

Rafael Seismic Survey Environment Plan

Summary Document

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HSE

Contents

1	Introduction	1
1.1	Contact Details	1
2	Overview of Activity	1
2.1	Mobilisation	3
2.2	Operations.....	3
2.2.1	Seismic Line Delineation	3
2.2.2	Data Acquisition	3
2.2.3	Waste Storage and Disposal	3
2.3	Demobilisation	3
3	Environmental Impacts and Management Measures.....	3
3.1	Implementation Strategy	5
3.1.1	Communication and Consultation	5

Figures

Figure 1	Location of the Activity area.	2
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Table

Table 1	Details of the Activity.	1
Table 2	Summary of the existing environment, potential impacts and management approach with the Activity.	4

1 Introduction

Buru Energy Limited (Company) is an Australian ASX listed company engaged in oil and gas exploration in the Kimberley region of Western Australia, in an area known in geological terms as the Canning Basin.

The Company has developed the *Rafael Seismic Survey Environment Plan* (HSE-PLN-058) (Environment Plan) for the management of environmental aspects associated with the Company's Rafael 3D and 2D seismic survey (the Activity). This Summary Document summarises the operations and mitigation and management measures in the approved Environment Plan.

1.1 Contact Details

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2 Overview of Activity

Location and operational details specific to the Activity are provided in Table 1. The location of the Activity area is shown in Figure 1.

Table 1 Details of the Activity.

General	
Locality	Approx. 80 km south of Derby
Exploration Permits	EP 428 and EP 457
Indicative Timing	2022 dry season (May-October) Approx. ten week duration Daylight hours operations
Camp Site Location	Rafael 1 well site

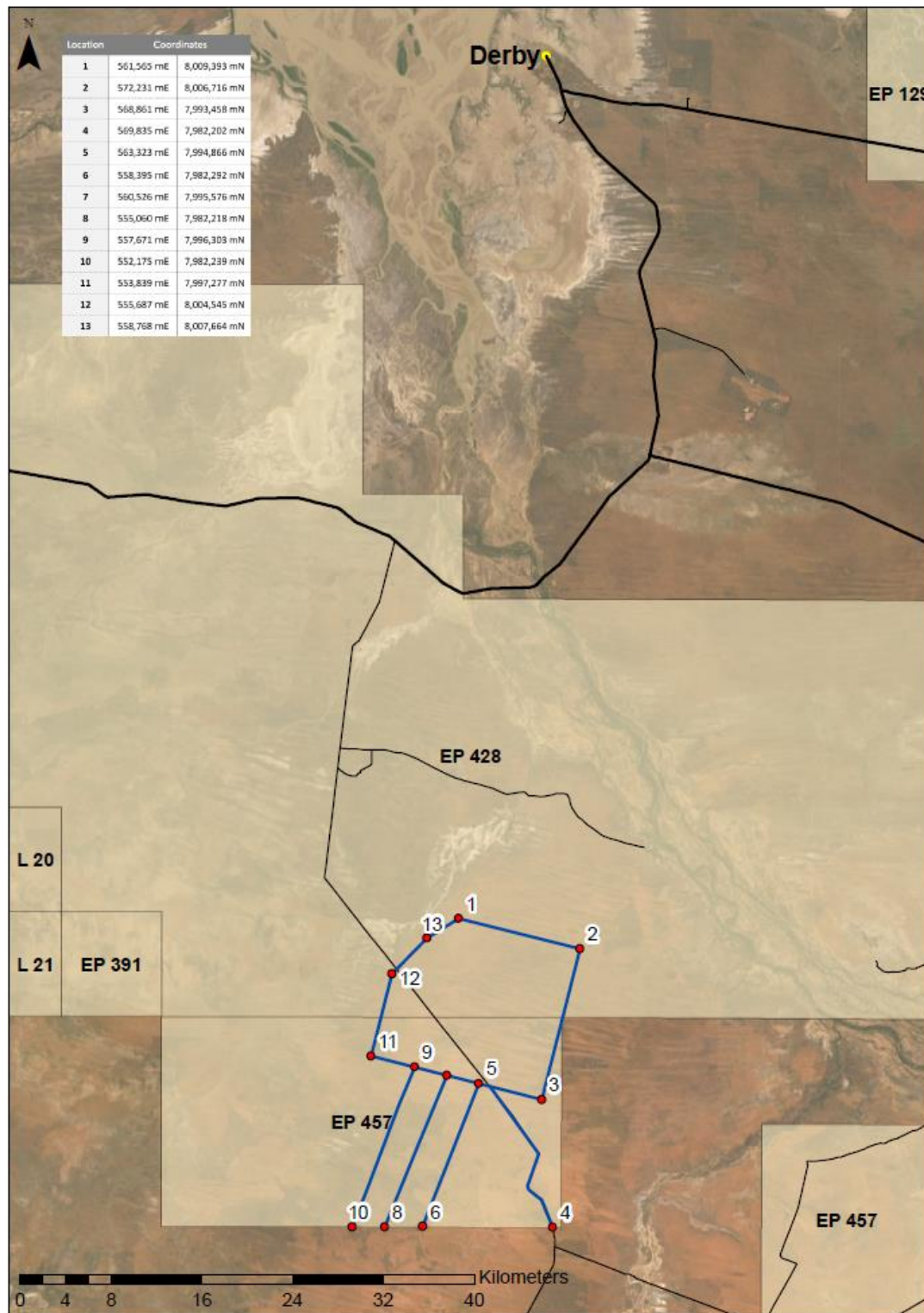


Figure 1 Location of the Activity area.

2.1 Mobilisation

During mobilisation, equipment, personnel and supplies will be mobilised to the Activity area using dedicated vehicles. Transportable mobile accommodation facilities and associated infrastructure will be mobilised to the camp site. All vehicles will travel in accordance with the Company *Travel Management Procedure* (HSE-PRO-002).

2.2 Operations

2.2.1 Seismic Line Delineation

To facilitate movement of vehicles along seismic lines, the seismic lines will typically need to be clear of vegetation. The seismic lines will be delineated using a method of “scraping”, which involves using a bulldozer blade to remove vegetation at or above ground level, with little or no disturbance to topsoil and vegetative matter below the ground surface.

2.2.2 Data Acquisition

The seismic vibroseis method involves the placement of geophones (sensitive microphones) along the ground. All-terrain vehicles equipped with heavy vibrating pads (vibroseis trucks) drive along the line and stop to introduce vibrations into the ground. The geophones pick up the returning signal from the vibrations. Once a section of the line is completed, the geophones are picked up and moved to the next section.

2.2.3 Waste Storage and Disposal

Waste likely to be generated during the Activity can be classified as putrescible waste, general waste, industrial waste and septic waste. Waste will be managed and monitored in accordance with the Company *Waste Management Procedure* (HSE-PRO-005). Sewage will likely be treated through a wastewater treatment system on site.

2.3 Demobilisation

Upon completion of the Activities, all equipment and waste will be removed from the Activity area.

Rehabilitation monitoring will then occur in accordance with the *Rehabilitation Monitoring Procedure* (HSE-PRO-022).

3 Environmental Impacts and Management Measures

A summary of the existing environmental characteristics of the Activity area, potential impacts that could result from the Activity and the risk of these potential impacts occurring is provided in Table 2. Included in this table are also the management and mitigation measures that form part of the implementation strategy to minimise environmental risk.

Table 2 Summary of the existing environment, potential impacts and management approach with the Activity.

Environmental Characteristic	Description	Potential Impact	Key Management Measures	Risk	Implementation Strategy
Surface water	The Activity area is located within the Fitzroy River surface water catchment area. Approx. 1 km northwest of the Activity area are floodplains and drainage areas associated with Manguel Creek.	Disturbance of surface water.	- Vehicle and personnel access will be limited to the camp site and seismic line corridors. - Seismic line delineation will be undertaken using raised blade scraping. - Vehicles and machinery will be regularly maintained.	Given the mitigation and management measures that will be implemented the risk of impact to surface water, groundwater and landforms is low.	- Daily pre-start checks of all vehicles and machinery. - Seismic Supervisor will ensure that seismic lines are levelled and consistent with surrounding topography. - Inspections confirm diesel stored in bunded areas. - Implementation of HSE-ER-015 in the event of a spill.
Groundwater	The surface potable aquifer in the Activity area is the Wallal Sandstone. This aquifer is present at or near the surface in the Activity area.	Disturbance of groundwater.	- Dangerous goods labelled and stored in bunded areas in accordance with regulations and MSDS. - Vehicles will travel in accordance with the <i>Travel Management Procedure</i> (HSE-PRO-002). - Waste will be managed in accordance with <i>Waste Management Procedure</i> (HSE-PRO-005). - Seismic operations will be undertaken during the dry season only.		
Landforms	The majority of the landforms within the Activity area are classified as sandplain or dunes, with occasional clayplains.	Sand dune blowout. Exacerbated erosion.	- No large trees will be removed. - Clean-up materials/spill kits will be available in all relevant areas including vehicles and camp site. Containment, clean-up and remediation of a spill in accordance with the <i>Canning Basin Spill Response Plan</i> (HSE-ER-015). - Dune crossings avoided where practicable.		
Vegetation and Flora	The majority of the Activity area is located within vegetation association 7001 (Shrublands, pindan). No Threatened flora species were recorded within the Activity area. Two Priority flora species <i>Bonamia oblongifolia</i> (Priority 1) and <i>Seringia katatona</i> (Priority 3), were recorded at locations within the Activity area.	Loss of native flora species including competition by weed species.	- Seismic lines minimum width required. - Vehicles will be cleaned prior to entering the Activity area to remove any vegetation/ soil. - Vehicles will be maintained daily during data acquisition. - Vehicle and personnel access will be limited to camp site and seismic line corridors. - All removal of vegetation on the seismic lines will be undertaken using raised blade scraping. <i>Travel Management Procedure</i> (HSE-PRO-002) implemented. <i>Bilby Management Plan for Petroleum Activities</i> (HSE-PLN-021) implemented if bilbies are recorded. - Firefighting equipment located in operational vehicles and camp site, maintained in good working order. - Smoking restricted to designated smoking areas. <i>Waste Management Procedure</i> (HSE-PRO-005) implemented.	Through the implementation of management measures, it is unlikely that the Activity will have a significant impact on flora, vegetation and fauna.	- Contractor to ensure all earthmoving equipment is inspected and cleaned down prior to entering or leaving the Activity area. - Seismic Supervisor will ensure that access by vehicles and machinery is limited to designated areas. - Weekly inspection of Activity area by Company Representative.
Fauna	Four fauna species of conservation significance were recorded during on-ground surveys: Australian bustard (<i>Ardeotis australis</i>), rainbow bee-eater (<i>Merops ornatus</i>), glossy ibis (<i>Plegadis falcinellus</i>) and spectacled hare-wallaby (<i>Lagorchestes conspicillatus</i>). The greater bilby (<i>Macrotis lagotis</i>) has been recorded in the vicinity of, but not within, the Activity area.	Loss of a local population of a conservation significant fauna species. Disturbance of other fauna.			
Threatened and Ecological Communities, Priority Ecological Communities and Environmentally Sensitive Areas	Vegetation associations within the Activity area do not align with any TEC. The nearest ESA is the West Kimberley Heritage Area, approx. 10 km to the northeast. The Activity area does not overlap with any PECs.	Loss of values associated with ESA or PEC.	- Activity area is remote from any ESA, TEC or PEC. - Personnel and vehicle access will be restricted to the seismic lines.	Through the implementation of management measures, it is unlikely that the Activity will have a significant impact on TEC, PEC or ESA.	- Seismic Supervisor to ensure vehicles and personnel limited to access tracks and seismic lines. - Weekly inspection of Activity area by Company Representative.
Cultural Heritage and Community	The Activity area is located within the Shire of Derby-West Kimberley in a sparsely populated region with limited settlement, transport or communications infrastructure. The Activity area is located within the Yakka Munga, Luluigui and Dampier Downs pastoral leases. The Activity area is located within the Nyikina Mangala native title determination area. A search of the Aboriginal Heritage Inquiry System shows that the seismic lines are not located within a registered Aboriginal site.	Loss of values associated with heritage sites. Disturbance of stock. Disturbance of local station or community residents.	- Heritage clearance from Traditional Owners obtained. - Traditional Owner heritage monitors onsite throughout the line delineation process. - On-going consultation with local landholders and other stakeholders regarding the Activities including regular notice/updates until completion. - Vehicles will comply with the Company <i>Travel Management Procedure</i> (HSE-PRO-002). - Following completion of operations, temporary fencing and gates will be removed and any permanent fencing reinstated.	Given ongoing consultation with local landholders and Traditional Owners, implementation of the management measures and short duration of the Activity, impacts to cultural heritage and the community are unlikely.	- Monitoring of seismic line delineation undertaken by Traditional Owner representatives. - Weekly inspection of Activity area by Company Representative.

3.1 Implementation Strategy

The Implementation Strategy has been developed to manage the Activity to ensure that the environmental values of the Activity area are protected. The Implementation Strategy ensures that all environmental impacts/risks identified by the risk assessment are continually reduced to ALARP and performance objectives, standards and criteria are met for the duration of the Activity.

The Implementation Strategy includes the following systems, practices and procedures:

- environmental values;
- environmental performance objectives, standards and measurement criteria;
- delineation of roles and responsibilities;
- training and induction programs;
- compliance and continuous improvement, including:
 - monitoring;
 - auditing; and
 - reporting and record keeping.
- emergency response; and
- communication and consultation.

3.1.1 Communication and Consultation

The Company has engaged in communication and consultation with relevant stakeholders as summarised in the Environment Plan, either specifically for the Activity or via regular updates on the Company's operations in general. As the Activity is located within a sparsely populated region with limited settlement, transport or communications infrastructure, relevant stakeholders are limited to government departments, traditional owners and pastoralists. The stakeholders consulted include:

- DWER Regulatory Services (Water);
- Yakka Munga Station;
- Myroodah Station;
- Dampier Downs Station;
- Nyikina Mangala Traditional Owners;
- Department of Fire and Emergency Services;
- Broome and Derby Police; and
- Shire of Derby-West Kimberley.

These stakeholders have been consulted via phone, written notices and face-to-face meetings. To date any issues that have been raised in relation to the Activity through the consultation process have been able to be addressed and resolved. The Company will ensure that it complies with the terms of the heritage surveys provided by Traditional Owners. The Company will continue to communicate with stakeholders and consult during all phases of the Activities, on a formal and informal basis, and by email, letter, face-to-face and telephone.