro Compass	2	Radio Modem	3		
Radio Modem	2	UPS	3		
UPS	2				
Theodolite	1				
Printer	1				

VEHICLES:

CONSUMABLES:

ACCOMMODATION: 2x onboard rig

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		P0373-11

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT: UPSTREAM PETROLEUM	LOCATION: CULVERIN-1	DATE: 15 DEC 2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS			
0000		Anchor deployment ops at Culverin-1 location in progress			
0110		#7 anchor on seabed	E643652	N5746922	(Far Grip)
0250		#2 anchor on seabed	E643593	N5749745	(P. Wrangler)
0514		#6 anchor on seabed	E645271	N5746798	(Far Grip)
	0600	Complete anchor deployment at Culverin-1 location			
0635	0645	Cross tensioning anchors #4 and #8			
0710	0720	Cross tensioning anchors #1 and #5			
0755	0805	Cross tensioning anchors #2 and #6			
0847	0857	Cross tensioning anchors #3 and #7			
0910		Rig on position at Culverin-1			
0930	1400	Rig ballasting down to drilling draft to 23.5m			

RIG EQUIPMENT	NO.	AHV EQUIPMENT	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Seis (remote)	3	R. Risah	Surveyor / PC
Starfix.Spot DGPS	2	Fluxgate compass	3	M. Karklin	Engineer
Gyro Compass	2	Radio Modem	3		
Radio Modem	2	UPS	3		
UPS	2				
Theodolite	1				
Printer	1				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION: 2x onboard rig					

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		P0373-12

DAILY OPERATIONS REPORT

CLIENT: UPSTREAM PETROLEUM	LOCATION: CULVERIN-1	DATE: 16 DEC 2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
0000	1700	Standby to conduct final position observation upon completion of spudding ops
1515	1700	Spudding operations
1700	1900	Logging final surface position (drill stem) at Culverin-1
		Culverin-1
		Easting: 644437.3m Northing: 5748256.4m
		Latitude: 38° 24' 08.35" S Longitude: 148° 39' 14.92" E
		Rig Heading: 272.5° (T)
		7.0m @ 337° from design location

RIG EQUIPMENT	NO.	AHV EQUIPMENT	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Seis (remote)	3	R. Risah	Surveyor / PC
Starfix.Spot DGPS	2	Fluxgate compass	3	M. Karklin	Engineer
Gyro Compass	2	Radio Modem	3		
Radio Modem	2	UPS	3		
UPS	2				
Theodolite	1				
Printer	1				

VEHICLES:

CONSUMABLES:

ACCOMMODATION: 2x onboard rig

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		P0373-13

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT

CLIENT: UPSTREAM PETROLEUM	LOCATION: CULVERIN-1	DATE: 17 DEC 2005
PROJECT: RIG MOVE	VESSEL: OCEAN PATRIOT	JOB NO: P0373

FROM	TO	SUMMARY OF OPERATIONS
1200		Shut down navigation system onboard rig
1400	1530	Fugro personnel depart rig for Melbourne
1810	2205	Fugro personnel return from Melbourne to Perth

RIG EQUIPMENT	NO.	AHV EQUIPMENT	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Seis (remote)	3	R. Risah	Surveyor / PC
Starfix.Spot DGPS	2	Fluxgate compass	3	M. Karklin	Engineer
Gyro Compass	2	Radio Modem	3		
Radio Modem	2	UPS	3		
UPS	2				
Theodolite	1				
Printer	1				

VEHICLES:

CONSUMABLES:

ACCOMMODATION:

AUTHORISED CONTRACT CHANGES / COMMENTS:

Party Chief Signature:	Client Representative Signature:	D O R Number
		P0373-14

APPENDIX B
FINAL POSITIONING DATA

RIG POSITION FIELD REPORT

Culverin-1

Client :	**Upstream Petroleum**	**Job Number :**	**P0373**
Rig :	**Ocean Patriot**	**Date:**	**16-Dec-05**
Project :	**Rig Move to Culverin-1, Permit VIC/P56**		
Company Man :	**W. Westman**		

The surface location of the drill stem on the Ocean Patriot was derived from two hours of observations of the Primary Differential GPS Data, between 17:00hrs and 19:00hrs on completion of anchor pre-tensioning, ballasting and spudding operations.

The results of the observations are as follows:

Geographical Coordinates			**Grid Coordinates**	
Latitude (ϕ)	**-038° 24' 8.14"**	**South**	**Easting**	**644437.3**
Longitude (λ)	**148° 39' 14.92"**	**East**	**Northing**	**5748256.4**

The drill stem position is **7.0 m** at a bearing of **337.0°** Grid from the design location.

The Client supplied design location Culverin-1 .

Geographical Coordinates			**Grid Coordinates**	
Latitude (ϕ)	**-038° 24' 8.35"**	**South**	**Easting**	**644440.0**
Longitude (λ)	**148° 39' 15.04"**	**East**	**Northing**	**5748250.0**

The heading of the Rig, Ocean Patriot was derived from the mean of 2hrs of the Gyro heading is:

272.54° TRUE 273.57° Grid

All coordinates in this field report are quoted in the following coordinate system:

Datum :	GDA94_Australia_ICSM-ITRF2005.50	Projection :	Transverse Mercator (UTM)
Spheroid :	GRS80	Zone (Central Meridian) :	55 147° East

The approximate positions of the rig anchors corrected for catenary are as follows:

Anchor	Easting	Northing	Azimuth(°) - True
1	643461	5748853	299.9°
2	643944	5749115	330.0°
3	644964	5749099	30.7°
4	645480	5748869	59.2°
5	645467	5747566	122.1°
6	645023	5747233	149.3°
7	643852	5747274	208.8°
8	643454	5747792	244.2°

Party Chief/Surveyor: R. Risah

Company Man : W. Westman

APPENDIX C
DGPS AND GYRO CHECKS

RIG POSITIONING
GEODESY AND COORDINATE CHECK LIST

Client :	**Upstream Petroleum**	**Job Number :**	**P0373**
Rig :	**Ocean Patriot**	**Date:**	**December 16, 2005**
Project :	**Rig Move to Culverin-1, Permit VIC/P56**		

1. CONFIRMATION OF PROPOSED RIG COORDINATES and HEADING.

Well Name	**Culverin-1**		Ensure agreement with Client onsite prior to any positioning
Well Location – Latitude(ϕ)	-038° 24' 8.35"	S	Operations. OK (?) Y N.
Well Location – Longitude(λ)	148° 39' 15.04"	E	
Rig Heading (True)	270° T		

2. GEODETIC PARAMETERS (WGS84 to LOCAL DATUM)

DATUM:	Dx	-0.01560 m	Ensure agreement with Client onsite prior to positioning operations.
GRS80	Dy	-0.03490 m	OK (?) Y N.
	Dz	-0.05130 m	
	Rx	0.01445 "	
Projection:	Ry	0.01305 "	
	Rz	0.01504 "	
Transverse Mercator (UTM)	Ds	0.00498 ppm	
UTM Zone		55	
Central Meridian		147° East	

3. CHECK TRANSFORMATION OF SITE COORDINATES.

Well Location – Easting	644440.0	Ensure agreement with Starfix.Seis. OK (?) Y N
Well Location – Northing	5748250.0	If not, CHECK and RECALC.
Convergence at Location	1.03 °	
Rig Heading (° Grid)	271.03°	

4. MEAS. ANT. OFFSETS from ANT. TO D/STEM (Rel. to Datum) (Measure two (2) separate directions, verifying closure.)	**NAV #1 SYSTEM**	**NAV #2 SYSTEM**
Delta X(m)	-8.86 m	-8.24 m
Delta Y(m)	41.86 m	43.86 m
Angle between Rig Centreline and Antenna(s) (Grid)	348.05°	349.4°
Distance between Drill Stem and Antenna (m)	42.79 m	44.63 m

5. MANUAL COORDINATE VERIFICATION FOR ANTENNAS		**NAV #1 SYSTEM**		**NAV #2 SYSTEM**	
Proposed Drill Stem Position	Easting	644440.0		644440.0	
	Northing	5748250.0		5748250.0	
Drill Stem to Antenna	Proposed Hdg (G)	271.028°		271.028°	
Brg (G) = Prop. Hdg. + Angle btwn centreline and antenna		259.077°		260.388°	
	Distance (m)	42.79 m		44.63 m	
Calculated Antenna	Easting	644397.99		644396.00	
Coordinates (Local Datum)	Northing	5748241.89		5748242.55	
	Latitude (ϕ)	-038° 24' 8.63"	S	-038° 24' 8.61"	S
	Longitude (λ)	148° 39' 13.31"	E	148° 39' 13.23"	E
Calculated Proposed Antenna Coords (WGS 84)	Latitude (ϕ)	-038° 24' 8.61"	S	-038° 24' 8.59"	S
	Longitude (λ)	148° 39' 13.32"	E	148° 39' 13.24"	E

6. POST RIG MOVE - OBSERVED ANTENNA COORD

Observed GPS Receiver Antenna Position in	Latitude (ϕ)	-38 ° 24' 8.63	S	-38 ° 24' 8.62	S
WGS84.	Longitude (λ)	148 ° 39' 12.81	E	148 ° 39' 12.77	E

Ensure agreement between calculated and observed coordinates. If **NO**, check calcs., antenna offsets. OK(?) Y N

Surveyor : R. Risah

Date : 16-DEC-2005

RIG POSITIONING
DGPS CHECK LIST (PRE RIG MOVE)

Client : **Upstream** **Job Number :** **P0373**

Rig : **Ocean Patriot** **Date:** **4-Nov-05**

Project : **Rig Move to Culverin-1, Bass Strait**
from **Fur Seal 1** **to** **Culverin-1**

1) ESTABLISHED WELL COORDINATES
Horizontal Datum: GRS80
Observe 30 minutes of DGPS data, logging both Primary and Secondary systems.
Establish a mean drill stem position from the primary navigation system and compare against the established well coordinates.

	Easting	**Northing**
Established Well Coordinates	600995.50	5779136.70
Observed Coordinates	600995.95	5779146.60
Differences	-0.45	-9.90

Note: Prior to logging DGPS data for the check fix, the Ocean Patriot had commenced anchor recovery and had moved off location.

Ensure agreement OK(?) Y / N
If No, Check and ensure that rig has not moved off location.

2) PRIMARY/SECONDARY NAV SYSTEMS
From the data logged above, compare the observed coordinates for both Primary and Secondary navigation systems.

	Easting	Northing
Primary Navigation	600995.95	5779146.60
Secondary Navigation	600996.61	5779146.16
Differences	-0.66	0.43

Ensure agreement OK(?) Y / N
If No, Check antenna offsets and gyro calibration.

Party Chief/Surveyor: J. Cohen Client Representative : R. King

GYRO COMPASS CALIBRATION BY SUN AZIMUTH - CALCULATION SUMMARY

Fugro Job Number:	P0373	**Vessel:**	Ocean Patriot
Job Description:	Rig Move to Culverin-1, Bass Strait	**Instrument**	Wild T2
Client:	Upstream	**Serial No.**	130532
Surveyor:	J. Cohen	**Date:**	04-Nov-05
		Time Zone :	11hrs

Vessel Details

	D	M	S
Enter correction from RO to vessel centreline	180°	00 '	00 "

Enter approximate WGS84 position of instrument :

	D	M	S
Latitude (ϕ)	-38 °	07 '	48 "
Longitude (λ)	148 °	09 '	07 "

Observations

Obs. No.	Date	UTC	Instrument Position		Calculated Sun Azimuth at UTC		Observed Direction to Sun				Calc'd Vessel Hdg	Obs'd Vessel Hdg	Sun Semi Diameter	(C-O) Degrees
			Latitude (ϕ) DMS	Longitude (λ) DMS	DMS	Dec. Deg	Deg	Min	Sec	Dec. Deg				
1	4-Nov-05	8:20:07	-038° 07' 48.00"	148° 09' 7.00"	253° 24' 22.38"	253.406 °	181°	02'	38	181.044	252.362 °	250.50 °	0.2692	1.86 °
2	4-Nov-05	8:20:51	-038° 07' 48.00"	148° 09' 7.00"	253° 24' 22.38"	253.296 °	181°	08'	02	181.134	252.162 °	250.30 °	0.2692	1.86 °
3	4-Nov-05	8:21:18	-038° 07' 48.00"	148° 09' 7.00"	253° 24' 22.38"	253.228 °	180°	54'	28	180.908	252.320 °	250.30 °	0.2692	2.02 °
4	4-Nov-05	8:21:47	-038° 07' 48.00"	148° 09' 7.00"	253° 24' 22.38"	253.155 °	181°	08'	56	181.149	252.006 °	250.20 °	0.2692	1.81 °
5	4-Nov-05	8:22:54	-038° 07' 48.00"	148° 09' 7.00"	253° 24' 22.38"	252.986 °	180°	26'	23	180.440	252.546 °	250.70 °	0.2692	1.85 °
6	4-Nov-05	8:23:16	-038° 07' 48.00"	148° 09' 7.00"	253° 24' 22.38"	252.931 °	180°	49'	37	180.827	252.104 °	250.20 °	0.2692	1.90 °

Mean	**1.88 °**
Std. Deviation	**0.07**
Maximum	**2.02 °**
Minimum	**1.81 °**
Range	**0.21**

Signature J. Cohen

SURVEYOR / PARTY CHIEF

APPENDIX D

CLIENT SUPPLIED INFORMATION

1 MANAGEMENT SUMMARY

Culverin-1 is an exploration well to evaluate the Intra-Latrobe reservoirs. This evaluation will include mud logging, logging-while-drilling and electric line logging.

Culverin-1 well operations will be conducted by the semi-submersible *Ocean Patriot*. Water depth at the wellhead location will be approximately 585m. The Location Map in section 12 shows the location of Culverin-1 relative to existing Gippsland Basin Fields.

1.1 Well Information Summary

Well Name & Number:	Culverin-1
Designation:	Exploration
Permit:	VIC/P56
Permit Holder:	Nexus Energy Limited
Project Manager:	Upstream Petroleum Pty Ltd
Project Manager's Representative:	Duncan Nuttall (Upstream)
Operator (per NOPSA):	Diamond Offshore General Company (DOGC)
Operator's Representative:	Steve Ramsey (DOGC)
Anticipated Spud Date:	Nov 2005
Rig Name & Type:	*Ocean Patriot* Semi Submersible
Drilling Contractor:	Diamond Offshore
Water Depth at LAT:	**585m**
RT above LAT:	**22m**
Surface Location	
• **Datum, Spheroid, Map Grid and Projection Information::**	GDA94, GRS80, MGA, UTM Zone 55 (Central Meridian 147°E)
• **Latitude:**	Lat: 38° 24' 8.35" South
• **Longitude:**	Long: 148° 39' 15.04" East
• **Easting:**	644 440 mE
• **Northing:**	5 748 250 mN
• **Surface Location Tolerance:**	15m radius circle at surface