Environment Plan Summary
OEUP-S9000-PLN-ENV-002

Astrolabe 3D Seismic Survey (Otway Basin)

Environment Plan Summary

Review Record

Rev	Date	Reason for Issue	Prepared	Checked	Approved
1	2 October 2012	New document	AL	RM	RM

Contents

1. Introduction

Origin Energy Resources Limited (Origin) is planning to undertake the Astrolabe 3D seismic survey in Commonwealth waters in the Otway Basin within the Great Australian Bight between 1 November and 31 December 2012, or alternately between 1 November and 31 December 2013.

The development of the Otway Basin is important to the energy supply of the State of Victoria where there is a deficit of gas resources. Seismic surveying will be conducted to determine the presence and economic viability of potential hydrocarbon reserves in the Otway Basin exploration permit area VIC/P43 and T/30P and production license areas T/L2 and T/L3.

Origin is the proponent for the **Astrolabe 3D Seismic Survey Project - Otway Basin** (the Astrolabe survey) and is the one hundred per cent titleholder and operator of exploration permit area VIC/P43 and T/30P and production license areas T/L2 and T/L3.

Origin's Environment Plan for the Astrolabe survey has been prepared in accordance with all relevant State and Commonwealth regulatory requirements and addresses the following key elements:

- Compliance with all applicable legislation;
- Origin's understanding of how the proposed operations will interact with the environment;
- Measures to ensure the environmental and other marine user impacts and risks are continually reduced to as low as reasonably practicable;
- Performance objectives, standards and measurement criteria; and
- The systematic implementation of controls that have been established to minimise environmental impacts and associated risks related to the activity.

In the event the seismic program alters to increase an existing environmental effect or risk, new activities are planned, or if a new significant environmental effect or risk is identified, this plan will be revised and resubmitted to NOPSEMA for approval in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations.

2. Location of the Astrolabe 3D Seismic Survey

The survey area is in the Otway Basin in Commonwealth marine waters ranging in depth from 70 meters to 200 meters. The nearest boundaries of the project survey area to land are approximately 40 km southwest of Cape Otway, being the closest point on the Australian mainland, and 70 km northwest of the northern tip of King Island. The proposed Astrolabe survey area boundary coordinates are provided in Table 1.

Table 1: Boundary Coordinates for the Astrolabe Survey Area

	Longitude (E)			**Latitude (S)**		
Location point	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
1	142	53	19.69	39	17	46.78
2	142	58	38.97	39	18	18.82
3	143	01	26.47	39	02	26.85
4	143	06	02.46	39	03	00.01
5	143	05	45.07	39	04	50.62
6	143	05	37.34	39	05	39.94
7	143	07	11.33	39	05	50.46
8	143	05	56.02	39	13	26.33
9	143	06	51.75	39	13	32.34
10	143	06	01.45	39	19	04.15
11	143	08	33.47	39	19	19.16
12	143	07	49.08	39	23	36.25
13	143	05	14.98	39	23	21.22
14	143	04	47.82	39	26	02.64
15	142	55	46.38	39	24	57.62
16	142	52	48.16	39	20	49.08

Please note that these coordinates indicate the full data coverage survey area.

Figure 1 illustrates the boundaries of the Astrolabe 3D Seismic Survey area.

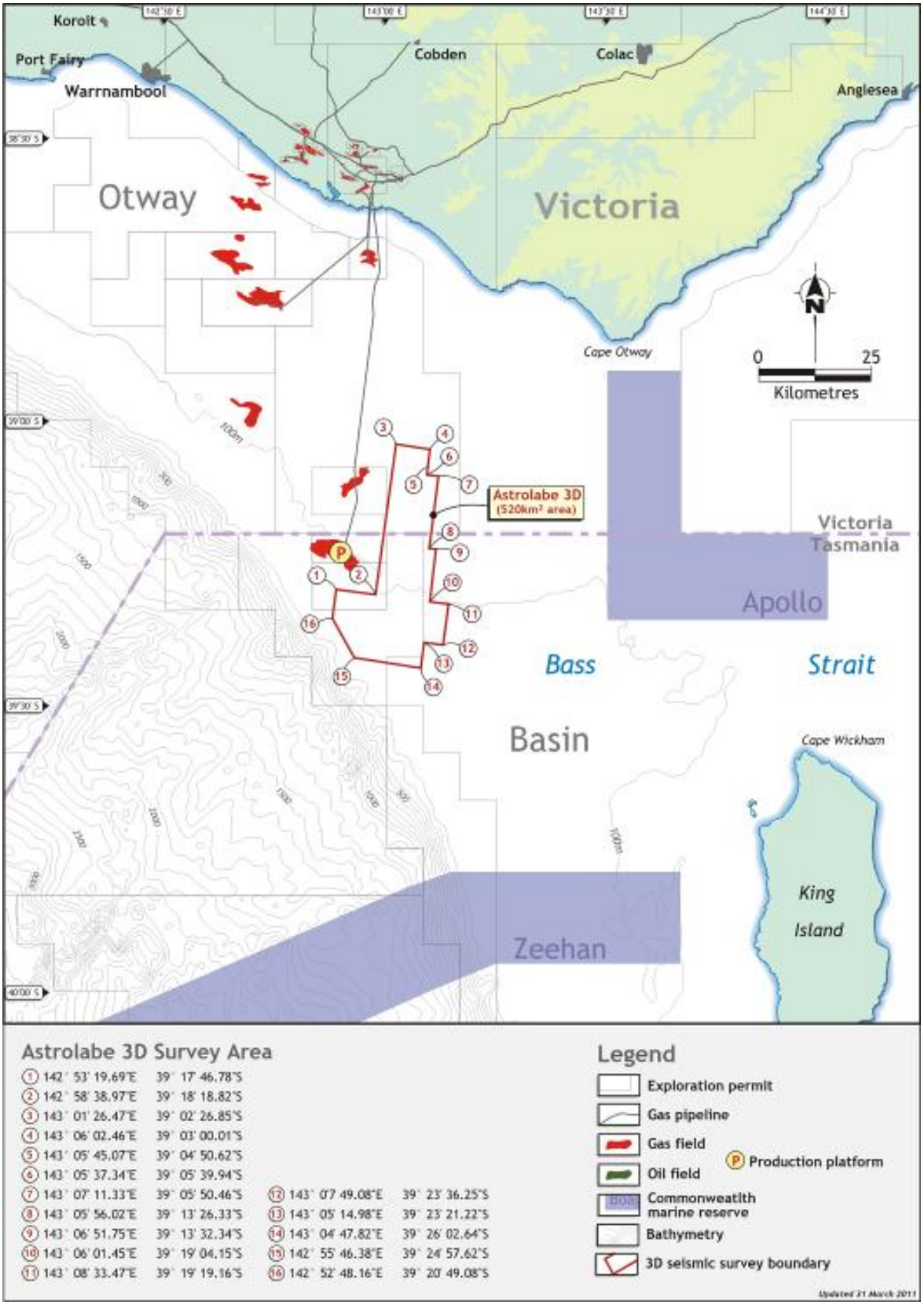

Figure 1: Astrolabe Survey Area

3. Description of the Existing Environment

3.1. Physical Environment

The survey will be conducted in the Otway Basin in water depths of between 70 m and 200 m, and a minimum of 40 kilometres offshore.

The characteristics of the Otway coastline and marine environment include very steep to moderate offshore gradients, high wave energy and cold waters subject to upwelling events (IMCRA 1998). The seabed bathymetry in the region is highly variable.

The area is typical of a cool temperate region with cold, wet winters and warm dry summers. Winds are predominantly south-westerly to north-westerly. Waves are predominantly south-westerly to westerly. Wave heights in the summer months average between 2.5 m and 3.0 m, and maximum wave heights range between 5.6 m and 7.7 m (BOM 2011).

The waters of the Otway are cool-temperate. Intrusions of cooler nutrient rich water occur along the seafloor during mid to late summer. The cooler water is an extension of the regional Bonney Upwelling system, which is an eastward flow of nutrient rich water across the continental shelf of the southern coast of Australia during the summer months. Annually, water temperatures range from a minimum of about 10.5°C near the seabed in winter to a maximum of more than 21°C at the surface in summer.

3.2. Biological Environment

The Astrolabe 3D survey area is located in the Otway meso-scale bioregion as classified in the *IMCRA - An ecosystem-based classification for marine and coastal environments* (IMCRA 1998). Details of listed threatened and migratory species that occur or may occur in the Astrolabe survey area are detailed in the following sections.

Marine National Parks closest to the survey area include the Twelve Apostles Marine National Park approximately 40 km north from the nearest boundary of the survey area, the Arches Marine sanctuary approximately 45 km from the nearest boundary of the survey area, and the Marengo Reefs Marine sanctuary located over 40 km from the nearest boundary of the survey area. No impacts on these areas are predicted from the proposed seismic activities.

3.2.1. Mammals

Marine mammals that may occur in the vicinity of the proposed survey include whales, dolphins and seals.

A total of five threatened cetacean species identified were identified as occurring, or potentially occurring, in the region of the survey including: blue whale (*Balaenoptera musculus*), listed as endangered; southern right whale (*Eubalaena australis*), listed as endangered; humpback whale (*Megaptera novaeangliae*), listed as vulnerable; fin whale (*Balaenoptera physalus*), listed as vulnerable; and sei whale (*Balaenoptera borealis*), listed as vulnerable.

Bass Strait is considered an important migratory path between the north-east Australian coast and the Subantarctic for humpback, blue, southern right, and to some extent the fin and sei whales. The whole of Bass Strait is known to be foraging or feeding habitat and a migratory corridor for blue whales.

The time and location of the appearance of blue whales in the east generally coincides with the upwelling of cold water in summer and autumn along this coast (the Bonney Upwelling) and the associated aggregations of krill (EA 2002, Gill 2000, Gill and Morrice 2003). The current data suggest that blue whales are likely to arrive in the east around December and peaking in February,

therefore it is anticipated that the proposed timing of the Astrolabe survey will largely avoid the risk of interactions with migrating blue whales.

Humpback whales are present around the Australian coast in winter and spring. The northern migration of humpback whales on the south-east coast of Australia starts in April and May while the southern migration peaks around November and December (DEH 2005a). Victorian waters are not known feeding grounds for humpback whales. The proposed survey is scheduled to occur outside the peak migration periods and is located further west of the humpbacks' normal migration route. It is therefore expected that there is little chance of interactions with humpback whales during the survey.

Southern right whales are present around the Australian coast from May to October (DEH 2005b). This species generally migrates to the warmer waters of southern Australia during winter and inhabits subantarctic waters in summer (DEH 2005b). During winter and spring these whales breed in shallow coastal waters (DEH 2005b, Payne 1986). It is considered unlikely that southern right whales will be encountered at the time and location of the proposed survey.

The fin whale is widely distributed in temperate wasters of the southern and northern hemispheres between latitudes 20° and 75° (DEH 2005c). The migration routes and locations of winter breeding grounds for this species are uncertain, but fin whales have been observed in Bass Strait and the region of the Bonney Upwelling during aerial surveys in the summer and autumn months.

The sei whale is a wide ranging species which are presumed to have the same general pattern of migration as most other baleen whales including blue and fin whales (DEH 2005c). Sei whales have been infrequently observed in Australian waters, but have historically been sighted in Bass Strait between December and April 2000–2003 and at the western end of Bass Strait.

3.2.2. Seals

Australian fur seals breed on islands of the Bass Strait and range throughout waters off the coasts of South Australia, Tasmania, Victoria and New South Wales. New Zealand fur seals may forage throughout waters around the southern part of Australia. The species breeds in southern Australia at the Pages Islands, and on Kangaroo Island, which produces about 75% of the total pups in Australia.

3.2.3. Turtles

Two threatened reptile species were identified as the species or habitat likely to be present in the proposed survey area. The threatened reptiles include: loggerhead turtle (*Caretta caretta*), listed as endangered; and leatherback turtle (*Dermochelys coriacea*), listed as endangered.

The loggerhead turtle is globally distributed in subtropical waters and is rarely seen in Victorian waters. No known loggerhead foraging areas have been identified in Victoria waters although foraging areas have been infrequently identified in waters off South Australia (EA 2003, DSWEPC 2010c). The leatherback turtle is an occasional visitor to Bass Strait.

3.2.4. Birds

A total of 17 threatened bird species were identified as potentially occurring in the vicinity of the proposed survey. The threatened birds include:

- 12 albatross species (*Diomedea* and *Thalassarche* spp.*)* of which 4 are listed as endangered and 8 are listed as vulnerable;
- 4 petrel species (*Halobaena, Macronectes*, and *Pterodroma* spp.) of which one is listed as endangered and three are listed as vulnerable;
- 1 gull species (the Great Skua).

Albatrosses and giant-petrels are among the most dispersive and oceanic of all birds, spending more than 95% of their time foraging at sea in search of prey and usually only returning to land to breed (EA 2001). The identified albatross and petrel species may therefore potentially overfly and forage within the proposed survey area. The closest known breeding habitat to the survey area is that of the shy albatross at Albatross Island, which lies between King Island and the north western tip of Tasmania, approximately 200 kilometres from the survey site. Other albatross and petrel breeding sites are remote from the project area, being located to the south of Tasmania and in the Subantarctic.

The orange-bellied parrot migrates from the mainland across Bass Strait to King Island and Tasmania and may overfly the survey area.

3.2.5. Fish

Listed threatened or migratory shark species that may occur in the area include the great white shark the shortfin mako shark and the porbeagle shark. In addition to the sharks, the protected matters search identified 26 ray-finned fish as potentially having habitat in the area. All of the marine ray-finned fish species identified in the search are sygnathiformes, and are generally found in shallow, inshore waters where they are associated with marine plants or corals, although they may occur offshore in association with rafts of floating seaweed.

3.2.6. Marine invertebrates

The marine invertebrates in the region include: porifera; cnidarians; bryozoans; arthropods; crustaceans; molluscs; echinoderms; and annelids.

There have been relatively few studies of plankton populations in the Otway and Bass Strait regions, with most concentrating on zooplankton. Watson and Chaloupka (1982) reported a high diversity of zooplankton in eastern Bass Strait, with over 170 species recorded. However, Kimmerer and McKinnon (1984) reported only 80 species in their surveys of western and central Bass Strait.

3.3. Socio-Economic Environment

3.3.1. Commercial Fishing

The State and Commonwealth fisheries active in or near the Astrolabe 3D survey area are the Victorian managed rock lobster and giant crab fisheries; and the Commonwealth managed Southern squid jig fishery and the Southern and Eastern scalefish and shark fishery. There is no record of any scallop fishery ever having existed in the Astrolabe survey area.

The survey area has a low level of fisheries usage, although safe operation requires that fishing gear that is an entanglement hazard must be absent, hence there is potential to temporarily displace fishermen from the area.

3.3.2. Heritage

No identified Indigenous heritage values or sites occurring within the vicinity of the project site have been identified or are listed or nominated on the Australian Heritage Commission Register. There are no known historic wrecks coincident with the survey area.

3.3.3. Commercial Shipping

Bass Strait is a well-known shipping route. Agricultural products and woodchips are transported from the Port of Portland to receiving ports in the Gulf of St Vincent, South Australia, and through Bass Strait to Melbourne and Sydney (NOO 2004). The Port of Melbourne has over 3,300 vessels calling in to the port every year (Port of Melbourne 2011). Bass Strait is also transited by commercial vessels that may not call into ports on the south coast and there are numerous minor shipping routes in the area, such as those that service King Island.

Origin will provide the Australian Maritime Safety Authority (AMSA) with information allowing issue of a Notice to Mariners outlining the area of operations and a request that all other vessels provide clearance around the survey vessel and equipment.

3.3.4. Oil and Gas Infrastructure

There are a number of production fields located in the Otway Basin, including the Otway Gas Project, the Casino Gas Project, and the Minerva Gas Project. None of these projects will be impacted by the Astrolabe 3D seismic survey.

4. Description of the Activity

Origin is the proponent for the proposed Astrolabe 3D Seismic Survey Project - Origin Energy is 67.23% equity holder and operator of exploration permits VIC/P43 and T/30P and production licenses T/L2, T/L3 and Vic/L23 areas T/L2 and T/L3.

The Astrolabe 3D Seismic Survey is planned to be acquired between 01st of November and 31st of December 2012, or during the same period in 2013. The survey will be conducted using a purpose-built seismic survey vessel with emergency tow and survey support duties provided by a dedicated vessel.

The seismic survey vessel will be approximately 100 m in length and approximately 40 m wide and carry up to a total of 70 persons. The support vessel will be approximately 30 m in length and approximately 10 m wide and carry up to a total of 15 persons. The guard vessels will be approximately 20 m in length and 9 m wide and carry up to 7 persons.

The survey vessel will acquire the seismic data using two towing acoustic source arrays consisting of up to 3 sub-arrays per source, and 12 to 14 hydrophone streamers towed along parallel survey transects. The parallel linear transects will be evenly spaced approximately 600 m to 700 m apart. The survey vessel will traverse each transect at approximately 4 – 5 knots (9 km/hr) during data acquisition. The survey vessel will acquire seismic data over an acquisition footprint area of approximately 520 km^2, with the vessel operating 24 hours a day.

Origin is aiming to acquire the survey using two seismic source arrays with a capacity of 3,090 cubic inch (cu in) and not exceeding 4,130 cu in and with a nominal operating pressure of 2,000 pounds per square inch (psi). The seismic source arrays will be approximately 50 m apart and towed approximately 400 m astern of the vessel at a depth of approximately 5-6 m, producing sound energy with dominant frequencies up to 250 Hertz (Hz). Seismic sources will fire every 18.75 m or approximately 8 – 10 seconds (s), alternating between the two seismic source arrays.

The seismic reflection data will be measured by hydrophones along the streamer cables. The streamer cables will be approximately 5,100 m in length with separations of 100 m between streamers and will be towed at a depth of approximately 7-8 m.

The vessel and towed equipment will be operating in compliance with International Maritime Organisation (IMO) guidelines for safe navigation and collision prevention. The vessel will move outside of the proposed survey area for vessel turns, deployment, and recovery of seismic equipment

After the data is successfully acquired it will be processed to obtain a 3D image of the sub-surface geology. The 3D image of the subsurface is used to provide critical information for further exploration work to be conducted.

5. Environmental Hazards and Controls

The environmental risks and potential for impacts from the Astrolabe 3D seismic survey were determined through an environmental risk assessment conducted in accordance with Origin's Risk Assessment Framework, which is consistent with the *Australian Standard for Risk Management: AS/NZS ISO 31000:2009 Risk management – Principles and guidelines*. Two workshops were held between February and June 2012 with environmental, safety and seismic survey experts, taking into account information received during stakeholder consultation and from fisheries and cetacean expert advisors. The reviews considered the specific environmental aspects, causes and potential impacts on environmental values. The risk assessment has also been based on:

- previous seismic projects by Origin in the region and lessons learned;
- the activities proposed for Astrolabe 3D seismic project;
- consideration of the seismic acquisition technology to be used;
- knowledge of the receiving environment, with particular emphasis on sensitive environmental aspects of the project area;
- ongoing consultation and liaisons with stakeholders to mitigate risks;
- alternatives relating to the types of vessel, timing of the survey, seismic methodology and source volume were all taken into consideration.

Key environmental hazards and potential impacts identified during the risk assessment are described below, along with a discussion of the controls implemented to reduce the associated risk to the environment. Potential environmental impacts and controls are summarised in Table 2.

5.1. Acoustic Disturbance

The main potential impact related to the proposed activity is acoustic disturbance caused by the seismic source. Marine acoustic surveys were conducted in the Otway Basin in 2011 showed that, for this area, natural and anthropogenic noise in the same frequency ranges as whale vocalisations attenuate rapidly with distance. The study concluded that the potential impact of anthropogenic noise on marine mammals was localised to within a few kilometres around the noise source (Gavrilov 2012).

Controls will be implemented to continually minimise the risk of acoustic disturbance to marine species to as low as reasonably practicable. The survey has been timed to minimise the likelihood of encounters with all whale species. Origin is aiming to use the lowest source volume suitable for acquisition of the survey, and to use the maximum number of streamers that can be safely deployed to minimise the time required for the survey, reduce the number of transects (and therefore the number of seismic impulses) and maximise the distance between transects. Gradual increase of the source volume over a period of not less than 30 minutes allows for any mobile marine fauna to move away from the sound source while it is at low volume. An observation zone of 3km, with low-power and shutdown zones as prescribed by DSEWPaC and differentiated for blue whales and other whale species, will be used.

It is noted that, in the absence of specific research on the larvae of the southern rock lobster, Origin has been made aware of concerns regarding impacts on the juvenile life stages of this species. Consideration was given to alternate timing of the proposed survey to limit the potential for conducting the survey when high densities of rock lobster larvae may be present, noting that the female lobsters release the prelarvae in October and November. However, to avoid this period meant increasing the likelihood of interactions with whales, for which potential impacts are more certain. Origin considers that the risk to rock lobster has been reduced to as low as reasonably practicable through other control measures, including use of the minimum suitable seismic source and maximising the number of streamers to reduce the time taken and number of transects required for the survey to be completed.

5.2. Vessel Physical Presence

Vessel activity for Astrolabe survey will include only the seismic vessel, a support vessel and a guard vessel. However, vessel strike is still considered a risk to marine mammals that might occur in the area at the time of the survey. This risk is mitigated by the use of slow vessel operating speeds and continuous observation by trained Marine Mammal Observers during daylight hours.

Shipping traffic in the vicinity of the surveys includes the Victoria-Tasmania ferries and merchant vessels travelling between Tasmania and Victoria or passing through Bass Strait. The seismic survey area also overlaps with the South East Fisheries. The presence of the survey vessel could therefore present a hazard to vessels or fishing gear if they are too close. As the Bass Strait area has high shipping traffic, the risk posed by the presence of the survey vessel to other marine users is considered routine.

Origin has been in direct contact with fishermen who are active in the area and has been advised that no rock lobster fishing is expected in the survey area during the November/December period. The area is only lightly fished, and this occurs in late Summer to Autumn. Origin will continue dialogue with these fishermen about the timing and pattern of the operations, and mitigation arrangements should these be required.

5.3. Exotic Species Introduction

Marine pests introduced through ballast water or marine fouling have the potential to impact on natural ecosystem balance and affect species of commercial importance and infrastructure. The Astrolabe survey vessels will have no requirement to discharge water ballast or sediment into the marine environment during the normal course of the survey operations. The vessels used in the operation are kept as free as possible of marine growth through the use of antifouling paints and the vessel hulls are cleaned during out-of-water surveys. The seismic vessel will be required to have a current antifouling certificate. Support and guard vessels will be local to the area and will not present a risk of marine species introductions. Streamers are routinely cleaned to minimise drag, maximise cost-efficiency, increase the accuracy of the data, and to remove marine growth.

The seismic vessel operator will comply, where appropriate, with the Australian Department of Agriculture, Fisheries and Forestry's (DAFF) National Biofouling Management Guidelines for the Petroleum Production and Exploration Industry (2009).

5.4. Operational Vessel Discharges

Operational discharges may result in pollution of the marine environment, while any plastics discharged intentionally or accidentally, if lost at sea present a significant risk to marine fauna. Therefore operational discharges from all vessels engaged in the project, including water from bilge spaces, treated sewage and food wastes, will be in strict accordance with MARPOL 73/78 (Annex 1 – Oil, Annex IV – Sewage, Annex V – Garbage, and Annex VI – Air) including the standards and certification of all on board pollution control equipment and maintenance of records relating to waste management and disposal. Operations will also comply with Australian maritime legislation including the *Quarantine Act 1908, Quarantine Regulations 2000* and the *Protection of the Sea (Prevention of Pollution from Ships) Act, 1983*. The survey, support and guard vessels will have an IMO type-approved oily water separator and monitoring and alarm systems.

5.5. Marine Oil Spills

Marine oil spills may occur during refuelling or as a result of damage to the vessel bunker tanks from collision or grounding. A lesser potential source of marine oil spills is leaks of hydraulic or lubricating oils on board the vessel. Any refuelling operations will occur only at a port where there are permanent facilities to adequately manage the refuelling and transfer process with minimal environmental risk. Any refuelling operations will be in full accordance with the vessel and refuelling contractor's bunkering procedures and there will be no ship-to-ship fuel transfers.

All vessels will have a current Shipboard Oil Pollution Emergency Plan (SOPEP) or equivalent and will be carrying spill kits, which will aid in immediate containment and clean-up of any releases on the deck during machinery maintenance or refuelling in port. A Project specific Oil Spill Contingency Plan has also been developed in consultation with State and Commonwealth combat agencies.

5.6. Equipment Loss in the Marine Environment

Loss of towing or towed equipment may result in marine pollution and the risk of entanglement of, and potential injury to, marine fauna. Control measures to avoid and minimise the risk of loss of towed equipment will include navigational safety protocols, slow operating speeds, the use of solid, ballasted streamers that will not sink if released and maintenance procedures to ensure all equipment is maintained to a high standard. High visibility equipment and floatation devices on all equipment and the availability of a work boat and support vessels will assist in equipment recovery if required.

Table 2: Summary of Potential Impacts and Control Measures for the Astrolabe 3D Seismic Survey

Impact Category	Potential Impacts	Control and Mitigation Measures
Acoustic disturbance	• Potential for physical or behavioural disturbance to marine mammals, particularly whales, and other marine fauna as a result of acoustic disturbance. • Potential for temporary displacement of fish, impacting on commercial fisheries activities in the immediate area.	• Timing of the survey to minimise risk of encounters with whales. • Use of the lowest source volume suitable for acquisition of the survey. • Use of maximum number of streamers that can be safely deployed to minimise survey time and maximise the transect width. • Adherence to *EPBC Policy Statement 2.1* protocols and EPBC Referral. • Continuous daytime observation by trained MMOs. • Observation, low power and shut down zones for whale species.
Vessel physical presence	• Potential for vessel strike to marine fauna. • Potential for entanglement of marine fauna in survey equipment. • Interference/interactions with fisheries or other marine users (e.g. commercial shipping).	• Slow vessel operating speeds. • Continuous daytime observation by trained MMOs. • Work boat available to assist in removing any entangled fauna. • Equipment design and tow configuration to minimise entanglement risk. • Direct consultation with fishing operators in the region. • Use of support and guard vessels to liaise with other marine users. • Notice to mariners and advice to Australian Maritime Safety Authority.
Exotic species introduction	• Pest species or pathogen establishment in the survey area. • Potential loss of income for fisheries or impacts on marine infrastructure. • Costs in monitoring and incursion response.	• No ballast water exchange or sediment discharge. • Use of antifouling paints and hull cleaning during out-of-water surveys. • Current antifouling certificate. • Support and guard vessels local to the area. • Streamers cleaned regularly.
Operational vessel discharges	• Ingestion of plastics by marine fauna. • Contamination of the marine environment. • Toxicity associated with chemical discharges. • Marine pollution by floating debris.	• Waste management plans on board all vessels. • All discharges in accordance with MARPOL 73/78 and domestic regulations. • IMO approved pollution control equipment. • Current certifications and survey.
Marine oil spills	• Pollution impacts on marine fauna. • Potential shoreline impacts. • Impacts on other marine users.	• Navigational safety measures, liaison with other marine users. • No hydrocarbon fluids in streamers. • Vessel and operator selected based on good environmental performance. • Vessel SOPEP and Origin OSCP, with regular exercising and audit.

6. Management Approach

The survey will be managed in accordance with:

- the *Origin Astrolabe 3D Seismic Survey Environment Plan* accepted by NOPSEMA under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009;
- the particular manner prescribed in EPBC Referral 2012/6421;
- all relevant environmental and safety legislation; and
- Origin's Health Safety and Environment Management System.

The accepted Environment Plan defines and details objectives, standards and criteria with response to all potential environmental impacts from the survey activity. These are supported by systems, practices and procedures to direct, review and manage the survey activities and to continually reduce to potential for environmental harm to as low as reasonably practicable in all cases. The accepted Environment Plan also identifies roles and responsibilities, training and competency requirements and measures for implementation of controls, managing non-compliance, emergency response and monitoring, auditing and reporting throughout the Project.

The Environment Plan shall be implemented by Origin working together with the selected seismic operator, with day-to-day implementation occurring on the seismic vessel under the leadership of the Party Chief and the Origin Offshore Representative. The Origin Project Manager will have oversight of the performance of the project against the Environment Plan and will initiate reviews and audits as required. In the event on a vessel incident, the Origin Emergency Response Team will work together with HSE and technical advisors and government combat agencies as required to respond.

7. Consultation

Consultation on this project began in 2010 but was placed on hold when a decision was made to delay the project and was re-activated most recently in late May 2012 as part of the development of the Environment Plan. Origin maintains regular relations with stakeholder groups in the Otway region and has consulted comprehensively on the Astrolabe project with potentially interested groups. The parties consulted included:

- Commonwealth, state and local Government representing primary industries, environment and maritime sectors;
- Fisheries peak bodies, representative groups and individual operators from Apollo Bay, Campbell Bay, Port Campbell, Portland. Fisheries represented included rock lobster, crab, trawl and shark fisheries; and
- Community, tourism, and environmental representative groups and non-government organisations.

8. Contact Details

The registered office for Origin is:

Level 45 Australia Square 264 – 278 George Street Sydney NSW	Telephone Number: 02 8345 5000 Fax Number: 02 9252 9244 Email: Robert.Meagher@originenergy.com.au Contact Person: Robert Meagher

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