FOG-1-4 Zevon Test Line

Environmental Management Plan

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Document control

Disclaimer

This document has been developed by Central Petroleum Limited acting on behalf of Frontier Oil and Gas Pty Ltd (FOG), and it has been prepared using the skill and care expected from persons who have professional qualifications, training, skills and experience on the subject matter of environment, safety, risk management and petroleum development and operations to provide factual and technical information and reasonable solutions to identified risks.

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FOG is the custodian of this EMP and has overall responsibility for its implementation, compliance, and revision.

FOG will ensure that this EMP is reviewed and if necessary revised:

- When there is a significant change to normal operations for the activities covered by this EMP;
- When there is a significant change to the regulatory framework within which the activities under this EMP are carried out;
- When recommendations or comments from the government approval process are made;
- If there is a new environmental impact or environmental risk not provided for in the current plan for the activity or an increase, not provided for in the current plan for the activity; and
- In the event an incident causing significant environmental harm or loss occurs.

This document shall not be issued and/or revised without the express approval of the FOG.

Executive Summary

Frontier Oil and Gas Pty Ltd (FOG) is a wholly owned subsidiary of Central Petroleum Limited. FOG is the interest holder of Exploration Permit (EP) 115 located approximately 280km SW of Alice Springs in the Northern Territory. As part of the first phase in assessing EP 115 for gas resources, FOG is seeking to acquire 30.4km of 2D seismic data. The project is referred to as the Zevon Test Line (Zevon) project.

The purpose of this Environmental Management Plan is to demonstrate how FOG will conduct its scope of activities in a manner consistent with the principles of Ecologically Sustainable Development (ESD) and such that impacts, and risks are reduced to as low as reasonably practicable and acceptable levels.

Nominated Liaison

Details for FOG's nominated liaison for this Environmental Management Plan are outlined below.

Nominated Person Details

Attribute	Details	
Name		
Position		
Company	Frontier Oil and Gas Pty Ltd	
Address	7/369 Ann Street, Brisbane QLD 4000	
Contact Details	Phone - +61 (0)7 3181 3800	
	E-mail - info@centralpetroleum.com.au	

Description of the Activity

The Zevon project includes a 30.4km main seismic line and up to 150km (38 x 4km) of stub lines across the main line. Seismic vibroseis and weight drop trucks will be used to send source signals to geophone receivers along the main line. Receivers only will be placed along the stub lines. Access to the seismic line will be via an existing track which is to be regraded. An additional 0.5km track will be added to the existing track to access the southern end of the seismic line. The main seismic line will be graded to allow access for the seismic truck and accompanying vehicles. The stub lines will be accessed using Utility Terrain Vehicles and no grading is required.

Accommodation for personnel will be at Central Petroleum's Mereenie Field Camp as a priority however, in the event contractor availability and timing does not align with vacancy at Mereenie, a temporary trailer mounted camp with capacity for up to 30 people will be established on site. The camp (if required) will be located just off the exiting track and seismic line as seismic operations progress. The camp will be in an area proximate to that shown in Figure 16 which is naturally open and flat. Further, all storage tanks will also be trailer mounted, so no grading is required and general ground disturbance would be minimised. Waste generated, including sewage, will be trucked off-site and disposed of at a licenced facility prior to storage tanks reaching capacity.

Description of the Environment

A summary of the physical, natural, and social environment for Zevon is provided in the following table.

Environment Summary

Attribute	Description			
Climate	Arid; (Precipitation / Evaporation ratio = 0.1)			
Geology	Located within the Amadeus Basin, an east-west trending sedimentary basin extending across the southern part of the Northern Territory and into Western Australia. This basin covers an area of approximately 170,000km ² and a maximum sediment thickness of 14,000m.			
Regional soils	Predominantly red sands to sandy red earth sands			
Land systems	Simpson-Spinifex-covered sand dunes. Dune fields with parallel linear dunes, reticulate dunes and irregular or aligned short dunes.			
Land types	Predominately sand dune and sandplains and dune swales			
Groundwater	There are no current registered bores within the proposed exploration area			
Surface water	No major or minor water courses run through the proposed exploration are			
Bioregions	Great Sandy Desert			
Site of conservation significance (SOCS) / Site of Biodiversity Significance (SOBS)	SOCS – None present. SOBS – Lay Cocks Sandplain over 10km away			
Threatened species	None identified during baseline assessment however, hollow bearing Desert oaks and tall Marble gums proximate to the survey area were confirmed which may provide breeding habitat for the Princess parrot and Grey falcon.			
Habitat	Hummock Grassland			
Weeds	No declared weeds or Weeds of National Significance were located. Buffel grass, identified as a Category 2 – Priority weed for strategic control, was detected within the seismic survey area.			
Fire history	The seismic exploration area has been subject to at least 1-2 fires since 2020			
Underlying land tenure/ Use	Freehold-Haasts Bluff Aboriginal Land Trust			
Historical/Natural/Aboriginal heritage	No Historical, Natural or Aboriginal artefacts were observed during the site survey.			
	The NT <u>Heritage Branch</u> has been contacted (28 August 2023) and advised no places of cultural significance are located proximate to the proposed Zevon test line. The EMP commits to a final check prior to ground disturbance in case items have been added between EMP submission and commencement of works.			
Aboriginal Sacred Sites	An application for an authority certificate has been lodged with AAPA and certification has been received. A Sacred Site Clearance Certificate from the Central Land Council (CLC) has been received.			
	AAPA Certification Number: C2022 / 033			
	The Katiti Petermann Indigenous Protection Area (IPA) Petroleum Reserve Block abuts EP115 on its southern border to ensure the IPA is not adversely impacted the boundary coordinates plus a 50m buffer have been noted and will be maintained during seismic works.			

Risk Assessment Summary

FOG has undertaken a risk assessment that is consistent with the requirements of ISO:31000 for the activities under this EMP. The risk assessment has considered the inherent risk of an activity (i.e. without controls in place) and the residual risk (i.e. after mitigation measures have been applied).

For residual risks that have a risk score of 'Low' these are considered as low as reasonably practicable and acceptable. For residual risks that have a risk score that is not 'Low' the risk assessments have included discussions on whether these are as low as reasonably practicable and acceptable.

A summary of the residual risks for activities under the EMP is provided below. All risks are as low as reasonably practicable and acceptable. The 'Medium' residual risks for activities under this EMP are both related to the potential to introduce and spread weeds, bushfire as a result of accidental ignition at the site, injury or death of native fauna due to vehicle collisions and unauthorised disturbance to sacred sites or culturally sensitive areas.

Residual Risk Summary

	Residual Risk			
	Low	Medium	High	Very High
Count	15	7	0	0

Management Plans

Management plans have been developed for the following:

- Erosion and Sediment Control
- Weed Management
- Bushfire Management
- Spill Management
- Rehabilitation Management.

Stakeholder Engagement

Engagement with stakeholders as per the definition in the *Petroleum (Environment) Regulations 2016* (NT) for the seismic exploration program commenced in September 2020 during the annual Liaison Committee Meetings and has continued throughout the program. Stakeholders who were present during this consultation included the Central Land Council and members of the community.

Under our land access agreements, Sacred Sites Clearance Certificates (SSCC) and have been requested. These clearances will see Traditional Owner visit and assess potential locations to understand any impacts. All the necessary information on the program required under the *Petroleum (Environment) Regulations 2016* has been shared with stakeholders.

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1 Introduction

Frontier Oil and Gas Pty Ltd (FOG) is a wholly owned subsidiary of Central Petroleum Limited. FOG is the interest holder of Exploration Permit (EP) 115 located approximately 280km SW of Alice Springs in the Northern Territory. The location of EP 115 is shown in Figure 1.

As part of the first phase of a wider seismic exploration programme planned for EP 115, FOG is seeking approval to conduct 2D seismic activities along a 30.4km seismic line known as the Zevon Test Line (Zevon) project (Figure 1). In addition to the main seismic line, the project includes collection of data from 150km of stub lines off the main line to assess the area for gas resources.

This EMP provides a detailed description of how FOG proposes to manage the environmental impacts and risks associated with the Zevon project activities, including how it will address its regulatory obligations that have underpinned the *Code of Practice for Petroleum Activities in the Northern* Territory (the Code).



Figure 1: Location of EP 115 within the Northern Territory



1.1 Interest Holders

Table 1 provides details of the permit titleholder and the titleholder's nominated liaison person for the Zevon project. FOG is the operator within all the title areas.

Table 1: Interest / Title holder

Title	Title Holder	Nominated Liaison for EMP
EP 115	Frontier Oil and Gas Pty Ltd	Name: Position: Company: Frontier Oil and Gas Pty Ltd Address: 7/369 Ann Street, Brisbane QLD 4000 Phone: +61 (07) 3181 3800 Email: <u>info@centralpetroleum.com.au</u>

1.2 Purpose

The purpose of this EMP is to demonstrate how FOG will conduct its scope of activities under the EMP in a manner consistent with the principles of Ecologically Sustainable Development (ESD) and such that impacts, and risks are reduced to as low as reasonably practicable and acceptable levels.

More specifically, this EMP aims to:

- Address regulatory requirements.
- Provide site-specific impact management strategies to assist FOG in maintaining a positive position in the local community throughout its campaign.
- Provide a description of site-specific aspects of the existing environment (physical, biological, and social)
- Provide site-specific plans for review, monitoring, and rehabilitation.
- Be a practical and usable document with environmental management principles that are easily implemented and effective.

1.3 Scope

This EMP covers all activities required to complete the 2D seismic exploration program referred to as the Zevon project, which includes a 30.4km of seismic line plus up to 150km of associated stub lines. A detailed 'description of activities' is provided in Section 3.

2 Environmental Legislation and Other Requirements

2.1 Key Legislation

Legislation of relevance to the Zevon project is provided in Table 2.

2.2 Key Code of Practice and Guidelines

In addition to legislative requirements, FOG works to codes of practice, standards and guidelines in its production operations. These include, but are not limited to:

- Code of Practice: Onshore Petroleum Activities in the Northern Territory (2021)
- Code of Practice for Wastewater Management (2020)
- NT Petroleum Regulations (2020)
- Australian Pipeline Industry Association Code of Environmental Practice Onshore Pipelines (2017)
- APPEA Code of Environmental Practice (2008)
- Best Practice Erosion and Sediment Control (2008)
- DEPWS Onshore Petroleum Guidelines (various)
- ISO 31000 Risk Management Principles and guidelines
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 2000
- National Environment Protection (Assessment of Site Contamination) Measure, 1999
- Australian Standards
- Northern Territory Noise Management Framework Guidelines (2018).

2.3 Ecologically Sustainable Development

Ecologically Sustainable Development (ESD) is a concept based on implementing practices and principles that meet the needs of ecological process and people today without impeding on future generations to meet theirs. There is no universally accepted definition of ESD, however the Commonwealth Government of Australia suggested the following:

'Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased' (Ecological Development Steering Committee, 1992).

The aim of ESD for FOG is to utilise the natural environment to meet the current needs of FOG without jeopardising the environment for future operations or other land managers. All aspects of environmental impacts have been assessed with appropriate preventative and mitigation measures implemented to ensure that all aspects of the Zevon project are managed and developed in accordance with the ESD concepts and this EMP.

2.4 Environment Protection Act 2019

Under the *Environment Protection Act 2019* (NT) (EP Act), proposed projects/action that may have a significant impact on the environment (or meet a referral trigger) are to be referred to the NT EPA for assessment. The proposed Zevon project is unlikely to have an actual or potential significant impact on the environment or location-based impacts to features of natural or cultural environments. The assessment is based on consideration of the potential impacts of the activities on the environment cumulatively and locally through the development of this EMP. Based on this assessment, FOG is of the view that the activities covered by this EMP do not trigger referral to the NT EPA.

2.5 EPBC Act and Referral Self-Assessment

A self-assessment in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) was undertaken for the activities under this EMP, and it was determined that the activity will have no significant impacts on MNES.

FOG's activities align with the principles of ESD through the following:

- The exploration activities are essential to maintain and expand the commercial resource FOG has and can generate sustainable, long-term benefits to the local community and to the NT.
- Based on the risk assessment and management actions contained in this EMP, the activities under this EMP do not constitute threats of serious or irreversible environmental damage and there is no impact on the conservation of biological diversity and ecological integrity. For example:
 - Existing infrastructure (access tracks) are to be used to reduce new ground disturbance.

- Activities under the EMP comply with the Code of Practice to reduce any risk to the environment and communities to an acceptable level.
- Royalty payments to the NT Government (as owner of the natural resource), and payments to Native Title Holders (as per Exploration Agreements)
- FOG seeks to maximise local participation in training and employment opportunities.
- Prioritising the use of local employment to deliver exploration activities.
- Obtaining Sacred Site Clearances from host Traditional Owners through open engagement with custodians and the Statutory Representative body the Central Land Council (CLC)
- Stakeholder engagement has been undertaken with the NT community about the proposed action, which
 is detailed in Section 4.6. No objections to the activity have been received to date.

Table 2: Key legislation	Table	2:	Key	legisl	ation
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Relevant legislation	Applicable legislative requirement	How FOG meets the requirement			
Commonwealth					
Environment Protection and Biodiversity Conservation Act 1999	Referral of proposed action/ environmental approval	FOG has assessed its potential impact on MNES and there is not likely to be a significant impact on MNES. FOG will not be referring activities under this EMP to the Federal Government for assessment			
National Greenhouse and Energy Reporting Act 2007 (NGER Act)	Reporting under National Greenhouse and Energy Reporting Scheme where thresholds are exceeded	The Mereenie facility energy consumption, production and greenhouse gas emissions are reported as one of the facilities under the Operational Control of Central Petroleum in accordance with the <i>NGER Act</i> .			
National Environment (National Pollution Inventory Protection) Measure 1998	Reporting under the National Pollution Inventory (NPI) where trigger thresholds are exceeded	FOG's activities may contribute to triggering the threshold for NPI reporting. FOG reports usage against the potential 93 NPI substances where required.			
Native Title Act 1993	Stipulates the process to be followed in negotiating and agreeing to the use of land and waters between other parties and native title groups via Indigenous Land Use Agreements (ILUA).	FOG works alongside Traditional Owners, represented by the Central Land Council regarding all activities undertaken on the Aboriginal Freehold Land on which the Zevon project is conducted			
Northern Territory	Northern Territory				
Petroleum Act 1984	Petroleum titles	FOG has obtained the necessary petroleum titles to undertake the activities listed in this EMP			
Petroleum Act 1984	Land Access Agreements	Land Access Agreements which cover the scope of activities under this EMP will be in place prior to commencing activities under this EMP			
Bushfire Management Act 2016 / Bushfire Management Planning Guide: Onshore Petroleum Projects	Bushfire Management Plan	FOG has included a Bushfire Management Plan consistent with the requirements of the Act and the Bushfire Management Planning Guide: Onshore Petroleum Projects			
Petroleum (Environment) Regulations 2016	Approved EMP	FOG will have in place an approved EMP to conduct its seismic exploration program			
Code of Practice: Onshore Petroleum Activities in the Northern Territory (2019)	Activities to be performed under an EMP are to be consistent with the Code of Practice	The EMP to be submitted for approval is to be consistent with the Code			

Relevant legislation	Applicable legislative requirement	How FOG meets the requirement
<i>Environmental Protection Act</i> 2019 and associated <i>Environment Protection</i> <i>Regulations</i> 2020	Referral of proposed action/ environmental approval	The activities proposed under this EMP do not have a significant impact on the environment (or meet a referral trigger), as determined via the pre-referral screening tool completed by a Suitably Qualified Person (SQP). Referral of the activities under this EMP is not required.
Northern Territory Aboriginal Sacred Sites Act 1989	Must not enter, damage, or interfere with a Sacred Site without authorisation	FOG will obtain AAPA certificates for the seismic exploration program. FOG commits to abiding by the conditions on the certificates.
Water Act 1992	Allocation, use, control, protection, management, and administration of water resources	No groundwater access is required for this program.
Heritage Act 2011	Conservation of cultural and natural heritage	Everick Heritage (2021) conducted a site survey and did not identify aboriginal artefacts within the Zevon area
Public and Environmental Health Act 2011	Wastewater management	Sewage from the camp (if required) will be trucked off-site to a licensed disposal facility. Camp greywater and wastewater to be collected and either disposed off-site to a licensed facility, treated at the Mereenie wastewater treatment plant or irrigated at the camp site subject to regulatory approvals and in accordance with the Code of Practice for Wastewater Management.
<i>Territory Parks and Wildlife Conservation Act 1976 (TPWC Act)</i>	Identifies wildlife and listed threatened species in the Northern Territory	FOG's activities have been located so as not to cause a significant impact on wildlife or threatened species listed under the Act
Work Health and Safety (National Uniform Legislation) Act 2011	Provides for occupational health and safety measures associated with petroleum activities	FOG to undertake activities in accordance with the Act, including reporting of incidents
Transport of Dangerous Goods by Road and Rail (National Uniform Legislation) Regulations 2011	Dangerous goods can only be transported by appropriately licensed personnel and within licensed vehicles	No dangerous goods are to be transferred in this program
Waste Management and Pollution Control Act 1998	General environmental duty Licensed waste transporters	Activities within the proposed exploration program are highly unlikely to trigger responsibilities under this legislation
Agricultural and Veterinary Chemicals (Control of Use) Act 2004	Use of chemicals to control weed and pest species across operations	FOG ensures the application of weed control products is in alignment with the Act

Relevant legislation	Applicable legislative requirement	How FOG meets the requirement
Work Health and Safety (National Uniform Legislation) Act 2011	Activities to be performed under an approved EMP are to be compliant	FOG field operations described in this EMP are subject to <i>Work Health and Safety (National Uniform Legislation) Act 2011</i> and Regulations
Weeds Management Act 2001	Defines weed declaration classes and statutory weed management plans	FOG to ensure its activities are consistent with statutory weed management plans and undertakes weed management activities consistent with weed declaration classes

3 Description of Activity

3.1 Introduction

Seismic surveys have been used to delineate subsurface geology within the petroleum and gas industry for many decades. The process is summarised in Figure 6 and below:

- Energy source on the surface produces acoustic (sound) waves which travel through the subsurface
- The waves reflect off geological boundaries with contrasting physical properties and return to surface where they are detected by sensitive geophones.
- Remaining acoustic waves travel deeper into the subsurface and reflect off deeper geological boundaries.
- A spread of receiver geophones are placed along the seismic line and an energy source is induced at stations along the seismic line to generate full imaging of the subsurface.

3.2 Zevon Test Line Program

The Zevon project involves the acquisition of a 30.4km of 2D seismic line and up to 150km of associated short stub lines that require minimum disturbance due to the non-intrusive nature of the geophones to be used in the acquisition (see Section 3.5.2). Figure 3 shows the indicative location of the seismic line and stub line acquisition area. There will be no petroleum infrastructure, pipelines, wells or well pads, drilling or hydraulic fracturing in this program.

The program is located within the Great Sandy Desert which covers an area of 395,250 km². The Bioregion is characterised by extensive red sand plains, parallel dune fields that run orthogonal to the prevailing southeast winds; fringing dune fields; extensive sandplains; dry watercourses and saltpans and salt lakes; and remnant rocky outcrops. The arid dune fields and sandplains support sparse shrubland and spinifex hummock grassland, with cane grass on deep sands along dune crests. The swales of claypans and stony plains support a sparse shrubland of acacias, and coolabah woodlands fringe the creeks and flood outs. Vegetation is predominately spinifex grasslands, low woodland and shrubs.

3.3 Zevon Site Selection

Given the dominance of spinifex grasslands on extensive red sand plains and dunes within the arid project area, it has been easy to avoid potentially sensitive habitat such as claypans, and sandstone ranges which area well away from the existing hunting track to be used for the seismic acquisition (see Section 4.1.5). The Zevon seismic line will be accessed from Larapinta Drive through the West Mereenie Oil Field (OL4), using an existing track that has been historically used by the Traditional Owners for hunting and access to the Great Sandy Desert. The existing track heads due west into the Great Sandy Desert and will be re-graded for improved access and to limit puncture risks. A small new disturbance area of approximately 0.5km x 4m will be graded to access the southern end of the test line. No other significant ground disturbance is anticipated in the Zevon project. The total length of the existing access track to be re-graded is approximately 91km. A segment of this existing access track will form the main seismic line acquisition area and is 30.4km in length. The location of the proposed Zevon survey area is constrained to the southeast and northeast, by what have been previously identified as restricted work areas (RWA) by the Traditional Owners.

A Desktop environmental constraints mapping process was undertaken by suitably qualified third-party to assess and identify potential landscape constraints for the Zevon project (see Appendix 5), prior to mobilisation to the field for ground-truthing. The constraints mapping identified priority land types in the Zevon area, and along the existing hunting track, that were potentially susceptible to potential project disturbance impacts such as threatened species habitat; drainage lines; clay pan; sandstone ranges; sandstone hills; rocky rises; calcrete hills/rises; and calcareous flats. These areas were subsequently excluded from the Zevon footprint.





Figure 4: Existing hunting track to be utilised for Zevon access and survey acquisition

The existing access track on the Zevon project area was then scouted and is shown to be exclusively located in open spinifex hummock grasslands (see Section 4.1.5) with some shrubs and a few mature trees away from the existing hunting track (Figure 5). Surveyors will peg up and mark up the line to ensure accurate positioning for the seismic truck and receivers. The orthogonal stub-lines will have minimal disturbance and will clearly avoid sensitive areas identified in the landscape mapping in Section 4.1.5.

The results of desktop and field survey work has informed the proposed locations are as follows:

- The seismic line will avoid clearing of mature vegetation.
- The existing hunting track shows signs of erosion. Road maintenance will be undertaken to ensure the road is left in a better condition and to give improved access for traditional owners into the future.
- Exploration activity location has been moved, avoiding disturbance of potential Princess parrot and Grey falcon breeding places.



a) Landscape alongside existing hunting tracks in the Northern section of the main seismic line



b) Central section of the main seismic line



c) Southern section of the main seismic line

Figure 5: Indicative photos of the Zevon main seismic line

One small short-term camp central to the test line location will be set up in the event the Mereenie Field camp is at capacity. The camp (if required) will be established in a pre-disturbed area or an area naturally devoid of vegetation and away from clay pans and salt lakes. All diesel, grey water and other storage tanks will be dual lines and be trailer mounted to avoid the need for any grading.

3.4 Activities and Indicative Timetable

The program is proposed to commence in late 2023 and take up to seven days for line preparation, 14 days for acquisition and six days to close (decommissioning and rehabilitation) (Table 3). Seismic exploration will be undertaken during daylight hours from 6am to 6pm. The workforce for will be locally sourced where possible, with the additional workers coming to site via Alice Springs.

Seismic location	Activity	Proposed schedule	Estimated duration	Workforce
Zevon Test Line	Line preparation (survey)	3 rd quarter 2023	7 days	3-5 people includingSte SupervisorSurvey crew
	Seismic Exploration	3 rd quarter 2023	14 days	Up to 30 personnel including:Equipment operatorsSite Supervisor

Table 3: Proposed timing and associated workforce

Seismic location	Activity	Proposed schedule	Estimated duration	Workforce			
	Decommissioning and rehabilitation	3 rd quarter 2023	6 days	3-5 people including:Equipment operatorsSite Supervisor			

3.5 Civil Activities

The scope of work for the civil activities associated with the Zevon project are shown in Table 4: Civil activities

Activities	Scope of work
Line preparation	 Main seismic line (30.4km) will be graded up to 4m wide using grader (Figure 13) <u>along existing hunting track</u>, to allow access for the seismic vibriosis truck, weight drop truck, vehicles and trailer mounted accommodation. Vegetation will be cleared with the bulldozer using a raised blade clearing technique; the removal of vegetation above ground level (blading off vegetation as close to ground surface as possible) or using a stick rake attachment, leaving topsoil and root-stock undisturbed. If necessary, a grader will follow with its blade skimming. The few Desert oak trees in the area will be avoided. A small portion of the line is likely to have irregularly spaced, elongated sand dunes with deep sands. These landforms are relatively stable. Impacts will be minimised avoiding dune crests and dune crossings (Zevon line intersects approximately 23 sand dunes) Dune crossings will be made as close to 90 degrees of strike to the dune as possible to minimise length driven over the dune. Bulldozers and graders equipped with GPS units to ensure accurate positioning and prevent unplanned disturbance
Road and access track maintenance	 Access to the seismic line will be via an existing track which will be regraded due to erosion. A new section of access track (0.5km) is required to access the southern end of the seismic line. Total of approximately 91km to be graded
Camp (only proposed if Mereenie camp is at capacity).	 The camp (if required) will be in an area which are naturally open and flat, so no grading is required. All storage tanks associated with camp infrastructure will be kept on trailers in double lines tanks.
Footings, foundations and excavation	Not applicable
Land and vegetation management	 Vegetation removed during grading to be placed adjacent to track. Erosion and sediment controls including repair of eroded areas and installation of diversion and dissipation devices
Use of borrow pits	 Not applicable
Site mobilisation and demobilisation	 All equipment will be removed from site upon completion of the seismic activities

3.5.1 Zevon Seismic Survey Methodology

There are many types of energy sources used to produce a controlled, repeatable and environmentally sensitive technique. Early surveys conducted during the infancy of seismic acquisition used dynamite as an energy source, however this has evolved substantially with the use of modern truck mounted vibrating pads.



Figure 6: Land seismic reflection and acquisition process

For the Zevon Test Line survey, FOG will utilise truck mounted vibrating pads, termed 'vibroseis', which has a steel plate on a hydraulic assembly mounted to the underside of the mobile vibroseis truck (Figure 9. The steel plate is lowered to the ground where it vibrates, generating a series of waves at different frequencies.

This technology has advanced further in recent years with the development of smaller articulated buggies termed 'envirovibes', designed specifically to limit the environmental footprint. In areas difficult to manoeuvre an envirovibe, a mini-sosie (a handheld vibrating plate) can be used, however these have limited penetration depths.

The reflected waves are recorded by geophones and data harvested at the recording truck where it is recorded and quality controlled (Figure 7). The raw field recordings are sent to the processing centre for further processing into a final and interpretable seismic section.



Figure 7: Example receiver truck

FOG has a structured program for its seismic programs as depicted in Figure 8 to manage the successful acquisition of data within its tenure.



Figure 8: FOG seismic process

The seismic vibroseis trucks/seismic energy source will be a fleet to two or three INOVA Articulated Hydrostatic Vehicle (AHV) or similar (Figure 9). Multiple passes may be required along the main seismic line. FOG may also use a weight drop truck (Figure 10) in addition to the vibroseis trucks.



Figure 9: Example vibroseis truck



Figure 10: Example drop weight truck

Up to 150km (38 stub lines of 4km each) stub lines will extend orthogonally off the main seismic line. Figure 3 shows the location of the stub lines within the stub line acquisition area. These locations are indicative only and may be subject to change subject to operational requirements.

3.5.2 Low Deployment Impact Receivers (Geophones)

The acquisition of seismic reflection will be achieved by the use of low impact deployment geophones (**Figure 11**), a recent development in the O&G industry. Figure 12 shows an example of a geophone receiver in place. No vegetation clearing or grading is required to access the stub lines. As the stub lines are located in open country, using light vehicle at slow speeds and foot deployment will enable low impact and avoidance of vegetation. Receivers will be deployed along a single 4km stub line by foot or light vehicle. For

accurate positioning of the receiver points, the stub line will be surveyed and marked out using a variety of pegs, pins, spray paint and flagging tape as appropriate. Pegs / tapes are removed by the recording crew once the vibrator trucks have completed that section of the main line. Spray paint used fades after 3-4 weeks.



Figure 11: Typical receiver node

The receiver nodes will be spaced at 5m intervals along each planned receiver line location. Deployment of nodes will occur from the back of a four-wheel drive (4WD) or Utility Terrain Vehicle deployment vehicle. Following the physical placement of the node in the ground, a person with a handheld terminal sets up the node with coordinate information, its station number and a wake-up time. A series of tests is performed on the nodes to ensure each node is functioning correctly before being made available for redeployment. This will reduce the amount of daily vehicle movements required throughout the duration of the survey.



Figure 12: Geophone receiver in place



Figure 13: Example grader

3.6 Oil and Gas Production

No oil and gas production are associated with the Zevon project.

3.7 Support Activities

Support activities for the Zevon project are shown in Table 5.

Table 5: Support activities

Activity	Description
Workforce and facilities	 Temporary workforce of up to 30 personnel, using local Alice Springs region-based employees supplemented with fly-in fly-out employees as required. A short-term camp will be erected <i>if Mereenie</i> camp is at capacity to accommodate up to 30-persons over the seismic campaign duration. On-site camp accommodation will be trailer-mounted units (Figure 14) The camp will include amenities including showers, toilets, laundry facilities, kitchen, dine, mobile work offices as well as car park and laydown areas (indicative layout shown in Figure 15) The camp will be configured to satisfy Department of Health guidelines. Indicative temporary camp location is shown as Camp Delta in Figure 3. Scout photos are shown in Figure 16
	 The camp will be set up in a pre-disturbed area or an area naturally devoid of mature trees and away from clay pans and salt lakes Storage tanks and other liquid storage will be kept on trailers in double lined tanks to avoid any additional grading. The camp will be positioned as close as practical to the access track and seismic line. The access route from camp will be clearly defined to restrict wheel track impact which results from vehicles transit to and from camp. Vehicles will be restricted to the perimeter of the camp and parking

Activity	Description
Primary camp	 The Primary camp is the Mereenie Camp, 100km to the west of the seismic line. The seismic crew would be transported by helicopter or vehicle to and from the Zevon test line site. Depending on final approval and commencement of works vacancy at Mereenie may be limited. In the event Mereenie has no capacity a temporary site camp as described will be established on site (see Figure 16 for proposed location).
Procurement	 Where available and economic, item/products used at site are sourced locally
Laydown areas	Only required for the temporary camp
Power supply	 The short-term camps will be powered by a diesel portable generator. All electrical equipment, instrumentation, lighting and cabling will be installed in accordance with the Australian Electrical Safety Standards
Water supply	 Potable water is planned to be sourced from the Alice Springs water supply and trucked into camp. FOG estimates water usage to be approximately 160 litres per person per day. Based on this assumption water use for the test line crew would be approximately 4,800 litres per day.
Wastewater generation and handling	 Putrescible and general waste will be stored at a camp site in lidded bins/skips which will remain closed to prevent fauna access and windblown waste. Sewage management practices at the camp will consist of the use of port-a-loos, with sewage trucked off-site to a licenced disposal facility. Grey and wastewater will be captured and stored on-site and either trucked off-site to a licensed disposal facility, trucked to the Mereenie wastewater treatment plant every two days, or irrigated on-site in accordance with regulatory requirements including approval by the NT Department of Health and in accordance with the Code of Practice for On-Site Wastewater (sewerage) may be stored in at least 1,600L dual lined tanks capable of holding three days of generated wastewater (assuming 150L wastewater generated per day). Blackwater to be trucked every two days, to provide capacity and contingency in the event of wet weather. In the event of irrigation, wastewater will be irrigated (surface drip or spray) to an area suitably landscaped to ensure infiltration as per the code of practice
Waste services	 Waste services are to be provided by licensed waste transporters and disposers
Wet weather	 Project will be conducted during the CoP defined wet season (Oct to Apr) to meet permit conditions. Weather conditions are to be monitored daily and the wet weather management plan will be implemented.



Figure 14: Indicative camp



Figure 15: Indicative camp layout



Figure 16: Scout photo of the potential Zevon camp location

3.7.1 Waste Management

There will be minimal waste associated with this program, most will be associated with consumption of food by workers or to support any on-site vehicle maintenance that may be required. Waste management during the project will follow the waste management hierarchy:

- 1. Avoid
- 2. Reduce
- 3. Re-use
- 4. Recycle
- 5. Treatment
- 6. Disposal

Waste is to be separated into listed and non-listed wastes. Listed waste is any waste prescribed under the *Waste Management and Pollution Control (Administration) Regulations 1998* (NT) as a listed waste (refer <u>https://ntepa.nt.gov.au/waste-pollution/approvals-licences/listed-waste</u>), with non-listed waste being waste that is not prescribed under the legislation.

Listed and non-listed wastes are stored in vermin proof containers and transported off-site daily and disposed of at The Alice Springs Town Council Waste Depot, while contaminated wastes (including oil, etc.) will be disposed via Cleanaway, in Alice Springs.

Recyclable materials, including tyres, are segregated from other waste on camp and transported to the licensed waste depot in Alice Springs.

The typical wastes that may be generated during a seismic exploration program are listed in Table 6.

Typical waste	Disposal method
Food, cardboard,	Disposal
paper, plastics	Stored in waste bins for transport and disposal at an approved disposal facility
Glass, cans, scrap	Recycling
metals	Stored in recycling bins for collection and transport to an approved recycling facility
Batteries	Recycled
	Stored in a securely and transported to an approved recycling facility
Oil contaminated	Recycled Disposed
material, and any other hydrocarbon containing material	Stored securely and transport to an approved recycling facility or disposal facility
Used spill kit	Disposal
materials	Stored securely and transport to an approved disposal facility
Spill contaminated	Disposal
soil	Stored in waste bins for transport and disposal at an approved disposal facility

Table 6: Waste type and disposal method

3.7.2 Chemical¹ Storage/Use

Limited chemicals in small volumes are required for the project. Chemicals are to be stored within vehicles and on trailers in dual lined storage tanks / bunded pallets. Multiple small containers and volumes of chemicals will be carried in portable storage within vehicles during the seismic exploration program. These include grease, cleaning fluids, spray paints, silicones, anti-freeze, sealants, and insect repellents. These are all carried in small volumes (less than 5L) and are not considered high risk of spills in the environment.

Chemicals over 5L such as diesel and oil (Table 7) will be stored within dual lined tanks with safety cut-off valves and top access. Spill leak and drip trays will be used to address minor drips and spills resulting from re-fuelling operations.

The dual lined 20,000L fuel tanker will be used and stored at the campsite, where a refuelling station will be established. The mobile service truck (maximum capacity of 2,000L) will refuel from the tanker and refuel the vibroseis vehicle daily.

All chemicals used in Australia must be approved for use by the Commonwealth Government's Department of Health and be listed on the Australia Inventory of Chemical Substances which is maintained under the National Industrial Chemicals Notification and Assessment Scheme.

In addition to the requirements under this EMP, the storage, segregation, handling and use of chemicals is to comply with the NT's workplace, health and safety legislation, relevant Australian Standards and the safety data sheet (SDS) (which must detail the minimum content required by NT WorkSafe) for each chemical.

Table 7: Chemica	als in	portable	storage
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Product name	Dangerous Good Code	Hazardous substance	Estimated quantity	Storage location
Engine and hydraulic oil	No	Yes	300L	Portable storage in vehicles Short-term camp
Diesel	Yes	Yes	2,000L	Mobile service truck/Portable storage
Diesel	Yes	Yes	20,000L	Fuel tanker used and stored at camps with bunded refuelling station

¹ References to chemicals throughout this EMP include dangerous goods, hazardous substances, fuels, oils, lubricants, completion fluids and the like

3.7.3 Noise Management

The seismic program is in a rural area with the closest populated place located 100km away (Kings Canyon – approximately 100km SW, Alice Springs – approximately 350km E and Hermannsburg – approximately 200km E). The nearest sensitive receptors are located greater than 40km away (Figure 18).

Noise emissions may arise from the use of the seismic truck (at full pressure is 78 dBA at 10m) as well as during grading of the road. Potential noise impacts are considered minimal due to the low-level noise emissions, short term nature of the project (less than three weeks) and the remote area in which the project is located.

3.7.4 Traffic

The potential traffic related impacts associated with Zevon are not considered to be significant as the mobilisation / demobilisation will take place outside of the peak dry season. Traffic associated with exploration activities is generally small and of short duration given the project is expected to take just over two weeks. Existing traffic figures obtained from the DIPL Annual Traffic Report 2018 (Figure 17) for the Larapinta Drive (1km east of Larapinta / Namatjira intersection) indicates that during Oct and Nov an average 383 vehicles pass that point. With mobilisation and demobilisation taking place over a 2-day period and the impact will be an additional 6-7 vehicles a day or a less than a 2% increase.

Rural Primary Count Stations				ĸ	(ey: /	Adjusted	Data								Year:	2019
Table: 2.2 Calculated AADT and Monthly ADT for Primary Stations														Region:	Alice S	prings
Road Name / Location	Station No	Direction	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AADT
Larapinta Drive	RAVDP002	Inbound	Veh	131	142	151	258	256	307	375	296	284	224	164	138	228
1km East of Larapinta/Namatjira In	tersection	Outbound	Veh	131	139	147	244	246	289	356	285	269	216	162	133	219
		Both	Veh	262	281	298	502	502	596	731	581	553	440	326	271	447
Larapinta Drive	RAVDP013	Inbound	Veh	11	11	14	43	36	52	76	49	51	32	14	10	33
30km North of Kings Canyon (at jur	np up)	Outbound	Veh	14	15	16	34	28	35	48	38	33	27	16	11	26
		Both	Veh	25	26	30	77	64	87	124	87	84	59	30	21	59
Lasseter Highway	RAVDP007	Inbound	Veh	92	89	104	205	193	231	333	240	247	223	530	87	214
500m West of Stuart Highway		Outbound	Veh	104	104	128	251	220	307	382	272	296	222	541	98	244
		Both	Veh	196	193	232	456	413	538	715	512	543	445	1071	185	458
Lasseter Highway	RAVDP008	Inbound	Veh	147	132	158	319	296	379	547	376	390	327	158	120	280
500m East of Yulara/Airport Interse	ection	Outbound	Veh	133	128	154	318	282	382	533	366	392	305	153	120	273
		Both	Veh	280	260	312	637	578	761	1080	742	782	632	311	240	553

Figure 17: Indicative traffic counts along Larapinta Drive

Vehicles will mobilise from Alice Springs to the Mereenie Camp, located approximately 280km West of Alice Springs, before the commencement of the program. They will travel via a network of sealed and unsealed public and private roads, heading west from Alice Springs along Larapinta Drive / Red Centre Way to Hermannsburg, and then continuing towards Kings Canyon. The turn off to the Mereenie Camp is left off the Red Centre Way before Kings Canyon; approximately 175km past Hermannsburg.

The vehicles to be used during the seismic program include UTVs, cars, trucks including those with trailer mounted camp accommodation. The vehicles will access the Zevon site via a track that travels past the West Mereenie Gas Field. Most of the seismic program is occurring within an existing infrequently used and remote unsealed track within Haasts Bluff Aboriginal Land Trust.

The peak maximum anticipated traffic flow increase associated with FOG's activities will be approximately 13 vehicles per day to the Zevon site (Landcruiser's, UTVs, Seismic Trucks and a Service Truck). As it is a remote location, there are no records of how often vehicles access the remote track where seismic exploration is occurring. There are no communities or outstations within proximity that would regularly use this track. It is anticipated that use of this track will be infrequent. To manage any risk to other vehicles accessing this track, signage and call points monitored by UHF will be established at either end of the survey area.



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3.7.5 Greenhouse Gas Emissions

The Zevon program is a targeted 30.4km of 2D Seismic exploration, using predominantly existing tracks and is operating over a short time (less than three weeks). There are no proposed wells, no hydraulic fracturing proposed to occur or has occurred, no gas production or operating plants are proposed within this program. Therefore, the greenhouse gas contribution of this program is negligible and does not trigger any legislative assessment or reporting requirements.

The potential sources of greenhouse gas emissions are limited to the driving of the 13 diesel vehicles and clearing of approximately 12.4ha of vegetation (30.4km for the main seismic line and 500m new access track). The greenhouse gas emissions are listed below in Table 8, based on Emission and Energy Threshold Calculator available through the Clean Energy Regulator (2021).

Source of GHG emissions	Key inputs	Assumptions	tCO₂ e
Transport fuel consumption	32,40kL diesel (post- 2004 vehicle)	 Assumes each vehicle and vibe use a full tank of fuel each day on-site. Estimate based on the Emissions and Energy Threshold Calculator 2021 -2022 	87-109
Short-term camps generator	5.1–5.5kL diesel	 Estimate based on the Emissions and Energy Threshold Calculator 2021 -2022 	14-15
Vegetation clearing	Clearing of the main seismic line (30.4km x 4m width) = 12.16 ha Clearing for 500m x 4m of new access track = 0.2 ha Total estimated clearing = 12.36 ha	 113 (tCO2-e /ha) emissions factor Emissions calculated using the Transport Authorities Greenhouse Group (TAGG) GHG Assessment Workbook for Road Projects (2013) FOG has conservatively assumed that all vegetation to be cleared for the seismic program is vegetation class G (Open Shrubland – Acacia Shrubland), which has a higher emissions factor than other vegetation classes found in the proposed disturbance area such as class F (Mallee and Acacia Woodland and Shrubland-Acacia Open Woodlands) (106 tCO2—e) and class I (Grassland - Tussock Grasslands) (110 tCO2—e). 	14.012
TOTAL			138.012

Table 8: Greenhouse gas emissions

3.8 Decommissioning and Rehabilitation

Within one month of completing the seismic test, all other equipment will be removed from the site, and no equipment, machinery or material will remain. Any infrastructure removed or altered as a result of the project (e.g. fences, gates) will be reinstated to pre-activity conditions, including the reinstatement of temporary gates through fence lines. Specifically, demobilisation and site reinstatement will include:

- All temporary fencing and gates will be removed and any permanent fencing, removed to allow access to the seismic survey, reinstated.
- Equipment, personnel and supplies will be removed from the project area, including at the potential site of the mobile accommodation camp.

- Each geophone node location is assigned GPS coordinates to ensure they are all retrieved during demobilisation. They are removed from the ground manually via loosening by foot and then extracting by hand.
- All waste will be removed from the site, including at the potential site of the mobile accommodation camp.

The main seismic line will be rehabilitated back to its original land use. Rehabilitation will be undertaken in accordance with the Rehabilitation Management Plan in Section 6.5. The existing access track, and new access track will be maintained, stabilised. No rehabilitation is required on the stub lines or camp and associated ungraded access tracks.

4 Description of Environment

A description of the physical, natural, and-economic environment surrounding the Zevon Test Line is provided in the following sections. FOG has a demonstrated understanding of the environmental constraints of EP 115 using a combination of desktop and baseline results to develop a description of the existing environment for the Zevon project, including:

- Mereenie Field Environmental Management Plan (9900-630-PLN-0004)
- EcOz Ecological Assessment Report for the Zevon 2D Seismic Project (2021)

The EcOz 2021 report assessed the area of interest for FOGs planned wider seismic program in EP 115. The survey effort is shown in Figure 19 and included 190 aerial sites and 54 ground sites across the area of interest.

Due to the large size of the area covered by the wider survey and the low number of existing access tracks, a helicopter was selected as the most appropriate mode of transport for the field survey, which allowed for efficient access to all sites of interest to provide a comprehensive and spatially representative ecological dataset for the area.

The survey effort was targeted via desktop assessment of threatened flora, fauna and priority land types considered to be at a higher risk of potential impacts within the aera. Ecologists made both aerial and ground based visual assessments across the Zevon test line shown by the helicopter flight paths and inspection points. Further, visual assessments were supported by numerous geo-tagged photographs to verify the data obtained during the desktop assessment and confirm where environmentally sensitive areas, habitats and species are located (EcOz, 2021).If FOG becomes aware of any additional information not contained in the EMP in relation to the existing environment that may influence the results of the risk assessment and mitigation measures outlined in this EMP, it will undertake a review of the EMP.

4.1 Physical Environment

4.1.1 Climate

The proposed location for the Zevon program experiences an arid to semi-arid climate, which is characterised by hot dry summers and cool dry winters with a low average annual rainfall. Typically, more rainfall occurs in the summer months associated with monsoonal influences; however, the amount of rainfall in the arid zone is highly variable.

Climate data has been summarised using available data from the Bureau of Meteorology weather station (015652, Watarrka; 2021a) and Table 9 shows the mean maximum and minimum temperature, mean rainfall, highest rainfall, lowest rainfall, mean days of rain and mean evaporation for each month.

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean maximum temperature (°C)	38.3	36.8	34.9	30.8	24.9	21.3	22.1	24.5	29.6	33.2	35.2	36.5
Mean minimum temperature (°C)	23.4	22.9	20.7	16.6	10.7	6.3	6.1	8.2	13.2	17.5	19.9	22.0
Mean rainfall (mm)	45.9	39.7	32.9	12.4	20.8	14.0	12.7	6.1	9.7	24.5	43.7	38.9
Highest rainfall (mm)	185.0	377.8	237.2	161.6	158.1	133.5	82.5	38.9	104.9	123.7	168.5	103.9
Lowest rainfall (mm)	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
Mean days of rain	5.6	4.8	3.1	2.5	3.2	2.5	2.4	1.6	2.6	4.2	6.4	7.4

Table 9: Climate data

4.1.2 Geology

The proposed Zevon program is located within the Amadeus Basin, an east-west trending sedimentary basin extending across the southern part of the Northern Territory and into Western Australia. This basin covers an area of approximately 170,000km² and a maximum sediment thickness of 14,000m with several major depocentres including the Idirriki, Carmichael and Ooraminna Sub-basins and Missionary Plain Trough along the northern margin and the Mount Currie and Seymour Sub-basins in the south (Geoscience Australia,
2020). It is bound in the north by the Arunta complex and in the south by the Musgrave Mann complex, both containing granite, gneiss and schists, with amphibolite and quartzite.

The general stratigraphy of the region is shown in Figure 20.





Figure 20: Amadeus Basin stratigraphy (Schmid et al., 2016)

4.1.3 Regional Soils

The Zevon program is located within the Central Australia Ranges province, which feature a fold complex of prominent east-west ranges, mainly quartzite, lowlands on limestone and with gravel terraces over moderately weathered bedrock (ASRIS, 2011).

The main soil types in the Zevon project location are AB56 as mapped using data from the Digital Atlas of Australian Soils (Figure 21). AB56 is comprised of red kandosol sandy red earths, the iconic soil type of arid NT. Plains covered with longitudinal dunes, some hilly residuals with rock outcrops Chief soils are red earthy sands on interdune plains and red siliceous sands on dunes. BA27 and AB31 is present along the access track whereas the predominant soils are described as red sands to red sandy earth soils associated with the sandplain and sand dune land types Figure 21. Sodic soils are not recorded in this area and were not observed during site surveying.

4.1.4 Land Systems

Zevon is located within the Simpson land system as shown in Figure 22 and described in Table 10 (EcOz, 2021).

Table 10: Land systems

Land system	Landform class	Description
Simpson	Desert Dune fields	Dune fields with parallel linear dunes, reticulate dunes and irregular or aligned short dunes. Variable relief. Associated swales in between dunes. Red sands on dunes and a variety of soil types in swales- such as red clayey sands, red earths and calcareous earths.
		Sparse shrubs and low trees (occasional <i>Allocasuarina decaisneana</i>) over spinifex and tussock grasses. Dune crests can support <i>Zygochloa paradoxa</i> . Swales can support <i>Acacia aneura</i> and <i>Eucalyptus microtheca</i> or sparse low trees over samphire and old man saltbush.





4.1.5 Vegetation and Land Types

The Zevon project footprint is restricted entirely to open spinifex hummock grassland as shown in Figure 24: Vegetation communities. Typically, shrubs and low open woodlands with life spans of a few decades or more (e.g. desert oaks), populate arid soil areas that are more stable in the mosaic of the local vegetation community; and on erosional surfaces that are less stable or have exposed subsoil, are populated by grasses and herbaceous plants.

The spatial distribution of vegetation and bare patches on the slopes is the important landscape structural element that causes discontinuity in flow between fine scales and broader scales in desert landscapes such as in the Zevin project area. This is evident in Figure 24 where Zevon footprint is restricted to a single dominant Land Type in the region which is Sand plains/Dunes. All other minor land systems, that are potentially more sensitive in the Zevon Project area, are avoided.

The desert grassland is topographically flat with sandy soils. The soils have high infiltration characteristics and limited potential for run-off or run-on. On this type of landscape unit, the timing and quantity of rainfall are the important determinants of productivity. The temporal pattern of rainfall determines which group of species responds. At a broad scale, soil is the foremost determinant of vegetation type.

The exclusive vegetation type as identified through the NVIS (2000) for the Zevon project land disturbance are is spinifex Hummock grassland as described in Table 11 and is representative of the images taken during seismic line and camp location scouting efforts (refer to Figure 5 and Figure 16). NVIS mapping together with Site survey did not identify any high priority / conservation significant landforms or vegetation communities (Figure 23 and Figure 24). The sparsity of Desert oaks and Marble gums; clay pans and drainage lines; sandstone ranges; rocky hills and rises; and mulga swale associations is evident in the Zevon area, where the proposed land disturbance footprint on an existing access/ Traditional Owner hunting track, avoids intersection with these restricted habitats. Microtopographic effects control vegetation mosaic in this dominant hummock grassland; this includes the deep roots of the small trees that may develop in the centre of the hummocks.

Any residual risk is deemed to be mitigated by implementing the recommendations outlined in Table 14.

NVIS ID	Туре	Community description	Dominant species	Environs
577	Hummock grassland	Upper – Allocasuarina low open woodland	Allocasuarina decaisneana +/- Acacia aneura, +/- Acacia estrophiolata	Extensive dune fields, infertile red siliceous and
		Mid – Acacia mid sparse shrubland	Acacia ligulata, Acacia dictyophleba, Acacia murrayana	clayey, sands
		Ground – Triodia Iow hummock grassland	Triodia basedowii, Triodia pungens, Triodia schinzii	

Table 11: Vegetation communities

EcOz's 2021 survey identified that the Zevon project is located exclusively within sand dunes, sandplains and dune swales, both of which are common in the Great Sandy Desert Bioregion. A small patch of rocky hill and rocky rise and two desert oak sites are present within the Zevon project area. However, these areas occur within proposed orthogonal stub-line areas, which will only require minimal disturbance at intervals to place small geophones by hand. All rocky outcrops and mapped exclusions zones will be avoided.





Table 12: Land types (EcOz, 2021)

Land type	Landform and soils	Vegetation description	Notes
LT 1a, b & c – Sandstone ranges and hills with areas of scarp	 Ridges and hills associated with Watson Range and rocky hills in the vicinity of Mt Olifent; also includes isolated rocky hills and low ridgelines situated in the dune fields. There are areas of steep scarp, crevices/cracks, outcrop, overhangs and caves; as well as a large areas of rounded hills and slopes. There are numerous drainage gullies that flow for varying distances into sandplain; all drainages are ephemeral and highly episodic; small waterholes are expected in some locations. Shallow sandy soils amongst high rock groundcover; localised run-ons areas, flats and foot slopes are sandy red earth. 	 81 flora species identified within this land type during the survey. Hill tops and slopes support a mixed open shrubland / stunted trees (common species include Acacia aneura, Acacia macdonnellensis, Santalum lanceolatum, Grevillea wickhamii, Senna spp., Eremophila spp., Eucalyptus trivalvis, Acacia pruinocarpa) over spinifex and/or tussock grass and forbs (common species include Triodia brizoides, Abutilon sp., Eriachne mucronata, Aristida holathera, Ptilotus exaltatus, Ptilotus obovatus, Sida cardiophylla, Sida sp. Excedentifolia). Drainages are typically lined with higher numbers of Acacia aneura (Mulga group) over tussock grasses. Cliffs, escarpment, overhangs also support scattered Ficus platypoda, Callitris glaucophylla, Acacia aneura (Mulga group), Nicotiana gossei, Corymbia aparrerinja Scree slopes typically support a low shrubland (mostly Eremophila freelingii and Senna spp.) over scattered tussocks & forbs, scattered spinifex (Triodia brizoides). 	 High biodiversity value in areas where rocky features are present (such as cliffs, scarp, overhangs, caves). Mapping of this unit has been split into 1a, 1b and 1c to delineate areas that are likely to have significant rocky features (or not). Conducted at a scale of 1:5,000. Erosion risk low on in rocky areas; however, receiving downgradient land types are at risk if water channelling is not suitably controlled. Buffel Grass infestations (weed species of concern) observed at numerous sites (discussed further in Section 4.2.6).
LT2 – Rocky rises and low rounded hills	 Low relief rises or low hills (lateritic or sandstone) No significant areas of outcrop (if present small in area and low elevation) Rocky features (such as scarp, overhangs, caves etc.) are highly unlikely (and if present, not large) 	 Sparse to patchy shrubland of species from the Mulga group (Acacia aneura, A. aptaneura and A. ayersiana). Acacia kempeana +/- scattered low shrubs (Eremophila freelingii, Senna artemisioides subsp. alicia) over sparse tussock grasses and forbs (Aristida contorta, Aristida holathera, Enneapogon sp., Abutilon sp., Ptilotus exaltatus, Sclerolaena cornishiana, Solanum spp.) and/or spinifex (most likely Triodia brizoides) 	 Erosion risk is low on rocky surfaces; however, lower slopes and receiving down-gradient areas are at risk if water channelling is not controlled. Density of shrubs and low incidence of spinifex may be due to higher fire history. Dry conditions experienced in the past few years have also resulted in spinifex senescence (death)
LT 6 – Sand dunes	 Located within an extensive dune field. 	 Open Acacia and Grevillea shrubs (including Acacia ligulata, Acacia melleodora, Grevillea stenobotrya, Grevillea juncifolia, Eremophila willsii) over spinifex (Triodia basedowii) and mixed tussock grasses (including 	 Fire history has produced floristic differences, and recent dry conditions have resulted in some senesced vegetation

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Land type	Landform and soils	Vegetation description	Notes
	 Dune formations are reticulate and irregularly and have a general southwest to north-east orientation. Dune height is approximately 6m to 12m in the west. All dunes have red siliceous sands; Aeolian origin but stable 	 Paractaenum refractum, Eriachne aristidea, Aristida holathera, Eragrostis eriopoda) and forbs/daisies (including Chrysocephalum eremaeum, Newcastelia spodiotricha, Leucochrysum stipitatum, Calotis erinacea, Ptilotus obovatus, Sida spp., Yakirra australiensis) Some dunes support Mallee (Eucalyptus pachyphylla, E. gamophylla, E. oxymitra) and scattered trees including Allocasuarina decaisneana and Corymbia chippendalei. Patches of Desert Heath Myrtle (Aluta maisonneuvei subsp. maisonneuvei) are common throughout the entire dune field 	
LT 7 – Sandplains and dune swales	 The most extensive land type in the region Flat to gently undulating plains; to low sandy rises that do not constitute dune landform. Red sand to sandy red earth soils Low points in swales typically have a heavier red earth (these areas often support denser stands of Mulga) Sandplains at the foot slopes of rocky ranges and hills have alluvium characteristics due to due to run-off and flooding from adjacent rocky terrain and drainages. These areas often have a siltier texture than surrounding dune field sandplains, and have scattered surface rocks and pebbles (which are absent or rare in dune field sandplains) 	 Extensive areas of open to patchy woodland of Desert Oak (<i>Allocasuarina decaisneana</i>) over sparse shrubs (including <i>Acacia aneura, Acacia ligulata, Eremophila latrobei subsp. latrobei, Eucalyptus gamophylla, Acacia maitlandii, Acacia melleodora, Grevillea juncifolia, Senna spp.</i>) and variable ground cover of tussock and /or hummock grasses (including <i>Triodia basedowii, Aristida holathera, Eragrostis eriopoda, Eriachne aristidea</i>) and forbs (including <i>Ptilotus obovatus, Ptilotus polystachyus, Scaevola parvifolia, Chrysocephalum eremaeum, Seringa sp., Euphorbia sp., Sida spp., Calandrinia sp.</i>) Patches of Desert Heath Myrtle (<i>Aluta maisonneuvei subsp. maisonneuvei</i>) are scattered throughout. Red earth areas within the low points of the swale often support patches of 'groved' Mulga (<i>Acacia aneura, A. aptaneura or A. ayersiana</i>) over tussock grasses and forbs. Other scattered trees include <i>Corymbia eremaea, Acacia sericophylla, Eucalyptus gamophylla, Brachychiton gregorii, Hakea divaricata, Corymbia aparrerinj</i> 	 Fire history has produced floristic differences, and recent dry conditions have resulted in some senesced vegetation. Marble gum present within this land type (important habitat for Princess Parrot) but was not identified during site surveys around the proposed Zevon test line.

4.1.6 Groundwater

Zevon is located in the Amadeus Basin, an elongated east-west aligned sedimentary basin that covers an area of approximately 170,000km² in Central Australia. Lloyd and Jacobson (1987) define two main hydrogeological domains within the Amadeus Basin: the north-central area which has broad folding associated with extensive and mappable sandstone formations, elsewhere in the basin greater deformation has resulted in the development of a regional fractured rock groundwater systems.

The nearest registered bores are RN012924, RN016241 and RN 016242. Figure 25 shows the locations of groundwater bores in relation to the Zevon program. These bores will not be impacted as the Zevon project does not involve any taking or interfering with groundwater.

4.1.7 Surface Water

Zevon is within the Victoria River-Wiso River Region and the Mackay River Basin. The Mackay River Basin is an extensive catchment area that covers an area of 215,958km².

Desktop analysis of Northern Territory mapped streams identified no major or minor water drainage areas within 20km of the proposed program area or streams crossing the main test line or the stub line (DEPWS, 2018). See Figure 26 for the location of streams and drainage areas near the Zevon program. Drainage lines within the wider 2km buffer area around the test line are ephemeral 1st and 2nd order drainage depressions which will be pegged out where the test line traverses them and a 25m 'no clearing' buffer will be applied in accordance with the NT Land Clearing Guidelines (DENR 2020).

4.1.8 Wetlands, Springs and Aquatic Inflow Dependent Ecosystems

Most wetlands in an arid/semi-arid environment are intermittent and only hold water after rainfall events. No groundwater fed wetlands, springs, groundwater dependent ecosystems or Aquatic Inflow Dependent Ecosystems have been identified in the vicinity of Zevon (Figure 26). It was confirmed by EcOz field investigations that Impacts to any intermittent water bodies in EP 115 is not likely given the distance between the IDEs and the proposed activities.





4.2 Natural Environment

4.2.1 Bioregions

The Zevon program is located within the Great Sandy Desert bioregion as classified by (Baker, et al., 2005) and described in Table 13. The Great Sandy Desert covers an area of 395,250 km² and is characterised by extensive red sand plains, parallel dune fields that run orthogonal to the prevailing southeast winds, fringing dune fields; extensive sandplains; dry watercourses and saltpans and salt lakes; and remnant rocky outcrops. The arid dune fields and sandplains support sparse shrubland and spinifex hummock grassland, with cane grass on deep sands along dune crests. The swales of claypans and stony plains support a sparse shrubland of acacias, and coolabah woodlands fringe the creeks and flood outs. Vegetation is predominately spinifex grasslands, low woodland and shrubs.

Table 13: Bioregions

Bioregion	General description	Soils	Vegetation
Great Sandy Desert	The area is generally flat and arid (rainfall <400mm) with few watercourses	Soils are predominantly shallow sands and are influenced by the presence of saline lakes, where mostly saline loams occur.	Vegetation is dominated by hummock grassland with areas of tall-shrubland or low open woodland, tall open-shrubland, and Samphire low open- shrubland fringing salt pans.

4.2.2 Sites of Conservation Significance

There are no Sites of Conservation Significance within the proposed seismic exploration area.

4.2.3 Sites of Botanical Significance

A Site of Botanical Significance (SOBS) is an area that has been defined (by Duguid et al. 2000) to hold important and/or unique botanical assemblages that require protection. SOBS are designated as either nationally significant (41 sites), bio-regionally significant (79 sites) or of undetermined significance (33 sites).

Currently there is no specific legislation attached to SOBS, although protection of the SOBS is administered through other pieces of legislation.

The Zevon program is located over 10km from the SOBS Lay Cock's Sandplain (Figure 27), described as a poorly known region primarily sandplain fringed by low ranges (Duguid et al. 2000). Hydrological characteristics of the underlying sandstone is likely to influence the habitat for flora. There are sandstone outcrops that support rare plants and potentially communities.

4.2.4 Threatened Ecological Communities

No threatened ecological communities were identified near Zevon during the field survey conducted by EcOZ (2021) and in desktop assessments. However, locally important habitat (biodiversity and refugial reasons), was identified and will be avoided during delivery of the seismic exploration program (Figure 23). The locally important habitat may include:

Large trees (i.e., >15m in height), in particular the Marble gum (*Eucalyptus gongylocarpa*) as this has a restricted range in the Northern Territory and provides unique nesting opportunities for the threatened Princess parrot and Grey falcon. No Marble gum was identified proximate to the Zevon test line during the 2021 survey, however, may occur within the broader land type. Desert oaks were identified in the Zevon project location. Desert oaks are very common and widespread throughout the area, and although they *may* be used for breeding by the Princess parrot (and taller specimens by the Grey falcon), the species is not generally considered as important habitat due to its abundance and extensive presence in the region. Mitigation measures to avoid impacts to 'of concern' ecological communities / species are detailed in Table 14.

4.2.5 Threatened Species

EcOz (2021) conducted an assessment to determine the likely presence or absence of threatened species identified in their desktop assessment as having a 'High' or 'Medium' likelihood rating. The assessment included a field survey focused on assessing habitat suitability with active searches for some species where possible (Figure 28). The results and mitigation measures to be adopted are shown in Table 14



Threatened species	Results	Mitigation measures
Princess Parrot (<i>Polytelis</i> <i>alexandrae</i>) (<i>Vulnerable</i> <i>TPWC Act</i> and <i>EPBC Act</i>)	 Princess Parrot is known to occur in the broader region, with Marble Gum their most important habitat. Desert Oaks, common though out the area, may also be used as breeding habitat. No Marble Gum was recorded in proximity to the Zevon project however Desert Oaks were identified 	 Avoid any Marble gums or hollow bearing Desert oaks. Where possible, avoidance or minimising clearance of any other large and / or hollow bearing tree species to mitigate potential impacts to preferential Princess parrot breeding sites. Where Marble gums, Desert oaks or any other hollow bearing vegetation is proximate to the proposed test line (ie. <300m), a pre-clearing visual assessment of the vegetation will be undertaken by a qualified ecologist to determine the presence of breeding places. Should threatened species be identified within the vegetation, a 300m exclusion zone will be implemented and the location noted for communication through daily pre-starts and inductions. Inductions to include information on Princess parrot so staff are aware of the species and mitigation measures.
Night Parrot (Pezoporus occidentalis) (Critically Endangered TPWC Act; Endangered EPBC Act)	 Suitable habitat within the broader region however mainly restricted to calcrete rise or calcareous alluvial land types which are not located on or near the Zevon project. Fire is a major threat to the Night Parrot 	 Implement weed and fire management plans (refer to Section 6 of the EMP)
Grey Falcon (<i>Falco</i> <i>hypoleucos</i>) (<i>Vulnerable</i> <i>TPWC Act;</i> <i>Vulnerable</i> <i>EPBC Act</i>)	 Living in sparsely timbered lowland plains, typically on inland drainage systems, where the average annual rainfall is less than 500 mm there is potential for Grey Falcon to be present. Availability of nesting trees and fire is a major threat. 	 Avoid any Marble Gums or hollow bearing Desert oaks. Where possible, avoidance or minimising clearance of any other large and / or hollow bearing tree species (>15m) to mitigate potential impacts to preferential Grey falcon breeding sites. Where Marble gums, Desert oaks or any other tall vegetation is proximate to the proposed test line (ie. <300m), a pre- clearing visual assessment of the vegetation will be undertaken by a qualified ecologist to determine the presence of breeding places. Should threatened species be identified within the vegetation, a 300m exclusion zone will be implemented and the location noted for communication through daily pre-starts and inductions. Inductions to include information on Grey falcon so staff are aware of the species and mitigation measures.

Table 14: Threatened species assessment

Threatened species	Results	Mitigation measures
Low likelihood species	 The following five threatened species are considered to have a low likelihood of occurrence within the broader regions, and/or low inherent risk of impact: Desert Quandong (<i>Santalum acuminatum</i>) Greater Bilby (<i>Macrotis lagotis</i>) Central Australian Rock Wallaby (<i>Petrogale lateralis centralis</i>) Alice Springs Squat Snail (<i>Semotrachia euzyga</i>) 	 Specific mitigation measures are not required for these species; however, the site induction shall include key identification characteristics for each species so staff can report any suspected observations. A suitably qualified ecologist (or equivalent) will then be engaged to validate identification and recommend follow-up actions, if required. In these cases, exploration works will cease in that area until advice is sought from ecological professionals



4.2.6 Weeds

Weeds managed under this EMP can be categorised via the following methods:

Weeds of National Significance (WoNS) – nationally agreed priority flora species for control and management. Weed species are determined based on rankings for invasiveness, potential to spread, and impact on socio-economic and environmental assets. There are currently 32 WoNS with each having an endorsed strategic plan which outlines tactics and actions for control.

Declared Weeds – species which have been identified for control, eradication, or prevention of entry in all or part of the Northern Territory under the Weeds Management Act 2001. Declared weeds can be of the following classes:

- Class A to be eradicated
- Class B growth and spread to be controlled
- Class C not to be introduced into the Northern Territory

Species which have been identified as a priority or alert weed species within the Alice Springs Regional Weeds Strategy 2021-2026.

EcOz (2021) included a weed assessment in their ecological survey and confirmed the presence of the weed shown in Figure 29 and Table 15 along the proposed access track to the test line area. Buffel grass is listed a Category 2 species (Weed of Concern) in the Alice Springs Regional Weeds Strategy 2021-2026. The weed mainly occurs along the access track out to the Zevon seismic line. Milk Thistle and Spiked Malvastrum were recorded at very low densities and are not declared weeds. However, the survey did not note any occurrences of weeds within the proposed test line or surrounding areas.

Table 15: Weed records

Name	Common Name
Cenchrus ciliaris	Buffel grass
Sonchus oleraceus	Milk thistle
Malvastrum americanum	Spiked malvastrum

A Weed Management Plan has been developed to address the potential to spread weeds during survey activities. Weed hygiene is a key focus of the Weed Management Plan with the objective of not further spreading this species.



4.2.7 Introduced Fauna (Pests)

A Protected Matters Search with a 20km buffer indicated the following introduced fauna (pests) may be present within the seismic exploration area:

- Cattle (Bos taurus)
- Donkey (Equus asinus)
- Horse (Equus caballus)
- Wild Dog (Canis lupus)
- Feral Cat (*Felis catus*)
- European Red Fox (Vulpes vulpes)
- House Mouse (Mus domesticus)
- Feral European Rabbit (Oryctolagus cuniculus)
- One-humped Camel (Camelus dromedarius)

A review of the Fauna Atlas N.T shows five species have been identified previously within a 20km radius of the exploration area Camel (*Camelus dromedarius*), Horse (*Equus caballus*), Cat (*Felis catus*), House Mouse (*Mus musculus*) and Rabbit (*Oryctolagus cuniculus*).

4.3 Fire History

The Zevon project is located within the Alice Springs Fire Management Zone. The Northern Australia Fire Information (NAFI) records indicates that the areas have generally been burnt at least once (Figure 30). Ecological impacts of the fire regime are discussed in Table 12.



4.4 Socio-Economic Environment

4.4.1 Land Tenure

The proposed Zevon program will be located within land held by Haast Bluff Aboriginal Land Trust which is administered through the CLC. FOG has existing relationships with the CLC and landholders through other petroleum infrastructure located on their property and previous exploration programs.

4.4.2 Surrounding Populated Places

Populated places close to Zevon are shown in Figure 31 and include:

Kungkayunti – 45km north-east Kings Canyon Resort – 66km east

4.4.3 Noise

The Zevon project is located within a sparsely populated region and the nearest sensitive receptor is located greater than 40km away (Kungkayunti) (Figure 31).

Northern Territory *Noise Management Framework Guideline 2018* refers to offensive noise that may cause an environmental nuisance. The offensive noise test described in the NT framework is not relevant given the nearest sensitive receptors for noise to the Zevon project location are greater than 40km away. No impacts on sensitive receptors are considered likely given the remote and isolated location of the field. The operation of grader and seismic truck will occur from 6am-6pm, seven days per week for approximately two weeks only. In the first instance, these facilities must comply with exposure standards for noise defined in the Work Health and Safety Regulation 2011 which provide a much stricter threshold for noise sources, thereby mitigating any potential off-site nuisance noise. FOG will monitor any complaints regarding noise as part of its stakeholder engagement process.

Given the distance to the nearest receptor and that the noise generated from the Zevon project do not plausibly exceed 'nuisance noise tests', an assessment described under Section 3.2 of the Northern Territory Noise Management Framework Guideline 2018 has not been conducted.

4.4.4 Traffic

Traffic is discussed in Section 0, which indicates that traffic volumes associated with the project will be minor. In addition, further controls are and will be in place to reduce the impact and keep other road users safe. The turn in and turn offs of NT controlled roads are currently being used by FOG operations and no further upgrades are required. Vehicle speeds will be reduced to 60km/h to ensure dust creation is reduced.

FOG will have signage and call points monitored by UHF will be established at either end of the survey area to mitigate any potential traffic impacts along the track associated with activities at Zevon.

4.4.5 Workforce

Workforce numbers for each activity during the exploration program are discussed in Section 3.

Due to the short nature of the activity, local resourcing strategy and utilisation of up to four short-term camps the overall impact of the project should be positive to the local community. This assessment is based on the following:

- There will be no impacts on the demographics of the regional population from the exploration campaign.
- FOG will prioritise local resourcing.
- FOG continue to explore opportunities to provide education and training opportunities to promote the gas industry, integrate the NT gas story into the tourism experience and include STEM (science, technology, engineering, and mathematics) learning into local schools with technical experts and guided field trips to FOG operations.



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4.5 Cultural Heritage

4.5.1 Historic and Natural Heritage

The Zevon program is located within the MacDonnell Shire. An online search of the Northern Territory heritage register showed no publicly listed heritage sites within the exploration clearance area nor were any identified in Everick Heritage (2021).

4.5.2 Aboriginal Archaeological Assessment

An Aboriginal archaeological assessment of potential seismic areas within EP 115 including the Zevon project location was commissioned and completed in November 2021. The report:

- was also used in designing the seismic line to avoid any areas and to establish exclusion zones around any known archaeological heritage sites.
- outlines steps to be undertaken when an Aboriginal Objects and Human Remains are potentially identified, including:
 - work in the surrounding area is to stop immediately;
 - a temporary fence or barrier is to be erected around the site, with a buffer zone of at least 10 metres around the known edge of the site;
 - an appropriately qualified archaeological consultant is to be engaged to identify the material, either in person or remotely;
 - if the material is found to be of Aboriginal origin and it has been determined that the objects has been identified the NT Heritage Branch will be notified (via contact details on their website) and all relevant information provided.

A summary of findings from the Heritage Assessment undertaken is provided in a sub-section of Appendix 5.

4.5.3 Indigenous Protection Areas

The Katiti Petermann Indigenous Protection Area (IPA) Petroleum Reserve Block was declared 15/01/2020 and abuts EP115 on its southern border (Figure 32). The Katiti-Petermann Indigenous Protected Area (IPA) surrounds the Uluru-Kata Tjuta National Park. It's a significant part of a vast network of protected regions that span across the boundaries of the Northern Territory, Western Australia, and South Australia. Within the Katiti-Petermann IPA, numerous ancestral Dreaming paths intersect, and it safeguards numerous culturally important sites for the Anangu Traditional Owners. Additionally, this area provides a habitat for a wide range of plant and animal species, including endangered ones like the *tjakura* (great desert skink), *murtja* (brush-tailed mulgara), and *warru* (black-footed rock wallaby) (Society, 2023).

To ensure the IPA is not adversely impacted the boundary coordinates plus a 50m buffer have been noted (-24.136315; 130.773907). This will allow the boundary and required buffer zone to be communicated through the induction process, ensuring seismic works and personnel maintain a safe distance from the IPA at all times.

4.5.4 Sacred Sites Assessment

FOG has logged a request with CLC for a Sacred Site Clearance Certificate. FOG has also lodged an Authority Certificate application with the AAPA for the Zevon Test Line (application # 202112105). FOG commits to complying with the requirements of the granted Authority Certificate. A map of the planned seismic exploration area where CLC and AAPA clearance has been obtained is shown in Figure 32.

4.6 Environmental Engagement and Consultation

4.6.1 Stakeholder Engagement

FOG is committed to proactively engaging with a range of stakeholders and other interested parties. We aim to establish and maintain enduring and mutually beneficial relationships between the communities which we work with; ensuring that our activities generate positive economic and social benefits for and in partnership with these communities.

To continue to foster those relationships, FOG has engaged with a range of stakeholders and the interested parties for the Zevon Test Line Seismic Exploration Program. For the purpose of this EMP, FOG identified its stakeholders, in compliance with the NT *Petroleum (Environment) Regulations 2016,* as the Traditional Owners recognised as the Native Title holders and/or claimants and their representatives, the Central Land

Council. These stakeholders will continue to be engaged with as required or when the scope of works is updated or may have impacts to stakeholder interests.

No consultation with the Commonwealth Government was required as it has been determined that the works are unlikely to cause a significant impact on MNES. Therefore, the EPBC / EP Act will not be triggered.

Upon approval of the EMP and prior to commencement of works, formal notification will be made, in writing, by FOG to the Minister and the owner / occupier of the land of the expected start date for the approved seismic works.

4.6.2 Traditional Owner(s) Engagement

FOG undertakes regular consultation with Traditional Owners primarily through annual community liaison and site-specific meetings. We have engaged with one of the key stakeholders' groups at Kintore and another at Mereenie. At these meetings FOG provides an overview our planned development activity. Through the engagement that has taken place, we are able to demonstrate that the process has been executed in accordance with *Petroleum (Environment) Regulations 2016* during the preparation of the EMP which included communication regarding:

- The activities planned to be undertaken and the proposed locations.
- The planned Aboriginal sacred site surveys completed as part of this EMP.
- The anticipated environmental impacts and environmental risks of the activity
- The proposed environmental outcomes in relation to the activity
- The possible consequences of carrying out the activity to the stakeholder's rights or impacts on stakeholders' activities.

Engagement undertaken with directly affected stakeholders have been documented in the Stakeholder Engagement Register in Appendix 3. FOG is also committed to continued engagement with the identified stakeholders through annual community liaison meetings or at a time where potential impacts discussed with stakeholders may change.

4.6.3 Assessment of Merit of Stakeholder Objection or Claim

The process that FOG will undertake in assessing any stakeholder objection/claim that it receives includes:

All stakeholder objections/claims are to be provided to the Chief Operating Officer (COO) who will appoint a person to confirm that the objection/claim relates to the activities under this EMP. The COO to notify the stakeholder:

- If the objection/claim is not related to FOG and that no additional action is required; or
- If the results confirm that the objection/claim is related to FOG an investigation will commence.
- In relation to the investigation:
 - The COO will appoint a person to investigate the objection/claim.
 - The appointed person is to investigate and provide a written report of their findings to the COO.
 - Once the report is accepted, a discussion with the stakeholder will take place to communicate the
 outcomes of the investigation including any actions that FOG have/will undertake to address the
 objection/claim if required. Following the discussion, a written response will be provided.

4.6.4 Details of Changes Due to Engagement

Any proposed changes in operations, policy or procedures because of stakeholder consultation or other engagement will be considered by FOG Management. If any changes for merit are deemed necessary, these changes will follow the approved FOG management of change process and captured in a register.



Environmental Impacts, Risks and Mitigation 5

5.1 Approach

5.2 **Risk Assessment Methodology**

FOG's risk management approach is aligned with all material aspects of ISO 31000 and all environmental risks associated with operations have been:

- Identified, analysed, and evaluated including the assessment of critical controls and their effectiveness (Table 16)
- Recorded in a risk register Treated in a manner commensurate with the level of risk. .
- Communicated to key stakeholders. .
- Monitored and reviewed in a manner commensurate with the level of risk.

Assessment of risk is completed using FOG's Risk Matrix (Table 20) to assess and rate risks by assessing the combination of likelihood of occurrence and the severity of the impact/outcome of an event. This allows quantification of the risk and determination can then be made about whether the risk is ALARP and acceptable or whether further mitigation is required.

Assessment	Description	
Effective	Controls are well designed and are operating effectively, and management monitoring and review of controls are established.	
Satisfactory	Controls are reasonably well designed, and most aspects are operating effectively with some minor areas for improvement.	
Needs Attention	Certain control/s are not well designed and/or are systematically not operating effectively.	
Ineffective	Significant gaps in the design and operation of controls. No confidence that any degree of control is being achieved.	

Table 16: Control effectiveness

5.3 ALARP and Acceptability

Table 17: Risk Acceptance/Action Criteria

As part of FOG's risk assessment process, each risk is mitigated to ALARP. FOG considerers risks having been reduced to ALARP when all reasonably practicable control measures have been identified and implemented. ALARP involves making a judgement about whether all reasonably practicable measures are in place to control a potential risk or impact considering the level of consequence and cost, time and resources involved to mitigate it.

To determine whether potential environmental risks and inputs are 'acceptable' is a matter of judgement that depends on issues such as the nature and scale of impacts and the social or economic benefits. FOG's risk tolerance/acceptance process (Table 17) is utilised to determine whether to accept the assessed residual risk or implement improvement actions.

•			
	Low	Medium	Hi
	A 11 11		

	Low	Medium	High	Very High
Risk owner/ acceptance	Activity owner	Direct reports to Managers	Managers	CEO/ExCo
Improvement actions identified	Within a reasonable timeframe	3 months	1 month	As soon as practicable

In addition to the requirements detailed above, for the purposes of petroleum activities, impacts and risk to the environment are considered broadly acceptable if:

The residual risk is determined to be 'Low' the controls are determined to be effective, and the scientific uncertainty score is A (low) or

The residual risk is determined to be either 'High' or 'Medium', the controls are determined to be effective, and the scientific uncertainty score is A (low) as well as ALARP being demonstrated through:

- Alignment with legislative requirements, regulator guidance, stakeholder expectations
- Adoption of regional strategies and plans
- Not compromising ESD Principles, and
- Limiting the nature and scale of the effect on the environment.

5.4 Uncertainty

To enable an accurate assessment of the potential impact and risk of the activities, the risk assessment process considers scientific uncertainty regarding the information available to assess the risk. Uncertainty is high where confidence in the available information is low in identifying risk or the effectiveness of a management control. Additional baseline studies or other safeguards may be required to increase the accuracy of an assessment to determine the acceptability of a risk.

Scientific uncertainty is qualitatively assessed using a generic means of ranking the data available in accordance with the criteria assigned in Table 18. Considerations of scientific uncertainty have been included in the risk assessment.

Category	Description	Decision making tools
A (Low)	 Control/mitigation measures are well understood and established within the industry to ensure the risk is effectively controlled. Information available to assess the risk is current 	 Legislation, codes and standards exist to regulate the activity. Good industry practice includes additional controls beyond legislation, codes and standards
B (Moderate)	 Control/mitigation measures exist and have been demonstrated as effective in other industries. Information used to assess the risk is still valid but is either starting to date or there are information gaps 	 Risk based assessment tools are available for use (e.g. modelling, quantitative risk assessment, cost benefit analysis etc.)
C (High)	 Scarce or no data available to support the assessment of the risk 	 No guidance material available. The precautionary approach to management of the risk is required.

Table 18: Scientific uncertainty scoring

5.5 Risk Assessment Summary

The outcomes of the detailed environmental risk assessment (Appendix 1) are presented in Table 19 which provides a summary of the residual risks for activities under the environmental management plan. All risks are considered by FOG to be as low as reasonably practicable and are accepted.

Table 19: Risk assessment summary

	Residual risk					
	Low	Medium	High	Very High		
Count	15	7	0	0		

The 'Medium' residual risks for activities under this environment management plan are:

- Injury or death of conservation significant fauna from civil works, vehicle movements and earthworks
- Increased occurrence of weeds (including weeds of national significance)
- Unauthorised disturbance to sacred sites or culturally sensitive areas
- Bushfire as a result of activities under this EMP.

5.6 Environmental Management Strategy

Based on the results of the detailed environmental risk assessments and the identification of critical controls (Appendix 1), FOG has categorised the environmental outcomes and developed performance standards and measurement criteria aligned with the identified critical controls. The environmental outcomes, performance standards and measurement criteria are outlined in the tables in Section 6.2 to 6.10 below.

Table 20: Risk matrix

					Remote	Unlikely	Possible	Likely	Frequent			
Risk Matrix						Conceivable, but only in extreme circumstances	Event is unlikely to occur during the life-span of a project	Event may occur during the life-span of a project	Event likely to occur during the life-span of a project	Recurring event during the life-span of a project		
		Health and Safety	Environment	Community	Legal	Reputation	Financial AUD\$	<1% chance of occurring within the next year.	>1% chance of occurring within the next year	>10% chance of occurring within the next year	>30% chance of occurring within the next year	>60% chance of occurring within the next year
Impact Lowel Minor Moderate Serious Critical Extreme	Extreme	5 or more fatalities or life-threatening injury / illness or total permanent disability.	Extensive permanent impact on / off site or damage to critically endangered species, habitats, ecosystems.	Extensive irreversible impacts to the community or social wellbeing. Long term social unrest. Permanent damage to area/s of cultural significance.	Charges against any director or senior executive involving jail, substantial fine or loss of right to manage the company. Public inquiry – requiring considerable resources and senior executive time. Loss of an asset or loss of licence to operate an asset. Permanent non-voluntary suspension of trading CTP securities on the ASX.	Multiple stakeholder groups confirming coordinated action, as reflected in media channels with significant reach and influence. Negative international or prolonged national media (e.g. 2 weeks).	Loss of value in excess of \$20m Cashflow impact in excess of \$5m	High	Very High	Very High	Very High	Very High
	Critical	1-4 fatalities or life-threatening injury / illness or total permanent or partial disability.	Extensive long term partially reversible impact on / off site or damage to endangered species, habitats, ecosystems.	Extensive reversible impacts to the community or social wellbeing. Prolonged community outrage. Extensive long term partially reversible damage to area/s of cultural significance.	Charges against any director, senior executive or senior manager involving fines, jail or the loss of right to manage the company. Prolonged major litigation – exposure to significant damages, fines or costs. Suspension or restrictions to the benefit of an asset or operate an asset. Prolonged non-voluntary suspension of trading CTP securities on the ASX.	Multiple stakeholder groups mobilising and encouraging other to act, as reflected in media channels with significant reach and influence. Negative media national for 2 days or more.	Loss of value >\$10m to \$20m Cashflow impact >\$1m to \$5m	High	High	High	Very High	Very High
	Serious	Injury or illness resulting in partial disability, lost time or alternative / restricted duties.	Long term reversible impacts on / off site or to vulnerable or near threatened species, habitats, ecosystems.	Impacts to the community or social wellbeing. High levels of community tension. Long / medium term partially reversible damage to area/s of cultural significance.	Charges against any employee (not described above). Non-compliance with conditions of licence to own or operate an asset or to conduct an activity. Litigation - exposure to damages, fines or costs. Short-term non-voluntary suspension of trading CTP securities on the ASX.	More than one stakeholder group's opinion or view influencing other stakeholders, reported through media channels with some reach and influence. Negative national / state media for 1 day.	Loss of value >\$2.5m to \$10m Cashflow impact >\$500k to \$1m	Medium	Medium	High	High	High
	Moderate	Injury or illness to 1 or more people resulting in medical treatment.	Medium / short- term impact on / off site or to low risk / least concern / common regional species, habitats, ecosystems.	Small scale impacts to the community or social wellbeing. Isolated examples of community tension. Moderate short-term impact to areas of cultural significance.	Moderate non-compliance with external mandatory obligations or breach of contractual or other legal obligations (not described above). Litigation possible. Non-compliance with internal controls with a moderate impact	A single stakeholder group drawing attention to an incident, issue, or approach conveyed through local media channels.	Loss of value >\$500k to \$2.5m Cashflow impact >\$250k to \$500k	Low	Medium	Medium	Medium	Medium
	Minor	Injury or illness requiring first aid to 1 or more people, or no treatment recorded.	Minor near source impact on / off site – readily dealt with.	Minor community impact / short-term impact to areas of cultural significance – readily dealt with.	Minor non-compliance with external mandatory obligations or breach of contractual or other legal obligations. Non-compliance with internal controls with a minor impact.	A person or organisation within a stakeholder group signalling an interest in an incident, event or approach, using channels with limited reach or influence. Public concern restricted to local complaints.	Loss of value >\$250 to \$500K Cashflow impact >\$50 to \$250k	Low	Low	Low	Medium	Medium

5.7 Biodiversity

Environmental performance measures: Biodiversity							
Activities	 Civil activities – grading of access track and seismic line. Rehabilitation Support activities – chemical storage, waste management 						
Residual risk	Medium	Code of Practice	A.3.1; A.3.5; A.3.6; A.3.7, A.3.9	Uncertainty	A (Low)		
	Consequences		Critical controls				
Risk	 Loss of vegetation/fauna habitat values from: loss of containment of sewage, including in wet weather storage, handling, use and disposal of fuels, oils and chemicals, uncontrolled fires from an ignition source movement of vehicles and heavy machinery outside of disturbance areas spread of weed species. Encouragement of native and pest fauna from poor waste handling and storage Loss of fauna habitat from lack/failure of rehabilitation. Loss of fauna from: vehicle movements and human interaction injury or death from access to ponds, pits, sumps or trenches or similar 		 Weed Management Plan Rehabilitation Fire Management Spill Management Plan Erosion and Sediment Control Plan 				
	The residual risk remains medium based on moderate impacts of loss of conservation significant fauna. FOG considers that the risk base been reduced to API APP and acceptable based on the following:						
ALARP and Acceptability	 Vehicle movements are a necessary part of operations controls are aligned with industry practice and consistent with ESD principles to co-exist without any long-term impacts to the local environment. No WoNS or declared weeds however Buffel grass present along access tracks. Best practice weed management practice areas in place and FOG seeks to achieve the requirements of key legislation and strategies as outlined in Section 2. 						

Environmental performance measures: Biodiversity							
Environmental outcome	Environmental performance standards	Measurement criteria	Records				
No significant impact ² to threatened fauna, their habitat and sites of conservation significance	No unauthorised clearing of vegetation or loss of fauna habitat	 Area(s) of known threatened fauna will be sign posted to avoid impacts to threatened fauna or their habitat. Permit to work specifies area authorised cleared work areas. The incident management system shows no incidents of unauthorised clearing 	 Incident records 				
	No introduction of new or spread of existing Weeds of National Significance, weed listed under NT legislation or locally significant weed species	 No new WONS, NT listed weed species or locally significant weed species identified. Weed certifications from vehicles, equipment and machinery entering from known weed infestation areas. Weed hygiene training provided within field inductions 	 Incident records Weed declaration certificates. Induction and register of participants 				
	No unmitigated death of conservation significant fauna will occur	 Inductions present requirements around protection of fauna, flora, their habitat and reporting fauna interactions. No incidents recorded in incident management system of driving off designated roads and access tracks. No incidents within incident management system involving vehicle related fauna strikes with speeds above 70km/hr 	 Incident records Induction and register of participants 				
	No uncontrolled fires from FOG activities	 The incident management system shows no recorded incidents of uncontrolled fires starting because of FOG activities 	 Incident records 				
	FOG activities will not encourage pest species	 The incident management system shows no records of pest species interactions with waste or inappropriate waste storage and handling that encourages vermin access. 	Incident recordsInspection records				

² Significant impact: Impact which result in the long term decrease in the size or viability of a threatened species population.

Environmental performance measures: Biodiversity				
Environmental monitoring and reporting	 Rehabilitation success monitoring as per Rehabilitation Plan Fauna interactions (as required) 			
Corrective actions	Reinstatement of disturbed areasRemoval of new weed infestations			

5.8 Land

Environmental management strategy: Land						
Activities	 Civil activities – grading of access track and seismic line. Rehabilitation Support activities – chemical storage, waste management 					
Residual risk	Low Code of Practice A.3.1, A.3.4, C.7.1, C.7.2 Uncertainty A (Low)					
Risk	Consequences			Critical controls		
	 Soil/land contamination from: loss of containment, including spills and leaks, of hydrocarbons, chemicals, sewage, including during wet weather storage, handling, use of fuels, oils and chemicals waste generation, segregation and disposal Land disturbance and exposure of soils increasing erosion hazard from movement and use of heavy machinery/earthworks. wet weather including flooding and high rainfall events resulting. Loss of soil viability and productivity from soil stockpiling or compaction 			 Implementation of asset management system Spill Management Plan Wet Season Management Plan Erosion and Sediment Control Plan Rehabilitation Management Plan Waste segregation and implementation of waste management hierarchy Job Hazard Analysis/ Permit to work systems. 		
ALARP and Acceptability	 FOG considers that the risks have been reduced to ALARP and no further risk reduction is warranted as: A strong historical knowledge of the field and the environmental response to land disturbance, erosion and contamination events presents a low level of uncertainty. Greywater will be disposed of on-site, and sewage will be contained and trucked off-site by a licenced third party 					
Environmental outcome	Environmental performa standards	ance Measu	Measurement criteria			Records
No significant long- term impacts on soil stability, soil quality	Erosion and sediment cor including wet weather res	ntrols in place, ponse. Rec Rec issu	 Records show the erosion and sediment control measures are being implemented. Records show inspections of erosion and sedimentation issues after significant rainfall events. 			Inspection recordsIncident recordsWeather records
Environmental manag	gement strategy: Land					
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and land formations from FOG activities		 Records show all active work sites inspected for evidence of erosion and sedimentation, including after significant rain events, and that where erosion/sedimentation is identified, remedial actions are taken. The incident management system shows no incidents relating to the failure of ESFOG controls (within the design parameters) Records show restricted use of roads and tracks to operational safety activities across the field after significant rainfall event (>10mm in 24 hours) 				
	Disturbance of land remains within existing cleared and operational areas.	 Records show that earthworks and upgrade/project activities remain within approved disturbance area. Records show vehicles and machinery remain within designated areas. Records show that personnel, visitors and contractors are aware of designated work areas 	 Incident records Induction records Permit to work records 			
	No releases of contaminants (including wastes, chemicals, hydrocarbons) resulting in long-term contamination of the soil	 Records show all spills remediated immediately on discovery, and where necessary contamination assessment undertaken. The incident management system indicates no releases of contaminants incidents related to wet weather operations. The incident management system indicates no Level 3 spills as per the Spill Management Plan Records show emergency response plan implemented in the event of a Level 3 spill or leak 	 Incident records Soil monitoring results Inspection records Wet weather records 			
	Land no longer required for active operations is stabilised and progressively rehabilitated	 Records show rehabilitation has been initiated for areas no longer required for FOG activities 	 Rehabilitation success monitoring Incident records 			
Environmental monitoring and reporting	 Visual site inspection to ensure approp Soil contamination assessment incorport 	riate erosion and sediment control measures implemented (Ci prating sampling following any Level 3 spills or spills outside of	vil activities: Daily) lease areas (as required)			

Environmental management strategy: Land					
	 Rehabilitation success monitoring – land stabilisation (upon completion) 				
	 Weather and road conditions (daily) 				
	 Chemical and waste storage areas/tanks or similar (daily) 				
	 Revisit rehabilitation strategy where revegetation does not meet specified criteria. 				
Corrective actions	 Revegetate areas where natural revegetation is not occurring. 				
	 Reinstate eroded areas, particularly following wet weather events 				

5.9 Surface Water

Environmental performance measures: Surface water								
Activities	 Civil activities – grading Rehabilitation Support activities – choice 	g of access track emical storage, v	and seis	smic line. nagement				
Residual risk	Low	Code of Praction	се	A.3.4, A.3.8 C.4.2, C.5, (, C.3, C.4.1, C.7.1, C.7.2	Uncertainty	,	A (Low)
Risk	Consequences				Critical cor	ntrols		
ALARP and Acceptability	 Surface water contamination from: Ioss of containment, including spills and leaks, of hydrocarbons, including during wet weather spill or leak from the storage, handling, use of fuels, oils and chemicals. flooding from significant rainfall events earthworks/civil activities including heavy machinery use poor waste handling and disposal FOG considers that the risks have been reduced to ALARP and no further risk reduction is warranted as: There are no major drainage lines or streams within the Zevon project area.)		
Environmental outcome	Environmental performa standards	ince	Measure	ement criteria	a		Records	
No significant impact on surface water quality from FOG activities	No release of contaminan long term contamination o waters, including during w operations	ts resulting in f surface /et weather	 Records show all spills remediated immediately on discovery, and where necessary contamination assessment undertaken. The incident management system indicates no release of contaminant incidents related to storage, handling, use or disposal of chemicals, fuels, wastes. The incident management system indicates no release of contaminant incidents related to wet weather operations. 			 Inspection Incident Chemica 	on records records al register	

Environmental monitoring • Water sampling, where available following a Level 3 spill, to determine extent of contamination of surface water and following removal of contamination source (as required as part of Level 3 spill response) • Water sampling, where spills occur to reduce impact to nearby surface water. Corrective actions • Soil remediation where spills occur to reduce impact to nearby surface water.	Environmental perform	mance measures: Surface water		
Environmental monitoring • Water sampling, where available following a Level 3 spill or the design parameters) • Necords show emergency response plan implemented in the event of a Level 3 spill or leak Corrective actions • Frosion and sediment controls in place • Records show the erosion and sediment controls are implemented along the seismic line and access tracks as required. • Inspection records • Incident records • Incident records • Incident records • Vater sampling, where available following a Level 3 spill, to determine extent of contamination of surface water and following • Visual monitoring of erosion and sediment controls: • Visual monitoring of erosion and sediment controls: • Soil remediation where spills occur to reduce impact to nearby surface water. • Review of storage and handling practices of contaminants • Soil remediation where spills occur to reduce impact to nearby surface water.			 The incident management system indicates no Level 3 spills as per the Spill Management Plan 	
Erosion and sediment controls in place Records show the erosion and sediment controls in place inpected along the seismic line and access tracks as required. Records show all active work site inspected for evidence of erosion and sedimentation, including after significant rain events, and that where erosion/sedimentation is identified, remedial actions are taken. The incident management system shows no incidents relating to the failure of ESFOG controls (within the design parameters) Water sampling, where available following a Level 3 spill, to determine extent of contamination of surface water and following removal of contamination source (as required as part of Level 3 spill response) Visual monitoring of erosion and sediment controls: Civil activities: Daily Soil remediation where spills occur to entrols: Review of wet weather procedures and response Review of storage and handling practices of contaminants Review of storage and handling practices of contaminants Soil remediation where spills occur to entrols: Review of storage and handling practices of contaminants Soil remediation where spills occur to entrols: Review of storage and handling practices of contaminants Review of storage and handling practices of contaminants			 Records show emergency response plan implemented in the event of a Level 3 spill or leak 	
 Records show all active work site inspected for evidence of erosion and sedimentation, including after significant rain events, and that where erosion/sedimentation is identified, remedial actions are taken. The incident management system shows no incidents relating to the failure of ESFOG controls (within the design parameters) Water sampling, where available following a Level 3 spill, to determine extent of contamination of surface water and following removal of contamination source (as required as part of Level 3 spill response) Visual monitoring of erosion and sediment controls: Civil activities: Daily Soil remediation where spills occur to reduce impact to nearby surface water. Review of wet weather procedures and response Review of storage and handling practices of contaminants 		Erosion and sediment controls in place	 Records show the erosion and sediment controls are implemented along the seismic line and access tracks as required. 	 Inspection records Incident records Job bazard analysis
Environmental monitoring • Water sampling, where available following a Level 3 spill, to determine extent of contamination of surface water and following removal of contamination source (as required as part of Level 3 spill response) • Visual monitoring of erosion and sediment controls: • Civil activities: Daily • Soil remediation where spills occur to reduce impact to nearby surface water. • Review of wet weather procedures and response • Review of storage and handling practices of contaminants			 Records show all active work site inspected for evidence of erosion and sedimentation, including after significant rain events, and that where erosion/sedimentation is identified, remedial actions are taken. 	
Environmental monitoring Water sampling, where available following a Level 3 spill, to determine extent of contamination of surface water and following removal of contamination source (as required as part of Level 3 spill response) Visual monitoring of erosion and sediment controls: Civil activities: Daily Soil remediation where spills occur to reduce impact to nearby surface water. Review of wet weather procedures and response Review of storage and handling practices of contaminants			 The incident management system shows no incidents relating to the failure of ESFOG controls (within the design parameters) 	
monitoring • Visual monitoring of erosion and sediment controls: • Civil activities: Daily • Soil remediation where spills occur to reduce impact to nearby surface water. • Review of wet weather procedures and response • Review of storage and handling practices of contaminants	Environmental	 Water sampling, where available follow removal of contamination source (as re 	ving a Level 3 spill, to determine extent of contamin equired as part of Level 3 spill response)	nation of surface water and following
Civil activities: Daily Soil remediation where spills occur to reduce impact to nearby surface water. Review of wet weather procedures and response Review of storage and handling practices of contaminants	monitoring	 Visual monitoring of erosion and sedin 	nent controls:	
 Soil remediation where spills occur to reduce impact to nearby surface water. Review of wet weather procedures and response Review of storage and handling practices of contaminants 		Civil activities: Daily		
 Corrective actions Review of wet weather procedures and response Review of storage and handling practices of contaminants 		 Soil remediation where spills occur to 	educe impact to nearby surface water.	
 Review of storage and handling practices of contaminants 	Corrective actions	 Review of wet weather procedures and 	dresponse	
 Increased awareness and training 		 Review of storage and nandling practic Increased awareness and training 	ces of contaminants	

5.10 Groundwater

Environmental performance measures: Surface water								
Activities	 Civil activities – gradin 	g of access tra	ack and seisi	nic line.				
	 Support activities – ch 	emical storage	e, waste man	agement				1
Residual risk	Low	Code of Pra	ctice	A.3.8		Uncertainty	1	A (Low)
Risk	Consequences				Critical con	trols		
	 Groundwater extraction existing users and environment Contamination of aquing users and environment 	n for project pr vironmental de fers impacts ex tal dependenc	urposes impa pendencies. kisting groun ies	acts on dwater	Spill MarEmergenWet Seat	agement Plai cy Response son Managem	n Plan nent Plan	
ALARP and	 FOG considers that th 	e risks have be	een reduced	to ALARP an	d no further r	isk reduction i	is warranted	as:
Acceptability	 There are no major dragonal 	ainage lines or	streams wit	nin the Zevon	project area.			
	 Small volumes of pote Water for the camp is 	ntial contamina to be purchase	ants being us	sed over a sh allv	ort duration (a	approximately	(two weeks)	
Environmental outcome	Environmental performa standards	ance	Measurement criteria			Records		
No significant impact on groundwater quality from FOG activities	No release of contaminar in long term contaminatio groundwater, including du weather operations	its resulting n of iring wet	 Records immedia necessa undertal The inci release storage, chemica The inci release weather The inci Level 3 Plan Records impleme 	s show all spil ately on disco ary contamina (en. dent manage of contamina handling, us ls, fuels, was dent manage of contamina operations. dent manage spills as per t s show emergented in the e	Is remediated very, and whe tion assessm ment system nt incidents re e or disposal tes. ment system nt incidents re ment system he Spill Mana ency respons- vent of a Leve	I ere ent indicates no elated to of indicates no elated to wet indicates no igement se plan el 3 spill or	 Inspecti Incident Chemic 	on records records al register

Environmental perform	mance measures: Surface water
Environmental monitoring	 Water sampling, where available following a Level 3 spill, to determine extent of contamination of groundwater and following removal of contamination source (as required as part of Level 3 spill response) Civil activities: Daily
Corrective actions	 Soil remediation where spills occur to reduce impact to groundwater. Review of wet weather procedures and response Review of storage and handling practices of contaminants
	 Increased awareness and training

5.11 Air and Noise

Environmental perform	nance measures: Air and noise						
Activities	 Civil activities – grading of acces Rehabilitation Support activities – chemical stor 	s track and seismic line rage, waste manageme	nt				
Residual risk	Low	Code of Practice	A.3.3, B.4 B.4.14 D.5	.8, B.4.9, 5*	Uncertainty	1	A (Low)
Risks	Consequences			Critical co	ontrols		
	 Release of contaminants to air er air emissions from combustion vehicle and heavy machinery n explosion or fire from FOG action 	nvironment through: of fuel/gas novements vities		Asset iEmergJob Ha	ntegrity and n ency Respon azard Analysis	naintenance se Plan s and Permi	e systems it to Work systems.
ALARP and Acceptability	The Zevon project is a seismic exploration project only there is low risk to the receiving are environment due to the low emissions from vehicles, seismic truck and those associated with the camp. With control in place, we consider this risk ALARP and acceptable.						
Environmental outcome	Environmental performance standards	Measurement crite	Measurement criteria Records				
FOG's activities do not create a measurable	No complaints from sensitive receptors	 Records show the sensitive receptor 	nat there we ors	ere no comp	plaints from	 Incider 	nt records
at sensitive receptors	No fire or explosion from FOG activities	 Records show the procedures are in Management Sy Incident management respectively r	nat safety ci in place as j vstem ement syste onse plan is	ritical proce per Integrity om shows th s implemen	sses and / nat ted	 Inspect Incider 	tion records nt records
Greenhouse gas emissions are minimised	Greenhouse gas emissions are reported	 Calculation and emissions in acc Measurement D 	 Calculation and submission of greenhouse gas emissions in accordance with the NGER Measurement Determination Fuel use records Submission records 				
Environmental monitoring and reporting	 Routine testing, inspection and n Clean Energy Regulator – Natior Supply of NGERs outcomes to t 	naintenance nal Greenhouse and En he Northern Territory G	ergy Report	ting scheme	e (NGERs)		
Corrective actions	Repair of plant, vehicles and equImplement corrective maintenance	ipment ce via incident and mair	ntenance sy	stems wher	re regular insp	pections ide	ntify potential failure

5.12 Hazards

Environmental performance measures: Hazards							
Activities	 Civil activities – grading of access tra Rehabilitation Support activities – chemical storage 	ack and seism e, waste mana	ic line. gement				
Residual Risk	Medium	Code of Practice	B.4.16		Uncertainty		A (Low)
Risk	Consequences		Critical co	ontrols			
	 Ignition sources present from FOG ac causing fire and loss of areas/items o significance 	ctivities f cultural	 Spill M Erosior Bushfir Wet Se Waste 	anagement F n and Sedime re Manageme eason Manag managemen	Plan ent Control Pla ent Plan lement Plan t hierarchy im	an plementatior	1
ALARP and Acceptability	Based upon the risk being ranked as a lo low, the risk is determined to be ALARP Oil and gas exploration and operational a operating in the climatic and environment event of natural hazards such as bushfire	ow, the control and 'acceptab activities have tal conditions. e, wet weather	s being ass le'. been occur Systems ar	essed as effe ring in the are nd controls a	ective and a so ea over 40 yea re in place to o	cientific unce ars and FOC effectively m	ertainty score outcome of G is experienced with anage operations in the
Environmental outcome	Environmental performance standard	Measureme	nt criteria			Records	
Bushfires are not started from conduct of the regulated activity and infrastructure is protected from fires started outside of the OL areas	No uncontrolled bushfires caused by FOGs activities	 The Incident Management System shows no fires resulting from FOG activities. Records show annual fire scar mapping, annual fire load estimates and maintenance of firebreaks are undertaken. Records show emergency response plan implemented in the event of a fire. Records show weather conditions, including current fire danger are reviewed as part of pre-start/toolbox/Job Hazard Analysis/Permit to Wark proceeds. 		 Incident JHA rec Daily re 	records cords ports		

Environmental perfor	mance measures: Hazards		
		 Records show NAFI fire tracking maps are reviewed daily as part of operations where a high fire danger is present 	
No significant impact on the natural environment from FOG activities in association with weather events	No releases of contaminants resulting in long-term contamination of surface waters	 The incident management system indicates no releases of contaminant incidents related to wet weather operations. Incident management system indicates no incidents relating to the failure of ESFOG controls (within design parameters) 	 Incident records Post wet weather inspection records Daily reports Inspection records
	Erosion and sediment controls in place where required and working as designed	 Records show Erosion and Sediment Control Plan is being implemented. Incident management system indicates no incidents relating to the failure of ESFOG controls (within design parameters) Weather conditions, including current fire danger are reviewed as part of pre- start/toolbox/Job Hazard Analysis/Permit to Work processes 	 Incident records Post wet weather inspection records Inspection records
Environmental monitoring and reporting	Monitor long-term and short-term weaMeasure rainfall (daily)	ather forecast (daily)	
Corrective actions	Replace defective fire equipment.Reinstate fire breaks.Reinstate/repair erosion and sedimer	nt control devices	

5.13 Heritage

Environmental performance measures: Heritage									
Activities	Civil activities – grading of accessRehabilitation	track and sei	smic line.						
Residual risk	Medium	Code of Practice	A.3.1, A.3.5, A.3.7, A.3.8	Uncertainty		A (Low)			
Risk	Consequences		Critical controls						
	 Loss of heritage values or items of significance from: Disturbance/exposure of heritag sites/artefacts of cultural signific Ignition sources present from FC causing fire and loss of areas/ite cultural significance. Unauthorised access to the field Unauthorised access to restricte areas/no-go zones 	 SSCC Certificates/CLC permits in place. Site inductions (cultural awareness) Access to site pre-approved under CLC permit. Exclusion zones Implement Bushfire Management Plan Implement Emergency Response Plan / actions 				 SSCC Certificates/CLC permits in place. Site inductions (cultural awareness) Access to site pre-approved under CLC permit. Exclusion zones Implement Bushfire Management Plan Implement Emergency Response Plan / actions 			
ALARP and Acceptability	Activities are not being conducted in the cultural heritage sensitive areas (exclusion zones / Katiti Petermann IPA), though there is a remote likelihood of disturbance to unexpected items or places of significance ranking this as a low risk. Works are remaining within areas approved under FOGs CLC and AAPA certificates. Further, the NT Heritage Branch will be contacted prior to any ground-disturbing activities, to ensure any known non-publicly listed sites on the Heritage Register are identified. Should additional sites be identified, suitable exclusions zones will be established in consultation with the Heritage Branch. Fire could spread to culturally significant areas if started by FOG activities. This presents a risk of a serious nature for the loss of culturally significant areas, but through the implementation of control measures outlined within the Bushfire Management Plan FOG								
Environmental outcome	Environmental performance standard	Measurement criteria / monitoring Records							
No significant impact to indigenous and non- indigenous artefacts, Aboriginal Sacred Sites,	No non-compliance with AAPA Sacred Site Certificates or CLC permits	 The Incident Management System shows no recorded incidents involving non-compliance with AAPA and CLC permits. Induction (Heritage and Cultural Awareness) 				t records on (Heritage and Cultural ess)			

Environmental performa	ince measures: Heritage		
and non-indigenous heritage sites		 Personnel inductions include cultural and heritage awareness including exclusion zones and unexpected finds procedures 	
	No unauthorised disturbance of aboriginal archaeological places/objects and/or Aboriginal Sacred Sites	 Incident Management System show no recorded incidents involving damage to aboriginal archaeological places/objects and/or Aboriginal Sacred Sites No removal of artefacts in situ without prior approval from Heritage Branch NT 	Incident recordsCommunication with CLC
Bushfires are not started from conduct of the regulated activity and infrastructure is protected from fires started outside of the OL areas	No uncontrolled bushfires caused by FOGs activities	 The Incident Management System shows no fires resulting from FOG activities. Records show annual fire scar mapping, annual fire load estimates and maintenance of firebreaks are undertaken. Records show emergency response plan implemented in the event of a fire. Records show weather conditions, including current fire danger are reviewed as part of pre-start/toolbox/Job Hazard Analysis/Permit to Work processes. Records show NAFI fire tracking maps are reviewed daily as part of operations where a high fire danger is present. Records show emergency response drills are conducted 	 Incident records JHA records Daily reports
Environmental monitoring and reporting	 Notify AAPA/CLC of approval and Review of registers and records (a) 	permit breaches as per conditions (as required) annual)	
Corrective actions	Consult with Traditional Owners/CInvestigate incidents and review a	CLC nd revise procedures	

5.14 Community

Environmental performance measures: Community values						
Activities	 Civil activities – grading Rehabilitation Support activities – chemical 	g of access track and se emical storage, waste ma	ismic line. anagement			
Residual risk	Low	Code of Practice		Uncertainty	/	Low
Risk	Consequences		Critical controls			
ALARP and Acceptability	 Increased traffic during Increased waste gener landfill capacity and dis Based upon the risk being low, the risk is determined FOG has been operating is relationships with the com 	 Iring works programs All activities remain within approved SSCC and AAPA areas. Site Induction Bushfire Management Plan Emergency Response Plan Traffic management plan and logistics coordination Implementation of waste hierarchy in operations and program planning 				and AAPA areas. rdination ations and program planning ific uncertainty score outcome of er 40 years. FOG is maintaining otection of social and economic
	sustainability values rema	ins.				
Environmental outcome	Environmental performance standard	Measurement criteria			Records	
 FOG's activities minimise the following: Reduction in capacity of road infrastructure up to and within Mereenie Maintain and enhance community relationships. 	No complaints from stakeholders	 Records of FOG ap plans. Records show Trad field in liaison with F Charge Contact information and stakeholder to field in contact incider beyond approved or formation and stakeholder to field incider beyond approved or field approved appproved approved approved approved apppproved approved approv	proved journey manage itional Owners able to a Production Supervisor/P provided to local comm facilitate communication nts of work being condu- perational areas	ement access Person in nunities n. ucted	 Stakeh Journey Inciden 	older Communication Log / Management System t records

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Safety risks to the community No disturbance to surrounding land uses/access from FOG activities		 The incident management system shows no record of complaints regarding surrounding land use, access, amenity, noise or nuisance. No recorded incidents against traffic management plans for FOG activities Records of journey management system implementation 	 Stakeholder Communication Log Journey Management System Incident records
	No impact on regional waste resources and services	 Records show only licensed waste contractors are used for waste handling, treatment and/or disposal 	 Waste tracking register
	Visitors and contractors are aware of environmental requirements	 All visitors and contractors are approved for access and inducted according to their visit requirements 	Induction recordsIncident records
Environmental monitoring and reporting	 Waste tracking (as required) Community complaints (as required) Traffic changes (weekly) 		
Corrective actions	 Drive to conditions on unsealed private and public roads to minimise nuisance and safety risks. Communicate with Traditional Owners/CLC where incidents occur beyond operational areas. Investigate incidents and review and revise procedures. Re-instate areas disturbed beyond approved boundaries 		

5.15 Cumulative Impacts

The cumulative	impacts as	sociated with	the Zevon	project have	heen asse	wol ac haza
	impacts as			project nave	DECII 0330	555CU as 10W.

Aspect	Risk rating	Summary	
Water (groundwater)	Low	No groundwater impacts associated with Zevon.	
Surface water	Low	No surface water will be taken and no release to surface water proposed	
Greenhouse Gas Emissions	Low	 Low emissions associated with vehicle use, camp generator use and vegetation clearing (1525.2 tCO₂ e) Current emissions levels do not trigger the <i>Northern Territory Governments Large Emitters Policy 2021</i> 	
Community – traffic	Low	 An additional 13 vehicles per day accessing Mereenie and EP 115 anticipated during specific work programs such as the seismic testing. This is above the current traffic volumes that have been ongoing accessing the Mereenie Field for the last 40 years. Journey Management Planning and personnel awareness through daily pre-start meetings of increased traffic during peak tourist periods and maintaining safety for FOG crews and tourists alike is a priority for FOG. 	
Community – tourism	Low	Tourism activities have worked nearby to Mereenie and EP115 for the life of the field. With the isolated location of the proposed seismic test line, supporting infrastructure and no other resource or industrial projects in the area, FOG considers the impacts of ongoing activities to be low	
Community – amenity / accommodation visual impact	Low	No infrastructure proposed, short term project only	
Rehabilitation – final land use	Low	Successful rehabilitation is dependent on the vegetation type, soil type and moisture content in the soil which, in turn, is dependent on the timing and amount of rainfall in the region after earth work restoration commences	

6 Management Plans

The subsequent management plans have been workshopped and developed in collaboration with suitably qualified, multidisciplinary personnel (e.g. engineers, site managers, environmental professionals, logistics managers) to ensure sources of potential impacts and risks are accurately identified and mitigated. Personnel involved in the development of these management plans included:

6.1 Wet Season Management Plan

The Zevon project activities are set to be conducted in late 2023, and where possible will avoid the wet season. However, in the event the activities are conducted during the wet season, a Wet Season Management Plan has been developed and presented below in Table 21 to address the risks. Management measures will be put in place to ensure the project can continue with little impact on the environment.

6.2 Erosion and Sediment Control Plan

The Code requires an Erosion and Sediment Control Plan (ESCP) for the activities to be developed by a suitable qualified person in accordance with the relevant guidelines including IECA Best Practice Guidelines. Table 22 presents the ESCP for the Zevon project.

6.3 Weed Management Plan

The Code requires a Weed Management Plan (WMP) that is developed in accordance with the requirements of the *NT Weed Management Planning Guide: Onshore Petroleum Projects.* The Weed Management Plan is provided below in Table 23.

6.4 Bushfire Management Plan

The Bushfire Management Plan for the Mereenie Field is provided in Table 24 and has been based on the *Bushfire Management Planning Guide: Onshore Petroleum Projects (DENR, 2020)* and the Code.

6.5 Rehabilitation Management Plan

The Rehabilitation Management Plan, Table 25 addresses progressively rehabilitating significantly disturbed land which is not required for ongoing activities and returning all disturbed areas to a safe and stable landform as close as possible to the surrounding environment pre-disturbance. In the event gravel is required for rehabilitation it will be purchased from a commercial supplier and brought to site. Topsoil will be stockpiled during seismic profiling works and respread during rehabilitation. In the unlikely event more topsoil is required, it too will be commercially sourced and brought to site.

6.6 Spill Management Plan

The Code requires a Spill Management Plan (SMP) that assesses and manages the risks posed by potential spills of waste, wastewater, produced oil or condensate, fluids and any chemicals used or stored as part of petroleum activities and addresses the requirements of the Code is presented in Table 26.

Weather Management Plan 2023

CENTRAL PETROLEUM MEREENIE FIELD			
Property land uses	CP operates the Zevon program under EP 115		
Site Description	EP 115 located approximately 280km SW of Alice Springs in the Northern Territory adjacent to the existing Mereenie field (OL4)		
Wet Season Management Plan			
Purpose	To respond to the risks associated with wet weather on daily operations.		
Objectives	Ensure that all operational and workover activities can continue to be undertaken safely and with minimal risk to the environment during the wet season .		

WET SEASON RISKS			
Key Risks	Controls		
Flooding within the operational areas	 Operations are shut down during significant wet weather or flooding and only restarted once potential for extensive damage has passed. 		
	 Following shut down due to flooding or inundation the risk assessment will be revisited to ensure controls are still appropriate to manage risk to ALARP. 		
	 All chemicals and hydrocarbons are stored within vehicles or suitable containers to prevent rain ingress and overflows where possible. 		
Erosion/damage to	After a rain event any unsealed roads will be inspected to ensure they are safe for vehicles.		
access tracks and roads	 Earthworks will not occur during rainfall events. 		
	 Erosion & Sediment Controls will be examined after a significant rain event and repairs undertaken if required. 		





WET SEASON MONITORING			
Monitoring	Information location/Action	Frequency	
Weather forecast	http://www.bom.gov.au/nt/	Daily	
Road conditions	https://roadreport.nt.gov.au/home	After significant rainfall event	
Internal roads and ac- cess tracks	Visual monitoring for erosion	After significant rainfall event	

Erosion and Sedimentation Control Plan 2023

		Owner	Field Implementation	
ESCP		Central Petroleum's Site Supervisor	Central Petroleum's HS&E Team	
Central Petroleum E	P 115			
Property land uses		CP operates the Zevon pro	gram under EP 115	
Objectives		To minimise land and wate exploration activities by pr sediment discharge.	To minimise land and water impacts in relation to seismic exploration activities by preventing erosion and controlling sediment discharge.	
		EROSION AND SEDIMENTAT	ION RISKS	
Key Risks		C	ontrols	
Arid to semi-arid clim rainfall.	ate, ho	t dry summers and cool dry	winters with a low average annual	
More rainfall occurs in amount of rainfall in t	n the su the arid	ummer months associated w I zone is highly variable.	ith monsoonal influences; but the	
Movement of heavy	• A\	void driving after significant	ainfall events	
, machinery and	• No	 No driving beyond access tracks 		
vehicles	• Pe ap	 Personnel access to the facility and any site/area by permit approved by the CLC 		
	• 0 ar	perations are shut down dur	ing significant wet weather or flooding	
	Enlowing chut down due to flooding or inundation the risk			
	assessment will be revisited to ensure controls are still appropriate			
Significant rainfall	to	manage risk to ALARP.		
events	After a rain event any unsealed roads will be inspected to ensure			
	th	ey are safe for vehicles. • Ea	rthworks will not occur during rainfall	
	ev	vents.		
	• Er	Erosion & Sediment Controls will be examined after a significant rain		
	ev	ent and repairs undertaken	if required.	
		LIKELY IMPACTED AR	EAS	
	Г.	victing trools		
Disturbanco aroac	• EX	asung track		
Disturbance areas		evicusiy cleared seisific life	pismic line	



	EROSIO	N AND SEDIMENTATION MONITORING PR	OGRAM
Mitigation Measure	Measurement Criteria	Monitoring frequency	
Main seismic line (during seismic acquisition)	 Minimise disturbances. Use existing tracks. Travel at slow speeds. No work during wet weather events. 		
Stub Line	 Avoid disturbance. No clearing of vegetation or land for tracks. Use UTV's at slow speeds to access. Manoeuvre around sensitive areas. No work during wet weather events. 	Visual inspections of Zevon area	Rehabilitat Area of d period
Access track in the location of the seismic line post acquisition	 Rehabilitate existing sections of the track exhibiting erosion issues. Reprofile to prevent concentration of sheet flow. Install erosion controls to redirect water from the track and other restricted works areas (eg. mapped heritage exclusion zones and ecologically significant areas). Install erosion controls upstream to reduce erosion and lower water velocities in some locations. No windrows. No work during wet weather events. 	 Visual inspections of Zevon area undertaken to ensure that a stable landform is being maintained. Ensure restricted works areas are visually inspected for ESC impacts and that all controls are in sound working order. Inspections after significant rainfall events (e.g., greater than 15mm in 24hrs). Drone footage and photographic image will be recorded prior to and 	 Area wh Area of or reporting Drone ar monitori Monitor activity at Any eros Any stak Any issues
Main Seismic line clearing	 Reprofile to prevent concentration of sheet flow. Install erosion controls to redirect water from the track and other restricted works areas (eg. mapped heritage exclusion zones and ecologically significant areas). Install erosion controls upstream to reduce erosion and lower water velocities in some locations. Ensure breaks in windrows. No work during wet weather events 	- post the Zevon program.	measure actions ta realised. • Monitori • Weed mo

Record

tation report:

disturbed land available for rehabilitation at the start of the reporting

- disturbance that occurred during the reporting period
- where rehabilitation commenced during the reporting period
- of disturbed land (if any) remaining to be rehabilitated at the end of the ing period
- and photographic monitoring point GPS locations and results of oring undertaken during the reporting period
- oring of progressive rehabilitation, including flora type and density, fauna y and soil stability
- osion and sedimentation issues
- akeholder consultations and results of discussions related to rehabilitation
- sues that may affect the rehabilitation success factors noted in the irement criteria within the Rehabilitation Management Plan. and remedial s taken or required to be undertaken to allow the success factor to be
- oring of contaminated sites (if any) monitoring

Erosion and Sedimentation Control Plan 2023

			Land Systems	
Land System	Description	Geology	Topography	Soils
Singleton	Desert Sandplains	Level to undulating sandplains with red sands.		
Simpson	Desert Dunefields	 Spinifex-covered sand dunes. Dunefields with parallel linear dunes, reticulate dunes and irregular or aligned short dunes. Variable relief. Associated swales in between dunes. Red sands on dunes and a variety of soil types in swales- such as red clayey sands, red earths, and calcareous earths. 	A fold complex of prominent east-west ranges, mainly quartzite, lowlands on limestone and with gravel terraces over moderately weathered bedrock	 Tenosols which lack a well-developed soil proare generally sandy. Kandosols, which lack texture contrast, are na calcareous and parent material is siliceous to intermediate. Sodic soils were not observed during site survey.

TYPICAL EROSION AND SEDIMENTATION CONTROL DEVICES*				
Туре	Use	Example		
Fibre rolls	 Fibre rolls consist of small-diameter, biodegradable straw/coirfilled logs. Can be used as check dams in wide, shallow drains so long as the logs can be anchored to prevent movement. Best used in locations where it is desirable to allow the log to integrate into the vegetation, such as in vegetated channels. 			
Cross ban (whoa boy) drainage	 Divert water off tracks Collect and divert sheet flow off roads and tracks 			
Devices will be as per the design standards of Source: Erosion and Sediment Control- A Fie	of *IECA Best Practice Erosion and Sediment Control Guidelines Id Guide for Construction Site Managers, Version 5, 2012, Catchments & Creeks Pty Ltd			

	Erosion Horard
profile and not to urveying.	 Low risk from seismic activities. Primary risk is from rainfall over the survey location.

Zevon Test Line Weed Management Plan 2023	Key Risks
	Machinery and equipment from weed infested locations – potential for introduction and spread of weeds . If com . Comp
Contact Details Name	Spread of weeds due to driving vehicles and trucks along • Mach tracks

Tom Reilly

CENTRAL PETROLEUM MEREENIE FIELD Property land uses CP operates the Zevon program under EP 115 Site Description EP 115 located approximately 280km SW of Alice Springs in the Northern Territory adjacent to the existing Mereenie field (OL4) Weeds Management Plan Purpose To prevent and control new and existing weed species within the operating licence areas. Objectives To prevent weeds through the following process steps: I. Identification Prevention

EcOz, on behalf of CP

Weeds Officer

3. Control 4. Disposal NOTIFICATION, RECORDING AND REPORTING

Aspect	Action
Notification	 Notify the Weed Management Branch within 48 hours of the discovery of a new declared weed species (i.e., not previously identified in weed surveys or recorded in the NR Maps system) within the seismic survey locations.
	 Initial notification will be by telephone with follow up written notification provided within seven (7) working days.
	 Written notification is to include a preliminary species identification and location (easting and northing).
Recording	 Weed surveys is undertaken by the Weeds Officer. Data on weed distribution will be maintained in CP's geographical information system and be provided to the NT government as part of the annual report on performance against the WMP, or when requested by the Weeds Management Branch.
Reporting	A report on the performance against this WMP will be submitted to DEPWS as part of EMP reporting .

	RISKS AND MANAGEMENT CONTROLS
Key Risks	Managemen
Machinery and equipment from weed infested locations – potential for introduction and spread of weeds	 Machinery wash down prior to entering site. If coming from known weed-infested areas or interstate, vehicles sh Compulsory site inductions provided to all personnel, contractors, and the set of the set of
Spread of weeds due to driving vehicles and trucks along tracks	 Machinery washdown prior to entering and after leaving the site. Location of weeds reported to Declared Weeds Officer when observ Avoid driving through areas of high infestation to low infestation when a some and a set of the set of the
Insufficient survey effort Weeds present on site not identified during survey	 Use of NTG spatial data sets to find areas of weed infestations within Completion of a site survey prior to commencing work in new areas.

			MANAGEMENT PROCESS	
	Process Step	Objective	Actions	Frequency
	Weed Identification	Weed species and area of infestation are identified and monitored	 Annual Weed survey, or more regularly if determined by Weeds Officer . 	
	Weed prevention	No new declared weeds, WoNS or environmental weed individuals or infestations	 Vehicles and/or equipment coming from an area with Declared Weeds should be cleaned and obtain a weed free certificate from qualified personnel before entry If areas containing weeds are accessed, clean all equipment and machinery. Wash or blow down vehicles to prevent transfer of weeds to uncontaminated areas No unnecessary clearing to minimise ground disturbance Road grading in areas of weeds should start from the outside of the infestation towards the centre of the infestation No off-road driving Monitor operational areas and 'hotspots' continually Report weed sightings to the Weeds Officer 	Ongoing as part of activities
	Weed Control	Existing weeds are controlled using effective methods Personnel and infrastructure are protected from increased fire risk due to weed infestations No spread of weeds No new weed species present	 Use the correct control and/or removal method selected by trained personnel/contractor based on species present and extent of infestation Plan a rapid response to seasonal changes to maximise the effectiveness of control activities Engage local traditional owners, rangers or contractors to assist with mechanical and chemical control of weed species at the site CP staff will also undertake weed control when they are available during normal operations Control activities are mapped using the same methods as undertaken in past surveys undertaken by CP to ensure consistent capture of information. This will enable the Weeds Officer to be more aware of the spread or containment of existing weeds and the effectiveness of weed control 	Control/removal scheduled to occur prior to weed seeding where practicable - timing with seasons and predicted rainfall (Usually Nov-March)
		Weed control methods result in no environmental harm	 Only suitably trained personnel will use chemicals and herbicides, in accordance with CP's chemical handling and storage procedures Relevant stakeholders will be consulted prior to chemical herbicide being used Assess areas outside of operational areas prior to weed control to identify conservation-listed flora. Ensure non-target conservation-listed species are not impacted by weed control Minimise drift by spraying on low-wind days No use of residual herbicide pellets within 2-3 canopy diameters of trees or shrubs Follow-up surveys will refine the impacts of weed removal of the potential for future vegetation re-growth 	During weed control activities as part of operational procedures Prior to weed control in areas outside of operational area.
]	Disposal of weeds and chemicals	Weeds disposed of in environmentally friendly manner No further weed spread from disposal Correct disposal of chemical containers	 Any weed plant material (leaves, seeds, flowers, branches etc.) that are physically removed from plants chemically treated in situ as part of vegetation clearing will be removed from site (e.g. via waste bins) It is illegal to transport declared weeds. If declared weeds enter the site, these should be captured by the dedicated weeds officer and provided to the Northern Territory Governments Weeds Management Branch for disposal and to prevent emergence of seeds or seedlings Chemical containers disposed of correctly 	On completion of weed control activities
	Reporting	Compliance with NTG requirements	Annual update provided to DEPWS to include weed control activities, updated locations of weed spread.	Annual survey report provided to DEPWS

nould have a weed-free certificate issued. and visitors prior to entering the site.

ved by workers.

here possible.

in close proximity to the site.

Weed Management Plan 2023

			DS SPECIES
Common Name	Scientific Name	Image	Description
Buffel grass	Cenchrus ciliaris		 Long lived dense tussock grass with deep tap-root system up to 1m tall. Stalks are tough and branched with swollen bases. Leaves are produced at the basal and higher nodes. Rhizomes up to 0.5 m long. Flower- varies in colour from straw to purple. Long cylindrical, dense, spike-like, 2.5–15 cm long. Leaves- blueish-green, hairy with pointed tips, flat or folded. Seed heads- Dense, hairy, cylindrical spike up to 15 cm long and 2 cm wide. Seeds en- closed in a cluster of bristles, giving 'fluffy' appearance.
Gomphrena Weed	Gomphrena celosiodes		 Prostrate and mat-forming to ascending or erect 7 -30 cm tall Leaves narrowly oblong to oblong- elliptic or oblanceolate. Papery white flower heads.
Spiked Malvastrum	Malvastrum americanum		• Erect, annual, or short-lived perennial herb to 1m tall. Most parts with short, scattered, stellate hairs, dense on young growth. Leaves ovate to lanceolate. Flowers in a dense terminal spike, yellow to orangish yellow. Can produce root suckers



Zevon Test Line				Contact Details	Nar	me		E	BUSHFIRE MANAGEMENT ACTIONS		
Bushfire Manag	gement Plan 2023	Bushfire Office	er	Onsite Company Represer	ntative			Activity	Management Controls		
		Stakeholders		Contact Details				Seismic exploration program	 Fire extinguishers to be available within vehicles Designated smoking areas provided Ignition sources to be managed 		
Central Petroleum Mereenie Field		Emergency		000 0r 112 from n	nobile			seisine exploration program	Onsite risk assessment to be conducted each day		
Property land uses	CP operates the Zevon program under EP 115	Bushfire NT	Bushfire NT 08		ad office)				No open fires permitted		
NT Fire Management Zone	Alice Springs			088952 3066 (Alic Bushfires.nt@nt.g	e Spring) ov.au				 Staff members responsible for managing bushfire risk to be competent in the role they perform 		
NT Fire Protection Zone	EP115 is not located within a NT Fire Protection Zone	NAFI		www.firenorth.or	g.au/nafi3/				 Daily monitoring for fire alerts to be undertaken Emergency response plans to include response requirements for 		
Aim	To minimise the potential and impact of fires from CPs activities to people, environment, culturally significant	Bureau of Met	eorology	www.bom.gov.au					fires Inductions to include bushfire risks, hazardous zones, controls, 		
	sites, public infrastructure and community lands.	NT Fire Incide	NT Fire Incident Map		au/incidentma	<u>p/</u>		General	and emergency response procedures		
Objectives	Minimise the risk of causing bushfires from CP's activities and to prevent accidental fire risk and ensure safe storage of chemicals	Secure NT		securent.nt.gov.a	u/alerts				Storage of chemicals to be in accordance with the relevant Australian Standards Set Standards		
Plan Owner	Pick and HSE Managor	Central Land Council 0		08 8951 6211					 Sufficient water to be available onsite to enable CP to provide an initial response to an accidental fire 		
Flati Owner		Haasts Bluff Aboriginal Land Trust 0		08 8962 2343					 If unable to control fire notify Bushfires NT and properties where spread is likely to go 		
				SEASONAL BUSH	FIRE RISK CALE	ENDAR			Jarine		
	BOSHI INC ALENTS		Month	Bushfire risk	Mon	nth	Bushfire risk				
Advice	Areas which have either a small fire which is controllable, planned f reduction burning or an area likely to be affected by smoke										
Watch and Act	An area that has a bushfire approaching a community, changing with conditions or will threaten property or life if not controlled		Jan ging with		High Ju		Low		EP115		
Emergency Warning	An area that is in immediate danger from the bushfire and now to protect your life	you must act	Feb	High	Au	ıg	Low				

	SEASONAL BUSHFIRE RISK CALENDAR					
	Areas which have either a small fire which is controllable, planned fuel		Bushfire risk	Month	Bushfire risk	
Advice	reduction burning or an area likely to be affected by smoke	lan	High	1.1	Low	
Watch and Act	An area that has a bushfire approaching a community, changing with conditions or will threaten property or life if not controlled	Jan				
Emergency Warning	An area that is in immediate danger from the bushfire and you must act now to protect your life	Feb	High	Aug	Low	
	BUSHFIRE RESPONSE—ERP			<u>Car</u>	•	
	Actions	Mar	High	Sep	LOW	
Move Away	Move yourself and others away from danger					
Raise Alarm	Raise alarm on field radio UHF Channel 1 /SOS alarm on tracker/ phone	Apr	Medium	Oct	Medium	
Kaise Alarm	Notify emergency services Activate alarms and muster, as required	Мау	Medium	Nov	Medium	
	Fire location Wind direction	-				
Gather Information	 Wind strength Size of fire Type of fire Any injured/missing personnel 	June	Low	Dec	High	

Mobilise SERT	 Mobilise Site Emergency Response Team (SERT) if additional resources are needed The control of a bushfire rests with owner / occupier of the land—to ensure fire risk is managed to ALARP, all elements of this Management Plan are to be adhered to. SERT will be engaged in the event of fire being reported. In all instances of uncontrolled fire, the SERT leader shall notify local fire control officers / wardens (ie. Rural Fire Brigades and applicable landowners). SERT will also review what plant must be shut down or additional fire breaks be prepared.
Notify	 Neighbours in surrounding properties and local fire wardens / Rural Fire Brigades.
Monitor	 Weather information Wind direction Local fire information/NAFI Road condition reports
Record and Report	 All fire incidents, near misses and potential hazards are logged through CPs incident reporting system for further investigation and initiating

corrective actions

Fire Scar Map
 Zevon 2D science (testine Versitive 2000-2002
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 Software service at the
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12 16 20

Zevon Test Line		Contact Details Name		Seasonal Rehabilitation Calendar								
Rehabilitatio	on Management Plan 2023	3	CP Rehabilitation Officer	Rehabilitation Officer EcOz Tom Reilly		Мо	Season	son Activities	Мо	Season	Activities	
Location of the M Property land uses Climate	Gas exploration and cattle grazing In general, EP 115 experience an arid to ser characterised by hot dry summers and cool age annual rainfall. Typically, more rainfall months associated with monsoonal influen- rainfall in the arid zone has a history of beir	Rehabilitation Objectives The objectives of this rehabilitation to: • Minimise disturbance as far • Progressively rehabilitate sign	Rehabilitation Objectives Actions for successful Rehabilitation The objectives of this rehabilitation management plan are to: Prior to and during operations, activities are undertaken to improve the success of rehabilitation these include: • Minimise disturbance as far as reasonable practicable • Utilisation of a multi-criteria assessment (inclusive of rehabilitation objectives) to select a preferred location			Jan	Wet	 Revegetation Broadcasting seeds Collection of seeds 	Jul	Dry	 Decommission and remove non-essential infrastructure Install ESC for new infrastructure Establish analogue sites for new infra- structure 	
Site Description (pre-disturbance)	EP 115 located approximately 280km SW of ern Territory adjacent to the existing Mereenie field (OL4)	f Alice Springs in the North-	 which is not required for on Return all disturbed areas to as close as possible to the su Ensure significantly disturbe its pre-disturbed condition a No residual contamination 	going activities o a safe and stable landform urrounding environment ed land is re-established to and land use	 Completion of pre-disturban Preparation of maps defining ment areas or zones and infi Topsoil is stockpiled onsite a mounds (<2m) to preserve ti Vegetation stockpiled separa bank, habitat and erosion pr 	ce surveys g boundaries of different rehabilitation manage- astructure round the edges of the lease in low profile he biological activity ately on the edge of the lease preserved for seed otection	Feb	Wet	RevegetationBroadcasting seedsCollection of seeds	Aug	Dry	 Decommission and remove non-essential infrastructure Install ESC for new infrastructure Establish analogue sites for new infra- structure
Activity	Environmental Strategies and timi Strategies	ng Timing			Erosion and sediment deviceAll wastes managed per the	is are put in place as per the ESCP EMP			 Revegetation Broadcasting seeds Collection of seeds 			 Decommission and remove non-essential infrastructure Install FSC for new
Analogue sites	Identify appropriate analogue sites for each of the disturbance areas	After the first wet season in conjunction with the first monitoring event	Key Risks	Controls	Rehabilitation Risks		_ Mar	Wet		Sep	Dry	 Establish analogue sites for new infra- structure
Post seismic activi- ties	 Remove rubbish Re-instate soils Re-spread vegetation previously cleared 	Commence post seismic activities	Drought — impacting the establishment of rehabilitat- ed vegetation	 Time rehabilitation actions to coincide with the beginning of the wet season, to ensure access to the site and maximise the establishment period of vegetation over the wet season Re-spread topsoil across the site to utilise the local seed bank Ongoing monitoring to identify if further seed inputs are required Collection of seed from the local area to ensure seed stock is suited to the climatic conditions of the site. 				Wet	 Repair ESC controls Weeds survey and management Collection of seeds 	Oct	Dry	 Decommission and remove non-essential infrastructure Install ESC for new infrastructure Establish analogue
Land use	• The disturbed areas will be returned to the original land use.	Commence post seismic activities	Grazing —impacting revege	Ongoing monitoring to determine if further seed inputs are required								 Sites for new infra- structure Prepare rehabilitation areas for wet season
Soil Stability	Remove any flow concentration points that may block overland sheet flow Re-instate natural drainage channels (i.e. removal of bunds and structures that tem- porarily altered flow paths) Return soil profile with topsoil replaced as final layer where possible Ensure all cleared areas have a rough sur-	Commence post seismic activities	Lack of topsoil and soil inver- sion—impacting rehabilita-	 Re-spread timber with Ongoing monitoring to Ongoing monitoring to Ongoing monitoring to Ongoing monitoring to Soils are to be returned Topsoil spread over the Topsoil may need to be 	 b operation of the second secon	egetation. re required uck of topsoil	May	Wet	 Repair ESC controls Weeds survey and management Collection of seeds Complete rehabilita- tion annual monitor- ing 	Nov	Transition	 Check ESC controls Prepare rehabilitation areas for wet season
	face to aid in water, seed and litter catch- ment Erosion and sedimentation devices installed and maintained		Exposed Ground — leading to an increase in weed estab- lishment and/or erosion	 Remove windrows and Respread of topsoil and Annual weed surveys c Control of any weed in 	nd topsoils and vegetated matter across the site s of rehabilitated area once rehabilitation is established incursions		June	Transition	 Repair ESC controls Monitor and prepare for bushfires 	Dec	Wet	 Revegetation Broadcasting seeds Collection of seeds
Contaminated soil	Undertake remediation of contaminated soil in accordance with spill management plan / emergency response plan	Remediation of contamina- tion to be undertaken im- mediately.				Decommissioning and Rehabilitation Pro	ocess					
Revegetation	Revegetation of disturbed areas is under- taken post soil stability. Where possible natural regeneration of areas will be pro- moted. If there is limited materials to promote regeneration then seeding a cover crop may be used to assist in soil stability until pioneer species emerge. Where natural regeneration requires assis- tance seeding of native plants will be un- dertaken.	Commence post seismic activities	Asset Seismic line • Re-in • Re-sp ation • Imple • Re-se Camps • All se	Specific activitie ove rubbish istate soils pread vegetation previously c mement ESC devices at high risk eed if required ervices are blinded and left sa	es to the asset cleared to promote natural regener k erosion areas afe or removed	General activities across all assets Any imported gravel material is removed and returned to the source quarry or utilised elsewhere on CP operational sites The site is re-contoured as close as possible to the pre-existing natural landscape Hardstand is deep ripped to relieve compaction, encourage infiltration and water retention Topsoil is respread evenly over the lease area and lightly scarified to encourage moisture retention and seed capture Vegetation is respread over the lease, this acts as erosion control, provides habitat and promotes natural revegetation Any weeds or invasive species are managed per the weed management plan during the rehabilitation process Temporary erosion and sediment controls to support the rehabilitation designed and installed where required						tes
Monitoring	All monitoring to be undertaken by a suita- bly qualified person and in accordance with this Plan. Identified restricted work areas within 100m of disturbed areas will be monitored during rehabilitation monitoring to ensure no occurrences of weeds or ero-	Refer to the rehabilitation measurement criteria and monitoring program	(contracted) • Sewa • Tem	age treatment facility is remo porary fence around the irriga	oved ation area removed	 All waste removed from site If natural revegetation success is low, seeding may be required, this will be assessed through the monitoring program. 						

Zevon Test Line Rehabilitation Management Plan 2023—

Rehabilitation measurement criteria and monitoring Program

CP Rehabilitation Officer

	Accepta	ability Criteria			Annual Monitoring Program		
Rehabilitation Outcome	Endpoint(s)/Performance Standards	Measurement Criteria	Rational	Frequency	Proposed Methodology (adaptive depending on seasonal conditions)	Rational	Corrective Actions
 The vegetation composition (e.g. type, density and maturity) of the rehabilitation is recognisable as the target vegetation community and indistinguishable from the surroundings. The vegetation structure of the rehabilitation is recognisable as, or is trending towards the target plant community. No adverse erosion 	 Dominant species in anal- logue sites are represented in rehabilitated areas Community structure is substantially the same as the analogue site/s groundcover, shrubs and trees Perennials have estab- lished, stabilising soils and reducing erosion potential Habitat structures and habitat quality are sub- stantially similar to ana- logue sites, creating con- nection to the adjacent landform and vegetation allowing for fauna re-use of the site Completely stable (or in dynamic systems such as dunal landforms, same degree of stability as sur- rounding terrain) 	 Ground cover - 75% foliage cover and density of the analogue site Perennial Cover- recruit- ment of woody perennial species achieves 75% of the analogue site Plant species richness and abundance achieves 75% of the analogue site No declared weed species under the Northern Terri- tory Weeds Management Act No weed species 50% of the organic litter and coarse woody debris of the analogue site No evidence of soil subsid- ence and <2% erosion across the site (qualitative – photo evidence of scar- ring, rill/sheet erosion) 	 cover equivalent to 75% of the analogue site/s is likely to self-sustain over time and rehabilitated areas become ecologically integrated with surrounding areas Species richness shows the rehabilitation site is able to support the full complement of species from analogue sites, even if not all species are yet at the same abundance, noting that in an arid environment, species such as spinifex grow extremely slowly In arid regions soil stability is critical for the success of rehabilitation 	 Annually, continencing after the first wet season, and noting the following: The Amadeus Basin is located in an arid region and establishment of vegetation generally is slower than areas with higher rainfall. Therefore, it is unlikely that quantitative assessments will provide meaningful data to determine rehabilitation success in years 1, 2 and 3 In year 1 the analogue sites will be set up, the photo monitoring points will be established and the permanent woody species transect will be assessed for stability and any weed issues. 2 and 3, if there is no evidence of vegetation regeneration but the sites appear to be stable, and free from erosive forces or fire effects, a visual assessment only of cover and structure will be made. In year 4, and year 5 monitoring against endpoints will be undertaken. An adaptive approach will be taken year on year for the monitoring. A suitably qualified person may adapt the monitoring based on the seasonal conditions (i.e the wet season). This will be documented in the annual rehabilitation report. Post 5 years the EMP will need to be updated and the data collected will be used to update the new rehabilitation plan. 	 Year 1 2 or more analogue sites in nearby undisturbed vegetation community and landforms as per the analogue definition and selected by a suitably qualified person E stablish permanent 100x4m woody species transects E stablish photo monitoring and collect photos Record any weather events during the period Check for subsidence across the rehabilitated area Assess the % of erosion across the rehabilitated area Check for soil inversion issues and map areas of concern Check for integrity of works and ability for future rehabilitation success Record any weather events during the period photo monitoring Check for subsidence across the rehabilitated area Assess the % of erosion across the rehabilitated area Assess the % of erosion across the rehabilitated area Assess the % of erosion across the rehabilitated area Check for subsidence across the rehabilitated area Check for subsidence across the rehabilitated area Check for any loss of topsoil through erosion and map areas of concern Check for any loss of topsoil through erosion and map areas of concern Check for any loss of topsoil through erosion and map areas of concern Check for soil inversion issues and map areas of concern Weed survey Year 4 Woody species transects from the permanent 100x4m Collect 1x1 m ground cover quadrants every 10m along a transect. Transect to be randomly selected Photo monitoring collected Record any weather events during the period Check for subsidence across the rehabilitated area. Check for subidence across the rehabilitated area. C	 The per the code of mattice A3 (0) the rehabilitation plan should be appropriate to the scale and nature of the activity. In CPs experience operating in the Amadeus Basin, which is an arid region the establishment of vegetation takes time. In CP experience it takes 10+ years for sites to reach the rehabilitation outcomes. The rehabilitation plan has been developed to meet the scale and nature of the rehabilitation (i.e. size of the disturbance and the time to rehabilitation) As per the Code of Practice A3.9 (e) Regular maintenance and at least yearly monitoring of rehabilitated areas must take place to measure compliance with the Rehabilitation Plan. Rehabilitation success relies on good site preparation and rainfall and an adaptive approach for monitoring is required to take in the seasonal conditions. This will rely on a suitably qualified person to assess the seasonal variations and match the appropriate monitoring to undertake each year. This could include the use of technical advances like drones, satellites, remote sensing and lidar to assess the site stability and vegetation cover. The quantitative data is of significant value as the rehabilitation matures and reaches the acceptability criteria. In addition, the year on year growth in an arid environment is slow and therefore yearly monitoring of all parameters is not necessary. The key is to assess if the site is on the right trajectory to achieve the acceptability criteria, which aligns with the adaptive management approach. 	 tation success – implement the weed management plan Pest species impacting the rehabilitation success – Identify the pest species and put in place measures to protect the rehabilitat- ed areas (e.g. fencing) Poor vegetation germina- tion/re-growth is limited in richness/ or community structure inconsistent with the analogue site – Infill seeding and/or top dress with a soil additive/topsoil or fertilise Erosion and sediment con- trol remediation of failed erosion and sediment con- trols Review the re-profiling of the site to address any stabilisation issues. Under- take earthworks for re- profiling as necessary

Z

S

Zevon lest Lir	ne								LENTRAL PETR		IESI LINE	
	Property land uses CP ac					ictivities for the Zevon program are under EP 115						
Spill Manager	ment Plan 2023	Aim To inf					o minimise the potential impact of spills from CPs activities to people, environment, cultu ifrastructure and community lands.					
	SPILL RISKS	Objectives				Oper up	rate with due care to	o preve	ntloss of contain	ment, ensure safe	storage and handling of p	
Key Risks	Controls	Communications										
									SPILL SCENAR	IOS AND MANA	GEMENT	
Contamination of groundwater	 Avoidance—Groundwater will not be accessed as part of the Zevon test line. 	Activi	ty	Activi Durat	ty ion	Me	echanism		Location	Quality	Quantity (per event)	
		Storage of chemica hydrocarbons, sew greywater	als, vage and	27 days	Conta Lids / corre	ainer r / taps i ectly	upture not fitted / fitted	Withii Temp	n Vehicles orary camp	As per SDS	Vehicle—100L Camp—10,000L	
Contamination of	• The storage of contaminants will be in accordance with relevant SDSs and within dual lined tanks, containers or pallets (with capacity of 110% of storage receptacle) and no closer than 50m of any identified watercourses (ephemeral or running). In the event of a release to grade, the area will											
surface waters	be immediately addressed with either a spill kit to contain / absorb the spill or where contaminants have entered a	Vibroseis Truck ref	uelling	Daily if required	• Incor • Poor	rrect re refuel	efuelling setup ling practices	Virob	eis Truck		100 L	
watercourse an appropriate aquatic spill kit will be deployed to contain the spill and suck up contaminated water for waste disposal.		Storage of liquid waste (oils degreasers etc)		27 days	27 days · Conta • Lids n correc		ainer rupture not fitted / fitted ectly		n vehicles orary camp		Less than 2L	
Contamination of soil	 In the event of a release to grade the area will be immediately addressed with either a spill kit to contain / absorb the spill or where contaminants have soaked into topsoil it will be scraped up and disposed of as contaminated material. All contaminated soil is to be captured and disposed of unless deemed significant (ie. Level 3) where a remediation plan will b developed as part of the incident reporting process. This will include an oppoing remdiation and sampling program until deemed 						LEVEL 1 LEVEL 2		 Spills can b ment Spills < 200 Clean-up ti Examples: storage, sn ERP not trip 	e contained wit DL me generally < : diesel spills duri nall wastewater ggered	hin the disturbance foo L day ng fuel transfer, oil spill spills	
	'clean'		Sec:11 (1)						Spill that m clean-up	hay not be comp	letely contained within	
SPILL TIER LEVEL	S	20-200L	200-2,50	00 L	>2,500 L				 ERP not tri Clean-up ti ERP not tri 	ggered me <1 week ggered		
Receiving	Bund or contained impervious area	Internal report	Level 1	1	Level 1		LEVEL 3					
environment	Onsite lease pad, camp pad, hardstand, plant oper- ating areas (CTP/ESS), road or work area compacted or sealed surface	Internal report	nternal report Level 1		Level 2				 Spills cannot be contained and require sutive environment or cultural feature Clean-up time > 1 week ERP triggered Offsite incident—EPA must be notified or 		and require substantial al feature t be notified of any inci	
	Undisturbed permeable surfaces/areas adjacent to lease pads, camp pads, onsite roads where spills have moved beyond the approved activity area	Level 1	Level	2	Level 3				line 1800 0	oon as practicad 64 567.	e, but no less than 24 r	
	Sensitive environmental or cultural feature (waterway, drainage lines, wetland, high valued habitat and sa- cred site) or where the spill has, or has the potential to, cause material or serious environmental harm	Level 2	Level	2	Level 3							

rally significant sites, public

potentially contaminating substances and undertaking effective spill clean-

Key Management Control

- Daily inspection of vehicles
- Minimise the quantity of chemicals carried onsite to only those required for the seismic exploration program
- Place spill absorbent pad beneath storage containers to minimise contact with the soil
- Secondary containment at the camp site storage areas
- Daily check of tanks and secondary containments

Operators maintain visual contact whilst refuelling the Vibroseis Truck

Daily inspection of waste storage area and ensure all hazardous liquids are stored in dual lined containers or on bunded pallets.

ot print & cleaned up by site personnel with no external involve-

llage during routine maintenance, chemical spills during mixing, and

the site boundary and/or may require additional resources to

feature

additional resources to clean up or the spill has entered a sensi-

ident outside of the OL that is causing or threatening to cause pol-hours after becoming aware of the incident. NT EPA Pollution Hot-

SPILL INCIDENT NOTIFICATION

SPILL RESPONSE

	Recordable Incidents	Reportable Incidents	WMPC Act Incident
	DETAIL	DETAIL	DETAIL
a -Stay clear of vapour,	Recordable incidents are defined in the <i>Petroleum</i> (<i>Environment</i>) <i>Regulations 2016</i> as meaning an inci- dent, other than a reportable incident, arising from a regulated activity that:	Reportable incidents are defined in the Regulations7 as meaning an incident, arising from a regulated activity that has caused, or has the potential to cause, material environmental harm or serious environmental harm.	Where contaminants or waste is not confined within the land on which the petroleum activities are undertaken (i.e. the approved disturbance areas where the petroleum activity is occurring). ACTION
.g. ignition sources etc)	 has resulted in an environmental impact or risk not specified in the current EMP for the activity, or 	ACTION An interest holder must notify DEPWS of a reportable incident as soon as	The EPA must be notified of any incident causing or threatening to cause pollu- tion as soon as practicable, but no less than 24 hours after becoming aware of
⁷ be mobilised to assist	 has resulted in a contravention of an environmen- tal performance standard specified in the current EMP, or 	practicable but no later than 2 hours after the first occurrence of the incident or after the time the interest holder becomes aware of the incident.	the incident. The notification shall be made to the NT EPA Pollution Hotline 1800 064 567. In the unlikely event a spill impacts a restricted works area ,notification will be
nment resources al around and over the inside	 is inconsistent with an environmental outcome specified in the current EMP. ACTION DEPWS of a recordable incident as soon as practicable but no later than 15-days after the reporting period (agreed period or each 90-day period after the day on which the EMP is approved). 	hotline on 1800 413 567. Any verbal report to DEPWS must be followed up by a written report from the Project Manager within three days in accordance with the Pe- troleum (Environment) Regulations. In the unlikely event a spill impacts a restricted works area notification will be made to AAPA and the relevant Traditional Owners as part of ongoing community engagement practices	made to the relevant Traditional Owners through AAPA .
		ongoing community engagement protected.	
as you can including spill , spill area, if required under the	Types of Incidents Reportable Incident — an incident, arising from significant environmental harm (refer to define All reportable incidents shall provide notice or	om a regulated activity, that has caused or has the potential t ition of environmental harm / material / serious environme f the incident within 2 hours (once the interest holder becon	to cause environmental harm, material environmental harm or ental harm in this plan). Thes aware of the incident) orally or in writing outlining:
	• the contact details of the interest hold	er: and	, , , , ,
(e.g. spill kit materials	all material facts and circumstances ab	out the reportable incident that the interest holder knows o	r is able, by reasonable search or enquiry, to find out; and
in the waste storage	 information about any action taken to information about the corrective action 	avoid or mitigate material environmental harm or significant n that has been taken, or is proposed to be taken, to prevent	environmental harm in relation to the reportable incident; and ta similar reportable incident.
e disposal facility ncing to prevent access	If notification is provided orally, the interest h specifying all the matters mentioned above.	older must, not later than 24 hours after giving oral notice, g	give the Minister a written notice about the reportable incident
r contaminated sites	An initial report about the reportable incident	shall be given to the Minister within 3 days of the incident f	irst occurring and shall include:
	the results of any assessment or investigation assessment of the effectiveness of the design ture;	of the conditions or circumstances that caused or contributes, equipment, procedures and management systems that we	ed to the occurrence of the reportable incident, including an re in place to prevent the occurrence of an incident of that na-
plement management	• the nature and extent of the material e	environmental harm or significant environmental harm that t	the incident caused or had the potential to cause;
	• any actions taken, or proposed to be ta	aken, to clean up or rehabilitate an area affected by the incid	lent;
	• any actions taken, or proposed to be ta	aken, to prevent a recurrence of an incident of a similar natu	re.
<u>984</u>	• A final report about the reportable inci area affected by the reportable incider	dent shall be given to the Minister as soon as practicable bu It is completed. The final report will include a root cause ana	t no later than 30 days after the clean up or rehabilitation of the lysis of the incident.
se effect on	Recordable Incident — an incident arising fro	m a regulated activity that:	
fect on the	has resulted in an environmental impa	ct or environmental risk not specified in the current plan for	the activity; or

- has resulted in a contravention of an environmental performance standard specified in the current plan for the activity; or •
- is inconsistent with an environmental outcome specified in the current plan for the activity; and •
- is not a reportable incident. •

All recordable incidents shall be reported within 15 days of end of each reporting period (every 90 days after EMP approval). The report shall contain:

- a record of all recordable incidents that occurred during the reporting period; and
- all material facts and circumstances concerning the recordable incidents that the interest holder knows or is able, by reasonable search or enquiry, to find out; and •
- . any action taken to avoid or mitigate any environmental impacts and environmental risks of the recordable incidents; and
- the corrective action that has been taken, or is proposed to be taken, to prevent similar recordable incidents. .

A
Actions
Actions

Stop	SPELIES	 Request assistance if needed Ensure all personnel are safe and clear of area -Stay clear of vapou fumes, smoke and spills Evacuate and muster (if necessary) If safe to do so: Remove any potential escalation factors (e.g. ignition sources etc. Isolate the spill source For larger incidents, emergency services may be mobilised to assist under the Emergency Response Plan (ERP)
Contain		 Review SDS If safe to do so, contain the spill using containment resources Distribute spill control and absorbent material around and over the entire spill area, working from the outside to inside
Report	Spill report	 Report the spill and notify as per spill incident reporting requirements Gather as much information about the spill as you can including sp source and location, type of waste/chemical, spill area, volume released Notify neighbours in surrounding properties if required under the ERP
Clean-up		 Clean-up the spill using clean-up equipment (e.g. spill kit materials etc) as soon as possible by: Recover free liquid Remove contaminated material and store in the waste storage area Dispose clean-up materials at licenced waste disposal facility If clean-up takes longer than one day, use fencing to prevent acces by personnel, livestock, and terrestrial fauna Develop a remediation management plan for contaminated sites
Manage/ Improve		 Investigate the root cause of the spill and implement management actions

Definitions of Environmental Harm under the NT Petroleum Act 1

Increasing Severity of Impact	Environmental Harm	Any harm to or adverse effect on the environment, or any potential harm (including the risk of harm and future harm) to or potential adverse effect on the environment, of any degree or duration and includes environmental nuisance Environmental nuisance, in relation to land, means an adverse effect on the amenity of the land caused by noise, smoke, dust, fumes or odour, or (b) an unsightly or offensive condition on the land
	Material Environmental Harm	Environmental harm that is not trivial or negligible in nature, or consists of an environmental nuisance of a high impact or on a wide scale, or results, or is likely to result, in not more than \$50,000 being spent in taking appropriate action to prevent or minimise the environmental harm or rehabilitate the environment, or results in actual or potential loss or damage to the value of not more than \$50,000
	Serious Environmental Harm	Environmental harm that is more serious than material environmental harm and includes environmental harm that is irreversible or otherwise of a high impact or on a wide scale, or damages an aspect of the environment that is of a high conservation value, high cultural value or high community value or is of special significance, or results or is likely to result in more than \$50,000 being spent in taking appropriate action to prevent or minimise the environmental harm or rehabilitate the environment, or results in actual or potential loss or damage to the value of more than \$50,000

7 Implementation Strategy

This section covers the wider context of the EMP implementation and the requirements common across all environmental and operational aspects of the Mereenie Field, including EP 115 and the Zevon Project. Consistent with our values, FOG is committed to conducting its operations in an environmentally responsible and sustainable manner aligned with community/social expectations. We believe that achieving and maintaining good environmental outcomes is critical to the success of our business.

Details regarding the implementation of environmental management aspects, including specific monitoring and records management are provided in Section 6.

7.1 Management System

FOG operates under a HSE Management System which contains the policies, procedures, standards and plans which are in place to manage and minimise the impact from its activities. In addition to meeting legal requirements, FOG's activities are also governed by several additional risk focused policies and procedures designed to ensure appropriate industry standards are in place.

7.2 Roles and Responsibilities

FOGs parent company operates the Mereenie Field, adjacent to EP 115 and the Zevon project, utilising the following management structure, with responsibilities aligned with specific roles detailed in Table 27. However, all personnel have a responsibility to operate in a safe and environmentally responsible manner.



Figure 33: Management Structure

Role	Responsibilities	Activities
Chief Operating Officer	Overall operation of FOG's activities	All
Exploration and Development Manager	Nominated Liaison Officer, Project managing seismic activities	All
Risk and HSE Manager	Providing systems, processes and advice to site/project personnel on the management of risk and the environment	All
Contractors	Deliver projects in line with scope and requirements	All
General Manager Operations	Providing support for project related activities	Support activities
Production Supervisor	Person in charge on-site to operate facilities in a safe responsible manner and provide support for project related activities	Support activities

7.3 Training and Awareness

FOG policies and procedures outlines the training and competency requirements of all personnel (staff, contractors and visitors) to ensure they can fulfil their obligations under this EMP. This enables FOG to work effectively in developing and promoting measures to ensure a high level of HSE knowledge and compliance. The key systems and processes to manage compliance with our standards are:

- Compulsory site and HSE inductions
- Contractor pre-qualification processes
- Contractor management system and processes
- Task specific work instructions and competency requirements

A register of training and competencies for FOG personnel, contractors and visitors is maintained for compliance with FOG's management system.

Key requirements of the EMP are included in the training and induction materials. A copy of the EMP is available on-site and online to all employees, contractors, and visitors.

A toolbox meeting will be held daily, these are designed for FOG personnel and contractors to discuss tasks the HSE controls and specific requirements for the day's operations. In addition, given ongoing operations, FOG has implemented a suitable handover procedure for shift changes and crew changes to ensure that relieving personnel are fully aware of their responsibilities and work status. Shift change handovers include the completion of checklists and other specified documentation.

7.4 Emergency Preparedness and Response

An Emergency Response Plan (ERP) is in place covering the Mereenie Field (Appendix 2). The ERP provides a broad framework for managing actual and potential emergency incidents to minimise the potential risk to human safety and the environment, and includes:

- Decision trees and escalation points
- Emergency contacts
- Emergency action guides
- Details of emergency response personnel, equipment and facilities

When conducting seismic activities, the development of a program specific ERP will be developed in conjunction with the seismic contractor, however as Mereenie is to closest permanent FOG operation, all minimum standards, contacts and response procedures from the Mereenie Field ERP will be carried over (refer to Section 3 of the ERP in Appendix 2). FOG will ensure all personnel, contractors and visitors are aware of the emergency response framework and are trained in emergency response procedures relevant to their role/position. A bridging document will be developed (as required) to ensure the seismic contractor is aware and committed to FOG's ERP.

FOG's emergency management framework is reviewed and updated as part of continuous improvements processes to incorporate the latest information arising from incidents, near misses and emergency simulation training sessions (refer to Section 6 of the ERP in Appendix 2).

7.5 Contractor Management

Most of the work undertaken under this EMP will be performed by FOG personnel using standard work instructions. However, some scopes of work will be undertaken by contractors. Efforts are therefore focused on effective contractor management, to ensure third parties are compliant with the relevant EMP commitment and contractual requirements.

The contract and scope of work are the key mechanisms FOG uses to manage contractors and outline compliance requirements for the contracted activity. Contractors are also provided with:

- Key compliance and system documents
- A list of compliance commitments and responsible person for a specific activity
- A list of inspections, procedures and other tools required to implement the content of the EMP.
- Monitoring and reporting requirements
- Hold Points which require a deliverable to be completed prior to entry into a new activity phase (i.e. prior to mobilisation, operation and demobilisation)
- Maps illustrating the approved work zones and any restricted areas.

Assurance over contractor performance is undertaken prior to, during and post the scope or activities.

7.6 Monitoring and Reporting

7.6.1 Monitoring

Environmental monitoring conducted specific to each environmental aspect is outlined in Sections 6.2 to 6.9.

Any incident identified from our monitoring activities will be captured in incident reporting system and actions will be taken to rectify the incident and prevent its reoccurrence. If incident thresholds are reached a more formal investigation will be undertaken. All personnel are required to proactively report all incidents, and identification of potential hazards not matter how minor to act as an alert and to maintain a program of continual improvement.

All sampling and analyses carried out to meet the requirements of the EMP and the Code will be conducted by suitably qualified and competent persons. Instruments and measuring and metering devices will be maintained and calibrated in accordance with manufacturer's specifications in readiness for use. Calibration of equipment will be prompted and managed via our asset management system with records and evidence, or currency maintained. In addition, and as per the Code, laboratory analyses will be conducted by a laboratory that has National Association of Testing Authorities (NATA) accreditation for such analyses and tests where available or using duplicate samples across independent laboratories where not available and in accordance with Code.

7.6.2 Reporting

Reporting to be undertaken by FOG as part of this exploration EMP includes;

- Annual environment performance report.
- Exploration permit reporting.
- Survey reporting.
- Ad hoc incident reporting (reportable / recordable).
- Water and wastewater reporting in accordance with NT Waste Management and Pollution Control (WMPC) Act 1998 and the CoP and;
- Emissions reporting to support the National Greenhouse and Energy Reporting Act (NGER) and the National Environmental Protection Measure (National Pollutant Inventory).

Identified reporting timeframes will be provided as per the above legislation and is summarised in Table 28 below.

Table 28: Reporting requirements and timeframes

Type of reporting / incident	Timeframe(s)						
Annual environment performance report	Annually in accordance with Schedule 1, clause 11 of the <i>NT</i> <i>Petroleum (Environment) Regulations 2016</i>						
Exploration permit	Annually (including detail within Schedule 4F of the <i>NT Petroleum Regulations</i> pertaining to 2D seismic surveys).						
Reportable incident / report	<u>Means:</u> an incident, arising from a regulated activity, that has caused or has the potential to cause material environmental harm or significant environmental harm.						
	All reportable incidents shall provide notice of the incident within 2 hours (once the interest holder becomes aware of the incident) orally or in writing outlining:						
	 i. the contact details of the interest holder; and ii. all material facts and circumstances about the reportable incident that the interest holder knows or is able, by reasonable search or enquiry, to find out; and iii. information about any action taken to avoid or mitigate material environmental harm or significant environmental harm in relation to the reportable incident; and iv. information about the corrective action that has been taken, or is proposed to be taken, to prevent a similar reportable incident. 						

	 If notification is provided orally, the interest holder must, not later than 24 hours after giving oral notice, give the Minister a written notice about the reportable incident specifying all the matters mentioned above. An initial report about the reportable incident shall be given to the Minister within 3 days of the incident first occurring and shall include: the results of any assessment or investigation of the conditions or circumstances that caused or contributed to the occurrence of the reportable incident, including an assessment of the effectiveness of the designs, equipment, procedures and management systems that were in place to prevent the occurrence of an incident of that nature; the nature and extent of the material environmental harm or significant environmental harm that the incident; any actions taken, or proposed to be taken, to clean up or rehabilitate an area affected by the incident; any actions taken, or proposed to be taken, to prevent a recurrence of an incident of a similar nature. A final report about the reportable incident shall be given to the Minister as soon as practicable but no later than 30 days after the clean up or rehabilitation of the area affected by the reportable incident is completed. The final report will include a root cause analysis of the incident.
	 (a) that: i. has resulted in an environmental impact or environmental risk not specified in the current plan for the activity; or ii. has resulted in a contravention of an environmental performance standard specified in the current plan for the activity; or iii. is inconsistent with an environmental outcome specified in the current plan for the activity; and (b) is not a reportable incident. All recordable incidents shall be reported within 15 days of end of each reporting period (every 90 days after EMP approval). The report shall contain: a record of all recordable incidents that occurred during the reporting period; and all material facts and circumstances concerning the recordable incidents that the interest holder knows or is able, by reasonable search or enquiry, to find out; and
	 invacion taken to avoid of mitigate any environmental impacts and environmental risks of the recordable incidents; and iv. the corrective action that has been taken, or is proposed to be taken, to prevent similar recordable incidents.
Survey reporting	Weekly stating progress and upon completion start and completion dates and the number of kilometres or samples acquired.
Water / wastewater	Annually.
Discovery of petroleum & estimate	Within 3 months of the date of discovery.

Emissions / NGERs	Annually.
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7.7 Records Management

As per standard practice all prescribed environmental records required under this EMP will be maintained in accordance with the *Petroleum (Environment) Regulations 2016* and other relevant legislation. Details of specific records and where they are captured to address environmental risks and performance standards are presented in Sections 5.7 to 5.14. The records obtained for each environmental element will be used to inform reporting requirements detailed above.

7.8 Management of Change

A Management of Change (MoC) process is in place to ensure any changes to activities are appropriately accessed and communicated to ensure no additional unintended risks or impacts are introduced.

The MoC process will only be used when optimising environmental outcomes or to improve operational efficiency where no new regulated activity, risk (including risk level) or impact is introduced. Where a new regulated activity, risk (including risk level) or impact is introduced, then a modification revision of the EMP is required under the Regulations.

7.9 Auditing and Assurance

In addition to regular monitoring as set out in this document, audits assessing compliance against this EMP will be undertaken by FOG or third parties prior to, during and upon completion of the activity and at least annually. Any non-compliances arising from regulated activities will be recorded and corrective actions undertaken to address the gaps. These non-conformances and corrective actions will be recorded, tracked, and reported. Any non-compliance with approved conditions will be reported in the annual environment performance report (AEPR).

7.10 Corrective Action, Review and Continuous Improvement

7.10.1 Corrective Actions

FOG's incident management procedures and systems are part of our HSE management systems and are designed to:

Ensure all incidents and hazards are reported in a standard format so that consistency and accuracy of the process is maintained.

. Identify the underlying and basic causes of all incidents and hazards.

Implement corrective/improvement actions to prevent the recurrence of similar incidents and hazards. Provide information to prepare the incidents and hazards statistics and identify potential trends. Identify potential suitable corrective actions.

All corrective/improvement associated with incident, hazards, and assurance activities are recorded, tracked and reported. Any overdue actions are followed up and escalated as required.

7.10.2 Review and Continuous Improvement

Implementation of this EMP will be continually assessed and revised as required based on monitoring and assurance results, feedback, change to the proposed work program or a material increase in risk level.

This EMP will be closed upon completion of the Zevon scope of works.

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9 Glossary and Abbreviations

Abbreviation	Details			
2D	2 Dimensional (Seismic Survey)			
AAPA	Aboriginal Areas Protection Authority			
ALARP	As Low As Reasonably Practicable			
APPEA	Australia Petroleum Production and Exploration Association			
CD	Conservation Dependent			
CE	Critically Endangered			
CLC	Central Land Council			
Competent person	Means a person who has the necessary ability, knowledge, and the relevant experience to conduct the task or activity			
FOG	Frontier Oil and Gas Pty Ltd			
CSA	Chemical Storage Area			
DAWE	Department of Agriculture, Water, and the Environment			
DD	Data Deficient			
DEPWS	Department of Environment, Parks and Water Security			
DITT	Department of Industry, Tourism and Trade			
ES	Erosion and Sediment Control Plan			
EMP	Environment Management Plan			
EMS	Environmental Management System			
EN	Endangered			
EOPSMC	Environmental Outcome, Performance Standard, Measurement Criteria			
EP 115	Exploration Permit 115			
EPA	NT Environment Protection Authority			
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999			
ESD	Ecologically Sustainable Development			
GIS	Geographic Information System			
На	Hectare			
HSE	Health, Safety and Environment			
HSE MS	Health, Safety and Environmental Management System			
ISO	International Standards Organisation			
Kg	Kilogram			
m	Metre			
mm	Millimetre			
MCA	Multi Criteria Analysis			
MNES	Matters of National Environmental Significance			
NAFI	Northern Australia Fire Information			
NT	Northern Territory			
OL3	Operating Licence 3			
OL4	Operating Licence 4			
PMST	Protected Matters Search Tool			
PPE	Personal Protective Equipment			
SDS	Safety Data Sheet			

Abbreviation	Details
Significant Rainfall Any rainfall event over 15 mm in 24 hours	
SOBS	Site of Botanical Significance
SOCS	Site of Conservation Significance
SSCC	Sacred Sites Clearance Certificate
Suitably Qualified Person	A person who has the professional qualifications, training or skills or experience relevant to the nominated subject matter or task and can give authoritative assessment, advice, and analysis about performance relevant to the subject matter using relevant protocols, standards, methods, literature or conduct tasks in accordance with requirements
TPWC Act	Territory Parks and Wildlife Conservation Act
VU	Vulnerable
WoNS	Weeds of National Significance

Appendices

Appendix 1: Risk Assessment

Table 29: Detailed Risk Assessment

Environmental	Environmental			Inherent Risk		Risk		Controls	Resi	dual Risk		Uncertainty Level	Code of Practi
Aspect Potential impact	Causes	Consequence	С	L	R	Risk Mitigation Measures (Hierarchy Type)	Rating	C L		R			
Groundwater	Groundwater extraction for project purposes impacts on existing users and environmental dependencies	Groundwater extraction for project activities causes the decline in groundwater levels in source aquifers	Surrounding bores suffer impaired capacity. Reduced environmental flows in connected springs/rivers	Serious	Possible	High	The only water usage is for drinking and vehicle washdown bay related to weed management. Water for the camp (if required) will be trucked in from Alice Springs. No local groundwater use will occur.	Effective	Minor	Remote	Low	A (Low)	NA
	Contamination of aquifers impacts existing groundwater users and environmental dependencies.	Leakage due to storage integrity breach Loss of containment during onsite activities	Groundwater quality unsuitable for current or future use by users or the environment	Moderate	Possible	Medium	All hazardous substances and dangerous goods stored in secure areas (engineering) Only low volumes of fuel and chemicals are required for the project. Implement Spill Management Plan (administrative) Implement Emergency Response Plan for incidents beyond the scope of the Spill Management (administrative) Spill kits are available where hazardous materials are used, and personnel trained in their correct use (administrative)	Effective	Minor	Remote	Low	A (Low)	Clause A.3.8
Surface Water	Contamination of surface waters	Spills / leaks from: Onsite storage, handling use and transfer of chemicals, dangerous goods, and hazardous substances.	Aquatic fauna / flora death Surface water unsuitable for primary / secondary contact	Moderate	Possible	Medium	Undertake inspection of vehicles for leaks/spills and rectify where detected (administrative, engineering) Ensure all fittings and equipment are checked and maintained (administrative, engineering) Ensure that any spills, leaks, or points of excessive wear are appropriately reported, and the necessary maintenance work and control measures undertaken (administrative, engineering) Provide spill response kits appropriate for the types of spills possible (engineering) Store wastes in secured containers (engineering) Implement Spill Management Plan (administrative)	Effective	Minor	Unlikely	Low	A (Low)	Clause A.3.1 Clause A.3.8
		Erosion and sediment releases	Aquatic fauna / flora death Siltation of surface waters	Moderate	Possible	Medium	Implement Erosion and Sediment Control Plan (engineering, administrative) Utilise existing tracks as much as possible to minimise additional disturbance (engineering, administrative) Inspect locations following significant rainfall events (>15 mm in 24 hours) to determine extent of erosion and remedial actions to be taken	Effective	Minor	Unlikely	Low	A (Low)	Clause A.3.1 Clause A.3.4 Clause A.3.8

се	ALARP Rationale													
	No groundwater bores are proposed as part of the program.													
	Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.													
}	Moderate volumes of hydrocarbons (2000L less or less) are being carried onsite to support the vehicles and vibe.													
	Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.													
	Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.													
	The location of the seismic line and stub line do not cross waterways.													
	Erosion and Sediment Control plan has identified measures to be undertaken regarding devices to minimise erosion and sediment releases.													
	Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.													
Environmental Aspect	Potential impact	Causes	Consequence	Inhere CL	ent F	Risk R	Risk Mitigation Measures (Hierarchy Type)	Controls Rating	Resi C	dual L	Risk R	Uncertainty Level	Code of Practice	ALARP Rationale
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Land	Loss in long term soil productivity and viability	Soil compaction during vehicle movements (e.g., access tracks)	Failed rehabilitation Landowner complaints	Serious	Possible	High	Limited use of a UTV on a stub line off the main access track (engineering) Implement Rehabilitation Management Plan (administrative)	Effective	Moderate	Remote	Low	A (Low)	Clause A.3.9	The clearing of new access tracks has been minimised as far as reasonably possible and existing accesses will be utilised where possible. The Rehabilitation Management Plan has been developed by a suitably gualified person and is
			Additional costs to remediate											designed to ensure that at the completion of activities the land is returned to its pre disturbance land use capability.
														Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.
		Soil erosion	Loss of soil productivity	Moder	Possit	Mediu	Implement Erosion and Sediment Control Plan (engineering, administrative)	Effective	Moder	Remo	Low	A (Low)	Clause A.3.4	The seismic program will not be undertaken during significant rainfall events.
Soi		Spills / looks from	Increased watercourse sedimentation loads.	ate	ole	Э	Implement Weather Management Plan		ate	fe				Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.
	Soil contamination Spills / onsite handlin chemic	Spills / leaks from onsite storage, handling and use of chemicals.	Failed rehabilitation	Modera	Possib	Mediur	Storage of hydrocarbons and other potential contaminants to always be stored in dual lined tanks.	Effective	Modera	Remot	Low	A (Low)	Clause A.3.8	The Spill Management Plan addresses the requirements of the Code of Practice and have been developed by a suitably gualified person.
			Groundwater / surface water contamination	ate	D		Provide spill response kits appropriate for the types of spills possible.		ate	Û				Based upon the risk being ranked as a low, the controls being assessed as effective and a
			Additional costs to remediate				Wastes stored in secured, dual lined tanks.							scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in
							tanks.							Section 6, with no further risk reduction possible.
							and rectify where detected (administrative, engineering)							
							Ensure all fittings and equipment are checked and maintained (administrative, engineering)							
							Ensure that any spills, leaks, or points of excessive wear are appropriately reported, and the necessary maintenance work and control measures undertaken (administrative, engineering)							
							Implement Spill Management Plan (administrative)							
Air	Increase in air pollutants in areas	Bushfire as a result of accidental ignition	Human and fauna respiratory	Mode	Possit	Mediu	Implement Bushfire Management Plan (administrative)	Effective	Mode	Remo	Low	A (Low)	Clause A.3.7	Fire-fighting controls are designed to deal with small scale fires before they escalate to a larger
	surrounding at site activities		Loss of flora /	rate	ole	Ш	Designated smoking areas at each site (administrative)		rate	fe		、		Based upon the risk being ranked as a low, the
			Loss of fauna				Fire-fighting equipment available at each site (PPE)							scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable'
							Onsite personnel to be trained in use of fire- fighting equipment (administrative)							in accordance with the rationale provided in Section 6, with no further risk reduction possible.
							Implement Emergency Response Plan (administrative)							

Environmental Aspect	Potential impact	Causes	Consequence	Inhe C	rent l L	Risk R	Risk Mitigation Measures (Hierarchy Type)	Controls Rating	Resi C	dual L	Risk R	Uncertainty Level	Code of Practice	ALARP Rationale
		Emissions from diesel combustion	Contribution to greenhouse gas emissions	Minor	Possible	Low	All diesel used onsite is to be compliant with the Federal Government's <i>Fuel Quality Standards</i> <i>(Automotive Diesel) Determination 2019</i> (administrative)	Effective	Minor	Remote	Low	A (Low)	NA	Greenhouse gas emission will be released from the operation of vehicles and vibe trucks. Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.
	Nuisance from dust emissions associated with seismic exploration	Dust generation as a result of vehicle movements	Human and fauna respiratory problems Flora stress and/or dieback	Minor	Likely	Medium	Vehicle speeds limited to 60km/hr on unsealed tracks (administrative) Onsite personnel to wear appropriate PPE (PPE) No homesteads or communities located with 15 Km (administrative)	Effective	Minor	Unlikely	Low	A (Low)	Clause A.3.1	Most sensitive receptors are located considerable distances from the seismic program. Risk mitigation measures are standard measures to manage dust generation. The measures do not eliminate the risk but seek to reduce the likelihood. Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.
Terrestrial flora / fauna	Significant decrease in population of conservation significant flora / fauna habitat	Vehicle movements	Injury or death of native fauna Loss of vegetation and fauna habitat Habitat fragmentation	Serious	Possible	High	Avoid any Marble Gums or hollow bearing Desert oaks. Where possible, avoidance or minimising clearance of any other large (>15m) and / or hollow bearing tree species to mitigate potential impacts to preferential Princess parrot / Grey falcon breeding sites. Where Marble gums, Desert oaks or any other large and / or hollow bearing vegetation is proximate to the proposed test line (ie. < 300m), a pre-clearing visual assessment of the vegetation will be undertaken by a qualified ecologist to determine the presence of breeding places. Should threatened species be identified within the vegetation, a 300m exclusion zone will be implemented and the location noted for communication through daily pre-starts and inductions. Seismic line and stub line locations are designed to avoid where possible conservation significant flora and fauna habitat (engineering) Permit to work to specify area authorised for activity (administrative) Induction program to specify authorised areas of activity (administrative) All personnel to receive induction program relevant to location (administrative)	Effective	Moderate	Remote	Low	A (Low)	Clause A.3.1 Clause A.3.5	Baseline assessment has been performed by a suitably qualified person and the location of conservation significant flora and fauna habitat is known and will be avoided and/or time limited in these locations. Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.

Environmental Aspect	Potential impact	Causes	Consequence	Inhei C	rent I	Risk R	Risk Mitigation Measures (Hierarchy Type)	Controls Rating	Resi C	dual L	Risk R	Uncertainty Level	Code of Practice	ALARP Rationale
		Spills and leaks from chemicals	Injury or death of native fauna	Modera	Possib	Mediur	Storage tanks engineered to meet relevant Australian Standards for integrity (engineering)	Effective	Modera	Remot	Low	A (Low)	Clause A.3.8	The Spill Management Plan addresses the requirements of the Code of Practice and have been developed by a suitably qualified person
		Spills and leaks from diesel storage	Loss of vegetation and fauna habitat	ate	le	н	Undertake inspection of locations for leaks/spills and rectify where detected (administrative, engineering)		ate	Ö				Based upon the risk being ranked as a low, the controls being assessed as effective and a
							Ensure all fittings and equipment are checked and maintained (administrative, engineering)							scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in
							Ensure that any spills, leaks, or points of excessive wear are appropriately reported, and the necessary maintenance work and control measures undertaken (administrative, engineering)							Section 6, with no further risk reduction possible.
							Implement Spill Management Plan (administrative)							
							Implement Emergency Response Plan (administrative)							
		Introduction and / or spread of weeds	Increased occurrence of	Seriou	Possib	High	Implement Weed Management Plan (elimination, engineering, administrative)	Effective	Seriou	Remo	Mediu	A (Low)	Clause A.3.1 Clause A.3.6	Buffel grass, Milk thistle and Spiked malvastrum were the only weeds (non-declared) detected during baseline surveys. The Wood Management
			Reduced native	S	ole		All vehicles, equipment, and machinery from known weed infested areas are to be cleaned and inspected for weeds prior to attending a site		S	ē	т			Plan has been designed to prevent the spread and introduction of new weeds.
							(engineering) Vehicles to stay on designated tracks where possible (administrative)							The residual risk has been reduced to the greatest extent possible due to the consequence remaining as serious if an event did occur. Therefore, we consider this risk ALARP and acceptable in accordance with the rationale provided in Section 6, with no further risk reduction warranted.
		Bushfire as a result of accidental ignition at site	Injury or death of fauna	Serious	Possible	High	Implement Bushfire Management Plan Designated smoking areas at each site	Effective	Serious	Remote	Medium	A (Low)	Clause A.3.7	Fire-fighting controls are designed to deal with small scale fires at the infrastructure before they escalate to a larger bushfire.
			and fauna habitat Destruction of infrastructure		U		Fire-fighting equipment available at each site (PPE) Onsite personnel to be trained in use of fire- fighting equipment (administrative)							Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.
	Reduction in		Injuny or death of	(0		2	(administrative)	Effective	(0		2	•		Speed has been limited to protect found from
	conservation significant fauna species		native fauna	erious	Inlikely	ledium	roads to 60 km/hr (administrative) Report all vehicle interactions with fauna	LIECTIVE	erious	lemote	ledium	(Low)	Clause A.S.S	vehicle strikes. FOG's experience is that this speed is adequate
							(administrative)							Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.
		Encouragement of pest species which compete with native fauna	Injury or death of native fauna Increased pest species	Serious	Unlikely	Medium	Suitable waste containers for waste storage are to be available at each location (engineering) Waste containers to be fauna and vermin proof (engineering)	Effective	Serious	Remote	Medium	A (Low)	Clause A.3.5	Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in
							Wastes to be removed from site daily and disposed at an appropriately licensed facility							Section 6, with no further risk reduction possible.

Environmental				Inher	ent R	Risk		Controls	Resid	dual I	Risk	Uncertainty		
Aspect	Potential impact	Causes	Consequence	С	L	R	Risk Mitigation Measures (Hierarchy Type)	Rating	C	L	R	Level	Code of Practice	ALARP Rationale
		Bushfire as a result of accidental ignition at site	Injury or death of fauna Loss of vegetation	Serious	Possible	High	Implement Bushfire Management Plan Designated smoking areas at each site (administrative)	Effective	Serious	Remote	Medium	A (Low)	Clause A.3.7	Fire-fighting controls are designed to deal with small scale fires at the infrastructure before they escalate to a larger bushfire.
			and fauna habitat Destruction of				Fire-fighting equipment available at each site (PPE)							Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the
			infrastructure				Onsite personnel to be trained in use of fire- fighting equipment (administrative)							risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6 with no further risk reduction possible
							Implement Emergency Response Plan (administrative)							
Cultural heritage / sacred sites	Unauthorised disturbance to sacred sites or culturally sensitive	Sites not previously identified during baseline assessments	Disturbance to cultural heritage / sacred sites	Serious	Possible	High	AAPA and CLC certificates sought for seismic exploration program (administrative) The NT Heritage Branch will be contacted prior	Effective	Serious	Remote	Medium	A (Low)	Clause A.3.1	Baseline assessments have been undertaken by a suitably qualified person. Risk mitigation measures have been developed that address
	sites	Works undertaken within exclusion areas	Loss or destruction of cultural heritage / sacred sites				to any ground-disturbing activities, to ensure any known non-publicly listed sites on the Heritage Register are identified. Should additional sites be identified suitable exclusions zones will be							The necessary authorisations under NT legislation will be obtained.
							established in consultation with the Heritage Branch.							Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the
							Exclusion areas to be established around known finds Implement Aboriginal Human Remains, Object							risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.
							Find / Stop Work Procedure for unexpected finds							
							All site personnel to receive induction program which includes locations of exclusion areas and Aboriginal Object Find / Stop Work Procedure (administrative)							
People and Community	Loss of amenity	Operations in a remote location	Local community complaints	Minor	Possib	Low	The seismic exploration area is not visible from the major road	Effective	Minor	Unlikel	Low	A (Low)	Clause A.3.1 Clause A.3.2	Any perceived loss of amenity would be limited to the duration of seismic program.
			Disruption to surrounding stakeholder's regular activities		le		There are no nearby communities			У				Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.
	Vehicle accidents	Increased traffic on local roads as a result of the seismic	Local community complaints	Minor	Possible	Low	Signage and call points monitored by UHF will be established at either end of the survey area prior to commencing activities (administrative)	Effective	Minor	Unlikely	Low	A (Low)	Clause A.3.1	Signage and call points monitored by UHF will be established. This is a small program on a remote track.
		program					On unsealed roads if dust is created reduce speed (administrative)							Based upon the risk being ranked as a low, the controls being assessed as effective and a
							All turn off and turns onto NT controlled roads are suitable for seismic exploration activities (engineering)							scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.
							FOG has paramedics, an ambulance and field hospital facilities associated with the nearby camp (administrative)							
							Zero alcohol and/or drugs policy (administrative)							

Environmental				Inhei	rent Ri	sk		Controls	Resi	idual	Risk	Uncertainty		
Aspect	Potential impact	Causes	Consequence	С	L R	2	Risk Mitigation Measures (Hierarchy Type)	Rating	С	L	R	Level	Code of Practice	ALARP Rationale
	Reduction in productivity of the land	Introduction and spread of weeds	Failed rehabilitation Landowner complaints Additional costs to remediate	Serious	Possible	High	Implement Weed Management Plan All vehicles, equipment, and machinery from known weed infested areas are to be cleaned and inspected for weeds prior to attending a site (engineering) Implement Rehabilitation Plan	Effective	Serious	Remote	Medium	A (Low)	Clause A.3.6 Clause A.3.9	A Weed Management Plan is in place. The residual risk has been reduced to the greatest extent possible due to the consequence remaining as serious if an event did occur. Therefore, we consider this risk ALARP and acceptable in accordance with the rationale provided in Section 6, with no further risk reduction warranted.
	Unnecessary disruption to landholder activities	Not undertaking activities in accordance with land access agreements	Landowner complaints Delays to program	Minor	Possible	Low	Induction program to include information on authorised activities for a site All personnel to receive induction program relevant to the site they are accessing	Effective	Minor	Unlikely	Low	A (Low)	NA	Workers induction programs cover site specific requirements. Based upon the risk being ranked as a low, the controls being assessed as effective and a scientific uncertainty score outcome of low, the risk is determined to be ALARP and 'acceptable' in accordance with the rationale provided in Section 6, with no further risk reduction possible.

Risk Summary

Table 30 shows the number of inherent risks identified to environmental aspects associated with the activities under this EMP. Inherent risk refers to amount of risk associated with an event assuming the absence or failure of controls. The count of inherent risks is assessed with the assumption of no control measures are in place.

Table 31 provides a count of the residual risks associated with activities under this EMP with appropriate controls implemented. This summary indicates that the controls are effective, and risks have been successfully managed to ALARP and are acceptable.

Table 30: Count of unmitigated risks

		Unmitiga	ted Risks	
	Low	Medium	High	Very High
Count	4	10	8	0

Table 31: Count of residual risks

		Residu	al Risk	
	Low	Medium	High	Very High
Count	15	7	0	0

Appendix 2: Mereenie Field Emergency Response Plan



Mereenie – Emergency Response Plan: MSTD13-MER-PL001-6 Version: 5/ Effective: 5th June 2023 / Revalidation: 5th June 2025 Document Owner: Production Supervisor

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1. Introduction

1.1 Purpose

The Emergency Response Plan is designed to direct and guide the Site Emergency Response Team (SERT) to respond effectively to site emergencies and resume normal operations. It identifies persons responsible for managing and/or assisting in an emergency and provides general guidelines and tools to assist in the process.

1.2 Scope

An emergency is defined as an event (actual or imminent) which endangers or threatens to endanger life, property or the environment, and in the context of this plan requires a coordinated response.

This plan is applicable to all employees, contractors and visitors to Mereenie, and the following assets and associated infrastructure operated by Central Petroleum (CTP):

- well sites
- gathering lines
- gas processing facilities
- oil storage tanks
- site offices and workshops
- camp.

This plan is to be used in conjunction with CTP's Emergency Management Plan (MSTD-PLN001 VX).

Areas under the control of a principal contractor are not covered under this plan however CTP's contract manager must review and approve the contractors' plans and if necessary, create a bridging document detailing any additional requirements and support required as well as establishing clear notification protocols.

All ERP's shall be reviewed every 2 years or, if changes to plant and conditions occur.

1.3 Emergency response Training

All personnel shall receive Emergency Response training in an ongoing manner at each operational site. This training shall consist of both in field and desktop scenarios. Each site shall ensure the training is held (where operational viable) every 6 weeks.

1.4 Emergency Management Approach

CTP uses a two-tiered approach to emergency management as outlined in Figure 1. **Figure 1**

Level	Examples	Document	Owner
Level 1 –	 Control of the situation does not require external support Non-life-threatening Not expected to escalate Limited damage to the environment, assets or reputation 	Site	Site Emergency
Emergency		Emergency	Response Team
Response		Response Plan	leader

EmergencysupportManagementLife is at riskMajor damage to the environment, assetsor reputationSituation may have personnel, technical, operational or public affairs implicationsHighly likely to impact CTP's reputation	Level 2 - Emergency Management	 Control of the situation requires external support Life is at risk Major damage to the environment, assets or reputation Situation may have personnel, technical, operational or public affairs implications Highly likely to impact CTP's reputation 	
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Emergency Management Plan Emergency Management Team leader

In addition to and supporting this plan, the Emergency Management Team (EMT) and Emergency Management Plan (EMP) outlines the responsibilities, actions and resources available at head office to support site in the event of a significant emergency.

1.5 **Response Priorities**

In managing an incident, the SERT will focus their response to ensure:

- our **people** are accounted for and safe.
- we minimise impact on the **environment**
- our **assets** are protected
- CTP's **reputation** is safeguarded.

1.6 Related Documents

Whilst this plan has been designed to be a standalone document, references are made throughout to various other documents which may be useful in the event of an emergency. It is the responsibility of all SERT members to be familiar with the processes and standards within their area of responsibility, and conduct regular exercises to ensure readiness

2. Site Emergency Response Team

2.1 Roles and Responsibilities

The following specific roles and responsibilities are essential to ensure effective management and accountability during an emergency:

- first responder
- SERT leader the Person in Charge (PIC) or Delegate on site
- SERT coordinator (supported by a log keeper)
- SERT first aider

Operators, technicians and logistics personnel will assist the SERT leader and may be required to undertake multiple roles depending on the nature of the emergency, its duration and complexity.

If for some reason the SERT leader is unable / unavailable to perform their duties, an alternate person must be identified. Should for some reason SERT members be unable to perform their duties, the SERT leader will allocate other suitably trained persons. On shift SERT role information is to be displayed on the notice board or in the site emergency response room.

Depending on the nature and severity of the emergency, the EMT may be activated to support issues such as:

- regulatory and stakeholder notifications
- additional manning
- sourcing assets required to support the site, such as aviation
- medical or other emergency services
- mutual aid or contractor resources.

For more detailed information regarding the above SERT roles, refer to the role cards in Section 4.1.

3. Emergency Response Process

Identification, assessment and response processes are outlined in Figure 2 below. Further guidance is available in the role cards in Section 4.1.

Figure 2



3.1 Identification

When an event (actual or imminent) endangers or threatens to endanger life, property or the environment, the first responder must, if safe to do so, take action aligned with the first responder role card. It's important everyone is familiar with the responsibilities and initial actions of the first responder.

3.2 Notification

Once immediate action is taken, the first responder must raise the alarm and advise the production supervisor as to the nature of the emergency and any assistance required. An alarm can be raised:

in person

- by radio (using prefix 'Emergency, Emergency, Emergency)
- by landline or mobile phone (not in restricted areas)
- by SOS alarm on a tracker.

3.2 Assessment

Once notified and briefed, the production supervisor will assess the incident in line with the Emergency Assessment and Escalation Matrix (Figure 3) and call on their experience to determine if the SERT should be activated. Note that even if the thresholds are not met, the SERT may still be activated at the discretion of the PIC on site.

Figure 3

	Site Emergency Response Team	Emergency Management Team
Activation	The SERT may activate if any of the below criteria is met	The EMT may be activated if any of the below criteria are met
Escalation/Notification	If the team is activated, the SERT leader notifies and provides a summary to the EMT leader	If the EMT is activated, the EMT leader contacts the EMT members and notifies the CEO
Risk Impact	Serious	Critical or Extreme
Injury / Illness to workers	Injury or ill health requiring medical treatment	Fatality or injury/ill health requiring extensive medical treatment (e.g. amputation, spinal injuries, etc.)
Loss of workforce capacity (pandemic or industrial action)	Loss of key staff impacting on operational output or threat of industrial action	Operations compromised due to staff being unavailable
Personnel and asset security	Non-specific threat to CTP staff e.g. protests, suspicious packages, bomb threats, etc.	Community protest action e.g. threats to CTP staff, bomb threat, suspicious packages, security incidents
Environment and / or Community	Localised and / or short-term environment and/or community incident/emergency	Extensive environmental or community incident such as significant contamination, offsite pollution or fatality
Natural Disaster	Predicted or localised damage to facilities/assets e.g. storms, external fires, flooding	Storm, fire, flood damage. Forecast natural disaster (widespread). Multiple locations impacted
Fire and Explosion	Small localised fires or explosions extinguishable by site resources	Uncontrolled fire/explosion requiring external emergency support
Property Damage	Serious damage to CTP assets / third party property	Major damage to CTP assets / third party property
Loss of Containment (LOC) – chemical spill, solid, vapor, liquid.	Major accident event or event requiring HAZMAT response, or non-hazardous substance spill that meets response activating SERP scenario. Any spill to water	Uncontrolled release unable to be isolated and contained within an hour after activating SERT scenario
Laws, regulations, civil actions	Breach of regulations regarding investigations and reporting to authorities. Possible prosecution/fine	Litigation/prosecution by regulator which could lead to temporary plant closure
Stakeholders / Media	Local media coverage. Health and / or safety concerns to local community	State/ national or social media with potential to impact performance of site/team operations
Facility, Plant or System failure / Cyber attack	Significant breach/IT incident affecting one site/location. Loss of access to single location <4hrs	Significant breach /IT incident affecting more than one site/location. Loss of access to single location for >4hrs
Customer interruption / Supply disruptions	Customer service interruption up to 1 day. Product shortfall at facility or supply point >10 TJ per day	Potential customer service interruption up to 3 days. Supply shortage impacting major customers >25TJ per day
Third party failure (Inc. contractor, supplier or partner	Restricted impact which can be rectified in the normal course of business e.g. haulage contract	Supply or services disrupted with threat of serious impacts e.g. customers or critical functions
Financial	Cash flow: <\$1m	Cash flow: >\$1m

3.3 Activation

The decision to activate the SERT in an emergency is the responsibility of the PIC and, once activated, they will assume the role of SERT leader and will engage the appropriate personnel to fulfil the SERT roles. If activated, the SERT leader must notify and brief the EMT leader as soon as practical.

3.4 Response

Initial briefing

The SERTL will provide an initial briefing (see role card for guidance) covering:

- incident details (where, what, when and how)
- SERT priorities (what's the focus of response activity)
- confirm SERT roles
- answering any questions from the team.

Develop response actions

Once briefed, the SERT will commence activities aligned with their role cards and using the emergency action guides to:

- identify priorities and tasks e.g. immediate actions
- assign resources/accountability to execute (timing)
- agree communication protocols (next meeting time).

Once actions have been developed, the SERT leader will if necessary, schedule the next meeting and SERT members will commence delivery of their allocated tasks.

All of the above information will be captured by the SERT coordinator and the log keeper in order to ensure actions are clear and accurate.

SERT meetings

At any subsequent meetings, the SERT leader will provide further updates and members will update the team on their actions / progress.

Role handover

The management of some events/incidents could be time consuming and require EMT members to rest. It is the responsibility of the SERT leader and coordinator to monitor team members and rotate personnel with suitable replacements, if necessary. It is essential that replacement team members receive a thorough hand-over briefing prior to commencing.

If an incident is likely to run for an extended period, it is recommended that the initial handover commences early. For reasons of information continuity and familiarisation with the incident, consideration should be given to changing the team every 6-8 hours.

3.5 Stand-down and recovery

An emergency response ends when the SERT leader is satisfied that objectives have been met and priority shifts to achieving business continuity and recovery. Only the SERT leader can decide to 'stand-down' the SERT and switch the focus to recovery. The stand-down should be undertaken in consultation with the General Manager Operations.

When external emergency services are involved, stand-down must be done in consultation with the relevant agencies.

When standing down, the SERT leader must:

- ensure that all teams are informed of the stand down
- identify and document outstanding issues that need to be addressed after the team is deactivated and assign responsible personnel to address these issues

- ensure evidence is preserved to aid in any investigation
- ensure affected areas are barricaded
- that witness accounts are taken
- where possible, photograph evidence
- capture lessons learned as soon as possible after the event (debrief)
- ensure the site emergency response room is immediately re-stocked.

In addition, before recommencing operations the following questions should be asked:

- has all plant and equipment been tested and confirmed safe?
- have relevant emergency service providers confirmed that normal activities can recommence?
- have relevant government agencies/departments agreed that normal activities can recommence?
- could employees be suffering from the effects of the incident?
- are there any unauthorised personnel remaining on site?

4. Emergency Response Resources

4.1 Role Cards

Role cards act as prompts and are used as an aid in the event of an emergency. A set of role cards to support this plan are provided in section 6.

4.2 Emergency Action Guides

Emergency Action Guides have been developed and outline typical responses for specific types of emergencies. A set of Emergency Action Guides to support this plan are provided in section D.

4.3 Chemical Response Guidance

All chemicals stored and used on site are to be managed in accordance with the corresponding Safety Data Sheets. Hard copies of Safety Data Sheets are stored in the warehouse with electronic copies available via the Chemwatch website.

4.4 Plant and Pipeline Shutdown / Isolation

In the event of a loss of containment event, emergency shutdown devices (ESDs) are to be used, however if isolation identification is not clear then the SERT members can access Piping and Instrument Diagrams (P&IDs) on M: files. In these instances, the isolation should be undertaken, and any associated documentation should be completed post event and prior to restart. In the event of a power outage there are master sets of PID's in the control room, supervisor's office & ESS control room.

4.5 Emergency Equipment

Emergency equipment is provided at Mereenie in accordance with the site's hazards and possible emergency situations are identified in the site Risk Register. The following equipment is positioned in appropriate locations, clearly identified, and maintained.

- Portable radios
- Satellite Phone
- Portable gas detectors
- First aid equipment (Include Defibrillator)
- On site ambulance
- Fire extinguishers
- Confined space rescue equipment
- Working at heights rescue equipment
- Self-contained breathing apparatus
- Oil and chemical spill kits
- Safety showers / eyewash stations.

Where applicable, sites are to be equipped with fixed fire and gas detection and fire-fighting equipment in accordance with the relevant fire codes and legislation.

4.6 Medical Support

Medical emergencies fall into three categories:

- 1. Minor medical emergencies (dealt with on-site by a trained first aider)
- 2. Medical emergencies or injuries requiring more than first aid (dealt with under the guidance of an emergency expert
- 3. Critical or life-threatening medical emergencies which require immediate evacuation of the patient.

The site is supported with a 24/7 dial-in medical service with an on-call doctor for routine medical support or emergency medical advice. In addition, the Kings Canyon medical facility can provide additional support. Medical advice and support will be provided by:

- on-site first aid trained personnel (available on all shifts)
- primary emergency advice:
 - RFDS 24-hour emergency operations center
 - MRACC (Royal Flying Doctors) Telehealth Doctor service
- secondary Emergency Advice:
 - Alice Springs Hospital
 - Kings Canyon clinic.

The Royal Flying Doctor Service is also available to support emergencies.

If medical assistance or a Medivac is required, the initial medical provider will seek advice from the Air Medical Services Doctor or the Royal Flying Doctor Service Call Centre who will coordinate the ongoing actions.

The SERT leader, in consultation with a medical provider, has the authority to initiate a Medivac.

The initial medical provider will consult with the doctor(s) to determine the appropriate level of transport, resources and medical assistance required for a Medivac flight.

Patients will be transferred to the nearest care facility as determined by the initial medical provider in consultation with the Royal Flying Doctor Service call center or the doctor associated with the treatment.

Note - there must always be 2 people in the Central Petroleum ambulance when transporting a patient - Primary OFA to be supporting the patient - the 2nd person drives and be up to date with 1st aid/CPR training.

4.7 Aviation Resources

Sites may have the capacity to facilitate both Helicopters (rotary) and Planes (fixed wing) in the event of an emergency, however, the preferred option is fixed wing aircraft.

Further details regarding the airstrip / helipad and its safety protocols are outlined in section E.

4.8 Site Emergency Response Room

The site conference room has been established for use if the SERT is activated. This room will be the coordination center and communications hub. All SERT members are to meet there to manage and support operations in the event of an emergency. The room is equipped with:

Plans	 Site Emergency Response Plan – Mereenie Emergency Management Plan
Communication	 Telephones – landline and satellite Digital site Radios Video/conference calling facilities Access to Wi-Fi/internet
General	 Basic stationery – pens, note pads Whiteboard and markers Emergency information board Site maps indicate location of emergency equipment and muster points Clock

The on-site emergency response room will be maintained in a 'ready-for-use' state and is the responsibility of the Administration and Logistics Coordinator. The room will be regularly inspected, and equipment tested every time an emergency exercise is undertaken (approximately every 6 weeks).

4.9 Communication

On-site communications during emergency situations is via site digital radios on the:

- Main field channel No. 1; or
- Emergency channel No. 2.

Personnel are to use the radio on the "field" channel to transmit information. Radio communication should be kept to a minimum, so the channel is available for use when required. The PIC will determine when to switch to channel 2 (emergency channel) if at all.

The designated phone in the emergency response room should be used to communicate with the EMT and other sites. Emergency contacts are detailed in section 6. There are two phones in the emergency response room, we should decide which one is to be utilised in an emergency.

4.10 Emergency Management Team / Plan

Any emergencies with the potential for critical or extreme outcomes are to be managed in conjunction with the EMT. In an emergency, the objectives of the EMT are to:

- provide support and logistics to the site
- ensure a coordinated response from all parties involved e.g. the state emergency services
- Monitor the site personnel and their ability to manage the situation, especially if there is a long duration.
- control and minimise impacts/losses (human, financial, resource, reputation) related to an escalating incident and to protect those with a vested interest in CTP
- develop an effective communication strategy for all stakeholders e.g. insurers, government and the media
- recover and resume CTP operations.

5. Stakeholder Management and Communications

In an emergency, it is important that all communication remains open, honest, timely and accurate.

External Communication

Any communication with external parties (not related to the immediate emergency response) is to be handled centrally via the EMT leader.

Internal Communication

The SERT leader / coordinator will ensure all relevant personnel are kept up-to-date and will provide regular updates to the EMT leader.

Managing Enquiries

If any person receives a call from an external party e.g. journalist, community member, government official, etc., they must inform the caller that they are not an authorised spokesperson and are not in a position to comment, however, will organise for someone to call them back. A message should be logged capturing the follow information.

- callers name
- organisation / affiliation
- contact details
- who they want to speak with
- what the message / query is about

Social Media

Nothing should be posted on any social media platforms. Centrals disciplinary process with be followed for any anyone identified as having post any incident related content.

6. Post Emergency Review

At the earliest possible time following the emergency, the General Manager Operations or delegate is to organise and facilitate a post-emergency review to identify any lessons learnt (positive and negative).

If appropriate, any improvements or amendments should be considered and, if necessary, a change management process be undertaken to update the framework and any supporting documents, followed by the appropriate training.

7. Emergency Contacts

7.1 Central Emergency Contacts

Position	Contact Details
General Manager Operations/Duty Manager	
Engineering Manager/Duty Manager	
Chief Operating Officer	
Risk and HSE Manager	
Health & Safety Specialist	
Brisbane emergency phone - To be used whilst emergencies are in progress	

7.2 Site Contact Information

Role / Detail	Contact Details
Production Supervisor	
Logistics and Administration Coordinators	
Kitchen / Ambulance (Satellite Phone)	
Response Room (Satellite Phone)	
Emergency Alert Number	
Mereenie Emergency Number	

7.3 Emergency Services

Decision tree

The assessment and response to a medical emergency is outlined in Figure 4 below. The on-site OFA is responsible for the decision to escalate and seek professional guidance. The SERT Lead is accountable for the early engagement with emergency services e.g. RFDS, Alice Springs Hospital, etc.

Figure 4



*Where the CTP ambulance is to be used contact AS ambulance and plan to meet halfway.

Service		Contact Details	Response Time
Police / Fire / Ambulance (Emergency)		000	
	Remote Health & Royal Flying Doctors Service ¹	08 89517840 / 08 8951 7777 (24/7)	Xhrs to mobilise and be at Mereenie
	RFDS Port Augusta Communications centre	1800 630 784 for plane's ETA's	
	MRACC (Royal Flying Doctors)	1800 1MRACC (1800 167 222)	Immediate
Medical	Alice Springs Hospital (24/7)	08 8951 7777	3hrs 30 min drive
	Kings Canyon Medical Clinic ²	08 8956 7807	40 min drive
	St John Ambulance - Alice Springs Office	08 8959 6600	Potential to meet IP halfway to Mereenie
	Mall Medical Clinic - Alice Springs	08 8952 2744	
Polico	Police - Alice Springs Station	08 8951 8822	
Police	Police (non-emergency)	131 444	
Fire	Fire and Rescue (non- emergency)	08 8999 3473	
Emergency	Emergency Services (flood, storms, etc)	132 500	

In the event of an emergency, the SERT leader is authorised to contact the above, however, **any contact with government, regulatory bodies, etc., must be undertaken centrally by the Brisbane based EMT leader**.

¹ Doctor on call for all Medical Evacuations via Alice Springs

² Clinic can be dispatched by 000 if required

8. Role Cards

8.1 First Responder

Role Card



Section 1 – Responsibilities	
In the event of an incident, please remain calm and be prepared to assist where possible (depending or experience and competency). Please provide as much information as possible to the production superv	
Immediate Actions	Complete
Raise the alarm	
Check for DANGER - do not put yourself at risk	
- Is the scene safe?	
 Implement appropriate actions to prevent or contain the situation, if possible 	
Provide assistance e.g. assess for life threatening injuries	
- Are they responsive?	
- Are they breathing?	
- Any bleeding?	
 If safe and appropriate to do so, shut down any equipment 	
 Evacuate or leave the scene, if warranted 	
 Notify the production supervisor providing as much detail as possible e.g. 	
- Location	
- Incident details	
- Number of casualties and their condition	
During an Emergency	Complete
Follow the production supervisor/SERT leader's instructions	
Post Incident	Complete
 Participate in the SERT post-emergency review 	
 Propose changes to the Site Emergency Response plan and any procedures, as a result of the incident 	

8.2 Site Emergency Response Team leader (SERTL)

Role Card



Section 1 – Responsibilities

- The SERT leader is responsible for:
- activation and stand-down of the SERT
- notifying the EMT leader upon activation
- overall management of the emergency response including recovery.

The SERT leader is the final decision maker in relation to analysis, option development, selection and execution of the incident response

Immediate Actions		Complete
 Review the first responder's brief Take immediate action, if necessary Work through the SERT leader activation checkl Using your knowledge and experience and the E determine if the SERT should be activated 	ist (Section 2) Emergency Assessment Matrix (Section 3),	
Activate	Not Activate	
 Determine which SERT members (Section 4) are required Engage SERT coordinator to contact SERT members Notify the EMT leader of activation and provide a situation update Proceed to the designated site emergency response room Conduct an initial team brief using information from section 2 	 Await updates from operations personnel and reassess the incident as required 	
Confirm the SERT member roles and activities		Complete
 Authorise any immediate assistance and special Consolidate assumptions and identify the worst Decide on the priority objectives. Manage and lead the SERT to ensure the efficient ensuring the impact on people, assets, environm Facilitate open communication and ensure regul Ensure the General Manager Operations is regul Approve necessary expenses related to the mar Facilitate and support the implementation of any teams Ensure an accurate record is kept of all SERT and Declare the emergency is over and stand-down Coordinate transition to recovery stage Decide on the team structure to manage the recommendation 	list support (internal or external) case and most likely impacts ent and effective resolution of the emergency, nent, value and reputation is minimised ar updates are provided larly updated on the incident nagement of the emergency business continuity plans by the respective ctions and decisions teams	
Post Incident		Complete
 Determine the level of investigation required and Debrief the SERT Conduct a post-emergency review – GM ops. Propose changes to the site emergency response of the incident. – ALL 	d initiate the process – GM ops se framework and any procedures, as a result	

Section 2 – Activation checklist		
Date	Time	Name
Incident Description		
What happened?		
Where did it happen?		
When did it happen?		
How did it happen?		
Is everybody accounted for?		
Are there any casualties?		
How have you been notified and how accurate is the information?		
Incident Status		
Is the incident contained or escalating?		
What is potentially at risk?		
What are your objectives?		
What actions are being taken?		
Who is taking action?		
What resources / equipment / manpower is being used?		
Initial incident assessment		
What are the likely impacts on health, safety, environment and/or community?		
What are the likely community, government, media or reputational impact?		
What is the operational impact (short, medium or long term)?		
How effective is the response?		
What support is needed?		
What support does the SERT need from the EMT (in the longer term)?		
Follow up		
Exchange / confirm contact details for first responder		
Decision		
Based on the information provided, a impacts and determine whether to a	assistance requested and your e ctivate the SERT using the 'Eme	experience, consider the actual or potential ergency Assessment Matrix (see section 3).
Yes		No
Rationale		

Section 3 – Assessment and Escalation Matrix

The SERT leader will:

- use this guide to quickly assess actual or potential incident consequences and notification thresholds. Note that you may choose to activate / notify at levels lower than those detailed;
- Contact the EMT leader if the SERT is activated;

	Site Emergency Response Team	Emergency Management Team
Activation	The SERT may activate if any of the criteria below is met	The EMT may activate if any of the below criteria is met
Escalation / Notification	If this team is activated, the SERT leader notifies and provides a summary to the EMT leader	If the EMT is activated, the EMT leader contacts EMT members and notifies the CEO
Risk Impact	Minor to Serious	Critical or Extreme
Injury / Illness to workers	Injury or ill health requiring medical treatment	Fatality or Injury/ill health requiring extensive medical treatment (e.g. amputation, spinal injuries, etc.)
Loss of workforce capacity (pandemic or industrial action)	Loss of key staff impacting operational output or threat of industrial action	Operations compromised due to staff being unavailable
Personnel and asset security	Non-specific threat to CTP staff e.g. protests, suspicious packages, bomb threat, etc.	Community protest action e.g. threats to CTP staff, bomb threat, suspicious packages, security incidents
Environment and / or Community	Localised and/or short-term environmental and/or community incident/emergency	Extensive environmental or community incident such as significant contamination, offsite pollution or fatality
Natural Disaster	Predicted or localised damage to facilities/assets e.g. storms, external fires, flooding	Storm, fire, flood damage. Forecast natural disaster (widespread). Multiple locations impacted
Fire and Explosion	Small localised fires or explosions extinguishable by site resources	Uncontrolled fire/explosion requiring external emergency support
Property Damage	Serious damage to CTP assets/third party property	Major damage to CTP assets/third party property
Loss of Containment (LOC) – chemical spill, solid, vapor, liquid.	Major accident event, or event requiring HAZMAT response, or non-hazardous substance spill that meets response activating SERP scenario. Any spill to water	Uncontrolled release unable to be isolated and contained within an hour after activating SERT scenario
Laws, regulations, civil actions	Breach of regulations regarding investigations and reporting to authorities. Possible prosecution/fine	Litigation/prosecution by regulator which could lead to temporary plant closure
Stakeholders / Media	Local media coverage. Health and/or safety concerns to local community	State/national or social media with potential to impact performance of site/team operations
Facility, Plant or System failure / Cyber attack	Significant breach/IT incident affecting one site/location. Loss of access to single location <4hrs	Significant breach/IT incident affecting more than one site/location. Loss of access to single location for >4hrs
Customer interruption / Supply disruptions	Customer service interruption up to 1 day. Product shortfall at facility or supply point >10 TJ per day	Potential customer service interruption up to 3 days. Supply shortage impacting major customer >25TJ per day
Third party failure (inc. contractor, supplier or partner	Restricted impact which can be rectified in the normal course of business. e.g. haulage contract	Supply or services potentially disrupted with threat of serious impacts e.g. customers or critical functions
Financial	Cash flow: <\$1m	Cash flow: >\$1m

Section 4 – SERT Member Details					
Role	Name	Engaged			
Mandatory	Mandatory				
SERT leader					
Coordinator					
Log keeper					
SERT Members					
First aid					
Team member					
Team member					
Team member					
Team member					
Team member					

8.3 Site Emergency Response Team Coordinator



Role Card

Section 1 – Responsibilities

The SERT coordinator's primary role is to support the SERT leader. The function of the coordinator is to:

- manage and coordinate staff while providing quality control and coordination of the SERT's planning process
- ensure that staff have the information, guidance and facilities required to fulfil their roles
- manage the SERT's time, coordinate briefings, and manage the site emergency response room
- align the planning of the functional areas with the direction and intent of the SERT leader
- assume the role of SERT leader should the SERT leader be unavailable
- The SERT coordinator will be the primary contact p for all communications

	-
Immediate Actions	Complete
 Respond to the activation 	
Contact SERT members	
 Confirm the arrival of all SERT members 	
 Facilitate the initial team brief to the SERT 	
During an Emergency	Complete
 Record and monitor all response actions (Section 2) 	
 Establish communications 	
 Provide regular situation updates to the SERT leader 	
 Implement routines and procedures in the site emergency response room 	
including security of information, control of access, and equipment	
 Coordinate and synchronise staff in the site emergency response room 	
 Ensure an accurate record is kept of all SERT actions and decisions 	
 Program and facilitate SERT update briefs 	
 Coordinate SERT requests for assistance 	
 Coordinate the regular update of the SERT 	
 Monitor and ensure that activities are in accordance with SERT objectives 	
 Supervise the completion of an accurate SERT log 	
 Be prepared to act as the SERT leader if required 	
Post Incident	Complete
 Support recovery operations, as required 	
 Ensure SERT members attend the debriefing 	
 Coordinate and participate in the post-emergency review 	
 Carry-out all relevant SERT coordinator actions identified in the post-emergency review 	
 Propose changes to the site emergency response framework and any procedures, as a result of the incident. 	

Section 2 – Site Response Activity / Event Log				
Time	Action	Owner	Due	Status

8.4 Emergency Response Team Member



Role Card

Section 1 – Responsibilities		
The SERT member's primary role is to support the SERT leader		
Immediate Actions	Complete	
 Respond to the activation 		
 Proceed to muster point and respond to the situation as directed by the SERT leader 		
 Attend the initial brief 		
During an Emergency	Complete	
 If instructed & safe to do so, participate in incident response, which could include: 		
- rescuing personnel if there is no danger		
- extinguishing small fires around the plant using a range of extinguishers		
- using a fire blanket to extinguish small fires		
- provide basic first aid		
- containing minor spills		
 If required (e.g. after hours when admin staff re not on site), undertake the role and responsibility of: 		
 log keeper – documenting incoming/outgoing information and maintaining incident log sheet 		
 coordinator – providing support to the SERT leader and coordinating movement of personnel and delivery of equipment resources and liaison with the response team 		
 coordinate any resources/assistance required by the SERT or EMT 		
 Consider any secondary impacts as a result of the incident 		
 Assist in the development of the SERT's responses, objectives and priorities 		
Cooperate with emergency services		
 Prepare for the stand-down of the SERT and recovery of site 		
Post Incident	Complete	
 Provide ongoing advice to the recovery operations, as required 		
 Participate in the SERT post-emergency review 		
 Propose changes to the site emergency response framework and any procedures, as a result of the incident 		

8.5 Emergency Response First Aid

Role Card



Se	ection 1 – Responsibilities		
Assess and provide first aid assistance to injured people			
Im	Immediate Actions		
•	Respond to the activation		
•	Proceed to muster point and respond to the situation as directed by the SERT leader		
D	uring an Emergency	Complete	
	Perform triage on injured personnel		
-	Assess medical response		
•	Direct/manage medical personnel and supplies		
•	Activate external resources, if needed		
•	Consider any secondary impacts as a result of the incident		
•	Assist in the development of the SERT's response, objectives and priorities		
•	Cooperate with emergency services		
•	Prepare for stand-down and recovery of SERT		
	Note - there must always be 2 people in the ambulance when transporting a patient - Primary OFA to be supporting the patient - the 2nd person drives and be up to date with 1st aid/CPR training.		
Po	ost Incident	Complete	
•	Be prepared to provide ongoing advice to the recovery operations, as required		
•	Participate in the SERT post-emergency review		
	Propose changes to the site emergency response tramework and any procedures as a result of the incident		
		•	

9. Emergency Event Guides

9.1 Emergency Event Guide 1 – Vehicle Accident

Incident					
Nature of the incident:					
□ Vehicle/Vehicle Collision □ Vehicle/Structure Collision □ Vehicle Roll Over □ Pedestrian Hit/Run Over □ Other Vehicle Roll Over					
Response Guide					
Apply Emergency Action Guide and prepare for escalation					
Call for assistance as soon as possible					
• Assess and ensure the scene is safe – withdraw personnel from danger (if required)					
Prioritise causalities – undertake a primary assessment of any causalities					
Mobilise SERT, if additional resources are needed					
• Mobilise competent first aider to treat injured persons (if required) at scene or first-aid station					
• Mobilise the following if necessary - electrician if there is an electrical risk, equipment to					
stabilise vehicle, fire control equipment					
Additional Response – as required					
Ambulance – Fire – Police (Dial 000)					
Call a medical facility for assistance/guidance					
Arrange escort for external emergency support / back-up					
Notify General Manager Operations					
Consider the following, to minimise danger:					
1. Other traffic:					
- use hazard lights on vehicles to warn oncoming traffic					
- switch headings on if at night					
- ask bystander/s to extend the warning perimeter to at least 100mts away to warn & control oncoming traf	ffic				
- Battery disconnect					
2. Fire:					
- switch off the vehicle's motor and, for diesel vehicles, shut off any emergency fuel switches					
 if there is a fire under the bonnet, and you have a fire extinguisher and it safe to do so, release the bonnet. 	et				
catch (but don't open fully) and aim the extinguisher through the gap					
3. Fumes:					
- stay clear of fumes if petrol/diesel is leaking and ensure there are no naked flames or people smoking ne	erby				
4. Damaged vehicles:					
- If all bags have not been activated, stay clear of the steering wheel and front dashboard					
5. Spilt fuel or chemicals:					
- if the accident involves a vehicle carrying hazardous material, stay clear. Take note of the signs indication	g what				
is being carried e.g. type of sign and code number and call 000 for advice	-				
- if there are clouds of vapour, spilt liquids, bottles, gas cylinders or unusual odors, avoid contact with thes	e				
substances and have everyone stay upwind if possible, to avoid fumes					
b. Fallen or damaged powerlines remain at least 6m from any fallen nower lines and don't attempt to move the cables					
 do not go near a vehicle if it is being touched by electrical cables advise the patient not to move and wait 	for				
emergency services to arrive					
What to Do					
Prioritise Causalities					
1. Once safe to do so, assess casualties as follows: (Using the vehicle medical booklet to assist)					
- Are they conscious?					
- Are their airways clear and open? - Are they breathing?					
- Are they bleeding?					

Injuries and Ongoing Management

- Common injury types:
 - airway blockages
 - head injuries
 - chest injuries
 - spinal injuries
- 1. Unless necessary (for example if the vehicle could explode), do not move a patient until help arrives as it could lead to further injury;
- 2. Continue to monitor their breathing as this can rapidly deteriorate. Be ready to perform CPR should this occur Do not use mouth-to-mouth method if victim ingested or inhaled any substance;
- 3. Record observations (if possible) until help arrives e.g. breathing, pulse, skin colour and temperature. Any changes could indicate a serious change in their condition;
- 4. If the patient is conscious, continue to reassure them. Let them know that help is on the way.

Note - there must always be 2 people in the ambulance when transporting a patient - Primary OFA to be supporting the patient - the 2nd person drives and be up to date with 1st aid/CPR training.

NOTICE

• Try to remain calm as anxiety can spread quickly.

Post Event Actions

- Clean up any oil/fuel spills, as per site environmental procedures;
- Monitor for possible fire;
- · Secure the scene for incident investigation do not move anything unless a person's life depends upon it;
- Photograph & preserve the scene.
- In the case of a Fatality, authorities (Police) <u>must</u> notify Next of Kin before the EMT leader commences communication (with Next of Kin)

9.2 Emergency Event Guide 2 – Transporting Incident – Rollover/Injuries

Incident				
Nature of the incident:				
□ Heavy Haulage / Road transport □ Bulk vessel (transported) □ Road Tanker / Tanker truck □ Other				
Response Guide				
Apply Emergency Action Guide and prepare for escalation				
 Call for assistance as soon as possible; Assess and cautiously approach from upwind - ensure the scene is safe – withdraw personnel from danger (if required); Mobilise the SERT if additional resources are needed – carry suitable volumes of fresh water; Mobilise competent first-aider(s) to treat injured persons (if required) at scene or first-aid station; Assist external personnel with notifications and calls for assistance. Additional Response – as required Ambulance – Fire – Police (Dial 000) Arrange escort for external back-up Notify General Manager Operations 				
What to Do				
2. Attempt to Identify the spill - refer to the HAZCHEM code, Truck Placarding, Driver or SDS for methods (of			
control / management;				
3. Alert Management / SES / Police or 000 of situation ASAP, note location, HAZCHEM concerned, areas of	of			
impact;				
4. Ensure all personnel are safe and clear of area -Stay upwind and clear of any Vapour, Fumes, Smoke a Spills.	nd			
5. Use safety related equipment as required, to safely extract personnel if in immediate danger;				
6. Extricate personnel and team to a safe distance and clear of fumes (Upwind);				
7. Consider decontamination of personnel – clothing / footwear / equipment – water to dilute substance;				
8. Divert or stop traffic (do not start vehicles if a low flash-point product has been split) – if tanker truck is in	volved			
in a fire, ISOLATE for 800 metres (1/2 mile) in all directions;				
9. If Spill fluid loss evident, undertake measures to prevent spread of spilled product – if possible - (i.e. bloc	CK			
drains, dam ditches, boom watercourses, close water intakes);				
10. Isolate spill of leak area for at least 100 metres (350 leet) in all directions,				
12. Stop further leakage - close valves, attempt to stop leaks, if safe to do so:				
13 Never attempt to perform a rescue without support or adequate forethought.				
14. Consider all details as described in Event Guide 1.				
Note - there must always be 2 people in the ambulance when transporting a patient - Primary OFA to be supporting the patient - the 2nd person drives and be up to date with 1st aid/CPR training.				
Post Event Actions				
 Secure the scene for incident investigation. In the case of a Fatality, authorities (Police) <u>must</u> notify Next of Kin before the EMT leader commences 				

- communication (with Next of Kin)
- Team debrief / Mental anguish and concerns.

9.3 Emergency Event Guide 3 – Security Incident

Incident				
Nature of the incident:	monae			
Unauthorised Access	Threat of Violence	□ Assault		
□ Missing Person(s)	Suspicious Package	Bomb Threat		
	Response	Guide		
	Response	Guide		
Apply Emergency Action Guid	le and prepare for escalati	on		
 Call for assistance as soon a 	s possible;			
 Assess and ensure the site is Makilia the CEDT if addition 	s safe – withdraw personnel	from danger (if required);		
Mobilise the SERT if addition	al resources are needed.	se - as required		
Ambulance – Police (Dial 000)	Additional Respons			
Arrange escort for external back	-up			
Notify General Manager Operati	ons			
	What to	Do		
	Bomb Threat / Susp	icious Package		
	NOT	ICE		
 Under no circumstances should any person attempt to move or disarm a bomb or open a suspicious package Bomb threats create a specific type of emergency and require a swift and positive response. If a bomb threat is received, by whatever means, ALL action taken will be under the guidance and direction of the SERT leader If the threat is received via phone, do not hang up as the call could possibly be traced 				
Telephone		Post		
 Try to obtain as much inform the caller. When did you pu you put it? What does it loc bomb is it? What will make 	mation as possible from It it there? Where did Ik like? What kind of it explode?	 Do not open a letter or package if it looks suspicious. 		
 Try to assess if the caller is they have an accent? Are t background noises? 	male or female? Do here any distinctive			
 Remain calm and treat the threat seriously Activate the evacuation alarm, consider ESD of the plant and, if necessary, de-pressure and isolate affected equipment 			fected	
4. Call the police on 000				
5. Make a decision to evacuate	e personnel			
6. Devise and implement (with	6. Devise and implement (with assistance of police) a search plan			
7. Devise and implement an event of a second	vacuation plan			
9. Make a decision to resume r	normal activities			

Threat of Violence/Assault				
NOTICE				
 Avoid directly confronting a person who is threatening violence If the violence escalates, do not try to deal with the violent person by yourself – seek help Allow the person to talk Try not to interrupt. If you do, then do so in a calm, gentle and assured manner. Observe but do not turn your back on the person Avoid direct eye contact Do not walk in front of the person and remain far enough away to avoid being assaulted Note physiological changes in the person such as reddening of the face, clenching fists, grimaces, voice becoming louder, heavy breathing, narrowing of their gaze, and so forth. Diffuse the situation Put the person at ease, empathise with their situation/concerns and let them know you understand. Try to identify their gripupage and persotiate a persotial existing. 				
4. Contact human resources for support				
Unauthorised Access to Site				
 Initiate search for any unauthorised personnel Identify where they were last seen and what they were doing 				
 2. Secure people, facilities and vehicles - Activate general alarm and muster, if necessary 				
- Consider shutting down safety critical systems if they cannot be maintained safely if unattended				
 If located: Approach the individual and clearly communicate where they are and the area's restrictions 				
- Try to find out why they are on site (follow the guidelines provided)				
4. Call the police on 000 or escort the individual off site				
Missing Person				
1. Obtain information on the time and location of their last sighting				
- Use trackers, work information, last known sighting				
2. Try and establish communication via phone, radio or tracker				
3. Initiate search				
4. Dispatch SERT member to last known location, plan to drive the route taken by missing personnel. Ensure				
contact is maintained with the SERT member undertaking the search				
5. Determine any requirements for outside assistance or additional support and notify authorities, if necessary				
6. If the police are required for a search and rescue, allow them to take control of the situation				
7. EMT leader to communicate with next of kin				
Post Event Actions				
Secure the scene for incident investigation				
 Ensure that the termination of the emergency is communicated 				
 Follow up with any witnesses/bystanders to ensure they are ok 				

9.4 Emergency Event Guide 4 – Bushfire / Flood

	Incident				
N	Nature of the incident:				
$ _{\Box}$	Bushfire	□ Storm	□ Flood	□ Other	
	Baerinie				
			Response G	ulde	
A	oply Emergency Act	ion Guide and p	prepare for escalation		
•	Call for assistance a	is soon as possil	ole;	for a low of the sector D	
	Assess and ensure Mobilise the SERT is	Ine scene is safe	e – withdraw personnei irces are needed:	from danger (if required);	
-	Mobilise competent	first aider to trea	t injured persons (if rec	uired) at scene or first-aid station.	
			Additional Response	– as required	
Ar	<u> nbulance – Fire – Po</u>	lice (Dial 000)			
A	range escort for exte	rnal back-up			
IN	olity General Manage	rOperations	What to D	0	
			What to D		
			Bushfire		
1.	Obtain information a	bout the fire incl	uding location, wind dir	ection, strength, size and type of fire, and if the	ere are
	any injured/missing	personnel			
2.	Get weather informa	ition and pay atte	ention to the wind direc	tion, check local fire info at:	
	www.firenorth.org.au	<u>u/nafi3/</u>			
3.	Consider checking f	ire breaks, if safe	e to do so		
4.	Initiate contact with	emergency servi	ces and neighbours in	surrounding properties	
э.	Activate alarms and	muster, as requi	Irea	-	
	The control of a huse	lafina na sta with th	NOTIC	- 	la Aluana
-	 The control of a bushfire rests with the Rural Fire Brigade until the fire reaches the site boundaries at which time management can then take control 				n ume
	 Should fire breaks be crossed, the SERT leader shall review what plant must be shut down or additional fire 				
	breaks be prepared				
•	During a fire, to ens	ure the safety of	personnel, the environ	ment and equipment, consideration must be gi	ven to
	snutting the plant do	wn.			
A	lverse Weather				
1.	Obtain information a	bout the emerge	ency including location,	size and extent of event, potential for damage	,
	flooding or storm, ar	nd if personnel ha	ave been injured or are	missing	
2.	Regularly check wea	ather information	and pay attention to w	arnings from: http://www.bom.gov.au/nt/	
3.	Road condition repo	rts from: https://r	oadreport.nt.gov.au/ro	ad-map	
4.	Initiate contact with	emergency servi	ces, alert road transpo	rt companies used by CTP of current condition	S.
5.	Ensure that no critic	ai activity is start	ed which cannot be co	mpleted before the event due to possible evac	uation
6.	IT adequate warning	, prepare site by	removing any items wi	nich may become loose during a storm, flood, e	etc.
1.	Consider Whether th	e plant should be	e snut down or develop	protocols for shutdown	
ŏ.		nor people to ren	nam on-site and if so – frod	WIEIE.	
9.	Activate alarms and	muster, as requi	Post Event Ac	tions	
			Post Event At	500015	

• Secure the scene for incident investigation

9.5 Emergency Event Guide 5 – Electric Shock

Incident					
Nature of the incident:					
Electric Shock	Flash Burn Injury	Vehicle Roll Over			
Unconscious	Respiratory Condition	□ Other			
	Response	Guide			
Apply Emergency Action (Suide and prepare for escalati	on			
 Call for assistance as soon as possible Assess and ensure the scene is safe – withdraw personnel from danger (if required) Mobilise the SERT if additional resources are needed Mobilise electrician to arrange isolations (if required) Mobilise competent first-aider to treat injured persons (if required) at scene or first-aid station Call Ambulance – Dial 000 Arrange clean potable water for initial treatment of flash burns 					
Oall a madical facility fan aan	Additional Respons	se – as required			
Arrange escort for external b	istance/guidance				
Notify General Manager Ope	erations				
	What to	Do			
	Treatment for El	ectric Shock			
 Check for danger to yourself, bystanders and the patient Before trying to assist the patient, switch off or isolate power If the patient is in contact with high voltage lines, do not approach. Wait until power is disconnected by an authorised electrician Reassure and calm the patient and do not leave them alone If patient is unconscious Check for signs of life: if unconscious, follow DRSABCD (Danger, Response, send for help, Airway, Breathing, CPR, Defibrillation) Apply cool running water to the burnt area for 20 minutes If possible, remove jewellery and clothing from burnt areas Cover the burnt area with a loose and light non-stick dressing, preferably clean, dry, non-fluffy material such as plastic cling film Seek professional medical assistance 					
In the event of any electric	NOT	ICE			
multical attention					
Coouro the econo for inci	Post Event	Actions			

Secure the scene for incident investigation

9.6 Emergency Event Guide 6 – Fire / Explosion

Incident					
Nature of the incident:					
	Plant and Equipment	□ Bulk Fuel/Oil			
	Response Gu				
Apply Emergency Action Guide	and prepare for escalation				
 Call for assistance as soon as 	possible;				
 Assess and ensure the scene 	is safe - withdraw personnel f	rom danger (if required);			
 Shut down plant and systems 	that may be affected by the fire	e or provide first response fire-fighting, if			
safe to do so;	l recourses are needed.				
 Mobilise the SERT if additional Mobilise compotent first aider 	(c) to troat injured persons (if r	auirad) at scope or first aid station:			
 Mobilise competent inst-alder Establish exclusion zones if re 	(3) to treat injured persons (if it	- as required).			
 Arrange isolation of energy so 	Jurces:				
 Assess work permit (where an 	pplicable) at job site and refer to	o emergency plan;			
 Consult signage/labelling to id 	entify hazardous materials and	any response requirements.			
	Additional Response –	as required			
Ambulance – Fire – Police (Dial ()00)				
Arrange escort for external back-	up				
Notify General Manager Operation	ins What to Do				
	Treatment Pla	ant			
	NOTICE				
NOTE: Major plant fires will not b	e fought using firefighting equi	pment, plant ESD will be used.			
Only provide basic firefig	hting on small fires (wastepape	er bin size), if close enough or safe to do	SO.		
1. Shut down and depressurise	plant and systems that may be	affected by the fire			
2. If possible, isolate all energy s	ources and keep ignition source	ces clear of the hazardous area			
3. Evacuate to the muster point,	ensuring it is at a safe distance	e (up to 800 mts) and upwind and conduc	t head:		
count of all POB.					
 Notify the EWT leader discuss and determine if an 	v additional assistance is requi	red			
5 Initiate search and rescue for	the missing personnel if and w	/ben safe to do so, and only after confirm	ation with		
the SERT leader	the missing personnel, if and w				
Tanks					
1. Stop pumps, close valves, if s	afe to do so, and activate alarr	n			
2. Don't go into bunded areas or	onto tanks, or areas where es	cape may be limited			
3. Activate foam generators if safe to do so – SERTL. (SOP number for site:).					
4. Do not attempt to remove vehicles/road tankers unless action approved by SERTL					
- Cooling the course for institute	Post Event Act	ions			
 Secure the scene for incident 	investigation				
9.7 Emergency Event Guide 7 – Confined Space

	Incider	nt	
Nature of the incident:			
Person Trapped	Person Injured	□ Fire	
Toxic Atmosphere	Electrical	Engulfment	
□ Other			
	Response	Guide	
Apply Emergency Actio	n Guide and prepare for esc	alation	
 Call for assistance as soo 	on as possible		
 Assess and ensure the set 	cene is safe – withdraw all unneo	cessary personnel from area	
 Mobilise the SERT if add 	itional resources are needed		
 Mobilise competent first-a 	aider to treat injured persons (if r	equired) at scene or first-aid station	
 Mobilise electrician – arra 	ange isolations (if required)		
 Access Work Permit at jo 	b site and refer to the emergenc	y plan	
	Additional Respons	e – as required	
Ambulance – Fire – Police (Dial 000)		
Check gas monitoring result	s on work permit		
Test atmosphere with monitor	or before entering the confined s	pace – check wind direction	
Arrange escort for external back-up			
Notify General Manager Ope	erations		
	What to	Do	
1. If personnel are trapped	or unable to escape the $CS - S$	I OP all persons from entering the location	n unless
authorised and fitted with	h appropriate lifesaving equipme	nt/PPE	6
2. SERT Leader shall ensur	e that isolations remain intact an	id that no other oxygen depleting events	may unfold
during the extraction.			
3. The Rescue plan for the	task would indicate the requirement	ent to have BA, first aid, a method of extr	action and
suitable numbers to com	blete the task – ensuring this is c	correct and the gear is available, then;	
4. SERT Leader shall order	the insertion of team members i	n BA only when prepared, and ready to re	espona
5. Other team members sha	all be waiting in support including	the SERT first aider with a Satellite phor	ne with
access to medical support	rt online (if required)		
6. Vehicle (ambulance if po	ssible) is at the ready to remove	patient as required	
7. Ambulance has oxygen with mask and defibrillator available			
8. Spotters shall be used to	ensure that all persons remain o	clear of the situation unless required to as	sist
Source the seems for incident	Post Event A	Actions	
 Secure the scene for Incl 			

9.8 Emergency Event Guide 8 – Spill / Release – Road Haulage – Wet Weather

.o Emergency Event Guide o – Spin / Release – Road Hadiage – wet weath	C1
Incident	
Nature of the incident:	
Heavy Haulage / Road transport Bulk transport vessel Bulk Chemical Load	
Other	
Response Guide	<u> </u>
Apply Emergency Action Guide and prepare for escalation	
 Site responder - Call for assistance as soon as possible 	
If on scene -Assess and cautiously approach from upwind - ensure the scene is safe – withdraw	
 personnel from danger (as required), use available extinguishers, shielding, breathing support; Mobilise the SERT for additional resources as needed – carry ELSA gear, extinguishers, tools, space of the second secon	sill
 gear. Mobilise competent first-aider(s) to treat injured persons (if required) at scene or first-aid station 	
 Assist external personnel with notifications and calls for assistance 	
Additional Response – as required	
Ambulance – Fire – Police (Dial 000)	
Arrange escort for external back-up	
Notify General Manager Operations	
What to Do	
1. Ensure vehicles can safely navigate to and from areas of concern – provide alternate routes if pe	ossible;
Ensure all personnel are safe and clear of area -Stay clear of Vapour, Fumes, Smoke and Spills	,
3. Use safety related equipment as required, to safely extract personnel if in immediate danger;	
 Different PPE (Face shields, goggles, heavy gloves, Gum boots) may be required in Wet weather safely perform any task; 	r situations to
5. Extricate personnel and team to a safe distance and clear of potential hazardous fumes (Upwind	1);
 Attempt to Identify the spill - refer to the HAZCHEM code, Truck Placarding, Driver or SDS for m control / management; 	ethods of
 Alert Management / SES / Police or 000 of situation ASAP, note location, HAZCHEM concerned impact; 	, areas of
8. Divert or stop traffic (do not start vehicles if a low flash-point product has been split) if tanker true event is involved in a fire. ISOLATE for 800 metres in all directions:	ck or Chemical
9. Consider equipment – dependent on location, proximity or safety – what can or should be saved	d?
10. Interacting personnel enter only when wearing appropriate PPE:	
11. If fluid form, attempt to prevent spread of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled product from the vehicle itself (shut valves – intervention of spilled pr	ernal / external)
if safe to do so using hazard specific PPF.	,
12 Remove all sources of ignition to reduce any potential of fire:	
13 Notify FMT and advise situation and request assistance if needed – advise SES Police – update	e as required [.]
14. Never attempt to perform a rescue without support or adequate forethought;	,
Refer to: MSTD13-PL002 ERP Spill response procedure for assistance with methods of containment during the containment process (if fluid) or the <i>Australian-Emergency-Response-Guide-Book-20</i> (Containment Process) (if fluid) are the <i>Australian-Emergency-Response-Guide-Book-20</i> (Containment Process) (if fluid) (Containment Process)	it or prompts 18 in M-Files.
 Secure the scene for incident investigation: 	
 Team debrief / Mental anguish and concerns. 	

9.9 Emergency Event Guide 9 – Spill / Release Site related

Incident			
Nature of the incident:			
□ Warehousing movements □ Plant Failure □ Bulk site storage vessel □ Evaporation Pond			
□ Other			
Response Guide			
Apply Emergency Action Guide and prepare for escalation			
Call for assistance as soon as possible;			
 Assess and cautiously approach from upwind - ensure the scene is safe – withdraw personnel from danger (if required or able); 			
 Mobilise the SERT if additional resources are needed - carry ELSA gear, extinguishers, tools, spill gear; 			
 Mobilise competent first-aider to treat injured persons (if required) at scene or first-aid station; 			
 Assist external personnel with notifications and calls for assistance. 			
Additional Response – as required			
Ambulance – Fire – Police (Dial 000)			
Arrange escort for external back-up			
Notify General Manager Operations			
What to Do			
1. Notity EMT (radio) and advise situation and request assistance if needed;			
Consider ESD of plant – dependent on location, proximity or safety need;			
3. Ensure all personnel are safe and clear of area -Stay clear of Vapour, Fumes, Smoke and Spills;			
4. Interacting personnel consider wearing ELSA gear if attempting to extract any personnel – advise ERTL of	:		
intent – obtain support and clearance;			
5. Different PPE (Face shields, goggles, heavy gloves, Gum boots) may be required to safely perform the tas	k;		
Remove all sources of ignition to reduce the potential fire hazard;			
Establish source of spill/leak, and determine the extent of pollution;			
 Stop further leakage (e.g. stop pumping or in case of pipeline leak give warnings to stop the flow), close va attempt to stop leaks, move object on its side: 	lves,		
9. Isolate spill or leak area for at least 100 metres (330 feet) in all directions to prevent spread of spilled prod	luct		
(if the situation requires- i.e. block drains, dam ditches, boom watercourses, close water intakes):			
10 Divert or stop traffic (do not start vehicles if a low flash-point product has been split):			
11 Attempt to collect spilled and ponding hydrocarbon and return product to safe containment:			
12 Use safety related equipment as required to safely extract personnel if in immediate danger:			
13 Consider decontamination of personnel – clothing / footwear / equipment – water to dilute substance:			
14. Never attempt to perform a rescue without support or adequate forethought:			
Refer to: MSTD13-PL002 ERP Spill response procedure for assistance with methods of containment or promp	ots		
during the containment process (if fluid) or the Australian-Emergency-Response-Guide-Book-2018 in M-Files.			
Post Event Actions			

- Secure the scene for incident investigation;
- Team debrief / Mental anguish and concerns.

9.10 Emergency Event Guide 10 – Aircraft Accident

Nature of the incident: Helicopter Down Response Guide Apply Emergency Action Guide and prepare for escalation • Call for assistance as soon as possible • Assess and ensure the scene is safe – withdraw personnel from danger (if required) • Mobilise the SERT if additional resources are needed • Mobilise the SERT if additional resources are needed • Mobilise competent first-aider to treat injured persons (if required) at scene or first-aid station • Assess and ensure the output of the additional Response – as required Ambulance – Fire – Police (Dial 000) Arrange escort for external back-up Notify General Manager Operations • What to Do 1. Fire response team and vehicle to attend site – with a satellite phone; 2. If personnel are on the plane and fire is a barrier - Safely attempt to approach and extinguish any fire (or keep at bay) whilst personnel exit or are assisted; 3. Interacting personnel consider wearing ELSA gear when attempting to extract any onboard aircraft personnel. 4. Extricate personnel and team to a safe distance and clear of fumes (Upwind); 5. Isolate spill or leak area in all directions to prevent spread of spilled product (i.e. block drains, dam ditches, boom watercourses, close water intakes); 6. Remove all sources of ignition to reduce the potential fire hazard; 7. SERT first aid responder to provide immediate assistance – call Medical doctor / advise nearest clinic for support if required for in-field assistance; 8. Call 000 to advise of incident; 9. Monitor the downed aircraft and maintain safety vigil from a safe distance; 10. Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions			Incident		
□ Helicopter Down □ Plane Down □ Emergency Landing □ Other Response Guide Apply Emergency Action Guide and prepare for escalation • • Call for assistance as soon as possible • • Assess and ensure the scene is safe – withdraw personnel from danger (if required) • • Mobilise the SERT if additional resources are needed • • Mobilise competent first-aider to treat injured persons (if required) at scene or first-aid station • • Assist pilot and crew with notifications and calls for assistance • Ambulance – Fire – Police (Dia 000) • • Arrange escort for external back-up Notify General Manager Operations • • Notify General Manager Operations • • • Notify General Manager Operations • • • Notify General Manager Operations • • • • Notify General Manager Operations • • • • State operations • • If personnel are on the plane and fire is a barrier - Safely attempt to approach and extinguish any fire (or keep at bay) whil	Nat	ture of the incident:			
Other Response Guide Apply Emergency Action Guide and prepare for escalation Call for assistance as soon as possible Assess and ensure the scene is safe – withdraw personnel from danger (if required) Mobilise to SERT if additional resources are needed Mobilise competent first-aider to treat injured persons (if required) at scene or first-aid station Assist pilot and crew with notifications and calls for assistance Additional Response – as required Ambulance – Fire – Police (Dial 000) Arrange escort for external back-up Notify General Manager Operations What to Do Fire response team and vehicle to attend site – with a satellite phone; If personnel are on the plane and fire is a barrier - Safely attempt to approach and extinguish any fire (or keep at bay) whilst personnel exit or are assisted; Interacting personnel consider wearing ELSA gear when attempting to extract any onboard aircraft personnel. Extricate personnel and team to a safe distance and clear of fumes (Upwind); Isolate spill or leak area in all directions to prevent spread of spilled product (i.e. block drains, dam ditches, boom watercourses, close water intakes); Remove all sources of ignition to reduce the potential fire hazard; SERT first aid responder to provide immediate assistance – call Medical doctor / advise nearest clinic for support if required for in-field assistance; Call 000 to advise of incident; Monitor the downed aircraft and maintain safety vigil from a safe distance; Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area.		Helicopter Down	Plane Down	Emergency Landing	
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Apply Emergency Action Guide and prepare for escalation • Call for assistance as soon as possible • Assess and ensure the scene is safe – withdraw personnel from danger (if required) • Mobilise the SERT if additional resources are needed • Mobilise competent first-aider to treat injured persons (if required) at scene or first-aid station • Assist pilot and crew with notifications and calls for assistance Ambulance – Fire – Police (Dial 000) Arrange escort for external back-up Notify General Manager Operations What to Do 1. Fire response team and vehicle to attend site – with a satellite phone; 2. If personnel are on the plane and fire is a barrier - Safely attempt to approach and extinguish any fire (or keep at bay) whilst personnel exist or are assisted; 3. Interacting personnel consider wearing ELSA gear when attempting to extract any onboard aircraft personnel. 4. Extricate personnel and team to a safe distance and clear of fumes (Upwind); 5. Isolate spill or leak area in all directions to prevent spread of spilled product (i.e. block drains, dam ditches, boom watercourses, close water intakes); 6. Remove all sources of ignition to reduce the potential fire hazard; 7. SERT first aid responder to provide immediate assistance – call Medical doctor / advise nearest clinic for support if required for in-field assistance; 8. Call 000 to advise of incident; 9. Monitor the downed airc			Response Gui		
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 If personnel are on the plane and fire is a barrier - Safely attempt to approach and extinguish any fire (or keep at bay) whilst personnel exit or are assisted; Interacting personnel consider wearing ELSA gear when attempting to extract any onboard aircraft personnel. Extricate personnel and team to a safe distance and clear of fumes (Upwind); Isolate spill or leak area in all directions to prevent spread of spilled product (i.e. block drains, dam ditches, boom watercourses, close water intakes); Remove all sources of ignition to reduce the potential fire hazard; SERT first aid responder to provide immediate assistance – call Medical doctor / advise nearest clinic for support if required for in-field assistance; Call 000 to advise of incident; Monitor the downed aircraft and maintain safety vigil from a safe distance; Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 	1.	File response team and vehicle to			
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 Interacting personnel consider wearing ELSA gear when attempting to extract any onboard aircraft personnel. Extricate personnel and team to a safe distance and clear of fumes (Upwind); Isolate spill or leak area in all directions to prevent spread of spilled product (i.e. block drains, dam ditches, boom watercourses, close water intakes); Remove all sources of ignition to reduce the potential fire hazard; SERT first aid responder to provide immediate assistance – call Medical doctor / advise nearest clinic for support if required for in-field assistance; Call 000 to advise of incident; Monitor the downed aircraft and maintain safety vigil from a safe distance; Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 		at bay) whilst personnel exit or are	e assisted;		
 Extricate personnel and team to a safe distance and clear of fumes (Upwind); Isolate spill or leak area in all directions to prevent spread of spilled product (i.e. block drains, dam ditches, boom watercourses, close water intakes); Remove all sources of ignition to reduce the potential fire hazard; SERT first aid responder to provide immediate assistance – call Medical doctor / advise nearest clinic for support if required for in-field assistance; Call 000 to advise of incident; Monitor the downed aircraft and maintain safety vigil from a safe distance; Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 	3.	Interacting personnel consider we	aring ELSA gear when atten	pting to extract any onboard aircraft person	nel.
 Isolate spill or leak area in all directions to prevent spread of spilled product (i.e. block drains, dam ditches, boom watercourses, close water intakes); Remove all sources of ignition to reduce the potential fire hazard; SERT first aid responder to provide immediate assistance – call Medical doctor / advise nearest clinic for support if required for in-field assistance; Call 000 to advise of incident; Monitor the downed aircraft and maintain safety vigil from a safe distance; Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 	4.	Extricate personnel and team to a	safe distance and clear of fu	ımes (Upwind);	
 boom watercourses, close water intakes); Remove all sources of ignition to reduce the potential fire hazard; SERT first aid responder to provide immediate assistance – call Medical doctor / advise nearest clinic for support if required for in-field assistance; Call 000 to advise of incident; Monitor the downed aircraft and maintain safety vigil from a safe distance; Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 	5.	Isolate spill or leak area in all direc	ctions to prevent spread of s	pilled product (i.e. block drains, dam ditches	,
 Remove all sources of ignition to reduce the potential fire hazard; SERT first aid responder to provide immediate assistance – call Medical doctor / advise nearest clinic for support if required for in-field assistance; Call 000 to advise of incident; Monitor the downed aircraft and maintain safety vigil from a safe distance; Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions • Secure the scene for incident investigation (CASA and Police incident scene)		boom watercourses, close water in	ntakes);		
 SERT first aid responder to provide immediate assistance – call Medical doctor / advise nearest clinic for support if required for in-field assistance; Call 000 to advise of incident; Monitor the downed aircraft and maintain safety vigil from a safe distance; Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 	6.	Remove all sources of ignition to r	educe the potential fire haza	ırd;	
 support if required for in-field assistance; 8. Call 000 to advise of incident; 9. Monitor the downed aircraft and maintain safety vigil from a safe distance; 10. Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 	7.	SERT first aid responder to provid	e immediate assistance – ca	all Medical doctor / advise nearest clinic for	
 8. Call 000 to advise of incident; 9. Monitor the downed aircraft and maintain safety vigil from a safe distance; 10. Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 		support if required for in-field assis	stance;		
 9. Monitor the downed aircraft and maintain safety vigil from a safe distance; 10. Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 	8.	Call 000 to advise of incident;			
 10. Do not attempt to touch or move the aircraft or any items which may have been thrown from the impact area. Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 	9.	Monitor the downed aircraft and m	naintain safety vigil from a sa	fe distance;	
 Post Event Actions Secure the scene for incident investigation (CASA and Police incident scene) 	10.	Do not attempt to touch or move the	he aircraft or any items whicl	n may have been thrown from the impact are	ea.
 Secure the scene for incident investigation (CASA and Police incident scene) 		_	Post Event Action	ons	
	•	Secure the scene for incident inves	stigation (CASA and Police in	ncident scene)	

9.11 Emergency Event Guide 11 – Medical Trauma

		Ind	cident	
Na	ture of the incident:			
	Person Trapped	Person Injured Electrical	□ Fire □ Engulfment	
	Other			
		Respoi	onse Guide	
Ap	oply Emergency Action Gu	ide and prepare for e	escalation	
•	Call for assistance as soon as	possible		
•	Assess and ensure the scene	is safe – withdraw perso	onnel from danger (if required)	
•	Mobilise the SERT if additiona	I resources are needed		
•	Mobilise competent first-aider	to treat injured persons ((if required) at scene or first-aid station	
•	Mobilise electrician and arrang	je isolations (if required)		
•	Access Work Permit at job site	e and refer to the emerge	ency plan	
Δ	hulence Fire Delice (Diel A	Additional Resp	oonse – as required	
An	ande escort for external back-	<u>(00)</u>		
No	tify General Manager Operatio	up Ins		
		Wha	at to Do	
1.	First responder shall:			
2.	Follow DRSABCD (Danger, F	Response, Send for help,	, Airway, Breathing, CPR, Defibrillation);	
3.	After the area assessment be	gin most appropriate act	tions;	
4.	Remove the patient and clear required);	r the area of personnel if	potential for harm is, or may become evident (as	
5.	Keep others aware of danger	s and delegate an assist	tant to help in key tasks;	
6.	Give preference to the SERT	First aider to deliver eme	ergency care to an injured person;	
7.	If an ambulance is available -	- bring the vehicle (and a	all medical equipment) to the site of the injured perso	on;
	Note - there must always be supporting the patient - the	e 2 people in the ambul e 2nd person drives and	lance when transporting a patient - Primary OFA d be up to date with 1st aid/CPR training.	to be
8.	Ensure a Satellite phone is at	t the scene and turned or	n;	
9.	SERT leader shall activate the	e SERT to ensure the ar	rea is made safe.	
		Post Eve	ent Actions	
•	Secure the scene for incident i In the case of a Fatality, autho communication (with Next of K	investigation prities (Police) <u>must</u> notify (in)	y Next of Kin before the EMT leader commences	

9.12 Emergency Event Guide 12 – Well Blowout

Incident	
Nature of the incident:	
Response Guide	
Apply Emergency Action Guide and prepare for escalation	
Call for assistance as soon as possible	
 Activate the emergency shutdown 	
 Assess and ensure the scene is safe – withdraw personnel from danger (if required) 	
 Mobilise the SERT if additional resources are needed 	
 Mobilise competent first-aider to treat injured persons (if required) at scene or first-aid station 	
 Mobilise electrician and arrange isolations (if required) 	
Additional Response – as required	
Ambulance – Fire – Police (Dial 000)	
Arrange escort for external back-up	
What to Do	
1. Use DRS – Danger, Response, Send for help;	
2. Close the surface valves or the Blowout Preventer (BOP) using all necessary safety equipment and care;	
3. Evacuate non-essential personnel and establish exclusion zones;	
4. Contact Company Drilling manager for information on how to further control the situation;	
5. Initiate the necessary well controls and monitor results;	
6. Account for personnel – both contractor and staff.	
Post Event Actions	
Secure the scene for incident investigation	

9.13 Emergency Event Guide 13 – Bites / Stings

Incident	
Nature of the incident:	
□ Snake Bite □ Spider Bite □ Bee / Wasp Sting □ Other	_
Response Guide	
Apply Emergency Action Guide and prepare for escalation	
 Call for assistance as soon as possible 	
 Secure scene and withdraw personnel from danger (if required) 	
 Try to identify what caused the poisoning/bite/sting 	
 Establish exclusion zones, if required 	
 Mobilise the SERT if additional resources are needed 	
 Mobilise competent first-aider to treat injured persons (if required) at scene or first-aid station 	
 Arrange escort for internal backup 	
Additional Response – as required	
Ambulance – Fire – Police (Dial 000)	
Arrange escort for external back-up	
Notify General Manager Operations	
What to Do	
Managing a Snake Bite	
NOTICE	
Do not wash venom off the skin as this will assist identification. Do not use a constrictive bandage	(i.e.
arterial tourniquet)	-
 Do not try and catch the snake – identification is no longer required for antivenom 	
1. Check for signs of life: if patient is unconscious, follow DRSABCD (Danger, Response, Send for help,	
Airway, Breathing, CPR, Defibrillation) procedures;	
2. Keep the patient calm;	
3. Apply a pressure bandage firmly starting just above the fingers or toes and moving up the limb as far	
as possible;	
4. Immobilise casualty:	
- apply a splint to immobilise the limb	
- check circulation of fingers or toes	
- ensure patient doesn't move	
5. Call for an ambulance/medical assistance.	

What to Do

Managing a Spider Bite

- 1. Follow DRABCD (Danger, Response, Airway, Breathing, CPR, Defibrillation) procedures
- 2. Lie patient down
- 3. Keep patient calm
- 4. Immobilise patient:
 - apply a splint to immobilise the limb
 - check circulation in fingers or toes
 - ensure patient doesn't move
- 5. Call for an ambulance/medical assistance.

What to Do
Managing a Sting / Allergy
NOTICE
 Person with a known allergy may be carrying an EpiPen[®] and may request assistance in administering the drug
1. Follow DRABCD (Danger, Response, Airway, Breathing, CPR, Defibrillation) procedures;
2. Lie patient down;
3. Keep patient calm;
4. Administer
- EpiPen $^{ m I\!R}$ if available and required (EpiPen injection time use is indicated on the pen – 10 second & new 3
second);
5. Apply ice or cold compresses to help reduce the pain and/or swelling;
6. Call for an ambulance/medical assistance.
Post Event Actions
 Secure the scene for incident investigation In the case of a Fatality, authorities (Police) <u>must</u> notify Next of Kin before the EMT leader commences communication (with Next of Kin)

Note - there must always be 2 people in the ambulance when transporting a patient - Primary OFA to be supporting the patient - the 2nd person drives and be up to date with 1st aid/CPR training.

9.14 Emergency Event Guide 14 – Pipelines

		Inc	ident		
Natur	re of the incident:				
	upture	Leak		□ Blowout	
	ther	Respo	nsa Guida		
Appl	v Emergency Action Guide	and prepare for e	scalation		
 Ca 	all for assistance as soon as pos	sible			
 As 	ssess and ensure the scene is sa	afe – withdraw perso	nnel from danger (if	required)	
 Mo 	obilise the SERT if additional res	ources are needed			
 Mo 	obilise competent first-aider to tr	eat injured persons (if required) at scene	e or first-aid station	
• Mo	obilise electrician and arrange is	olations (if required)			
 Ac 	ccess Work Permit at job site and	d refer to the emerge	ncy plan		
A 1		Additional Respo	nse – as required		
Ambu	ilance – Fire – Police (Dial 000) k gas monitoring results on work	normit			
Test	atmosphere with gas monitor be	fore entering the con	fined space		
Arran	ge escort for external back-up				
Notify	General Manager Operations				
		What	to Do		
NOTE	If there is a leak, the response	should be consister	eak of with the information	on presented in the spill/releas	0
Emer	aency Action Guide			on presented in the spin/releas	
	<u></u>	Rupt	ures		
1 Id	dentify the location of the failure	and isolate the affect	ed section of the pi	peline suspend operations if	
2. A	rrange for the safe shutdown of	plant, equipment, ve	hicles in the affecte	d area;	
3. E	stablish a perimeter around the	affected area, evacu	ate or restrict acces	ss;	
4. D	etermine if any outside assistan	ce is required;			
5. E	stablish gas or other testing pro	tocols prior to enterir	g the area or introd	lucing any potential ignition sou	urces
e.	.g. equipment;	·	-		
6. If	the spill has leaked into any wa	ter courses, install be	ooms/barriers to lim	it any flows. Establish spoon	
dı	rains/berms/dirt bunds to contair	n any flow or runoff;			
7. R	Review forecast weather information	tion;			
8. M	Ionitor and manage the leaked p	product ensuring pers	onnel remain safe.		
-	5 ·······	- Post-Ev	ant Actions		
■ Se	ecure the scene for incident inve	stigation;			
 De 	etermine the likely amount of spi	llage.			

9.15 Emergency Event Guide 15 – Gas Leak (Minor)

Na	ture of the incident:	li li	ncident		
	Rupture	🗆 Leak	Blowout		
	Other				
Δn	only Emergency Action Guide	Response	escalation		
•	Communicate to personnel to vac	ate the area and no	tify SERT Coordinator and SERT Leader		
•	Mobilise the SERT if additional re-	sources are needed			
•	Shut down or isolate plant as requ	ired, cease vehicle	/ equipment movements, cordon off the area		
•	Organise Work Permit and or Initia	ate immediate repai	rs or other actions as required.		
•	Monitor progress of repairs or situ	ation until condition	made safe		
•	Advise team members of satisfact	ory completion of re	epairs or of safe condition		
		Additional Res	ponse – as required		
Am	<u>Ibulance – Fire – Police (Dial 000)</u>	of ranaira ar makin	a aafa		
Tes	st atmosphere with monitor before	entering the area	g sale		
Log	g details of condition, time and tas	k progress			
No	tify General Manager Operations				
		Wh	hat to Do		
NO	TE: The ESD systems provide the	L	eak anism for all Cas assanas: no attempt should be m	ado to	
dis	NOTE: The ESD systems provide the main control mechanism for all Gas escapes: no altempt should be made to disperse or extinguish a Gas cloud or fire unless the extinguisher is readily at hand and the fire smaller than a				
wa	ste bin in size.			u	
1.	Identify the location of the leak an	nd isolate the affect	ed section of the pipeline, suspend operations if ne	cessary;	
2.	Arrange for the safe shutdown of	plant, equipment, v	ehicles in the affected area;		
3.	Establish a perimeter around the	affected area, evac	uate or restrict access;		
4.	Determine if any outside assistar	ice is required;			
5.	Establish gas or other testing pro	tocols prior to enter	ing the area or introducing any potential ignition so	urces	
	e.g. equipment;				
6.	Make emergency repairs to elimi	nate gas escaping f	rom the affected area;		
7.	Review forecast weather informa	ition;			
8.	Prepare a Permit and work order	to finalise after imm	nediate repairs undertaken;		
9.	Prepare and enter information to	incident report in IN	IX;		
10.	Determine the likely amount of re	elease.			
		Post E	vent Actions		
•	Secure the scene for incident inve	stigation			
•	De-brief team re incident, non-dise	semination or disclo	sure of information to friends or media		

9.16 Emergency Event Guide 16 – Gas Leak (Major)

		Incident		
Nature	of the incident:			
	ure E] Leak	Blowout	
□ Othe	r	Decrease Cuide		
Apply E	Emergency Action Guide a	nd prepare for escalation		
 Call f 	or assistance as soon as possi	ble		
 Activa 	ate the ESD system – as requir	ed		
 Mobil 	ise the SERT			
Shut of	lown or isolate plant as required, o	ease vehicle / equipment movements, co	rdon off the area	
Asses	ss the scene – move personne	l further from danger (if required)		
 Notify 	EMT if additional resources a	re needed		
 Mobil 	ise competent first aider to trea	at injured persons (if required) at scen	e or first-aid station	
 SER 	refer to the emergency plan			
		Additional Response – as require	d	
Ambular	<u>ce – Fire – Police (Dial 000)</u>			
Monitor (emergency situation and advise	e EM I		
Notify G	entry to all affected areas			
Notify ex	ternal emergency response as	directed or required		
,		What to Do		
		Leak		
1. The	ESD systems provide the mair	control mechanism for all Gas escap	es: no attempt should be made to	C
disp	erse or extinguish a Gas cloud	or fire;		
2. Iden	tify the location of the failure ar	nd isolate the affected section of the le	eak, suspend operations if necess	sary;
3. Arra	nge for the safe shutdown of pl	ant, equipment, vehicles in the affecte	ed area;	
4. Esta	blish a perimeter around the af	fected area, evacuate or restrict acce	SS;	
5. Dete	rmine if any outside assistance	e is required;		
6. If rep	oairs are possible – undertake	using caution;		
7. Revi	ew forecast weather informatic	n;		
8. Assi	gn a team member to gather ai	nd record information about the leak a	and the incident timeline;	
9. Dete	rmine the likely leak volume.			
		Post Event Actions		
SecuDe-bi	e the scene for incident invest ief team re incident, non-disse	igation mination or disclosure of information t	o friends or media	
P	,			

9.17 Emergency Event Guide 17 – MASP (LOPC)

Incident	
Nature of the incident:	
Leak D Strike Other	
Response Guide	
Apply Emergency Action Guide and prepare for escalation	
 Receive call from Central personnel, general public or 1300 notification <iss notification process>.</iss 	
 Assess and ensure the scene is safe – withdraw personnel from danger (if required) 	
 <u>Mereenie</u> PIC to be notified (Asset Owner) and take the role of SERT Lead 	
 Mobilise the SERT if additional resources are needed (potentially resources from PV/BECGS) 	
 Mobilise competent first responder, first-aider to treat potential injured persons (if required) at scene 	
 Establish communication link between incident site and SERT. Refer response guide below. 	
Additional Response – as required	
Ambulance – Fire – Police (Dial 000)	
Notify General Manager Operations / Duty Manager / EMT	
External contracted services (civil and / or mechanical)	
What to Do	
Leak / Strike	
9. Identify the location of the failure and isolate the affected section of the MASP (if possil	ole).
10. SERT leader to nominate site first responder to mobilise to reported leak/strike location	
11. Arrange for the safe shutdown of plant, equipment, vehicles in the affected area;	
12. Establish a perimeter around the affected area, evacuate or restrict access;	
13. Determine if any outside assistance is required. Consult with GM Operations or Duty N regarding escalation to Emergency Management Team (Brisbane).	/lanager
14. Establish gas or other testing protocols prior to entering the area or introducing any polignition sources e.g. equipment;	ential
15. If the spill has leaked into any water courses, install booms/barriers to limit any flows. Establish spoon drains/berms/dirt bunds to contain any flow or runoff;	
16. Monitor and manage the leaked product ensuring personnel remain safe.	
Post Event Actions	
 Secure the scene for incident investigation; 	
 Determine the likely amount of spillage. 	

10. Additional Information

10.1 Aviation Guidance

Aircraft must contain enough fuel for the return leg of journey as additional fuel stocks are not available on site

Site Airstrip Basic Information

- Airstrips are generally maintained all-weather dirt runway
- Site coordinates (To be supplied):
 - Latitude/Longitude:
 - Elevation
- The runway is on a magnetic bearing of:
- The strip dimensions are:
- Runway / Site call sign and frequency: (if required) Frequency:
- Pilot should establish radio communications with Site 30 minutes from runway to allow for runway checks and local weather condition reports

Note: Any concerns or hazards associated with the runway or landing position:

When arriving at night (or following periods of wet weather), the RFDS pilot may determine that an airstrip inspection is required prior to landing.

- 1. If an inspection is deemed necessary, the RFDS Operations Communications Centre will contact you to arrange some someone to be present at the airfield at least 15 minutes prior to the aircraft's arrival.
- 2. The pilot must be able to contact a person at the airfield to confirm the runway is serviceable and free of hazards.
- 3. Contact between the aircraft and the ground will be made via UHF Channel 13.
- 4. If verbal confirmation via **UHF Channel 13** is not forthcoming, the pilot will independently assess the situation and may not land.

Site Airstrip Night Landing

Lighting is required to be initiated at least 30 minutes before the estimated time of arrival of the aircraft in the way prescribed by RFDS night landing requirements.

Parking

- Park your vehicle so that it is pointing into the wind.
- Turn your headlights on high beam and hazard lights on.
- No vehicle is to be parked at either end of the runway.
- All vehicles must be at least 30 metres from the side of the airstrip.
- If possible, park as close as practicable to the windsock (do not attempt to illuminate the windsock with car lights).
- If parking here is not possible, park in a clear location at least 30 metres from the side of the strip.

Stay listening to UHF channel 13

- 1. The pilot will contact you as they approach your area to confirm the airstrip is serviceable and safe.
- 2. Speak up if there are any issues
- 3. The aircraft may NOT land if the pilot is unable to contact you.
- 4. In the event the aircraft is circling overhead, and you haven't had contact from them, there may be radio issues. If you have checked the airfield as per this procedure, turn on your vehicle's hazard lights to indicate it is safe to land.
- 5. If you have radio issues, call the RFDS Operations Communications Centre on 1800 RFDS SA (1800 733 772).

After aircraft departure

Flares / lights must be left lit for 30 minutes in the event the aircraft must return to land due to an emergency.

Figure 1



Before the aircraft is due to land, check the strip to ensure it is clear of wildlife, stock or debris. Condition of runway surface is to be determined and any issues communicated to the pilot.

Site Helipad basic information

- Helipad is a maintained all-weather dirt pad
- Site coordinates:
 - Latitude/Longitude:
- The helipad is located:
- The pad dimensions are 30 x 30 meters
- Site call sign:
- Frequency:
- Pilot should establish radio communications 30 minutes prior to landing on site to allow for checks and local weather condition reports

The helipad has a final approach and take-off area which is circular and equal to twice the length of a helicopter. Should a larger than normal helicopter be used, and concern is raised regarding the landing site, the airstrip should be used.

Site Helipad Night Landing

Lighting is required to be initiated at least 30 minutes before the estimated time of arrival of the aircraft in the way prescribed by RFDS night landing requirements.

Figure 1



Five (5) minutes before the helicopter is due to arrive, inspect the landing area to ensure the site is free of lose objects that could be blown away.

Helicopter Safety Procedure

All personnel are to be instructed as to the safest way to approach the helicopter including:

- removing and securing any loose clothing when approaching or when showing wind direction
- only approaching the helicopter when the pilot gives you the thumbs up
- approaching and leaving the helicopter in a crouched position in the pilot's field of vision, never toward the rear of the helicopter
- always follow the pilot's instructions as they are responsible for the safety of the flight
- If the helicopter is taking off immediately, move at least 10 metres away with your gear and crouch down.
 Remain there until the helicopter has gone.

10.2 Site Information / Maps

Location

Site Name	Mereenie				
Site Address	Off Larapinta Drive				
Site Grid Reference	Latitude: 23 58 36 South				
	Longitude: 131 33 42 East				
Site Location and Accessibility Relevant to Local Community	Item	Details			
	Nearest Town	Alice Springs (300kms)			
	Nearest Major Road	Larapinta Drive			
	Nearest Airport	Kings Canyon			
	Nearest Airstrip	Mereenie			

Operation

Core Site Business	Gas Production
Operating Hours	365 days per year, 24 hours per day
Staffing arrangements	Operations staff work day shift only. 24-hour support is provided via an on-call roster. Operations staff stay on-site in an accommodation block.
Site Internal Emergency Radio Channel	No. 2 Not monitored 24hrs.

Onsite Medical Support

Qualified first aiders	2 per shift
First aid kits	In every vehicle and boxed for use in emergencies
NT Health Medial Kit	Fully equipped drug dispensing kit
Specific equipment	Fully equipped medical room and ambulance on standby

Maps

The following maps / pictures are included for use in an emergency:

- Site showing location of the camp, Central Processing Facility, and airstrip
- Camp maps showing the location of emergency equipment
- Central Processing Facility
- Major pipeline infrastructure map

Mereenie Operation Map



Mereenie Camp Map



Central Treatment Plant



Eastern Satalitte Station



Major Pipeline Infrastructure map



Appendix 3: Stakeholder Engagement Register

Date	Topics	Engagement	FOG Representative	Stakeholders	Information Provided	Outcome	Objections / Claims	Response to Objections / Claims
15 Jul 2021	Exploration programs and Mamlambo wells	Face to face in Kintore facilitated by the CLC	General Manager Exploration, Drilling Manager	Traditional Owners, CLC representatives - see note 1	Extract from LCM presentation (see Appendix 4)	The T/O's and CLC were satisfied that sufficient information was provided. No additional clarifications were requested.	Nil	N/A
21 Oct 2021	Mereenie operations and development, Future seismic programs	Face to face on-site facilitated by the CLC at the LCM	General Manager Operations, Risk and HSE Manager	Traditional Owners, CLC representatives - see note 2	Extract from LCM presentation (see Appendix 4)	The T/O's and CLC were satisfied that sufficient information was provided. No additional clarifications were requested.	Nil	N/A
15 Sep 2022	Mereenie operations and development, Future seismic programs	Face to face on-site facilitated by the CLC at the LCM	Chief Operations Officer, Drilling Manager	Traditional Owners, CLC representatives - see note 3	Extract from LCM presentation (see Appendix 4)	The T/O's and CLC were satisfied that sufficient information was provided. No additional clarifications were requested.	Nil	N/A

Note 1 <u>Central Land Council</u>

Traditional Owners in attendance at LCM: 50 community members, no names were provided in minutes supplied by the CLC

Note 2 <u>Central Land Council</u>

Traditional Owners in attendance at LCM: Not available

Note 3 <u>Central Land Council</u>

Appendix 4: Stakeholder Presentations

SEISMIC SURVEYS STAKEHOLDER INFORMATION BOOKLET

WHAT IS SEISMIC?

Seismic acquisition is the process of collecting seismic data to create an image of the subsurface. Energy is injected into the ground in the form of elastic waves, using an energy source such as a vibrator truck or an explosives charge.

The waves travel into the Earth and reflect from interfaces where rock properties change. Energy that returns to the surface is recorded by sensors/receivers known as geophones (pictured).



Petroleum

WHAT DO WE DO WITH THE SEISMIC DATA?

This data is processed to produce an image that contains geological information about the subsurface. These are interpreted by a geologist to create structure maps and identify favourable locations to drill. Geophysical attributes can be used to infer the physical rock properties.



Seismic surveys can be conducted along lines to produce a vertical profile (2 D survey) or over an area to generate a 3 D sub-surface volume (3 D Survey).

THE SEISMIC PROCESS



Field Based Activities:

Surveying and Line Preparation: When the location of a seismic program has been agreed, surveyors will peg and mark up the lines to ensure accurate positioning. On cleared land, little to no preparation is needed to prepare the lines for crew vehicles and seismic vibrator trucks. On uncleared land, tracks need to be cleared to allow access. Initially a bulldozer clears a 3-4 metre wide line with its blade set just above ground level or utilising a stick rake attachment. If necessary, a grader will follow with its blade skimming

SURVEYING



For the accurate positioning of sensors/receiver points the acquisition company employs conventional RTK survey using survey grade GPS equipment within the limit of 0.1m for horizontal and vertical measurement.

The Seismic vehicle contain pre-programmed GPS Navigation tablets that are updated daily by the survey crew.

Lines are marked using a variety of pegs, pins, spray paint and flagging tape as appropriate.



Marking lines with wooden pegs and flagging tape. Pegs/Tape are picked up/removed by the recording crew once the vibrator trucks have completed that section of line. Spray Paint used fades after 3-4 weeks.



LINE PREPARATION / RESTORATION

The crews are committed to reduced impact line preparation techniques to lighten our environmental footprint.

These include:

- Minimal Ground Disturbance
- Minimal to No Blade work through grasslands, dunes & spinifex area's
- · Minimal Vehicle Impacts produced
- · Root Stock left behind for regrowth







Bulldozers blades are set above ground level or a stick rake attachment is utilised in order to maintain topsoil. Plant and root stock remain on the ground and no windrows are created. A track 3-4 metres in width is cleared – in timbered areas seismic lines weave around large trees all in an effort to create zero impact in the areas we operate in.





SEISMIC LINE LAYOUT





access the line crew drive (receiver) lines. In some areas hand carrying of phones may be required.





Sensors are planted at the required receiver interval. Placement is vertical and firm to the ground to ensure good coupling.

Geophones are activated and ready to record.

7

VIBROSEIS SEISMIC SOURCE





Vibrators move up the lines – the vibrator pad lowers to the ground and shakes at the designated source interval. The Vibrators are equipped with GPS Navigation tablets to ensure they are shaking at the correct locations.



DYNAMITE SEISMIC SOURCE







Dynamite is often used for an energy source in locations where vibrator trucks cannot go. A small drill rig utilizes existing clearances in vegetation to navigate to each source point. A smalldiameter (100mm) hole is drilled to a depth of up to 15m. The charge is then lowered to the base of the hole and then backfilled with the material extracted during drilling and tamped to ensure the detonation is contained. The hole is then restored to enhance natural recovery.

SEISMIC DATA RECORDING



The Recording Truck maintains radio contact with the vibrators and the Harvester.

The Vibrators are equipped with GPS Navigation tablets to ensure they are shooting at the correct locations.

The Recorder ensures correct vibrator positioning and timing and records all shooting events.



PICKUP AND HARVESTING



At the harvester the sensors are split into their two components – Battery and Geophone.

The batteries are re-charged while the data is collected "harvested" from the geophones.

Once the data has been collected it is transferred to the infield geophysicists for QA/QC and preliminary processing.

INFIELD QC & PROCESSING



INFIELD QC & PROCESSING



Often due to the remote location of seismic programs sourcing local accommodation is not an option.

The seismic company maintains a fully equipped trailer-mounted camp providing accommodation, amenities including showers, toilets, laundry facilities, kitchen and diner and mobile offices for remote field work.



CY2023 Work Program

Kintore Presentation July 2021 (extract)

Zevon – Seismic Line

- In October we wish to acquire 30km of seismic near Mt Winter, starting at Mereenie
- Crew will stay at Mereenie Camp
- Should take about 18 days in the field including set-up and close out
- Using existing track and old seismic line, very limited interference with environment
- Late next year we will return to undertake a 700 km seismic survey
- We plan to drill a well in late 2023 to test the seismic we record next year


What is seismic?



- Specialised trucks drive along a predetermined path and stop every 10m to vibrate the ground for 12 seconds
- Geophones which are laid out every 5m record the amount of time it takes for the sound signal to penetrate the earth be reflected of the rock layers and return to the surface



We will use 3 Vibroseis trucks like these to put vibrations into the ground



Geophones (microphones) will be laid out on the ground to record the seismic (sound) waves as they return to the surface



Seismic example



Environmental Outcomes, Risks and Controls

- Comprehensive risk assessments undertaken across all areas
- Multiple layers of controls implemented to mitigate the impacts as a result of the planned activities.
- Environmental Management Plan detailing how impacts to the environmental will be avoided and minimized is currently with the NT Environment Minister for final approval
- Central have never had a reportable environmental incident since taking over operations in September 2015

Outcomes / Objectives	Risks / Impacts	Controls
Minimise impacts on conservation areas and significant fauna / flora	Injury to fauna, loss of vegetation, increased weeds	 No clearing to be undertaken Flora and fauna survey conducted Regular inspections Weed management plans
Minimise and control soil erosion / sedimentation and maintain the viability of soil through preventing contamination	Erosion, sedimentation, contamination	 Erosion and sedimentation plans Complete remediation of any spills or leaks / spill response kits No chemical use Minimal volumes of fuels will be stored and used Regular inspections
All heritage and culturally significant sites are identified and protected	Disturbance to heritage sites	 Heritage survey conducted CLC and Traditional owners consulted Aboriginal Areas Protection Authority certificate application in progress and (fieldwork stage) with site visits currently planned Site inductions

Environmental Outcomes, Risks and Controls

Outcomes / Objectives	Risks / Impacts	Controls
Avoid impacts to surface water and groundwater	Disturbance to drainage patterns, erosion and sedimentation, depletion of ground water, contamination	 Spill management plans including spill kits Erosion and sedimentation plans Regular inspections Spill containment
Activities are not the cause of fires in the region	Fire, community	 Bushfire management plans in place include firefighting equipment, fire breaks
Maintain and enhance community relationships	Traffic, noise, complaints	 Minimal additional traffic (dozen vehicles infield for duration) Regular consultation with the community and stakeholders Community notification prior to commencing activities All visitors to have appropriate CLC approval and be inducted on environmental issues prior to arrival at site
Activities do not negatively impact air quality	Dust generation	- Speed limits on all roads

- There may be unintended consequences as a result of an incident during the activities however comprehensive response plans and protocols are in place.
- There should be no impacts to stakeholder rights e.g. access to site during the planned activities, etc. however in order to manage safety on site we do ask that you inform the Site Supervisor upon arrival.

Questions?

• Open to all for Q&A

• Further Questions or information please do not hesitate to contact Central Petroleum:







info@centralpetroleum.com.au



www.centralpetroleum.com.au



Mereenie LCM 15 September 2022

Future Development Activities

Next 12 months – seismic survey (Zevon / EP115)



Environmental Outcomes, Risks and Controls

- Comprehensive risk assessments undertaken across all areas
- Multiple layers of controls implemented to mitigate the impacts as a result of the planned activities.
- EMPs detailing how impacts to the environmental will be avoided and minimized is in place

Outcomes / Objectives	Risks / Impacts	Controls
Minimise impacts on conservation areas and significant fauna / flora	Injury to fauna, loss of vegetation, increased weeds	 No additional clearing undertaken Flora and fauna survey conducted Regular inspections
Minimise and control soil erosion / sedimentation and maintain the viability of soil through preventing contamination	Erosion, sedimentation, contamination	 Erosion and sedimentation plans Complete remediation of any spills or leaks / spill response kits Minimal volumes of fuels, oils and other chemicals will be stored and used Regular inspections
All heritage and culturally significant sites are identified and protected	Disturbance to heritage sites	 Heritage surveys conducted CLC and Traditional owners consulted Aboriginal Areas Protection Authority / CLC sacred sites clearance certificates in place

Environmental Outcomes, Risks and Controls

Outcomes / Objectives	Risks / Impacts	Controls
Avoid impacts to surface water and groundwater	Disturbance to drainage patterns, erosion and sedimentation, depletion of ground water, contamination	 Regular monitoring of ground and surface water conditions Dual casing for all drilling to protect aquifers Minimise groundwater usage Regular inspections
Activities are not the cause of fires in the region	Fire, community	 Bushfire management plans in place include firefighting equipment, fire breaks
Mange capacity of road infrastructure up to and within the MRN Maintain and enhance community relationships	Traffic, noise, complaints	 Regular consultation with the community and stakeholders Traffic management plans and community notification prior to commencing activities All visitors to have appropriate CLC approval and be inducted on environmental issues prior to arrival at site
Activities do not negatively impact air quality	Dust generation, emissions, combustion	 Watering roads to minimise dust as required Emissions management plan in place including restrictions on venting of gas and efforts to minimise flaring

• There may be unintended consequences as a result of an incident during the activities however comprehensive response plans and protocols are in place.

 There should be no impacts to stakeholder rights e.g. access to site during the planned activities, etc. however in order to manage safety on site we do ask that you inform the Site Supervisor.

Other Business / Questions



Contact and Further Information

Level 7, 369 Ann Street Brisbane QLD 4000 Australia





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Appendix 5: Zevon test line interpolated ecological summary

Introduction

As assessment of the Zevon test line has been undertaken using the data collected for the development of the:

Mereenie Field Environmental Management Plan (9900-630-PLN-0004) and EcOz Ecological Assessment Report for the Zevon 2D Seismic Project (2021).

Despite the EcOz 2021 report assessing a larger area of interest for the wider seismic program in EP 115, it included aerial / ground-based observations and photography by ecologists and operational staff within the Zevon test line to provide enough site-based evidence to support desktop findings, develop appropriate mitigation measures and consider the environmental risk associated with the proposed seismic activity as low as reasonably possible (ALARP). Components of the survey effort are summarised below to demonstrate the rigour of the environmental assessment supporting the Zevon Seismic EMP.

Survey Methodology

The overarching site survey undertaken by EcOz was guided by a desktop assessment over the area of interest. The site survey undertook targeted aerial observations taken from helicopter flight paths across EP 155 which were supported by ground observations made where environmentally sensitive or conservation significant features, habitats or species records were noted.

The wider survey also included a targeted land type survey in accordance with the *Land Clearing Guidelines* (DENR 2020) and the *Northern Territory Guidelines and Field Methodology* (Brocklehurst et al. 2017). This part of the survey was conducted to describe the main ecological features within the area of interest, and to record the presence and extent of sensitive vegetation, erosion risk, and areas that may be classed as significant habitat for threatened species. A higher level of survey effort was undertaken for priority land types considered to be susceptible to potential impacts (i.e. prone to erosion and / or weeds) such as; threatened species habitat, drainage lines, clay pan, sandstone ranges, sandstone hills, rocky rises, calcrete hills/rises and calcareous flats.

The environmental assessment of the Zevon test line within this EMP interpolated the data collected by EcOz and utilised further photographic logs taken by staff during siting campaigns for the test line and associated project infrastructure (eg. camp locations). The combined data was used to outline the environmental constraints in the area and develop appropriate management measures to demonstrate environmental risk has been managed to ALARP and acceptable levels. This summary has also been reviewed and approved by EcOZ ecological consultants to verify the validity of the findings.

Proposed Activity

The proposed seismic investigation process is summarised below:

- Energy source on the surface produces acoustic (sound) waves which travel through the subsurface
- The waves reflect off geological boundaries with contrasting physical properties and return to surface where they
 are detected by sensitive listening devices/receivers called geophones
- Remaining acoustic waves travel deeper into the subsurface and reflect off deeper geological boundaries
- A spread of receiver geophones are placed along the seismic line and stub lines while an energy source is induced at stations along the seismic line to generate full imaging of the subsurface.

The geophones are only required to be dug into the ground at shallow depths (e.g. 5-10 cm deep) at intervals along the mapped seismic and stub lines. Upon completion of the seismic testing, geophones are collected, and their holes are backfilled. Consequently, impact associated with geophone placement is negligible and must avoid rocky substrates to be buried sufficiently. The main vibratory source (mobile vibroseis truck) will be restricted to the main seismic line which is at least 100 – 150m away from identified high risk areas.

Environmental Constraints

Land Type

The outcomes of the survey found the predominant land types within the Zevon test line area to be:

- LT1c Rocky hills with outcrop formations
 - Ridges and hills associated with Watson Range
 - Areas of steep scarp with outcrops, caves and overhangs
 - Some ephemeral drainage gullies
 - Shallow sandy soil with high levels of rock ground cover
- LT2 Rocky rises and low rounded hills

- Low relief rises or low hills (lateritic or sandstone)
- No significant areas of outcrop (if present small in area and low elevation)
- Rocky features (such as scarp, overhangs, caves etc.) are highly unlikely (and if present, not large)
- LT 6 Sand dunes
 - Located within an extensive dune field
 - Dune formations are reticulate and irregularly and have a general south-west to north-east orientation
 - Dune height is approximately 6m to 12m in the west
 - All dunes have red siliceous sands; Aeolian origin but stable
- LT 7 Sandplains and dune swales
 - The most extensive land type in the region
 - Flat to gently undulating plains; to low sandy rises that do not constitute dune landform
 - Red sand to sandy red earth soils
 - Low points in swales typically have a heavier red earth (these areas often support denser stands of Mulga)
 - Sandplains at the foot slopes of rocky ranges and hills have alluvium characteristics due to due to run-off and flooding from adjacent rocky terrain and drainages. These areas often have a siltier texture than surrounding dune field sandplains, and have scattered surface rocks and pebbles (which are absent or rare in dune field sandplains)

These land type findings are supported the photographic logs taken at various points along the test line and the proposed camp location shown in Figure 34. Figure 35 and Figure 36 show desktop mapping representative of the Land Types outlined above as well as rocky outcrop areas to be avoided during seismic works.



Figure 34: Landscape at potential camp location within Zevon test line





Map of land type survey results

- Area of Interest
- Zevon 2D seismic testline
- 🔁 Indicative stub line area
- Zevon Testline access track to be graded (17/04/2023)
- Site 40 (significant drainage)
- Site 34 (soakage within clay pan)

Marble Gum / Princess Parrot

Marble Gum observation points

Rocky Habitat Intersections

- # High priority
- Solution Medium priority
- S Low priority

Buffel Grass survey data

- Buffel Grass present (varying densities)
- Potential infestation (aerial observation)

Figure 36

ID: 0552-118 **Rev:**

Date: 9/06/2023

Map Scale is 1:218,672 when printed at A3 Coordinate System: GDA 1994 MGA Zone 52

Map after EcOz 15/12/2021 Survey data: EcOz (Sep 2021)



Vegetation Communities

The desktop survey identified predominant vegetation communities within the Zevon test line to be:

- Hummock grassland
 - Upper Allocasuarina low open woodland
 - Mid Acacia mid sparse shrubland
 - Ground Triodia low hummock grassland.

Subsequent site survey across the same area did not identify any high risk vegetation (ie. riparian vegetation, wetlands (arid zone), large hollow-bearing trees) or variations to the vegetation communities reported within the initial desktop results. These findings were further supported by photographic logs shown in Figure 37.



a) IMG 5715



b) IMG 5403



c) IMG 5404 (Site 87 Desert Oak patch)



d) IMG 5405 (Site 88)



e) IMG 6116



f) IMG 6117



g) IMG 6118



h) IMG 6119



i) IMG 5585



k) IMG 6175



j) IMG 5586



I) IMG 6176

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m) IMG 6177



o) IMG 6179

p) IMG 6214 (Site 208 Rocky outcrop to avoid)

n) IMG 6178 (Site 207 Mulga swale)

Figure 37: Photographic logs along the Zevon seismic line

Threatened Species

While there is potential habitat for the Princess parrot and Grey falcon in the wider region, there were no instances of these threatened fauna species or nesting habitat within the test line area. There were no threatened (or conservation significant) flora species identified within the Zevon test line area during site survey.

Weeds

Survey observation points within the Zevon test line did not identify any weeds. Minor occurrences of weeds were however noted within drainage lines, rocky hills and along access tracks to the proposed test line and included low occurrences of the following weed species:

- Buffel grass
- Milk thistle
- Spiked malvastrum

Photographic logs within the Zevon area shown above reflected these findings.



<u>Heritage</u>

Everick Heritage Pty Ltd (the 'Consultant') was commissioned by Central Petroleum (the 'Proponent') to undertake an Aboriginal Archaeological Assessment ('AAA') for the Central Petroleum Zevon 2D Seismic Program in the Northern Territory ('NT'). The assessment has been commissioned to support the Environmental Management Plan ('EMP') for the program. The objective of the investigation was to identify any archaeological constraints within the Survey Area, and if found, establish ways in which any impacts to the values of those sites could be avoided or mitigated.

The methods employed in this assessment included:

- a) a search of relevant heritage registers;
- b) a review of environmental resources for the region;
- c) a review of relevant archaeological and ethnographic studies for the region;

d) an archaeological site inspection using targeted pedestrian survey informed via desktop assessment and aerial observations from helicopter;

- e) assessments of archaeological and cultural heritage significance and impact; and
- f) report on findings and recommended management strategies.

The Survey Area is situated within the Haasts Bluff Aboriginal Land Trust and the proposed works comprise the introduction of new seismic lines, the construction of new access tracks, the construction of a new camp and the upgrading of existing tracks.

As a result of the desktop study and the archaeological investigation it is possible to make the following statements regarding the impact on Aboriginal objects.

- Sites proximate to rock shelters are determined to have a high archaeological significance based on the complexity
 of site features and potential to contribute to regional research questions around adaptation and resource use over
 time.
- Rock art has the potential to form part of the complex of values associated with 'sacred' sites. The capture and sharing of digital rock art images on social or other media is considered to be inconsistent with Aboriginal cultural practice. Additionally, there is an increased potential for vandalism at rock art sites which would have a significant impact on the cultural landscape.
- Aboriginal sites around claypans have moderate archaeological values. The sites have the potential to contribute to
 research around adaptation to arid environments, which may include microscopic analysis of use wear and residue
 studies. Additionally, these sites have likely been subject to a low degree of taphonomic disturbance and are
 considered a near complete archaeological record.
- Sites were consistently not identified within the spinifex/ desert oak dominated sand plain and mulga/ mallee forests. As such, these landforms have a low archaeological potential.

Having consideration for the outcomes of the survey it is reasonable to conclude that the Proposed Works may directly impact on known archaeological sites. As such the following recommendations are provided to be included in the Construction Environment Management Plan (or equivalent) for the project.

Recommendation 1 – Aboriginal object find / stop work procedure

If suspected Aboriginal material has been uncovered during the Proposed Works:

- work in the surrounding area is to stop immediately
- a temporary fence or barrier is to be erected around the site, with a buffer zone of at least 10 metres around the known edge of the site
- an appropriately qualified archaeological consultant is to be engaged to identify the material, either in person or remotely
- if the material is found to be of Aboriginal origin and it has been determined that the objects has been disturbed or damaged the NT Heritage Branch should be notified
- if the material is found to be of Aboriginal origin and it has been determined that the objects have not been disturbed or damaged the works program and EMP should be revised to avoid works in the vicinity of the site.

Recommencement of works should adhere to the Management Response guidelines based on the advice of a qualified archaeologist and environmental supervisor.

Recommendation 2 - Unexpected discovery of Aboriginal human remains

Although it is unlikely that Human Remains will be located at any stage during earthworks within the Survey Area, should this event arise it is recommended that all works must halt in the immediate area to prevent any further impacts to the remains. The site should be cordoned off and the remains themselves should be left untouched. The nearest police station and the NT Heritage Branch all to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police do not wish to investigate the site for criminal activities, the Aboriginal community and the Heritage Branch should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.

Recommendation 3 - Works within 50m of archaeological sites (excluding rock shelters)

A "Blade Up/ Slow Down" policy should be put in place for all seismic works within 50 metres of a recorded site to restrict ground disturbance to tyre compaction only. It is Everick's experience that slow vehicle movement significantly reduces the potential for damage/ breakage of stone artefacts in sandy soils.

It is recommended that proposed seismic line within 50 metres of recorded site locations are subject to a walk-over and photography prior to commencement of works to provide a record of the absence of artefacts within the proposed seismic lines.

Recommendation 4 – Rock shelter sites

It is recommended that heritage exclusion areas are established around recorded rock shelter sites. Strategies for the implementation of the exclusion areas include:

- Redesign of seismic lines and site layouts to ensure at least 20 metre buffers to all known archaeological sites. The 20 metre buffer areas should be considered 'Exclusion areas'.
- Installation of fencing or bunting along the edge of the proposed seismic line to delineate the exclusion area to mitigate unsupervised visitation by staff/ contractors.
- Identification of exclusion areas on all plans which are included in work contracts.
- Identification of exclusion areas in all site establishment meetings and inductions for new staff.

As it was not possible to survey all rocky outcrops during the archaeological investigation it is recommended that the 20 metre exclusion area is implemented during seismic survey and pre-seismic clearing. Any rocky outcrops that are observed during survey and clearing should be recorded with the environmental manager and added to the EMP as per the above procedure.

Recommendation 5 - Works approval

If it is not possible to implement a "Blade Up/ Slow Down" Procedure during seismic line clearing and rehabilitation it is recommended that a works approval is obtained prior to mechanical excavation of the site. Application for the works approval should propose the following conditions:

- Collection and analysis of artefacts by a suitably qualified person;
- Relocation of the artefacts in an area adjacent to the works area;
- Notification of the relocation area to the NT Heritage Branch including a detailed analysis of the artefacts; and
- Establishment of a heritage exclusion area (as outlined in Recommendation 3) around the artefact relocation area.

Conclusions

Based on the findings of the EcOz survey and interpolated results from subsequent site inspections along the Zevon test line, the following management measures will be implemented to ensure environmental risk associated with the Zevon seismic works are reduced ALARP:

- Avoid any Marble Gums or hollow bearing Desert oaks.
- Where possible, avoidance or minimising clearance of any other large (>15m) and / or hollow bearing tree species to mitigate potential impacts to preferential Princess parrot / Grey falcon breeding sites.
- Where Marble gums, Desert oaks or any other large and / or hollow bearing vegetation is proximate to the proposed test line (ie. < 300m), a pre-clearing visual assessment of the vegetation will be undertaken by a qualified ecologist to determine the presence of breeding places.
- Should threatened species be identified within the vegetation, a 300m exclusion zone will be implemented and the location noted for communication through daily pre-starts and inductions.

- Geophone receivers placed along stub lines will avoid rocky outcrops and mapped CLC exclusion zone (EZ10) shown in Figure 36. Should other, similar rocky outcrops be encountered during site set up they too will be avoided out of caution.
- Staff inductions to include information on Princess Parrot and Grey Falcon so staff are aware of the species and mitigation measures.
- Implement weed and fire management plans.
- Comply with all heritage management recommendations provided by Everick Heritage Consultants, the NT Heritage Branch will be contacted prior to any ground-disturbing activities, to ensure any known non-publicly listed sites on the Heritage Register are identified and maintain 50m buffer to the Katiti Petermann IPA.

The relevant actions to be taken for each environmental element to implement the above recommendations and demonstrate ALARP can be seen in the Detailed Risk Assessment (Table 29) within the EMP.