Appendix D: Environmental Performance Report for Baleen MSS

ASSET ENERGY PTY LTD

BALEEN 2D HR SEISMIC SURVEY

ENVIRONMENTAL PERFORMANCE REPORT

Rev 1

Petroleum Exploration Permit 11 (PEP11)
Offshore Sydney Basin
July 2018

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GLOSSARY OF TERMS AND ABBREVIATIONS

AHO	Australian Hydrographic Office
AIS	Automatic Identification System
ALARP	As Low as Reasonably Practicable
AFZ	Australian Fishing Zone
AMFA	Australian Fisheries Management Authority
AMSA	Australian Maritime Safety Authority
Anthropogenic	Produced or caused by human activity
BHP	Break Horse Power
CTS	Commonwealth Trawl Sector
cu in	Cubic Inch
DAWR	Department of Agriculture and Water Resources
DGPS	Differential Global Positioning Service
DOtE	Department of the Environment
DSEWPaC	The Department of Sustainability, Environment, Water, Population and Communities
EAC	East Australia Current
EP	Environmental Plan
EPBC	Environment Protection and Biodiversity Conservation
EPBC ACT	Environment Protection and Biodiversity Conservation Act 1999
EPO	Environmental Performance Outcome
ESD	Ecologically Sustainable Development
ETBF	Eastern Tuna and Billfish Fishery
FAD	Fish Attraction Device
GMP	Garbage management plan
GRB	Garbage record book
HAZID	Hazard Identification
HP	Horse Power
IEEM	Institute of Ecology and Environmental Management
IMO	International Maritime Organisation
IMS	Integrated Management System
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973 and 1978
MGO	Marine Gas Oil
MV	Motor Vessel
NES	National Environmental Significance
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NM	Nautical Miles
NMP	Ningaloo Marine Park
NSW	New South Wales
OCS	Offshore Constitutional Settlement
OIC	Officer in charge
OIW	Oil in Water
OPGGSA	Offshore Petroleum and Greenhouse Gas Storage Act 2006
OPGGS(E)R	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulation 2009
OPRC	International Convention on Oil Pollution Preparedness, Response and Cooperation 1990
OTLF	Ocean Trap and Line Fishery
PEP	Petroleum Exploration Permit
PSI	Pounds Per Square Inch
PSU	Practical Salinity Units
PTS	Permanent Threshold Shift
QA	Quality Assurance
QC	Quality Control
RAM	Risk Analysis Matrix
SOPEP	Shipboard Oil Pollution Emergency Plan
SESSF	South East Shark and Scalefish Fishery
SETFIA	South East Trawl Fishing Association
SST	Sea Surface Temperature
SWL	Safe Working Load
TACC	Total Allowable Commercial Catch
TTS	Temporary Threshold Shift
WGS84	World Geodetic System 1984

1 INTRODUCTION

1.1 Background

Asset Energy Pty Ltd undertook the Baleen 2D HR Seismic Survey in April 2018 pursuant to the Baleen 2D HR Seismic Survey Environment Plan as accepted by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) in January 2018.

This Environmental Performance Report is prepared pursuant to Section 26C of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.

2 ACTIVITY DESCRIPTION

2.1 Location

The seismic survey was located entirely within Permit Area PEP-11 – offshore Sydney Basin (Figure 2.1), NSW. The larger permit area PEP-11 covers approximately 4,568 km^2 and extends approximately 120 km from Sydney to Newcastle with an average width of 50 km.

2.2 Operational Area

Approximate location for the operational area of the 2D seismic site survey can be found in Figure 2-1. The survey activity was restricted to individual survey lines of total length 205.4 km, and focussed on an area 3.5 km x 3.5 km approximately 30km southeast of Newcastle, NSW, and included a~50km 'tie-line' to the site of the New Seaclem-1 well drilled in 2010. An operational area was defined that also included the safety exclusion zone (2 nm) surrounding the survey vessel. The gross operational area covers approximately 460km^2. The high resolution survey area (Figure 2-2) lies within this operational area.

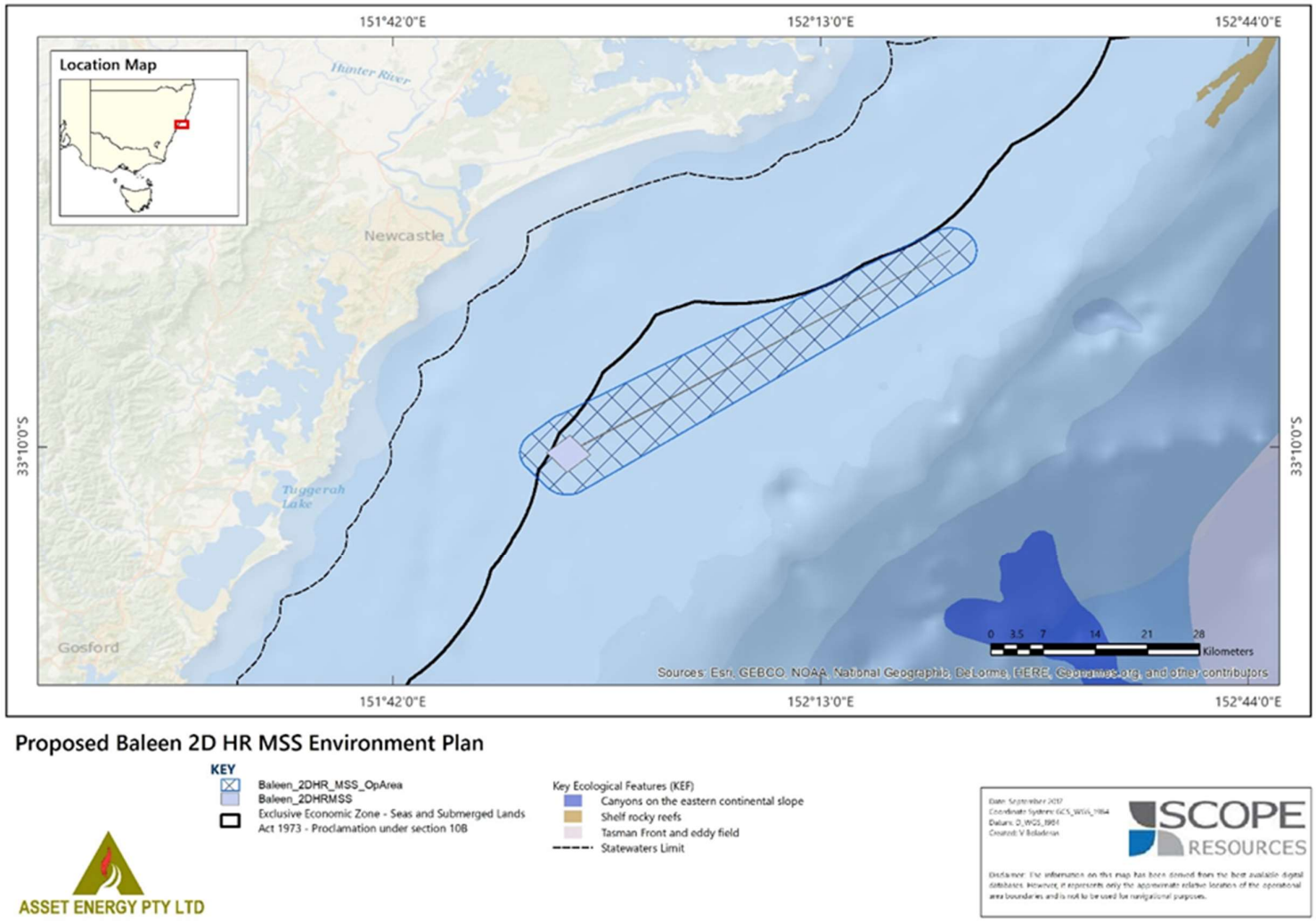
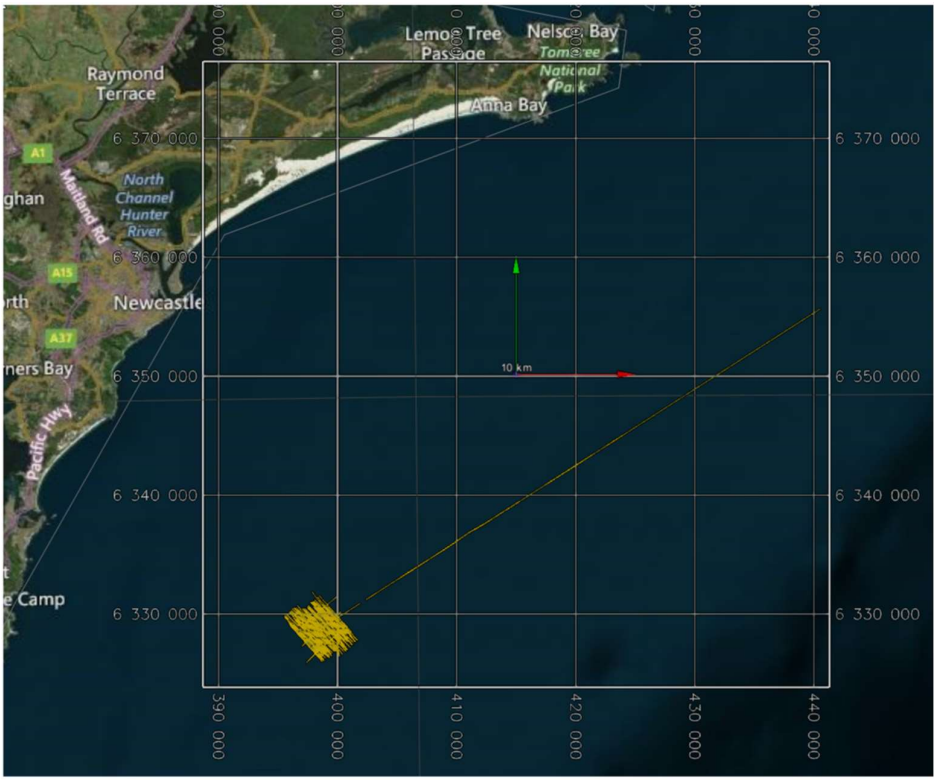


Figure 2-1 Two-dimensional marine seismic survey operational area for Baleen EP, inclusive of Key Ecological Features



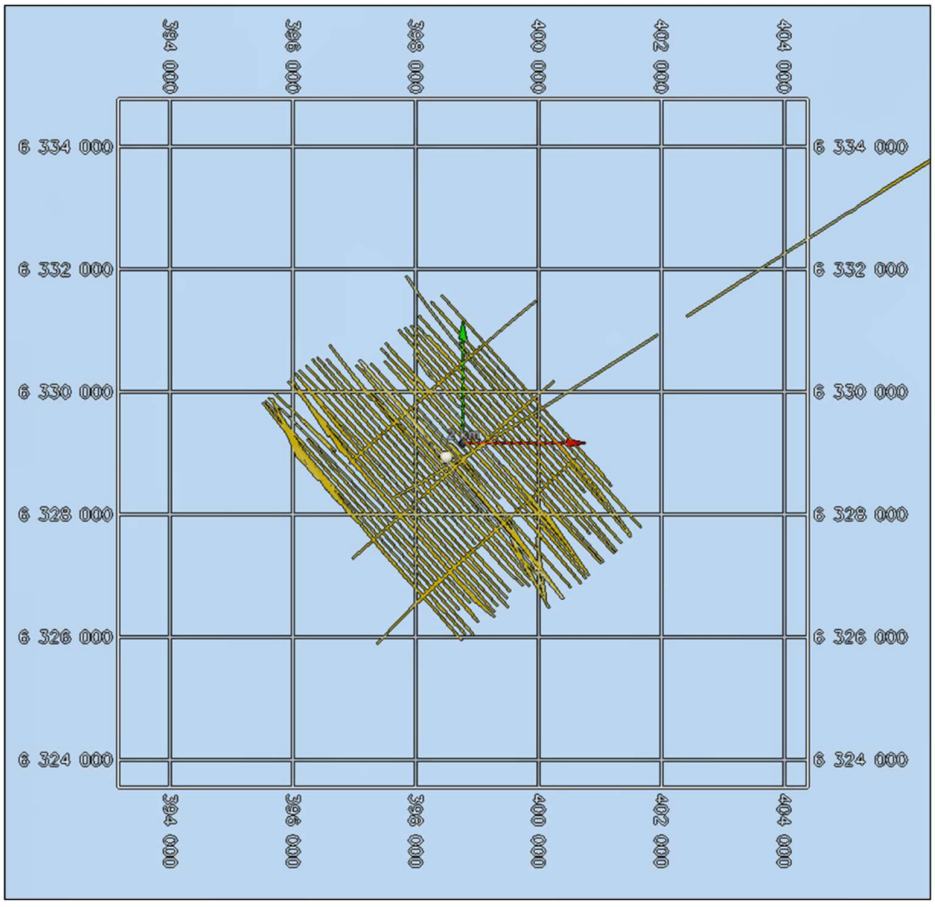


Figure 2-2 Surveyed Lines Vessel Track Plot

2.3 Schedule

The seismic survey operated on a 24-hour basis and commenced on 16 April 2018. The survey commenced part-way through the tie-line between New Seaclem-1 (drilled in 2010; plugged and abandoned) and the main grid survey area. The survey concluded on 19 April 2018.

2.4 Description of Activity

The seismic survey consisted of a series of survey lines in a grid utilising one seismic cable (streamer) containing a series of hydrophones towed behind the vessel together with only a single sound source (one airgun).

After arriving on site, the tail-buoy and seismic streamer were deployed. After waiting on weather, the seismic gun was deployed with a manual test fire.

A total of 49 sequences were acquired. The tie line (B18-46) was run from the north-east to the south-west. The initial section of the line was used for survey data acquisition testing and software configuration. Near the centre of the line, data acquisition commenced and was cut short prior to the end of the line due to the presence of dolphins within the shut down zone around the vessel.

The survey vessel sailed to the south-west section of the operational zone to complete the grid survey. The grid survey consisted of 36 in-lines and 3 cross lines. In the main line direction, all lines (B18-01 to B18-36) were acquired. The main lines inside the grid area were split into two sections for operational purposes; one surveyed from north-west to south-east and the second surveyed from south-east to north-west. Six of these main lines were re-shot (B18-01 to B18-03 and B18-18 to B18-20) because of a problem with the navigation system that meant the P1-90 files could not be generated for these lines. Re-runs were given the suffix ‘a’ at the end of the line name (e.g. ‘B18-01a’). Infill data was required for line B18-21 because of a navigation system problem, and this infill was recorded as ‘B18-21a’.

In the cross line direction, only three lines (B18-38, B18-41 and B18-44) were shot as the survey was limited to acquisition of 208 km of data. By this point, the re-runs for the main lines had already been acquired and the decision was taken to drop some of the cross-lines.

The tie line was shot in three sequences (B18-46, B18-46a and B18-46b). A total of 205.4 km of survey was completed during the project.

No refuelling or transfer of personnel or stores took place at sea.

The Baleen 2D HR Seismic Survey was recorded with the following equipment and parameters:

Table 2-1 Recording parameters for the Baleen 2D HR Seismic Survey

Parameter	Value
Record Length	2.0 s
Sample Interval	0.5 ms
Number of streamer channels	144
Channel interval	6.25
Streamer tow depth	3.0 m
Static delay	51 ms
Low cut recording filter (-3 dB)	3.9 Hz
In-line offset	50.0 m
Perpendicular offset	4.5 m
Auxiliary channels	1 near-field hydrophone (channel -1)
Source type	G.I. gun
Source volume	90 cubic inches
Source pressure	2000psi
Source tow depth	3.0 m

2.4.1 *Airgun*

The single airgun was towed by an umbilical line from the stern of the vessel. The gun was attached to a gun hanger by chains of a fixed length and the hanger was attached by ropes to a buoy. 2D data was acquired using a single source / streamer configuration due to the requirements of acquiring high resolution, shallow information below the seabed in the area of interest. The configuration of the survey is described below:

- 1 x 90 cubic inch acoustic source
- High pressure air fed to the airguns at a pressure of 2000psi.
- The firing interval was every three to four seconds, which translates to shots being repeated approximately every 6.25 m along the survey lines.

2.4.2 *Seismic Streamer (Hydrophones)*

The depth that the streamer operated at was 3 m. The depth of the streamer was controlled by units called ‘birds’, to an accuracy of +/- 1m. One streamer of 900 m in length with a group spacing of 6.25 m and shot point of 6.25 m was towed from the survey vessel.

2.4.3 *Tailbuoy*

The tailbuoy is located at the rear of a streamer and had a white flashing light.

2.4.4 *Vessel Information*

The survey was undertaken by the survey vessel *PMG Pride,* owned by the Pacific Marine Group.

3 ENVIRONMENTAL PERFORMANCE OUTCOMES

Under the OPGGS(E)R an environmental performance outcome is defined as a measurable level of performance required for the management of environmental aspects of an activity to ensure that environmental impacts and risks will be of an acceptable level.

The below table provides an assessment of Asset Energy's achievement towards each environmental performance outcome as described in the accepted environmental plan.

Table 3-1 Environmental Performance Outcomes and their Achievement

Environmental Performance Outcome (EPO)	Asset Energy's Achievement of the EPO
No adverse vessel interactions with cetaceans (or whale sharks). No acoustic-induced injury to marine fauna in the vicinity of the survey vessel and no incidents of non-conformance with EPBC Regulation; Policy Statement 2.1, 2008	Asset Energy did not have any adverse interactions with cetaceans or whale sharks, and had no incidents of non-conformance with EPBC Regulation and Policy Statement 2.1. This is demonstrated through the MFO report at Appendix B.
No collisions / incidents with other vessels (including entanglement of fishing gear) in the area of operation.	No collisions with other vessels occurred. Minor incidents occurred and are described in the following sections of this report.
Light emissions are limited to those required by maritime safety standards and for safe deck operations.	Minimum necessary lighting was utilised at all times during the survey
Discharges meet legislated treatment and / or discharge requirements (i.e. no discharge of treated sewage < 3 nm from land, no discharge of untreated sewage < 12 nm from land, bilge water discharges do not exceed 15 ppm OIW)	All discharges complied with relevant requirements
No food scraps to be disposed of < 12 nm from the nearest land. No loss of hazardous or non-hazardous material over board (including ash).	All discharges complied with relevant requirements. No material was lost over board.
Combustion systems to operate in accordance to MARPOL VI (Prevention of Air Pollution from Ships).	MARPOL certification demonstrated by the survey vessel (Appendix I).
No marine pest species introduced into the operational area.	No marine pest species were introduced into the operational area.
No disturbance to the seabed during the activity or loss of equipment.	No anchoring occurred during the survey and no equipment was lost.
No loss of solid wastes to marine waters; Appropriate disposal of wastes onshore.	All discharges complied with relevant requirements.
No injury or death caused to marine fauna through vessel strike. No collision or entanglement of equipment with other vessels.	No collisions with marine fauna occurred, and no collisions nor entanglement of equipment with other vessels occurred.
No release of environmentally hazardous liquid wastes to the marine environment.	No environmentally hazardous liquid wastes were released to the marine environment, and all discharges complied with relevant requirements.
No spillage of hydrocarbons to the marine environment from ruptured fuel tanks (or any other vector).	No hydrocarbons were spilled to the marine environment.

4 ENVIRONMENTAL PERFORMANCE – PLANNED ACTIVITIES

This section provides details of the performance against Environmental Performance Standards (control measures) pertaining to:

- Underwater noise;
- Interference with other users of the sea
- Artificial lighting;
- Routine discharges (sewage and grey water);
- Routine discharges (putrescible waste); and
- Atmospheric emissions.

4.1 Underwater Noise

The project acquired geophysical information through the use of instruments designed to emit noise into the marine environment at varying frequencies and intensities.

A 90 in^3 airgun was used for the Baleen 2D HR Seismic Survey. That sound source was chosen to ensure that reservoir targets were correctly imaged and that the most meaningful data can be acquired. Given the absence of critical habitats, short duration of the survey, single airgun source, disproportionate costs and additional safety risks associated with changing the sound source during surveys, the acoustic source of 90 in^3 was ALARP for the Baleen 2D HR Seismic Survey.

4.1.1 *Underwater Noise Modelling*

An independent third party was engaged to undertake sound transmission loss modelling for the survey to predict the received sound exposure levels (SELs) (both SELs from a single shot and cumulative SELs within a 24-hour period), peak sound pressure levels (Peak SPLs), peak-to-peak sound pressure levels (Peak-Peak SPLs) and root-mean-square sound pressure levels (RMS SPLs) from the survey within the most immediate adjacent receiving areas.

The modelling included the following components:

- Airgun source modelling, i.e. modelling the sound energy emissions from the proposed GI Gun unit, including its far-field signature and power spectral density;
- Short range modelling, i.e. prediction of the received SELs (both cumulative SELs and SELs from a single shot), Peak SPLs, Peak-Peak SPLs and RMS SPLs over a range of 4 km from the source location.
- Accumulated modelling – using the planned survey parameters, the cumulative SEL was estimated for the near-field SEL values adjacent to the survey area for the first 24 hours. It should be noted this is the utmost worst-case scenario for the sound field with close proximity to the survey area, assuming that every shot had the equal contribution (i.e. source SEL) to the sound field to be assessed. In reality, the received SEL values were expected to be much lower than the estimated values, as the contributions from those gun shots that were not in the source location would be significantly lower than the source SEL value.

Peak SPLs, Peak-Peak SPLs, RMS SPLs and cumulative SELs were derived from modelled SELs for single shot scenario applied with relevant correction factors, based on relevant worst-case assumptions.

The modelling was based on the following environmental parameters:

1. Water depths within the survey area vary from 125–145 m. Based on a conservative consideration, the shallowest water depth of 125 m was selected for this modelling study.
2. The most significant seasonal differences in speed profiles occur within the mixed layer near the sea surface. Typically, spring and summer seasons have downwardly refracting near-surface profiles, with the summer profile having the stronger downwardly refracting feature. Both the autumn and winter seasons exhibit a mixed surface layer surface duct, with the profile in the winter season

having a stronger and deeper surface duct than that in the autumn season. Due to the stronger surface duct within the profile, it is expected that the winter season will mostly favour the propagation of sound from a near-surface acoustic source among four seasons. In a descending order, the autumn, spring and summer seasons are expected to have relatively weaker sound propagation for a near-surface acoustic source. As survey acquisition is planned during summer or autumn season in 2018, the autumn seasonal profile was selected for the modelling study, based on a conservative consideration of the sound speed profile in autumn and its greater influence on propagation of sound compared to summer. As summer sound speed profiles are expected to result in the weakest sound propagation of all four seasons, the precautionary approach supports the use of autumn as the worst-case scenario.

3. From dropcore results from 2010, the sandy seabed is generally more reflective than silt-clay seabed. Therefore, based on a conservative consideration, a half-space seafloor geoacoustic model with fine sand seafloor material is used for this modelling study.

The noise modelling results are shown in Table 4-1.

Table 4-1: Predicted maximum SELs (single shot and cumulative with a 24-hour period), Peak SPLs, Peak-Peak SPLs and RMS SPLs across water column at various ranges from the source location.

Predicted Parameter	Maximum levels across the water column at various ranges from the source location, dB re 1µPa²·S or dB re 1µPa							
	10 m	50 m	100 m	200 m	1.0 km	1.5 km	2.0 km	4.0 km
SEL – single shot	178.2	164.3	158.4	152.6	143.0	140.0	137.2	129.5
SEL – cumulative	219.5	205.6	199.7	193.9	184.3	181.3	178.5	170.8
Peak SPL	205.8	191.9	186.0	180.2	170.6	167.6	164.8	157.1
Peak-Peak SPL	211.0	197.1	191.2	185.4	175.8	172.8	170.0	162.3
RMS SPL	199.0	185.1	179.2	173.4	163.8	160.8	158.0	150.3

The noise modelling did not predict there would be impact on fish species. With the application of the acoustic threshold criteria for fish as per Table 4-2, below, the above site specific noise modelling results demonstrated that recoverable injury (PTS) would not occur beyond 10 m from the acoustic source, and TTS would not occur at or beyond 1 km from the acoustic source.

Table 4-2: Exposure guidelines sound levels for mortality, impairment and behaviour in fishes.

Type of animal	Mortality or potential mortal injury	Impairment		Behaviour
		Recoverable injury	TTS	
Fish: no swim bladder	>219 dB SEL_{cum} or >213 dB PK	>216 dB SEL_{cum} or >213 dB PK	>186 dB SEL_{cum}	(N) High[1] (I) Moderate (F) Low
Fish: swim bladder but not involved in hearing	>210 dB SEL_{cum} or >207 dB PK	>203 dB SEL_{cum} or >207 dB PK	>186 dB SEL_{cum}	(N) High[1] (I) Moderate (F) Low
Fish: swim bladder involved in hearing	>207 dB SEL_{cum} or >207 dB PK	>203 dB SEL_{cum} or >207 dB PK_k	>186 dB SEL_{cum}	(N) High[1] (I) High (F) Moderate

In addition, the noise modelling results demonstrated that TTS will not occur at the installed Fish Aggregating Devices as demonstrated by Figure 4.1 below.

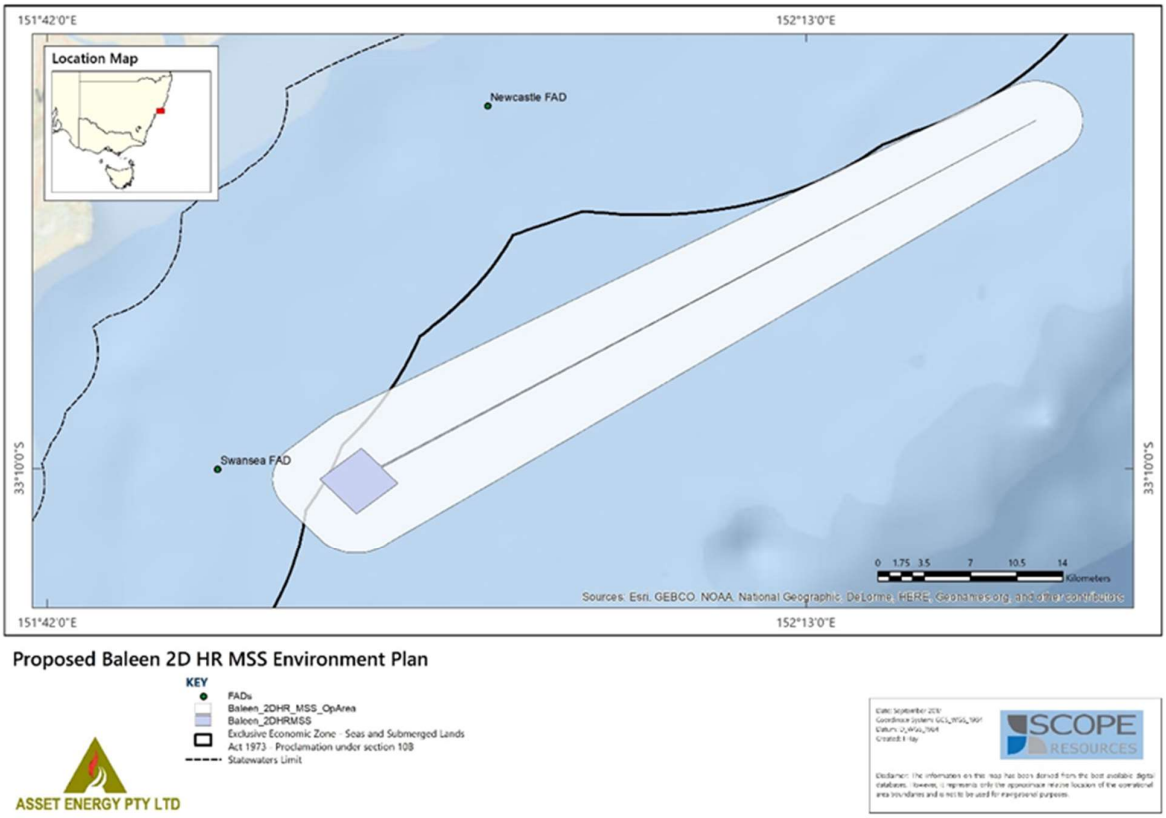


Figure 4-1 Baleen 2D HR Seismic Survey operational area and installed Fish Aggregating Devices (FADs).

Furthermore, at a 2km low power zone, the received sound level modelled for the highest isopleth was SEL_{cum} 178.5 dB, which is well below the threshold for low frequency cetaceans as demonstrated by Table 4-3 below. This information demonstrated a far greater capacity to observe for cetacean activity within the low power zone, considering the relatively small area needed to be monitored. By undertaking the survey outside peak whale migration periods, the likelihood of acoustic impacts on cetaceans was reduced further. No whales were sighted during the survey.

Table 4-3: Summary of marine mammal acoustic threshold criteria for impulsive sounds.

Hearing Group	Generalised Hearing Range[1]	Acoustic Threshold Criteria		
		PTS[1]	TTS[1]	Behavioural [2]
Low-frequency cetaceans (baleen whales)	7 Hz to 35,000 Hz	219 dB PK 183 dB SEL_{24h}	213 dB PK 168 dB SEL_{24h}	160 dB SPL
Mid-frequency cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160,000 Hz	230 dB PK 185 dB SEL_{24h}	224 dB PK 170 dB SEL_{24h}	160 dB SPL
High-frequency cetaceans (true porpoises, Kogia, river dolphins, cephalorhynchid, Lagenorhynchus, *L. australis*)	275 Hz to 160,000 Hz	202 dB PK 155 dB SEL_{24h}	196 dB PK 140 dB SEL_{24h}	160 dB SPL

4.1.2 *Cetaceans*

Environmental Performance Standards
Seismic acquisition will not take place outside accepted (agreed) time period for the survey.
Adherence to EPBC Policy Guidelines 2.1 (Part A), as appropriate for the activity (Nov – May); Part A of EPBC Policy Statement 2.1 will be applied in full to mitigate potential impacts to cetaceans, including: • Observation zone: 3+ km horizontal radius from the seismic source; • Low Power Zone: 2 km horizontal radius from the seismic source; • Shut-down zone: 500 m horizontal radius from the seismic source; • Pre-Start-up Visual Observations (> 30 mins before soft start); • Soft-start Procedures; • Start-up Delay Procedures; • Operational Shut-down and Low-power Procedures; • Night-time and Low Visibility Procedures; and • Sighting Reports. Aspects of Part B of EPBC Policy Statement 2.1 will be applied to mitigate potential impacts to cetaceans as follows: • Marine Mammal Observers (B.1); and • Increased low power zone: 2 km horizontal radius from the seismic source (B.4).
Vessel propulsion system(s) (engines and thrusters) maintained in good working order in accordance with manufacturers specification via the Planned Maintenance System (PMS) to ensure efficient operation.
Seismic source will be adequate for the project objectives (i.e. not overcharged), water depths and underlying geology.
Use of MFO to observe for marine fauna and Soft Start Policy.
Use of thrusters to maintain vessel's position only as required.

Spatial separation from cetaceans maintained at all times in compliance with Part 8 of the EPBC Regulations (Interactions with cetaceans and whale watching).
The survey will not be undertaken during peak humpback whale migrations (northern and southern migrations); 01 June – 31 July or 01 October – 30 November respectively.
MFO will maintain vigilant observation for marine cetaceans within precaution zones and vessel planned path throughout duration of seismic survey.
Seismic array will be shut down if cetacean (or whale shark) enters shut-down zone.
When observations cannot extend to 3 km (i.e. during night time or times of low visibility) operations may proceed provided there have not been 3 or more whales instigated power-down or shut-down situations during the preceding 24 hours.
Seismic gun will not be fired if cetaceans (or whale sharks) are within low power or shut-down zone within intended passage of vessel – alternative line plan to be selected as required.
The single airgun is initiated at increasing pressure from a lowest pressure of 800 psi to the maximum 2,000 psi.
Vessel and survey crew to attend environmental induction containing basic information and legal requirements on procedures to manage interactions between survey vessel, survey equipment and marine fauna (including, EPBC Act Policy Statement 2.1 Part A and Part B requirements, soft start, start-up delay, operations and stop work procedures, night time and low visibility procedures).
Details of Performance against EPS

• Seismic data acquisition occurred between 16 and 19 April 2018, within the time frame in the accepted environment plan and not during peak humpback whale migration..
• Asset Energy engaged two marine fauna observers (MFO) to ensure adherance with EPBC Policy Statement 2.1. The Marine Fauna Observation Report is provided in Appendix B. This demonstrates, and the executive summary describes, that:
  • Seismic acquisition and source operational procedures were undertaken in accordance with the requirements of the Environmental Protection and Biodiversity Conservation (EPBC) Act Policy Statement 2.1 Interaction between offshore seismic exploration and whales (DEWHA, 2008): Part A Standard Management Procedures.
  • Dedicated monitoring effort was conducted by Marine Fauna Observers (MFO) over a period of 5 days, prior to and during testing, soft start and acquisition. Overall, a combined total of 46 hours 54 minutes of monitoring effort was achieved over the course of the Baleen 2D HR seismic survey.
  • Pre-shooting searches were conducted prior to the commencement of all airgun operations undertaken during daylight hours. A total of 5 visual pre-shooting searches were undertaken by the MFOs stationed on-board the seismic source vessel, PMG Pride.
  • There were a total of 22 airgun uses: 22 soft start procedures, 46 line sequences, and 1 gun test. Soft start procedures were implemented as standard operational practice, each time the seismic source was initiated prior to acquisition and testing (if required). All soft starts were at least 30 min in duration. Overall, observations while the airguns were active totalled 32 hours 40 minutes.
  • A total of one (1) cetacean sighting record (common bottlenose dolphin) was documented. There were no records of species that could not be positively identified.
  • There were no start-up delay procedures implemented during the survey as no 'applicable' species listed within the EPBC Act Policy Statement 2.1 (DEWHA, 2008) or the Baleen 2D HR Seismic Survey Environmental Plan (EP) were encountered within the designated safety zones around the seismic source during the pre-start-up visual observation search periods.
  • There was one (1) powerdown/shutdown event instigated by an 'applicable species' being detected within the designated mitigation zones during seismic operations. On this occasion, the source was powered down and shut down immediately upon request from the MFO and soft start procedures commenced after the all clear was given.
  • No non-compliance events were documented in relation to marine fauna interactions, mitigation or source operational procedures.
• Two qualified and experienced MFO were engaged by Asset Energy to undertake the MFO role for the duration of the survey and as reported on and included in this EPR. The skills, qualifications and experiences of the MFO are provided in Appendix C.
• The engine and thrusters on the survey vessel were maintained and in good order. The engine logs for the duration of the survey are provided in Appendix D.
• Asset Energy undertook a pre-survey environmental induction. The induction covered discussion around the Company, the PEP11 title, the technical details of the seismic acquisition, the known environment and the environmental performance standards and outcomes. Further contribution was provided by the MFO, and detail was provided to participants with regards to the obligations under the EPBC Act, risk evaluation and EPBC Act Policy Statement procedures. The signed induction sheets are provided in Appendix E.

4.1.3 *Fish*

Environmental Performance Standards
Seismic acquisition will not take place outside accepted (agreed) time period for the survey.
The survey will not be undertaken during grey nurse shark breeding; 01 June - 31 July.
Adherence to EPBC Policy Guidelines 2.1 (Part A), as appropriate for the activity (Nov – May); Part A of EPBC Policy Statement 2.1 will be applied in full to mitigate potential impacts to marine fauna, including: • Observation zone: 3+ km horizontal radius from the seismic source; • Low Power Zone: 2 km horizontal radius from the seismic source; • Shut-down zone: 500 m horizontal radius from the seismic source; • Pre-Start-up Visual Observations (> 30 mins before soft start); • Soft-start Procedures; • Start-up Delay Procedures; • Operational Shut-down and Low-power Procedures; • Night-time and Low Visibility Procedures; and • Sighting Reports. Aspects of Part B of EPBC Policy Statement 2.1 will be applied to mitigate potential impacts to cetaceans as follows: • Marine Mammal Observers (B.1); and • Increased low power zone: 2 km horizontal radius from the seismic source (B.4).
Vessel propulsion system(s) (engines and thrusters) maintained in good working order in accordance with manufacturers specification via the Planned Maintenance System (PMS) to ensure efficient operation.
No overcharging of the airgun.
Use of thrusters to maintain vessel's position only as required.
Seismic source will be adequate for the project objectives (i.e. not overcharged), water depths and underlying geology.

MFO will maintain vigilant observation for marine fauna within precaution zones and vessel planned path throughout duration of seismic survey.
Seismic gun will not be fired if cetaceans (or whale sharks) are within low power or shut-down zone within intended passage of vessel – alternative line plan to be selected as required.
Seismic array will be shut down if cetacean (or whale shark) enters shut-down zone.
The single airgun is initiated at increasing pressure from a lowest pressure of 800 psi to the maximum 2,000 psi.
Vessel and survey crew to attend environmental induction containing basic information and legal requirements on procedures to manage interactions between survey vessel, survey equipment and marine fauna (including, EPBC Act Policy Statement 2.1 Part A and Part B requirements, soft start, start-up delay, operations and stop work procedures, night time and low visibility procedures).

Details of Performance against EPS

- Seismic data acquisition occurred between 16 and 19 April 2018, within the time frame in the accepted environment plan, and outside the known grey nurse shark breeding period.
- Asset Energy engaged two marine fauna observers (MFO) to ensure adherance with EPBC Policy Statement 2.1. The Marine Fauna Observation Report is provided in Appendix B. This demonstrates, and the executive summary describes, that:
    - Seismic acquisition and source operational procedures were undertaken in accordance with the requirements of the Environmental Protection and Biodiversity Conservation (EPBC) Act Policy Statement 2.1 Interaction between offshore seismic exploration and whales (DEWHA, 2008): Part A Standard Management Procedures.
    - Dedicated monitoring effort was conducted by Marine Fauna Observers (MFO) over a period of 5 days, prior to and during testing, soft start and acquisition. Overall, a combined total of 46 hours 54 minutes of monitoring effort was achieved over the course of the Baleen 2D HR seismic survey.
    - Pre-shooting searches were conducted prior to the commencement of all airgun operations undertaken during daylight hours. A total of 5 visual pre-shooting searches were undertaken by the MFOs stationed on-board the seismic source vessel, PMG Pride.
    - There were a total of 22 airgun uses: 22 soft start procedures, 46 line sequences, and 1 gun test. Soft start procedures were implemented as standard operational practice, each time the seismic source was initiated prior to acquisition and testing (if required). All soft starts were at least 30 min in duration. Overall, observations while the airguns were active totalled 32 hours 40 minutes.
    - A total of one (1) cetacean sighting record (common bottlenose dolphin) was documented. There were no records of species that could not be positively identified.
    - There were no start-up delay procedures implemented during the survey as no ‘applicable’ species listed within the EPBC Act Policy Statement 2.1 (DEWHA, 2008) or the Baleen 2D HR Seismic Survey Environmental Plan (EP) were encountered within the designated safety zones around the seismic source during the pre-start-up visual observation search periods.
    - There was one (1) powerdown/shutdown event instigated by an ‘applicable species’ being detected within the designated mitigation zones during seismic operations. On this occasion, the source was powered down and shut down immediately upon request from the MFO and soft start procedures commenced after the all clear was given.
    - No non-compliance events were documented in relation to marine fauna interactions, mitigation or source operational procedures.
- Two qualified and experienced MFO were engaged by Asset Energy to undertake the MFO role for the duration of the survey and as reported on and included in this EPR. The skills, qualifications and experiences of the MFO are provided in Appendix C.
- The engine and thrusters on the survey vessel were maintained and in good order. The engine logs for the duration of the survey are provided in Appendix D.
- Asset Energy undertook a pre-survey environmental induction. The induction covered discussion around the Company, the PEP11 title, the technical details of the seismic acquisition, the known environment and the environmental performance standards and outcomes. Further contribution was provided by the MFO, and detail was provided to participants with regards to the obligations under the EPBC Act, risk evaluation and EPBC Act Policy Statement procedures. The signed induction sheets are provided in Appendix E.

4.1.4 *Crustacea (Lobster spp)*

Environmental Performance Standards
Seismic acquisition will not take place outside accepted (agreed) time period for the survey.
The survey will not be undertaken between 01 June and 31 January to avoid spawning of eastern lobsters.
Vessel propulsion system(s) (engines and thrusters) maintained in good working order in accordance with manufacturers specification via the Planned Maintenance System (PMS) to ensure efficient operation.
No overcharging of the airgun.
Use of thrusters to maintain vessel's position only as required.
Seismic source will be adequate for the project objectives (i.e. not overcharged), water depths and underlying geology.
The single airgun is initiated at increasing pressure from a lowest pressure of 800 psi to the maximum 2,000 psi.
Vessel and survey crew to attend environmental induction containing basic information and legal requirements on procedures to manage interactions between survey vessel, survey equipment and marine fauna (including, EPBC Act Policy Statement 2.1 Part A and Part B requirements, soft start, start-up delay, operations and stop work procedures, night time and low visibility procedures).
Details of Performance Against EPS
• Seismic data acquisition occurred between 16 and 19 April 2018, within the time frame in the accepted environment plan, and outside the spawning period of eastern lobsters. • The engine and thrusters on the survey vessel were maintained and in good order. The engine logs for the duration of the survey are provided in Appendix D. • Asset Energy undertook a pre-survey environmental induction. The induction covered discussion around the Company, the PEP11 title, the technical details of the seismic acquisition, the known environment and the environmental performance standards and outcomes. Further contribution was provided by the MFO, and detail was provided to participants in regards to the obligations under the EPBC Act, risk evaluation and EPBC Act Policy Statement procedures. The signed induction sheets are provided in Appendix E.

4.1.5 *Zooplankton*

Environmental Performance Standards
Seismic acquisition will not take place outside accepted (agreed) time period for the survey.
Vessel propulsion system(s) (engines and thrusters) maintained in good working order in accordance with manufacturers specification via the Planned Maintenance System (PMS) to ensure efficient operation.
Use of thrusters to maintain vessel's position only as required.
Seismic source will be adequate for the project objectives (i.e. not overcharged), water depths and underlying geology.
The single airgun is initiated at increasing pressure from a lowest pressure of 800 psi to the maximum 2,000 psi.
Vessel and survey crew to attend environmental induction containing basic information and legal requirements on procedures to manage interactions between survey vessel, survey equipment and marine fauna (including, EPBC Act Policy Statement 2.1 Part A and Part B requirements, soft start, start-up delay, operations and stop work procedures, night time and low visibility procedures).
Details of Performance Against EPS
• Seismic data acquisition occurred between 16 and 19 April 2018, within the time frame in the accepted environment plan, and outside the spawning period of eastern lobsters. • The engine and thrusters on the survey vessel were maintained and in good order. The engine logs for the duration of the survey are provided in Appendix D. • Asset Energy undertook a pre-survey environmental induction. The induction covered discussion around the Company, the PEP11 title, the technical details of the seismic acquisition, the known environment and the environmental performance standards and outcomes. Further contribution was provided by the MFO, and detail was provided to participants with regards to the obligations under the EPBC Act, risk evaluation and EPBC Act Policy Statement procedures. The signed induction sheets are provided in Appendix E.

4.2 Interference with Other Users of the Sea

Environmental Performance Standards
Seismic acquisition will not take place outside accepted (agreed) time period for the survey
Adherence to EPBC Policy Guidelines 2.1 (Part A), as appropriate for the activity (Nov – May); Part A of EPBC Policy Statement 2.1 will be applied in full to mitigate potential impacts to cetaceans, including: • Observation zone: 3+ km horizontal radius from the seismic source; • Low Power Zone: 2 km horizontal radius from the seismic source; • Shut-down zone: 500 m horizontal radius from the seismic source; • Pre-Start-up Visual Observations (> 30 mins before soft start); • Soft-start Procedures; • Start-up Delay Procedures; • Operational Shut-down and Low-power Procedures; • Night-time and Low Visibility Procedures; and • Sighting Reports. Aspects of Part B of EPBC Policy Statement 2.1 will be applied to mitigate potential impacts to cetaceans as follows: • Marine Mammal Observers (B.1); and • Increased low power zone: 2 km horizontal radius from the seismic source (B.4).
Vessel propulsion system(s) (engines and thrusters) maintained in good working order in accordance with manufacturers specification via the Planned Maintenance System (PMS) to ensure efficient operation.
No overcharging of the airgun.
Use of thrusters to maintain vessel's position only as required.
Relevant stakeholders identified and notified of proposed activity, including location and schedule
Consultation with appropriate regulators / stakeholders prior to commencement of survey (with notification of location and survey duration and schedule).
Location and timing of the survey forwarded to AMSA and Australian Hydrographic Office >2 weeks prior to mobilisation (for issue of NTM) and warnings broadcast to shipping in region.
Direct communications with fishers and careful management with respect to access of the survey area will be implemented throughout operations to minimise the level of disturbance.
Direct communication through NSW DPI communication channels (e.g. Newscast, Charter Chatter and NSW DPI Facebook).
The survey will not be undertaken between 01 June - 31 January to avoid spawning of eastern lobsters.
The single airgun is initiated at increasing pressure from a lowest pressure of 800 psi to the maximum 2,000 psi.

Vessel and survey crew to attend environmental induction containing basic information and legal requirements on procedures to manage interactions between survey vessel, survey equipment and marine fauna (including, EPBC Act Policy Statement 2.1 Part A and Part B requirements, soft start, start-up delay, operations and stop work procedures, night time and low visibility procedures).
Compliance with EPBC Act Policy Statement 2.1.
Vessel to be equipped with necessary navigation aids (i.e. radar, vessel GPS tracking).
Maintain appropriate lighting, communication and navigation equipment (including operational maintenance) as required to satisfy navigation / marine safety legislation (i.e. *International Regulations for the Prevention of Collisions at Sea 1972 (as amended), International Convention of the Safety of Life at Sea (SOLAS), 1974 and Navigation Act 2012).*
Tail buoy markers maintained and visible.
Enforcement of 2 nm exclusion zone around the vessel to avoid entanglement and collision.
Look-out duties maintained 24 hours per day by competent and trained crew, with additional watch officer / rating for night time activities as required through international legislation (i.e. SOLAS) and internal vessel procedures.
Regular updates with relevant stakeholder / regulators (local fisheries, AMSA (AMSA Rescue Coordination Centre-RCC)) on vessel movements and intended movements (line plan).
Vessel management systems adhered to.
The survey will not to be undertaken during key recreational fishing period and during the planned game fishing tournaments defined as in s3.6.5 being from 9 February to 11 March, plus 23 to 25 March.
The survey will not overlap the temporal or spatial boundaries of the 'carpark' area at the times of known game fishing tournaments, defined as being from 9 February to 11 March and 23-25 March.
The survey will not be undertaken between 23 March and 8 April, being the week lead up to and after Easter – 1 April 2018 (due to overlap with peak commercial and recreational fishing activities).
Details of Performance Against EPS
• Seismic data acquisition occurred between 16 and 19 April 2018, within the time frame in the accepted environment plan, and outside the known eastern lobster spawning period and recreational fishing tournament times. • Asset Energy engaged two marine fauna observers (MFO) to ensure adherance with EPBC Policy Statement 2.1. The Marine Fauna Observation Report is provided in Appendix B. • Two qualified and experienced MFO were engaged by Asset Energy to undertake the MFO role for the duration of the survey and as reported on and included in this EPR. The skills, qualifications and experiences of the MFO are provided in Appendix C. • The engine and thrusters on the survey vessel were maintained and in good order. The engine logs and maintenance records for the duration of the survey are provided in Appendix D. • Asset Energy undertook a pre-survey environmental induction. The induction covered discussion around the Company, the PEP11 title, the technical details of the seismic acquisition, the known environment and the environmental performance standards and outcomes. Further contribution was provided by the MFO, and detail was provided to participants in regards to the obligations under the EPBC Act, risk evaluation and EPBC Act Policy Statement procedures. The signed induction sheets are provided in Appendix E. • Asset Energy maintained communications with all relevant stakeholders and interested persons, including regulatory and other government agencies, professional and recreational fishers, Details of stakeholder engagement and communications is provided in Section 7 and Appendix A. • The vessel maintained twice daily communications via VHF radio to advise other marine users of its present and planned locations and activities. The radio log is provided in Appendix F. • The tail buoy was equipped with a functioning flashing white light.

4.3 Artificial Lighting

Environmental Performance Standards
Seismic acquisition will not take place outside accepted (agreed) time period for the survey.
Minimum lighting used as required, to satisfy navigation / marine safety (*International Regulations for the Prevention of Collisions at Sea 1972 (as amended).*
Minimum lighting used for safe (deck) operations with lights orientated to work surfaces to reduce 'marine light pollution (The Australian Offshore Support Vessel Code of Safe Working Practice (Section 9.1.4 Deck lighting – AMSA, version 3, 2002).
Awareness training for all crew to minimise unnecessary lighting, with continuous reminders throughout duration of the activity.
Compliance with EPBC Act Policy Statement 2.1.

Details of Performance Against EPS
• Seismic data acquisition occurred between 16 and 19 April 2018, within the time frame in the accepted environment plan. • Asset Energy engaged two marine fauna observers (MFO) to ensure adherance with EPBC Policy Statement 2.1. The Marine Fauna Observation Report is provided in Appendix B. • All marine crew and seismic operations personnel onboard the PMG Pride were required to undertake vessel induction inclusive of safety and environmental policy awareness training.

4.4 Routine Discharges (Sewage and Grey Water Discharges)

Environmental Performance Standards
Waste management in accordance with Vessel Shipboard Garbage Management Plan (including the treatment of sewage and grey water discharges via an approved sewage treatment plant).
Vessel's sewage treatment plant is maintained in accordance with PMS.
Grey water (from showers, laundry, dishwasher) may be discharged at sea as per Annex IV.
Discharge to comply with Protection of the Sea (Prevention of Pollution by Ships) Act 1983 and sewage will be treated in accordance with MARPOL (Annex IV) / AMSA Marine Orders 96, including: • Discharge of sewage is permitted in Operational Area (i.e. >3 nm from nearest shoreline if comminuted and disinfected using an approved system and/or >12 from nearest shoreline if not comminuted and disinfected using an approved system).
Quantity, time and location of disposal are recorded.
Tools and resources available to clean up spills consistent with SOPEP.
Crew inductions will include details for correct waste disposal, spill response and good housekeeping practices (including minimising the level of waste (i.e. water use minimisation, shower duration, launder clothing as necessary).
Discharges of bilge water in accordance with MARPOL Annex 1, (Regulation 6, 14 and 7).
Bilge water discharged via oil water separators (as per MARPOL Annex I which specifies <15ppm oil content).
Oil filtering system of an adequate and approved design maintained in accordance with vessel PMS.
Correct storage of chemicals and hydrocarbons in accordance with Hazardous Goods Procedure.
Tools and resources available to clean up spills consistent with SOPEP.
Scupper plugs or equivalent deck drainage control measures (bunding) where chemicals and hydrocarbons are stored and frequently handled to prevent run off.
Crew inductions will include details for correct waste disposal, spill response and good housekeeping practices.
Details of Performance Against EPS
• All marine crew and seismic operations personnel onboard the PMG Pride were required to undertake vessel induction inclusive of safety and environmental policy awareness training. • A copy of the PMG Pride's garbage records is provided in Appendix G. • A copy of the PMG Pride's Oil Pollution Prevention Certificate is provided in Appendix H.

4.5 Routine Discharges - Putrescible Waste Discharge

Environmental Performance Standards
Galley crew will contain all food scraps for discharge in accordance with MARPOL Annex V (enacted by AMSA Marine Orders Part 95, Garbage).
Permission from the bridge will be acquired prior to discharge.
Galley crew will ensure that all non-putrescible galley waste (i.e. packing, cooking oils and grease) is securely stored prior to transfer back to shore for recycling or disposal.
All wastes not treated on-board disposed of at an appropriate licensed facility.
Waste management in accordance with Vessel Shipboard Garbage Management Plan and in line with the Company's Waste Management Plan.
Waste records maintained (controlled waste transfer note).
Galley crew adequately training and notified of all waste management requirements.
All wastes not treated on-board will be disposed at an appropriate licensed facility.
Solid wastes will be segregated into clearly marked containers.
Waste management in accordance with MARPOL (Annex V) (enacted by AMSA Marine Orders 94, Packaged harmful substances and Marine Order 95 Garbage), Garbage Management Plan and Company's Waste Management Plan.
All bins on deck will be covered to prevent rubbish blowing overboard.
Crew inductions will include details for correct waste disposal, spill response and good housekeeping practices.
Waste records maintained (controlled waste transfer note).
Details of Performance Against EPS
• All marine crew and seismic operations personnel onboard the PMG Pride were required to undertake vessel induction inclusive of safety and environmental policy awareness training. • A copy of the PMG Pride's garbage records is provided in Appendix G. • A copy of the PMG Pride's Oil Pollution Prevention Certificate is provided in Appendix H.

4.6 Atmospheric Emissions

Environmental Performance Standards
All machinery will undergo planned service and maintenance in accordance with the vessels PMS.
Incineration will be in compliance with Annex VI, i.e. no incineration of substances that will have an adverse effect on air emissions (oily rags, tyres).
Compliance with MARPOL (Annex VI) for the Prevention of Air Pollution from Ships (AMSA Marine Order Part 97 (Air pollution)) including: • Low sulphur diesel will be selected in line with MARPOL Annex VI requirements to minimise SOx emissions; • No discharge of ozone-depleting substances (ODS) MARPOL Annex VI; • Vessel maintains records of ODS onboard; and • Transport use will be carefully planned to essential travel only to keep fuel use to a minimum
Ozone-depleting substances managed in accordance with Regulation 13 of MARPOL Annex VI.
Comply with Fuel Management Standard (M31SM/P008) - Automotive diesel fuel to be purchased from a registered supplier that confirms fuel to contain less than 3.5% m/m sulphur.
Monitor of vessel's fuel usage or abnormal consumption and in the event of high usage the chief engineer will initiate corrective action to minimise excessive air pollution.
Details of Residual Impacts and Risks
• All marine crew and seismic operations personnel onboard the PMG Pride were required to undertake vessel induction inclusive of safety and environmental policy awareness training. • A copy of the PMG Pride's garbage records is provided in Appendix G. • A copy of the PMG Pride's Oil Pollution Prevention Certificate is provided in Appendix H. • A copy of the PMG Pride's certificate of compliance for engine air pollution prevention is provided in Appendix I.

5 ENVIRONMENTAL RISKS AND MANAGEMENT – UNPLANNED ACTIVITIES

This section provides details of the Environmental Performance Standards (control measures) and Asset Energy's performanc against those EPS associated with the following aspects:

- Introduction of Marine Pests;
- Disturbance of the Seabed or Loss of Equipment;
- Hazardous and Non-Hazardous Solid Wastes;
- Physical Presence of Vessel (Marine Fauna or Vessel Collision, Entanglement of Fishing Gear);
- Spillage of Hazardous Chemicals and Liquid Waste (excluding fuel) to the Sea; and
- Accidental Hydrocarbon (Fuel) Spill.

5.1 Introduction of Marine Pests

Environmental Performance Standards
Vessel anti-fouling systems are maintained in compliance with International Convention on the Control of Harmful Anti-fouling Systems on Ships and regulations of the *Biosecurity Act 2015* (Australian Ballast Water Management and Anti-fouling and In-water Cleaning Guidelines).
Vessel has DAWR clearance to be in Australian waters.
A bio-fouling vessel risk assessment (VRASS) was completed prior to mobilisation to Australia as defined within the National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (Commonwealth of Australia, 2009) and ranked as "low".
Immersible equipment and the survey vessel hull, sea chests and other niches must be 'clean' before the survey activity begins.
The suspected or confirmed presence of any marine pests or disease must be reported to NOPSEMA as a reportable incident.
Under normal operations of the survey activity, no ballast water discharge will take place.
Details of Performance against the EPS
• Immediately prior to mobilising to Newcastle from home port of Mackay, Queensland, the PMG Pride was dry-docked and treated with new anti-fouling paint. This is certified and provided as Appendix J. • In-sea seismic equipment was cleaned using high pressure hoses before being shipped to Australia. All equipment was then inspected by DAWR Biosecurity Inspectors on arrival in Australia prior to being released for use. The clearance certicate is provided in Appendix K.

5.2 Disturbance of the Seabed / Loss of Equipment

Environmental Performance Standards
The *PMG Pride* cannot anchor in the Operational Area due to water depth (except in the event of an emergency).
Any incidents of vessel anchoring or grounding shall be reported to NOPSEMA as a reportable incident.
Capstans and anchor handling equipment maintained in accordance with the Planned Maintenance System (PMS), and operation of the anchor winch and associated deployment and recovery equipment in accordance with procedures.
All lifting equipment used on the vessel to be certified.
Streamers will be: • retrieved if lost accidentally; and • checked/inspected prior to use (including associated equipment).
Capstans and anchor handling equipment maintained in accordance with the Planned Maintenance System (PMS), and operation of the anchor winch and associated deployment and recovery equipment in accordance with procedures.
Shipboard safety procedures to be followed, all equipment checks to be completed prior to deployment (deployment and recovery of streamers handled in accordance with vessel-specific procedure).
Competent personnel onboard operating lifting equipment and overseeing deployment and recovery of equipment.
Emergency procedures in place for equipment entanglement, loss and retrieval.
In-water equipment lost will be recovered (where possible) and detailed records maintained of any loss of in-water equipment lost.
If equipment lost is irretrievable, maintain records of the circumstances that prohibited the equipment from being recovered and inform AMSA of the potential navigation hazard to other mariners.
Streamer tow depth will be 3 m and no closer than 50 m from the seabed.
Details of Performance Against the EPS
• No anchoring was required during the survey • No equipment was lost

5.3 Hazardous and Non-Hazardous Solid Wastes

Environmental Performance Standards
All wastes collected, stored, processed and disposed of in accordance with *PMG Pride*'s Shipboard Garbage Management Plan, as required under MARPOL Annex V, Regulation 9.
All non-hazardous waste (including scrap metal and wood) stored within suitably enclosed bins or stowed appropriately below decks.
Hazardous wastes separated, labelled and stored within secondary containment (e.g. bin located in bunded areas).
Vessel crew to take precautions against the loss of waste over the side, including ensuring all equipment on deck to be secured when not in use.
Induction and crew training in good housekeeping and correct stowage of solid waste material.
Non-food waste will be disposed of onshore at a suitable waste facility or to a carrier licensed to receive the waste should the port of demobilisation not have sufficient facilities.
Accidental release of waste to the marine environment reported and investigated, and corrective actions are implemented.
Details of Performance Against EPS
• All marine crew and seismic operations personnel onboard the PMG Pride were required to undertake vessel induction inclusive of safety and environmental policy awareness training. • A copy of the PMG Pride's garbage records is provided in Appendix G.

5.4 Physical Presence of Vessel (Marine Fauna / Vessel Collision, Entanglement of Fishing Gear)

Environmental Performance Standards
At all times during the survey, the vessel will implement control measures based on the EPBC Act Part 8 (Interacting with cetaceans and whale watching) / Australian National Guidelines for Whale and Dolphin Watching (2005): • the vessel will not travel at speeds greater than 6 knots within 300 m (caution zone) of a cetacean and will not approach closer than 100 m from an animal (with the exception animals bow riding); • the survey vessel must not enter the caution zone of a calf; and • if a calf appears in the caution zone, then the vessel must either: ▪ disengage the gears; or ▪ withdraw the vessel from the caution zone at a constant speed of less than 6 knots.
Vessels to be equipped with navigational aids, radar, vessel GPS tracking/AIS, qualified crew, vessel and management systems.
Maintain appropriate lighting, communication and navigation equipment (including operational maintenance) as required to satisfy navigation / marine safety legislation (i.e. *International Regulations for the Prevention of Collisions at Sea 1972 (as amended), International Convention of the Safety of Life at Sea (SOLAS), 1974 and Navigation Act 2012).*
Tail buoy markers maintained and visible.
Enforcement of 2 nm exclusion zone around the vessel to avoid entanglement and collision.
Look-out duties maintained 24 hours per day by competent crew, with additional watch officer / rating for night time activities as required through international legislation (i.e. SOLAS) and internal vessel procedures.
Regular updates with relevant stakeholders (local fisheries) on vessel movements and intended movements (line plan) to avoid overlap with fishers.
MFO to maintain vigilant observations for marine cetaceans and other marine fauna noting precaution zones and vessel planned path.
Visual observations to be maintained on animals approaching the vessel to avoid collision.
Marine cetacean sightings and any interactions reported to the DOtE within two months of survey completion.
Tail buoys used are designed to avoid entrapment of turtles. Vessel and survey crew to attend environmental induction containing basic information and legal requirements on procedures to manage interactions between survey vessel, survey equipment and marine fauna.
Details of Performance Against the EPS

- Asset Energy engaged two marine fauna observers (MFO) to ensure adherance with EPBC Policy Statement 2.1. The Marine Fauna Observation Report is provided in Appendix B. This demonstrates, and the executive summary describes, that:
    - Dedicated monitoring effort was conducted by Marine Fauna Observers (MFO) over a period of 5 days, prior to and during testing, soft start and acquisition. Overall, a combined total of 46 hours 54 minutes of monitoring effort was achieved over the course of the Baleen 2D HR seismic survey.
    - A total of one (1) cetacean sighting record (common bottlenose dolphin) was documented. There were no records of species that could not be positively identified.
    - There were no start-up delay procedures implemented during the survey as no 'applicable' species listed within the EPBC Act Policy Statement 2.1 (DEWHA, 2008) or the Baleen 2D HR Seismic Survey Environmental Plan (EP) were encountered within the designated safety zones around the seismic source during the pre-start-up visual observation search periods.
    - There was one (1) powerdown/shutdown event instigated by an 'applicable species' being detected within the designated mitigation zones during seismic operations. On this occasion, the source was powered down and shut down immediately upon request from the MFO and soft start procedures commenced after the all clear was given.
    - No non-compliance events were documented in relation to marine fauna interactions, mitigation or source operational procedures.
- Two qualified and experienced MFO were engaged by Asset Energy to undertake the MFO role for the duration of the survey and as reported on and included in this EPR. The skills, qualifications and experiences of the MFO are provided in Appendix C.
- A sailing vessel did not give navigational clearance to the survey vessel during the early hours of 17 April 2018; the survey vessel ensured navigation safety by changing course to avoid the yacht. A second vessel interaction occurred when the professional fishing boat the "Don' came within the 2nm exclusion zone. The fishing vessel did not respond to the radio call made by the PMG Pride; reasonable attempts were made to inform the other vessel of the 2nm safety zone. NOPSEMA inspectors on board the survey vessel noted that there was low risk of a safety risk to either vessel.
- On 16 April 2018 at 1520hrs a sport game fishing launch was sighted approaching the survey vessel which was acquiring data at the time. This boat travelled to within an estimated 400m to starboard of the survey vessel, and held alongside for about 20 minutes. This breached the safety exclusion zone specified of 2 nautical miles. The vessel's name or identification could not be sighted. Later it became evident that an airborne drone was operated from this vessel to take video over the survey vessel. The survey vessel was at the time (and throughout the survey) displaying the required shapes to identify that it was towing a streamer. However, no attempt was made by the survey vessel master to contact the vessel by radio. In this case, however, it was evident that the personnel aboard the game fishing launch were aware of the operations being undertaken by the PMG Pride and should have been aware, via a Notice to Mariners, that Asset Energy had declared that there would be a 2nm safety exclusion zone. It appeared that the vessel deliberately breached the safety zone and in that case communication from the bridge would not have addressed this issue. The sea conditions were calm and visibility was good and there was subsequently a low level of risk of collision to either vessel.
- Another vessel interaction occurred at 0900 to 0920 hrs on the 17th April 2018. A commercial fishing vessel, "Leader Creek", was detected moving south on an intersection course. The PMG Pride vessel master made radio contact and informed the Leader Creek that his vessel was acquiring seismic, had a 900m streamer and that a 2nm exclusion zone was in place. Leader Creek acknowledged receipt of this information and changed course to pass astern of the exclusion zone. This represented a successful implementation of the controls in the EP.
- PMG Pride and acquisition equipment was fitted with navigation equipment as specified in the EP and correct watch was kept. However, the tail buoy was not able to be fitted with a radar reflector as specified in the EP. The tail buoy was fitted with a functioning flashing white light.
- The vessel master broadcast survey information morning and night for duration of the survey, as indicated in the radio log in Appendix F.

5.5 Spillage of Hazardous Chemicals and Liquid Waste (excluding fuel) to the Sea

Introduction

Environmental Performance Standards
Hazardous liquids to be packaged, labelled and stowed in accordance with MARPOL Annex III and in accordance with Pacific Conquests Shipboard, Safety Procedures Manual; *Handling and control of harmful substances* (i.e. use of bunded areas).
Harmful substances shall be properly stored in accordance with relevant material safety data sheets (MSDS).
Transfer of fuel to and from *Pacific Conquest* in compliance with *Pacific Conquest's* fuel transfer procedure. No fuel transfer to take place at sea (unless in an emergency situation).
Implement Shipboard Oil Pollution Emergency Plan (SOPEP) and Emergency Spill Response Plan (spill incident).
Tools and resources available to clean up spills consistent with SOPEP.
Crew inductions will include details for correct waste disposal, spill response and good housekeeping practices (including minimising the level of waste).
Contaminated material contained onboard for onshore disposal in accordance MARPOL Annex III and in accordance with Pacific Conquests Shipboard, Safety Procedures Manual; *Handling and control of harmful substances.*
All shipboard chemical spills / hydrocarbon spills managed in accordance with vessel's SOPEP.
All ocean hydrocarbon spills managed in accordance with vessel's SOPEP.
Spill clean-up equipment located where chemicals and hydrocarbons are stored and frequently handled.
Scupper plugs or equivalent deck drainage control measures available where chemicals and hydrocarbons are stored and frequently handled.
Only non-hazardous, biodegradable detergents used for deck washing.
Excess water to be cleared from decks (especially following rainfall).
All equipment / machinery containing involved in the discharge and transfer of hazardous liquids to be maintained to manufacturer's specifications and in accordance with PMS.
Details of Performance Against the EPS
• No refuelling occurred at sea

5.6 Accidental Hydrocarbon (Fuel) Spill

Environmental Performance Standards
Notification provided to key stakeholders including relevant Australian Government agencies.
Australian Hydrographic Office (AHO) (including hydro.NTM@defence.gov.au) notified of Operational Area, exclusion zone, activity and duration at least 14 days prior to mobilisation. They will then issue a 'Notice to Mariners'.
AMSA RCC notified of Operational Area, exclusion zone, activity and duration prior to mobilisation, which triggers RCC to issue an AusCoast Warning.
Australian Fisheries Management Authority (AFMA), Department of Fisheries and commercial fishing stakeholders notified prior to mobilisation.
Navigation equipment and vessel procedures compliant with all marine navigation and vessel safety requirements under the International Convention of the Safety of Life at Sea (SOLAS) 1974 and Navigation Act 2012.
Pacific Conquest equipped with an automatic identification system (AIS) and an ARPA system which can identify, track and project the closest approach for any vessel (time and location) within the Operational Area and radar range (<70 km away).
All refuelling to occur while vessel is in port.
Bridge-watch on vessel 24 hours per day.
Sulphur content of fuel complies with Regulation 14 of MARPOL Annex VI to control SO_X and particulate matter emissions.
Diesel storage tanks and fluid transfer hose maintenance (including replacement of refuelling hoses every six months and base oil transfer lines at least every 12 months) undertaken in accordance with the PMS.
In line with MARPOL Annex I, Pacific Conquest will have a current Shipboard Oil Pollution Emergency Plan SOPEP in place and a valid IOPP certificate.
Oil spill response executed in accordance with the Activity OPEP.
Oil spill response executed in accordance with the vessel's SOPEP as required under MARPOL.
Oil spill exercise conducted prior to the commencement of the Activity.
Details of Performance Against EPS
• All relevant stakeholder notifications were performed as planned, including to regulatory agencies • No refuelling occurred at sea • No oil spills occurred during the survey • On 12th April 2018, and prior to the commencement of the activity, an oil spill exercise was conducted by Asset Energy and a representative of the PMG Pride.

6 ENVIRONMENT PLAN IMPLEMENTATION

The Implementation Strategy in the accepted EP describes:

1. The Asset Energy Environmental Management System (EMS);
2. Roles and responsibilities, competency and training;
3. Arrangements for ongoing stakeholder consultation and notifications.
4. Compliance assurance arrangements, including arrangements for monitoring, review and reporting of environmental performance; and
5. Preparedness for responding to oil pollution emergencies through an OPEP and appropriate arrangements for environmental monitoring.

The Baleen 2D HR Seismic Survey was undertaken in accordance with the control measures, environmental performance outcomes, environmental performance standards and measurement criteria defined in the NOPSEMA-accepted EP, applicable legislation and the Asset Energy Environmental Management System.

6.1 Systems Practices and Procedures

Compliance with the accepted EP was confirmed using Asset Energy and its contractor(s) systems, practices and procedures that were followed throughout the duration of the seismic survey to mitigate and control environmental impacts and risks to ALARP and acceptable levels.

6.2 New Information

Prior to the survey, Asset Energy undertook pre-survey planning that reviewed and considered the following:

- Ongoing consultation process with relevant stakeholders:
    - Review fisheries (commercial and recreational) peak spawning and fishing periods and fishing areas that overlap the operational area;
    - Changes to commercial fishery license areas, fishery status, current fishing effort and licence holders overlapping the OA based on:
        - Current status reports of the fisheries and aquatic resources;
        - Information provided directly by fishers, the NSW DPI and AFMA through the stakeholder consultation process;
        - Fishing locations; and
        - Spawning areas.
- Consultation with the NSW Office of Environment and Heritage on permitted research within or adjacent to the survey area;
- New issues and or concerns raised by stakeholders;
- Changes to all relevant legislation or regulatory guidelines;
- Existing information in relation to any component of the receiving environment;
- Australian Marine Parks (AMP) status (including any changes in status) and relevant IUCN principles;
- Avoidance of multiple surveys undertaken in same area in less than one month apart.
- Newly-available scientific research;
- Conservation advice and/or Recovery Plans under the EPBC Act and from the Department of the

Environment and Energy; and
- Any other new information relevant to the environmental management of the activity.

No new information regarding the receiving environment was found.

6.3 Training, Competencies and On-going Awareness

All vessel personnel, including subcontractors, participated in a project specific induction session prior to joining the vessel. The induction included a section on Health, Safety and Environment to complement the policies and procedures outlined in the company's International safety management system (ISM) and included environmental information specific to the activity location.

Prior to the commencement of the survey, Asset Energy Project Manager held a pre-job meeting with all vessel crew. This meeting included an EP induction and provided an opportunity to address specific environmental sensitivities or commitments associated with the program.

All personnel involved in survey operations were trained and competent to carry out their role.

6.3.1 *MFO Training Requirements*

As per the EPBC Policy Statement 2.1 requirements, the MFO will be "trained and experienced in whale identification and behaviour, distance estimation, and be capable of making accurate identifications and observations of whales in Australian waters." The skills, qualifications and experiences of the engaged MFOs are provided in Appendix C.

6.4 Monitoring, Auditing, Management of Non-conformance and Review

6.4.1 *Monitoring Environmental Performance*

The following environmental records were maintained during the execution of the survey:

- Daily log of survey activities
- Waste / garbage record log
- Incident reports and non-conformances with this EP
- Induction records
- Emissions and discharge records
- Cetacean sightings and associated survey reports
- Records of internal inspections and audits
- Monitoring in the event of a spill.

6.4.2 *Auditing and Review*

In addition to the statutory audits and inspections that are undertaken to maintain the ship in class and comply with SOLAS, ISM / SPS and MARPOL, Asset Energy's offshore representative undertook a review and verification during the survey and on completion of the survey.

- An inspection of the survey vessel was completed by the Asset Energy Project Manager

before the survey commences to ensure that procedures and equipment for managing routine discharges and emissions were in-place to ensure compliance with the EP;
- A summary of the EPO, EPS and MC for the activity will be distributed aboard the survey vessel and monitored each day by the MFO via environmental audits and inspections; and
- A test of the oil spill emergency response arrangements was conducted to ensure that the vessel SOPEP was current and applicable.

6.4.3 *Management of Non-conformance*

Following a reported event, Asset Energy and vessel contractor were to review the circumstances and take all necessary time to fully investigate what can be done to prevent re-occurrence and harm.

Potential non-conformance events recorded were:

1. Test firing of the airgun (single shot only) was undertaken outside the operational area. Upon awareness of this event, Asset reiterated the need to ensure all firing of the airgun was performed within the operational area as identified in the accepted EP. No further firing of airgun outside the operational area occurred.
2. During the mobilisation phase of the survey, it was determined that the survey design did not allow sufficient time for a 30 minute marine fauna pre-watch and 30 minute soft-start procedure prior to each line run in, and reducing pressure of the airgun during soft starts. A Management of Change procedure was implemented to determine a revised procedure for line turns and line run-ins presented equivalent or less environmental risks than originally assessed in the accepted EP.
3. The accepted EP described the planned environmental induction occurring prior to joining the survey vessel. Unfortunately circumstances surrounding the departure of the vessel from the wharf prevented the induction occurring as intended. However, the EP induction occurred as the vessel was departing Newcastle port and prior to the survey activity commencing. Asset Energy does not consider this inconsistency of action with the description in the accepted EP as material and it had no bearing on the performance of the survey against the EPS or EPO.
4. The tail buoy was not ftted with a radar deflector as specified in the accepted EP, but was visible through its use of a white flashing light.

6.5 Emergency Response Preparedness and response

Asset Energy's Emergency Preparedness procedure provides the frame work and requirements for incident response and crisis management, experience, knowledge and availability. During offshore operations emergency response teams include both onshore (EMT and CMT) and offshore personnel (Emergency Management Team, ERT).

A project specific emergency response plan (ERP) was developed for the Baleen 2D HR Seismic Survey. The plan details contact information of emergency services available including those particular to the region in which the activity is being undertaken (i.e. closest hospital, port authorities). It also details medevac procedures and contact numbers for relevant project personnel and other relevant third parties.

6.6 Oil Pollution Emergency Plan

To incorporate the nature and scale of the survey and respond to the identified credible spill scenarios, the Oil Pollution Emergency Plan (OPEP) for the survey encompasses multiple levels of planning and response capability. The seismic survey OPEP is therefore represented by various levels of emergency planning, which comprise:

• Vessel's SOPEP – for spills contained on the vessel or spills overboard which can be managed by the vessel;
• The National Plan for Maritime Environmental Emergencies (National Plan) (AMSA 2014) - for spills from vessels which affect Commonwealth waters and waters of the Ashmore and Cartier Territory.

AMSA is the jurisdictional authority and control agency for spills from vessels which affect Commonwealth waters and waters of the Operational Area.

No hydrocarbon spills occurred during the survey.

7 ENVIRONMENTAL REPORTING

7.1 Routine Reporting (Internal)

7.1.1 *Start and end of activity notifications*

Asset Energy notified NOPSEMA that the survey was to commence, at least 10 days before the activity commences.
Asset Energy notified NOPSEMA that that the survey was completed within 10 days after the completion.

Asset Energy notified the NSW Department of Planning and Environment that the survey was to commence.

7.1.2 *Daily Progress Report*

A Daily Progress Report (DPR) was generated for internal reporting during the survey.

7.1.3 *Dedicated Safety Meetings*

At commencement of the survey a dedicated safety meeting was held onboard the vessel, chaired by the Master and including all crew currently employed on the vessel.

7.2 Routine Reporting (External)

In accordance with the requirements of the OPGGS(E)R (Regulation 26, Sub-regulations 26A, 26AA 26B and 26C) Asset Energy are required to report information on environmental performance to NOPSEMA.

7.3 Incident Reporting (Internal)

Asset Energy has reported on the below incidents.

Table 7-1 Summary of Reporting Requirements and Schedule

Reporting Requirements	Type	Timing	Recipient
Cetacean Sighting Report	Electronic ('Cetacean Sightings Application')	Within two months of survey completion	DOtEE sightingsdata@aad.gov.au
Environmental Performance Report (End of Activity)	Written	Following completion of all project closeout actions and documentation. Within 3 months of completion of the seismic survey.	NOPSEMA
Report on Recordable Incidents	Written	Monthly, on or prior to the 15th day of each month	NOPSEMA
Notification of Reportable Incident	Oral	As soon as practicable and not later than two hours of the incident occurring or Asset Energy becoming aware of the incident	NOPSEMA
	As soon as practicable	Written (including record of notification)	NOPSEMA; Titles Administrator Department of the responsible State Minister

7.4 Environment Plan Revision and Resubmission

New information, changes or updates will be considered against Regulation 17 of the OPGGS (E) Regulations, to determine if resubmission of the EP to NOPSEMA is required.

Accordingly, no new activity, significant modification of the activity, new stage of the activity, new or increased environmental impact or risk, or change in titleholder event occurred to necessitate a revision or resubmission of the EP.

7.4.1 *Management of Change*

Four amendments were made to the accepted EP in accordance with the process described in the EP. Asset Energy:

- Implemented the methods of environmental assessment;
- Kept a record of the consideration of Regulation 17 for each change;
- Demonstrated continuous reduction of environmental impacts and risks to ALARP and acceptable
- Barring the pre-survey EP induction, implemented MoC processes prior to a change occurring.

MoC were implemented for:

- Change in nominated vessel from Pacific Conquest to PMG Pride.
- Amendment of the airgun firing procedure between lines.
- Amend environmental induction to be performed after all survey participants join the vessel and the vessel has departed the wharf.
- Amend the survey line plan; drop lines B18-37, 39, 40, 42, 43 and 45.

8 STAKEHOLDER CONSULTATION

8.1 Consultation Strategy

Asset Energy maintained a comprehensive stakeholder database which was updated and managed throughout the preparation of the EP and throughout the duration of the activity.

8.2 Stakeholders and Interested Persons

Asset Energy drilled the New Seaclem-1 well in PEP11 in 2010. Through that activity, a stakeholder consultation committee was established.

Upon preparations to acquire new seismic data, commencing around 2014, stakeholders engaged through the drilling process in 2010 were again contacted and advised of the proposed future seismic activity.

A reduced scale and duration survey was determined to be acquired from early 2017, and was communicated to all known stakeholders at that time.

In May 2017, a meeting with stakeholders was undertaken utilising the assistance of the Professional Fishermen's Association and Newcastle Commercial Fishermen's Co-operative. The invitation was extended beyond the fishing industry to all known stakeholders at that time. A presentation describing the Company, the exploration process and specific details around the survey was given to attendees.

Asset Energy submitted its first iteration of the Baleen 2D HR Seismic Survey environment plan to NOPSEMA in July 2017. Communication, generally via email and telephone, continued with stakeholders following the initial document submission. In addition, Asset Energy fielded and responded to innumerous requests by print, radio and television media with regards to the seismic survey.

Through the creation of the EP and during the survey activity, Asset Energy engaged with the following stakeholders and interested persons described in Table 8-1.

New stakeholders brought to the attention of Asset Energy by existing stakeholders, or who contacted Asset Energy as a result of media coverage, were included by Asset Energy in the ongoing distribution of material to stakeholders and provided appropriate material as requested. Concerns raised by stakeholders were assessed to consider the merits of those concerns and a suitable response was provided.

Table 8-1 Stakeholders and Interested Persons Contacted

Discipline	Stakeholder
Activity Administrator	• National Offshore Petroleum Titles Authority (NOPTA) • National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)
Shipping / Safety (including Commonwealth / Sate departments or agencies, to which the activities to be carried out under the EP, or the revision of the EP, may be relevant)	• Australian Maritime Safety Authority (AMSA) • Port of Newcastle • Newcastle Port Corporation • Port Authority of NSW • Roads and Maritime Services NSW • Department of Defence (Australian Hydrographic Office) • Department of Defence (Defence Force Australia) • Newcastle Water Police • DAWR • NSW Marine Police
Fisheries (commercial (state and Commonwealth), recreational, associations and persons, whose functions, interests or activities may be affected by the proposed activities).	• Australian Fisheries Management Association (Environment Division) (AFMA) • NSW Department of Primary Industries (Fisheries) (NSW DPI) • Commonwealth Fisheries Association (CFA) • Recreational Fishing Alliance of NSW • South East Trawl Fishing Industry Association (SETFIA) • Tuna Australia • Tropical Tuna Management Advisory Committee (AFMA) • Commercial Fishermen's Cooperative • Central Coast Reef and Game Fishing • Professional Fishermen's Association • Newcastle Commercial Fishermen's Cooperative • Australian Marine Alliance • Fisherman's Warehouse • Mr's Daniel and Noel Gogerly (Lobster, Ocean Trap and Line fishers) * • Mr Denis Brown (Ocean Trap and Line fisher) • Mr Robert Bryant (Lobster fisher) • Sydney Fish Market • Recreational Fishing Alliance NSW • Imagine Cruises • Unnamed fishing charter Newcastle
Conservation Groups / NGO's (persons or organisations considered relevant)	• The Nature Conservation Council of NSW • Whale and Dolphin Conservation Society • Catherine Hill Bay Progress Association • Living Ocean • Ocean Watch • Central Coast Community Environment Network • Rising Tide Australia • Donna Cook • Greenpeace • Wilderness Society
State councils / Government Departments (Environmental departments) (persons or organisations considered relevant)	• Commonwealth Marine Reserves, Department of the Environment and Energy • City of Lake Macquarie • Marine Parks Authority NSW (Port Stephens Great Lakes Marine Park) • Swansea and Districts Chamber of Commerce • Port Stephens Council • Newcastle City Council • Wyong Shire Council • Gosford City Council (now Central Coast Council) • Pittwater Council (now Northern Beaches Council) • NSW Office of Environment and Heritage; NSW Parks and Wildlife Service • NSW Department of Planning and Environment • Federal Member for Newcastle

A summary of issues raised through stakeholder engagement during the environment plan development process and Asset Energy's response to those issues is provided below in Table 8-2. This demonstrates that significant information was exchanged between Asset Energy and stakeholders, and that Asset Energy responded appropriately to concerns of stakeholders. Adjustments to the survey made by Asset Energy included the timing of the survey to avoid interaction with recreational and commercial fishers, and to occur outside peak whale migration periods.

Table 8-2 Summary of Issues Raised During Environment Plan Development and Asset Energy's Response

Impact of underwater noise affecting commercial fish stocks	Commercial Fishermens' Cooperative (Robert Gauta), Professional Fishermen's Association (PFA; Tricia Beaty)	This issue is fully recognised by Asset Energy as having the potential to occur. However, (as set out in Section 5.3.6.2) the overall risk is determined to be minor (i.e. potential short term behavioural effects (avoidance of the noise source) due to the variation in response by different species, the temporary nature of the survey and the implantation of mitigation controls to reduce the risk of impact to ALARP. To date no research has attributed adult fish mortality with seismic activities. In order to mitigate any undesirable outcomes the following mitigation has been committed to: - Soft start procedures will be followed each time the acoustic sources are initiated; - No overcharging of the guns will occur; and - Regular communications with relevant stakeholders during the survey with information on vessel movement and intended movements will occur every 24 hours (a central point of contact will be decided upon following face to face consultation. Considering the scientific information available, the baseline characterisation of the fishery within the survey area and consultations it is considered that residual effects are acceptable and ALARP.
		The following summary of impacts and risk from underwater noise was provided to the Commercial Fishermen's Cooperative and PFA: • The noise source (compressed air release via "airgun") is incredibly small. Our survey will not be effective with a smaller noise source, and the number of days over which it will be activated will be 3-4. It will not be activated during the numerous line turns. The noise levels are very low. Additional acoustic modelling is presently being undertaken, however we don't believe the acoustic impacts of our survey will threaten the mortality of any species in the area. We are also aware of the potential impacts of large seismic surveys on zooplankton (as identified in that paper you referred to) but understand also that CSIRO's paper (29 June 2017, "Potential impacts on zooplankton of seismic surveys") responded to McCauley's paper and described that zooplankton populations recovered after the survey. We note that the modelled survey in CSIRO's paper was of much greater duration than our planned survey. We believe we will not have any impacts on mortality or local population of any species due to the small airgun size and short duration of the survey, and that behavioural impacts, if any, will be temporary. • We reiterate that our understanding of zooplankton impacts (from McCauley, CSIRO and others) are that population-level recovery will occur rapidly (within a few days) following our seismic survey. The accurate and robust environmental risk assessment in the EP acknowledged that acoustic impacts are likely to occur to zooplankton, but based on the survey's short duration (3–4 days) and low levels of underwater noise, long-term, population-level impacts are not likely and the risk to zooplankton is minor. Furthermore, based on the independent, underwater noise modelling, our single source will generate sound levels lower than those used in the study. The survey sound source will be 90 in3 (150 in3 in the study) with estimated received sound levels of SEL 143 dB re 1µPa2·s (SEL 153 dB re 1µPa2·s at 1 km in the study). • Thanks again for the provision of material related to the farm. We can appreciate that this information may be sensitive to some in the fishing industry, and therefore acknowledge the interest you and your members have with our proposed survey and its location. We reiterate that our survey will only restrict access to this area for a very short duration (3–4 days), and that no permanent impacts on the fishery in this region will result.
Exclusion from fishing grounds impacting commercial/ recreational fishing activities.	Commercial Fishermen's Cooperative (Robert Gauta), Professional Fishermen's Association (Tricia Beaty)	This issue if fully recognised by Asset Energy as likely to occur. However, (as set out in Section 5.4) the overall risk is determined to be moderate (i.e. short term (days) with no lasting effects or impact) due to the mitigation measures which will be implemented and the temporary nature of the survey. While Asset Energy are aware of the legitimacy of concerns with respect to this particular impact, it is very difficult to quantify the effect to individual fishers due to the variety of factors that would influence their necessity to access specific areas of the survey location at any particular

		time. The most effective way forward is to employ practical mitigation measures in discussion with local fishers with the goal of reducing potential impacts. While these may change as the consultation process, the following mitigation has been committed to: • Face to face consultation with relevant stakeholders; • Identification of main point of contact (TBC); • Regular communications with relevant stakeholders during the survey with information on vessel movement and intended movements every 24 hours; Considering the difficulty in quantifying the impact to individual fishers, the ability of fishers to potentially target other species and / or other areas of the ocean and on-going consultation, it is considered that residual effects area acceptable and ALARP
		PFA raised concerns about the restriction on access would also apply to Ocean Trap & Line fishers and East Coast Tuna fishers; we also note your statement that the size of the farm is small. However, it is highly productive and important compared to any other area within that region due to the nature of the significant geographical features of the area that attract large quantities and variety of species that are commercial and recreationally significant. We reiterate that the survey will have onerous impact on our commercial fishing activities.
		The following response of impacts and risk from temporary restriction on fishing access was provided to the Commercial Fishermen's Cooperative and PFA: • We note this is a very small area of impact, and the survey will be for a very small duration (~3-4 days). Therefore we believe this highly localised and very short duration isn't of onerous impact on your activities. • Please be assured that we are aware of the highly-productive and important area to commercial fisheries. We do, however, reiterate that our survey area is generally small, and that an exclusion zone of 2 nautical miles around the vessel during the 3-4 days of operations will ensure safety to all other users, vessels and infrastructure. Based on the relative size of the potential fisheries in the offshore central coast area (i.e. thousands of square kilometres, pending location restrictions and key fish locations), our environmental risk assessment concluded that a very short term overlap of a relatively miniscule area (~15km2) will have a minor, temporary and localised impact on any fishery.
Request for further consultation i.e. face to face meetings (before, during and after the survey)	Recreational Fishing Alliance of NSW (Malcolm Poole), Commercial Fishermen's Cooperative (Robert Gauta), Professional Fishermen's Association (Tricia Beaty), NSW DPI	Due to the concerns raised above Asset Energy expected a high level of consultation. As with previous experience in the region, Asset Energy are looking to improve upon the consultation process with the goal of delivering clear information on realistic risks and potential impacts. In order to address this request Asset Energy are committed to: • Liaising with NSW Department of Fisheries in the first instance; • Schedule community consultation meeting(s) prior to the commencement of the survey (during and on completion of the survey, as required); • Respond to all concerns in a reasonable time.
		In direct response to these concerns, Asset Energy had a community public meeting hosted by PFA on 25 May 2017 (see Table 8.4).
Management of commercial shipping / other marine users.	Roads and Maritime Services (NSW)	No issues were raised with respect to the management of commercial shipping. Comments obtained from Roads and Maritime were gentle reminders of the necessary management procedures to be followed during offshore operations. Asset Energy and their contractor are committed to executing a safe and successful project. Vessel collision is considered to be low, providing the survey vessel operates as required under maritime law. In order to mitigate any undesirable outcomes the following mitigation has been committed to:

		• Information regarding the location and survey schedule will be provided to AHO at least two weeks prior to commencement (for issue of Notice to Mariners); • The vessel will operate at all times in compliance with maritime law i.e. International Regulations for the Prevention of Collisions at Sea 1972 (as amended), International Convention of the Safety of Life at Sea (SOLAS), 1974 and Navigation Act 2012); • All vessel management systems will be adhered to; and • Adequately trained and competent crew. Through complying with relevant legislation and undertaken consultation with appropriate stakeholders, Asset Energy consider that residual risk involved in potential safety at sea impacts (i.e. vessel collision) are considered acceptable and ALARP.
		Via phone call 11 May 2017Asset Enerfy confirmed directly with Roads and Maritime Services (S Wilde) that the survey will operate in compliant with all maritime laws (e.g. MARPOL Conventions, etc.).
	AMSA	AMSA provided advice regarding maritime safety: • escort/guard vessel is recommended when the survey vessel is conducting activities from the coast out to the 4,000m depth contour or to the 153° line of longitude, whichever is the farthest. • Given the length of tow of 900m, any guard/support vessel, in cooperation with the survey vessel, will need to be active and maintain exceptional communications with commercial shipping in the survey area noting there will be a considerable speed • difference between these craft and the survey vessel whilst the latter is conducting operations. • The seismic vessel must display appropriate day shapes, lights, streamers and reflective tail buoys, to indicate the vessel is towing and is therefore restricted in her ability to manoeuvre. Visual and radar watches must be maintained on the bridge at all times. • Please have the survey vessel notify AMSA's Joint Rescue Coordination Centre (JRCC) through rccaus@amsa.gov.au (Phone: 1800 641 792 or +61 2 6230 6811) for promulgation of radio-navigation warnings 24-48 hours before operations commence. • AMSA's JRCC will require the survey vessel's details (including vessel name, callsign and Maritime Mobile Service Identity (MMSI)), satellite communications details (including INMARSAT-C and satellite telephone), area of operation, requested clearance from other vessels and need to be advised when operations start and end. • The Australian Hydrographic Service must be contacted through datacentre@hydro.gov.au no less than four working days.
		Asset Energy responded with the following: • Thanked AMSA for comments and advice on the upcoming Baleen 2D High Resolution Seismic Survey. • It has always been planned that the vessel being used for the survey will follow normal convention in relation to displaying appropriate day shapes, lights and reflective tailbuoys as well as maintaining visual and radar watches on the bridge at all time. • We have noted the advance times required to notify the JRCC and the Hydrographic Service and will advise accordingly. • At present the issue of using a guard vessel during operations is still under consideration. • Please see attached updated information regarding our proposed seismic survey. The key change is the anticipated timing – now likely an early 2018 survey.
		Asset Energy further responded with: • We believe that the reduced scale of operations in conducting the seismic survey do not warrant the use of a chase vessel. The survey will be 3-4 days in duration involving one day deploying equipment, two days of operations and possibly another day for weather downtime plus retrieval of the equipment. The survey

		vessel is small (30m) when compared with those normally used for seismic survey (~100m) and the seismic streamer at 900m length is also reduced in length to those used for a typical survey (5-6kms or longer). • By following the requirements for maintaining bridge and radar watches at all time combined with the safety measures described within the Environment Plan to be submitted to NOPSEMA, we believe that the risks will be reduced to ALARP. • As an additional comment, advice has been received from the Newcastle Harbour Master that he is of the opinion the survey will have "only minor impacts on shipping in the area".
Management of waste and oil spills	Roads and Maritime Services (NSW)	Asset Energy and their contractor are committed to executing a safe and successful project. Disposal of waste will follow MARPOL requirements. The vessel's Waste Management Plan provides for no waste, other than food, to be disposed of at sea. Food waste can be disposed of past the 12 nm limit. All solid waste to be offload onshore for disposal as per vessel management systems.
		This information was confirmed to Roads and Maritime Services (S Wilde) via phone call on 11 May 2017.
Impacts to recreational fisheries	NSW DPI, Recreational Fisheries	NSW DPI provided the following information regarding recreational fishing activities (via phone call and emails w/P Bolton): • Peak recreational fishing period is January to March, with more activity at Xmas and Easter holidays. Peak game fishing activity in usually Feb - March inc. with slightly less activity in both January and April - although this is very much dependent on environmental conditions. • Most of the game fishing activity is targeting dolphinfish, marlin and some shark fishing. There will also be some deep water bottom fishing. • A particularly important area for game fishing is the 'carpark' which encompasses a relatively large area (several miles north/ south) from the GPS co-ords 33.02 S 152.24 E. This area can have upwards of 100-150 boats accessing it if the bait (blue mackerel/ jack mackerel) is gathered here and the marlin are present. Activity here is usually controlled by the EAC strength, if the EAC is particularly strong and the water particularly warm then the baitfish don't tend to aggregate here. However, if the EAC eddies in this area, the bait gathers and the fishing can be world-class. • Target fish species and associated water depths are: o Marlin generally 60- 100 fathoms o Black marlin can be caught inshore or can be found around the shelf o Striped marlin are generally on the shelf area between 60-100 fathoms o Blue marlin are generally on the shelf edge and beyond • Fishing tournaments currently include: o Bigfish Bonanza - Lake Macquarie 9-11 Feb o The Billfish Shootout - Port Stephens 16-18 Feb o Port Stephens Interclub 23-26 Feb o East Coast Classic - Newcastle 10-11 March. • There can be upwards of 200 boats competing in good years. • Carpark area can move around 10 nm in either direction. Well-known areas are at the following coordinates: o 32.50–32.54 S o Main area around 33.00–33.04 S o Can run down to 33.12 S.
		Asset Energy responded that the centre of the 'carpark' is about 10 km south of the well site in the survey area and 48 km away from the main survey area. It is possible that the survey would be near to the 'carpark' area for less than 8 hours, given the slow speed of the vessel. A map was provided to show the relative location of the 'carpark' and the survey area. And further information was requested regarding the extent of the 'carpark'.
		NSW DPI raised concerns about: • the significance of recreational and charter fishing activity within the survey area, including associated expenditure and benefit to regional economies.

		• impact on popular and peak recreational and charter fishing times to minimise disruption to fishing and fishing competitions during the peak recreational fishing season. • effective consultation directly with recreational and charter fishers. • Seismic activity may disturb schooling baitfish • Notification to Phil Bolton, Fisheries Manager, via email at Phil.bolton@dpi.nsw.gov.au regarding the proposed dates the survey vessel will be operating, and the proposed routes or area coverage within specified periods.
		Asset Energy agrees and confirmed that: • Recreational and charter fishing activity and interest in the proposed area are significant, though we note from the recreational fishing report by L. West in December 2015 that less than 2% of recreational fishing is done at distances greater than 5km from the shoreline. We confirm engagement with recreational fishers/representatives, charter vessel operators and associated tackle shop stakeholders with an interest in our proposed survey. Similar to above, the EP contains an accurate and robust environmental impact and risk assessment, including the commissioning of sitespecific, underwater noise modelling undertaken independently by an acoustic consultancy. Based on the modelling prediction of low received sound levels (i.e. not exceeding acoustic thresholds for fish or other marine fauna) and the survey's shortduration (3–4 days), impacts to recreational fishing activities were assessed to be recoverable, localised and ALARP. The risk was assessed to be minor and acceptable. • Survey activities will not be impacting the key recreational and charter fishing period around Christmas and Easter, and notes that the location of the closest FADs (Swansea and Newcastle) are approximately 8km and 19.5km shoreward of their closest points to the survey area. Based on independent, underwater noise modelling, the survey is not likely to have acoustic impacts at these distances away (i.e. received sound levels will be <170 dB re 1 µPa2·s beyond 4 km away). • Proposed dates for survey will avoid fishing tournaments, peak recreational activity in the week before and after Easter (1 April 2018) and lobster spawing period • Survey activity will have a short overlap period (< 6 hours) with small portion of 'carpark' and that any effects on fish dispersal would be temporary . • Effective consultation with recreational fishermen has been initiated and will continue throughout the valid period of the EP. • Asset Energy will use DPI's social media (Newscast, Charter Chatter and Facebook) to advise recreational and commercial fishers of activity when survey commences. • Asset Energy notified Phil Bolton and are awaiting his response.
Request for scientific trawling exercise to determine effects of seismic surveys on fishers in area	Commercial Fishermen's Cooperative (Robert Gauta), Professional Fishermen's Association (Tricia Beaty); Recreational Fishing Alliance of NSW (Malcolm Poole)	The concern was raised that should this project go ahead, we are supportive of a scientific trawling exercise to determine the effect of the seismic survey on fisher in the area. We would expect that Asset Energy would commission and fund a scientifically robust project and we would be happy to provide some form of assistance.
		Asset Energy agrees with PFA and the Commercial Fishermen's Cooperative and recognises the value of scientific research on impacts from seismic surveys, especially with assistance from commercial fisheries. However, at this time, Asset Energy does not have the capacity to fund a scientific trawling exercise in the area. With the short survey duration and low levels of environmental impacts, our environmental risk assessment assures that all control measures are sufficient to protect the marine environment and reduce impacts to ALARP and acceptable levels. In addition, we are aware that numerous scientific reports into effects of the oil and gas industry on the environment and fisheries have become recently available, and that a number of suitable research organisations have an interest in continuing research. As these new scientific literature can impact the development of an Environment Plan, please be assured that we are obliged to consider all new scientific evidence as it is published.
		Also, Asset Energy informed the Recreational Fishing Alliance of NSW (Malcolm Poole) that based on the available

		scientific literature we don't expect any long term impacts on fish species in the area of our survey. Whilst we are supportive of a suitable pre/post fishing exercise, we recognise that our competencies lie in gas exploration and would leave this to the expert research organisations to undertake. We are happy to liaise with fishing industry and the relevant research organisation to provide information about our proposed survey if requested.
Potential impacts on viability of individual fishing businesses and operations	NSW DPI (N Giles)	NSW DPI raised concerns about: • Potential impacts on the viability of indicidual fishing businesses and operations before, during and after the survey activity. • Minimise impacts on economically important periods, including prime fishing periods in the lead-up to Christmas and Easter.
		Asset Energy responded with: • Has always and continues to recognise the significance of commercial fishing in the vicinity of the survey area and the potential impacts on the viability of individual fishing businesses and operations before, during and after the survey. The EP contains an accurate and robust environmental impact and risk assessment, including the commissioning of site-specific, underwater noise modelling undertaken independently by an acoustic consultancy. Based on the modelling prediction of low received sound levels (i.e. not exceeding acoustic thresholds for fish or other marine fauna) and the survey's short-duration (3–4 days), impacts to commercial fishing activities were assessed to be recoverable, localised and ALARP. The risk was assessed to be minor and acceptable. • By the nature and scale of our survey, we believe we will have minimal impact on commercial fishing at all times. As the survey is now anticipated to be undertaken in early 2018, we will avoid the lead up to Christmas 2017. We are aware that Good Friday is on Friday 30 March 2018, but cannot commit to a survey date until receiving acceptance by NOPSEMA. Please know that we hope to have as little overlap as possible with peak fishing periods. We will continue to engage with relevant commercial fisheries stakeholders regarding our proposed survey date.
Provide effective consultation engagement directly with commercial fisheries, Fishermen's cooperatives, the NSW PFA and/or other key stakeholders	NSW DPI (N Giles)	NSW DPI recommended that: • Sound consultation (including post survey) will be critical in ensuring industry confidence in Advent Energy's operations and commitment to reducing the impact on current and/or future exploration or production programs. • Engage Fishermen's Cooperatives and the Sydney Fish Market as significant primary receivers of commercial seafood products. • Advent Energy notifies Nicholas Giles, Fisheries Manager at Nicholas.giles@dpi.nsw.gov.au regarding the proposed dates the survey vessel will be operating, and the proposed routes or area coverage within specified periods.
		Asset Energy confirmed that: • We will continue to consult directly with commercial fishers, fishermen's cooperatives, the PFA and other stakeholders (including the Sydney Fish Market) before, during and after the survey. We appreciate that continued dialogue will maximise the industry confidence in our operations present and future. • We have and will continue to liaise with Nicholas Giles around our proposed survey, including notification of commencement of operations. We believe the information provided to date gives sufficient advice surrounding the specific area/coverage.
Potential impacts on whales	Living Ocean	Living Ocean raised concerns about: • The planned survey dates (August-September 2017) overlapped the humpback whale southern migration period (mid August to mid Dcember) and occupation of the area by Sourthern Right Whales (May to November) • Unlikely that proposed procedures for whale sighting will result in insignificant fraction of whales being observed • There was risk of collision with whales by the vessel

		Asset Energy responded with: • Risk of striking whales was low considering volume of other shipping traffic in the area • Modelled noise output is low, therefore unlikely to impact whales • Will be implementing EPBC Act policy on interaction of seismic vessels with cetaceans, including ramp-ups / soft starts, whale sighting shutdown zones.

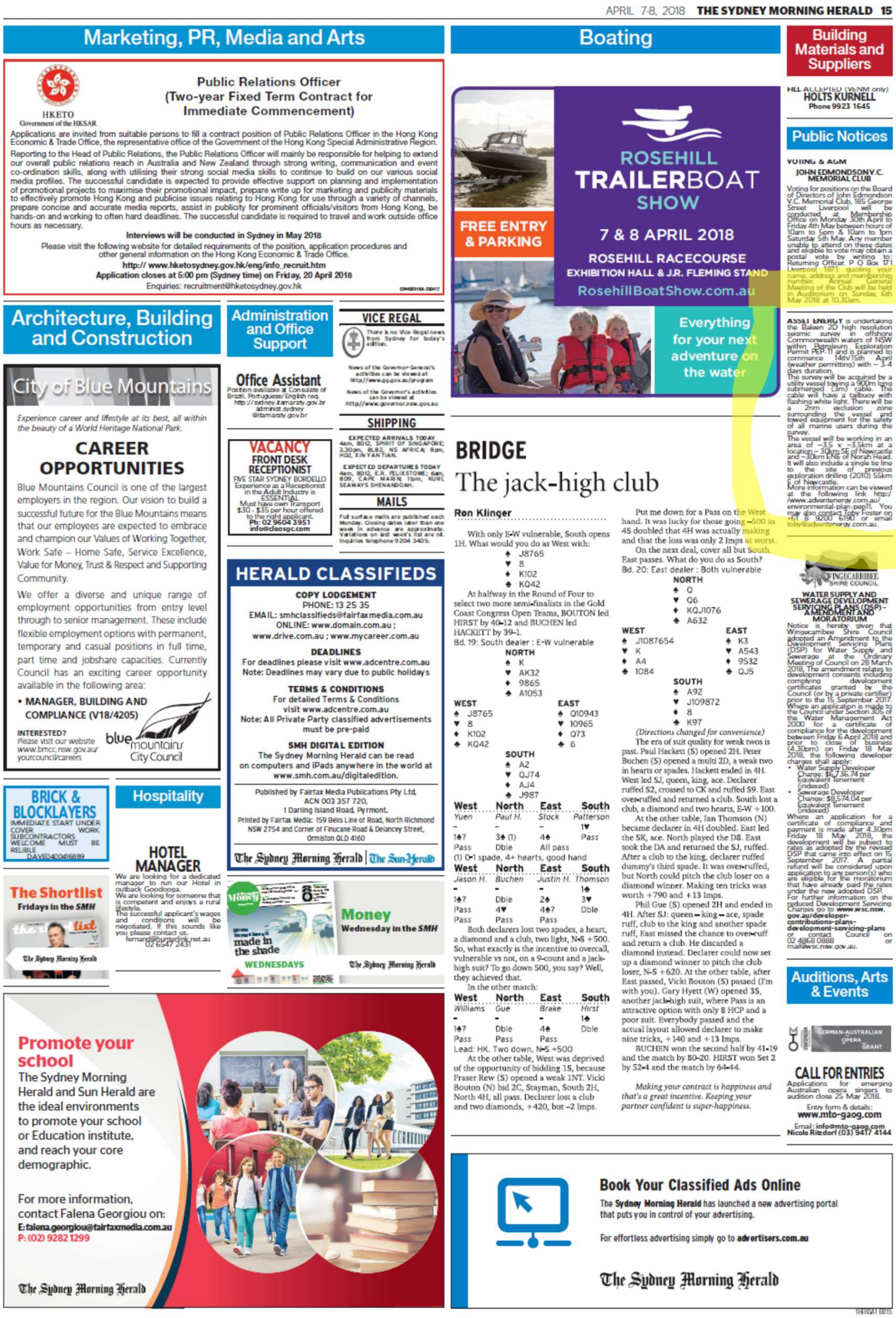
8.3 Public Notices

Asset Energy placed public notices in the Sydney Morning Herald (Saturday 7th and Thursday 12th April), Newcastle Herald (Saturday 7th and Tuesday 10th April) and Daily Telegraph (Saturday 7th and Tuesday 10th April) publicly advising of the imminent commencement of the planned survey. Tear sheets from the newspaper notices, excluding Daily Telegraph are provided in Appendix A. Daily Telegraph tear sheets of the public notice pages were provided to Asset Energy as electronic web links, which are no longer functional.

Information pertaining to the survey was also provided to NSW DPI for inclusion in broadcasts to NSW charter operators and published in the NSW DPI Fisheries Newscast newsletter and on their facebook page.

Furthermore, Asset Energy provided a webpage of current information on its parent company website describing the planned survey, its location and duration and other relevant information. This link is still valid at the time of writing this report: http://www.adventenergy.com.au/environmental-plan-pep11

APPENDIX A PUBLIC NOTICES



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Public Notices

VOTING & AGM
JOHN EDMONDSON V.C. MEMORIAL CLUB

Voting for positions on the Board of Directors of John Edmondson V.C. Memorial Club, 185 George Street Liverpool will be conducted at Membership Office on Monday 30th April to Friday 4th May between hours of 10am to 5pm & 10am to 1pm Saturday 5th May. Any member unable to attend on these dates and eligible to vote may obtain a postal vote by writing to: Returning Officer, P O Box 171 Liverpool 1871 quoting your name, address and membership number. Annual General Meeting of the Club will be held in Auditorium on Sunday, 6th May 2018 at 10.30am.

ASSET ENERGY is undertaking the Baleen 2D high resolution seismic survey in offshore Commonwealth waters of NSW within Petroleum Exploration Permit PEP-11 and is planned to commence 14th/15th April (weather permitting) with ~ 3-4 days duration.
The survey will be acquired by a utility vessel towing a 900m long submerged (3m) cable. The cable will have a tailbuoy with flashing white light. There will be a 2nm exclusion zone surrounding the vessel and towed equipment for the safety of all marine users during the survey.
The vessel will be working in an area of ~3.5 x ~3.5km at a location ~ 30km SE of Newcastle and ~30km ENE of Norah Head. It will also include a single tie line to the site of previous exploration drilling (2010) 55km E of Newcastle.
More information can be viewed at the following link http://www.adventenergy.com.au/environmental-plan-pep11. You may also contact Toby Foster on +61 8 9200 6190 or email toby@adventenergy.com.au.

LAKE MACQUARIE CITY COUNCIL

PUBLIC NOTICES

Notice of intention to treat infestations of aquatic weeds

Council advises that it intends to treat infestations of aquatic weeds on or in the following areas within the next 6 months:

- South Creek (Allen Park) Warners Bay to Burton Rd Mount Hutton
- North Creek along Hillsborough Rd and watercourse along King St Warners Bay
- Watercourse and retention basins from New York Ave and Wilton Cl Warners Bay
- Winding Creek from Palm Street downstream to Fredrick Street Glendale
- Watercourse at Graham St Glendale
- Watercourse at Pandel Ave Glendale
- Retention basin and watercourse from Gymea Drive Garden Suburbs to Government Rd Cardiff
- Watercourse and retention basin off Orchard St Cardiff South
- Crockers Creek Windale to Jewells Wetland Bennetts Green
- Watercourse from Granada Ave Macquarie Hills to Pendlebury Rd Cardiff
- Watercourse along cycleway at Percy St Hillsborough
- Watercourse from Minmi Rd via Main Rd Edgeworth
- Watercourse above Dunbar St via Cocked Hat Creek to Main Rd Edgeworth
- Retention pond between Lawson St Macquarie Hills and Mitchell Rd Cardiff and watercourse at Aruma Pl Cardiff
- Watercourse Armstrong and Apollo St Charlestown
- Watercourse Oakdale Road & Arnhem Cl Gateshead to Jewels Wetland
- Watercourse from Kerri Cl Charlestown to Oakdale Rd Gateshead
- Flaggy Creek and Little Flaggy Creek from Charlestown to Highfields
- Watercourse from Silverdale, Gradburn, Fencott Streets into Jewels Wetland
- Watercourse from George, Thomas, Macquarie to Cockle Creek Barnsley
- Lagoon at rear of Brock Place Whitebridge adjacent to Fernleigh Track
- Mannering Creek at Wyee
- Cooranbong Park Pond Freemans Dr Cooranbong
- Burnt Bridge Creek Cooranbong
- Road Drainage Newport Rd Cooranbong
- Road Drainage Martinsville Rd Martinsville
- Stormwater drains in Belmont, Blacksmiths, Pelican and Swansea
- Slatey Creek from West Wallsend to the weir at Barnsley
- Cockle Creek and Browns Creek from Glendale to Speers Point
- Watercourse off north end of Hayden Brook Rd Booragul
- Watercourse off Douglas St Dora Creek
- Blue Wren Creek Rankin Park
- Retention Basin off Cassegrain Close Eleebana
- Roadside Drainage - Lowana Crescent Kahibah

The spray period is effective from 5 days after this notice until the 30 September 2018, weather conditions permitting.

The herbicide Eraze® (active ingredient 360g/l glyphosate), Mcphesons Bi Dri® (actice ingredient 700g/l glyphosate) or Metmac® (active ingredient 600g/kg metsulfuron methyl) under the conditions of Permit Number PER 14734. PER 84767 & PER 14729 will be used.

Under the terms and conditions of the **EPA Licence 6332**, the following warning is provided to residents in the treatment area: **"not to use, drink or swim until further notice".**

Further information can be obtained from Lake Macquarie City Council's Vegetation and Pest Management Coordinator on 4921 0333.

Box 1906 **Morven Cameron**
HRMC 2310 **Chief Executive Officer**

Hunter Councils

GREAT OPPORTUNITIES, RELAXED LIFESTYLE, SPECTACULAR SCENERY...

The City of Newcastle

PUBLIC NOTICE

LICENCE OF PART CONNOLLY PARK, CARRINGTON

Newcastle City Council is inviting comments on proposed licence of Council community land to Carrington Bowling Club. The licenced area is part of Connolly Park, 1B Cowper Street Carrington and proposed for development as a verandah extension to the existing Club.

The licence is in accordance with Sections 46 and 47 of the Local Government Act 1993.

Copies of the licence plans are available on request or at www.newcastle.nsw.gov.au.

Written submissions must be received by **close of business Monday 7 May 2018 and addressed to:**

Licence of Part Connolly Park, Carrington
C/- Newcastle City Council
PO Box 489
NEWCASTLE NSW 2300

For further information on the proposed licence please call Peter Waghorn on 4974 2870.

PUBLIC EXHIBITION

DRAFT DONATIONS PROGRAM POLICY

Newcastle City Council has developed a draft Donations Program Policy and invites members of the public to make submissions in writing.

The draft Policy is on exhibition from 4 April 2018 to 4 May 2018 at:

- Newcastle City Council Customer Contact Centre, Ground Floor, 282 King Street, Newcastle during normal business hours.
- All Newcastle City Council Libraries.
- Council's "Have Your Say" webpage: www.newcastle.nsw.gov.au

Written submissions to be received by 5pm on Friday, 4 May 2018 and addressed to:

Chief Executive Officer
Newcastle City Council
Attention: Manager Finance
PO Box 489
Newcastle NSW 2300 or email: mail@ncc.nsw.gov.au

Enquiries: Interim Manager Finance - 4974 2135

The City of Newcastle

TENDER

MANAGEMENT SERVICES, STOCKTON BEACH HOLIDAY PARK

Contract No. 2018/380T

Tenders are invited and will be received up to **2pm Tuesday 1 May 2018** for:

Submissions are invited from suitably qualified persons or companies interested in tendering for the Management & Operation Contract for Stockton Beach Holiday Park.

Documents are available electronically at www.tenderlink.com/newcastle .

Alternatively, a compact disk is available for a non-refundable fee of $35.65 GST inclusive from the Customer Enquiry Centre, Ground Floor City Administration Centre, 282 King Street, Newcastle, 2300 or by calling (02) 4974 2030.

Responsibility for lodgement by the deadline lies solely with the tenderer. Lodgement information is provided in the tender document. Council is not bound to accept the lowest tender or any tender submitted.

Enquiries must be directed to Peter Waghorn on telephone (02) 4974 2870.

A **non-mandatory** pre-tender meeting will be held on Thursday 12 April 2018 10am at Stockton Beach Holiday Park, 3 Pitt Street, Stockton, NSW.

Public Notices

ASSET Energy is undertaking the Baleen 2D high resolution seismic survey in offshore Commonwealth waters of NSW within Petroleum Exploration Permit PEP-11 and is planned to commence 14th/15th April (weather permitting) with ~ 3-4 days duration.

The survey will be acquired by a utility vessel towing a 900m long submerged (3m) cable. The cable will have a tailbuoy with flashing white light. There will be a 2nm exclusion zone surrounding the vessel and towed equipment for the safety of all marine users during the survey.

The vessel will be working in an area of ~3.5 x ~3.5km at a location ~ 30km SE of Newcastle and ~30km ENE of Norah Head. It will also include a single tie line to the site of previous exploration drilling (2010) 55km E of Newcastle.

More information can be viewed at the following link http://www.adventenergy.com.au/environmental-plan-pep11.

You may also contact Toby Foster on: +61 8 9200 6190 or email: toby@adventenergy.com.au.

Public Notices

EDGEWORTH COMMUNITY PRESCHOOL

Will be holding their AGM on the 11th April 2018, at 1:30pm at 11 Albert St. Edgeworth.

All welcome.

Notice to dispose Geoffrey Camms

(Formally Geoff's Auto Repairs) Customer Brad Beevors, vehicle Ford Falcon XR8 Ute, Reg No. BW15XD, Eng No. JGCMXT73316, Vin No. 6FPAAAJGCMXT73316. Address: 16 Industrial Crescent Lemon Tree Passage. Charges $2557.85 for mechanical work competed on the 22/8/16. If vehicle is not collected with in 28 days of this notice or by the 7th of May vehicle will be disposed of to cover outstanding invoice. Owner contact Geoff Camm. Phone: 4982 3450, Email: Geoffcamm55@gmail.com

Public Notices

Notice to dispose Store4U

Customer Mark Elliott. Vehicle 1968 MGB convertible, Eng No. 18GBUH77454, Vin No. CONV03 53527. Address: 16 Industrial Crescent Lemon Tree Passage. Storage fee, if vehicle is not collected within 28days or by the 7th of May, vehicle will be sold to recover outstanding charges. Owner contact Geoff Camm. Phone: 4982 3450. Email: geoffcamm55@gmail.com

Russell

Would any person knowing the whereabouts of **Timothy Lee Russell** or **Benjamin David Russell** being children of the late **Bernard David Russell** of Newcastle, NSW who died between 8 August 2016 and 10 August 2016 please contact Daniela Korlevska of Australian Ethical Super on 1800 021 227 or enquiries@australianethical.com.au

Public Notices

Pickles

NSW Government Vehicle Auctions

Approved Supplier DFS Contract No. 607

Exclusive Auctioneer for the New South Wales Government - Pickles Auctions Pty Ltd. Lic: MD14830

Auction: Wednesday, Weekly at 3:30pm
Fixed Priced Vehicles: Available Saturday – Wednesday

INCLUDING: Government, Fleet & Repossessed Vehicles. **ALSO AVAILABLE:** Finance, Extended Warranties & Trade-ins. **See website for full details.**

Contact: Rex King 0481 033 089 or Tosh Jones 0411 570 135.

Trucks, Machinery, Earthmoving & Plant Auction

Tuesday 24 April at 11am
150 Bulls Garden Road, Gateshead NSW 2290

Under instructions from various government departments, insurance companies, local councils, lease & fleet companies & other vendors.

Inspection: Monday 23 April from 8:30am–4:30pm only.
Please Note: Conditions & fees apply, see website for details. All visitors must be 18+ years. All OH&S Rules apply, covered footwear must be worn.

Sell your gear with Pickles With over 60 onsite & online auctions conducted nationally each week, our team of experts will personalise a solution to maximise your returns.

visit pickles.com.au for more information

Wanted to Buy

CASSETTE Tapes or Video Tapes of Anne Murray, Victoria Nichols, Romper Room or Darryl Cotton. Ph: 4041 0514. Will pay cash.

OLD TOOLS, guitars, fish. items, old mod trains, cars, jewellery. Call Riz 0431 296 741

CASH PAID!

STAMP and COIN COLLECTIONS. Will come to you, private collector, Allan 0400 609 695

Wanted To Lease

URGENT RENTAL NEEDED

for blind man with guide dog. 2 b/rm with secure yard & close to transport. Refs avail. PH: 0498 492 539

Positions Vacant

CARPENTER WANTED

Framing, lockup, and mouldout. Multiple job sites. Works ready to go.

Apply to: **byron.h@beveridgebuilding.com.au**

Boilermakers, Sheetmetal Workers, 2nd Class Welders

Required for Wallsend workshop. Good rates, immediate start.

To apply call **0438 232 485** after 7am

Carpenters & Construction Labours

Casual work, high rates available, long and short term assignments with overtime. Newcastle, Port Stephens and Hunter Regions. Must have WHS construction card, other tickets will be highly regarded. Please email resume to: newcastle@trojanrecruit.com.au

Public Notices

HONOUR THEM THIS ANZAC DAY

With a tribute to the brave men and women who have served, or are currently serving, in our Armed Forces.

ANZAC Day tributes will be appearing in our classifieds section on Wednesday, 25th April 2018. Messages can feature a photograph in colour or black and white, as well as text.

Connect with **Classifieds**

Tributes can feature a photograph and text, similar to that appearing in this advertisement.

- The cost of a tribute comprising 7 lines of text, plus a heading and border, is only $20.
- The cost of a tribute comprising 7 lines of text, plus a heading and border, and a photograph of the servicemen or servicewoman is only $30.

Cpl Ian Winning

First Aust task Force LAD
Oct 1970 to Oct 1971
Nui Dat South Vietnam

Ian joined the army aged 15 in 1965 and retired as a Warrant Officer Class One in 1987.

Example tribute, Photo of Ian Winning reproduced by kind permission of the Winning family.

If you would like to place an Anzac Day memorial tribute, please call the Newcastle office on 4979 5000 or email frontcounter@theherald.com.au by Monday 23rd April 2018.

Connect with Classifieds

NEWCASTLE HERALD

Phone: 131 696
Email: classifieds@theherald.com.au

Fairfax Media

Index

Funeral Notices

COLIC
MARKO
Aged 84 years
Of Elermore Vale

Dearly loved husband of Mara, father, father-in-law and grandfather of Jela and Miro Mihalinec, Tony, Christina and Taylor, and Johnny.

Marko's Family invite you to attend his Funeral Mass to be celebrated at the Sacred Heart Cathedral, Hamilton this **FRIDAY** 13th April, 2018 at 9:30am. Marko's burial will follow at Wallsend Cemetery

PETER FRY FUNERALS
4930 1441

Funeral Notices

KEASEY
(nee Battersby)
CONNIE

Aged 86 years
of Tanilba Bay

Loving partner of BRIAN, loved wife of STANLEY (dec), loving mother of WILLIAM and MELISSA. Adored Grandma of LACEY, JOSHUA, MADELEINE, JOURNEY, ALEC and EMMA, and her 5 great grandchildren. Loved sister of JEAN.

Family and friends are warmly invited to the Service for **CONNIE** at the North Chapel, Newcastle Memorial Park, Anderson Dr, Beresfield on **THURSDAY** 12th April 2018 at 11am.

FRY BROS TONY & MARGARET
4933 6155

Funeral Notices

PINKOWSKI
Henryk
7th April 2018
Late of Cardiff South

Dearly loved husband of Elaine. Loving father of Amanda, Mark (dec) and Angela. Adored grandfather and great grandfather of Jessica, Shannen, Jayden, Mason, Ruby, Harper, Acer and Tobias.

Aged 74 Years

Family and Friends are invited to attend a Celebration of **Henryk's** life this **Wednesday** 11th April 2018, commencing 2pm at St Kevin's Catholic Church, Main Road, Cardiff.

WHITE LADY
a woman's understanding
Mayfield 4968 9401

WHITEFORD
Bruce
Late of Belmont
Passed away
7th April 2018
Aged 92 years

Dearly loved husband of Hazel. Much loved father of Milton, Dennis, Judith, Brian, Alan, Ann and their families. Loved brother of Colin Whiteford.

The family and friends of **Bruce** are warmly invited to attend the celebration of his life to be held in The Chapel, 444 Pacific Hwy Belmont (parking off Henry St) on **Thursday 12th April 2018.** Service commencing at **10.00am.**

Pettigrew FAMILY FUNERALS
4951 1166
www.pettigrew.com.au

Funeral Services

EDSTEIN
Creative Stone
Monumental Masons
Restoration/ Cleaning
Headstones
Monuments
Servicing your local area
1800 621 599

In Memoriam

BENNETT
Gladys Katherine

Passed away 08/04/1993

Still sadly missed, always remembered and loved.

Annette and Hugh

COULTON
"DEL"
(Brown Owl)
24/09/36 - 10/04/17

Special people walk into our hearts they leave footprints and are never forgotten.

Loved and sadly missed always.

Gail, Wendy, Merrilyn, Bethany and families.

In Memoriam

HOPKINS
Ronald Henry

To Dad, Poppy Hoppy & Grampy

My mind still talks to you and my heart still looks for you. But my soul knows your at peace.

Love always Simone, Peter and The Girls x

In Memoriam

MEAKER
Gloria

15/06/1935 - 11/04/2015

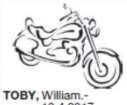
Sadly it's been three years since she has gone.
60 years of memories will lovingly live on.

Arnie, Bryan, Lynn, Karyn and Nana's two little men.

Always in our Thoughts

RON HOPKINS
"Hoppy"
20.3.1934 - 10.4.2017
Our hero, Our world

Though his smile is gone forever and his hands we cannot touch, we will still have so many memories of the one we loved so much. His memory is our keepsake with which we'll never part, the angels have him in their keeping, but we have him in our hearts.
Sadly missed everyday, but never forgotten.
Love your girls,
Ruth, Janine, Simone, Jackie and Nikki.



TOBY, William.- 10.4.2017

One year ago we lost you big brother, we think of you every day. Miss and love you so much. From Peter, family and friends.

For Sale

TV'S SECONDHAND & BRANDNEW

22" FROM $69, 26" FROM $99, 32" FROM $140 & 42" FROM $250

All the above screens come with 12months warranty and are in new condition. We also sell brand new tvs. DVD Movie Library from $1 with a wide range.

Call to: **NSW Colour TV,** 270 Turton Rd, New Lambton (next door to the Newcastle Knights Stadium) **Ph. 4957 8355**
Plenty of parking!

For Sale

ALUMINIUM Windows & doors, carpets, pantries **All New & In Stock** at HV Renovators 30 Station St Weston **Ph 4937 2422**

Antiques

COINS and STAMPS FAIR
Sun 15/4/18 10am-3pm
Pioneer Hall,
Cowper St, Wallsend.
Free entry
Dealers. Buy/Sell/ B/notes and accessories

Beauty Health and Fitness

TERRACE THAI MASSAGE
48 Sturgeon St
Raymond Terrace
Contact 0456 431 559
Open Mon to Sat 8.30 - 7pm.

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Ducato Sunliner 411,immaculate 41,980kms,diesel, to.$39,100.Unreg. tact 0488 839 255 Pinto cond. au- Con-

Boats and Accessories

WANTED BOATS
Old/new, any cond. We pick up & pay cash!
0431682188 / 4339 4207
waterfun188@gmail.com

To Let & Wanted

BERESFIELD, Large 1 bedroom unit with parking, walk to shop and train. $230/wk. Contact: 0488 187 757.

COOKS HILL, clean rooms, suit gents, close to transport, shops. DARBY ST. 0417 264 890.

MAYFIELD_WEST
Furn rooms with fridge in quiet, clean, friendly over 50's, share home. $165 p/w. Inc. exp, wifi. Ph: 0408 419 890.

Public Notices

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You may also contact Toby Foster on: +61 8 9200 6190 or email: toby@adventenergy.com.au.

Pets and Pet Care

POMERANIAN Pups, 2 boys, 6wks, microchipped, vet-checked, wormed, vaccinated $1800. Avail from 21st April. Ph:02 4954 2667.

Wanted to Buy

OLD TOOLS, guitars, fish. items, old mod trains, cars, jewellery. Call Riz 0431 296 741

Training and Career Services

Absolutely Excellent Resumes
28 years experience. Resumes, Cover Letters all Application Criteria. Marilynne 0438 154 882 email mpv@mpvas.com

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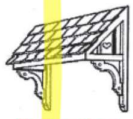

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Now with Pantec trucks.
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THE WHITE VAN MAN COMPANY
Best prices guaranteed
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Positions Vacant

DRIVERS REQUIRED
MC LICENCE
Carting scrap metal country areas to Sydney. Tipping exp req.
4271 1697
0407 898 858

Painter Required
For ongoing work in the Newcastle Area. Must have own transport. Immediate start. **Daniel**
0410 137 153

Panel Beater
Qualified Panel Beater required. Immediate start. Wage negotiable.
0409 572 347

Scaffolders
- Ticketed Scaffolders Required for Outage Work
- Immediate Start
- Central Coast and Hunter Valley

Contact:
Mightylagg Services P/L
02 4359 3511
or complete the job application on our web page
www.mightylaggservices.com.au

RESORT PROMOTIONS TELESALES
Newcastle Wst location
Mon-Fri 9am-2pm
Min $25.26 per hr + bonuses
All ages welcome
Immediate start
Full Training /
No experience needed.
Advancement for Previous Experience!
Ph: 4016 0404

adzuna

HONOUR THEM THIS ANZAC DAY

With a tribute to the brave men and women who have served, or are currently serving, in our Armed Forces.

ANZAC Day tributes will be appearing in our classifieds section on Wednesday, 25th April 2018. Messages can feature a photograph in colour or black and white, as well as text.

Connect with Classifieds

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- **The cost of a tribute comprising 7 lines of text, plus a heading and border, is only $20.**
- **The cost of a tribute comprising 7 lines of text, plus a heading and border, and a photograph of the servicemen or servicewoman is only $30.**

Cpl Ian Winning

First Aust task Force LAD
Oct 1970 to Oct 1971
Nui Dat South Vietnam

Ian joined the army aged 15 in 1965 and retired as a Warrant Officer Class One in 1987.

Example tribute, Photo of Ian Winning reproduced by kind permission of the Winning family.

AW0432686

Cinemas

PALACE CINEMAS

CENTRAL Central Park Mall, 28 Broadway CHIPPENDALE 9160 2250

BLACK PANTHER (M) THU 4.00PM A QUIET PLACE (M) • THU 10.10, 1.15, 3.15, 5.15, 7.15, 9.15PM BLOCKERS (MA15+) THU 4.50PM HAVE YOU SEEN THE LISTERS (M) THU 12.20PM HUMAN FLOW (M) THU 10.20AM ISLE OF DOGS (PG) • THU 10.00, 12.10, 2.15, 4.20, 6.30, 8.45, 6.45, 9.10PM LOVE, SIMON (M) THU 2.30, 4.10, 9.20PM NICK CAVE AND THE BAD SEEDS LIVE IN COPENHAGEN (CTC) • THU 7.00PM PACIFIC RIM: UPRISING (M) THU 11.00AM RAMPAGE (M) • THU 10.15, 12.30, 2.40, 6.30, 8.45PM READY PLAYER ONE (M) THU 10.00, 12.45, 3.45, 8.40PM RED SPARROW (MA15+) THU 1.10, 9.00PM THE DEATH OF STALIN (MA15+) THU 12.10, 2.20, 4.30, 6.40, 9.00PM THE OTHER SIDE OF HOPE (M) THU 10.00, 12.00, 2.10, 4.15, 6.50PM THE PARTY (MA15+) • THU 11.00, 12.40, 2.20, 4.45, 7.00, 8.45PM THREE BILLBOARDS OUTSIDE EBBING MISSOURI (MA15+) THU 10.00AM TRUTH OR DARE (M) • THU 12.00, 2.10, 4.15, 8.50PM

PALACE PLATINUM

CENTRAL PARK MALL – 28 BROADWAY CHIPPENDALE – 9190 2290

ISLE OF DOGS (PG) • THU 2.30PM
NICK CAVE AND THE BAD SEEDS LIVE IN COPENHAGEN (CTC) • THU 7.00, 7.00, 7.00PM
RAMPAGE (M) • THU 3.40PM
THE DEATH OF STALIN (MA15+) THU 3.30PM

BOOK ONLINE
To enjoy the full Platinum experience, please arrive 30–40 minutes prior to your session

CHAUVEL

Car Dalley Rd & Oxford St PADDINGTON 9361 5388

I, TONYA (MA15+) THU 10.10, 8.30PM LOVE, SIMON (M) THU 12.50, 3.30, 6.00, 8.00PM PHANTOM THREAD (M) THU 1.00, 3.20 THE SHAPE OF WATER (MA15+) THU 10.30AM

NORTON STREET

90 Norton Street LEICHHARDT 9660 0122

A QUIET PLACE (M) • THU 2.30, 5.10, 7.15, 9.15PM A WRINKLE IN TIME (PG) THU 10.00, 12.15PM BLOCKERS (MA15+) • THU 9.10PM EARLY MAN (PG) • THU 9.30, 11.30AM FINDING YOUR FEET (M) • THU 11.30AM I, TONYA (MA15+) THU 12.20PM ISLE OF DOGS (PG) • THU 9.45 (CC), 11.50 (BABES), 11.50 (CC), 4.45 (CC), 6.00, 8.10PM LADY BIRD (MA15+) THU 4.45PM LOVE, SIMON (M) THU 1.30, 3.45, 6.45 MARY MAGDALENE (M) THU 10.00AM NICK CAVE AND THE BAD SEEDS LIVE IN COPENHAGEN (CTC) THU 7.00PM PETER RABBIT (PG) THU 9.30, 1.10, 3.10PM READY PLAYER ONE (M) THU 2.00 (CC), 3.45, 6.30PM RED SPARROW (MA15+) THU 9.10PM (CC) SHERLOCK GNOMES (G) • THU 9.45, 11.45, 2.45 THE DEATH OF STALIN (MA15+) THU 12.40, 2.50, 5.00, 7.10, 8.40PM THE OTHER SIDE OF HOPE (M) THU 1.40, 5.00, 7.10, 9.15PM THE PARTY (MA15+) • THU 11.00, 1.45, 3.20, 7.00, 9.20PM THE SQUARE (MA15+) THU 4.20, 9.00PM

VERONA

Cnr Oxford & Verona Sts PADDINGTON 9360 6099

ISLE OF DOGS (PG) • THU 10.50, 1.00, 3.20, 6.00, 9.10PM NICK CAVE AND THE BAD SEEDS LIVE IN COPENHAGEN (CTC) • THU 7.00PM THE DEATH OF STALIN (MA15+) THU 11.10, 1.30, 4.00, 6.20, 8.45PM THE OTHER SIDE OF HOPE (M) THU 11.00, 1.20, 3.40, 8.30PM THE PARTY (MA15+) • THU 11.00, 12.50, 2.30, 4.20, 6.30, 8.20PM

• NO FREE TICKETS ◉ ADVANCE SCREENINGS
All sessions are correct at the time of publication. For updates visit
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DENDY

NEWTOWN 261 KING ST NEWTOWN 9550 3030

DENDY LOUNGE
ISLE OF DOGS (PG) NFT *OPENING WEEK* Thu-Sat 12:00PM, 2:10PM, 6:30PM, 8:45PM
A QUIET PLACE (M) NFT Thu-Sat 4:20PM

STANDARD SESSIONS
ISLE OF DOGS (PG) NFT *OPENING WEEK* Thu 10:00AM, 12:10PM, 2:20PM, 4:30PM, 6:40PM, 8:45PM; Fri/Sat 10:00AM, 12:15PM, 2:30PM, 4:45PM, 7:00PM, 9:15PM
THE PARTY (M) NFT *OPENING WEEK* Thu-Sat 12:20PM, 4:20PM, 7:20PM, 9:00PM
EARLY MAN (PG) *OPENING WEEK / MATT'S FILM* Thu 10:10AM, 12:50PM, 2:00PM, 5:10PM; Fri-Sat 10:30AM, 12:50PM, 3:00PM, 5:10PM
1945 (M) Thu 10:00AM, 4:40PM, 9:20PM; Fri-Sat 12:20PM, 9:20PM
A QUIET PLACE (M) NFT Thu 12:20PM, 2:30PM, 4:40PM, 6:45PM, 8:30PM; Fri/Sat 12:50PM, 3:00PM, 5:10PM, 7:20PM, 9:30PM, 9:30PM
BLACK PANTHER (M) Thu-Sat 10:10AM
HAVE YOU SEEN THE LISTERS? (M) Thu 10:15AM, 5:00PM, 7:00PM; Fri/Sat 10:50AM, 4:30PM, 6:30PM
HUMAN FLOW (M) Thu/Fri 12:45PM; Sat 12:15PM
LADY BIRD (M) Thu 12:20PM; Fri 12:20PM, 9:00PM; Sat 9:30PM
LOVE, SIMON (M) Thu 12:30PM, 2:15PM, 8:50PM; Fri/Sat 10:00AM, 2:20PM, 4:40PM, 7:00PM
PETER RABBIT (PG) *A MET FILM* Thu-Sat 10:00AM, 12:10PM, 2:15PM
READY PLAYER ONE (M) Thu-Sat 10:00AM, 3:40PM, 8:40PM
THE DEATH OF STALIN (MA15+) Thu 10:00AM, 2:00PM, 4:30PM, 7:00PM, 9:00PM; Fri/Sat 10:00AM, 2:00PM, 4:20PM, 6:45PM, 9:10PM
THE OTHER SIDE OF HOPE (M) Thu 10:10AM, 2:20PM, 6:40PM; Fri 10:10AM, 2:30PM, 4:40PM, 6:50PM; Sat 10:00AM, 2:00PM, 5:10PM, 7:20PM
WALKING OUT (M) Thu 12:10PM, 4:30PM, 6:30PM; Fri/Sat 12:10PM, 2:20PM, 6:30PM

OPERA QUAYS 2 EAST CIRCULAR QUAY 9247 3400

THE PARTY (M) NFT *SPRING WEEK* Thu/Fri 12:30AM, 12:20PM, 2:20PM, 6:45PM; Sat 9:30AM, 12:20PM, 4:10PM, 6:30PM
1945 (M) Thu/Fri 12:20PM, 8:40PM; Sat 8:40PM
FINDING YOUR FEET (M) Thu/Fri 4:10PM
MARY MAGDALENE (M) Thu 4:00PM; Fri 4:00PM, 8:30PM; Sat 8:10PM
THE DEATH OF STALIN (MA15+) Thu/Fri 10:00AM, 2:15PM, 6:20PM; Sat 10:30AM, 2:35PM, 6:30PM
THE OTHER SIDE OF HOPE (M) Thu-Sat 10:10AM, 2:00PM, 6:30PM
WALKING OUT (M) Thu/Fri 12:10PM, 4:40PM, 8:40PM; Sat 11:00AM, 1:10PM, 8:40PM

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Tenders General

NORTHERN BEACHES COUNCIL
RFT 2018/058 - PROVISION OF AN EMPLOYEE ASSISTANCE PROGRAM.
Northern Beaches Council invites tenders from suitably qualified suppliers for the Provision of an Employee Assistance Program.
Interested parties are required to register via Northern Beaches Councils E-Tendering portal: https://www.tenderlink.com/northernbeaches/ - a summary of the requirement may be found here. Full tender documents are available for download at a cost of $100 GST exclusive. If you experience difficulties registering with Tenderlink please call their helpdesk on 1800 233 533.
The closing date and time for responses is Thursday 3rd May, 2pm AEST time.
Contact: Robert MacNaughton 02 9942 2415
IMPORTANT NOTE. The Council will disqualify any Tenderer that:
- engages in unethical, corrupt or inappropriate conduct;
- approaches Councillors or Council officers in relation to this RFT in a manner not consistent with the RFT; or
- displays intimidating behaviour.

Public Notices

PUBLIC NOTICE
PROPOSED TERMINATION OF STRATA SCHEME NO. 61651 being property situated at 1 Redman Avenue, Maroubra NSW 2035

Notice is given of an intention to apply to the Registrar General for an order terminating the above Strata Scheme and the consequent winding up of the Owners Corporation pursuant to Section 142 of the Strata Schemes Development Act 2015 (NSW).

Any person having any claim against the Owners Corporation of the above Strata Scheme or any estate or interest in or claim against any of the lots comprised in the Strata Scheme is required, on or before 4th May 2018 to send particulars of the estate, interest or claim to GILES PAYNE & CO, Solicitors, PO Box 70, Maroubra NSW 2035. Ph: 02 9661 6066.

PUBLIC NOTICE
Proposed termination of Strata Scheme No 4116 being property situated at 84 Dibble Street, St Leonards NSW 2065.

NOTICE IS

Notice is given of an intention to apply to the Registrar General for an order terminating the above Strata Scheme and the consequent winding up of the Body Corporate pursuant to section 51A of the Strata Schemes (Freehold Development) Act 1973.

Any person having any claim against the Body Corporate of the above Strata Scheme or any estate or interest in or claim against any of the lots comprised in the Strata Scheme is required on or before 27th April 2018 to send particulars of the estate, interest or claim to Retail 249251 1 Napier Street, Homebush NSW 2140.

ASSET ENERGY is undertaking the Baleen 2D high resolution seismic survey in offshore Commonwealth waters of NSW within Petroleum Exploration Permit PEP 11 and is planned to commence 14th/15th April (weather permitting) with ~ 3.4 days duration.
The survey will be acquired by a utility vessel towing a 900m long submerged (3m) cable. The cable will have a tailbuoy with flashing white light. There will be a 2nm exclusion zone surrounding the vessel and towed equipment for the safety of all marine users during the survey.
The vessel will be working in an area of ~ 2.5 – ~3.5km at a location ~ 30km SE of Newcastle and ~30km ENE of Norah Head. It will also include a single tie line to the site of previous exploration drilling (2010) 55km E of Newcastle.
More information can be viewed at the following link http://www.adventenergy.com.au/environmental-plans.php#1. You may also contact Toby Foster on +61 8 9200 6190 or email toby@adventenergy.com.au.

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BRIDGE

Tales of spades and diamonds

Ron Klinger

In the semi-finals of the Gold Coast Congress Open Teams, HINDEN won Session 3 by 19-16 and led HIRST by 52 Imps to 23 with ten boards to play. THORPE won Session 3 by 38-11, but trailed BUCHEN 41-69.

You, South, hold:
♠ AQ87432
♥ 74
♦ 6
♣ AKJ

With neither side vulnerable, partner opens 2D, a weak two in diamonds. You bid 2S, partner 3D, you 3S, partner 4D. Your move?

What would you do if North opened 3D?

Bd. 37: North dealer : Nil vulnerable

NORTH
♠ 6
♥ J85
♦ KQJ10543
♣ 62

WEST
♠ K1095
♥ AQ3
♦ 82
♣ Q1073

EAST
♠ J
♥ K10962
♦ A97
♣ 9854

SOUTH
♠ AQ87432
♥ 74
♦ 6
♣ AKJ

Renee Cooper (N) – Kieran Dyke (S) bid 3D : 4S, all pass. South's 4S is a good, practical decision, despite the outcome. West led the C3. South won with the CJ and played the D6: eight – queen – ace. South also lost three spades and two hearts, three off, –150.

Phil Gue (N) – Bill Hirst (S) bid 3D : 3S, 3NT (no spade support) : 4S, all pass. South lost the same six tricks for –150, no swing.

In the other match, Joey Silver (N) – John Carruthers (S) bid 3D : 3S, 4D, all pass. It is a wise player, who knows when to call it a day. East led the H10 to the HA. West switched to the D8, king, ace. Declarer lost two more tricks, one light, –50.

At the other table after 2D : 2S, 3D, 3S, 4D, South bid 4S. West had heard enough and doubled, all pass. South won the club lead, but lost three spades, two hearts and a diamond, three light, –500 and 10 Imps out.

Partner opens 1NT, 15-17, Pass on your right. Plan your auction with:
♠ 6
♥ 10964
♦ K1063
♣ KQJ9

Bd. 39: East dealer : N-S vulnerable

NORTH
♠ 6
♥ 10964
♦ K1063
♣ KQJ9

WEST
♠ KJ874
♥ QJ7
♦ 9
♣ 10753

EAST
♠ A1093
♥ K85
♦ J42
♣ 862

SOUTH
♠ Q52
♥ A32
♦ AQ875
♣ A4

(Directions changed for convenience)

West	North	East	South
Cooper	Hyett	Dyke	Egirton
-	-	Pass	1NT
2♠ (1)	Dble (2)	3♠	Pass
Pass	Dble	Pass	4♦
Pass	5♦	All pass	

(1) Spades and a minor (2) Takeout

West led S7. East took SA and switched to H5. South won with HA and made 11 tricks, +600. West's 2S is not a good idea for a number of reasons. One is that you might keep N-S out of a failing 3NT, as happened at one table in the other match.

At the other table, North-South had the methods to deal with the North hand. Graham Osborne (S) opened 1NT, Frances Hinden (N) bid 3H, game-force, 0-1 spade. South bid 4D, North 5D, all pass.

West led the C7 and South made 11 tricks, +600, no swing. For more on 'submarine splinters' after a 1NT opening, see *A Good Game of Modern Bridge*.

In the other match, neither West ventured an overcall. Ian Thomson (S) – Peter Buchen (N) bid 1NT : 2C, 2D (no 5-major) : 3D (asking for a 4-card major), 3NT, all pass. West led the S7 and the defence took the first five tricks, E-W +100.

At the other table, Matt Mullamphy was North and I was South. Our auction went 1NT : 2C, 2NT (maximum, no 5-major), 3C (asking for 4-card majors) : 3NT (no 4-major and not 4-3-3-3), 4C (do you have clubs) : 4NT (No, I have 5 diamonds), 5D : 6D, all pass. All would have been well if East had led a spade or a minor, but on the actual heart lead, 6D was doomed, E-W +100, just another flat board.

HINDEN won Set 4 by 18-2 and the match by 70-25. Set 4 was 19-19 in the other match and BUCHEN won by 88-60.

Having yet another session without beating my bridge partner unconscious with a chair, I would say that my partnership skills are definitely improving.

OFFICIAL RESULTS
Super Jackpot Draw 10221

1st Prize of $100,000 – N° 053360
2nd Prize of $10,000 – N° 137706
3rd Prize of $5,000 – N° 042703

The Jackpot prize of $2,190,000 was not won by ticket N° 267536

Jackpot now stands at $2,320,000 in Super Jackpot Draw 10222

OFFICIAL RESULTS
Tuesday 10 April 2018
Draw 1280

Price Winning Numbers: 31 25 3 23 17 40 15
Supplementaries: 16 26

Div	Prize Pool	Winners	Prize Value
1	$5,000,000.00	0	$0.00
2	$124,664.00	4	$31,166.00
3	$256,660.00	82	$3,130.00
4	$132,003.60	328	$402.45
5	$154,043.10	3,186	$48.35
6	$1,759,171.90	71,366	$24.65
7	$1,973,093.95	122,173	$16.15

DIVISION 1: NO WINNING ENTRIES

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VICE REGAL

In the morning, His Excellency General The Honourable David Hurley AC DSC (Retd), Governor of New South Wales, presided at a meeting of the Executive Council, at Government House Sydney. Later in the morning, the Governor and Mrs Linda Hurley, as Joint Patrons of Parkinson's NSW Inc., hosted a Morning Tea for World Parkinson's Day 2018, at Government House.

For further information visit: www.parkinsons-nsw.org.au.

In the afternoon, the Governor and Mrs Hurley hosted the second of seven Secondary Schools Leadership Program Events, at Government House. These events are for high school student leaders from schools across New South Wales.

News of the Governor-General's activities can be viewed at http://www.gg.gov.au/program

News of the Governor's activities can be viewed at http://www.governor.nsw.gov.au

SHIPPING

EXPECTED ARRIVALS TODAY
2am, BDI0, YM EFFICIENCY; 5am, HOJ, BEA SCHULTE; 10am, BDI2, SIDUS TRADER; 8pm, BDI4, MSC LAURA; 5.15am, SCPT, PACIFIC EXPLORER; 7am, SCPT, ICS ALLEGIANCE; 8am, GOR2, MACLEAY; 9am, GOR1, FRONT POLLUX; 11am, Bay, SUN PRINCESS; 11.50am, BANK1, MN TANGARA; 11.30am, BANK1, ICS INTEGRITY; 12.30pm, BNE5, ICS ALLEGIANCE; 1.15pm, WHT5, ICS ALLEGIANCE; 2pm, BANK1, MN TANGARA; 3.30pm, BANK1, MN TANGARA; 5.15pm, GOR2, ICS ALLEGIANCE; 8.30pm, WHT3, BEATRICE BUSH.

EXPECTED DEPARTURES TODAY
6am, HOJ, ANL ELANORA; 10pm, BDI1, BALAO; 7am, GOR2, ICS ALLEGIANCE; 10am, BNE5, BELUGA; 12noon, GOR2, MACLEAY; 12.30pm, SCPT, ICS ALLEGIANCE; 1.15pm, BNE5, ICS ALLEGIANCE; 2pm, BANK1, MN TANGARA; 3pm, BANK1, MN TANGARA; 4pm, BANK1, MN TANGARA; 4pm, BANK1, ICS INTEGRITY; 4pm, SCPT, PACIFIC EXPLORER; 5.15pm, WHT5, ICS ALLEGIANCE; 7.30pm, WHT5, SUN PRINCESS.

MAILS

Full surface mails are published each Monday. Closing dates later than one week in advance are approximate. Variations on last week's list are nil. Inquiries telephone 9204 3405.

APPENDIX B MARINE FAUNA OBSERVATION REPORT

BALEEN 2D HR SEISMIC SURVEY

Marine Fauna Observation Report

Petroleum Exploration Permit 11 (PEP11)
Offshore Sydney Basin
January 2018

Asset Energy Pty Ltd

April 2018

Rev 1

Document Title: **Baleen 2D HR Seismic Survey Marine Fauna Observation Report**

Revision Status: 1

DOCUMENT REVISION HISTORY

Rev	Description	Date	Prepared by	Reviewed/Edited	Approved
0	Draft Report	21/04/2018	[redacted]	[redacted]	[redacted]
1	Final Report	14/06/2018		[redacted]	[redacted]

PREPARED BY: Scope Resources (WA) Pty Ltd

Scope Resources (WA) Pty Ltd. ABN 14 135 345 158. Tel: +61 (0)8 9481 1889
11 / 11 Ventnor Avenue, Wet Perth Western Australia 6005
www.scoperesources.com.au

EXECUTIVE SUMMARY

- Asset Energy Pty Ltd undertook the Baleen two-dimensional (2D) high resolution (HR) seismic survey, located in the Offshore Sydney Basin, between 16 April 2018 and 18 April 2018.

- Seismic acquisition and source operational procedures were undertaken in accordance with the requirements of the Environmental Protection and Biodiversity Conservation (EPBC) Act Policy Statement 2.1 Interaction between offshore seismic exploration and whales (DEWHA, 2008): Part A Standard Management Procedures.

- Dedicated monitoring effort was conducted by Marine Fauna Observers (MFO) over a period of 5 days, prior to and during testing, soft start and acquisition. Overall, a combined total of 46 hours 54 minutes of monitoring effort was achieved over the course of the Baleen 2D HR seismic survey.

- Pre-shooting searches were conducted prior to the commencement of all airgun operations undertaken during daylight hours. A total of 5 visual pre-shooting searches were undertaken by the MFOs stationed on-board the seismic source vessel, PMG *Pride*.

- There were a total of 22 airgun uses: 22 soft start procedures, 46 line sequences, and 1 gun test. Soft start procedures were implemented as standard operational practice, each time the seismic source was initiated prior to acquisition and testing (if required). All soft starts were at least 30 min in duration. Overall, observations while the airguns were active totalled 32 hours 40 minutes.

- A total of one (1) cetacean sighting record (common bottlenose dolphin) was documented. There were no records of species that could not be positively identified.

- There were no start-up delay procedures implemented during the survey as no 'applicable' species listed within the EPBC Act Policy Statement 2.1 (DEWHA, 2008) or the Baleen 2D HR Seismic Survey Environmental Plan (EP) were encountered within the designated safety zones around the seismic source during the pre-start-up visual observation search periods.

- There was one (1) powerdown/shutdown event instigated by an 'applicable species' being detected within the designated mitigation zones during seismic operations. On this occasion, the source was powered down and shut down immediately upon request from the MFO and soft start procedures commenced after the all clear was given.

- No non-compliance events were documented in relation to marine fauna interactions, mitigation or source operational procedures.

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APPENDIX 1: Cetacean Sighting Application database (.csb file)

APPENDIX 2: Cetacean Sighting Application Export (.xml file)

APPENDIX 3: Cetacean Sighting Application All Data Reports (.pdf files)

APPENDIX 4: Electronic Project datasheets (.xls)

1. INTRODUCTION

1.1. SEISMIC SURVEY DETAILS

1.1.1. Survey Area

The Baleen 2D HR seismic survey operational area lies within Commonwealth waters and is located entirely within Permit Area PEP-11, offshore Sydney Basin, New South Wales (Figure 1). The operational area covers approximately 460km^2, and the high resolution survey area lies within this operational area and predominantly occurs within a grid of 12.25 km^2, plus a single 2D tie line (Figure 2). Water depths in the area of interest are expected to range between 125 and 145 m.

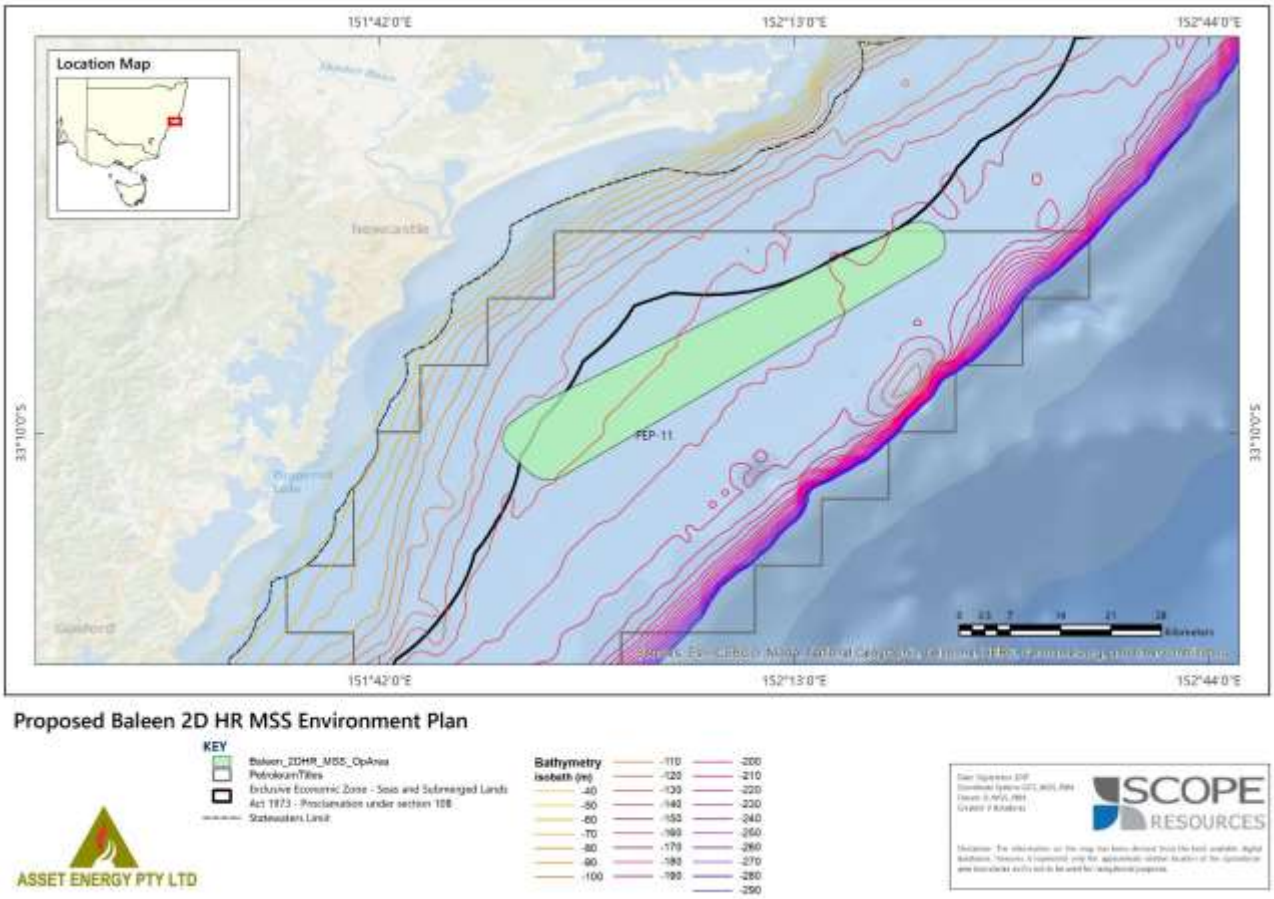

Figure 1 - Location of the Baleen 2D HR in the Offshore Sydney Basin, NSW

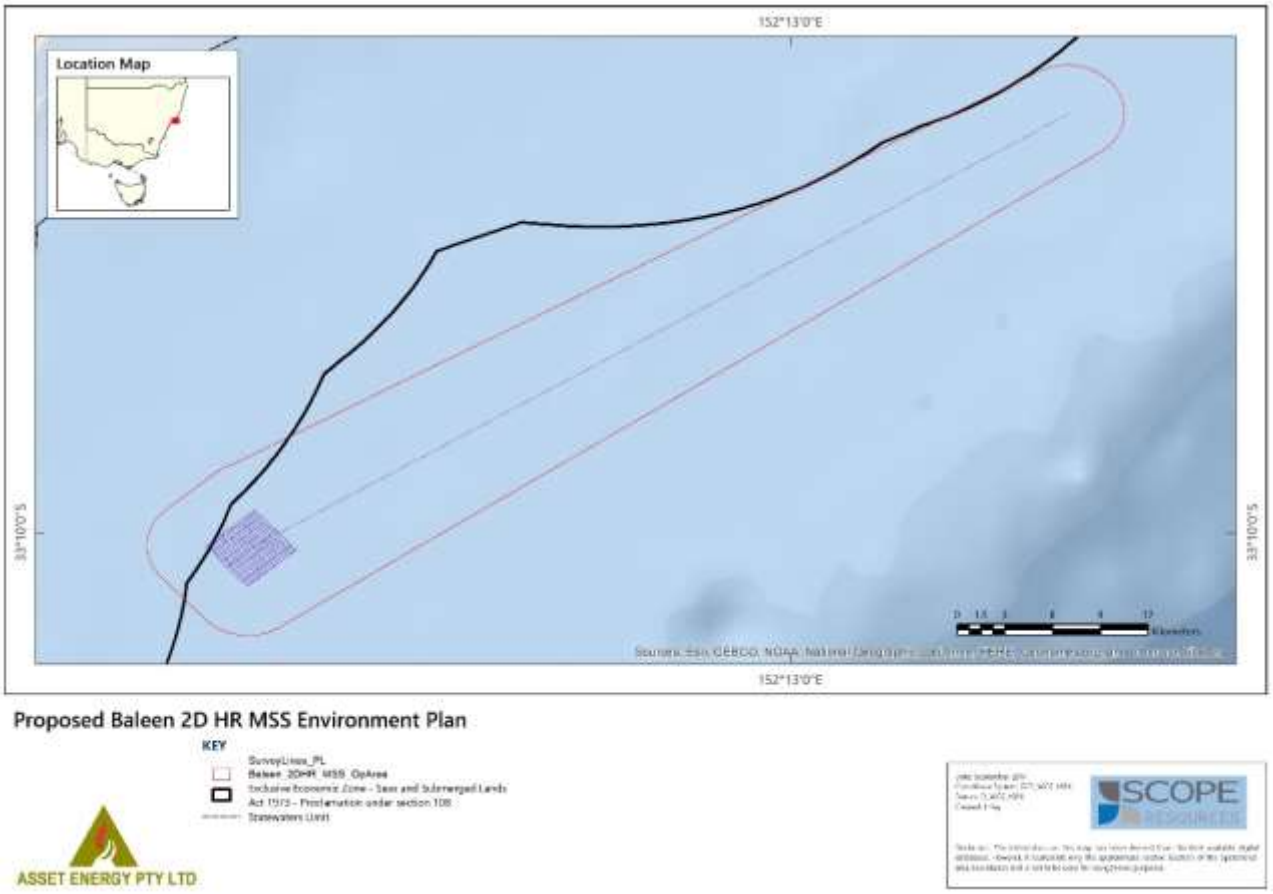

Figure 2 - Location of data acquisition for Baleen 2D HR MSS in the Offshore Sydney Basin, NSW

1.1.2. Vessels

The survey was conducted by the PMG *Pride*, an Australian utility vessel converted to tow seismic equipment (Figure 3).

Figure 3 – PMG *Pride*. Source: Pacific Marine Group

1.1.3. Survey Equipment

The PMG *Pride* deployed a single sound source (airgun), with a total source volume of 90 in^3. The source was deployed at a depth of 3 metres (+/- 1 m). The nominal centre of the source (COS) was located approximately 57 m from the PMG *Pride* bridge, where the MFOs were based for marine fauna observations. The source fired at frequency of 4-400 Hz, with the total discharge pressure of approximately 2000 psi, and a shot-point interval of 6.25 meters (**Table 1**).

Seismic reflections from subsurface layers were detected by hydrophones mounted along a single marine seismic streamer cable of 900 m in length. Cable levellers (or 'birds') were placed along the length of the streamer to maintain vertical positioning, with a tailbuoy deployed at the end.

Table 1 – Baleen 2D HR Seismic Survey Data Acquisition Parameters

Parameter	Value
Acquisition mode:	Single fire
Acquisition azimuth:	48°, 57°, 138°, 228°, 318°
Source type:	G.I. gun
Number of guns:	1
Size of airgun:	90 in^3
Operating air pressure:	2000 psi
Shot point interval:	6.25m (approx. 4 secs)
Source depth:	3 m
Frequency range:	4-400 Hz
No. of streamers:	1
Streamer length:	900m
Streamer depth:	3 m

1.2. ENVIRONMENTAL APPROVALS AND PERMITS

1.2.1. EPBC Act Policy Statement 2.1 and Conditions

Under the Environment Protection and Biodiversity Conservation Act (EPBC Act), a number of whale species are listed as threatened and/or migratory species and are subsequently protected under the Act as matters of national environmental significance (NES). Whale species are also part of the Commonwealth marine environment, another matter of NES. The EPBC Act Policy Statement 2.1 – *Interaction between offshore seismic exploration and whales* (DEWHA, 2008) is one in a range of EPBC Act Policy Statements which provide more detailed guidance in relation to specific industry sectors and activities.

Within the EPBC Act Policy Statement 2.1, management measures are divided into two areas:

(1) Precaution zones

Precaution zones define the *Observation, Low Power and Shutdown* zones to be used based on the likely sound levels surrounding the seismic source(s) (**Figure 4**). For this survey, the precaution zones used were:

- *Observation zone*: 3+ km horizontal radius from the acoustic source.
- *Low Power zone*: 2 km horizontal radius from the acoustic source.
- *Shutdown zone*: 500m horizontal radius from the acoustic source.

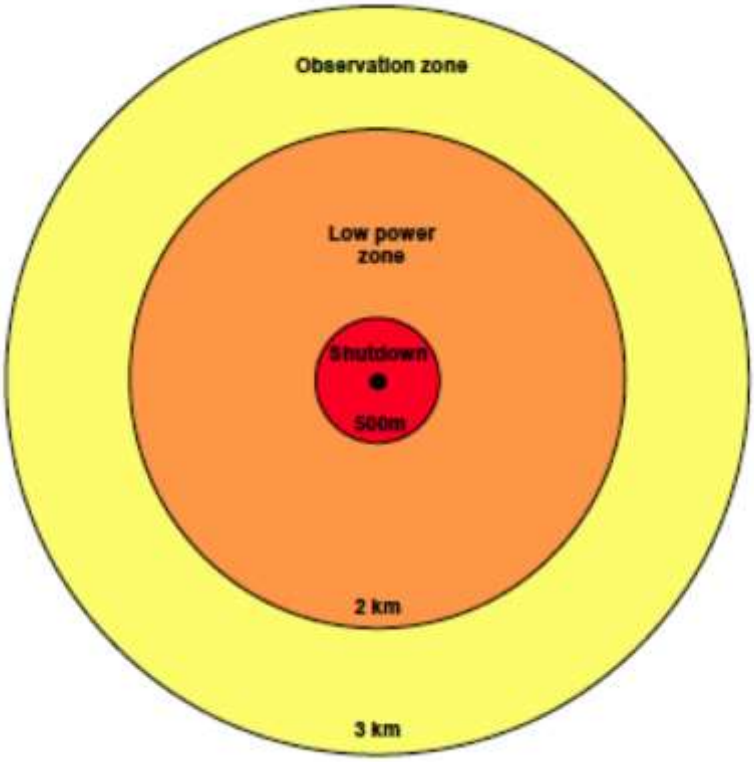

Figure 4 - Relevant 'precaution' zones applied during the Baleen 2D HR Seismic Survey. Source: EPBC Act Policy Statement 2.1 (DEWHA, 2008).

(2) Management Procedures

A seismic survey will generally not interfere with whales if the survey is undertaken in an area and time where the likelihood of encountering whales is low and the appropriate measures outlined in Part A, Standard Management Procedures and Part B Additional Management Procedures are undertaken.

If the proposed seismic survey has or is likely to have a significant impact on a matter of NES, the action should be referred to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

1.2.2. Client Policies and Procedures

In compliance with statutory requirements and to ensure that the Baleen 2D HR seismic survey was planned and conducted in-line with Asset Energy Pty Ltd's environmental policies and standards, an Environment Plan (EP) was prepared in accordance with the requirements of Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGSA), the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (OPGGS(E)R) and Amendment Regulations 2011. The EP was submitted to, and subsequently approved by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), after assessing the environmental 'significance' of the proposed activity pursuant to the EPBC Act Policy Statement 2.1.

1.2.3. Additional Mitigation Measures

As line turns were expected to be of a duration of approximately 21 minutes which was less than the soft-start duration required (30 minutes), a modified soft-start procedure was developed [redacted] on the 16/04/2018, while onboard the PMG *Pride*.

Summary: Due to the short time interval between end of line (EOL) and start of line (SOL), the acoustic source was powered-down to low-power (LP; one chamber firing at 5 minute intervals) for approximately 15 minutes, with the final

6 minutes involving a 'ramp-up' (one chamber firing at normal full power (FP) [frequency 6.25 seconds]). The final run-in was at FP (both chambers firing) and normal frequency.

Procedure: The modified soft start procedure was implemented at the EOL. The seismic operators contacted the MFOs to inform them that the acoustic source was powered down from FP to LP. In the final 6 minutes before running into the line, the seismic operators contacted the MFOs for the 'all clear' to ramp-up the source to FP. The ramp-up was 400m in length and was one chamber firing at approximately 4 seconds (6.25 meters) intervals.

This modified soft-start procedure was also followed during night-time operations.

2. METHODOLOGY

2.1. MARINE FAUNA MONITORING

Visual monitoring was conducted by two MFOs (at least one on watch during all daylight hours) following the conditions specified in Part A, Standard Management Procedures of the EPBC Act Policy Statement 2.1 with modified soft-start procedures as described in Section 1.2.3. Visual observations were maintained throughout daylight hours, with dawn and dusk defined by the ability to observe at least three km around the acoustic source (dependent on light and weather conditions). Observations by dedicated MFOs were maintained using the naked eye and high definition, handheld reticle compass binoculars (7 x 50) from the bridge (eye level approximately 7 m above sea level) and adjacent outdoor deck areas of the source vessel.

Distance estimations of marine fauna to the observation platform (i.e., observer) were determined by the use of reticle scale binoculars. The Australian Marine Mammal Centre's Cetacean Sightings Application Database (CSA; Version 3.0 Beta) was then used to calculate the range between a sighting and the nominal centre of the towed airgun array, via conversion of reticle scale and range finding readings into horizontal distances. This calculated distance was used for all mitigation actions pertaining to the Baleen 2D HR seismic survey.

Data on visual monitoring effort, environmental conditions, source operations, cetaceans and other marine megafauna sighting events were recorded using customised electronic spreadsheets (Microsoft Excel) and the CSA database. The seismic crew provided all airgun operational times from their daily logs, which were cross-referenced with data collected by the MFOs whilst on watch.

Visual observations were focussed on the 2000m (horizontal radius from source) mitigation zone for whales and were extended as far as practical from the PMG *Pride* (out to 3km and beyond, if possible), as per the requirements under Section A.3.1 of EPBC Policy Statement 2.1.

For each sighting event, the time (UTC, AEST), vessel position, course, water depth, species, number of animals, group age/sex composition, sighting distance and bearing, cetacean heading and movement, vessel activity and source operational status and environmental data were recorded. The behaviour of marine fauna was also observed and recorded.

Species identification was confirmed, with reference to Shirihai and Jarrett (2006) field guide. Marine fauna were identified to the lowest taxonomic level possible.

2.2. ENVIRONMENTAL DATA

Environmental and meteorological conditions were recorded at the start of each watch period, for every change in seismic source use and when conditions significantly changed while the MFO was on duty.

Environmental records were recorded according to the criteria and parameters in the CSA database, this included:

- Whether visual observations were hampered and why (e.g. bad glare, high sea state, high wind or poor visibility).
- Weather conditions (e.g. cloud, haze/smoke, mist/shallow fog - visibility more than 1 km, fog - visibility less than 1 km, drizzle - occasional, rain - continuous showers, squalls, or heavy rain/storm).
- Cloud cover: recorded in oktas (i.e., how many eighths of the sky is covered in cloud). This ranged from 0 oktas (completely clear sky) to 8 oktas (completely overcast). In addition, there is an extra cloud cover indicator '9' indicating that the sky is totally obscured (i.e., hidden from view) usually due to dense fog.
- Estimated visible range (e.g. less than 1 km, 1 - 2 km, 2 - 3 km, 3 - 5 km, or greater than 5 km).

- Glare: no glare, low glare, medium glare or bad glare. Glare readings were affected by the time of day/solar angle, cloud cover and the vessel heading.
- Beaufort wind force scale (Beaufort 0 to10).
- Wind direction: N – 0°, NE – 45°, E – 90°, SE – 135°, S – 180°, SW – 225°, W - 270°, NW – 315°.
- Wind speed (in knots): 0 - 10 kts, 10 - 20 kts, 20 - 30 kts, 30 - 50 kts, greater than 50 kts
- Swell direction: N – 0°, NE – 45°, E – 90°, SE – 135°, S – 180°, SW – 225°, W - 270°, NW – 315°, 'more than 1' or 'confused'.
- Swell height: 0 - 1 m, 1 - 2 m, 2 - 4 m or greater than 4 m.

3. RESULTS

3.1. MARINE FAUNA MONITORING EFFORT

Dedicated monitoring effort was conducted over a total period of five (5) days, within and adjacent to the Baleen 2D HR operational area. Effort was undertaken whilst the seismic vessel was engaged in periods of active seismic operations and whilst deploying, retrieving or carrying out maintenance on the airguns, and during line changes.

Overall, a combined total of 46 hours and 54 minutes of monitoring effort was achieved over the course of the survey. A summary of monitoring effort is presented in **Table 2**; a detail of all monitoring effort undertaken is retained within the CSA database (**Appendix 1-3**) and the Microsoft Excel spreadsheet (**Appendix 4**).

Table 2 – Summary of observation effort throughout the Baleen 2D HR seismic survey.

	Survey Total
MFO Observation hours (hh:mm)	46:54
Observations whilst airguns active (hh:mm)	32:40

3.2. ENVIRONMENTAL AND METEOROLOGICAL DATA

All recorded weather / environmental conditions are a function of time spent by the MFOs on visual observations during daylight hours and may not necessarily reflect overall 24hr weather conditions encountered by the survey vessel during the Baleen 2D HR seismic survey. Certain environmental factors can affect the ability of an observer to sight cetaceans and other marine fauna; these can include sun glare, haze or cloud cover, precipitation and sea state or swell conditions.

Monitoring effort was undertaken between Beaufort wind force scales ranging from 2 to 4, with 100 % of time spent observing in favourable conditions (Beaufort wind force conditions < 4). Wind direction was primarily north to north-westerly at the beginning of the survey and changed to a south to south-easterly direction at the end of the survey (**Figure 5**). Overall, 90.6% of observations recorded a visibility range of 3 km or more (i.e., observation zone could still be effectively monitored), with the remaining effort undertaken in moderate to poor conditions as a result of high winds and darkness. Sun glare affected visibility many days; with 41.3 % of observation hours hindered to some extent by medium to bad glare (**Figure 6**). Swell dominated from a south easterly direction and swell heights were recorded as 1-2 metres for 85.3% of monitoring effort (**Figure 7**).

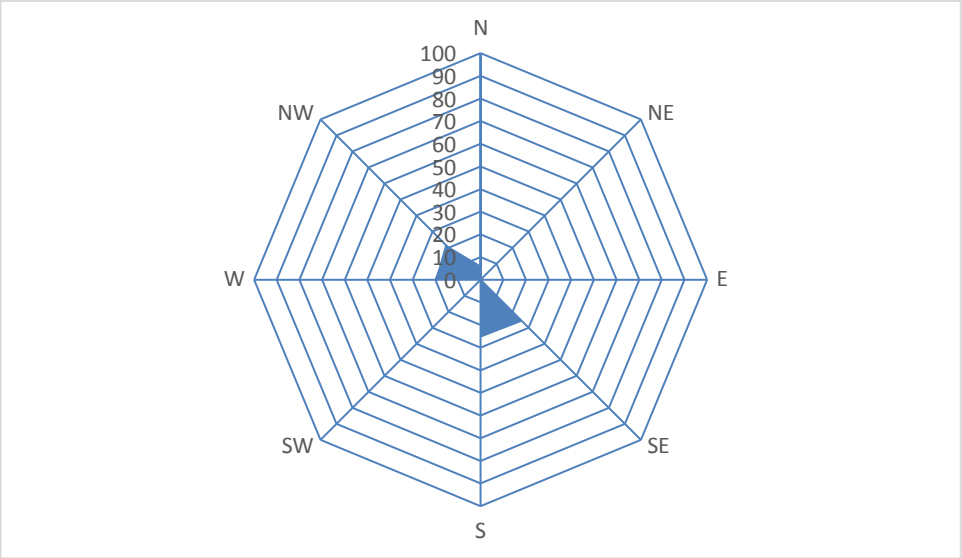

Figure 5 – Radar plot/wind rose showing predominant wind direction during visual monitoring effort.

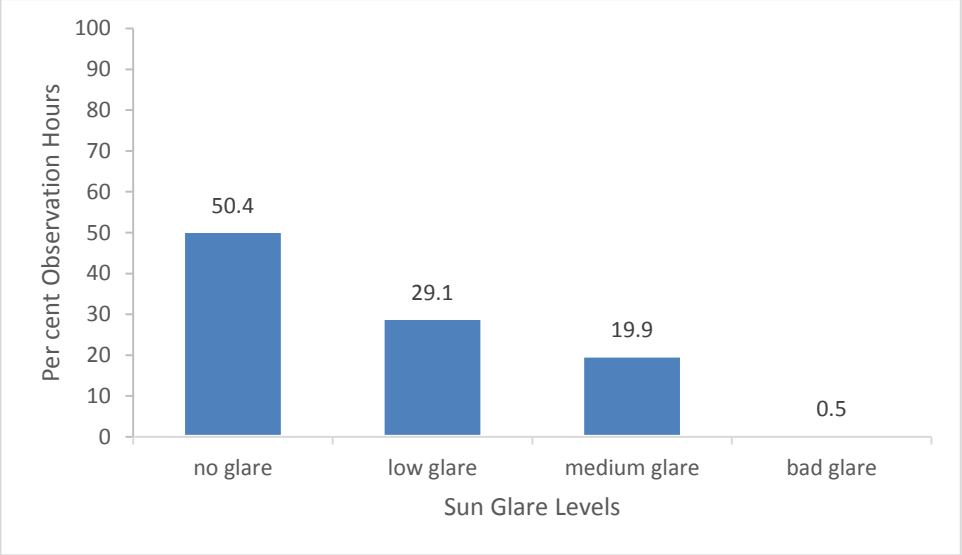

Figure 6 - Percentage of monitoring effort undertaken relative to sun glare

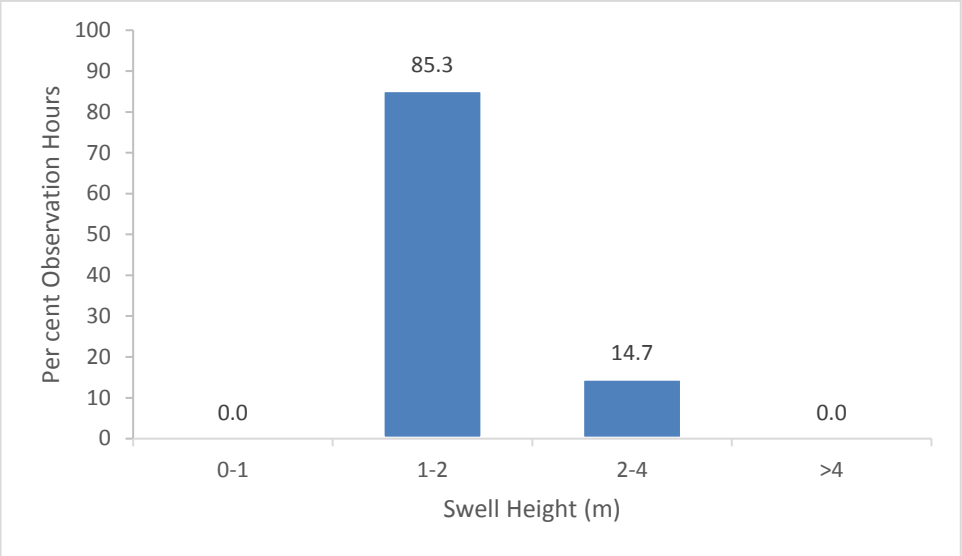

Figure 7 - Percentage of monitoring effort relative to swell conditions

3.3. CETACEAN SIGHTINGS

There was one cetacean sighting recorded over the course of the survey. This sighting was positively identified as Common bottlenose dolphins (*Tursiops truncatus*.; see **Table 3**). See **Figure 8** for sighting location relative to the coastline.

No negative interactions occurred between any vessels or cetaceans during the survey.

No other marine species were recorded.

Table 3 – Summary of Cetacean Sighting Records documented during the Baleen 2D HR MSS

Sight No.	Date	Initial Sighting or Shutdown Time (AEST)	Vessel Position (lat/long)	Distance from Source (m)*	Species	No. of Animals	Behaviour	Seismic Status	Mitigation Action	Line No.
1	16/04/2018	16:38	33° 9.166' S 151° 57.15' E	1986	Common bottlenose dolphin (*Tursiops truncatus*)	15	Fast swimming	Full power	**Powerdown**	B18-46

* from first sighting or powerdown/shutdown event

Figure 8 - Location map detailing the cetacean sighting during the Baleen 2D HR seismic survey, relative to the coast

4. COMPLIANCE WITH GUIDELINES

4.1. PRE-WATCH AND SOFT START PROCEDURES

Pre-watch procedures were conducted prior to the commencement of airgun operations during daylight hours. A total of five pre-watch searches were undertaken by the MFOs stationed onboard the seismic vessel over the course of the survey. Four were performed in favourable sighting conditions, one in marginal conditions, and all were at least 30 minutes in duration, as stipulated in Section A.3.1 of the EPBC Act Policy Statement 2.1.

Soft Starts were completed for every activation of the acoustic source (except for bubble tests and other single gun tests). Of the 49 soft-starts undertaken (inclusive of modified soft starts), 22 were conducted during daylight hours and hence monitored by the MFOs. All soft starts (exclusive of modified soft starts) were performed in the manner stipulated by Section A.3.2 of the EPBC Act Policy Statement 2.1, and were of at least 30 minutes duration. All modified soft starts were conducted in a manner stipulated in Section 1.2.3 of this report.

4.2. START UP DELAY PROCEDURES

There were no delays to start up procedures during the Baleen 2D HR seismic survey, as no marine fauna sightings occurred during the pre-watch observation search periods.

4.3. MITIGATION ACTIONS

There was one (1) powerdown/shutdown event instigated by an 'applicable species' listed within the EPBC Act Policy Statement 2.1 and/or Baleen 2D HR Seismic Survey EP being detected within the designated mitigation zones during seismic operations. Details of the encounter is outlined below. On this occasion, the source was shut down immediately upon request from the MFO and soft start procedures commenced after the all clear was given.

1. At 16:36 (AEST) on 16 April 2018 a pod of bottlenose dolphins was observed, approximately 2921m from the source. The pod was fast swimming and at 16:38 was observed 1986m from the source and within the 2000m mitigation zone. The instrument room was notified and the acoustic source was powered down immediately. At 16:39 the pod was observed 531m from the source. As per Section A.3.5 of the EPBC Act Policy Statement 2.1, since the dolphins were about to enter the shut-down zone, the acoustic source was shut down immediately. At 16:57 the animals were observed outside the 2000m mitigation zone, but the line was aborted and the vessel commenced a line change. The line (B18-46) was re-acquired on the 19 April 2018.

4.4. NON-COMPLIANCE EVENTS

There were no non-compliance events. All procedures were conducted in accordance with the EPBC Act Policy Statement 2.1 - *Interactions between offshore seismic exploration and whales* and the Baleen 2D HR Seismic Survey EP, with modified soft-start procedures as described in Section 1.2.3.

5. CONCLUSION

There was full cooperation from Asset Energy seismic personnel for the implementation of the EPBC Act Policy Statement 2.1 *Interaction between offshore seismic exploration and whales* (DEWHA, 2008), and the Baleen 2D HR Seismic Survey EP. Pre-watches and soft-starts were executed according to Part A. Standard Management Procedures with modified soft-start procedures described in Section 1.2.3. One shutdown event was instigated by an 'applicable species' (listed in the Baleen 2D HR Seismic Survey EP) being detected within the designated mitigation zones during seismic operations. The shutdown event was responsible for 2 hours and 59 minutes of lost production time in re-acquisition.

Weather can affect the ability to detect marine animals in a number of ways, with increasing sea state, wind force and decreasing visibility reducing the detection probability of marine animals (Forney, 2000). Weather conditions experienced during visual monitoring periods, for the whole survey, ranged from favourable to unfavourable for observing marine mammals and other marine mega-fauna.

6. ACKNOWLEDGEMENTS

The MFOs would like to thank the PMG *Pride* marine crew for their generous hospitality and the seismic crew for their professional co-operation in ensuring a fully compliant survey.

7. REFERENCES

Department of the Environment, Water, Heritage and the Arts, Australian Government (2008). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) Policy Statement 2.1 Interaction between offshore seismic activities and whales.

Forney, K.A. (2000). Environmental models of cetacean abundance: reducing uncertainty in population trends. *Conservation Biology*, **14**:1271-1286.

Shirihai, H., and Jarrett, B. (2006). Whales, Dolphins and Other Marine Mammals of the World. Princeton University Press. New Jersey, United States.

APPENDIX C MFO SKILLS, QUALIFICATIONS AND EXPERIENCE

MFO1

MFO1 has over 20 years experience in marine environmental research and consultancy, working on a range of impact mitigation and research projects primarily within Australia and New Zealand. MFO1 is highly experienced in the marine field and in the practical application of relevant regional legislations.

MFO1 holds multiple relevant tertiary qualifications from Australian universities.

MFO1 has a solid background in marine and coastal ecosystems, biology, aquaculture, fisheries, LNG and coastal developments. MFO1's skills include project design and management, environmental impact assessment, environmental risk assessment, project management, public consultation, client liaison and reporting, occupational health and safety and risk analysis. Previous employments have included for governments, defence and private enterprises.

MFO1 has extensive ecperience with surveys (for seismic activities and for research) and has held positions of project manager, survey environmental adviser, field co-ordinator, team leader and observer (visual and acoustic detections). MFO1 has conducted surveys from ships and small boats, aerial surveys and land based surveys. As a marine scientist and researcher MFO1 has spent in excess of a year at sea, more than 200 hours airtime conducting aerial surveys, and more than a year actively engaged in land-based surveys.

MFO1 has managed mitigation on seismic operations, as well as maintaining effective client communications on providing advice on compliance issues under the relevant legislative and industry guidelines and with reference to environmental plans.

MFO2

MFO2 is an experienced Marine Fauna Observer and internationally qualified marine biologist. MFO2 holds multiple relevant tertiary qualifications.

MFO2 holds high level formal reporting and documentation skills, and has extensive experience and skills monitoring and reporting ofn marine sightings. MFO2 has broad knowledge of relevant marine species and their environment.

MFO2 has undertaken numerous marine fauna observations on Australian marine seismic surveys. Key skills include undertaking dedicated monitoring and mitigation for cetaceans and marine mega-fauna. Reporting on sightings, mitigation measures and any non-conformance activities is also a key relevant skill of MFO2.

APPENDIX D ENGINE LOGS AND MAINTENANCE

"NEWCASTLE CHARTER"

PACIFIC MARINE GROUP PTY LTD
AUSTRALIA

ENGINE LOG
9775

Vessel: P.M.G PRIDE Date: 16/04/18 "MONDAY"

	Port Main Engine							Starboard Main Engine						
	RPM	FW Temp	Oil Press.	Ex Temp	G'box Press.	Oil Added M/E	Oil Added G'box	RPM	FW Temp	Oil Press.	Ex Temp	G'box Press.	Oil Added M/E	Oil Added G'box
Time														
0200	810	80	40	240	190			810	73	40	220	190		
0400	900	80	46	250	190			900	72	40	215	190		
0600	810	80	38	210	190			810	72	40	210	190		
0800	810	80	38	210	190			810	72	40	215	190		
1000	820	80	40	230	190			820	72	40	215	190		
1200	940	80	49	265	195			940	73	40	240	190		
1400	960	80	46	310	195			960	73	40	230	190		
1600	820	79	40	240	190			820	72	40	210	190		
1800	820	79	40	240	190			820	72	40	210	190		
2000	830	79	40	240	195			830	72	40	210	190		
2200	830	79	40	235	195			830	72	40	210	190		
2359	840	79	40	235	195			840	72	40	210	190		

	Port Genset			Starboard Genset		
Time	FW Temp	Oil Press.	Amps	FW Temp	Oil Press.	Amps
0200	85	60	36.0			
0400	85	60	41.1			
0600	85	60	49.6			
0800	85	60	55.1			
1000	85	60	57.6			
1200	85	60	68.8			
1400	83	60	54.4			
1600	83	60	56.1			
1800	84	60	49.2			
2000	85	60	47.9			
2200	84	60	56.3			
2359	84	60	62.4			

	Service Unit Readings		
Unit	Hrs Today	Total 2400	Next Service
PM/E	24	17418	17401
SM/E	24	17356	17339
PG'box	24	17418	18177
SG'box	24	17356	18115
Pgenset	24	18973	19152
Sgenset	0	18121	18166
Air Comp			
Steering	24		

	Consumables On Board			
	Taken on	Used	Disc'd	Total
Fuel	NIL	1600L	NIL	45,196L
Engine Oil	NIL	NIL	NIL	52L
G'box Oil	NIL	NIL	NIL	60L
Hyd Oil	NIL	NIL	NIL	59L
Stern Tube Oil	NIL	NIL	NIL	59L
Degreaser	NIL	NIL	NIL	20L

	Filter Hours			
Unit	Air	Fuel	Fuel	Lube
PM/E	184	511	511	511
SM/E	184	511	511	511
PG'box	NA	NA	NA	241
SG'box	NA	NA	NA	241
Pgenset	71	71	71	71
Sgenset	996	200	200	200
Hydr Steering				

WORK EXECUTED: * FIRE PUMP ON COMPRS COOLING CIRCUIT.
* RUN UP DESAL FOR 2HRS O.K.
* DRAIN AIR RECEIVER

Name: L LOCKCROFT Date: 16/04/18 "MONDAY"

PACIFIC MARINE GROUP PTY LTD
AUSTRALIA

NEWCASTLE CHARTER

ENGINE LOG
9776

Vessel: P.M.G PRIDE Date: 17/04/18 TUESDAY

	Port Main Engine							Starboard Main Engine						
	RPM	FW Temp	Oil Press.	Ex Temp	G'box Press.	Oil Added M/E	Oil Added G'box	RPM	FW Temp	Oil Press.	Ex Temp	G'box Press.	Oil Added M/E	Oil Added G'box
Time														
0200	820	80	40	210	190			840	72	40	240	190		
0400	810	80	40	210	190			830	72	40	210	190		
0600	810	80	50	290	190			810	72	42	240	190		
0800	850	80	40	250	190			850	72	40	215	190		
1000	840	80	40	225	195			840	72	40	215	190		
1200	820	80	39	225	195			820	72	40	215	190		
1400	970	80	39	230	190			840	72	40	210	190		
1600	810	79	38	215	190			820	72	40	205	190		
1800	850	79	46	290	195			850	72	45	260	190		
2000	820	79	39	225	195			820	72	40	215	190		
2200	950	80	55	290	200			950	73	55	270	200		
2359	850	80	40	220	195			850	72	43	250	190		

	Port Genset			Starboard Genset		
Time	FW Temp	Oil Press.	Amps	FW Temp	Oil Press.	Amps
0200	85	60	32.4			
0400	85	60	52.2			
0600	85	60	38.5			
0800	85	60	55.3			
1000	85	60	38.2			
1200	85	60	54.3			
1400	85	60	37.2			
1600	65	60	50.3			
1800	85	60	38.2			
2000	85	60	40.6			
2200	85	60	50.8			
2359	85	60	52.8			

	Service Unit Readings		
Unit	Hrs Today	Total 2400	Next Service
PM/E	24	17442	17401
SM/E	24	17380	17339
PG'box	24	17442	18177
SG'box	24	17380	18115
Pgenset	24	18997	19152
Sgenset	0	18121	18166
Air Comp			
Steering	24		

	Consumables On Board			
	Taken on	Used	Disc'd	Total
Fuel	N.L	1500L	N.L	43696L
Engine Oil	N.L	N.L	N.L	52L
G'box Oil	N.L	N.L	N.L	60L
Hyd Oil	N.L	N.L	N.L	59L
Stern Tube Oil	N.L	N.L	N.L	59L
Degreaser	N.L	N.L	N.L	20L

	Filter Hours			
Unit	Air	Fuel	Fuel	Lube
PM/E	208	535	535	535
SM/E	208	535	535	535
PG'box	NA	NA	NA	265
SG'box	NA	NA	NA	265
Pgenset	95	95	95	95
Sgenset	99L	200	200	200
Hydr Steering				

WORK EXECUTED: * 0400 HRS TRANS F.O → DECK GENSET = 441 LTRS
* 1745 TRANS F.O → DECK GENSET = 307 LTRS (TOTAL TODAY = 74
* DOSE POO FARM / * CHECK RADIO BATTERYS / * DRAIN RECEI

Name: C LOCKCROFT Date: 17/04/18 TUESDAY

PACIFIC MARINE GROUP PTY LTD
AUSTRALIA

"NEWCASTLE CHARTER"

ENGINE LOG
9777

Vessel: P.M.G PRIDE **Date:** 18/04/18 "WEDNESDAY"

	Port Main Engine							Starboard Main Engine						
	RPM	FW Temp	Oil Press.	Ex Temp	G'box Press.	Oil Added M/E	Oil Added G'box	RPM	FW Temp	Oil Press.	Ex Temp	G'box Press.	Oil Added M/E	Oil Added G'box
Time														
0200	900	79	39	225	190			850	72	40	205	190		
0400	840	79	39	230	190			850	72	38	210	190		
0600	890	79	39	225	190			910	72	43	250	190		
0800	890	79	39	225	190			900	72	40	220	190		
1000	890	80	58	300	200			890	73	48	260	200		
1200	850	80	40	230	195			850	72	40	210	190		
1400	960	79	42	250	190			900	72	41	220	190		
1600	870	79	39	225	190			850	72	40	210	190		
1800	820	79	40	210	190			820	72	40	205	190		
2000	850	80	45	250	195			840	73	40	225	190		
2200	840	79	40	230	200			830	72	40	215	200		
2359	830	79	40	220	190			830	72	40	205	190		

	Port Genset			Starboard Genset		
Time	FW Temp	Oil Press.	Amps	FW Temp	Oil Press.	Amps
0200	85	60	48.4			
0400	85	60	32.1			
0600	85	60	34.2			
0800	85	60	52.3			
1000	85	60	59.6			
1200	85	60	43.5			
1400	85	60	59.8			
1600	85	60	45.1			
1800	85	60	48.6			
2000	85	60	51.5			
2200	85	60	48.1			
2359	85	60	46.5			

	Service Unit Readings		
Unit	Hrs Today	Total 2400	Next Service
PM/E	24	17466	17401
SM/E	24	17404	17339
PG'box	24	17466	18177
SG'box	24	17404	18115
Pgenset	24	19021	19152
Sgenset	0	18121	18166
Air Comp			
Steering	24		

	Consumables On Board			
	Taken on	Used	Disc'd	Total
Fuel	NIL	1400L	NIL	42,296L
Engine Oil	NIL	4L	NIL	48L
G'box Oil	NIL	3L	NIL	57L
Hyd Oil	NIL	20L	NIL	39L
Stern Tube Oil	NIL	NIL	NIL	59L
Degreaser	NIL	3L	NIL	17L

	Filter Hours			
Unit	Air	Fuel	Fuel	Lube
PM/E	232	559	559	559
SM/E	232	559	559	559
PG'box	NA	NA	NA	289
SG'box	NA	NA	NA	289
Pgenset	119	119	119	119
Sgenset	99	200	200	200
Hydr Steering				

WORK EXECUTED: * TRANS F.O → DECK GENSET = 256L (TOTAL 1,004L) @ 0600HRS / * DRAIN AIR RECEIVER / * FLUSH O/B ON TENDER + GREASE * GREASE CRANE / * TRANS F.O → DECK GENSET = 264L (TOTAL 1,268L)

Name: L LOCKCROFT Date: 18/04/18 WEDNESDAY

NEWCASTLE CHARTER

PACIFIC MARINE GROUP PTY LTD
AUSTRALIA

ENGINE LOG
9779

Vessel: P.M.G PRIDE Date: 19/04/18 THURSDAY

	Port Main Engine							Starboard Main Engine						
	RPM	FW Temp	Oil Press.	Ex Temp	G'box Press.	Oil Added M/E	Oil Added G'box	RPM	FW Temp	Oil Press.	Ex Temp	G'box Press.	Oil Added M/E	Oil Added G'box
Time														
0200	960	79	41	250	190			900	72	41	240	190		
0400	1150	79	52	290	200			1120	72	52	270	195		
0600	950	79	40	225	195			1100	72	51	270	195		
0800	950	80	40	225	195			930	72	40	215	195		
1000	1300	80	60	285	200			1300	73	59	265	200		
1200	900	80	40	230	195			900	78	40	220	190		
1400	1600	80	62	345	200			1600	74	61	315	200		
1600		* ARRIVAL NEWCASTLE HARBOUR												
1800		* ALONGSID CARRINGTON WHARF @ 1430HRS												
2000		* BOTH M/E'S + @ 1440 HRS						PRESS + TEMPS NORMAL						
2200														
2359														

	Port Genset			Starboard Genset		
Time	FW Temp	Oil Press.	Amps	FW Temp	Oil Press.	Amps
0200	85	60	37.7			
0400	85	60	45.6			
0600	85	60	53.6			
0800	85	60	48.4	ON LINE @ 0800		
1000	84	60	22.5	85	62	21.7
1200	84	60	27.1	85	62	25.6
1400	84	60	22.2	85	62	23.6
1600	OFF LINE @ 1430			85	62	35.1
1800	PRESS & TEMPS			85	62	35.8
2000	NORMAL			85	62	33.7
2200				85	62	40.1
2359				85	62	29.1

	Service Unit Readings		
Unit	Hrs Today	Total 2400	Next Service
PM/E	15	17481	17401
SM/E	15	17419	17339
PG'box	15	17481	18177
SG'box	15	17419	18115
Pgenset	14	19035	19152
Sgenset	16	18137	18166
Air Comp			
Steering	15		

	Consumables On Board			
	Taken on	Used	Disc'd	Total
Fuel	NIL	1000L	NIL	44,149L
Engine Oil	NIL	NIL	NIL	48L
G'box Oil	NIL	NIL	NIL	57L
Hyd Oil	NIL	NIL	NIL	39L
Stern Tube Oil	NIL	NIL	NIL	59L
Degreaser	NIL	NIL	NIL	17L

	Filter Hours			
Unit	Air	Fuel	Fuel	Lube
PM/E	247	574	574	574
SM/E	247	574	574	574
PG'box	NA	NA	NA	304
SG'box	NA	NA	NA	304
Pgenset	133	133	133	133
Sgenset	1012	216	216	216
Hydr Steering				

WORK EXECUTED: * TAKE FUEL DIP @ NEWCASTLE = SP 22,522L
SS 21,727L :- TOTAL 44,249L / TRANS F.O → DECK GENSET
= 316L = TOTAL F.O → DECK GENSET = 1,584L

Name: L COCKCROFT Date: 19/04/18 THURSDAY.

MP-1

Australian Government
Australian Maritime Safety Authority

OIL RECORD BOOK

PART I - MACHINERY SPACE OPERATIONS (ALL SHIPS)

To be kept on all ships in accordance with the requirements of the International Convention for the Prevention of Pollution from Ships (MARPOL)

Name of ship P.M.G PRIDE

Distinctive number or letters 7901629

Machinery Space Operations

Date	Code (Letter)	Item (Number)	Record of operations/signature of officer in charge
03/04/18	C	11.1 11.2 11.3	DIRTY OIL TK CAPACITY 1.2 M3 RETENTION 0.45 M3 C COCKCROFT C/E
11/04/18	C	11.1 11.2 11.3	DIRTY OIL TK CAPACITY 1.2 M3 RETENTION 0.45 M3 C COCKCROFT C/E
20/04/18	C	11.1 11.2 11.3	DIRTY OIL TK CAPACITY 1.2 M3 RETENTION 0.55 M3 C COCKCROFT C/E
30/04/18	H	26 1 2 3	TOWNSVILLE MARINE PRECINCT START 1315HRS FINISH 1500 HRS 30,000L F.O → SP + SS C COCKCROFT C/E
01/05/18	C	11.1 11.2 11.3	DIRTY OIL TK CAPACITY 1.2 M3 RETENTION 0.70 M3 C COCKCROFT C/E
08/05/18	C	11.1 11.2 11.3	DIRTY OIL TK CAPACITY 1.2 M3 RETENTION 0.70 M3 C/E C COCKCROFT
16/05/18	C	11.1 11.2 11.3	DIRTY OIL TK CAPACITY 1.2 M3 RETENTION 0.72 M3 C/E C COCKCROFT
23/05/18	C	11.1 1.2 11.3	DIRTY OIL TK CAPACITY 1.2 M3 RETENTION 0.75 M3 C/E C COCKCROFT
29/05/18	H	26 1 2 3	TOWNSVILLE MARINE PRECINCT START 0900 HRS FINISH 1020 HRS 10,000L F.O → SP + SS C/E C COCKCROFT
02/06/18	C	11.1 11.2 11.3	DIRTY OIL TK CAPACITY 1.2 M3 RETENTION 0.75 M3 C/E C COCKCROFT
13/06/18	C	11.1 11.2 11.3	DIRTY OIL TK CAPACITY 1.2 M3 RETENTION 0.75 M3 C/E C COCKCROFT
15/06/18	C	11.1 11.2 11.3	DIRTY OIL TK CAPACITY 1.2 M3 RETENTION 0.00 PUMPED INTO SUCK TRUCK C/E C. COCKCROFT

Signature of Master .....

PACIFIC MARINE GROUP PTY LTD
AUSTRALIA

ELECTRONIC MAINTENANCE SCHEDULE

VESSEL PMG PRIDE

*DATE & CURRENT HOURS TO BE UPDATED BEFORE SHEET IS USED
*TO BE FILED IN THE VSMS DROPBOX AT
THE BEGINNING OF EACH MONTH

Date:	1/05/2018		
Port Main Engine Hours	17617	**Port Gearbox**	17617
Stbd Main Engine Hours	17555	**Stbd Gearbox**	17555
Port Alternator Hours	19175		
Stbd Alternator Hours	18160		

ITEM	INTERVAL	LAST DONE	CURRENT	DUE NEXT	COMMENTS
PORT MAIN ENGINE	**HRS**	**HRS**	**HRS**	**HRS**	
Take L/O Sample	500	17602.00	17617	18102	
Change L/O	500	17602.00	17617	18102	
Replace L/O filters	500	17602.00	17617	18102	
Replace Bypass L/O Filters	500	17602.00	17617	18102	
Clean Air Filter	500	17234.00	17617	17734	
Clean Lube Oil Cooler	5000	17234.00	17617	22234	
Clean Charge Air Cooler	5000	17234.00	17617	22234	
Test F/O Injectors	5000	12430.00	17617	17430	
Inspect Fuel System For Leaks	500	17602.00	17617	18102	
Inspect Fuel Pumps For Leaks	500	17602.00	17617	18102	
Replace Secondary F/O Filters	500	17602.00	17617	18102	
Replace Primary F/O Filters	500	17602.00	17617	18102	
Carry Out Valve Clearance Checks	5000	14473.00	17617	19473	
Test Safety Devices & Alarms	500	17234.00	17617	17734	
Inspect Cylinder Heads For Leaks	500	17234.00	17617	17734	
Inspect Exhaust System(leaks & loose bolts)	500	17234.00	17617	17734	
Inspect Gauges & Pyro's	500	17234.00	17617	17734	

ITEM	INTERVAL	LAST DONE	CURRENT	DUE NEXT	COMMENTS
STBD MAIN ENGINE	**HRS**	**HRS**	**HRs**	**HRS**	
Take L/O Sample	500	17540	17555	18040	
Replace L/O	500	17540	17555	18040	
Replace L/O filters	500	17540	17555	18040	
Replace Bypass L/O Filter	500	17540	17555	18040	
Clean Air Filter	500	17172	17555	17672	
Clean Lube Oil Cooler	5000	17172	17555	22172	
Clean Charge Air Cooler	5000	17172	17555	22172	
Test F/O Injectors	5000	12370	17555	17370	
Inspect Fuel System For Leaks	500	17540	17555	18040	
Inspect Fuel Pump For Leaks	500	17540	17555	18040	
Replace Secondary Fuel Filters	500	17540	17555	18040	
Replace Primary Fuel Filters	500	17540	17555	18040	
Carry Out Valve Clearance Checks	5000	17172	17555	22172	
Test Safety Devices & Alarms	500	17172	17555	17672	
Inspect Cylinder Heads For Leaks	500	17172	17555	17672	
Inspect Exhaust System(leaks & loose bolts)	500	17172	17555	17672	
Inspect Gauges & Pyro's	500	17172	17555	17672	

ITEM	INTERVAL	LAST DONE	CURRENT	DUE NEXT	COMMENTS
PORT GEAR BOX	HRS	HRS	HRs	HRS	
Take Oil Sample	1000	17177	17617	18177	
Change Out Lube Oil	1000	17177	17617	18177	
Clean Lube Oil Cooler	5000	17234	17617	22234	
Clean L/O filters	1000	17177	17617	18177	

ITEM	INTERVAL	LAST DONE	CURRENT	DUE NEXT	COMMENTS
STBD GEAR BOX	HRS	HRS	HRs	HRS	
Take Oil Sample	1000	17115	17555	18115	
Change Out Lube Oil	1000	17115	17555	18115	
Clean Lube Oil Cooler	5000	17172	17555	22172	
Clean L/O filter	1000	17115	17555	18115	

ITEM	INTERVAL	LAST DONE	CURRENT	DUE NEXT	COMMENTS
PORT GENSET	HRS	HRS	HRs	HRS	
Take Lube Oil Sample	250	19156	19175	19406	
Change Lube Oil & Filter	250	19156	19175	19406	
Change Primary Fuel Filter If Needed	250	19156	19175	19406	
Change Secondary Fuel Filter	250	19156	19175	19406	
Test Coolant With Test Strips	1000	19156	19175	20156	
Check Belt Tension & Belt condition	250	19156	19175	19406	
Check Batteries	250	19156	19175	19406	
Check Sensors & Gauges	250	19156	19175	19406	
Replace/Clean Air Filter	250	18902	19175	19152	Still clean does not need changing
Inspect Raw Water pump Impellor	250	19156	19175	19406	
Carry Out Valve Clearances	5000	18170	19175	23170	
Check/Replace anodes	250	19156	19175	19406	
Clean heat exchanger	500	18712	19175	19212	
Remove & Test Injectors	5000	18170	19175	23170	

ITEM	INTERVAL	LAST DONE	CURRENT	DUE NEXT	COMMENTS
STBD GENSET	HRS	HRS	HRs	HRS	
Take Lube Oil Sample	250	18156	18160	18406	
Change Lube Oil & Filter	250	18156	18160	18406	
Change Primary Fuel Filter If Needed	250	18156	18160	18406	
Change Secondary Fuel Filter	250	18156	18160	18406	
Test Coolant With Test Strips	1000	18156	18160	19156	
Check Belt Tension & Belt condition	250	18156	18160	18406	
Check Batteries	250	18156	18160	18406	
Check Sensors & Gauges	250	18156	18160	18406	
Replace/Clean Air Filter	250	18154	18160	18404	
Inspect Raw Water pump Impellor	250	18156	18160	18406	
Carry Out Valve Clearances	5000	16345	18160	21345	
Clean raw water strainer	250	18156	18160	18406	
Check/Replace anodes	250	18156	18160	18406	
Clean heat exchanger	500	17916	18160	18416	
Remove & Test Injectors	5000	17128	18160	22128	

ITEM	INTERVAL	LAST DONE	DUE NEXT	COMMENTS
STEERING GEAR		DATE	DATE	
Check Hydraulic Oil Tank	Weekly	1/05/2018	8/05/2018	
Check Pumps For Leaks	Weekly	1/05/2018	8/05/2018	
Check Rudder Stocks(seals etc.)	Weekly			
Check Hydraulic Rams For Leaks	Weekly	1/05/2018	8/05/2018	Rams resealed, Filters replaced & sample taken April 2018

ITEM	INTERVAL	LAST DONE	DUE NEXT	COMMENTS
SEA SUCTION STRAINERS		DATE	DATE	
Main Sea Strainers	Fortnightly	30/04/2018	14/05/2018	
Genset strainers	Fortnightly	30/04/2018	14/05/2018	
A/C Cooling Sea Strainer	Fortnightly	30/04/2018	14/05/2018	
Bilge Pump Strainers	Fortnightly	30/04/2018	14/05/2018	
Fire Pump Sea Strainer	Fortnightly	30/04/2018	14/05/2018	

ITEM	INTERVAL	LAST DONE	DUE NEXT	COMMENTS
REFRIDGERATION SYSTEM		DATE	DATE	
Check Pressures	Weekly	30/04/2018	7/05/2018	
Clean Heat Exchanger	3 Monthly	7/04/2018	6/07/2018	wash same!

ITEM	INTERVAL	LAST DONE	DUE NEXT	COMMENTS
MISCELLANEOUS		DATE	DATE	
Exercise All Overboard Discharge Valves	Fortnightly	18/04/2018	2/05/2018	
Exercise All Bilge Valves	Fortnightly	18/04/2018	2/05/2018	
Test Emg. F/O Shut Off Valves	Fortnightly	18/04/2018	2/05/2018	
Grease Anchor Windlass	Fortnightly	27/04/2018	11/05/2018	
Grease Tugger Winch	Fortnightly	27/04/2018	11/05/2018	
Grease Tow Winch	Fortnightly	27/04/2018	11/05/2018	
Operate Vent Flaps/Dampers etc.	Fortnightly	1/05/2018	15/05/2018	
Test All Bilge Alarms	Fortnightly	1/05/2018	15/05/2018	
Check/Test All Batteries	Fortnightly	2/05/2018	16/05/2018	
Check/Test Co2 Alarm	Fortnightly	1/05/2018	15/05/2018	
Test Remote Fan Stops	Fortnightly	1/05/2018	15/05/2018	
Check/Test Fire Detection System	Fortnightly	2/05/2018	16/05/2018	
Check/Test Wheelhouse - E/room COMMS	Fortnightly	2/05/2018	16/05/2018	
Test Emergency Lighting	Fortnightly	20/04/2018	4/05/2018	
Change desal H/P pump oil	300	42749.00	43049	
Check/Test/clean Desalination Unit	Fortnightly	2/05/2018	16/05/2018	

COMMENTS
PORT GEARBOX INPUT SHAFT SEAL LEAKING!
STBD GEARBOX INPUT SHAFT SEAL LEAKING !
WATER MAKER STILL FAULTY (WORKING ON FAULT)

SIGN OFF

POSITION	NAME	DATE
MASTER	M DODD	1/05/2018
CHIEF ENGINEER	C COCKCROFT	1/05/2018

APPENDIX E ENVIRONMENTAL INDUCTION SHEET REGISTER

ASSET ENERGY PTY LTD

Attendance Sheet
PEP11 – 2D SEISMIC SURVEY
Project Induction

Inductor: John Thornton

Date	Name	Job Title	Company	Signature
14/04/2018	[redacted]	Operations Manager	Asset Energy	
14/04/2018	[redacted]	Seismic Equipment Operator	Exploration Electronics Ltd	
14/04/2018	[redacted]	Seismic Equipment Operator	Exploration Electronics Ltd	
14/04/2018	[redacted]	Seismic Equipment Operator	Exploration Electronics Ltd	
14/04/2018	[redacted]	Seismic Equipment Operator	Exploration Electronics Ltd	
14/04/2018	[redacted]	Marine Mammal Observer	Scope Resources	
14/04/2018	[redacted]	Marine Mammal Observer	Scope Resources	
14/04/2018	[redacted]	Senior Survey/Party Chief	UTEC	
14/04/2018	[redacted]	Senior Survey Engineer	UTEC	
ii)	[redacted]	Pacific Marine	Master	
"	[redacted]	"	ENG/2 mate	
"	[redacted]	"	PMG	
"	[redacted]	"	PME	

ASSET ENERGY PTY LTD

PEP11 – 2D SEISMIC SURVEY
Project Induction

Inductor: John Thornton

Date	Name	Job Title	Company	Signature
15/04/18	[redacted]	C/ENG	P.M.G	
" "				
15/04/18	[redacted]	First Mate.	P.M.G	

APPENDIX F RADIO LOG

GMDSS RADIO LOG

MV	Callsign	MMSI
P.M.G PRIDE	V.M.Q 9323	503 177 400

Date and time UTC	Station from	Station to	Operator's actions or remarks	Frequency, channel or satellite
10.53 19-11-17	J.R.C.C AUSTRALIA	V.M.Q 9323	REQUEST FROM J.R.C.C AUSTRALIA FOR ASSISTENCE IN SEARCH AND RESCUE OF VESSEL	INMARSAT - C
19-11-17			IN DISTRESS REQUIRING ASSISTENCE	
11-12 19-11-17	J.R.C.C AUSTRALIA	V.M.Q 9323	ACKNOWLEDMENT OF ACCEPTENCE TO PARTICIPATE IN SEARCH AND RESCUE OPERATIONS	INMARSAT - C
16 31 19-11-17	JRCC AUSTRALIA	V.M.Q 9323	RELEASED FROM SEARCH AND RESCUE	INMARSAT - C
21.54 20.11.17	OWN SHIP	LES XANTIC	DAILY REPORT JOHN @ PACIFIC MARINE GROUP	INMARSAT -C
21.31 21-11-17	OWN SHIP	"	"	"
01.18 22.11.17	"	INTERNAL TEST	TEST H.F. D.S.C ALL "OK" TEST V.H.F ALL "OK"	V.H.F 17 HF 8291
0520 23-11-17	BORDER FORCE AIRCRAFT	V.M.Q 9323	BORDER FORCE AIRCRAFT REQUESTING NEXT AND LAST PORT OF CALL	V.H.F 16+72
09.17 25.11.2017	SHIP	INTERNAL TEST	H.F. D.S.C DAILY TEST ALL "OK"	H.F 8291
0001 28-11-2017	SHIP	DARWIN HBR	V.H.F 10 OUTBOUND CLEARENCE	V.H.F 10 + 16
08.37 30-11-17	SHIP	L.E.S	INMARSAT-C PV TEST ALL PASS "OK"	INMARSAT - C
06.10 1-12-17	SHIP	INTERNAL TEST	H.F D.S.C DAILY TEST ALL "OK"	H.F 8291
1600 7/12/17	SHIP	REEF VTS	PER REPORT	INMARSAT C
0800 9/12/17	SHIP	REEF VTS	P.E.R REPORT	SATC
1100 09/04/18	coast	All ships	C.R.S 005743030 (urgency) 8291 KHz	HF Radio
12/4/18 0300	ship	Newcastle VTS	PBP Request / Pilot	16/69
0700	Pilot	ship	Inbound	09
0900	ship	VTS Newcastle	find / Alongside	09
14/4/18 1500	ship	All ships	Survey Clearance Area	16
15/4/18 0615	ship	All ships	" " Notice	16
15/4/18 1600	ship		Survey Clearance Notice (Newcastle MR	16
1830 13/4/18	ship	All ships	" " "	16

GMDSS RADIO LOG

MV	Callsign	MMSI
PMC PRIDE	VMQ9323	005031774 00

Date and time UTC	Station from	Station to	Operator's actions or remarks	Frequency, channel or satellite
16/4 0438	Ship	Pan Pac	Clearance Request / 2 nm	16
16/4 0715	ship	All ships	Survey Clearance Area Notice	16
16/4 1900	ship	"	" " " "	16
17/4/18 0625	ship	All ships	Survey clearance Area Notice	16
0830 17/4	ship	All ships	Survey clearance Area Notice	16
0633 18/4	ship	All ships	Survey clearance Area Notice	16
1100 19/4	N'Castle VTS	ship	Inbound checks	16
1/5/18 1000 LT	Ship	TVille VTS.	HBR CLEARANCE.	12
2/5/18 1120	SHIP	HAT POINT VTS	COURTESY CALL	10
4/5/18 1320	SHIP	REEF VTS	CALL TO REEF VTS ADVISING INTENTIONS	14
7/5/18 1500 LT	SHIP	REEF VTS	MESSAGE ADVISING INTENTIONS	Inm SAT C
8/5/18 00:41 UTC	SHIP	GLAD VTS.	UPDATE ON MOVEMENTS	Inm SAT C
8/5/18	SHIP	RCC +EMAIL	EMAIL TEST, DIAGNOSTIC TEST PV TEST HF-DSC TEST CALL, DSC DAILY SAT TEST	SAT C +12 577.0
8/5/18	SHIP	SHIP.	-2x VHF ROUTINE TEST CALLS -SAILOR VHF DSC SELF TEST.	VHF
13/5/18	SHIP	RCC	-HF TEST CALL 3x3	HF 8291
22/5/18 0405	SHIP	REEF VTS	UPDATE + DEP TIME BUNKER GRP FOR TOWNSVILLE	Inm SAT C
22/5/18 0410	SHIP	GLAD VTS	UPDATE + DEPARTURE TIME BUNKER GRP FOR TOWNSVILLE	Inm SATC
22/5/18	SHIP	RCC QUAST	UPDATE + DEPARTURE TIME BUNKER GRP FOR TOWNSVILLE	Inm SATC
25/5/18 0400 LT	SHIP	TVille VTS	ARRIVAL + INTENTIONS	VHF Ch12
25/5/18 0700 LT	SHIP	TVille VTS	SECURE TIMP	VHF Ch12
3/06/2018 0330UTC	SHIP	SHORE INMARSAT	PV TEST - PASS / EMAIL Tx ✓ Rx ✓ EMAIL TEST TO 450303340@ec12.sirdosmobile.net	INM SAT C
4/06/2018 0415 UTC	SHIP	SHIP RCC	2x GMDSS VHF PORTABLE Rx ✓ Tx ✓ VHF Rx/Tx ✓ VHF DSC CH 70 DSC TEST CALL OK. DSC TEST CALL TO HF TEST CALL TO RCC ON 8291 & 5x5 RCC ON 4207.5	VHF 16 DSC 70 HF 8291 DSC 4207.5

APPENDIX G VESSEL GARBAGE DISPOSAL RECORDS

RECORD OF GARBAGE DISCHARGES

Name of Ship	Distinctive Number or Letters	IMO No.
PMG PRIDE		7901629

Garbage categories:

A - Plastics
B - Food Wastes
C - Domestic Wastes (eg paper products, rags, glass, metal, bottles, crockery etc)
D - Cooking Oil
E - Incinerator Ashes
F - Operational Wastes
G - Cargo Residues,
H - Animal Carcass(es)
I - Fishing Gear

Date/ Time	Position of the ship/Remarks (e.g. accidental loss)	Category	Estimated amount discharged or incinerated	To sea	To reception facility	Incineration	Certification/ Signature
17/2/16	Townsville	A,C	1.5cm		✓		
10/8/16	Hardy R.	A,B,C	~7 cm		✓ VIA Hervey		
20/6/16	T'Ville	A,B,C	1.5cm		✓		
19/11/16	Mackay	A,B,C	1 CM M3		✓		
12/05/17	Townsville	A,B,C	.9cm		✓		
18/06/17	MOONDARA.	A,C	2.0 m3		✓		
03/07/17	Hay Point	A,C	1.7m3		✓		
11/08/17	TOWNSVILLE	A,B,C	.8m3		✓		
29/09/17	SABA BAY, HOOK ISLAND.	A,B,C	1m3		VIA "MUNDA GOLA"		
05/10/17	CHALKIES BEACH HASELWOOD ISLAND	A,B,C	1.5 m3		VIA "TAMOYA"		
11.11.17	FISHERMANS WHARF DARWIN	A,B,C	1m3		✓		
27.11.17	FISHERMANS WHARF DARWIN	A,B,C	1.5m3		✓		
19.5.18	DARWIN CK - SHIPPED TO GLADSTONE.	A,B,C	1.2 m3		✓		
10-5-18	LADY MUSGRAVE IS	A,B,C	1m3		VIA KARAMEA		
25-5-18	T'Ville	A,B,C	1m3		✓		
13/6/18	T'Ville	A,B,C	1.5m3		✓		

Master's Signature	Date

APPENDIX H VESSEL OIL POLLUTION PREVENTION CERTIFICATE

AUSTRALIA

Certificate No.: 8001406-2388966-003

Deadweight:

AUSTRALIAN OIL POLLUTION PREVENTION CERTIFICATE

This Certificate shall be supplemented by a Record of Construction and Equipment

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973[1]

as modified by the Protocol of 1978 relating thereto under the authority of the Government of Australia on behalf of the Australian Maritime Safety Authority by the

American Bureau of Shipping

(person or organization authorised)

Name of Ship		IMO Number	Port of registry
PMG PRIDE		7901629	Townsville, Queensland
Gross Tonnage	Deadweight[2]	Distinctive number or letters	Type of Ship[3]
267	N/A	375295 VMQ 9323	Other Cargo Ship

THIS IS TO CERTIFY:

1. That the ship has been surveyed in accordance with the requirements of the Authority
2. That the survey shows that the structure, equipment, systems, fittings, arrangements and material of the ship and the condition thereof are in all respects satisfactory and that the ship complies with the applicable requirements of the Authority.

This certificate is valid until 30 June 2018 subject to surveys in accordance with the requirements of the Authority.

Issued at Townsville, QLD, Australia (Place of issue of certificate)

12 October 2013 (Date of issue)

ABS CAIRNS

Nguyen, Chi Hung, Cairns Port
(Signature of authorised official issuing the certificate)

ABS

1 Article 3 of the Convention states that the Convention applies to ships entitled to fly the flag of a Party to the Convention. This Certificate is to be issued to Oil Tankers of less than 150 tons, and other ships of less than 400 tons, gross tonnage, following survey, as evidence of compliance with the requirements of the Convention, in so far as they are applied to such ships.
2 Required only for Oil Tankers
3 "Ships with Cargo Tanks" means a ship, other than an oil tanker, with cargo tanks coming under regulation 2(2) of Annex I of the Convention.

Certificate No.: 8001406-2388966-003

Deadweight:

ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS

THIS IS TO CERTIFY that, at a survey, the ship was found to comply with the relevant requirements of the Convention.

Annual Survey: Signed: HUNG NGUYEN (Signature of authorised official) Place: TOWNSVILLE, QLD Date: 01/09/2014 01-SEP-2014	Annual / ~~Intermediate~~ Survey: Signed: HUNG NGUYEN (Signature of authorised official) Place: TOWNSVILLE, QLD Date: 06 AUG 2015
Annual / Intermediate Survey: Signed: (Signature of authorised official) Place: Date:	Annual Survey: Signed: (Signature of authorised official) Place: Date:

Annual/intermediate survey in accordance with Regulation 10.8.3

THIS IS TO CERTIFY that, at an annual /intermediate survey in accordance with Regulation 10.8.3 of Annex I of the Convention, the ship was found to comply with the relevant provisions of the Convention.

Place: _____ Signed: _____
(Signature of authorized official)

Date: _____

Endorsement to extend the Certificate if valid for less than 5 years where Regulation 10.3 applies

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with Regulation 10.3 of Annex I of the Convention, be accepted as valid until _____

Place: _____ Signed: _____
(Signature of authorized official)

Date: _____

Endorsement where the renewal survey has been completed and Regulation 10.4 applies

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with Regulation 10.4 of Annex I of the Convention, be accepted as valid until _____

Place: _____ Signed: _____
(Signature of authorized official)

Date: _____

Endorsement to extend the validity of the Certificate until reaching the port of survey or for a period of grace where Regulation 10.5 or 10.6* applies

This Certificate shall, in accordance with regulation 10.5 / 10.6* of Annex I of the Convention, be accepted as valid until

_____

Place: _____ Signed: _____
(Signature of authorized official)

Date: _____

Endorsement for advancement of anniversary date where Regulation 10.8 applies

In accordance with Regulation 10.8 of Annex II of the Convention:

the new anniversary date is _____ Signed: _____ (Signature of authorised official) Place: Date:	the new anniversary date is _____ Signed: _____ (Signature of authorised official) Place: Date:

Certificate No.: 8001406-2388966-003

Deadweight:

RECORD OF CONSTRUCTION AND EQUIPMENT FOR SHIPS OTHER THAN OIL TANKERS

This record shall be permanently attached to the Australian Oil Pollution Prevention Certificate.

1. Particulars of ship

1.1	Name of ship:	**PMG PRIDE**
	IMO Number:	7901629
1.2	Distinctive number or letters:	375295 VMQ 9323
1.3	Port of registry:	Townsville, Queensland
1.4	Gross tonnage:	267
1.5	Date of build:	
1.5.1	Date of building contract:	-
1.5.2	Date on which keel was laid or ship was at similar stage of construction:	-
1.5.3	Date of delivery:	01 January 1980
1.6	Major conversion (if applicable):	
1.6.1	Date of conversion contract:	-
1.6.2	Date on which conversion was commenced:	-
1.6.3	Date of completion of conversion:	-

1.7 Status of ship:

1.7.1	New ship in accordance with regulation 1(6)	-
1.7.2	Existing ship in accordance with regulation 1(7)	-
1.7.3	The ship has been accepted by the Administration as an "existing ship" under regulation 1(7) due to unforseen delay in delivery.	X

2. Equipment for the control of oil discharge from machinery space bilges and oil fuel tanks (regulations 10 and 16)

2.1 Carriage of ballast water in oil fuel tanks:

2.1.1	The ship may, under normal conditions, carry ballast water in oil fuel tanks	-

2.2 Type of oil filtering equipment fitted:

2.2.1	Oil filtering (15 ppm) equipment (regulation 16(4))	-
2.2.2	Oil filtering (15 ppm) equipment with alarm and automatic stopping device (regulation 16(5))	-

2.3 (Deleted)

2.4 Approval standards:[4]

2.4.1 The separating /filtering equipment:

.1	has been approved in accordance with resolution	-
.2	has been approved in accordance with resolution A.233(VII)	-
.3	has been approved in accordance with national standards not based upon resolution A.393(X) or A.233(VII)	-
.4	has not been approved	-

4 Resolution A233(VII), A.393(X) and A.444(XI) are all superseded by Resolution MEPC.60(33)

Certificate No.: 8001406-2388966-003

Deadweight:

2.4.2 The process unit has been approved in accordance with resolution -

2.4.3 The oil content meter has been approved in accordance with resolution -

2.5 Maximum throughput of the system is: - m^3/h

2.6 Waiver of regulation 16: NOT APPLICABLE

2.6.1 The requirements of regulation 16(1) or (2) are waived in respect of the ship in accordance with regulation 16(3)(a). The ship is engaged exclusively on

.1 voyages within special area(s):

.2 voyages within 12 miles of the nearest land outside special area(s) restricted to:

2.6.2 The ship is fitted with holding tank(s) having a volume of _____ m^3 for the total retention on board of all all oily bilge water.

3. Means for retention and disposal of oil residues (sludge)(regulation 17) and bilge water holding tank(s)

3.1 The ship is provided with oil residue (sludge) tanks as follows:

Tank Identification	Tank Location		Volume (m^3)
	Frames (from) - (to)	Lateral Position	
Waste Oil Tank	18 - 22	Starboard Side	1.27
		Total volume:	1.27 m^3

3.2 Means for disposal of residues in addition to the provisions of sludge tanks:

3.2.1 Incinerator for oil residues, capacity: _____ litres/ h -

3.2.2 Auxiliary boiler suitable for burning oil residues -

3.2.3 Tank for mixing oil residues with fuel oil, capacity: _____ m^3 -

3.2.4 Other acceptable means: -

Certificate No.: 8001406-2388966-003

Deadweight:

RECORD OF CONSTRUCTION AND EQUIPMENT FOR SHIPS OTHER THAN OIL TANKERS

(continuation sheet)

4. Standard discharge connection (regulation 19)

4.1 The ship is provided with a pipeline for the discharge of residues from machinery bilges to reception facilities, fitted with a standard connection in accordance with regulation 19 [X]

5. Shipboard oil pollution emergency plan (regulation 26)

5.1 The ship is provided with shipboard oil pollution emergency plan in compliance with regulation 26 [X]

6. Exemption

6.1 Exemptions have been granted by the administration from the requirements of chapter II of Annex I of the Convention in accordance with regulation 2(4)(a)on those items listed under paragraph(s): [-]

of this Record.

7. Equivalents (regulation 3)

7.1 Equivalents have been approved by the Administration for certain requirements of Annex I listed under paragraph(s) [-]

of this Record.

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at Townsville, QLD, Australia (Place of issue of certificate)

12 October 2013 (Date of issue)

Nguyen, Chi Hung, Cairns Port
(Signature of authorised official issuing the certificate)

ABS

AB CAIRNS

APPENDIX I CERTIFICATE OF COMPLIANCE FOR ENGINE AIR POLLUTION PREVENTION

United States Environmental Protection Agency
Statement of Compliance
With Regulation 13 of Annex VI of the International Convention for the Prevention of Pollution from Ships

Engine Manufacturer	EPA Engine Family Name	Model number	Serial number	Test Cycle(s)	Rated Power (kW) and Speed (RPM)	Statement of Compliance number
Cummins Engine Company, Inc.	YCEXM050.AAA			E3		CEX-IMO-00-07

This is to certify that the manufacturer of the above mentioned marine Diesel engine has provided information to the U.S. Environmental Protection Agency that demonstrates:

1. this engine has been tested in accordance with the requirements of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines, and,

2. the engine, its components, adjustable features, and Technical File, prior to the engine's installation and/or service on board a ship, fully comply with the applicable regulation 13 of Annex VI of the Convention.

This Statement of Compliance is valid until Annex VI of Regulation 13 of the Convention is ratified and the requirements become effective and applicable to this engine.

Issued at U. S. Environmental Protection Agency, Office of Mobile Sources, Washington, D.C.

1/7/00
Date of Issue

Gregory Green, Director
Vehicle Programs and Compliance Division

3. Specifications for the On-board NOx Verification Procedure for the Engine Parameter Survey

3.1 On-board NOx verification procedure identification/approval number(s)
Parent Engine KTA19 for Family M32TA:
CI 008/37186534

3.2 On-board NOx verification procedure approval date **05 July 2005**

3.3 The specification for the on-board NOx verification procedure, as required by chapter 6 of the NOx Technical Code, is an essential part of the Certificate of Compliance for EAPP and must always accompany an engine through its marine life and always be available on board a ship.

This is to certify that on the date of issue this record is correct in all respects.

Issued at **London** on **11 July 2005**

W. H. Chan
Surveyor to Lloyd's Register EMEA

A member of the Lloyd's Register Group

1.9	Test cycle(s) (see chapter 3 of the NOx Technical Code)	☒	E3
		☐	—
		☐	—
		☐	—

			kW	rpm
1.10	Rated power (kW) and speed (RPM)	☒	447	1800
		☐		
		☐		
		☐		

1.11	Engine approval number(s)		CI_008/37186534
1.12	Specification(s) of test fuel		D2 Density to ISO 3675
1.13	NOx reducing device designated approval number (if installed)		Not Applicable
1.14	Applicable NOx emission limit (regulation 13 of Annex VI) g/kWh		
	45.0xn^(-0.2)g/kWh, n is 130 or less than 2000rpm	☒	10.05
	—	☐	
	—	☐	
1.15	Engine's actual NOx emission value g/kW h	☒	9.78
		☐	
		☐	

2 Particulars of the Technical File

2.1 Technical File identification/approval number(s)
Parent Engine iCTA19 for Family M32TA;
CI_008/37186534

2.2 Technical File approval date: **05 July 2005**

2.3 The Technical File, as required by chapter 2 of the NOx Technical Code, is an essential part of the Certificate of Compliance for EAPP and must always accompany an engine through its marine life and always be available on board a ship.

Supplement to the Certificate of Compliance for Engine Air Pollution Prevention

Record of Construction, Technical File and Means of Verification

In respect of Annex VI of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the protocols of 1978 and 1997 relating thereto (hereinafter referred to as 'the Convention') and of the Technical Code on Emissions of Nitrogen Oxides from Marine Diesel Engines (hereinafter referred to as the 'NOx Technical Code').

This record and its attachments shall be permanently attached to the Certificate of Compliance for EAPP.

The Certificate of Compliance for EAPP shall accompany the engine throughout its marine life and shall be available on board the ship at all times.

Unless otherwise stated regulations mentioned in this record refer to regulations of Annex VI of the Convention and the requirements for an engine's Technical File and Means of Verification refer to mandatory requirements from the NOx Technical Code.

1. Particulars of the engine

1.1	Name and address of engine manufacturer	**Cummins Engine Company, Inc. 500 Jackson Street Columbus, IN 47201, USA**
1.2	Place of engine build	**Cummins Engine Co., Ltd Royal Oak Way South Daventry, Northants, United Kingdom**
1.3	Date(s) of engine build	**April 1999**
1.4	Place of pre-certification survey	**Engineering Test Services, Charleston, S.C., U.S.A.**
1.5	Date(s) of pre-certification survey	**30 April 1999**
1.6	Engine type and model number	**4-stroke, Propeller Law operated Main and Auxiliary Engine KTA19-M3**
1.7	Engine serial number(s)	**37186534**
1.8	The engine is a parent engine and/or	☒
	The engine is a member engine of an engine family or	☐
	The engine is a member engine of an engine group or	☐
	The engine is an individual	☐

Parent Engine of M32TA Family

Certificate no. TADNX 0500152/1
Page 1 of 4

Certificate of Compliance for Engine Air Pollution Prevention (EAPP)

This Certificate shall be supplemented by the attached Record of Construction

This Certificate is issued to [1] **CUMMINS ENGINE COMPANY, INC., COLUMBUS**
to indicate compliance with the provision of the Protocol of 1997 to the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 related thereto (hereinafter referred to as 'the Convention') pending ratification of the convention and issue of an International Convention Certificate.
under the authority of the Government of by Lloyd's Register EMEA

Name and address of engine manufacturer	**Cummins Engine Company, Inc.** **500 Jackson Street** **Columbus, IN 47201** **USA**
Model number	**KTA19-M3**
Serial number(s)	**37186534 (Parent)**
Test cycle(s)	**E3**
Rated power (kW) and speed (RPM)	**447kW @ 1800rpm**
Engine approval number(s)	**CI_008/37186534**
Survey date(s)	**30 April 1999**

This is to certify

1. that the above mentioned marine diesel engine(s) has/have been surveyed for pre-certification in accordance with the requirements of the Technical Code on Control of Emission of Nitrogen Oxides from marine Diesel Engines; and

2. that the pre-certification survey shows that the engine(s), its components, adjustable features, and technical file, prior to the engine's installation and/or service on board a ship, satisfy the applicable regulation 13 of Annex VI of the Convention at time of survey.

This Certificate is valid for the life of the engine subject to surveys in accordance with regulation 5 of Annex VI of the Convention.

Issued at **London** on **11 July 2005**

W. H. Chan
Surveyor to Lloyd's Register EMEA

A member of the Lloyd's Register Group

[1] *Delete wording when the certificate is issued to a ship.*

Form 1783 (2005-06)

APPENDIX J IMS MITIGATION

International.

This is to certify that

"PMG PRIDE"

IMO 7901629

was coated with

Intersmooth® 7460HS SPC (BEA797 Red),
a TBT-free Self-Polishing Copolymer Antifouling Coating

in compliance with the IMO Antifouling Systems Convention of 2001 (AFS/CONF/26)
at the drydocking in Mackay Shipyard, Queensland, Australia
in March 2018

Intersmooth® 7460HS SPC (BEA797 Red),
is manufactured by International Paint Ltd
and contains the following active ingredients

Copper Oxide (CAS Number 1317-39-1)
Copper Pyrithione (CAS Number 14915-37-8)

This antifouling coating complies with the Vessel General Permit Scheme
under the US Clean Water Act.

Lee Yen, Khiew
Regional Solutions Manager, South Asia

International

Interspec

Where legislation does not explicitly restrict or limit the use of lead containing coatings it is the responsibility of the client to inform International Paint in writing of their specific requirements

Technical Specification

PMG PRIDE

Pacific Marine Group Pty Ltd (PMG)

Cairns, Australia

01-Mar-2018

AULK1-38YT-WW3H/1

Leon Kyle

leon.kyle@akzonobel.com

M: +61 407 747 691
P: +61 7 4035 1160

IMPORTANT:
a.) All repair percentages and or loss factors are estimations only, and should these differ to actual, respectively – the end volume consumption will reflect this. Ensure that accurate measurements are obtained prior to order placement to provide accuracy.
b.) Ensure that the Coating Specification is fully read, realised & observed throughout the project, inclusive of 'Application and Scheme Notes', which have been included to assist with clarification of surface preparation and coating procedures, and or any likely deviations.
c.) Prices supplied are in the strictest of 'commercial confidence' and are exclusive of G.S.T / Taxes; and should be included wherever needed.
d.) Refer to International Paint Representative for clarification, should any ambiguity exist.

AkzoNobel

International

Interspec

Hull Below Water [370 m²]

An Intershield 300 abrasion resistant epoxy underwater scheme, using Intergard 263 as a tar free tie coat to the subsequent antifouling scheme.

An Intersmooth 7460HS SPC high performance, low friction, self polishing antifouling scheme based on a unique high solids patented Copper Acrylate SPC technology. This scheme is specifically designed for deep sea vessels at Repair. 60 months expected in-service period.

Surface Preparations
Close high pressure fresh water wash (3,000 psi/211 Kg cm²) using a fan jet lance holding the tip 150mm from and perpendicular to the surface overlapping each pass 30% removing all dirt, dust salt, partially hydrolised antifouling layer and other surface contamination.
Blast damaged/ corroded areas to Sa2.5 ISO8501-1. Sweep blast the remaining area.
Feather or chip back surrounding area to a sound edge. Overlap onto existing sound coatings by 2-3 cms.
Remove all dust and surface contamination. Ensure all surfaces are clean, dry and free of contamination prior to the application of each coat of the specified paint system.
Apply the first coat of the specified paint system before there is a risk of loss of surface preparation and cleanliness standards.

Product	Sales Code	Colour	Coats	% Loss factor	WFT (µm)	DFT (µm)	PSR (m²/lt)	Pot Life 25°C	Touch Dry 25°C	Hard Dry 25°C	Overcoating 25°C		Thinner	Cleaner	Volume (lt)
											Min	Max			
Intergard 269	EGA088/EGA089	Red	25% TU	60	85	40	4.70	8hrs	30mins	8hrs	6hrs	ext.	GTA220	GTA220, GTA822	19.7
Intershield 300	ENA300/ENA303	Bronze	30% TU	30	208	125	3.36	150mins	3hrs	6hrs	7hrs	14days	GTA220	GTA220, GTA822	33.0
Intershield 300	ENA301/ENA303	Aluminium	35% TU	30	208	125	3.36	150mins	3hrs	6hrs	7hrs	14days	GTA220	GTA220, GTA822	38.5
Intergard 263	FAJ034/FAA262	Light Grey	40% TU	40	175	100	3.42	6hrs	6hrs	16hrs	8hrs	5days	GTA220	GTA220, GTA822	43.3
Intersmooth 7460HS SPC	BEA797	Red	FC	30	370	200	1.89		40mins				GTA007	GTA007	195.8
Trilux 33	YBA064	White	1% TU	30	167	75	4.20		3hrs		6hrs	4wks	GTA007	GTA007	0.9
					1,213	665									331.2

If a blast hold primer is not required, Intergard 269 may be omitted.

Default repair percentage of 25% used.

Light sweep blast remove adherent shell fouling and copper patina.

AkzoNobel

International

Interspec

Hull Markings = Trilux 33 White

AkzoNobel

International

Interspec

Topsides [170 m²]

An Intershield 300 abrasion resistant epoxy scheme, using Intergard 263 tiecoat, overcoated by Interthane 990 polyurethane finish.

Surface Preparations

Close high pressure fresh water wash (3,000 psi/211 Kg cm²) using a fan jet lance holding the tip 150mm from and perpendicular to the surface overlapping each pass 30% removing all dirt, dust salt, partially hydrolised antifouling layer and other surface contamination.
Part/Spot blast to Sa2½ ISO 8501-1 or SSPC SP10.
Feather or chip back surrounding area to a sound edge. Overlap onto existing sound coatings by 2-3 cms.
Abrade intact surfaces to produce a mechanical key.
Remove all dust and surface contamination. Ensure all surfaces are clean, dry and free of contamination prior to the application of each coat of the specified paint system.
Apply the first coat of the specified paint system before there is a risk of loss of surface preparation and cleanliness standards.

Product	Sales Code	Colour	Coats	% Loss factor	WFT (µm)	DFT (µm)	PSR (m²/lt)	Pot Life 25°C	Touch Dry 25°C	Hard Dry 25°C	Overcoating 25°C		Thinner	Cleaner	Volume (lt)
											Min	Max			
Intergard 269	EGA088/EGA089	Red	50% TU	60	85	40	4.70	8hrs	30mins	8hrs	6hrs	ext.	GTA220	GTA220, GTA822	18.1
Intershield 300	ENA300/ENA303	Bronze	55% TU	30	208	125	3.36	150mins	3hrs	6hrs	7hrs	6mths	GTA220	GTA220, GTA822	27.8
Intershield 300	ENA301/ENA303	Aluminium	60% TU	30	208	125	3.36	150mins	3hrs	6hrs	7hrs	14days	GTA220	GTA220, GTA822	30.4
Intergard 263	FAJ034/FAA262	Light Grey	65% TU	40	132	75	4.56	6hrs	6hrs	16hrs	8hrs	5days	GTA220	GTA220, GTA822	24.2
Interthane 990	PHD260C/PHA046	Intl. Orange	70% TU	60	88	50	4.56	2hrs	1.5hrs	6hrs	6hrs	ext.	GTA056, GTA713, GTA733	GTA056, GTA713, GTA733	26.1
Interthane 990	PHD260C/PHA046	Intl. Orange	FC	60	88	50	4.56	2hrs	1.5hrs	6hrs	6hrs	ext.	GTA056, GTA713, GTA733	GTA056, GTA713, GTA733	37.3
					809	465									163.9

If a blast hold primer is not required, Intergard 269 may be omitted.

Lightly abrade existing finish to remove any surface defects &/or contamination, assisting in adhesion and gaining a premium finish.

AkzoNobel

International

Interspec

Intergard 263 coat is optional and may be omitted if recoat times between Intershield 300 and Interthane 990 can be adhered to.

Hull Markings = Interthane 990 White.

AkzoNobel

International

Interspec

Inner Bulwarks [60 m²]

An Intershield 300 abrasion resistant epoxy scheme, directly overcoated by Interthane 990 polyurethane finish.

Surface Preparations

Close high pressure fresh water wash (3,000 psi/211 Kg cm²) using a fan jet lance holding the tip 150mm from and perpendicular to the surface overlapping each pass 30% removing all dirt, dust salt, partially hydrolised antifouling layer and other surface contamination.
Part/Spot blast to Sa2½ ISO 8501-1 or SSPC SP10.
Feather or chip back surrounding area to a sound edge. Overlap onto existing sound coatings by 2-3 cms.
Abrade intact surfaces to produce a mechanical key.
Remove all dust and surface contamination. Ensure all surfaces are clean, dry and free of contamination prior to the application of each coat of the specified paint system.
Apply the first coat of the specified paint system before there is a risk of loss of surface preparation and cleanliness standards.

Product	Sales Code	Colour	Coats	% Loss factor	WFT (µm)	DFT (µm)	PSR (m²/lt)	Pot Life 25°C	Touch Dry 25°C	Hard Dry 25°C	Overcoating 25°C		Thinner	Cleaner	Volume (lt)
											Min	Max			
Intergard 269	EGA088/EGA089	Red	20% TU	60	85	40	4.70	8hrs	30mins	8hrs	6hrs	ext.	GTA220	GTA220, GTA822	2.6
Intershield 300	ENA300/ENA303	Bronze	25% TU	30	208	125	3.36	150mins	3hrs	6hrs	7hrs	6mths	GTA220	GTA220, GTA822	4.5
Intershield 300	ENA301/ENA303	Aluminium	30% TU	30	208	125	3.36	150mins	3hrs	6hrs	7hrs	3days	GTA220	GTA220, GTA822	5.4
Interthane 990	PHD260C/PHA046	Intl. Orange	40% TU	60	88	50	4.56	2hrs	1.5hrs	6hrs	6hrs	ext.	GTA056, GTA713, GTA733	GTA056, GTA713, GTA733	5.3
Interthane 990	PHD260C/PHA046	Intl. Orange	FC	60	88	50	4.56	2hrs	1.5hrs	6hrs	6hrs	ext.	GTA056, GTA713, GTA733	GTA056, GTA713, GTA733	13.2
					677	390									31.0

Surface area is estimated and should be checked for accuracy.

If a blast hold primer is not required, Intergard 269 may be omitted.

Lightly abrade existing finish to remove any surface defects &/or contamination, assisting in adhesion and gaining a premium finish.

AkzoNobel

International

Interspec

External Decks [240 m²]

An Intershield 300 abrasion resistant epoxy scheme, directly overcoated by Interthane 863 low solar absorbing non-skid polyurethane finish.

Surface Preparations

Close high pressure fresh water wash (3,000 psi/211 Kg cm²) using a fan jet lance holding the tip 150mm from and perpendicular to the surface overlapping each pass 30% removing all dirt, dust salt, partially hydrolised antifouling layer and other surface contamination.
Where necessary remove all weld splatter, smooth weld seams and sharp edges. Fresh water wash to remove all dirt and contamination, as necessary. Degrease according to SSPC-SP1 solvent cleaning. Ensure area is clean and dry prior to application.
Blast damaged/ corroded areas to Sa2.5 ISO8501-1. Sweep blast the remaining area.
Feather or chip back surrounding area to a sound edge. Overlap onto existing sound coatings by 2-3 cms.
Remove all dust and surface contamination. Ensure all surfaces are clean, dry and free of contamination prior to the application of each coat of the specified paint system.
Apply the first coat of the specified paint system before there is a risk of loss of surface preparation and cleanliness standards.

Product	Sales Code	Colour	Coats	% Loss factor	WFT (µm)	DFT (µm)	PSR (m²/lt)	Pot Life 25°C	Touch Dry 25°C	Hard Dry 25°C	Overcoating 25°C		Thinner	Cleaner	Volume (lt)
											Min	Max			
Intergard 269	EGA088/EGA089	Red	FC	60	85	40	4.70	8hrs	30mins	8hrs	6hrs	ext.	GTA220	GTA220, GTA822	51.1
Intershield 300	ENA300/ENA303	Bronze	FC	30	250	150	2.80	150mins	3hrs	6hrs	7hrs	6mths	GTA220	GTA220, GTA822	85.7
Intershield 300	ENA301/ENA303	Aluminium	15% SC	50	0	0	6.00	150mins	3hrs	6hrs	7hrs	6mths	GTA220	GTA220, GTA822	6.0
Intershield 300	ENA301/ENA303	Aluminium	FC	30	250	150	2.80	150mins	3hrs	6hrs	7hrs	3days	GTA220	GTA220, GTA822	85.7
Interthane 863	PLA804/PLA316	LSA LP Deck Pewter	FC	40	217	150	2.76	4hrs	30mins	10hrs	10hrs	ext.	GTA713	GTA415, GTA713	87.0
					802	490									315.5

Surface area is estimated and should be checked for accuracy.

If a blast hold primer is not required, Intergard 269 may be omitted.

Stripe Coating to be applied to areas of heavy pitting, welds and edges.

AkzoNobel

International

Interspec

Accommidation, Bridge & Funnels [170 m²]

An Intershield 300 abrasion resistant epoxy scheme, directly overcoated by Interthane 990 polyurethane finish.

Surface Preparations
Close high pressure fresh water wash (3,000 psi/211 Kg cm²) using a fan jet lance holding the tip 150mm from and perpendicular to the surface overlapping each pass 30% removing all dirt, dust salt, partially hydrolised antifouling layer and other surface contamination.
Part/Spot blast to Sa2½ ISO 8501-1 or SSPC SP10.
Feather or chip back surrounding area to a sound edge. Overlap onto existing sound coatings by 2-3 cms.
Abrade intact surfaces to produce a mechanical key.
Remove all dust and surface contamination. Ensure all surfaces are clean, dry and free of contamination prior to the application of each coat of the specified paint system.
Apply the first coat of the specified paint system before there is a risk of loss of surface preparation and cleanliness standards.

Product	Sales Code	Colour	Coats	% Loss factor	WFT (µm)	DFT (µm)	PSR (m²/lt)	Pot Life 25°C	Touch Dry 25°C	Hard Dry 25°C	Overcoating 25°C		Thinner	Cleaner	Volume (lt)
											Min	Max			
Intergard 269	EGA088/EGA089	Red	20% TU	60	85	40	4.70	8hrs	30mins	8hrs	6hrs	ext.	GTA220	GTA220, GTA822	7.2
Intershield 300	ENA300/ENA303	Bronze	25% TU	30	208	125	3.36	150mins	3hrs	6hrs	7hrs	6mths	GTA220	GTA220, GTA822	12.6
Intershield 300	ENA301/ENA303	Aluminium	30% TU	30	208	125	3.36	150mins	3hrs	6hrs	7hrs	3days	GTA220	GTA220, GTA822	15.2
Interthane 990	PHB000/PHA046	White	35% TU	60	88	50	4.56	2hrs	1.5hrs	6hrs	6hrs	ext.	GTA056, GTA713, GTA733	GTA056, GTA713, GTA733	13.0
Interthane 990	PHB000/PHA046	White	FC	60	88	50	4.56	2hrs	1.5hrs	6hrs	6hrs	ext.	GTA056, GTA713, GTA733	GTA056, GTA713, GTA733	37.3
					677	390									85.3

Surface area is estimated and should be checked for accuracy.

If a blast hold primer is not required, Intergard 269 may be omitted.

Lightly abrade existing finish to remove any surface defects &/or contamination, assisting in adhesion and gaining a premium finish.

AkzoNobel

International

Interspec

Handrails [20 m²]

An Intershield 300 abrasion resistant epoxy scheme, directly overcoated by Interthane 990 polyurethane finish.

Surface Preparations

Close high pressure fresh water wash (3,000 psi/211 Kg cm²) using a fan jet lance holding the tip 150mm from and perpendicular to the surface overlapping each pass 30% removing all dirt, dust salt, partially hydrolised antifouling layer and other surface contamination.
Part/Spot blast to Sa2½ ISO 8501-1 or SSPC SP10.
Feather or chip back surrounding area to a sound edge. Overlap onto existing sound coatings by 2-3 cms.
Abrade intact surfaces to produce a mechanical key.
Remove all dust and surface contamination. Ensure all surfaces are clean, dry and free of contamination prior to the application of each coat of the specified paint system.
Apply the first coat of the specified paint system before there is a risk of loss of surface preparation and cleanliness standards.

Product	Sales Code	Colour	Coats	% Loss factor	WFT (µm)	DFT (µm)	PSR (m²/lt)	Pot Life 25°C	Touch Dry 25°C	Hard Dry 25°C	Overcoating 25°C		Thinner	Cleaner	Volume (lt)
											Min	Max			
Intergard 269	EGA088/EGA089	Red	20% TU	60	85	40	4.70	8hrs	30mins	8hrs	6hrs	ext.	GTA220	GTA220, GTA822	0.9
Intershield 300	ENA300/ENA303	Bronze	25% TU	30	208	125	3.36	150mins	3hrs	6hrs	7hrs	6mths	GTA220	GTA220, GTA822	1.5
Intershield 300	ENA301/ENA303	Aluminium	30% TU	30	208	125	3.36	150mins	3hrs	6hrs	7hrs	3days	GTA220	GTA220, GTA822	1.8
Interthane 990	PHB141/PHA046	Golden Yellow	35% TU	60	88	50	4.56	2hrs	1.5hrs	6hrs	6hrs	ext.	GTA056, GTA713, GTA733	GTA056, GTA713, GTA733	1.5
Interthane 990	PHB141/PHA046	Golden Yellow	FC	60	88	50	4.56	2hrs	1.5hrs	6hrs	6hrs	ext.	GTA056, GTA713, GTA733	GTA056, GTA713, GTA733	4.4
					677	390									10.1

Surface area is estimated and should be checked for accuracy.

If a blast hold primer is not required, Intergard 269 may be omitted.

Lightly abrade existing finish to remove any surface defects &/or contamination, assisting in adhesion and gaining a premium finish.

AkzoNobel

International

Interspec

Marine Coatings

AkzoNobel

International

Interspec

Product List

Product	Colour	Sales Code	VOC (g/lt)	Volume Solids (%)	Volume (lt)
Intergard 263	Light Grey	FAJ034/FAA262	445	57	80.0
Intergard 269	Red	EGA088/EGA089	450	47	100.0
Intershield 300	Bronze	ENA300/ENA303	386	60	175.0
Intershield 300	Aluminium	ENA301/ENA303	386	60	192.5
Intersmooth 7460HS SPC	Red	BEA797	425	54	200.0
Interthane 863	LSA LP Deck Pewter	PLA804/PLA316	382	69	90.0
Interthane 990	White	PHB000/PHA046	420	57	60.0
Interthane 990	Golden Yellow	PHB141/PHA046	420	57	10.0
Interthane 990	Intl. Orange	PHD260C/PHA046	420	57	85.0
Trilux 33	White	YBA064	0	45	1.0
Total					993.5

Thinners

Product	Colour	Sales Code	VOC (g/lt)	Volume Solids (%)	Volume (lt)
International		GTA007	—	—	40.0
International		GTA220	—	—	60.0
International		GTA713	—	—	40.0
International		GTA822	—	—	120.0
Total					260.0

Total volume (lt): 1,253.5

Marine Coatings

AkzoNobel

International

Interspec

Application Notes

1) The areas and percentages found in this document are purely for the purpose of estimating quantities of coatings required and may not accurately represent the areas existing on the vessel. All areas should be checked prior to ordering any coatings.
2) If there is any dirt, oil or grease contamination evident after the wash this area, as identified, should be degreased IAW AS1627.1 to provide a water "breakfree" surface and then re-washed to remove all contaminates. This step should be repeated until a clean, oil free, water "breakfree" surface is achieved prior to commencement blasting or power tool surface preparation.
3) All areas blasted should be blasted in accordance with an agreed standard (ISO, AS/NZS, SSPC) as set out between the shipyard and the owner. This document is a recommendation on the desired surface preparation and should not be relied upon to come as the final to any negotiated agreement on the standard of surface preparation between the yard and owner.
4) Removal of all welding imperfections, splatter and sharp edges, consistent with good shipyard practices, should be undertaken prior to final preparation immediately before the coating process is undertaken. As an example of these International has substrate relevant Surface Preparation Manuals which should be followed.
5) Feathering of any repairs or consolidation areas may be undertaken by using the blast medium but care should be taken to ensure no loose edges are formed. If loose edges are present these should be removed by scrapping and/or power tool leaning prior to the application of coatings.
6) When applying coats by brush and roller it should be noted that multiple coats may be required to achieve the specified DFT. When specifying, unless stated in the notes section for each specification, all areas are assumed to be applied by airless spray. Failure to increase the number of coatings when applying by brush and roller will lead to breakdown due to low DFT.
7) When applying "Stripe Coatings' these may be undertaken on large flat plat weld seams during the normal coating using a double pass held perpendicular to the surface and not constitute an extra brush coat. When Stripe coating tanks with complex structures these should then be undertaken using a brush as described in the relevant Coating Procedure Manuals.
8) All water used to wash the vessel prior to coating or primary surface preparation should be with fresh potable quality water with a conductivity below 400uS.

Special Note: - Allowances for loss.
This specification has included a stated loss factor (%). As the rate of loss can vary because of Surface Profile, Method of Application, Area of Application, Climatic Conditions & Type of Coating to name a few. This loss, unless from excessive film builds or excessive surface profile, should not affect the weight of the coatings applied as a dry film but will affect the quantity of goods required.
An appropriate allowance for loss should be used once the profile, conditions etc. are known. Items such as non-skids have a low loss factor as they are usually applied by roller.

Special Note: - Surface Preparation and Coating Procedure Manuals.
International Paint has Surface Preparation and Coating Application Procedure Manuals for a variety of substrates, Steel/Aluminium/Fiberglass/Timber, and for a variety of products. These should be consulted prior to the surface preparation and coating application to ensure that the optimum performance is obtained from the specified coatings system.

Special Note:- Internationals role as Technical Service Representatives.
Prior to and during the building our Technical Representatives will take all reasonable care when giving advice and preparing specifications and writing reports the role of this representative is advisory only; it is not our responsibility to supervise surface preparation, coatings application and the shipyard/applicator/contractor remains fully responsible for these activities and their quality control.
We do not provide a quality control service although any activities we, during our scheduled visits, witness and/or notice that fall outside the performance specifications of our products being in preparation / application / ventilation will be brought to the shipyard / contractor / applicator's attention for rectification.
These roles are set in our Technical Service Charter documents which are available from your International Technical Service Representative or from the International-Marine website.

AkzoNobel

International

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Terms and Conditions

This confidential document is for the use of the above named client and its contents should not be reproduced or transmitted without prior written permission from International Paint. The information is given in good faith and attention to the following statement :

The information given in this report is not intended to be exhaustive and any person using any products for any purpose other than that specifically recommended in this report without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. Any warranty, if given, or specific Terms & Conditions of Sale are contained in International Paints Terms and Conditions of Sale, a copy of which can be obtained on request. Whilst we endeavour to ensure that all advice we give about the product (whether in this report or otherwise) is correct we have no control over either the quality or condition of the substrate or the many factors affecting the use and application of this product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever for howsoever arising for the performance of our products or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this report is liable to modification from time to time in the light of experience and our policy of continuous product development.

It is the user's responsibility to check that upto date product data sheets are obtained prior to using the products and that local environmental controls that may be in force are observed when using any of our products.
Health & Safety
Products referred to in this report are intended for use only by professional applicators in industrial situations in accordance with the advice given on our Technical Datasheetst, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS).

All work involving the application and use of this product should be performed in compliance with all relevant national Health, Safety & Environment standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Paint for further advice.

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APPENDIX K QUARANTINE INSPECTION CLEARANCE CERTIFICATE

Australian Government
Department of Agriculture and Water Resources
ABN: 24 113 085 695

Released from Biosecurity Control

AC4JFRJNY

To the Importer or any person having possession or custody of the Goods

Legal Notes: The goods (lines) identified below have been released from Biosecurity Control under section s 162 and may be collected by the owner.
All times stated on this document are Australian Eastern Daylight Time (AEST)

Brokerage Name:	SWIFT CUSTOMS SERVICES PTY LTD	**Importer Name:**	ASSET ENERGY PTY LTD
Brokerage Branch:	SWIFT CUTOMS SERVICES PTY LTD	**Importer Branch Name:**	None

Brokers Reference: 01PER116139

Container Numbers:	MRKU7305638 FCL, MRKU9003405 FCL, MRKU9226420 FCL		
Commercial Bills:	(OBOL:963807874, HBOL:SE013074)		
Arrival Date:	27 Mar 2018	**Voyage No:**	825S
Vessel Name:	JOHANNES MAERSK	**Lloyd's Registration:**	9215189

This notice is given by: GEOFFREY ROBINSON **Date:** 04 Apr 2018 1:06 PM

Biosecurity Officer appointed under Section 545 of the *Biosecurity Act 2015*

Direction: The goods (lines) listed below must have the following Biosecurity Activity carried out: **Final Directives: Finalised and Released** in accordance with the *Biosecurity Act 2015*

Lines	Legal Refs	Quantity	Package	Country
1 COMPRESSOR OIL		20.00 L		NETHERLANDS
2 AIR HOSE		3.00 M		UNITED KINGDOM
3 DIGICOURSE WINGS		4.00 M		UNITED KINGDOM
4 TAPE		5.00 KG		UNITED KINGDOM
5 TAPE		8.00 KG		JAPAN
6 TAPE		6.00 KG		MEXICO
7 GEO BOX		10.00 KG		UNITED KINGDOM
8 PELI CASE		4.00 KG		UNITED STATES
9 TIE WRAP/TAILBUOY ACTIVE		1.00 UN		UNITED KINGDOM
10 COMPRESSOR CERTIFICATION PACK		1.00 UN		UNITED KINGDOM
11 AIR RECEIVER		1.00 NO		UNITED KINGDOM
12 WINCH STORAGE REEL		1.00 UN		UNITED KINGDOM
13 COMPRESSOR		2.00 NO		UNITED KINGDOM
14 COMPRESSOR SPARES KIT MECHANICAL		1.00 UN		UNITED KINGDOM
15 COMPUTER DESKTOP		4.00 NO		CHINA
16 MANIFOLD		2.00 NO		UNITED KINGDOM
17 D CELLS		150.00 NO		UNITED STATES
18 COMPUTER MONITOR		8.00 NO		TAIWAN
19 COMPRESSOR SPARES KIT ELECTRICAL		2.00 NO		UNITED KINGDOM
20 POWER CABLE		2.00 KG		UNITED KINGDOM
21 SURVEY EQUIPMENT		1.00 NO		SWITZERLAND
22 SURVEY EQUIPMENT		3.00 NO		CHINA
23 SURVEY EQUIPMENT		60.00 NO		FRANCE
24 SURVEY EQUIPMENT		61.00 NO		UNITED KINGDOM
25 SURVEY EQUIPMENT		63.00 NO		UNITED STATES
26 UMBILICAL SOURCE		1.00 UN		UNITED KINGDOM

27 UMBILICAL SOURCE	1.00 UN	UNITED STATES

Printing Officer Name: GEOFFREY ROBINSON **Date Of Print:** 04 Apr 2018 1:12 PM

Additional Information: Goods that become subject to Biosecurity control continue to be subject to Biosecurity control until released from Biosecurity control. The importer and/or owner of the goods, subject to Biosecurity control are liable to pay any expenses connected with the examination, transportation, storage, maintenance, treatment, movement, removal, disposal or destruction of the goods. In addition the Master, owner and/or agent of any conveyance under Biosecurity control, or ordered to be treated are liable to pay the cost of piloting or towing the conveyance, removing things from the convayence and treating the convayence and goods on the convayence or removed from it. If at the end of a period for which any goods have been isolated, a Director of Biosecurity is of the opinion that the goods cannot be released without an unacceptable high level of biosecurity risk, he or she may direct that the goods be secured in such a manner and for such further period as stated in the direction. A person is guilty of a criminal offence if he or she contravenes a Biosecurity officer's direction. If goods are moved or otherwise interfered with in contravention of the *Biosecurity Act 2015* they may be taken into control of the Commonwealth. The Commonwealth does not accept liability for damage which may occur as a result of any necessary treatment. If the owner or agent of goods has been notified that treatment may damage the goods, and the owner or agent does not, before the end of 30 days after the day on which the owner or agent receives the notice, give written notice to a Director of Biosecurity stating that they agree to the treatment, the goods may be taken into control of the Commonwealth. Any expenses of charges payable to the Commonwealth may be recovered by action in a court of competent jurisdiction as a debt due to the Commonwealth [section 66].

To query information contained in this document, contact the department on 1800 900 090

Congratulations to the 2018 Australian Biosecurity Award winners. For details see agriculture.gov.au/aba