environment
resource group

Environment Plan Summary:

WA-454P: Floyd 3D Seismic Survey (Bonaparte Basin)

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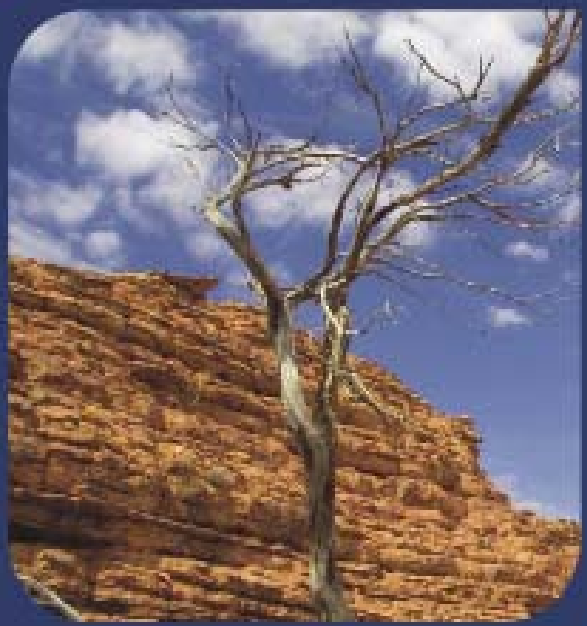


Introduction

MEO Australia Limited ('MEO') is proposing to undertake the Floyd 3-Dimensional (3D) seismic acquisition survey in the Commonwealth waters of Petroleum Exploration Permit WA-454P located in the Bonaparte Basin of the Timor Sea.

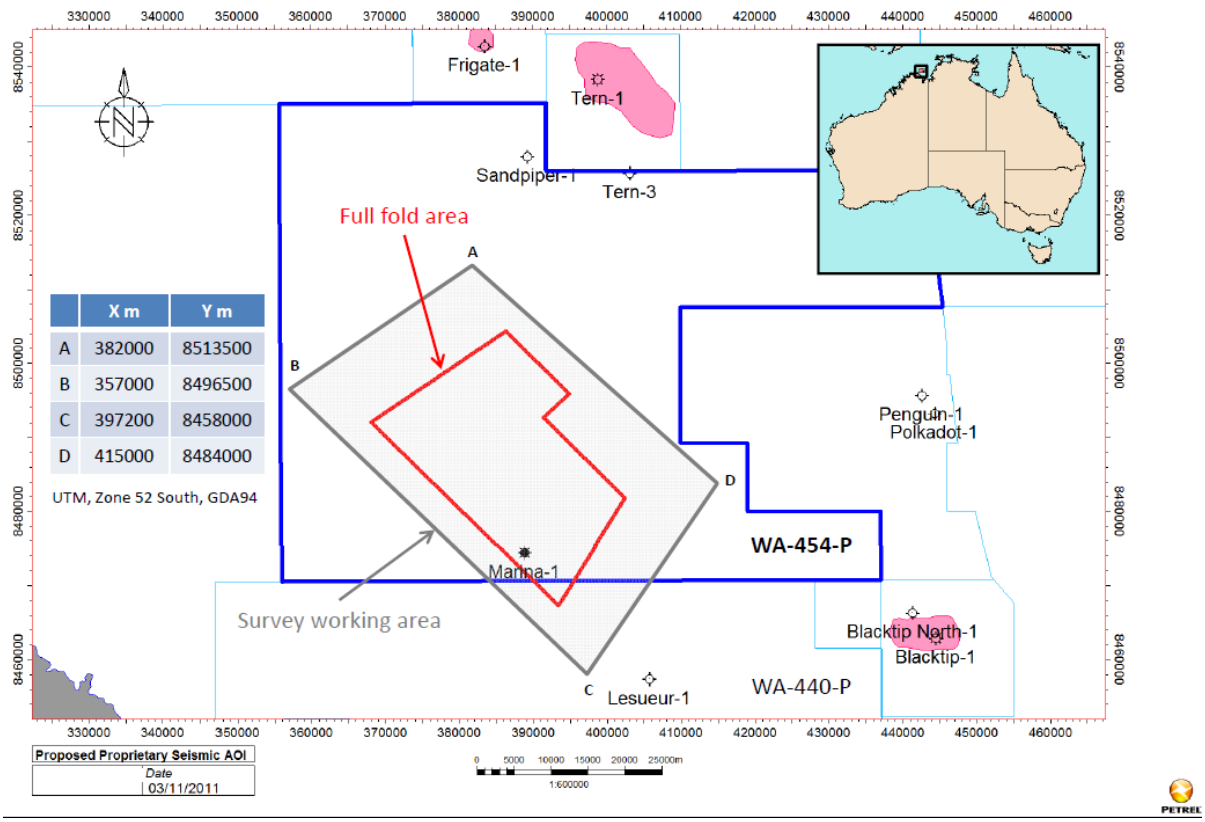
An Environment Plan (EP) for this seismic survey has been prepared in accordance with the requirements of the *Offshore Petroleum & Greenhouse Gas (Environment) (OPGGS(E)) Regulations 2009*. The EP has been reviewed and accepted by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

This EP summary document has been prepared to comply with the requirements of Regulation 11(7) and (8) of the referenced OPGGS(E) Regulations.

Location of Activity

Petroleum Exploration Permit WA-454P, in aggregate, covers an area of approximately 4320km^2 within the Bonaparte Basin Region of the Timor Sea (Refer **Figure 1**). The general working area for the proposed Floyd 3D survey is 1515km^2 and defined by coordinates provided in **Table 1**. Within this general working area, the Floyd survey will acquire seismic over approximately 592km^2. The survey area is located approximately 170km East of Cape Londonderry (WA) and 55km North of Reverley Island (WA).

Figure 1: Regional Location and 'Working Area' of the Floyd 3D Seismic Survey



	X m	Y m
A	382000	8513500
B	357000	8496500
C	397200	8458000
D	415000	8484000

UTM, Zone 52 South, GDA94

Table 1: Floyd 3D Seismic Survey Location

Location Point	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
A	13	26	38.50	127	54	35.80
B	13	35	47.70	127	40	41.50
C	13	56	46.90	128	02	54.00
D	13	42	42.80	128	12	50.00

Note that as the general working area extends beyond the boundaries of Exploration Permit WA-454P, MEO have obtained Access Authority for seismic activities over the adjacent WA-440P operated by Goldsborough Energy Pty Ltd.

Description of Activity

The S/R *Veritas Viking II* (refer **Figure 2**) (Call Sign LCKW3) is a specialist seismic acquisition vessel operated by CGG Veritas and has been contracted for the survey.

The acoustic source, a BOLT 1500LL and 1900LL-XT dual source array, up to 3255in^3 volume operating at 2000psi, will release acoustic pulses into the water column every 25m (i.e. on average every 10-12 seconds) at a depth of approximately 5mbsl. This acoustic source will generate a pressure pulse wave through the subsea geological layers. Reflected acoustic signal waves will be collected in up to eight (8) Sercel Sentinel Solid SEAL hydrophone streamers each measuring approximately 6000m in length at a depth of 7-15mbsl. Data collected by the hydrophones is stored in on-board computers for processing and analysis allowing the character of the underlying geological strata to be determined.

The seismic vessel will traverse the survey area along defined transects (or seismic lines) in water depths ranging from 60m to 80m. Seismic activities are planned to occur on a 24hr operational basis and in sea-states of <4.5m significant wave height. Streamer/gun deployment and retrieval are limited in sea-states greater than 4.5m significant wave height.

Seismic acquisition is scheduled to occur over an approximate 30 day period (total) with the earliest commencement date of February 9, 2012. The precise commencement and completion dates will be dependent on vessel availability and weather conditions.

The seismic vessel will be accompanied by a support/escort vessel, MV *Pacific Protector* (refer **Figure 3**) (Call Sign 9V6638), which will assist with in-water streamer maintenance and ward away any shipping which may encroach on the operations.

Mobilisation of vessels to the survey area will be directly from Broome (WA). Broome will also act as the supply port for the activity. Crew changes during the survey will coincide with port calls or via helicopter from Darwin/Truscott. Refuelling of the seismic vessel is planned to occur whilst in port however refuelling at sea may also occur.

The *S/R Veritas Viking II* is fitted with MARPOL compliant pollution control devices for oily water, sewage, putrescible wastes and incineration. The vessel also operates under a Shipboard Oil Prevention Emergency Plan (SOPEP) which details actions to be taken in the event of a shipboard oil spill emergency. General emergency response is undertaken in accordance with the *S/R Veritas Viking II* Offshore Emergency Response Procedure.

Figure 2: S/R *Veritas Viking II*

Figure 3: MV *Pacific Protector*

Description of Receiving Environment

Regional Setting

As part of the Interim Marine and Coastal Regionalisation for Australia (IMCRA), the Floyd survey area lies in the Northwest Shelf Transition area of the Northwest Marine Region. A summary of the geomorphology and oceanography of this region is provided in **Table 2**.

Table 2: Regional Setting of Floyd Survey Area

Aspect	Detail
Geomorphology	The majority of the bioregion is located on the continental shelf with only a small area extending onto the continental slope. Consequently water depths throughout the bioregion are shallow ranging from 0-330m but the majority of the bioregion has water depths in the range 10–100m. The bioregion has a complex seafloor topography with a diversity of features including submerged terraces, carbonate banks, pinnacles, reefs, canyons and sand banks.

Aspect	Detail
	The bioregion contains carbonate banks/shoals which occur predominantly in the Joseph Bonaparte Gulf and comprise of hard substrate with flat tops and steep sides that rise from water depths of between 150 and 300m. Each bank generally occupies an area less than 10km^2 and is separated from the next by narrow channels such as Penguin Deeps. Adjacent to the carbonate banks in the Joseph Bonaparte Gulf is the Bonaparte Depression which is a geomorphic basin and is a relatively flat feature containing a higher content of mud and gravel than is found in sediments elsewhere on the shelf. The depression is punctuated by numerous pinnacles and subaqueous banks. The pinnacles can be up to 50m high and 50–100km long and are an important feature of this bioregion. The bioregion also contains the majority of the tidal sandwaves/sandbanks found within the region as well as the Londonderry Rise, which is a large elongated plateau that extends offshore from Cape Londonderry.
Oceanography	The Indonesian Through-flow is the dominant oceanographic feature of the region and dominates the majority of the water column. The Through-flow generally flows westward through the Timor Trench and reconstitutes as the South Equatorial Current south of Java. The strength of the Through-flow, and its influence in the bioregion, varies seasonally in association with the Northwest Monsoon. In the wet season (December to March), monsoonal winds push some of the waters of the Through-flow eastward, building a pressure gradient in the Banda and Arafura seas. At the end of the Northwest Monsoon (March–April), this pressure gradient is released, releasing a south-westerly flow of water across the shelf during autumn and winter. This is known as the Holloway Current. Tidal ranges are very high along the Kimberley coast but decrease significantly in the Joseph Bonaparte Gulf. The coastal waters of the bioregion are highly turbid particularly during summer because of the interaction of tides with increased terrestrial inputs of sediments, organic material and freshwater from the summer rains. Coastal waters are a fairly distinct feature within the bioregion and may extend as far out as the 100m depth contour particularly during the wet season around the mouths of major rivers.

Conservation Areas

No outstanding natural features are present within the proposed survey area, however the Kimberley area located approximately 35km SW of the survey area has a 'natural' listing on the Register of the National Estate (SEWPC, 2011a) and the Ord River Floodplain located 130km South of the survey area is a listed RAMSAR Wetland.

Bathymetry

The survey area lies in water depths of approximately 60-80m within the Bonaparte Depression, a geomorphic basin which is a relatively flat and has a smooth bottom overlain by soft, muddy sediments. The depression is punctuated by numerous pinnacles and subaqueous banks however no shoals or banks are located within the survey area. Shoals/banks in proximity to the survey area include Baldwin Bank (approximately 170km West), Gale Bank (approximately 190km WNW), Penguin Shoal (approximately 180km West), Bassett-Smith Shoal (approximately 205km West), and Penguin Deeps located approximately 165km West.

Fauna

The biological communities of the Northwest Shelf Transition Bioregion are typical of the Indo-west Pacific tropical flora and fauna, and occur across a range of soft-bottom and harder substrate habitats. This reflects the strong biogeographic links to Indonesia and West Pacific via the current regimes such as the Indonesian Through-flow. The area has high species diversity however few species are endemic to Australia and even fewer to Western Australia.

The softer, muddy substrates are thought to be sparsely covered by sessile filter-feeding organisms, such as gorgonians, sponges, ascidians and bryozoans, and mobile invertebrates, such as echinoderms, prawns and detritus feeding crabs. The harder substrates are believed to have a more diverse range of sessile benthos, such as hard and soft corals, gorgonians, encrusting sponges and macroalgae, and consequently, a more reef-associated fish and shark fauna.

The bioregion supports a number of marine species. This includes:

- Ten (10) EPBC-listed cetacean species including five (5) species listed as migratory and two (2) species listed as threatened/endangered. The timing of the Floyd survey avoids known migration periods;
- An additional EPBC-listed mammal species, the Dugong, which is listed as migratory;
- Six (6) EPBC-listed turtle species which are believed to feed in the reef habitat of this bioregion and possibly pinnacle areas on the mid-shelf;
- An additional EPBC-listed reptile species, the Saltwater Crocodile, which is listed as migratory;
- Three (3) EPBC-listed migratory bird species which may overfly and forage within the survey area;
- A diversity of shark species including three (3) EPBC-listed migratory sharks (one listed as vulnerable) and one (1) EPBC-listed ray species listed as vulnerable;
- Seventeen (17) EPBC-listed sea-snakes;
- Skates and rays which occupy a broad range of shallow and deep water habitats;
- Twenty-five (25) EPBC-listed pipefish species; and
- A high diversity of crustaceans including copepods, prawns, scampi and crabs species.

Socio-Economic Environment

Commercial Fisheries

Commercial fishing activities operating in the survey area vary in scale from small Indonesian boats to large trawlers. Five (5) Commonwealth commercial fishery management areas are listed as being present in the survey area including:

- The Joint Authority Northern Shark Fishery;
- Southern Bluefin Tuna Fishery;
- Western Skipjack Fishery;
- Northern Prawn Fishery; and
- Western Tuna and Billfish Fishery.

Five (5) state fisheries are listed as being present in the area include:

- The Northern Demersal Scale Fishery (NDSF);
- The Kimberley Prawn Managed Fishery;
- The Mackerel Fishery;
- The West Coast Deep Sea Crustacean Fishery; and
- The Pearl Oyster Fishery (Zone 4).

Commercial fishing effort and catch in the general survey area is recorded as high (on a seasonal basis) and primarily consists of demersal trawl fishing methods.

Commercial Shipping

The survey area is located approximately 400km from the main commercial shipping channels between North-Western Australian Ports (Port Headland, Dampier) and Indonesia/South East Asia. Vessel movements closer to the survey area include oil and gas vessels servicing adjacent oilfields and commercial fishing vessels.

Oil & Gas Infrastructure

The Timor Sea is a highly prospective petroleum region and includes world-scale project such as the Bayu-Undan Gas Project and the Evans Shoals and Sunrise gas fields. The Joseph Bonaparte Gulf is a highly prospective petroleum region. The survey working area lies in proximity to the Blacktip, Petrel and Tern Gas Fields. The survey working area is located approximately 50km WNW of the Blacktip Gas Field and approximately 35km south of the Tern Gas Field. Distances are measured from the nearest survey boundary.

Major Environmental Hazards and Controls

An environmental hazard identification and risk assessment was undertaken via a methodology consistent with ISO31000 Risk Management and HB203:2006 Environmental Risk Management - Principles and Process.

The hazard identification and risk assessment activities undertaken identified the following potential sources of environmental impact associated with the MEO Floyd 3D seismic survey:

- Routine Operations:
  - Acoustic disturbance to cetaceans/marine species;
  - Physical presence of seismic vessel to shipping & other marine users (interaction potential) & seabed impacts (possible anchoring);
  - Vessel emissions (sewage, putrescible waste, oily water discharges, & hazardous wastes) with the potential to impact on marine water quality and fauna;
  - Combustion emissions (engines, waste incineration) with the potential to impact on local air quality; and
  - Vessel lighting which may attract marine species.
- Non-Routine (Unintentional) Operations:
  - Oil/chemical spill impacts to the marine environment.

Implemented control measures documented in **Appendix A** ensures that the environmental risks associated with these impacts are maintained at a level which is as low as reasonably practicable (ALARP) while maintaining economic viability for the proposed activity. These control measures are taken into consideration in calculating the residual risk associated with the activity of impact.

Overall Management Approach

MEO is committed to protection of the environment in all activities it undertakes. Activities are undertaken in accordance with relevant legislated standards and where legislated standards do not exist, responsible standards are adopted. Successful environmental outcomes are achieved by understanding how proposed activities interact with the environment, identifying possible and foreseeable impacts, and implementing management controls which eliminate or reduce the environmental risk to ALARP.

MEO, the operator of the exploration permit area WA-454P, is responsible for assuring that the proposed seismic survey is managed in accordance with this accepted Environment Plan. The seismic contractor (CGG Veritas) will undertake the operations on MEO's behalf and, under contractual arrangements with MEO, will implement and comply with all environmental constraints and procedures nominated in the accepted EP.

Specific responsibilities identified with respect to environmental management arrangements (i.e. control implementation) are assigned in the accepted EP's implementation schedule. This ensures that the environmental risk associated with the survey is maintained at a level which is ALARP.

Environmental performance objectives are defined for each environmental aspect. These objectives are monitored and reviewed to ensure environmental outcomes are achieved during the survey.

MEO adopts a philosophy of continuous improvement. Learnings from seismic performance appraisals, incident investigations and field activity reviews are documented and incorporated as improvement actions for future seismic acquisition activities.

Stakeholder Consultation

<u>Fisheries</u>

MEO, as part of the development of this EP, has consulted with the following fishing stakeholders:

- Australian Fisheries Management Authority (AFMA);
- Western Australian Department of Fisheries;
- Commonwealth Fisheries Association (CFA)
- Western Australian Fisheries Industries Council (WAFIC);
- Northern Territory Seafood Council (NTSC);
- Northern Demersal Scalefish Fishery (NDSF);
- Western Australian Northern Trawl Owners Association (WANTOA);
- Northern Fishing Companies Association;
- A Raptis & Sons;

- Westmore Seafoods;
- JAMACLAN Marine Services;
- Northern Prawn Fishery (QLD) Trawl Association;
- NPF Industry Pty Ltd;
- Northern Territory Trawler Owners Association; and
- Recfishwest (WA recreational fisheries).

Consultation information obtained indicates that the general working area for the survey lies in an area of high fishing effort during the Prawn Fisheries season (post April 1) particularly in the southern section of the seismic working area. Representatives of the Northern Prawn Fishery have requested that the seismic program is completed prior to the commencement of the Northern Prawn Fishery season to avoid possible spatial conflicts.

Other Stakeholders

Other stakeholders consulted regarding the proposed seismic program include:

- National Offshore Petroleum Titles Administrator (NOPTA);
- Department of Sustainability, Environment, Water, Population and Communities (SEWPC) (EPBC Referral);
- Australian Maritime Safety Authority (Shipping Impacts);
- Border Protection Command (Defence/Customs related issues);
- Australian Hydrographic Office (AHO) (Navigation Warnings); and
- Petroleum operators within the Bonaparte Basin holding adjacent permits (i.e. Goldsborough Energy Pty Ltd).

Contact Details

Further details on the seismic program can be obtained from:

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Appendix A: Floyd 3D Seismic Survey Environmental Risk Assessment Summary

Aspects	Possible Impacts	Control / Mitigation Measures	Residual Risk
Seismic Survey Acquisition			
Acoustic Noise – Survey	Damage to &/or behavioural changes to marine mammals/reptiles (Cetaceans & Turtles)	No known feeding/breeding or aggregation grounds in close proximity to the Floyd 3D seismic area; Timing of survey avoids migratory window periods of sensitive species (i.e. humpback); Cetacean/reptiles species will avoid area if noise disturbance is too high; Implement & comply with requirements of the DEWHA Industry Guidelines *Policy Statement 2.1 – Interaction between Offshore Seismic Exploration and Whales (2008) (includes soft-start, power-down, shut-down procedures);* Cetacean sightings during survey forwarded to SEWPC; Marine Crew supplied with APPEA CD as part of induction process to assist in identifying cetaceans; Experienced MMO on-board to assist with cetacean observation; and Observance of the 2005 Australia National Guideline for Whale and Dolphin Watching during non-seismic/transit periods (avoids cetacean strikes).	Low
	Damage/behavioural changes to fish species	Effects of seismic transitory except at close range. No lethal effects have been observed for adult fish, crustaceans or shellfish exposed to seismic arrays (McCauley, 1994); Fish species sensitive to noise will flee areas where noise impacts are too great; DEWHA Industry guidelines (Policy Statement 2.1 – Interaction between Offshore Seismic Exploration and Whales 2008) provides for soft-start procedures which will alert and disperse fish; and Fish may be displaced temporarily.	Low

Aspects	Possible Impacts	Control / Mitigation Measures	Residual Risk
Presence of Vessel			
Seismic Vessel Presence during seismic activity	Interference with Commercial Fishing Activities (Economic impacts)	Fishing effort in the survey area is high after 1 April (Northern Prawn Fishery) (*basis of residual risk calculation*); Seismic survey program to be conducted prior to Northern Prawn Fishery season opening (if possible); Seismic vessel to communicate with fishing vessels (timing & location) to avoid areal conflicts post April 1 mobilisation; Detailed Notifications to marine users prior to survey commencement (vessel type, survey conducted); Notice to Mariners Issued; Continued consultation with fishing industry groups during seismic activity; Interactions monitored and recorded (including position data); and Escort vessel available to advise fishermen of seismic presence.	Medium[1]
	Light-spill interfering with behaviour of marine fauna and birds	Light emissions are in accordance with navigation safety and workplace safety requirements; Extent of light-spill minimised; and Survey area located at distance from nearest sensitive shoreline (i.e. turtle breeding) and seabird habitats.	Low

[1] Completion of this survey prior to 1 April (as planned) will reduce this residual risk to low.

Aspects	Possible Impacts	Control / Mitigation Measures	Residual Risk
	Anchoring – impact to benthic communities and seabed disturbance	Emergency anchoring only; Muddy substrate which is rapidly recolonised by adjacent benthic communities; and Benthic communities are widespread of high biodiversity but little WA endemic species.	Low
Introduction of Exotic Species			
Ballast Water Discharges	Introduction of exotic species which colonise and create competition for local resources	Vessels will mobilise to the Bonaparte Gulf from Broome (i.e. no international transits); Vessels operating in Australian waters immediately prior to mobilisation to WA-454P; Local ballasting only during seismic within survey area; and Water depth (approx.60-80m) (light-limited) limits success of exotic species colonisation. *No risk of exotic species introduction via ballast water is present in WA-454P.*	-
Vessel Bio-fouling	Introduction of exotic species which colonise and create competition for local resources	Vessels will mobilise to the Bonaparte Gulf from Broome (i.e. no international transits); Vessels operating in Australian waters immediately prior to mobilisation to WA-454P; Vessels dry-docked for cleaning and anti-fouling paint application in 3Q2011. Both vessels carry Certificates of currency for Anti-fouling Systems; and Water depth (approx.60-80m) is light-limiting which limits success of exotic species colonisation.	Low

Aspects	Possible Impacts	Control / Mitigation Measures	Residual Risk
Discharges to the Marine Environment			
Grey water/sewage disposal	Increased nutrients in surrounding marine waters on discharge Visual amenity impacts	Sewage is treated in accordance with MARPOL 73/78 requirements (i.e. approved biological treatment). Treated to reduce BOD /organic loadings and disinfected prior to discharge; Equipment routinely maintained (Preventative/Planned Maintenance System); Grey & black water directed to system (low volume) with small numbers of personnel on board (i.e. 60); High dispersal/dilution in Joseph Bonaparte Gulf marine environment; and Survey areas not in proximity to landmass (i.e. >12nm).	Low
Oily water discharges from equipment spaces	Toxicity impacts to marine flora & fauna Reduction of water quality	Oily water passes through an oil/water separator and treated to an oil-in-water content <15ppm prior to discharge (MARPOL 73/78 Annex 1); Oily water discharged via an approved Oil-in-water (OIW) meter as per MARPOL 73/78 Annex 1 with alarm and shutdown/divert on-board on excursion above 15ppm; Oil Detection Monitor regularly calibrated; Equipment routinely maintained (Preventative/Planned Maintenance System); Separated oil store in dedicated tank for onshore disposal (refer *Special wastes*); Activity recorded in the Oil Record Log; and Low volumes discharged and rapid dilution/dispersion in marine waters.	Low
Putrescible waste (food-scraps)	Increased nutrients in surrounding marine waters on discharge Visual amenity impacts	Waste macerated to less than 25mm particle size in accordance with MARPOL 73/78 and discharged below water line; Equipment routinely maintained (Preventative/planned Maintenance System); Low volumes discharged and rapid dilution/dispersion in marine waters; and Survey areas not in proximity to landmass (i.e. >12nm).	Low

Aspects	Possible Impacts	Control / Mitigation Measures	Residual Risk
Special waste disposal (onshore)	Toxicity impacts to marine flora & fauna Reduced water quality Visual amenity impacts	Identification of waste reduction measures (at source) to prevent waste generation; Clear waste identification, segregation, containment (in skips or sealed drums) and labelling; 'Nothing Overboard' Policy; Waste storage areas are routinely inspected; Special waste disposed or recycles onshore; Training and reinforcement to all crew (& other) personnel of waste management requirements; and Documented Disposal Records.	*(refer to accidental release section)*
Incineration of solid Non-Biodegradable wastes & Equipment Combustion	Reduction in air quality Aesthetic impacts of smoke	On-board incinerator operated in accordance with MARPOL 73/78 Annex VI requirements (*S/R Veritas Viking II* only); Segregation/disposal requirements detailed in Vessel Garbage Management Plan; Low volumes generated and rapid dilution/dispersion in atmosphere; Regular equipment monitoring and maintenance undertaken to ensure maximum efficiencies; and All emissions from marine utilities are in accordance with the guidelines in MARPOL Annex VI Prevention of Air Pollution from Ships.	Low

Aspects	Possible Impacts	Control / Mitigation Measures	Residual Risk
Accidental Releases (Non-Routine)			
Fuel transfer spill	Water quality and marine life impacts (estimate 1m^3)	Refuelling possible 'at sea' or in port facilities; Refuelling activity is a fully supervised operation, undertaken in accordance with approved Bunkering Procedures by trained personnel with all associated equipment routinely maintained and inspected (e.g. dry-break couplings); Suitable absorbent material is held on the vessel to clean-up small diesel spills; Implemented and tested SOPEP/SMPEP; and Spills of diesel in the Joseph Bonaparte Gulf conditions (i.e. high sea temperature) will rapidly evaporate and disperse within the marine environment (no shoreline impact risk).	Low
Diesel spill due to vessel collision/grounding	Water quality and marine life impacts (estimate 100m^3) Disruption to fishing activities	High density of commercial fishing vessels after April 1 (Particularly in Southern Sector of survey area) otherwise low density of commercial shipping/fishing vessels in survey area; Navigational aids on the seismic vessel including navigation lighting, radars, radio and visual surveillance to avoid collisions; Vessel operated by experienced and competent crew (STWC95) with access to bathymetric and marine charts; Grounding risk low due to distance from nearest landmass (>35km) and lack of emergent landforms in the survey area; Supply/escort vessel to identify possible marine threats; Availability of implemented and tested SOPEP; and Spills of diesel in the Joseph Bonaparte Gulf conditions (i.e. high sea temperature) will rapidly evaporate and disperse within the marine environment (possible shoreline impact risk).	Low

Aspects	Possible Impacts	Control / Mitigation Measures	Residual Risk
Streamer Loss	Impact to seabed & marine environment & fishery equipment	Streamer constructed of sponge material and not kerosene. Hence no spill potential; Streamer has buoyancy and does not immediately sink to seabed; Streamer retrieved where possible via Streamer Retrieval Procedures; High visibility of towed equipment to identify location; For streamer operations a secondary retaining device is used to prevent loss; An inspection and maintenance system checks bridles and harnesses for wear with damaged components replaced as necessary; and Marine stakeholders notified of streamer loss.	Low
Special/Solid Waste overboard incident	Toxicity impacts to marine flora & fauna Reduced water quality Visual amenity impacts	Identification of waste reduction measures (at source) to prevent waste generation; Clear waste identification, segregation, containment (in skips or sealed drums) and labelling; 'Nothing Overboard Policy'; Waste storage areas are routinely inspected; Special waste disposed or recycled onshore; Training and reinforcement to all crew (& other) personnel of waste management requirements; and Documented Disposal Records.	Low

Aspects	Possible Impacts	Control / Mitigation Measures	Residual Risk
Chemical spill	Impact on water quality and marine life	Small quantities of chemical are stored on-board; Chemicals are packaged & labelled in accordance with legislation; Crew members trained in the handling and PPE requirements of specific chemicals and spill clean-up procedures; All chemical storage areas are appropriately signed and labelled with instructions and warnings; Areas where chemicals are used and may leak are contained (e.g. drip trays) and the collected liquid drained to waste tanks or cleaned-up immediately; Lithium batteries – handling instructions on storage and onshore disposal; Chemical storage areas routinely inspected; MSDSs are to be made available for all chemicals; Spill kits to be provided in appropriate locations; and Availability of implemented and tested SOPEP/SMPEP.	Low