

**Accelerated Weight Drop Seismic Programme
Three Springs Seismic Survey**

EXPLORATION PERMIT 498 (EP498)

Southern Sky Energy

SSE-EP498-ENVP-001

6 March 2024



REPORT DETAILS

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EXECUTIVE SUMMARY

Southern Sky Energy Pty Ltd ("Southern Sky") is primarily focused on developing petroleum interests in Western Australia. Southern Sky is currently the holder of the petroleum lease: EP 498 in Western Australia.

This Environmental Plan (EP) has been developed to support Southern Sky's application for a Seismic Survey within Exploration Permit EP498. The EP is intended to outline the approach to environmental management during this seismic survey ensuring compliance with relevant legislation and other requirements as identified within the EP.

The overall objectives of this EP are to:

- Ensure all activities are undertaken in accordance with the applicable environmental legislation and associated regulations.
- Ensure environmental risks and potential impacts to the environment are identified and managed to be as low as reasonably practicable.
- Integrate environmental considerations into decision-making processes.

Southern Sky Energy's seismic exploration process contains minimal inherent risk to the environment, workers or the community. The equipment required in seismic exploration is relatively non-invasive and generally requires little disturbance to the existing environment. In the event the seismic survey identifies areas for further exploration requiring more invasive methods such as drilling, then a separate EP will be developed and submitted to the DMIRS.

The seismic survey program is anticipated to be completed within 20 days of commencement and will be undertaken as soon as regulatory approval is obtained.

High inherent risk activities identified in relation to the proposed seismic survey are related to:

- Bushfire risk

The management controls to be implemented by Southern Sky as outlined within this EP reduce the residual risk ranking for all risks to Moderate (Bushfire only) or less. Key management controls include (but are not limited to):

- Vehicles will be inspected prior to entering access tracks from the public roads.
- The seismic survey is on existing tracks and cleared freehold farmland.
- All vehicles will be fitted with fire extinguishers.
- Land clearing is not required as the operation of seismic recording takes place on already cleared fence lines, established tracks and open traversable farmland.
- Activities will be undertaken during daylight hours, stationary lighting is not required.
- A spill is unlikely as the operation uses minimal fuel and fluids for vehicles and AWD only, while refuelling is undertaken off site. No other hazardous materials are used or generated during the seismic survey.
- As the weight drop has minimal effect on the surface a light raking of the impact zone will bring the surface back to the same condition as it were prior to the shot being taken.

1 INTRODUCTION

1.1 OVERVIEW

Southern Sky Energy Pty Ltd (“SSE” or “the Company”) as operator of EP498 has developed this EP in accordance with the Petroleum and Geothermal Energy Resources (Environment) Regulations 2012 (PGER(E) Regulations), administered by the Department of Energy, Mines, Industry Regulation and Safety (“DEMIRS”). This EP has also been developed to support APPEA’s Code of Environmental Practice and provides SS with a practical environmental performance tool for this activity.

The proponent is Southern Sky Energy Pty Ltd. Their office is located at 66 Chapman Road, Geraldton 6530 Western Australia. Contact: David Powter, Mobile: 0499 539 131 Email: southernskyenergy@outlook.com

1.2 PURPOSE AND SCOPE

This EP has been developed to identify the key risks and potential environmental impacts during the proposed Accelerated Weight Drop (AWD) seismic program, ensure activities are consistent with the principles of ecological sustainable development (ESD) and detail management and mitigation strategies to minimise these environmental impacts during the activities.

The scope of work covered within this EP is limited to the activities undertaken in the process of acquiring 80km of 2D seismic.

1.3 ECOLOGICAL SUSTAINABLE DEVELOPMENT

Under the environmental assessment provisions of the EPBC Act, actions that are likely to have a significant impact on a matter of National Environmental Significance are subject to an assessment and approval process. The principles of Ecologically Sustainable Development, as defined in the Act are:

- Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;
- If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- The principle of inter-generational equity—that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
- The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;
- Improved valuation, pricing and incentive mechanisms should be promoted.

2 DESCRIPTION OF THE ACTIVITY

Southern Sky's seismic exploration process contains minimal inherent risk to the environment, workers or the community. The equipment required in our customised seismic exploration is relatively non-invasive and generally requires little if any disturbance to the existing environment. In the event the seismic survey identifies areas for further exploration requiring more invasive methods such as drilling, then a separate EP will be developed and submitted to the DMIRS.

This operation is undertaken by a small trailer mounted weight-drop unit manned by a three-person crew involving two vehicles.

Southern Sky Energy, as part of its ongoing assessment of its petroleum permit, will conduct a seismic survey in the twenty blocks that make up the permit EP 498.

The work will be undertaken on freehold land and permissions have been obtained from the landowner.

The aim is to tie a number of older seismic lines recorded by previous explorers. This work will focus on defining prospective gas targets. Determining structure of these targets is the priority of the survey.

This work will be of approximately 84 line kilometres of survey of upto thirteen lines (see Figure 1.1 and Table 1-1). 163km of line are available to conduct the 84kms of acquisition over.

The processed results will be compared and added to work of previous explorers to gain a better understanding of the targets.

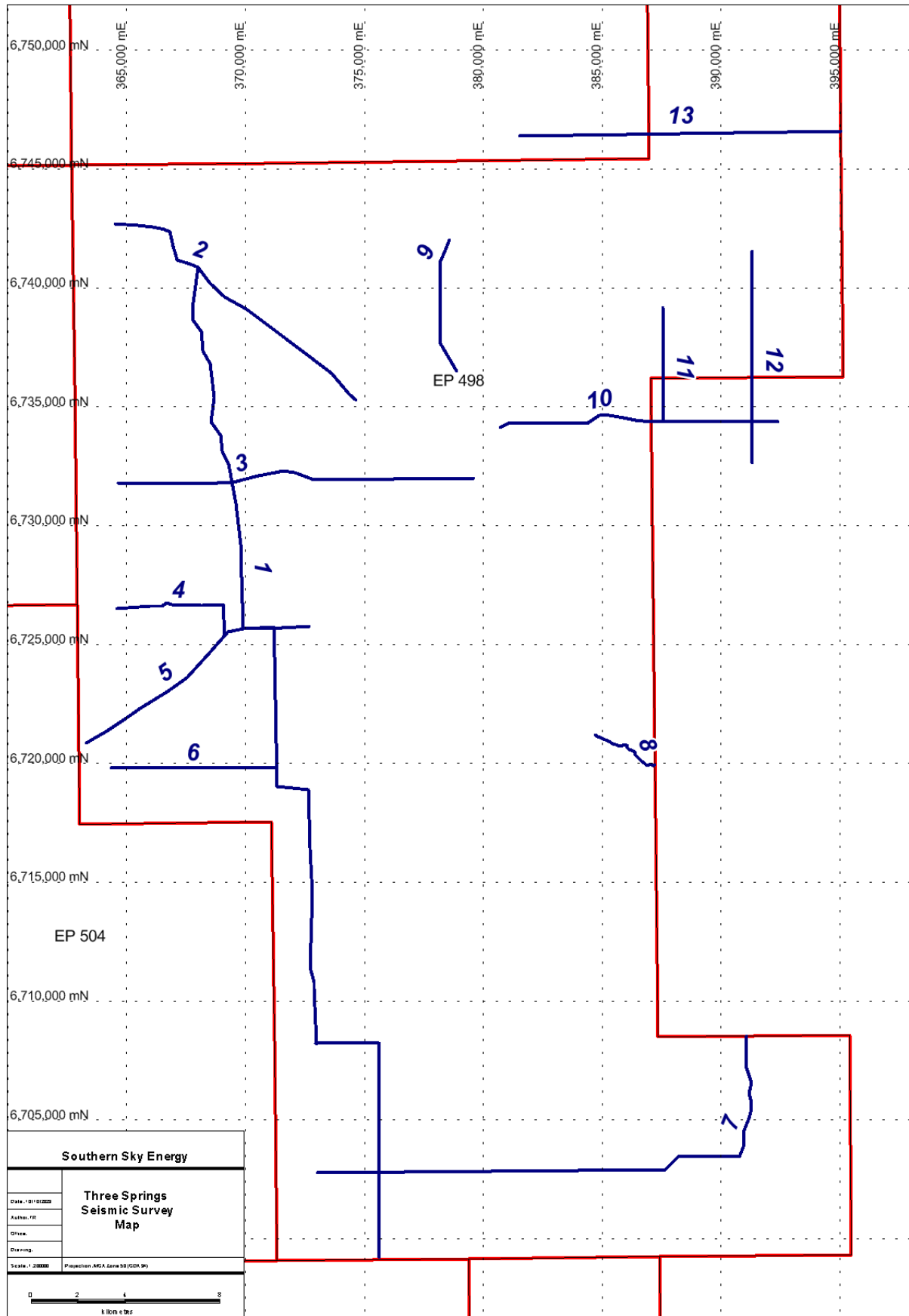


Figure 1.1 – Map of the Three Springs Seismic Survey-GDA94Z51

2.1 DATA ACQUISITION METHOD

A seismic survey is one form of geophysical survey that aims at measuring the earth's properties by means of physical principles (geophysics). It is based on the theory of elasticity and therefore, tries to deduce elastic properties of materials by measuring their response to elastic disturbances called seismic (or elastic) waves.

As the seismic waves pass through the earth and encounter different materials, some of their energy is reflected off the boundaries between the different strata whereas other waves will pass through. The reflected energy returns to the surface, where special detectors known as geophones measure its speed and strength. The geophones convert the movement of the ground into electrical signals, which are then digitized by seismometers. These signals are then processed by computers; the more complex the geology of the area being studied, the more computing power required to process the massive quantities of data.

An energy source will be provided by a trailer mounted “accelerated weight drop” unit (AWD) . This unit will be towed by a four-wheel drive and positioned at each shot point. Shot points are approximately 10m apart in a straight line and located adjacent to geophones (approximately 1.5 to 2.5 m at right angles). The shot points are adjacent to the geophones which are attached to a “takeout” on the cable at 10 metre intervals and as such no pre marking of shot points or geophones is required prior to the day of the shoot. The cables are laid out first and the AWD moves up into the spread. As recording passes on, the geophones and cable are retrieved and laid out forward of the shoot (leap frogging).

The AWD propels a 500 kg weight (approximately) downward onto an aluminium plate measuring 50 cm x 50 cm and generates the input signal to be recorded. The plate is struck a number of times to generate a clear trace. On completion, the AWD and plate are moved 10 m to the next location.

2.1.1 NOTIFICATION

FESA will be notified of the activity prior to commencement. Given the survey is taking place on existing tracks, fence-lines, and open traversable farmland, the Company does not envisage any real issue with regard to bush fire mitigation. In addition, the seismic contractor has committed to complying with conditions normally expected such as having fire extinguishers and shovel/rake on vehicles, and in the event fire risk is high, a fire-fighting unit will be made available and parked nearby. Southern Sky Energy commits to the following:

- That DPAW, FESA through the Geraldton Regional office and the relevant local government are notified of work locations.

Southern Sky will notify the following parties at least five business days prior to the commencement of the survey. Ongoing consultation will occur with the DPAW and DMIRS weekly until the survey is completed. Consultation stakeholders include:

- DPAW Perth and Midwest District
- DMIRS
- Local FESA brigades
- Shire Council
- Relevant landholders

2.1.2 SURVEY LINE LOCATION AND ACCESS

EP498 is located approximately 65 km east of Dongara, Western Australia ([Error! Reference source not found.](#)). EP498 covers an area of 1492 km² and twenty (20) graticular blocks.

The Three Springs seismic survey has been divided into three survey locations (Figure 2) these are:

1. Pyramid,
2. Sweetman, and
3. Prowaka

Access to the Pyramid survey site from Mingenew is by Mingenew Morowa Road, and existing unsealed tracks. Access to the Sweetman survey site from Three Springs is by Eneabba Three Springs Road and existing unsealed tracks. Access to the Prowaka survey site from Three Springs is by Midlands Road and existing unsealed tracks. All access tracks are well established.

GPS co-ordinates of the seismic lines can be found in the table below.

Table 1. Geographic Location of Survey Lines – GDA94Z50

Line	Km	Start (Eastings m, Northings m)	End (Eastings m, Northings m)
1	47.52	368,003m, 6,740,872m	375,619m, 6,699,229m
2	13.23	364,527m, 6,742,702m	374,633m, 6,735,276m
3	15.05	364,361m, 6,731,791m	379,601m, 6,731,988m
4	5.84	364,581m, 6,726,512m	369,120m, 6,725,365m
5	11.08	363,286m, 6,720,855m	372,675m, 6,725,764m
6	6.9	364,349m, 6,719,786m	371,266m, 6,719,835m
7	23.18	373,020m, 6,702,759m	391,050m, 6,708,520m
8	3	384,688m, 6,721,185m	387,200m, 6,719,923m
9	5.8	378,557m, 6,742,022m	378,866m, 6,736,502m
10	11.83	380,708m, 6,734,138m	392,396m, 6,734,367m
11	4.77	387,528m, 6,739,166m	387,595m, 6,734,407m
12	8.93	391,297m, 6,741,538m	391,305m, 6,732,643m
13	13.49	381,512m, 6,746,389m	395,027m, 6,746,601m

The survey line locations are all on existing tracks and roads within existing road corridors, on level ground. The survey lines are as wide as a normal car trailer (1.5m) and are traversed by a standard four-wheel drive towing a double axle trailer.

All equipment is owned by Rapid Geophysics Pty Ltd. It will be transported on public roads and is covered by the laws of the WA Road Traffic Act 1974. The equipment is self-propelled and does not require a third party transport company to ship the equipment to site. The seismic crew will be provided with a copy of this EP and required to comply with the environmental standards identified.

Access to the survey area will be via gazetted local roads, road reserves and farmland (with permission of the landholder).

Local access to the survey lines is by gravel road and/or unsealed tracks at the direction of the landowner or authorised representative.

The survey vehicles will not be permitted to:

- Leave the designated survey area into areas beyond the requirements of the activity.
- Manoeuvre; causing unnecessary disturbance to the environment
- Leave the track/road

3 DESCRIPTION OF THE ENVIRONMENT

This section is a review of the existing environment in the broader project area and surrounds, including the physical environment, biological environment, heritage and conservation environment and socioeconomic environment through the use of historical data and desktop research.

The EP area extends to a radius of 30km around the town site of Three Springs in the Mid-West of Western Australia (**Error! Reference source not found.**).

The EP is located approximately 320 km north of Perth via the Brand Highway and 50 km northeast of Eneabba. The survey lines do not cover the EP in its entirety and will take place on existing cleared tracks and freehold farmland on level ground.

Three Springs experiences a mild Mediterranean-type climate with hot, dry summers and cool, wet winters. The average rainfall of the area is 380.6 mm (BoM, 2015). The area reaches a maximum of 36.4°C in February and minimum of 8.9°C in July.

3.1 LANDFORM, SOILS AND WATER

3.1.1 LANDFORM AND SOILS

The soils to the west of the Darling Fault are mainly sand plains dominated by deep grey leached siliceous sands and earthy sands. East of the Darling Fault the most extensive areas are of red brown earths and sandy yellow earths and earthy sands, while in the valley floors of the more defined drainage systems, solodic soils with hard setting loamy top soils and mottled yellow clayey subsoils occur. Further to the east, terra rossa soils occur, frequently underlain by a calcrete hardpan, as do the acid yellow earths. There are three catchment areas which encroach the EP 498 permit area featuring the following soils:

3.1.2 WEST MIDLANDS REGION CATCHMENT

There are three predominant soils landscape zones within the West Midlands Region Catchment that are included within the Permit area. The Arrowsmith zone appears as dissected lateritic terrain with hills, breakaways, and plateau and sandplain remnants. It is characterised by sandy and gravelly soils formed in colluvium and weathered in-situ rock. The Dandaragan plateau features a gently undulating plateau with areas of sandplain and some laterite with dunefields and playa lakes. It is characterised by deep sands with Ironstone gravelly soils and loamy earths. The Lockier zone is the smallest zone in the catchment and is found in the river valleys of the Irwin, Lockier and Arrowsmith rivers and underlain by Proterozoic granulites and sediments of the Irwin sub-basin between the Darling and Urella faults. It is characterised by cracking clay, shallow loamy duplex, loamy earths and deep sands.

3.1.3 YARRA YARRA CATCHMENT

There are three predominant soils landscape zones within the Yarra Yarra Catchment that are included within the Permit Area. The Lockier zone is described above. The Irwin River zone is found in the Irwin and Lockier River catchments within the Yilgarn Craton and is characterised by archaean granites, gneisses, metasediments and basic igneous rocks. The southern portions of the Permit proximate to the Yarra Yarra Lakes are located within the Northern Zone of Ancient Drainage. This is an ancient plain of low relief on weathered granite. There is no connected drainage, and salt lake chains occur as remnants of ancient drainage systems which now only function in very wet years. This zone is characterised by lateritic uplands dominated by yellow sandplain.

3.1.4 GREENOUGH REGION CATCHMENT

Two predominant soil landscape zones are located within the portion of the Greenough Region Catchment that is included within the boundaries of the Permit. They are the Arrowsmith zone and Dandaragan plateau, the characteristics of which are described above.

3.1.5 SURFACE AND GROUNDWATER

There is one major watercourse located within the Permit Area, being the Arrowsmith River which extends across the north-western portion of the Permit. The Arrowsmith River catchment flows predominantly east-west from the

upland areas in the West Midlands Region Catchment, and has a high density of drainage lines along the Dandaragan scarp.

Portions of the Yarra Yarra Lakes system, which contains over 4500 lakes in total, extend across the permit area.

The Permit Area is located over three distinct hydro-zones, being the Perth basin, the Irwin Terrace, and the Yilgarn Craton.

The Perth basin west of the Urella Fault and south of the Northampton block contains significant groundwater resources in large regional aquifers, most notably within the Yarragadee formation.

The Irwin Terrace is comprised of mainly Permian sediments. Groundwater quality within these sediments ranges from brackish (~ 500mS/m) to hypersaline (~7000mS/m). Where clay soils derived from Permian sediments are exposed in drainage lines they are typically severely salt affected.

The portions of the Permit located within the Perth basin and Irwin Terrace fall within the Arrowsmith Groundwater Area. The Arrowsmith Groundwater Area contains at least nine aquifer systems, two of which (the Darling and Tathra) lie within the Permit Area.

The Yilgarn Craton typically includes up to 30m of gritty clay saphrolite formed by in-situ weathering of the crystalline basement rock. Groundwater occurs within the gritty clay saphrolite but yields are generally low and the majority of groundwater present is saline

3.2 VEGETATION, FLORA AND FAUNA

3.2.1 VEGETATION

There are multiple vegetation systems within the EP 498 area. The vegetation systems applicable to the survey locations are: Mingenew, Tathra, and the Yarra Yarra. These systems consist of predominately scrub with open woodland or scattered trees, mixed heath with scattered tall shrubs and other woodlands. This data is publically available vegetation data (based on Beard Vegetation mapping) and are as follows:

1. 142.4: Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *E. salmonophloia*. Goldfields; gimlet, redwood etc. *E. salubris*, *E. oleosa*. Riverine; rivergum *E. camaldulensis*. Tropical; messmate.
2. 379.18: Mixed heath with scattered tall shrubs *Acacia* spp., *PROTEACEAE* and *MYRTACEAE*.
3. 354.13: Wattle with York gum, casuarina, mulga *Acacia* spp. with *Eucalyptus loxophleba*, *Allocasuarina* spp. *Acacia aneura*.

3.2.2 SIGNIFICANT FLORA

It is important to reiterate that the seismic survey will be only carried out on existing cleared tracks on freehold farmland. Therefore, the risk of the seismic survey coming into contact with these species is negligible.

As the survey lines will be on existing tracks and roads, any plant life will be dominated by grasses and weeds, introduced by cultivation of these properties.

Based on a search of NatureMap using the conservation taxon search tool, and using a 5-kilometre buffer, 37 species are expected to exist in proximity the survey area, 9 of which are considered rare or likely to become extinct and 28 Priority species. These species are listed in **Error! Reference source not found.** below.

3.2.3 SIGNIFICANT FLORA PROXIMITY

The current DBCA data indicates the following potential Rare and Priority flora may be present within a 5 kilometer radius of the survey lines.

- Seismic Line 1 - *Lepidobolus densus* (Priority 4)
- Seismic Line 1 - *Babingtonia fascifolia* (Priority 1)
- Seismic Line 3 - *Daviesia bursarioides* (Threatened)
- Seismic Line 3 - *Stylidium* sp. Three Springs (Priority 2)
- Seismic Line 4 - *Verticordia albida* (Threatened)
- Seismic Line 4 - *Acacia flabellifolia* (Priority 3)
- Seismic Line 4 - *Acacia recurvate* (Threatened)
- Seismic Line 4 - *Banksia borealis* (Priority 3)
- Seismic Line 4 - *Eucalyptus rhodantha* (Threatened)
- Seismic Line 4 - *Grevillea makinsonii* (Priority 3)
- Seismic Line 4 - *Stylidium* sp. Three Springs (Priority 2)
- Seismic Line 4 - *Calytrix ecalycata* (Priority 3)

3.2.4 INTRODUCTION AND / OR SPREAD OF WEEDS

Movement of personnel and vehicles for exploration activities has the potential to introduce and / or spread existing weed populations.

The potential for the spread or introduction of weeds will be minimised by:

- The entire survey will be conducted on existing cleared road reserves, tracks, fencelines and firebreaks.
- Ensuring all vehicles are clean prior to entering the area (will be confirmed by exploration staff checking vehicles prior to mobilisation).
- Cleaning of vehicle wheels, underside and trays prior to entering properties from the road reserve.
- The exploration team will be supplied with information and photographs to assist them to identify the main weeds of concern in the area.
- If personnel are working in an area where a weed outbreak is evident, they will inspect vehicles for seed and brush seed off the vehicles with hand held brushes prior to moving into a new area.

The project area is located within the Geraldton Sandplans Bioregion. Due to the arid nature and vegetation types of this area, there is negligible risk of the introduction and / or spread of Dieback.

A review of the DPAW *Phytophthora cinnamomi* (Dieback) Distribution Map confirms the presence of this soil pathogen has not been identified this far north or inland.

In order to reduce the risk of Dieback, SSE commits to undertaking surveying operations in dry conditions only.

3.2.5 THREATENED ECOLOGICAL COMMUNITIES (TEC'S)

The DPAW also maintains a list of Priority Ecological Communities (PECs), categorised from Priority 1 through to Priority 4. PECs include potential TECs that do not meet survey criteria, or that are not adequately defined.

The Eucalypt Woodlands of the Western Australian Wheatbelt, which is listed as a threatened or priority ecological community may exist in the area.

There will be no clearing of native vegetation required for the Seismic Program, nor is it located within, or likely to impact, an Environmentally Sensitive Area (ESA) or DRF.

3.2.6 THREATENED AND PRIORITY FAUNA SPECIES

Based on a search of the NatureBase Threatened and Priority Database using a 20 km buffer surrounding the survey areas. This search indicated that 9 priority species (Table 6) have been previously recorded in the area.

Table 2. Threatened and Priority Fauna

Common Name	Species	Status
Carnaby's Cockatoo	<i>Calyptorhynchus latirostris</i>	Threatened
Peregrine Falcon	<i>Falco peregrinus</i>	Threatened
Curlew Sandpipe	<i>Calidris ferruginea</i>	Threatened
Western Spiny-tailed Skink, Gidgee Skink	<i>Egernia stokesii</i> subsp. <i>badia</i>	Threatened
woolybush bee	<i>Hylaeus globuliferus</i>	P3
Shield-backed Trapdoor Spider	<i>Idiosoma nigrum</i>	Threatened
Malleefowl	<i>Leipoa ocellata</i>	Threatened
Western Ground Parrot	<i>Pezoporus flaviventris</i>	Threatened

Hooded Plover, Hooded Dotterel	Thinornis rubricollis	P4
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3.2.7 THREATENED FAUNA EPBC ACT PROTECTED MATTERS SEARCH

An EPBC Act Protected Matter Search was conducted and the following fauna species were identified as potentially present within the EP.

Table 3. Threatened Fauna

Common Name	Status	Type of Presence
Birds		
Calidris ferruginea	Critically Endangered	Species or species habitat known to occur within area
Calyptorhynchus latirostris	Endangered	Species or species habitat known to occur within area
Leipoa ocellata	Vulnerable	Species or species habitat known to occur within area
Numenius madagascariensis	Critically Endangered	Species or species habitat may occur within area
Pezoporus occidentalis	Endangered	Species or species habitat may occur within area
Rostratula australis	Endangered	Species or species habitat may occur within area
Mammals		
Dasyurus geoffroii	Vulnerable	Species or species habitat may occur within area
Parantechinus apicalis	Endangered	Species or species habitat may occur within area
Reptiles		
Egernia stokesii badia	Endangered	Species or species habitat known to occur within area
Migratory Wetland Species		
Calidris ferruginea	Critically Endangered	Species or species habitat known to occur within area
Numenius madagascariensis	Critically Endangered	Species or species habitat may occur within area

3.2.8 FERAL ANIMAL SPECIES

An EBPC Act Protected Matters Search was carried out in this area. Feral animals that have been reported in the area or in areas of similar habitat are listed below.

Table 4. Invasive Animal Species

Common Name	Species
Domestic Dog	Canis lupus familiaris
Goat	Capra hircus
Cat, House Cat, Domestic Cat	Felis catus
Feral deer	<i>No name available</i>
House Mouse	Mus musculus
Rabbit, European Rabbit	Oryctolagus cuniculus
Red Fox, Fox	Vulpes vulpes

The seismic survey is not expected to result in any increase in the presence of feral animals.

3.2.9 INJURY / DEATH OF FAUNA

3.2.9.1 VEHICLES

The risk of fauna deaths as a result of being hit by a vehicle is considered low, as vehicles involved in the survey will be:

- Restricted to existing cleared designated tracks and open traversable freehold farmland.
- Travelling at low speeds (<30km/h on access tracks and pastoral land).

Southern Sky will also implement a number of additional measures to minimise the risk of injury or death of fauna by:

- Encouraging personnel to use the vehicle horn if necessary to deter fauna from the vehicle path.
- Restricting vehicles being driven after dusk or before dawn, when fauna may be stunned by headlights.
- Works are to be only undertaken between the hours of 6am and 6pm.

3.3 SOCIAL & ECONOMIC ENVIRONMENT

The tenement includes the town of Three Springs which services existing mines, agricultural business and traffic travelling through the area. The Three Springs townsite offers a general store, roadhouse (fuel and meals), tavern (counter meals), and mechanical services. Emergency services include a volunteer ambulance service, a silver chain nursing post, State Emergency Services, and the Bush Fire Brigade.

The area is supported by broad acre cropping and sheep farming as well as recent diversification into cattle, pigs and wildflower intensive farming. Associated businesses servicing the surrounding farming properties are located around the regions towns. The main industrial operation is a talc mine operated by Imerys Talc.

In recent time, additional employment opportunities have been available through the Karara Mine operating east of Morawa which is currently installing power lines to enable reliable power to the Karara minesite. The Karara mine has employed many local residents for transportation of iron ore via the road network to Geraldton Port whilst the railway upgrade is being undertaken. Additional infrastructure projects include the recently approved ERM gas-fired power station which will be located east of the Three Springs townsite and will provide a reliable power source for surrounding mining operations, as well as connection to Geraldton. The ERM project is anticipated to provide additional employment opportunities and other contributions to the local economy.

The main industries in which residents in the region are employed are 'Sheep, beef cattle and grain farming' (40.9%), 'other non-metallic mineral mining and quarrying' (7.2%), 'school education' (4.9%), 'local government administration' (4.1%) and 'medical and other health care services' (3.2%).

3.3.1 ENVIRONMENTALLY SENSITIVE AREAS

Environmentally sensitive areas, national parks and declared Aboriginal heritage sites have been plotted in relation to EP498 and the proposed seismic survey within EP498, refer to **(Error! Reference source not found.)**.

The proposed seismic lines fall within the Yarra Yarra Lakes Registered Aboriginal heritage site (Site ID 24382), the (Site ID 19,585), (Site ID 26,751). Consultation with the Yamatji Marlpa Aboriginal Corporation has confirmed that no further heritage work is required for SSE's proposed operations at the proposed sites as it is on freehold farmland and on existing tracks. For any new activities outside of the existing areas, further consultation with the Yamatji Marlpa Aboriginal Corporation will be conducted.

3.3.2 CULTURAL HERITAGE

EP 498 is host to 26 cultural heritage areas which include scatters, mythological places, artefact/scatters and natural features, a list of these can be found in Table 5. No archaeological or ethnographic sites have been identified within the project footprint and none of the sites identified within the broader area will be impacted upon by SSE. This was undertaken using the Dept. of Planning, Lands and Heritage Cultural Heritage Inquiry System interactive map.

The seismic survey falls within the Yarra Yarra Lakes Registered Aboriginal heritage site (Site ID 24382).

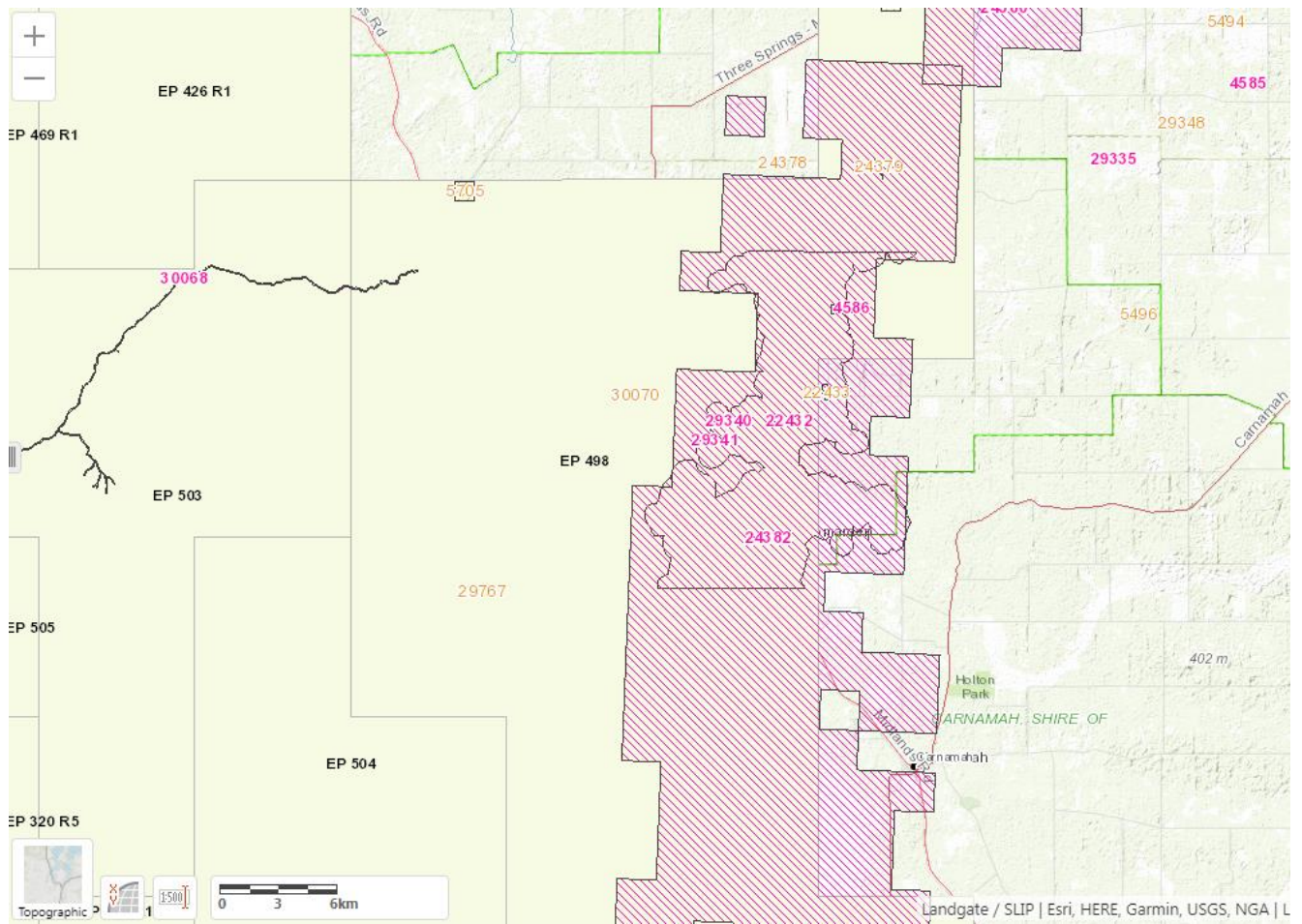
Please refer to **(Error! Reference source not found.6)**.

3.3.3 NATIVE TITLE

EP498 is located within the Southern Yamatji Native Title Claim, which Yamatji Marlpa Aboriginal Corporation is the Representative Body. Southern Sky recognizes the traditional owners of the land and works closely with the claimants to ensure cultural heritage is acknowledged and respected.

Table 5. Closest Aboriginal Sites Recorded in the area surrounding the EP

Name of Site	Type of Site	Distance from seismic survey	Access	Site ID
FAIRFIELD	Artefacts / Scatter	> 5km from survey area	Open	4,586
BILLERANGA SOAK	Artefacts / Scatter	> 5km from survey area	Open	5,359
MYARARRA	Artefacts / Scatter	> 5km from survey area	Open	5,360
BILLERANGA	Artefacts / Scatter	> 5km from survey area	Open	5,361
BILLERANGA WELL	Artefacts / Scatter	> 5km from survey area	Open	5,362
YANDANOOKA	Artefacts / Scatter	> 5km from survey area	Open	5,705
WCRS/03 Artefact Scatter	Artefacts / Scatter	> 5km from survey area	Open	22,434
WCTS/04 Artefact Scatter	Artefacts / Scatter	> 5km from survey area	Open	22,435
Bimira Claypan	Natural Feature	> 5km from survey area	Open	22,433
Bimara	Natural Feature	< 5km from survey area	Open	22,432
Simpson Road Quarry	Artefacts / Scatter, Quarry	> 5km from survey area	Open	24,379
Simpson Road Artefact Scatter.	Artefacts / Scatter	> 5km from survey area	Open	24,378
Lockier Tributary.	Water Source	> 5km from survey area	Open	27,410
Green Brook Artefact Scatter 1	Artefacts / Scatter, Quarry, Arch Deposit, Camp, Natural Feature, Water Source	> 5km from survey area	Open	26,116
Colgate Yarra Yarra-AS-1005	Artefacts / Scatter, Historical	> 5km from survey area	Open	29,339
Colgate Yarra Yarra-AS-1006.	Artefacts / Scatter	> 5km from survey area	Open	29,340
Wellington Yarra Yarra-AS-1007	Artefacts / Scatter, Historical	> 5km from survey area	Open	29,341
Fairfield 1.	Artefacts / Scatter	> 5km from survey area	Open	29,349
Fairfield 2	Artefacts / Scatter	> 5km from survey area	Open	29,350
Yarra Yarra Lakes	Mythological, Natural Feature	< 5km from survey area	Open	24,382
ET119 to ET03 Isolated Artefacts	Other: 11 Isolated Artefacts	> 5km from survey area	Open	29,767
ERM Power Station - Isolated Artefacts	Other: 3 Isolated Artefacts	> 5km from survey area	Open	29,768
Arrowsmith River	Mythological, Water Source	> 5km from survey area	Open	30,068
ERM Gas Pipeline and Station - Isolated Artefacts	Other: 9 Isolated Artefacts	> 5km from survey area	Open	30,070
Marklee	Artefacts / Scatter	> 5km from survey area	Open	35,841
Mongers Lake Waterway	Mythological, Natural Feature	> 5km from survey area	Open	24,380



3.4 MANAGEMENT MEASURES

Table 6. Performance Objectives, Standards and Measurement Criteria

Source of Risk	Objectives	Standards	Measurement Criteria
Bushfire, or ignition of vegetation from seismic operations	Prevent the occurrence of fire ignition	<p>S1.1: The daily Site Inspection. Included in the site inspection is an inspection of all vehicle underbodies for entrapped grass and flora. Any grass of flora detected will be removed and the activity recorded.</p> <p>S1.2: All personnel are made aware that no smoking allowed in the field, only Nicotine patches or e-cigarettes to be used, through the Site induction.</p>	<p>M1.1: Records of the daily site inspection confirms the vehicles are checked for grass entrapment and cleaned</p> <p>M1.2: No recorded incident(s) of smoking on site</p> <p>M1.3: Induction records demonstrate 100% of site personnel have completed the site induction.</p>
	To contain the fire and minimize injury and damage to personnel, the environment and property in the event of ignition.	<p>S1.3: Ensure that the landholder is aware of daily activities, via a copy of the daily report and a daily update call, and is available to assist in an emergency .</p> <p>S1.4: Prior to mobilization, the Director will notify emergency services of the activities taking place. Information provided will include: timing, location, numbers of personnel, and activity schedule. Emergency services will be notified of the cessation of the activities after equipment has been demobilized.</p>	<p>M1.4: Landholder received a copy of the daily report and receives a weekly update call during seismic activities as recorded in Stakeholder Engagement Register.</p> <p>M1.5: Stakeholder Engagement Register demonstrate notification to emergency services</p>
Spreading of weeds	Prevent the introduction and/or spread of weeds.	<p>S2.1: Ensure that all personnel are made aware of relevant weeds and disease mitigation requirements through the Site Induction.</p> <p>S2.2: Ensure that all vehicles and mobile plant is washed down at Three Springs carwash area and subsequently inspected, before accessing the work site, in accordance with the Weed Management Plan</p>	<p>M2.1: Induction records demonstrate 100% of site personnel have completed the Site Induction.</p> <p>M2.2 Records of vehicle washdown demonstrate 100% of non-local vehicles have been washed down, in accordance with the Weed Management Plan.</p>
	To action areas identified as requiring weed control.	S2.3: Record the identification and remediation actions if new weed infestations are located, in accordance with the Weed Management Pland and Incident Management Procedure	M2.3: Records of incidents raised and recorded in accordance with the Incident Management procedure demonstrate measures taken when weeds identified.
Clearing of Vegetation	No destruction of native vegetation, or disturbance to rare of endangered species from seismic operation	Already Considered ALARP	Already Considered ALARP
Acoustic Disturbance	No Acoustic Disturbance from Accelerated Weight drop	Already Considered ALARP	Already Considered ALARP
Social Disturbance	Ensure the seismic survey does not cause adverse impacts on social and cultural heritage values	Already Considered ALARP	Already Considered ALARP

Vehicle Movement - Fauna Death/Injury	No vehicles collisions with native fauna	Already Considered ALARP	Already Considered ALARP
Vehicle Movement - Soil Erosion	No loss of topsoil	Already Considered ALARP	Already Considered ALARP
Wetlands and Waterways - (including Groundwater)	To ensure wetlands and waterways are not impacted by the seismic survey.	Already Considered ALARP	Already Considered ALARP
Accelerated Weight Drop - Soil Compaction	No observable impact on soil compaction following operation of the AWD	Already Considered ALARP	Already Considered ALARP
Waste Generation	No waste materials will be left by the survey crew	Already Considered ALARP	Already Considered ALARP
Leak or spill of hazardous materials to groundwater, surface water and/or soil.	No contamination of groundwater or surface water and/or soil as a result of operational activities.	Already Considered ALARP	Already Considered ALARP
Gaseous Emissions	No unnecessary gaseous emissions	Already Considered ALARP	Already Considered ALARP

4 IMPLEMENTATION STRATEGY

Southern Sky Energy's commitment to conduct activities in an environmentally responsible manner, and implement systems and procedures to support this, is demonstrated through the Environmental Corporate Policy.

To support this commitment, SSE's environmental management systems ensure a risk assessment is conducted to identify any potential environmental hazards associated with the planned activity. The risk assessment outcomes assist with the development of clearly stated environmental objectives. Practical procedures are then developed to ensure that activities are conducted in a manner which achieves the environmental objectives.

There are clearly defined responsibilities for personnel to indicate their obligations regarding environmental management, with appropriate inductions and training of personnel. This EP ensures ongoing assessment of compliance with procedures and the achievement of objectives including a system of reporting for recording of data, performance monitoring and notification of relevant personnel.

The environmental management systems are supported by ongoing consultation and communication to seek input from, and to inform, all parties of relevant issues.

4.1 SUPPORTING SYSTEMS, PRACTICES AND PROCEDURES

The following list of documents includes the systems, practices and procedures used to support this Environmental Plan, to ensure that all of the Environmental Management Strategies are effective. They will be reviewed every 2 years, or sooner if a requirement is identified, and each document will be updated as per the Change Management System.

Included in this Implementation Strategy are:

- Roles and responsibilities of personnel to ensure that the Environmental Plan is implemented;
- Training and competencies required of personnel;
- Oil Spill Contingency Plan;
- Monitoring, auditing and management of non-conformances;
- Record keeping;
- Reporting and Notification; and
- Incident Investigation.

4.2 REVISION OF THIS DOCUMENT

In accordance with Division 4 of Petroleum and Geothermal Energy Resources (Environment) Regulations 2012, a revision of this EP will be undertaken and submitted to the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) in the following circumstances:

Regulation 18:

- (1) Prior to the planned commencement of any new activity or significant deviations from an existing activity.
- (2) (a) Prior to a change in instrument for or operator of the activity.
 - (b) Upon the identification of a new environmental impact or risk, or a significant increase in an existing environmental impact or risk.
 - (c) Upon the identification of the cumulative effect of a number of pre-existing environmental impacts or risks and/or new environmental impacts or risks resulting in a significant increase in environmental impact or risk.

Regulation 19: The Minister requests a revision of this EP.

Regulation 20: There has been no revision of this EP for a five-year period.

In addition to the revision of the EP, Division 4 of Petroleum and Geothermal Energy Resources (Environment) Regulations 2012, the revision of the OSCP will be undertaken and submitted to the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) in the following circumstance:

Regulation 23: Every 2.5 years (30months)

4.3 CONSULTATION

Discussions and access agreements are required with all parties who control and/or own the land involved. Land access agreements will be finalised with respective parties prior to the seismic survey being undertaken.

Discussions with landholders occurs just prior to the survey to ensure the survey team understands the stock movements and the landholder can provide any relevant information relating to access and conditions. The landholder is contacted at the completion of the survey to ensure their satisfaction with the manner in which the survey was undertaken.

Southern Sky will engage with the following key stakeholders to discuss the seismic survey prior to the survey taking place. In addition these stakeholders will be advised when the survey works are complete.

- DEPAW (Three Springs Regional Office)
- DMIRS
- FESA
- Shire Councils
- Relevant landholders
- Traditional Owners