

DATA ACQUISITION SUPERVISION REPORT

For the

2D MARINE SEISMIC SURVEY

Conducted by

3D OIL LIMITED

In The Exploration Licence Area

BLOCK T/41P OFFSHORE TASMANIA

SURVEY START DATE 18th April 2008
SURVEY COMPLETION DATE 04th May 2008



VOLUME 2 MARINE FAUNA OBSERVATIONS

Compiled by Debra Glasgow

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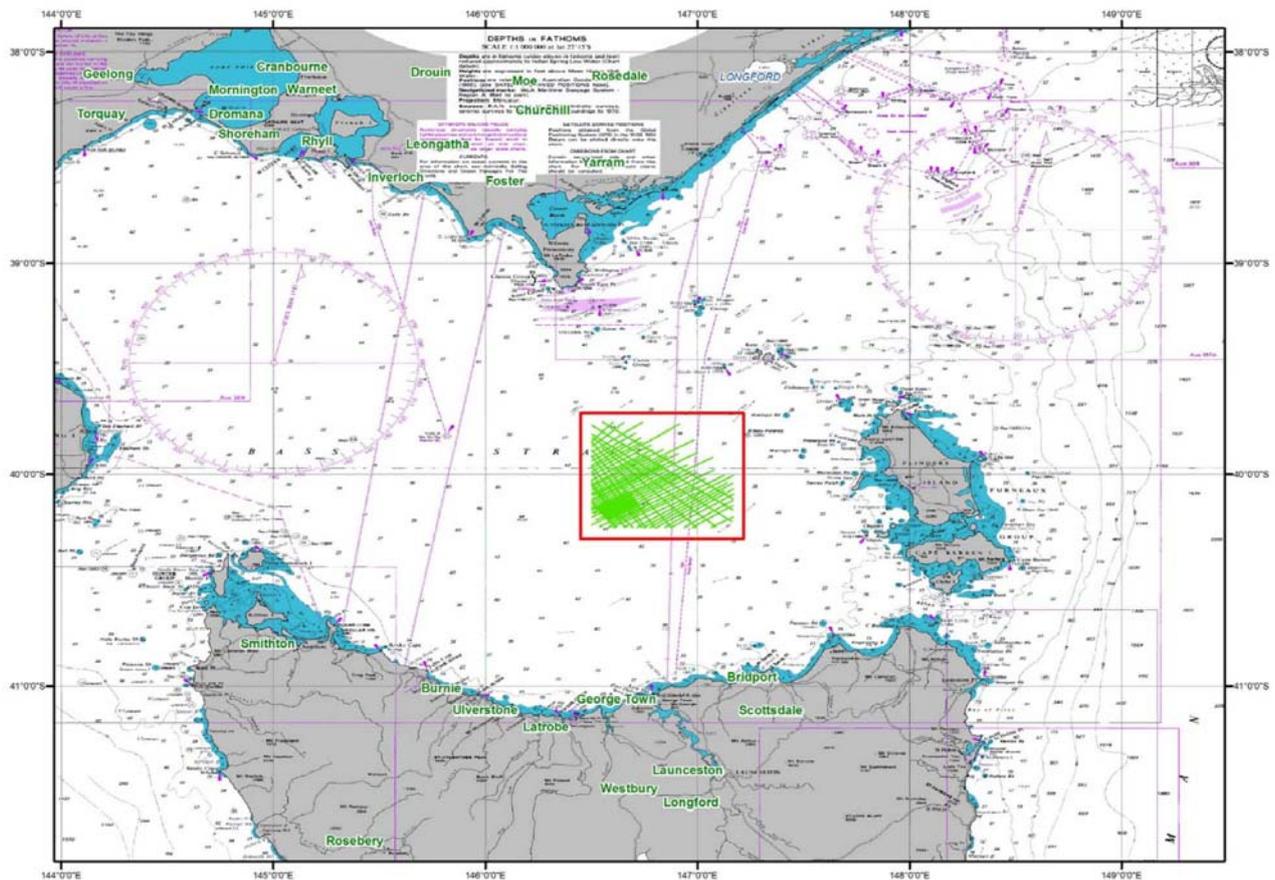
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References

1. Introduction

The 3D Oil Bass Strait Marine Seismic Survey T41/P was a 2D survey conducted in Bass Strait. The survey began on 18th April and ended on 14th May 2008.

For this survey 3D Oil entered into a contract with CGG Veritas to undertake the 2D survey using the survey vessel 'Pacific Titan'.



Location of survey – Bass Strait

1.1 Marine Mammal Monitoring Program

3D Oil employed the services of an experienced Marine Mammal Observer (MMO) from Enquest Pty Ltd to observe and report on marine mammals for the Bass Strait T41/P survey, and to work in accordance with the 3D Oil Environmental Plan.

Debra Glasgow is an experienced MMO and cetacean researcher and a member of the Deakin University Whale Ecology Group. Debra has been working as a cetacean observer/researcher in Antarctica for the last 11 years and in various locations around Australia since 1985.

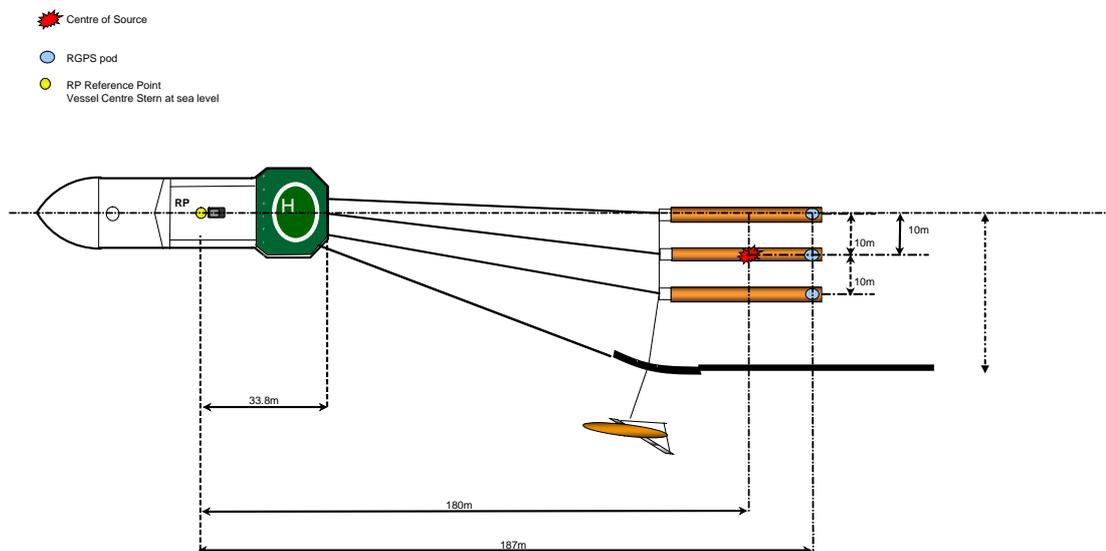
1.2 Vessel specifications



The MV 'Pacific Titan' has a Length overall of 64.5m and GRT of 3211 tonnes. It was built as a supply ship in Japan 1982. The ship is owned by Swire Pacific and is flagged in Singapore.

1.3 Seismic specifications and observation measurements

Streamer length	6000m
Streamer depth	7-8m
Number of arrays	1
Number of sub arrays (strings)	3
Array Acquisition volume	3040 cubic inch
Low power/Line change volume	40 cubic inch
Source interval	25m
Operating pressure	2000 psi
Distance center of seismic source astern of ship	151m
Distance bridge observation points from source	205m



Vessel offset diagrams

2.0 Methodology

2.1 Visual observations

The MMO scanned the sea surface during daylight hours using the naked eye and 7x50 Bushnell binoculars with reticules. The reticule measures were calibrated and used to gain approximate distances from the observation point to the cetacean.

The MMO reverted to the poor visibility guidelines of a minimum of 10 minute/hour scans during acquisition when the sea state became so rough as to limit the ability to observe marine mammals. This methodology was only used once for a period on the 2nd May. This was when visibility was down to 500m or less in seas Beaufort 7 and above. Observations in these circumstances became meaningless. Pre start up observations were still undertaken.

There were no nighttime observations undertaken.

A visual check was made from the outside of the bridge, from the bridge wings and in adverse weather conditions from the bridge. During soft starts the area immediately astern was viewed from the helicopter deck.

2.2 Species identification

Marine mammals were identified to species wherever possible.

The Pinnipeds recorded in Tasmania include the *Otariidae* seals:

Australian Fur seal	<i>Arctocephalus pusillus doriferus</i>
New Zealand Fur seal	<i>Arctocephalus fosteri</i>
Australian Sea lion	<i>Neophoca cinerea</i>

Distinguishing these three species is difficult to do at sea unless extremely close.

Therefore species was only recorded when there was a high certainty of correct identification, all other seal sightings were recorded as 'unidentified seal'.

Sighting #1 was an unidentified seal recorded by the Captain when the MMO was on a lunch break and was not present for positive identification of species although the seal surfaced repeatedly around the door buoy during a Line turn.

Sighting #10 was of 2 sea lions who surfaced several times close to the ship allowing a good identification to be made.

Sighting #12 was a pod of 120 common dolphins, some of which approached the ship and rode the bow wave briefly allowing a positive identification.

All other seal sightings were identified as fur seals.

2.3 Records kept

The MMO kept field notes, a diary of events and a copy of the Navigator's daily log.

Records maintained in an Excel format were:

- Seismic array times
- Seal sightings
- Observer hours
- Cetacean sightings
- Weather and visibility log
- Birds
- Extra Comments

3.0 Results

3.1 Pre-start observations

Thirty minutes prior the soft start were observed.

3.2 Soft Starts

Soft starts were ramped up to 4140 cubic inches before dropping to 3040 cubic inches. The extra volume was due to the spare units being deployed briefly.

3.3 Observation times

A total of 139 hours 46 minutes were observed.

Total observation hours recorded was the period of observations minus the time taken by the MMO for meals and breaks, and periods where there was a loss of visibility.

The normal period of observations was between 15 minutes before sunrise and 15 minutes after sunset. No night observations were undertaken.

Weather did restrict the hours observed. When the vessel was operating in winds over 30 knots, marine mammal observations were meaningless as observation hours. Observation zones were down to 200-500m. However, even though it is of limited value, observations were always done before and during soft starts to check that no marine mammals were visible before the ramp up.

The MMO reverted to the poor visibility guidelines (as listed in the *EPBC Act Policy Statement 2.1 – May 2007*) of a minimum of 10 minute/hour scans during acquisition when the sea state became so rough as to limit the ability to observe marine mammals. This methodology was only used once for a period on the 2nd May. This was when visibility was down to 500m or less in seas Beaufort 7 and above.

On 25th May visibility was severely restricted to less than 3km at times due to a thick smoke haze. Marine mammal observations were continued however as the visibility was variable.

4.0 Species Encountered

There were a total of 15 marine mammal sightings.

1 cetacean sighting

14 seal sightings

Sighting #12 was of approximately 120 common dolphins which were exhibiting feeding behaviour closely followed by a mixed flock of gannets, albatross and shearwaters. The dolphins continued to feed as a pod for several minutes. Line TDOB08-100-053 ended as we approached the dolphins and the pod split - one group stayed 800 metres away in the same general area, the other (approximately 50) came towards the ship and rode the bow for 3-4 surfacings before rejoining the main pod. The dolphins continued to surface vigorously while traveling wsw, still accompanied by birds. Common dolphins were clearly identified from their markings as they porpoised.

Sighting #10 was of two sea lions which appeared first near the port bow then headed rapidly away from ship to port. They were swimming close together, sometimes porpoising, swim direction variable, stopping to spyhop to look at ship. These were not fur seals - much larger and flat nosed, with a smooth, even coloured brown coat. Captain Bruce Wallis confirmed this sighting.

Species encountered	Total number of sightings
Fur seal <i>Otariidae</i>	12
Unidentified seal	1
Sea lion	1
Common dolphins	1
Total number of sightings	15

Bird species were recorded as species present each day and any flocks or feeding behaviour was recorded separately. The most abundant bird species were shearwaters, gannets and black browed albatross. Prions were common and there were regular sightings of yellow nosed albatross though in very small numbers. Storm petrels, giant petrels, skuas, cormorants, Pacific and silver gulls and terns were sighted rarely. Unusually a great egret traveled with and rested on the ship for several days.

4.1 Adherence to Australian DEWR Guidelines

Common dolphins were the only cetacean species sighted and no mitigation measures are required for this species.

In total 13 fur seals, 2 sea lions and 1 unidentified seal was recorded over 14 sightings. No mitigation is required for seals.

References

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