TRIDENT ENERGY

ENVIRONMENTAL MANAGEMENT PLAN

WILD HORSE 2D SEISMIC SURVEY

EP145

Amadeus Basin

Northern Territory

Version	Description	Authored	Approved	Date
0	Initial submission	MK	JD	9 January 2024
1	Revised per DLPE comments	MK	JD	4 March 2024
2	Updated to reflect new Interest Holder	MK/ZS	ZS	17 May 2024
3	Updated to reflect new Interest Holder / Reg10 & Reg11 requests	MK	JD	23 Nov 2024

Executive Summary

Introduction

Trident Energy Pty Ltd (Trident) is a wholly owned subsidiary of Adagio Resources Limited, part of the Mosman Oil & Gas group. Trident is an interest holder of Exploration Permit (EP) 145 located approximately 190km WSW of Alice Springs in the Northern Territory. Trident is seeking to acquire a 2D seismic survey in EP145. The project is referred to as the Wild Horse 2D project. The technical objective of the survey is to acquire additional seismic data along the southern extent of the West Walker anticline to understand the pre and post salt structure and stratigraphy and to delineate leads that have been identified on recent gravity and gradiometry data and existing vintage seismic data.

Under the *Petroleum (Environment) Regulations 2016* (the Regulations), any petroleum title interest holder proposing to carry out a 'regulated activity' (i.e., one that has, or will have, an environmental impact or environmental risk) must submit an Environmental Management Plan (EMP) to the Department of Environment, Parks and Water Security (DLPE) for approval by the Minister. This EMP has been prepared with reference to the *Code of Practice: Onshore Petroleum Activities in the NT* (2019), Section 67 of the *NT Petroleum Act* (1984) and the *Petroleum Environment Regulations* (2016). This EMP has been prepared to satisfy information requirements set out in Schedule 1 of the Regulations.

To address these requirements, this report presents:

- A description of the regulated activity
- A description of the existing environment including any particular values or sensitivities
- An assessment of environmental impacts and environmental risks
- Environmental outcomes, management mitigations and environmental performance standards
- An implementation strategy.

Description of Activity

The activities to be carried out under this EMP are shown in the table below:

Component/aspect	Proposed
AAPA certificate	C2024-074
CLC Sacred Site Clearance Certificate	C2021-097
Total area of exploration permit (EP145)	816km2
Total area of surface disturbance (ha)	0 ha
Total area of rehabilitation (ha)	0 ha
	no disturbance,
Seismic lines (km & ha)	follows existing tracks and clearances in vegetation
Existing Access tracks (km & ha)	170km x 4m (68ha)

Component/aspect	Proposed
Activity duration	Estimated 60 days
Workforce: operational	Pre-seismic civil activities 4-6 people Drilling & Seismic activities up to 12 people Decommissioning & rehabilitation 4-6 people
Workforce: number of camps	1
Workforce: camp capacity	12 people
Traffic: peak traffic movements (per day)	7
Greenhouse gas emissions (tCO2-e)	199

Weight drops and seismic charges will be used for the energy source and nodal geophones will be used for recording system. Rocky slopes and rough sections of lines will be accessed using helicopter and All-Terrain Vehicles. Grading or vegetation clearance of the seismic lines will not occur, and lines will be positioned through existing clearances in vegetation. No new access tracks are required (existing access tracks will be used for travel into and around the work area). A mobile trailer mounted camp with capacity for up to 12 people will be used to accommodate personnel. All storage tanks will also be trailer mounted, so no grading of camp pads will be required, and general ground disturbance will be minimised. Waste generated, including sewage, will be treated onsite 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 Management

Existing Environment

The Project occurs wholly within the MacDonnell Ranges Bioregion. This bioregion is predominantly a large geologically diverse upland comprising thick bands of east west oriented ranges supporting a range of vegetation types, the most common being hummock grasslands (dominated by Triodia spp) and Acacia shrublands/woodlands (dominated principally by Acacia aneura and/or A. kempeana).

An ecological assessment was undertaken by SLR Consulting in March 2022 to consolidate all matters of conservation significance, with particular consideration of threatened species and significant or sensitive habitat/vegetation which may require management action beyond the general minimal impact standards. This assessment included a land type survey of proposed disturbance areas and a baseline weed survey. The assessment identified a range of values (such as threatened species, sensitive vegetation, important habitat, weeds) that required consideration to avoid significant impacts (summarised per seismic line in following sub-section).

The project has subsequently been designed to avoid vegetation clearing by using existing tracks for access and all-terrain vehicles to allow traverse of the seismic lines without the need for seismic line preparation.

A summary of the environment for the Wild Horse 2D is provided in the following table.

Attribute	Description
Bioregions	MacDonnell Ranges bioregion
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	Soils are dominated by tenosols soils, kandosols and rudosols associated with rugged rock terrain.
Land systems	 Krichauff - low hills, hills and stony plateaux on sandstone, siltstone, quartzite, and conglomerate (deeply weathered in places), outcrop with shallow stony soils. Simpson - dunefields with parallel linear dunes, reticulate dunes and irregular or aligned short dunes w/ red sands. Gillen - rugged ranges on quartzite, sandstone, and conglomerate; outcrop with shallow, stony sandy soils. Sonder - rugged ranges on quartzite, sandstone, and conglomerate; outcrop with shallow, stony sandy soils. Amulda - alluvial floodplains, swamps, drainage depressions and alluvial fans; sandy, silty and clay soils on Quaternary alluvium.
Groundwater	The nearest registered bores are RN014233, RN013672 and RN004198. These bores will not be impacted as the Wild Horse project does not involve any taking or interfering with groundwater and they have been excluded from the Wild Horse Work Area.
Surface water	No groundwater fed wetlands, springs, groundwater dependent ecosystems or Aquatic Inflow Dependent Ecosystems have been identified in the vicinity of the Wild Horse Work Area. Walker Creek, Nineteen Mile Gully, Parke Creek are within the Wild Horse Work Area. No stickraking lines or placement of seismic charges will occur within 100m of creeks.
Threatened species	Seven EPBC Act listed threatened flora species were assessed as likely to occur in the work area: Minnie Daisy, Baumea, Amperea, Palm Valley Myrtle, Desert Quandong and MacDonnell Ranges Cycad. None observed during the field study. Five EPBC Act listed threatened flora species were assessed as likely to occur in the work area: Grey Falcon, Central Australian Rock-wallaby and Bednall's Dwarfmelon, Slater's Skink & Southern Whiteface. Evidence of Slater's Skink & Southern Whiteface were observed during the field study.
Weeds and Pests	One species of weed - Buffel grass (<i>Cenchrus ciliaris</i>) – that is declared under the NT <i>Weeds Management Act 2001</i> (WM Act) was identified within the Wild Horse Work Area during the field survey (Appendix 1). At the time of the survey report, this weed species had not been declared. It is currently a declared but unclassified weed subject to the general duties of the WM Act. No Weeds of National Significance (WoNS) or other weeds declared under the NT WM Act were identified within the Wild Horse Work Area during the field survey. Three pest herbivore species were recorded during the field survey: Cattle, Horses and Camels. Impacts of these hooved herbivores include alteration of soil structure, increased soil erosion, forage pressure on native species, and spread of invasive plant species.
Fire history	Fire scar data from North Australia and Rangelands Fire Information (NAFI) indicate that EP145 has only burned once in the past 10 years. These fires in 2022 were located approximately 25 km south of the proposed seismic lines (see Appendix 5).

Environmental Outcomes

The project has been designed to avoid vegetation clearing by using existing tracks where possible for seismic line survey, access and temporary camps. A Rehabilitation Plan has been developed for the Project in accordance with *Code of Practice: Onshore Petroleum Activities*

in the Northern Territory (clause A.3.9 Rehabilitation). The plan details rehabilitation strategy, methods, monitoring procedures and define rehabilitation success criteria.

Through implementation of control measures, the residual risk ranking for most risks or impacts have been reduced to 2 (risk is acceptable provided ALARP has been achieved and demonstrated) or 1 (risk is acceptable and it is assumed that ALARP has been achieved). Control measures have been identified using the Trident hierarchy of controls; a process which moves from risk elimination through to protection, in descending order of effectiveness, until a control measure(s) can be identified.

Performance outcomes, standards and measurement criteria are established in line with the control measure(s). Trident has defined ten performance outcomes, which are intended to guide the environmental performance standards for the activity. The performance outcomes are to:

- Minimise the visual impact of seismic operations.
- Minimise disturbance to and contamination of soil resources.
- Minimise disturbance to native vegetation and native fauna.
- Avoid disturbance to sites of cultural, sacred and heritage significance.
- Minimise disturbance to livestock, pastoral infrastructure, and landholders.
- Avoid the introduction or spread of exotic species and implement control measures as necessary.
- Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow groundwater resources.
- Optimise (in order of most to least preferable) waste avoidance, reduction, reuse, recycling, treatment, and disposal.
- Remediate and rehabilitate operational areas as necessary; and
- Generate no fires from the seismic operations.

Key Stakeholders

The survey is based wholly on ALRA lands, and no Pastoral Leaseholders exist within the location of the regulated activity.

The key stakeholders over the Wild Horse Work Area are the Urrampinya Iltjiltjarri people. Engagement with the Urrampinya Iltjiltjarri people has been conducted in accordance with regulation 7 of the Petroleum (Environment) Regulations 2016, regulation 9(1)(a) and Schedule 1(9) of the regulations.

AAPA and CLC clearances have been undertaken for the project. The clearances identified several Restricted Works Areas (RWA) and important sites within the clearance area surrounding the proposed Wild Horse Work Area. Lines have been moved to meet the Conditions of Clearance and Project activities will be undertaken in a manner to ensure that conditions of the clearances are met. The Heritage Branch of DLPE was consulted to identify any known archaeological places and objects in the Wild Horse Work Area. The search has found that there are no known Aboriginal or Macassan archaeological places and objects within the work area, however, the likelihood of possible unrecorded Aboriginal or Macassan archaeological places was assessed as possible or likely. A qualified archaeologist will accompany the Seismic OCR & Ecologist on the final line scout prior to onsite activities to identify and mitigate the impact to Aboriginal or Macassan archaeological places and objects.

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- Appendix 2 Risk Assessment & Methodology
- Appendix 3 Environmental Performance Measures
- Appendix 4 Stakeholder Communications Register
- Appendix 5 Additional Management Plans
- Appendix 6 Equipment Summary
- Appendix 7 Emergency Response Plan

1. Introduction

Trident Energy Pty Ltd is an interest holder of Exploration Permit (EP) 145 which is located approximately 190 km west-south-west of Alice Springs in the Northern Territory (NT) as shown in Figure 1. Site access from Alice Springs is via sealed road using the Stuart Highway, then by unsealed Ernest Giles Rd, Areyonga Tempe Downs Rd and a series of station tracks.

Under the Petroleum (Environment) Regulations (the Regulations), interest holders in petroleum titles must prepare and submit an Environment Management Plan (EMP) for all proposed exploration activity. Trident has prepared and submitted this EMP to seek approval for acquisition of a 2D seismic Survey that Trident proposes to undertake in 2025. The seismic program involves approximately 118 km of 2D seismic lines.

The project area for the program is located within NT Portion 5484, held by the Urrampinya Iltjiltjarri Aboriginal Land Trust. The project area refers to the physical footprint of the proposed infrastructure and activities.

This EMP provides a detailed description of how Trident proposes to manage the environmental impacts and risks associated with the Wild Horse 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: Regional Location of EP145



Figure 2: Wild Horse 2D Work Area within EP145

1.1 Interest Holders

Table 1 provides details of the permit titleholder and titleholder nominated liaison person.

If there is a change in the titleholder, the titleholder's nominated liaison person or a change in the contact details for the titleholder or liaison person, Trident will notify DLPE and provide the updated details.

Title	Interest Holder	Nominated Liaison for EMP
EP 145	75% Greenvale Gas Pty Ltd	Julie Daws Nominated Liaison
	25%: Trident Energy Pty Ltd	Trident Energy 24-26 Kent Street Millers Point NSW 2000 Email: Jdaws@mosmanoilandgas.com

Table 1: Details of Titleholder and Nominated Liaison Person

The technical objective of the survey is to acquire additional seismic data along the southern extent of the West Walker anticline to understand the pre and post salt structure and stratigraphy and to delineate leads that have been identified on new gravity and gradiometry data and existing vintage seismic data.

This EMP covers all activities required to complete the 2D seismic exploration program referred to as the Wild Horse 2D project, consisting of 118km of 2D seismic acquisition. A detailed 'description of activities' is provided in Section 3.

2. Legislative Requirements

2.1 Key Legislation

Table 2: Key Legislation

Relevant legislation	Applicable legislative requirement	How met
	Commonwea	lth
Environment Protection and Biodiversity Conservation Act 1999	Referral of proposed action/ environmental approval	Trident has assessed its potential impact on MNES and there is not likely to be a significant impact on MNES. Trident 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	Trident has assessed its current activities do not exceed trigger thresholds.
National Environment (National Pollution Inventory Protection) Measure 1998	Reporting under the National Pollution Inventory (NPI) where trigger thresholds are exceeded	Trident has assessed its current activities do not exceed trigger thresholds.
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).	Trident works alongside Traditional Owners, represented by the Central Land Council regarding all activities undertaken on the Aboriginal Freehold Land on which the Wild Horse project is conducted
	Northern Territ	tory
Petroleum Act 1984	Petroleum titles	Trident 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	Trident 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	Trident 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
Environmental Protection Act 2019 and associated Environment Protection Regulations 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. 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	Trident will have an AAPA & SSCC certificate in place prior to commencement of the seismic exploration program. Trident commits to abiding by the conditions on the certificate.

Relevant legislation	Applicable legislative requirement	How met
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	Trident has consulted the Heritage Branch of DLPE to identify any existing places or objects of heritage, and a qualified archeologist will undertake an archeological survey prior to commencement of groundworks.
Public and Environmental Health Act 2011	Wastewater management	Camp sewerage and greywater treated onsite in accordance with the Public and Environmental Health Act 2011.
Territory Parks and Wildlife Conservation Act 1976 (TPWC Act)	Identifies wildlife and listed threatened species in the Northern Territory	Trident 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	Trident 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	The dangerous goods for this project (seismic charges) will be transported in accordance with the Australian Code for the Transport of Explosives by Road and Rail 2009 by appropriately licensed personnel and within licensed vehicles.
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	Trident ensures the application of weed control products is in alignment with the Act
Work Health and Safety (National Uniform Legislation) Act 2011	Activities to be performed under an approved EMP are to be compliant	Trident field operations described in this EMP are subject to Work Health and Safety (National Uniform Legislation) Act 2011 and Regulations
Weeds Management Act 2001	Defines weed declaration classes and statutory weed management plans	Trident to ensure its activities are consistent with statutory weed management plans and undertakes weed management activities consistent with weed declaration classes

2.2 Environmental 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 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, Trident is of the view that the activities covered by this EMP do not trigger referral to the NT EPA.

2.3 EPBC Act and Referral Self-Assessment

DoE (2013) states that an action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

- lead to a long-term decrease in the size of an important population of a species.
- reduce the area of occupancy of an important population.
- fragment an existing important population into two or more populations.
- adversely affect habitat critical to the survival of a species
- disrupt the breeding cycle of an important population.
- modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.
- result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.
- introduce disease that may cause the species to decline.
- interfere substantially with the recovery of the species.

An 'important population' is defined in DoE (2013) as a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- key source populations either for breeding or dispersal
- populations that are necessary for maintaining genetic diversity, and/or
- populations that are near the limit of the species range.

All other threatened species identified by the desktop searches have a low likelihood of occurrence and therefore, are unlikely to be significantly impacted by activities within the work area.

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.

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.

3. Description of the 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 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.

• Receiver geophones are placed at intervals along the seismic lines and an energy source is induced at intervals along the seismic lines to generate full imaging of the subsurface.

The Wild Horse project involves the acquisition of 118km of 2D seismic lines over the central and southeastern part of EP 145. There will be no petroleum infrastructure, pipelines, wells or well pads, drilling or hydraulic fracturing in this program.

The seismic survey will not involve any vegetation clearance or new ground disturbance. The establishment of new access tracks will not be required. Existing access tracks will be maintained as required.

Component	Details
	2D seismic survey
2D Line Summary	118 km of 2D survey over 7 seismic lines (MOG22-01 to MOG22-05, MOG22-07, MOG22-08.
Equipment and machinery	Refer to Appendix 6 (Project Equipment list)
Civil Works	Maintenance of existing access tracks before and after the seismic program (170km, maximum 4m width). A grader (CAT 12H or equivalent) will be used for the maintenance works. No civil works are required for the seismic lines or camp pad establishment.
	Supporting infrastructure
Camp sites	Two temporary camp sites will be established and will be approximately 50 x 50m
Camp siles	in size (0.25 ha); camp pads will not require civil works.
Access Route options	The establishment of new access tracks will not be required. Existing access tracks will be maintained as required.
Volumes of fuel required for power supply, equipment, vehicles	Access track maintenance will use a 12H grader (or equivalent) with 123 kW engine. Fuel consumption averages 20 L/hr. Estimated 14 days of track maintenance pre and post wroks. Total Volume ~2,800L Diesel
	The single Geoprobe 3126 and two Eco-Probe EP-10 drill rigs used for seismic charge drilling will consume a cumulative average of 30 ltr/hr. Estimated 30 days of drilling. Total Volume ~9,000L Diesel
	The ASV-135 Positrack mounted with the weight drop is equipped with a 98 kW engine. Fuel consumption averages 16 L/hr. Estimated 9 days of weight drop use. Total Volume ~1,440L Diesel
	Seven diesel vehicles (4x4's, UTV's, service truck) to be used onsite will consume an average of 100 ltr/day/each. Estimated 59 days of work. Total Volume ~41,300L Diesel Camp operations using 45 kVA. Fuel consumption averages 7 L/hr. Camp operations carried out over 59 days (includes Civils/Recording/Remediation) Total Volume ~9,900L Diesel
	The Eurocopter AS350 Squirrel used for helisupport is equipped with a 632kW engine and consumes an average of 180ltr/hr. Estimated helisupport time is 60 hours. Total Volume ~10,800L of JetA1. Note Jet A1 fuel is supplied by PHS as part of their wet hire ex Kings Canyon and not stored onsite.

Table 3: Summary of Regulated Activities

Component	Details
Water source/s, demand (estimate with breakdown for dust suppression, construction and amenities), volumes of onsite water storages, discharges.	Approximate water usage is based on general use for camp operations. Estimated total potable water usage only of 708 man days @ 30L = 21,240L Estimated total of total water usage of 708 man days @ 120L = 84,960L All water is to be trucked into site. Camp sewerage and greywater to be treated onsite 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 Management.
	Rehabilitation
Proposed methods	All surface infrastructure will be removed. Access track to be checked and maintenance undertaken if required. Rehabilitation monitoring will occur to assess rehabilitation progress and detect any issues that require remedial attention.

3.2 Line Location Selection

A desktop review for known environmental, heritage and physical landscape constraints was undertaken to assess and identify the most suitable line locations for the Wild Horse project, prior to mobilisation to the field for ground-truthing.

The lines were scouted by experienced personnel using helicopter and vehicles to verify suitability of line locations. It was found that lines could be weaved through existing clearances between vegetation and other obstacles. It was also verified that the lines cross escarpments which will require access detouring and heli-support to provide suitable access for equipment and personnel. Existing access tracks in the project area were also scouted and were in generally average to poor repair with sections of erosion.

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

- The seismic lines will follow the most conducive clear routes between vegetation for access. Thick stands of vegetation and steep areas will be detoured around. Stream and creek crossings will be placed at right angles to the stream at the lowest reasonable crossing point, and no ground disturbance will be undertaken.
- The existing tracks shows sections 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.

Line placement will be finalised by a scouting team consisting of the Seismic OCR, an Ecologist and Archaeologist immediately prior to commencement of the onsite activities.



Figure 3: Wild Horse 2D Planned Source Methodology



Figure 4: Escarpments requiring heli-support



Figure 5: Typical Access Track Conditions



Figure 6: Open vegetation suitable for line weaving.



Figure 7: Thicker vegetation to be detoured around

Table 4: Line Location Selection Summary

Line #	Key value / risk	Summary description, context and mitigation (if relevant)
MOG22-01	AAPA/CLC RWAs and other sacred and/or archeological sites	The eastern end of the line was truncated, and the campsite was moved west to avoid a Restricted Work Area. No other RWA's or Sacred Sites were recorded along this line. An archeologist will participate in the final line placement scout to mitigate risk of damage to archeological sites.
	Vegetation Communities (sensitive vegetation)	The line intersects small areas of Acacia spp. low woodlands and shrublands on clay loam to sandy soils, mulga forest on alluvial plains, River Red Gum fringing woodland and MacDonnell Mulga and Mulga woodlands on ranges and hills. Lines will weave through existing clearances in vegetation, with thick stands of vegetation to be detoured around. No seismic line clearing or earthworks will be undertaken.
	Riparian vegetation & waterway crossings (sensitive vegetation)	Line MOG22-01 follows an existing access track and traverses several intermittent minor streams of 1st, 2nd and 3rd order supporting arid zone riparian vegetation.
		100m riparian buffers will be in place for shot-hole drilling activities around these streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.
		No ground disturbing activities will occur within riparian buffer zones.
	Erosion risk	Existing, stabilised erosion is evident at some points on the access track along which the line largely follows. This is particularly evident at some creek crossings.
		Erosion and sedimentation devices to be installed in accordance with the Wild Horse Erosion Sediment and Control Plan listed in Appendix 5.

MOG22-02AAPA/CLC RWAs and other sacred and/or archeological sitesThe southern end of the line was truncated to avoid an RWA. No other RWA's or Sacred Sites were recorded along this line. An archeologist will participate in the final line placement scout to mitigate risk of damage to archeological sitesVegetation Communities (sensitive vegetation)MOG22-02 intersects predominately areas of MacDonnell Mulga and Mulga woodlands on ranges and hills, with some areas of Acacia spp. low woodlands and shrublands on clay loam to sandy soils, mulga forest on alluvial plains. Small areas of River Red Gum fringing woodland, Mulga forest on alluvial plains, Mallee and Acacia spp. poen woodland on red sand dunes and plains and limited portions of major wetland and rockhole areas exist in the gaps in ranges. Lines will weave through existing clearances in vegetation, with thick stands of vegetation.Riparian vegetation & waterway crossings (sensitive vegetation)Line MOG22-02 traverses several intermittent minor streams of 1st, 2nd and 3rd order supporting arid zone riparian vegetation.NOm riparian buffers will be in place for shot-hole drilling activities around these 1st, 2nd and 3rd order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.Line MOG22-02 also traverses Walker Creek, a major 6th order stream supporting more substantial arid zone riparian vegetation, including a higher likelihood of large hollow-bearing eucalypts.A 250m riparian buffer will be in place for shot-hole drilling activities around Walker Creek and a 250m riparian buffer will be in place around large hollow-bearing eucalypts and any water-bearing rockholes.No ground disturbing activities will occur within riparian buffer zones.Frosion risk <tr< th=""><th>Line #</th><th>Key value / risk</th><th>Summary description, context and mitigation (if relevant)</th></tr<>	Line #	Key value / risk	Summary description, context and mitigation (if relevant)
Vegetation Communities (sensitive vegetation)MOG22-02 intersects predominately areas of MacDonnell Mulga and Mulga woodlands on ranges and hills, with some areas of Acacia spp. low woodlands and shrublands on clay loam to sandy soils, mulga forest on alluvial plains. Small areas of River Red Gum fringing woodland on red sand dunes and plains and limited portions of major wetland and rockhole areas exist in the gaps in ranges. Lines will weave through existing clearances in vegetation, with thick stands of vegetation to be detoured around. No seismic line clearing or earthworks will be undertaken.Riparian vegetation & waterway crossings (sensitive vegetation)Line MOG22-02 traverses several intermittent minor streams of 1st, 2nd and 3rd order supporting arid zone riparian vegetation. 100m riparian buffers will be in place for shot-hole drilling activities around these 1st, 2nd and 3rd order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.Line MOG22-02 also traverses Walker Creek, a major 6th order stream supporting more substantial arid zone riparian vegetation, including a higher likelihood of large hollow-bearing eucalypts.A 250m riparian buffer will be in place for shot-hole drilling activities around Walker Creek and a 250m riparian buffer will be in place around large hollow-bearing eucalypts.A 250m riparian buffer will be in place for shot-hole drilling activities around Walker Creek and a 250m riparian buffer will be in place around large hollow-bearing eucalypts and any water-bearing rockholes. No ground disturbing activities will occur within riparian buffer zones.Errosion riskErrosion risk on MOG22-02 are considered to be perlicible through the	MOG22-02	AAPA/CLC RWAs and other sacred and/or archeological sites	The southern end of the line was truncated to avoid an RWA. No other RWA's or Sacred Sites were recorded along this line. An archeologist will participate in the final line placement scout to mitigate risk of damage to archeological sites.
Riparian vegetation & waterway crossings (sensitive vegetation)Line MOG22-02 traverses several intermittent minor streams of 1st, 2nd and 3rd order supporting arid zone riparian vegetation.100m riparian buffers will be in place for shot-hole drilling activities around these 1st, 2nd and 3rd order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.Line MOG22-02 also traverses Walker Creek, a major 6th order stream supporting more substantial arid zone riparian vegetation, including a 		Vegetation Communities (sensitive vegetation)	MOG22-02 intersects predominately areas of MacDonnell Mulga and Mulga woodlands on ranges and hills, with some areas of Acacia spp. low woodlands and shrublands on clay loam to sandy soils, mulga forest on alluvial plains. Small areas of River Red Gum fringing woodland, Mulga forest on alluvial plains, Mallee and Acacia spp.open woodland on red sand dunes and plains and limited portions of major wetland and rockhole areas exist in the gaps in ranges. Lines will weave through existing clearances in vegetation, with thick stands of vegetation to be detoured around. No seismic line clearing or earthworks will be undertaken.
100m riparian buffers will be in place for shot-hole drilling activities around these 1st, 2nd and 3rd order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.Line MOG22-02 also traverses Walker Creek, a major 6th order stream supporting more substantial arid zone riparian vegetation, including a higher likelihood of large hollow-bearing eucalypts.A 250m riparian buffer will be in place for shot-hole drilling activities around Walker Creek and a 250m riparian buffer will be in place around large hollow-bearing eucalypts and any water-bearing rockholes.No ground disturbing activities will occur within riparian buffer zones.Erosion riskErosion risks on MOG22-02 are considered to be peoligible through the		Riparian vegetation & waterway crossings	Line MOG22-02 traverses several intermittent minor streams of 1st, 2nd and 3rd order supporting arid zone riparian vegetation.
Line MOG22-02 also traverses Walker Creek, a major 6th order stream supporting more substantial arid zone riparian vegetation, including a higher likelihood of large hollow-bearing eucalypts.A 250m riparian buffer will be in place for shot-hole drilling activities around Walker Creek and a 250m riparian buffer will be in place around large hollow-bearing eucalypts and any water-bearing rockholes.No ground disturbing activities will occur within riparian buffer zones.Erosion riskErosion risks on MOG22-02 are considered to be pedicible through the		(Sensitive vegetation)	100m riparian buffers will be in place for shot-hole drilling activities around these 1st, 2nd and 3rd order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.
A 250m riparian buffer will be in place for shot-hole drilling activities around Walker Creek and a 250m riparian buffer will be in place around large hollow-bearing eucalypts and any water-bearing rockholes. No ground disturbing activities will occur within riparian buffer zones.			Line MOG22-02 also traverses Walker Creek, a major 6th order stream supporting more substantial arid zone riparian vegetation, including a higher likelihood of large hollow-bearing eucalypts.
No ground disturbing activities will occur within riparian buffer zones.			A 250m riparian buffer will be in place for shot-hole drilling activities around Walker Creek and a 250m riparian buffer will be in place around large hollow-bearing eucalypts and any water-bearing rockholes.
Frasion risk $P_{\rm resion}$ risks on MOG22-02 are considered to be negligible through the			No ground disturbing activities will occur within riparian buffer zones.
avoidance of seismic line clearing and limited vehicular traverses on the line.		Erosion risk	Erosion risks on MOG22-02 are considered to be negligible through the avoidance of seismic line clearing and limited vehicular traverses on the line.
Erosion and sedimentation devices to be installed in accordance with the Wild Horse Erosion Sediment and Control Plan listed in Appendix 5.			Erosion and sedimentation devices to be installed in accordance with the Wild Horse Erosion Sediment and Control Plan listed in Appendix 5.
MOG22-03 AAPA/CLC RWAs and other sacred and/or archeological sites The southern end of the line was truncated to avoid an RWA. No other RWA's or Sacred Sites were recorded along this line. An archeologist will participate in the final line placement scout to mitigate risk of damage to archeological sites.	MOG22-03	AAPA/CLC RWAs and other sacred and/or archeological sites	The southern end of the line was truncated to avoid an RWA. No other RWA's or Sacred Sites were recorded along this line. An archeologist will participate in the final line placement scout to mitigate risk of damage to archeological sites.
Vegetation Communities (sensitive vegetation) MOG22-03 intersects predominately areas of MacDonnell Mulga and Mulga woodlands on ranges and hills, with some areas of Acacia spp. low woodlands and shrublands on clay loam to sandy soils, mulga forest on alluvial plains. Lines will weave through existing clearances in vegetation, with thick stands of vegetation to be detoured around. No seismic line clearing or earthworks will be undertaken.		Vegetation Communities (sensitive vegetation)	MOG22-03 intersects predominately areas of MacDonnell Mulga and Mulga woodlands on ranges and hills, with some areas of Acacia spp. low woodlands and shrublands on clay loam to sandy soils, mulga forest on alluvial plains. Lines will weave through existing clearances in vegetation, with thick stands of vegetation to be detoured around. No seismic line clearing or earthworks will be undertaken.
Riparian vegetation & waterway crossings (sensitive vegetation)Line MOG22-03 traverses several intermittent minor streams of 1st and 3rd order supporting arid zone riparian vegetation. No earthworks are planned on this line.		Riparian vegetation & waterway crossings (sensitive vegetation)	Line MOG22-03 traverses several intermittent minor streams of 1st and 3rd order supporting arid zone riparian vegetation. No earthworks are planned on this line.
100m riparian buffers will be in place for shot-hole drilling activities around these 1st and 3rd order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.			100m riparian buffers will be in place for shot-hole drilling activities around these 1st and 3rd order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.
No ground disturbing activities will occur within riparian buffer zones.			No ground disturbing activities will occur within riparian buffer zones.

Line #	Key value / risk	Summary description, context and mitigation (if relevant)
	Erosion risk	Erosion risks on MOG22-03 are considered to be negligible through the avoidance of seismic line clearing and limited vehicular traverses on the line.
		Erosion and sedimentation devices to be installed in accordance with the Wild Horse Erosion Sediment and Control Plan listed in Appendix 5.
MOG22-04	AAPA/CLC RWAs and other sacred and/or archeological sites	No RWA's or Sacred Sites were recorded along this line. An archeologist will participate in the final line placement scout to mitigate risk of damage to archeological sites.
	Vegetation Communities (sensitive vegetation)	MOG22-04 intersects predominately areas of MacDonnell Mulga and Mulga woodlands on ranges and hills, with some areas of Acacia spp. low woodlands and shrublands on clay loam to sandy soils. Lines will weave through existing clearances in vegetation, with thick stands of vegetation to be detoured around. No seismic line clearing or earthworks will be undertaken.
	Riparian vegetation & waterway crossings (sepsitive vegetation)	Line MOG22-04 follows crosses several intermittent minor streams of 1st order supporting arid zone riparian vegetation.
		100m riparian buffers will be in place for shot-hole drilling activities around these 1st order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.
		Line MOG22-04 also terminates just prior to Walker Creek, a major 6th order stream supporting more substantial arid zone riparian vegetation, including a higher likelihood of large hollow-bearing eucalypts.
		A 250m riparian buffer will be in place around Walker Creek and a 250m riparian buffer will be in place around large hollow-bearing eucalypts.
		No ground disturbing activities will occur within riparian buffer zones.
	Erosion risk	Erosion risks on MOG22-04 are considered to be negligible through the avoidance of seismic line clearing and limited vehicular traverses on the line.
		Erosion and sedimentation devices to be installed in accordance with the Wild Horse Erosion Sediment and Control Plan listed in Appendix 5.
MOG22-05	AAPA/CLC RWAs and other sacred and/or archeological sites	The southern end of the line was truncated to avoid a RWA. No other RWA's or Sacred Sites were recorded along this line. An archeologist will participate in the final line placement scout to mitigate risk of damage to archeological sites.
	Vegetation Communities (sensitive vegetation)	Line MOG22-05 predominately intersects MacDonnell Mulga and Mulga woodlands on the ranges and hills, with Acacia spp. Low woodlands and shrublands on sections of clay loam to sandy soils. There are also small sections of River Red Gum fringing woodland along a stream and Mallee and Acacia spp. open woodland on red sand dunes and plains. Lines will weave through existing clearances in vegetation, with thick stands of vegetation to be detoured around. No seismic line clearing or earthworks will be undertaken.

Line #	Key value / risk	Summary description, context and mitigation (if relevant)
	Riparian vegetation & waterway crossings (sensitive vegetation)	Line MOG22-05 traverses several intermittent minor streams of 1st and 2rd order supporting arid zone riparian vegetation.
		100m riparian buffers will be in place for shot-hole drilling activities around these 1st and 2rd order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.
		No ground disturbing activities will occur within riparian buffer zones.
	Erosion risk	Erosion risks on MOG22-05 are considered to be negligible through the avoidance of seismic line clearing and limited vehicular traverses on the line.
		Erosion and sedimentation devices to be installed in accordance with the Wild Horse Erosion Sediment and Control Plan listed in Appendix 5.
MOG22-07	AAPA/CLC RWAs and other sacred and/or archeological sites	The western half of the line was moved northwards and the allowed Work Area was shrunk to avoid ingress to several RWA's. An archeologist will participate in the final line placement scout to mitigate risk of damage to archeological sites.
	Vegetation Communities (sensitive vegetation)	Line MOG22-07 predominately intersects Acacia spp. low woodlands and shrublands on clay loam to sandy soils, Mulga forest on alluvial plains. There are also small sections of River Red Gum fringing woodland along a stream and Mallee and Acacia spp. open woodland on red sand dunes and plains. MacDonnell Mulga and Mulga woodlands on the ranges and hills, with Acacia spp. Low woodlands and shrublands on sections of clay loam to sandy soils. There are also small sections of River Red Gum fringing woodlands along several streams and Walker Creek. Lines will weave through existing clearances in vegetation, with thick stands of vegetation to be detoured around. No seismic line clearing or earthworks will be undertaken.
	Riparian vegetation & waterway crossings	Line MOG22-07 traverses several intermittent minor streams of 1st, 2nd and 3rd order supporting arid zone riparian vegetation.
		100m riparian buffers will be in place for shot-hole drilling activities around these 1st, 2nd and 3rd order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.
		Line MOG22-02 also traverses Walker Creek, a major 6th order stream supporting more substantial arid zone riparian vegetation, including a higher likelihood of large hollow-bearing eucalypts.
		A 250m riparian buffer will be in place around Walker Creek and a 250m riparian buffer will be in place around large hollow-bearing eucalypts.
		No ground disturbing activities will occur within riparian buffer zones.
	Erosion risk	Existing, stabilized erosion is evident at some points on the access track along which the line partly follows.
		Erosion and sedimentation devices to be installed in accordance with the Wild Horse Erosion Sediment and Control Plan listed in Appendix 5.
MOG22-08	AAPA/CLC RWAs and other sacred and/or archeological sites	The western half of the line was moved northwards to avoid a large RWA and the allowed Work Area was reduced to avoid ingress to another RWA on the eastern end of the line. An archeologist will participate in the final line placement scout to mitigate risk of damage to archeological sites.

Line #	ine #Key value / riskSummary description, context and mitigation (if relevant)Vegetation Communities (sensitive vegetation)The lines intersects small areas of Acacia spp. low woodlands and shrublands on clay loam to sandy soils, mulga forest on alluvial plains, River Red Gum fringing woodland and MacDonnell Mulga and Mulga woodlands on ranges and hills. Lines will weave through existing clearances in vegetation, with thick stands of vegetation to be detoured around. No seismic line clearing or earthworks will be undertaken.Riparian vegetation & waterway crossings (sensitive vegetation)Line MOG22-08 follows crosses several intermittent minor streams of ~ order supporting arid zone riparian vegetation.100m riparian buffers will be in place around 1st order streams. A 250r riparian buffer will be in place around large hollow-bearing eucalypts.The eastern end of line MOG22-08 is positioned adjacent to Walker Cr a major 6th order stream supporting more substantial arid zone ripariar vegetation, including a higher likelihood of large hollow-bearing eucalypts.A 250m riparian buffer will be in place around Walker Creek and a 250 riparian buffer will be in place around large hollow-bearing eucalypts.						
	Vegetation Communities (sensitive vegetation)	The lines intersects small areas of Acacia spp. low woodlands and shrublands on clay loam to sandy soils, mulga forest on alluvial plains, River Red Gum fringing woodland and MacDonnell Mulga and Mulga woodlands on ranges and hills. Lines will weave through existing clearances in vegetation, with thick stands of vegetation to be detoured around. No seismic line clearing or earthworks will be undertaken.					
	Riparian vegetation & waterway crossings	Line MOG22-08 follows crosses several intermittent minor streams of 1st order supporting arid zone riparian vegetation.					
	(sensitive vegetation)	100m riparian buffers will be in place around 1st order streams. A 250m riparian buffer will be in place around large hollow-bearing eucalypts.					
		The eastern end of line MOG22-08 is positioned adjacent to Walker Creek, a major 6th order stream supporting more substantial arid zone riparian vegetation, including a higher likelihood of large hollow-bearing eucalypts.					
		A 250m riparian buffer will be in place around Walker Creek and a 250m riparian buffer will be in place around large hollow-bearing eucalypts.					
		No ground disturbing activities will occur within riparian buffer zones.					
	Erosion risk	Erosion risks on MOG22-08 are considered to be negligible through the avoidance of seismic line clearing and limited vehicular traverses on the line.					
		Erosion and sedimentation devices to be installed in accordance with the Wild Horse Erosion Sediment and Control Plan listed in Appendix 5.					

3.3 Civil Works

The scope of work for the civil activities associated with the Wild Horse project are shown below:

Table 5: Civil Work – Scope of Work

Activities	Scope of work
Seismic Line preparation	Line total of 118km. Minimal line disturbance expected due to active vegetation avoidance measures to be undertaken. No seismic line preparation to be undertaken, lines to follow existing clearances between vegetation.
Road and access track maintenance	Access to the seismic line will be via an existing track which will be re-graded due to erosion. Total of approximately 170km x 4m (68 Ha) to be graded.
Campsites	Campsites will be set up in 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.
Footings, foundations and excavation	Not applicable
Land and vegetation management	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

Civil Works will commence once the project and its environmental management plan has been approved. A grader and its support personnel will grade the existing tracks where required to provide safe access to the seismic lines. Erosion control will be installed on those tracks where required. No line preparation will be undertaken on the seismic lines.

3.4 Seismic Charge Installation

The drilling and loading crew consists of 4x 4WD's, 4 small Geotechnical Rigs and up to 10 people onsite. An AS350 Squirrel helicopter is available from a commercial helicopter firm based at Kings Canyon to assist movement of drilling rigs in sections of rugged terrain when required.

Seismic acquisition using small dynamite charges allows energy sources to be placed in areas of rough terrain. The charge holes drilled by a small geotechnical tracked drill rig will be sited at approximately 200m intervals. The holes will be approximately 8cm wide and 10m deep.

A 1 kg charge of Geoprime dBX high performance pentolite explosive will be utilised. This explosive is specifically designed for seismic surveying. Charges will be installed approximately 10 m below ground level, with no physical access to installed charges. The charges are packed in place within each shot hole, with the blast contained within the subsurface (i.e. no expulsion of earth from the surface). The charges will be handled, placed

and detonated by a qualified shotfirer. Explosives will be stored on site in a portable magazine which adheres to Australian Standards AS 2187.1-1998.

Misfires are considered rare and are likely to have a rate of less than 1%. In the event of a misfire, a drill rig will be on standby to drill and load a new charge offset at approximately 2 m. The detonation of a second charge within proximity usually causes a sympathetic detonation or at a minimum break the plastic seal to accelerate bioremediation of the charge. The success of sympathetic detonation is considered almost 100% - based on the service provider feedback on similar sized surveys. All misfires and the success of sympathetic detonations will be logged during the seismic survey, including Global Positioning System (GPS) coordinates and depth.

Where sympathetic detonation cannot be validated, a small metal cattle proof marker shall be installed to inform the land users of the location of the hazard. These will be provided to DEPWS and the pastoralists. Should the sympathetic detonation not occur, millions of freezedried microorganisms (along with nutrients for those microorganisms) are cast directly into the GEOPRIME dBX seismic booster during production. When these naturally occurring organisms are submerged in water, they become activated, as designed, and begin to slowly bio transform the undetonated GEOPRIME dBX. When the biotransformation is complete, the compounds are no longer explosive. In the remote chance biotransformation is not successful, the charge is located 10 m below ground level isolating it from potential existing and future land users in the area.



Figure 8: Small Geotechnical Drill Rig

3.5 Seismic Acquisition

The seismic crew consists of 2 tractor mounted weight drops and up to 8 seismic crew personnel. The line crew is responsible for laying out a series of nodal geophones intervals along the lines and picking them up again once acquisition has been completed.

The seismic crew will be made fully aware of all environmental requirements and the need to respect the rights and interests of landowners and stakeholders. All field personnel will attend a formal induction prior to the start of any field operations. During this induction they will be informed of their responsibilities toward environmental and cultural matters.

The receivers (nodal geophones) will be hand carried along lines and put into the ground, usually deployed with a handheld drill and auger bit. The nodal geophones are autonomous units, containing the actual geophone as well as battery and data storage in one unit. These

nodes are deployed at regular intervals along the non-cleared lines perpendicular to the source lines, these may be able to be carried through areas of riparian vegetation to avoid any damage to vegetation where access permits. The installation of nodes requires minimal disturbance.

The nodes will be spaced at approximately 10 m intervals along each planned receiver line location. Deployment of nodes will occur from the back of a four-wheel drive (4WD) or All-Terrain Vehicle. Following the physical placement of the node in the ground, a person with a handheld terminal sets up the node with coordinate information and its station number. A series of tests is performed on the nodes to ensure each node is functioning correctly before being made available for redeployment. This reduces the amount of daily vehicle movements required throughout the duration of the survey.



Figure 9: Seismic Crew Deploying Nodes



Figure 10: Acquiring data using Seismic Weight Drop.



Figure 11: Seismic charge firing



Figure 12: Line weave through existing vegetation clearances in the Amadeus Basin

3.6 Support Activities

Table 6: Support Activities

Activity	Description
Workforce and facilities	Temporary workforce of up to 12 personnel, using local Alice Springs region-based employees supplemented with fly-in fly-out employees as required. A short-term trailer- mounted camp will be used to accommodate up to 12-persons over the seismic campaign duration. The camp will include amenities including showers, toilets, laundry facilities, kitchen, dine, mobile work offices as well as car park and laydown areas. The camp will be configured to satisfy Department of Health guidelines. Camp locations are shown in Figure 2. Commercial accommodation at Kings Canyon may also be used if additional accommodation is required, with aerial transfers to site.
	The camp will be set up in 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 areas will also be delineated.
Procurement	Where available and economic, item/products used at site are sourced locally.
Laydown areas	Any laydown areas will utilize naturally open areas. No grading of laydown areas will occur.
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. Trident estimates water usage to be approximately 120 litres per person per day. Based on this assumption water use for the seismic crew would be approximately 960 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 wind- blown waste. Wastewater will be treated 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 Management. In the event of irrigation, wastewater will be irrigated (surface drip or spray) to a fenced area suitably and 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	Weather conditions are to be monitored daily and the wet weather management plan will be implemented.



Figure 13: 12-man mobile camp



Figure 14: Mobile Camp Configuration



Figure 15: East Camp Location

Figure 16: West Camp Location

3.7 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 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>Types of waste defined | NTEPA</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 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 below:

Typical waste	Disposal method
Food, cardboard, paper, plastics	Disposal -Stored in waste bins for transport and disposal at an approved disposal facility
Glass, cans, scrap metals	Recycling - 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

Table 7: Waste type and disposal method

Oil contaminated material, and any other hydrocarbon containing material	Recycled Disposed - Stored securely and transport to an approved recycling facility or disposal facility
Used spill kit materials	Disposal -Stored securely and transport to an approved disposal facility
Spill contaminated soil	Disposal - Stored in waste bins for transport and disposal at an approved disposal facility

3.8 Chemical 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.

A dual lined 10,000L fuel trailer will be used and stored at the campsite, where a refuelling station will be established. The mobile service truck (maximum capacity of 1,000L) will refuel from the tanker and refuel the drill rig and weight drop tractors 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.

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	1,000L	Mobile service truck/Portable storage
Diesel	Yes	Yes	10,000L	Fuel tanker used and stored at camps with bunded refuelling station

Table 8: Chemicals in portable storage

3.9 Noise Management

The seismic program is in a rural area. The nearest sensitive receptor is Kings Canyon located greater than 15km away, followed by Areyonga – approximately 19km NE.

Noise emissions may arise from the use of the weight drop tractor (average 90 dBA at 10m) and seismic charges (at average 78 dBA at 10m) as well as during grading of the road.

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 Wild Horse project location are greater than 15km away. No impacts on sensitive receptors are considered likely given the remote and isolated location of the field. The operation of grader and seismic operations 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. Trident 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 Wild Horse 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.

3.10 Traffic

The potential traffic related impacts associated with Wild Horse are not considered to be significant as the mobilisation / demobilisation will take place using infrequently used roads. Traffic associated with exploration activities is generally small. Existing traffic figures obtained from the DIPL Annual Traffic Report 2022 for the Ernst Giles Road Drive (2km west of Henbury Crater Turnoff) indicates that during the dry season an average 35 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.

Rural Coverage Count Stations															Year:	2022
Table: 4.2 Calculated AADT and Mon	thly ADT for	Coverage Stat	tions											Region:	Alice S	Springs
Road Name / Location	Station No	Direction	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AADT
Areyonga Road	RAVDC076	Inbound	Veh								10	13	10			9
5km South of Kings Canyon Turn Off		Outbound	Veh								11	12	13			9
		Both	Veh								21	25	23			18
Arltunga Road	RAVDC031	Inbound	Veh								17	13	8			11
5km North of Ross Highway		Outbound	Veh								18	13	9			12
		Both	Veh								35	26	17			23
Ernest Giles Road 2km West of Henbury Crater Turn Off	RAVDC060	Inbound Outbound	Veh Veh								23 18	18 17	13 15			14 14
		Both	Veh								41	35	28			28

Figure 17: Indicative traffic counts along Ernst Giles Rd

Vehicles will mobilise from Alice Springs to the Wild Horse Work Area, located approximately 190km west southwest of Alice Springs, before the commencement of the program. They will travel via a network of sealed and unsealed public and private roads, heading south from Alice Springs via sealed road using the Stuart Highway, then by unsealed Ernest Giles Rd, Areyonga Tempe Downs Rd and a series of station tracks.

The vehicles to be used during the seismic program include UTVs, cars, trucks including those with trailer mounted camp accommodation. The seismic program occurs within a network of existing infrequently used and remote unsealed tracks on Temp Downs homestead.

The peak maximum anticipated traffic flow increase associated with the project activities will be approximately 7 vehicles per day to the Wild Horse 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.

3.11 Greenhouse Gas Emissions

The Wild Horse program is a targeted 118km of 2D seismic exploration, using existing tracks and no seismic line preparation. 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 7 diesel vehicles. No clearing of vegetation is to occur. The greenhouse gas emissions are listed below based on Emission and Energy Threshold Calculator available through the Clean Energy Regulator (2021).

Source of GHG emissions	Key inputs	Assumptions	tCO2 e
Access Track Maintenance	Total Volume ~2,800L Diesel	Access track maintenance will use a 12H grader (or equivalent) with 123 kW engine.	
Diesel Oil – non transport		Estimated 14 days of track maintenance pre and post works.	8
Seismic Charge Drilling	Total Volume ~9,000L Diesel	The single Geoprobe 3126 and two Eco- Probe EP-10 drill rigs used for seismic	
Diesel Oil – non transport		average of 30 ltr/hr. Estimated 30 days of drilling.	24
Seismic Weight Drop Operations	Total Volume ~1,440L Diesel	The ASV-135 Positrack mounted with the weight drop is equipped with a 98 kW	
Diesel Oil – non transport		Estimated 9 days of weight drop use.	4
Vehicle Operations	Total Volume ~41,300L Diesel	Seven diesel vehicles (4x4's, UTV's, service truck) to be used onsite will consume an	
Diesel Oil (post 2004 vehicles)		average of 100 ltr/day/each. Estimated 59 days of work.	112
Camp Power Generation	Total Volume ~9,900L Diesel	Camp operations using 45 kVA. Fuel consumption averages 7 L/hr. Camp	
Diesel Oil – non transport		operations carried out over 59 days (includes Civils/Recording/Remediation)	27
Helicopter Support	Total Volume ~10,800L	The Eurocopter AS350 Squirrel used for helisupport is equipped with a 632kW	
		180ltr/hr. Estimated helisupport time is 60 hours.	24
ΤΟΤΑΙ			199

Table 9: Greenhouse gas emissions

TOTAL

Note: All estimates based on the Emissions and Energy Threshold Calculator 2022-23

3.12 Decommissioning and Remediation

Within one month of completing the seismic acquisition, 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 preactivity conditions, including the reinstatement of temporary gates through fence lines. Specifically, demobilisation and site reinstatement will include:

- Drill holes will be progressively remediated after firing. Detonation wires will be pulled out and the hole and remaining cuttings will be returned down the hole. A cap will be emplaced 50 cm down the hole and the hole will be backfilled with adjacent soil or gravel to ensure the hole is load bearing and no surface depression is left that might cause injury to fauna.
- Any undetonated charges will be remediated by snipping the detonator wires 1m below surface and the top portion of the drill hole will be cemented to ensure the security of the unexploded charge.
- 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 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 Operational Area, including at the potential site of the mobile accommodation camp.
- All waste will be removed from the Operational Area, including at the site of the mobile accommodation camp.

The seismic lines will be assessed for any damage and if required, rehabilitated back to its original condition, while the existing access track will be maintained until stabilised.

4 Description of Existing Environment

4.1 Baseline Ecology

A description of the existing natural environment can be found in Appendix 1 – Terrestrial Ecology Baseline Survey (SLR_2023)

4.2 Climate

The Wild Horse seismic survey is located within the arid zone of Central Australia that experiences low and variable rainfall and high diurnal and seasonal temperature fluctuations.

Table 10 shows a summary of climate records for Alice Springs Airport (Station 015590), which is located approximately 190 kilometres (km) north-east of the Program area.

Table 10: Temperat	ture and	l Rainfa	I Record	ds for Bo	oM Stat	ion #01	5590.						
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
					Ter	nperati	ure						
Mean Daily Max (C)	36.4	35.1	32.6	28.2	23.0	19.8	19.7	22.6	27.3	30.9	33.6	35.4	28.7
Mean Daily Min (C)	21.5	20.7	17.5	12.6	8.2	5.0	4.0	6.0	10.3	14.8	17.9	20.2	13.2
					F	Rainfall	l						
Mean Monthly (mm)	38.5	43.9	31.8	17.3	18.7	13.6	15.4	9.0	8.4	21.1	28.7	36.8	284.0

The mean annual rainfalls for Alice Springs and Mereenie are 284 mm and 300 mm respectively, with most of rainfall in summer. Temperatures vary from very hot in summer to below freezing in winter, and frosts occur regularly during the winter months.

Average evaporation exceeds average rainfall for each month of the year and by some 1000% over an average year. The mean annual evaporation rate at Alice Springs is 3066 mm. The dominant wind directions are southeast to northeast with little seasonal variation.

4.3 Soils

The landscape of northern and central Australia is ancient and highly weathered. Soil types are susceptible to erosion given that the region experiences long dry periods followed by intense rainfall. In this environment, the soils become disturbed and once disturbed can be easily eroded. The project area soils are dominated by tenosols soils, kandosols and rudosols associated with rugged rock terrain. Smaller pockets of calcarosols and sodosols soils are present in the project area but will be avoided by the proposed activities.

- Tenosols are weakly developed or sandy soils, commonly shallow (slightly more developed than Rudosols), although they can include the deep sand dunes of beach ridges, granitic soils and sand dunes of deserts. Tenosol soils show some degree of soil profile organisation (minor colour or soil texture changes in subsoil).
- Rudosols are very shallow soils or those with minimal soil development and includes very shallow rocky and gravely soils across rugged terrain.
- Kandosols are massive and earthy soils (formerly red, yellow, and brown earths) that are widespread across the Sturt plateau regions.

- Calcarosols soils with calcium carbonate often formed on limestone are restricted to small pockets in Central Australia.
- Sodosols soils are generally high in sodium with an abrupt increase in clay content from the topsoil to subsoil. They are dispersive and restricted to small occurrences in the southern region of the NT.

Figure 18: Surface Geology

4.4 Surface & Ground Water

The Wild Horse Work Area is within the Diamantina-Georgina Rivers Region and the Finke River Basin. The Finke River Basin is an extensive catchment area that covers an area of approximately 115,000km².

The Wild Horse Work Area 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.

Figure 19: Watercourses

Figure 20: Water bore locations.

The nearest registered bores are RN014233, RN013672 and RN004198. Figure 17 shows the locations of groundwater bores in relation to the Wild Horse program. These bores will not be impacted as the Wild Horse project does not involve any taking or interfering with groundwater and they have been excluded from the Wild Horse Work Area.

4.5 Sacred Sites and Archaeological Sites

An assessment of cultural heritage values for the permit area was undertaken as preparation for the seismic program. It was confirmed that there are no areas within the Wild Horse Work Area listed on the National Heritage Register (National Heritage List (DCCEEW 2024) or NT Heritage Register (DLPE 2024).

Areas of significance for indigenous cultural heritage is considered through the process of securing a sacred site clearance certificate from the Central Land Council (CLC). This process aims to prevent damage to, and interference with Aboriginal sacred sites, by setting out the conditions in relation to entering and working on the land.

The specific details of the sacred sites are held with the CLC, and through the process of obtaining a sacred site clearance certificate, it can be assumed for the purposes of the project activity that there are no sacred sites within the area for which the consent applies.

All activities are confined to the project area which has been screened and cleared by a Site Clearance Team in accordance with the procedures outlined in the Deed for Exploration agreed for EP145 between the CLC and Trident Energy Pty Ltd.

The Heritage Branch of DLPE was consulted to identify any known archaeological places and objects in the Wild Horse Work Area. While the search has found that there are no known Aboriginal or Macassan archaeological places and objects within the work area, the likelihood of possible unrecorded Aboriginal or Macassan archaeological places was assessed as possible or likely. Trident plans for a qualified archaeologist to accompany the OCR & Ecologist on the final line scout prior to onsite activities to identify and mitigate any potential impacts to Aboriginal or Macassan archaeological places and objects.

4.6 **Protected Areas**

Two recognised NT sites of conservation significance (SoCS) are located within 50 km of the Wild Horse Work Area - Greater MacDonnell Ranges & George Gill Range and Surrounds.

Both above sites are in part located within EP145—Greater MacDonnell Ranges in the northeast corner of the EP area, and George Gill Range and Surrounds in the southwest corner.

Two sites of botanical significance (SoBS) are located partly within EP145 but outside the Wild Horse Work Areas.

- Bowson SoBS is located adjacent the northern extents of proposed seismic lines 4 and 5.
- Watarrka SoBS is located adjacent to the western extent of proposed seismic line 7.

These protected areas have been excluded from the Wild Horse Work Area.

Figure 21: Protected Areas

5 Environmental Risk Assessment

5.1 Environmental Risk Assessment Methodology

Under this EMP, an environmental risk assessment was undertaken for regulated activities using the methodology outlined in Appendix 2.

5.2 Risk Assessment

In line with AS/ISO 31000 a team of professionals with relevant experience and background conducted the risk assessment. This involved assessing Project activities against the likelihood and consequence of identified risks, the mitigation required, monitoring requirements and the residual risk rating. The assessment process is outlined in Appendix 2. The outcome of the risk assessment is detailed in the Table 11below. A total of 24risks were identified and resulted in all identified risks being reduced to low assuming implementation of proposed mitigations / management measures / conditions detailed in Section 6.3.

This Project has been designed by Trident to avoid any significant impact to sacred sites, cultural values, threatened species and sensitive vegetation/habitat; and to minimise the potential for general impacts on other environmental aspects.

-#	Identified rick	Project activity(s)		rating
#		relevant to risk	Inherent	Residual
	Threatened species – impact to	Line preparation and camp pad establishment	Moderate	Low
1 Southern Whiteface (Aphelocephala leucopsis)	Seismic survey and recording	High	Low	
		Vehicle movements on seismic lines and access roads/tracks	Low	Low
		Line preparation and camp pad establishment	High	Low
2	Threatened species – impact to Slater's Skink	Seismic survey and recording	High	Low
		Vehicle movements on seismic lines	High	Low

Table 11 Summary of identified risk types and residual risk rating for the Project.

		Project activity(s)	Risk	Risk rating	
#	Identified risk	relevant to risk	Inherent	Residual	
		and access roads/tracks			
	Threatened species - impact to: Grey Falcon, Central Australian Rock- wallaby and Bednall's Dwarfmelon to	Line preparation and camp pad establishment	Moderate		
3	Palm Valley Rocksnail (<i>Granulomelon</i> squamulosum), Ellery Creek Squat Snail (<i>Semotrachia elleryi</i>), Krichauff Bangga Squat Spail (<i>Semotrachia</i>	Seismic survey and recording	Moderate		
	esau), Illara Waterhole Squat Snail (Semotrachia illarana).	Vehicle movements on seismic lines and access roads/tracks	Low	Low	
		Line preparation and camp pad establishment	Low	Low	
4 Threatened species - impact to Fork- tailed Swift	Threatened species - impact to Fork-	Seismic survey and recording	Low	Low	
	Vehicle movements on seismic lines and access roads/tracks	Low	Low		
	Threatened species - impact to Minnie	Line preparation and camp pad establishment	Low	Low	
5 Daisy, Valley 5 MacDo	Daisy, Baumea, Amperea, Palm Valley Myrtle, Desert Quandong and MacDonnell Ranges Cycad.	Seismic survey and recording	Low	Low	
		Vehicle movements on seismic lines and access roads/tracks	Low	Low	
6	Threatened species - impact to Baumea (<i>Baumea arthtrophylla</i>), Amperea (<i>Amperea spicata</i>) and	Line preparation and camp pad establishment	Low	Low	

		Project activity(s)	Risk rating		
#	Identified risk	relevant to risk	Inherent	Residual	
	Desert Quandong (Santalum acuminatum).	Seismic survey and recording	Low	Low	
		Vehicle movements on seismic lines and access roads/tracks	Low	Low	
7	Sensitive/significant vegetation - impacts to riparian vegetation supporting high densities of hollow-	Line preparation and camp pad establishment	High	Low	
	waterways	Seismic survey and recording	Low	Low	
8	Sensitive/significant vegetation- impact to groundwater-dependent vegetation, including riverine wetlands with semi-permanent to permanent shallow groundwater and small wetlands in drainage lines and gaps in sandstone ranges.	Line preparation and camp pad establishment	Moderate	Low	
9	Important habitat - Impacts to threatened fauna and flora habitat	Line preparation and camp pad establishment	Moderate	Low	
		Seismic survey and recording	Moderate	Low	
10	Habitat and vegetation - Impacts to habitat (general)	Line preparation and camp pad establishment	Moderate	Low	
		Seismic survey and recording	Low	Low	
11	Weed introduction and spread	Bringing equipment to Project area	High	Low	
		Driving around the project area	High	Low	
12	Pest and disease introduction or spread	Line preparation and camp pad establishment	High	Low	

		Project activity(s)	Risk rating			
#	identified fisk	relevant to risk	Inherent	Residual		
		Seismic survey and recording	High	Low		
		Camp site management	High	Low		
13	Native fauna - Fauna deaths / mortality	Line preparation and camp pad establishment	High	Low		
		Seismic survey and recording	High	Low		
14	Sacred Sites - Disturbance or damage	All activities	High	Low		
14	to sacred sites	All delivities	High	Low		
15	Cultural Heritage - Disturbance or damage to cultural heritage sites	Line preparation and camp pad establishment	High	Low		
		Line preparation and camp pad establishment	Moderate	Low		
16 Erosion and sedimentation		Seismic survey and recording (including on prepped lines and lines on existing roads)	Moderate	Low		
		Rehabilitation	Moderate	Low		
17	Dust generation /GHG emission pollution leading to injury or nuisance	All activities	Low	Low		
18	Noise and vibration pollution leading to injury or nuisance	All activities	Low	Low		
19	Light pollution leading to injury or nuisance	All activities	Low	Low		
20	Contamination from spills of hazardous substances	All activities	Moderate	Low		
21	Contamination from wastewater and general waste	Camp management and general site works	Moderate	Low		
22	Bushfire a result of Project activities	All activities	High	Low		

#	Identified risk	Project activity(s)	Risk	rating	
#		relevant to risk	Inherent	Residual	
23	Unwanted access or interference with TO activities	All activities	Low	Low	
24	Rehabilitation failure	Rehabilitation	Moderate	Low	

Residual risks for activities under this Environmental Management Plan are low.

5.3 Mitigation Measures

A summary of the environmental factors and key risks with mitigation measures to be undertaken for the general project area are detailed in the table below.

Table 12: Summary of environmental factors

Key value / risk	Summary description, context and mitigation (if relevant)
Sites of conservation significance (SoCS)	Two recognised NT sites of conservation significance (SoCS) are located within 50 km of the Wild Horse Work Area: Greater MacDonnell Ranges George Gill Range and Surrounds. Both above sites are in part located within EP145—Greater MacDonnell Ranges in the northeast corner of the EP area, and George Gill Range and Surrounds in the southwest corner. The final seismic line placements have been located with buffers in place to prevent entry into the SoCS.
Sites of Biodiversity Significance (SoBS)	Two sites of botanical significance (SoBS) are located outside the Wild Horse Work Areas but partly within EP145. Bowson SoBS is located adjacent the northern extents of proposed seismic lines 4 and 5. Watarrka SoBS is located adjacent to the western extent of proposed seismic line 7. The final seismic line placements have been located with buffers in place to prevent entry into the SoBS.
EPBC Act listed flora species	No EPBC Act listed flora species were recorded during the ecology survey; however, three species were assessed as likely to occur in the area: Minnie Daisy <i>(Minuria tridens)</i> is a small forb occurring on sandstone hills, rises and ranges that are impregnated with limestone, calcrete or dolomite; it typically occurs on south-facing situations, in low shrublands of Acacia kempeana, Senna artemisioides and Indigofera leucotricha, the former two of which are known to occur in the Wild Horse Work Area. Palm Valley Myrtle (<i>Thryptomene hexandra</i>) occurs on rocky ranges dominated by Mulga, where it prefers sheltered microhabitats, and in deep gorges. MacDonnell Ranges Cycad (<i>Macrozamia macdonnellii</i>) occurs in rocky situations, preferring gorges and steep, sheltered, shady (usually south-facing) rock faces, but it occasionally occurs on exposed hills and ridges.

Key value / risk	Summary description, context and mitigation (if relevant)
TPWC Act listed threatened flora	Three TPWC listed threatened flora species were deemed likely to occur in the study area: Baumea, Amperea and Desert Quandong. None of these species were observed in the study area during the field assessment, but these species may occur in areas not surveyed. Baumea (<i>Baumea arthrophylla</i>) is highly restricted in the NT, occurring only at one location in Watarrka National Park. Here it occurs in a sandstone gorge, in an area subject to groundwater seepage. It is at threat of any stochastic event that may destroy the few plants in the population, such as change in water availability, disease, or fire. Amperea (<i>Amperea spicata</i>) occurs in gorges in deeply incised sandstone ranges and on sandstone cliffs and key microhabitat is rock crevices. This species is threatened due to its restricted range, and is not currently known to be subject to any threatening processes, but threats such as climate change, Buffel Grass impacts to habitats, and stochastic events affecting small populations may threaten the species in the future Desert Quandong (<i>Santalum acuminatum</i>) grows on sandy or loamy soils in a variety of habitats and situations including on creek banks, dune swales, plains and low rises. The species is at threat from browsing by Camels, climate change, Buffel Grass invasion and low genetic variability. Project impacts key to this species are habitat clearing, destruction of plants by vehicles or machinery, and spread of Buffel Grass leading to habitat degradation. Seismic line placement methodology has been adopted so that vegetation clearing activities are not used, and a pre-works survey to identify and implement buffers around EPBC & TPWC vegetation will minimise risk of impact to these species.
EPBC Act listed fauna species	Five EPBC Act listed fauna species were deemed likely or moderately likely to occur within the study area: Southern Whiteface, Slater's Skink, Grey Falcon, Central Australian Rock-wallaby and Bednall's Dwarfmelon. Evidence of Slater's Skink & Southern Whiteface were observed during the field study. Grey Falcon: inhabits lightly timbered habitats and lowland plains, including low Acacia sp. shrublands, tussock grasslands, in arid and semi-arid areas. Favoured habitats are typically crossed by timbered watercourses, where the species nests in large trees such as River Red Gum, utilising the large nests of corvids and other raptor species. Southern Whiteface: occupy a variety of woodland and shrubland communities on lowlands, plains and foothills, preferring sparsely vegetated habitats with shrubby and/or grassy understoreys. Habitats are typically dominated by Acacia spp. or eucalypts. The species forages for seeds and invertebrates, gleaning prey from the ground or from low shrubs. Breeding occurs from July to October but is influenced by rainfall in arid regions; Southern Whiteface was observed in Acacia spp. low woodland on clay loar near a drainage feature and at the foothills of a low slope on line MOG22-08 Central Australian Rock-wallaby: occurs in the rocky ranges, cliffs, gorges and boulder fields of the ranges of central Australia, including the West MacDonnell and associated ranges. The race that occurs in the West MacDonnell Ranges is considered likely to be a separate species. This taxon occupies sedimentary ranges with cliffs, caves, gorges and boulder fields associated with collapsed cliffs, which are vegetated by open low shrublands of Mulga and MacDonnell Mulga, with hummock grass cover and Desert Figs. The species forages in these habitats as well as on associated foothills, slopes and valley floors in shrublands, grasslands and chenopod fields.

buffers around active nesting sites, not undertaking vegetation clearing activities, minimisation of vehicle movement off the designated seismic lines and accesses, and management of the risk of Buffel Grass and other weed seed spread.

Key value / risk	Summary description, context and mitigation (if relevant)
TPWC Act listed threatened fauna	Four SRE snails listed under the TPWC Act were deemed likely to occur in the work area: Palm Valley Rocksnail (<i>Granulomelon squamulosum</i>) Ellery Creek Squat Snail (<i>Semotrachia elleryi</i>) Krichauff Ranges Squat Snail (<i>Semotrachia esau</i>) Illara Waterhole Squat Snail (<i>Semotrachia illarana</i>). These species are endemic to the greater West MacDonnell Ranges, and all have been recorded within 50 km of the project area. The Illara Waterhole Squat Snail is restricted to Illara Waterhole, which is located near the southeast corner of EP145. None of these species were recorded during the field survey; however, habitat features were widespread in the work area. Desert Figs were recorded sporadically across rocky landforms in the work area, including on flat rocky hilltops, in narrow gullies, on cliff faces and in gorges and gaps. Impacts will be minimised by a pre-works survey by an ecologist to identify and implement buffers around active nesting sites, not undertaking vegetation clearing activities, minimisation of vehicle movement off the designated seismic lines and accesses, and management of the risk of Buffel Grass and other weed seed spread.
Weed Species (Invasive Species Introduction)	No Weeds of National Significance (WoNS) or weeds declared under the NT WM Act were identified within the Wild Horse Work Area during the field survey. The following non-native species were recorded during the field survey: Buffel Grass (Cenchrus ciliaris) Bermuda Grass (Cynodon dactylon) Mimosa Bush (Vachellia farnesiana) Spiked Malvastrum (Malvastrum americanum) Buffel Grass was widespread in the Wild Horse Work Area where soils were sufficiently deep, particularly in Acacia spp. woodlands on grey-brown sandy loam. The species' distribution was patchy; it was absent from extensive tracts of hummock and tussock grass woodlands in the western portion of the study area. The species was absent from rocky areas. Bermuda Grass was restricted to the banks of larger river systems where it was generally dominant and formed a dense, thick vegetative cover on the ground. Dense infestations likely lead to impacts to native grass and forb species, reduced recruitment of tree and shrub species, and minor impacts to fauna habitat values. Mimosa bush occurrences were uncommon and the species did not appear to be competing significantly with native flora species or affecting fauna habitats. Spiked Malvastrum occurrences were sparse to locally dense in areas subject to prior disturbance and near some watercourses. The program will implement a Weed Management and Control Procedure to avoid introduction and spread of weeds, manage weed outbreaks and monitor disturbed areas. Vehicles and machinery brought on site shall be clean and free of weeds, dirt and other material that may contain weed seeds and cause new exotic species to become established within the works areas. Vehicles shall be kept on established tracks and roads and designated seismic lines whenever possible. No vegetation clearing activities will be undertaken, and vehicle movement shall be kept within areas designated for works to minimise unnecessary disturbance of soil. A pre- works survey by an ecologist will identify existing weed sp
Pest Species (Invasive Species Introduction)	Three pest herbivore species were recorded during the field survey: Cattle, Horses and Camels. Impacts of these hooved herbivores include alteration of soil structure, increased soil erosion, forage pressure on native species, and spread of invasive plant species. Effort shall be taken to ensure that invasive animals do not become established at work sites or camps. This includes ensuring no water sources are available, and food and food scraps are appropriately stored and disposed of.

6 Implementation Strategy

Trident Energy maintains a Health, Safety and Environment Management System (HSEMS) which contains procedures to manage and minimise environmental impact (and health and safety of people) from its activities. The HSEMS and this EMP (including associated appendices) are the overarching documents for the project.

6.1 Roles and Responsibilities

The key roles and responsibilities for regulated activities under this EMP are:

Project Manager:

- Ensure overall compliance with the EMP.
- Ensure relevant environmental legislative requirements, performance outcomes, performance standards, measurement criteria and requirements in the implementation strategy in the EMP are communicated to the activity key personnel; and audited.
- Undertake consultation with relevant persons throughout the project planning and implementation.
- Document consultation with relevant persons.
- Ensure any commitments to relevant persons are undertaken.
- Oversees the whole planning and execution of the exploration program and is ultimately responsible for ensuring all other parties are working within the HSE guidelines.
- The Project Manager's role is predominantly office-based.

Seismic OCR:

- Responsible for ensuring all areas of Civil Construction, Drilling and Seismic Acquisition acquisition are carried out following the EMP
- All Civil Construction, Drilling and Seismic Acquisition contractors report to this position
- Act as the designated point of contact for any civil-related complaints and incidents following the pre- determined strategies in this EMP or relevant ERP
- Ensure adequate resources are in place to meet the requirements within the EMP.
- Undertake environmental checks / inspections as described within the EMP.
- Ensure incidents and non-conformances are managed as per EMP.
- Report environmental incidents to the Project Manager and ensure reporting and investigations are undertaken.
- Ensure records and documents are managed so that are available and retrievable.
- Ensure non-compliances identified are communicated and actions completed.
- This role will also cover the part of the Weeds Officer, who will be responsible for:
 - Planning and execution of weed monitoring requirements during civil construction and seismic acquisition
 - Facilitate training all workers (including contractors) in weed management requirements, with support from the NTG Regional Weed Officer
 - Oversight of implementation of weed control mechanisms, including but not limited to wash- downs and proactive weed control programs
- The Seismic OCR is field-based and reports to the ProjectManager.

Lead Contractor:

- A nominated member within each contracting company (Civil construction, Drilling, Seismic acquisition) that are responsible for delivering the commitments outlined in this plan
- The Lead Contractor for each service provider will comply with the nominated contractual terms and work instructions issued under this EMP
- The Lead Contractor must ensure all staff are aware of their obligations, are appropriately trained and that procedures and controls are fully implemented and complied with.

Field Personnel:

• All staff, including Trident and contractors that are working in the exploration permit areas. Responsible for day-to-day management and reporting of environmental aspects.

6.2 **Project Organisational Chart**

6.3 HSE Objectives and Key Performance Indicators

This exploration has the following HSE objectives, which links into the Tridents Environmental Policy

- All personnel associated with the project return home safe.
- No impact to known and identified significant sites (sacred sites, cultural heritage and flora/fauna).
- The impact to the environmental of exploration activities is minimised.
- All personnel, by means of their actions and attitudes, demonstrate safety leadership
- All risk are reduced to ALARP and the effectiveness of controls is monitored.
- Effective consultation and communication will take place with contractors and other relevant parties.

- Appropriate resources will be available to ensure that exploration activities are carried out safely and to meet approved conditions.
- All incidents and near misses are reported.

HSE key performance indicators (KPIs) identified in will be implemented to ensure the above objectives are met.

Objective	Activity	Indicator	Target
Comply with all applicable HSE Legislation, Regulations, industry standards;	Audits undertaken as per Project Audit Schedule	Number of HSE Audits	100% completed to schedule
Ensure all personnel participate in inductions, HSE training, meetings, emergency drills and the implementation of safe work practices	Induction undertaken as per Project requirements – Safe Work Practices as per HSE/ERP Bridging Doc	Induction and training records	100% completed
Control worksite to prevent incident, injury or illness – including MAE's	Implementation of Project hazard/risk management processes, Safety Cards, reporting, hazard and incident management processes	Safety Cards per day	1 per work crew per day
Proactively measure HSE assurance by effective management and evaluation of Contractor/TPC HSE performance	Audits undertaken as per Project Audit Schedule	Number of HSE Audits	100% completed
Effective management of plant, equipment and the work environment;	Audits undertaken as per Project Audit Schedule with particular focus on Project Management System	Number of PMS related Audits	100% completed
Visible Leadership by Project Management Team	Management Site Visits	Management Visit Reports	2 per campaign
Test/reinforce Project Emergency Response arrangements	Emergency Response exercises undertaken as per Project schedule	ER Exercise Report and schedule	100% completed
Close out all actions arising from Project risk assessments and hazard observations	All actions closed out by due date and review date set for evaluating effectiveness of actions implemented	Corrective Actions Register (CARS) Contractor Action Item Register	100% completed
Zero Restricted Work Cases (RWC)	Project activities as per Seismic Survey Program and contractors HSEMP's	Incident Report - RWC	0
Zero Loss Time Injuries (LTI)	Project activities as per Seismic Survey Program and contractors HSEMP's	Incident Report - LTI	0
Zero Environmental Incidents	Project activities as per EP, Spill and Waste Management Plans	Incident Report – Environment	0
Zero Regulatory Breaches	Activities as per Project Regulatory HSE Documents	Incident Report - Regulatory	0

Table 13: HSE Key Performance Indicators

6.4 Induction, training and awareness

All personnel, contractors and visitors to site will be required to undergo environmental and safety inductions for the site. The environment and safety inductions will include:

- CLC/ALRA access requirements
- Regulatory requirements including specific conditions on the exploration permit and AAPA certificates
- Environmental considerations and special procedures to be used for environment protection and archaeological and cultural sites protection as well as the discovery of unrecorded artefacts. This is to include the ESCP, Weed Management Plan, Bushfire Management Plan, Waste and Wastewater Management Plan, Spill Response Management Plan, Emergency Response Plan, and Rehabilitation Plan
- Health and safety information for remote areas, including procedures for the safe use of vehicles and equipment as well as first aid and emergency response procedures.

Toolbox talks will be held daily for any updates to be communicated to all personnel.

Induction records will be kept to demonstrate what was covered in the induction and who was inducted.

6.5 Reporting Requirements

6.5.1 Environmental Performance Report

An environmental performance report will be compiled by Trident and be submitted to DLPE on an annual basis. This report will outline how the environmental objectives of the project are being met, and this EMP is being appropriately implemented.

The report will include:

- An overview of work activities conducted during the reporting period
- An analysis of compliance with the conditions of the EMP
- An evaluation of the environmental outcomes and performance standards within the EMP
- An analysis of reporting requirements for the project as per the Code and relevant Regulations.
- A register of all incidents including cause of incident, and mitigation activities to avoid another incident of the same nature
- Records of the nature, location and extent of disturbance of flora and fauna including geospatial information (i.e. GIS shapefiles) depicting actual areas cleared.
- Results of all inspections and audits on site, and how findings have been addressed.

In terms of GHG reporting requirements, it is expected that this project will emit a maximum of 199 tonnes of emissions. As such, emissions from this project will be under the threshold (100,000 tonnes) specified by the Commonwealth National Greenhouse and Energy Reporting Act (2007), and therefore will not trigger reporting requirements under the Act. However, emissions will be reported to the NTG as part of the annual environmental reporting process – this will be calculated using actual fuel consumption (logbook records) and methodology previously outlined.

6.5.2 Incident Reporting

There are two types of incident reporting relevant to this project – reportable incident and recordable incident. Incident reporting frequency is outlined in the table below.

Report	External submission	Recipient
Reportable Incident Report	2 hours following the incident OR Within 2 hours of becoming aware of the incident. An interim report will follow no more than 3 days after the incident, with a final report must be given to the Minister as soon as practicable but no later than 30 days after incident clean up or rehabilitation	Trident management team and the DLPE Petroleum Operations
Recordable Incident Report	Quarterly	Trident management team and the DLPE Petroleum Operations
A commencement of activity notification	Prior to the commencement of regulated activities	The minister for Environment and the occupier and owner of the land on which the activity is carried out.

Reportable Incident

The NT *Petroleum (Environment) Regulations 2016* define a reportable incident as an incident arising from a regulated activity that has caused, or has the potential to cause, material environmental harm or serious environmental harm as defined under cl. 117AAB(1) the Petroleum Act.

For each incident on the project Trident will assess the incident to determine if they are classed as reportable. If an incident is considered reportable DLPE will be notified either verbally or in writing. DLPE must be notified as soon as is practicable but no more than two hours after the first occurrence of the incident, or after the incident is first noticed.

A reportable incident report must include the following information:

- Contact details of the interest holder
- All relevant facts and information regarding the incident
- Details of actions taken to avoid or mitigate material or serious environmental harm
- Information on corrective actions that are proposed or have been taken

Once the reportable incident is confirmed, a written report is to be provided to the Minister within three days following the first occurrence of the incident. The written report will include details on the assessment of the incident, the controls that were in place, the nature and extent of environmental harm, actions taken and a root cause analysis.

A final report will be provided within 30 days of the clean up or rehabilitation of the affected area. Interim reports are to be provided to the Minister at least every 90 days during clean up and rehabilitation efforts.

Recordable Incident

A recordable incident is a breach of an environmental objective of performance standard of this EMP but is not a reportable incident. Recordable incidents must be reported to DLPE no greater than 15 days following the end of the reporting period (agreed period or each 90-day period after the day on which the EMP is approved).

6.5.3 Record Keeping

Trident will ensure that records are kept in accordance with Document and Records Management Procedure (HSEQ-PRO-16).

6.7 Incident Management

6.7.1 General Emergency Procedure

Refer to the Emergency Response Plan (Appendix 7) which has a detailed contingency plan and related procedures. In the case of a bushfire emergency, also refer to the Bushfire Management Plan (Appendix 5).

In the event of any incident, the first priority shall be the safety of all personnel and the community in the immediate vicinity. Following this, all practical steps should be taken to minimise the risk of further incidents/accidents as soon as possible after the event. The situation should be stabilised following the appropriate incident management or contingency plan procedures.

In the event of a serious emergency the following procedure will be implemented:

- Stop all work
- All personnel will leave the work zone
- All personnel will assemble at the emergency assembly area (this will be designated on the day of induction), and all personnel will be accounted for
- If required, transport the injured person/s to the nearest medical facility or contact 000 to organise emergency services to respond if needed.

6.7.2 Medical Emergency Procedure

- Assess the Danger (to yourself, patient and others). Shut down equipment/machinery. Have someone check all personnel on site are accounted for
- Evacuate spectators away from accident. Delegate spectators to access First Aid kits, phones etc.
- Check the response of the injured person/s (consciousness level; breathing).
- Call 000 for emergency services if required
- Administer First Aid as per DRSABC to injured person.
- Patient should not be moved if there is any danger of spinal injury unless discussed with paramedics.

6.8 Environmental Monitoring

The Project Manager and Seismic OCR will ensure that all required environmental monitoring activities are undertaken to ensure EMP obligations are met so that appropriate environmental protection is achieved.

Table 15: Monitoring Requirements			
Monitoring requirements	Frequency	Responsibility	
General	requirements		
Monitoring local weather, climate information (BoM) and bushfire	Daily, presented at daily safety toolbox meetings	Seismic OCR	
Monitoring of the 7-day forecast to determine the seismic works program around the forecasts	Daily, presented at daily safety toolbox meetings	Seismic OCR	
All new staff and visitors to complete site induction	As required	Seismic OCR	
Job Hazard Analysis	Introduction of any new approved tasks	Seismic OCR	
Non-conformances reported as soon as possible, but within 24 hours at a minimum	Duration of works	Seismic OCR	
Collect spatial data of all works areas, separately recording areas that required vegetation disturbance.	As required	Seismic OCR	

Erosion and Sediment Control			
Erosion and sediment controls in place	Prior to the commencement of the works	Seismic OCR	
Spatial data of vehicle route supplied to DLPE	At completion of Seismic work	Project Manager	
Visual inspection and monitoring of existing tracks, seismic lines, camp locations, water waterway crossings	During siting of seismic lines and camp pads After completion of a key phases of activity After the wet season to look for signs of erosion Annually (post wet) for up to 5 years.	Seismic OCR	
Routine visual inspections of the creek and drainage line crossings and Any damage observed to be repaired as soon as practicable after the event	Weekly or following a rainfall event (i.e., greater than 20 mm in a 24-hour period)	Seismic OCR	

Monitoring requirements	Frequency	Responsibility
V	Veeds	
All project staff undertake an induction, to be recorded in the Training Register	At the beginning of seismic program	Seismic OCR
A register of vehicle/equipment/machinery inspections will be kept and maintained	For all new vehicle / equipment / machinery entering works area.	Suitably qualified person
A weed survey will be conducted of seismic lines and access tracks. All weed monitoring and survey activities will be recorded in accordance with the NT Weed Data Collection Guidelines	During exploration, and weed monitoring post-exploration Annual to coincide with the end of the wet season	Seismic OCR
	Pests	
A register of vehicle/equipment/machinery inspections will be kept and maintained	For all new vehicle / equipment / machinery entering works area.	Weed Officer
Documentation that all vehicle/equipment/machinery entering site has undergone weed and pest hygiene checks, as described in Weed Management Plan (see Appendix 5).	All vehicle entering sites	Weed Officer
Record of food waste storage at camp sites to ensure waste and rubbish are appropriately handled / stored during field work and surveys.	Daily	Seismic OCR
Waste ar	nd wastewater	
Inspect waste storage to ensure waste and rubbish are appropriately handled / stored during seismic activities (personnel safety and to minimise attraction from pest fauna).	Daily	Seismic OCR
Maintain waste register, including receipts to verify waste has been properly disposed of	As occurs and record in the waste register and waste disposal records	Seismic OCR
Inspection of wastewater disposal area	Weekly	Seismic OCR

Monitoring requirements	Frequency	Responsibility
В	ishfire	
Monitoring for bushfire alerts (primarily via the https://securent.nt.gov.au/alerts and https://www.bushfires.nt.gov.au/incidentmap/ websites and notifying all site personnel of the risks of fire during toolbox meetings	Daily	Seismic OCR
Fuel load mapping will be undertaken by analysing fire scar data using NAFI to map seasonal conditions of fuel loads, https://firenorth.org.au/nafi3/)	Annually, before fire season so appropriate fire management can be implemented (such as fire breaks and prescribed burning	Project Manager
All incidents of fire will be recorded in an incident register	As required (per incident)	Seismic OCR
Adhere to bushfire Management Plan	As required	Seismic OCR
Communication with landowner	Prior entering land where seismic activity is going to take place, and weekly during the work.	Seismic OCR
Spill	response	
Regular inspection of fuel and chemical storage areas, including secondary containment areas and structures, containers and spill kits.	Weekly (or daily if works are conducted during the wet season)	Seismic OCR
Inspection reports and maintenance records of fuel and chemical storage areas, including secondary containment areas shall be kept.	Weekly (or daily if works are conducted during the wet season)	Project Manager
Maintenance records of machinery and vehicles.	Daily	Project Manager
Spills reporting– including incident reporting as per Appendix 5 Spill management Plan.	As per Appendix 5 "Spill Management Plan"	Project Manager
Social environment and a	ccess related to TO acti	vities
Complaints reported to Trident and recorded in register and followed up	Immediately on receipt of complaint	Project Manager
Community engagement records	Duration of Project	Project Manager

Monitoring requirements	Frequency	Responsibility
Consultation with landholders	Weekly	Seismic OCR
Access report: • Visual inspection and monitoring of existing tracks, seismic lines, water waterway crossings.	These will occur: - During siting of seismic lines (baseline assessment) - After completion of a key phases of activity - After the wet season to look for signs of erosion Annually (post wet) for up to 5 years	Seismic OCR Project Manager
Inspection reports	During activity	Seismic OCR
Rehabilitation monitoring	Post Activity, if relevant.	Seismic OCR
Air quality	and emissions	
Visual monitoring (for dust) will be carried out to ensure that visibility for moving equipment and vehicles is not obscured. In this event, water carts will need to be applied to reduce dust.	Daily	Seismic OCR
Communication with landholder	Weekly	Seismic OCR
Emissions will be measured by recorded fuel consumption in logbooks (or equivalent). GHG Emission (tonnes)	When refuelling	Seismic OCR

Habitat/Important habitat			
Scouting survey	Duration of works	Seismic OCR	
GPS tracklog will be recorded as evidence of selected route.	e Duration of works	Seismic OCR	
See monitoring related to Weeds, Pests and Erosion.	See frequency for weeds, pests and erosion related monitoring.	As per weeds, pests and erosion related monitoring	

Monitoring requirements	Frequency	Responsibility	
Sensitive	vegetation		
Review weather forecasts as part of daily toolbox safety meetings for the closest weather station	Daily	Seismic OCR	
Scouting survey prior to seismic work to select lowest disturbance route.	Prior seismic work	Seismic OCR	
GPS tracklog will be recorded to delineate constructed disturbance area and to provide evidence that line did n impact on threatened flora species.	Duration of works ot	Seismic OCR	
Daily inspections to ensure controls are in place and functioning as designed.	Daily	Seismic OCR	
During seismic works, weekly inspection of drainage crossings will be conducted to ensure appropriate controls are in place and functioning as designed.	Weekly, during duration of works		
If rainfall occurs during seismic activities, drainage crossings will be inspected following the rainfall to ensur controls are functions as designed.	e Duration of works		

Fauna			
Record any fauna encounters, injuries or death as result of seismic survey on fauna register	Duration of works	Seismic OCR	
Document preclearance survey results for EPBC Act listed fauna species and TPWC Act listed threatened fauna. Include recording geospatial data of any detections.	Prior to onsite activitiy so that suitable buffers / avoidance can be implemented if detections occur	Suitably qualified person (i.e. ecologist)	
Ensure that buffer areas are maintained for the duration of seismic works	Duration of works	Seismic OCR	
GPS track logs will be collected for all seismic lines and disturbance areas. This will be evidence to indicate that threatened migratory species nesting areas, have been avoided as per agree buffers.	Duration of works	Seismic OCR	
Record any threatened migratory species encounters, injuries or death as result of seismic survey on the flora and fauna register for the duration of works.	Duration of works	Seismic OCR	

Monitoring requirements	Frequency	Responsibility
F	Flora	
Review weather forecasts as part of daily toolbox safety meetings for the closest weather station	Daily	Seismic OCR
Scouting survey to select route that will not impact on threatened flora species.	Prior seismic work	Seismic OCR
Document line preparation results for EPBC Act listed flora species and TPWC Act listed threatened flora. Include recording geospatial data of any detections.	Prior to onsite activity so that suitable buffers / avoidance can be implemented if detections occur	Suitably qualified person (i.e. ecologist)
Daily inspections to ensure controls are in place and functioning as designed.	Daily	Civil superintendent
During seismic works, weekly inspection of drainage crossings will be conducted to ensure appropriate controls are in place and functioning as designed.	Weekly, during duration of works	
If rainfall occurs during seismic activities, drainage crossings will be inspected following the rainfall to ensure controls are functions as designed.	Duration of works	
Reha	abilitation	

Kenabilitation		
Rehabilitation monitoring in accordance with Rehabilitation Plan (Appendix 5) (includes provision of spatial data to regulator).	Before Commencement of Regulated Activity. Before completion of Regulated Activity; Between six- and nine-months post rehabilitation works (after first wet season); Annually until success criteria have been met and signed off by the Minister.	Project Manager
If relevant, monitoring will be conducted adjacent to RWAs for weeds, erosion and sedimentation, pollution, wherever the regulated activity goes to the boundary of a RWA	As per above rehabilitation monitoring.	Project Manager

Sacred Sites and Cultural Heritage Sites			
Sacred Site and Heritage register maintained. Physical inspections that known sites are flagged on primary spatial databases to avoid accidental impacts. Also ensure that any changes to the route or widening of activities are updated on databases.	Duration of works	Seismic OCR	

Monitoring requirements	Frequency	Responsibility
GPS track log of vehicles and works areas as evidence that RWA, significant sites, heritage sites were not accessed during exploration activities.	Duration of works	Seismic OCR
Scout survey to demarcate archaeology sites to be avoided as per approved buffers	Prior to line work	Seismic OCR
When works approach close to known archaeological sites, it will be mentioned in the daily toolbox meetings to ensure that these sites are avoided.	During work	Seismic OCR
If unexpected find of an Aboriginal archaeological object or place occurs, site supervisor will adhere to Unexpected Finds Protocol and provide suitable documentation as proof of actions undertaken.	During work	Seismic OCR
GPS track log of vehicles and disturbance areas to prove that archaeological sites were not accessed during exploration activities	During work	Seismic OCR
Zero complaints recorded from AAPA, Traditional Owners or CLC in regard to the works program.	Immediately on receipt of complaint	Seismic OCR
Noise,	vibration	
Complaints reported to management, recorded and followed-up / rectified	Immediately when complaint is received.	Seismic OCR
Provision of equipment and activity noise thresholds	Prior work commencement and daily during work.	Seismic OCR
Consultation with landholder	Weekly for duration of the work	Seismic OCR
Lighting	emissions	
Recording of complaints	Immediately on	Seismic OCR
Consultation with landholder	Weekly for duration	Seismic OCR
Shift records and location (only relevant to Southern Whiteface and Slater's Skink high likelihood known	Daily when working in those areas.	Seismic OCR

Whiteface and Slater's Skink high likelihood known area)

Environmental auditing/inspections 6.9

In addition to environmental monitoring as described in the previous section onsite inspections and audits will be regularly undertaken for the duration of the exploration activity. This will be undertaken by a suitably qualified person. Any issues identified by these inspections or audits may need to be reported as an environmental non-conformance, which will subsequently require a corrective action to rectify the issue.

Trident will comply with any auditing request set by relevant external Authorities (or land holder). The current proposed schedule is provided below

The Seismic OCR will also undertake random site inspections, and organise any corrective action necessary to protect, minimise or rectify any environmental issues or, non-compliances or concerns.

Table 16	5: Proposed	l internal	audit and	inspection	schedule.
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Frequency	Summary details
Prior to commencement of all activities; or as required	Pre-start checks / safety briefings will be conducted prior to commencement of all activities. Includes vehicle / equipment checks where applicable. Site safety inspections – typically conducted as required or identified Major hazard work / tasks Site setup inspections Permit to Work audits
Daily	Tool box meetings at the start of each day to discuss daily works plan, safety risks, weather, bushfire risk etc. Behavioural and health observations (i.e. alcohol breath test, injury etc.) Review and inspection of critical safety equipment (i.e. firefighting equipment, communication devices and vehicles). Daily work progress reports Safety and regulatory equipment, procedures and requirements applicable for tasks proposed on that day.
Weekly	Audit of procedural compliance – topical to be selected by Trident representative. Site inspections of controls – including (but not limited to) erosion and sediment control, dust, noise, heritage sites, ecological sites, vehicle speed limit, complaints, pests, weeds, fuel load. Camp inspections Food safety and hygiene inspections
End of Project	End of project report summary and analysis, identify means of improvement where applicable
Mobilisation	Post mobilisation audit of seismic exploration contractor. Pre-move inspections (i.e. weed and pest checks of vehicles, machinery and infrastructure entering Project area).

6.10 Management of Change

Trident management shall review the EMP as required to ensure that they meet operational requirements and relevant environmental legislation and standards.

Reviews of the EMP may occur as a result of the following:

- Identification of opportunities for improvement
- Following recommendations from audits
- Changes to operations or activities within the permit areas
- Changes to legislation.

Implementation of the EMP will be continually monitored and the EMP reviewed with regards to monitoring and audit results, complaints, employee and stakeholder feedback and change to the program. A formal management review will be undertaken annually (until exploration works program is completed).

If changes to the EMP are proposed (i.e. new methodology, new activity, unforeseen impacts), an assessment will be undertaken to re-evaluate risk and impact.

- If no change in risk or impact is identified, then no revision of the EMP is required, and a notice of change will be provided to the Minister that explains the change and justifies reasoning of apparent risk or impact.
- If there is a change (or new activity) that potentially increases risk or impact, the EMP will be revised and submitted to the Minister within 30 days for re-approval.

6.11 Notice of Commencement

Trident will notify the Minister and key stakeholders in writing of the proposed date of commencement of any construction, drilling or seismic survey activities. The timing of the submission will be prior to the proposed date of seismic exploration and to conform Schedule 1, item 12 of the Regulations in accordance with the Code of Practice.

A notice of commencement to DLPE will be issued to the petroleum operations team prior to commencement of the exploration activity. This will be delivered through the department email <u>onshoregas.dlpe@nt.gov.au</u>.

7 Stakeholder Engagement

Trident seeks to establish and maintain enduring and mutually beneficial relationships with the communities of which it is a part; ensuring that Trident's activities generate positive economic and social benefits for and in partnership with these communities.

The Trident Communication procedure details the requirements for appropriate communication and consultation mechanisms. The procedure includes requirements to establish and maintain communication links with employees, contractors and external stakeholders, including local communities, government agencies and other organisations. Reporting and notification of EHS incidents to the appropriate government agency occurs if and as required.

The principal objectives of consultation undertaken for the activity is:

- To identify relevant stakeholders;
- Initiate and maintain open communications between relevant stakeholders and Trident;
- Identify, establish and implement stakeholder engagement tools for initial and on-going communications;
- Establish an open and transparent process for input;
- Proactively seek agreement with relevant stakeholders on recommended strategies to minimise negative impacts and maximise positive impacts of the activity; and
- Provide a means for recording initiatives in which communication and/or consultation is undertaken, issues raised and responses recorded.

7.1 Stakeholder Identification

The key relevant stakeholder groups include:

- The broader NT community and;
- Traditional Owners and Aboriginal Peoples.

A log of the stakeholders consulted is provided in Appendix 4.

7.2 Stakeholder Consultation

Trident has undertaken (and continues to undertake) consultation to ensure that relevant stakeholders are appropriately informed of any impacts and risks of the activity, which may be relevant to the activities, functions, and interests of the stakeholder. The purpose of the consultation has been to:

- Educate and inform key stakeholders of the elements of the Wild Horse Program
- Build and maintain stakeholder confidence through key relationships.
- Work with stakeholders to build understanding as to why and how Trident operates.

This process has provided Trident with a good understanding of the interests and concerns of the different stakeholders.

Where stakeholders have requested or Trident believes it would be beneficial to engage with stakeholders on an ongoing basis during the activity, communications will continue until the activity has concluded.

During both the planning and operational phase of the project, Trident will have a field-based nominated member of the team (Seismic OCR) in the region for all land access communication. They will be the primary point of contact for all landholders and community members during the programme. During the operational phase of the programme the Seismic OCR will also manage day to day activities and communications with respect to the stakeholders to ensure they are consistently updated on the status of the project.

Trident will not access any person's land without prior consent in the form of a written agreement (in the case of the Wild Horse 2D, a CLC Access permit) and in accordance with the DPIR policies and guidelines.

A log of the stakeholders consulted is provided in Appendix 4