



Ungani Ring Road Construction Environment Plan: Summary Document

Document number	Revision	Date of Revision
HSE-SUM-047	1	27/04/2018

1. INTRODUCTION

Buru Energy Limited (Company) is an Australian ASX listed company engaged in oil and gas exploration and production in the Kimberley region of Western Australia, in an area known in geological terms as the Canning Basin. The Company proposes to construct a Ring Road along the existing Ungani access track (Activity).

The Company has developed the *Ungani Ring Road Construction Environment Plan* (HSE-PLN-047) (Environment Plan) to identify potential environmental risks associated with the Activity, and has set out in that plan the mitigation and management measures to ensure that environmental impacts are As Low As Reasonably Practicable (ALARP). This summary document provides an overview of the Activity and summarises the mitigation and management measures in the Environment Plan.

1.1. Contact Details

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2. OVERVIEW OF THE ACTIVITY

The Activity will be undertaken within petroleum production Exploration Permit (EP) 436, located approximately 80 km east of Broome (Figure 1, Table 1). The Activity will be undertaken adjacent to the existing Ungani access track, and is required to bypass an area subject to inundation during significant rainfall events such as the 2017/18 wet season.

Table 1: Approximate location of proposed Ring Road.

Description	Easting	Northing
Start	499,589 mE	8,031,443 mN
End	499,594 mE	8,029,344 mN

2.1. Timing

The Activity will likely be undertaken in Q2 2018 and take around two weeks to complete.

2.2. Mobilisation

During mobilisation, equipment and personnel required for the Activity will be mobilised to the Activity area using dedicated vehicles. All travel on public roads will be in accordance with State road legislation and the Company's *Travel Management Procedure* (HSE-PRO-002). Equipment and vehicles mobilised to the Activity area will include earthmoving equipment and light vehicles.

2.3. Track Construction

The Ring Road will be around 10 m wide and 3.8 km long. Sections of the access track may be stabilised as required (e.g. using gravel).

2.4. Waste

All wastes will be stored to prevent fauna access and litter generation. All waste will be removed from site and disposed offsite in accordance with regulatory requirements.

2.5. Demobilisation and Rehabilitation

Following completion of the Activity, all Activity specific machinery and equipment will be removed from the Activity area. No rehabilitation is planned as part of the Activity.

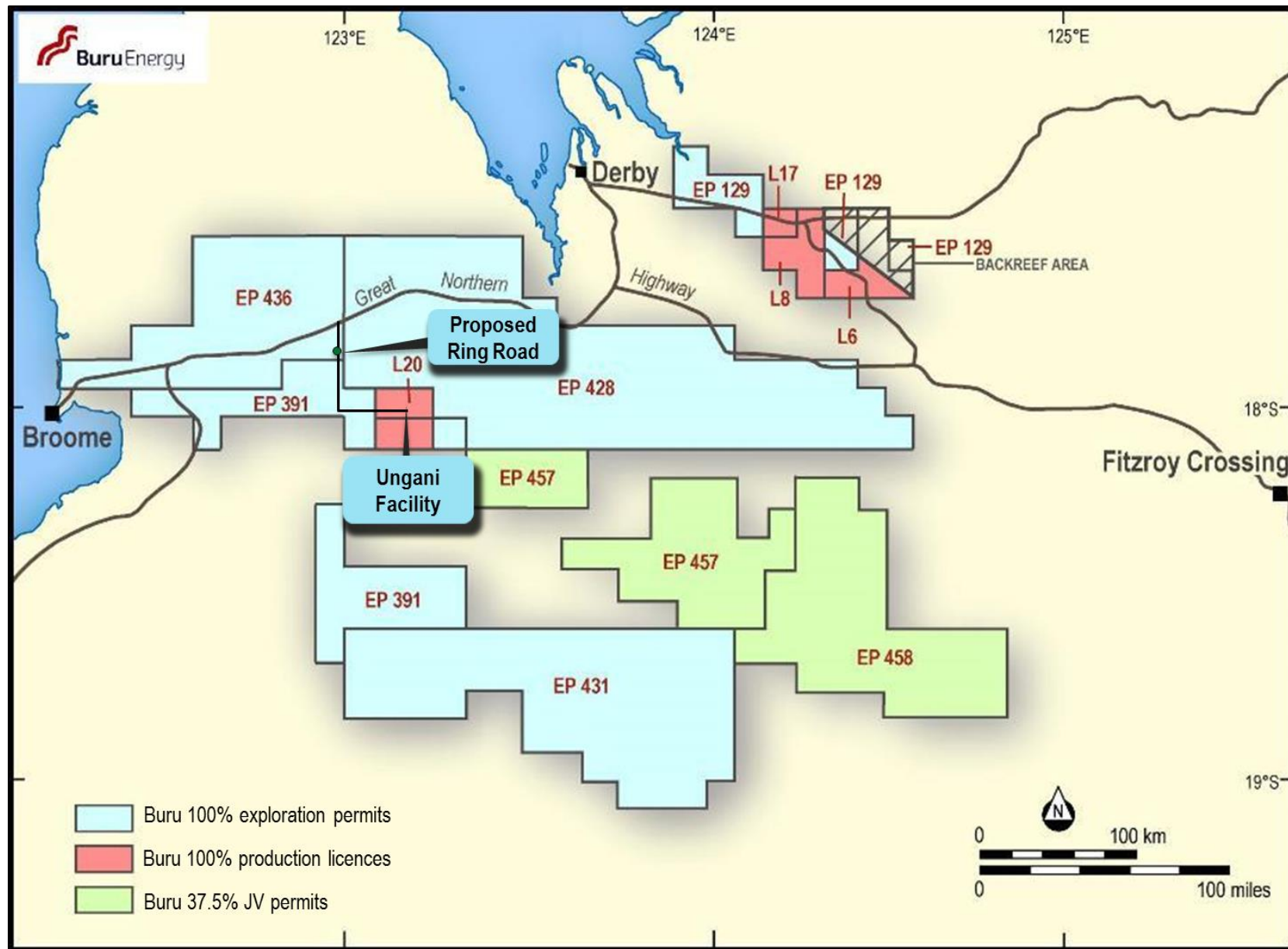


Figure 1: Location of the Activity.

3. ENVIRONMENTAL IMPACTS AND MANAGEMENT MEASURES

The Activity will be confined to the existing Activity area. 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 associated with the Activity.

Environmental Characteristic	Description	Potential Impact	Key Management Measures	Risk	Implementation Strategy
Surface water	The access track is within the Cape Leveque Coast Basin. The Fitzroy River, 60 km from the area, is the largest water course in the vicinity of the Activity area. No permanent water bodies are located in the vicinity of the Activity area and drainage lines are internally draining, only flowing under flood conditions. During the wet season, sheet flow can occur due to the low lying topography of the Activity area.	Contamination of surface water.	- Vehicles limited to the Activity area, travel in accordance with the <i>Travel Management Procedure</i> (HSE-PRO-002). - Waste will be managed and monitored in accordance with the <i>Waste Monitoring and Management Procedure</i> (HSE-PRO-005). - Refuelling of vehicles in accordance with the <i>Refuelling Procedure</i> (HSE-PRO-011). - Well maintained machinery, vehicles and equipment. - Containment, clean-up and remediation if required of a spill in accordance with the <i>Canning Basin Spill Response Plan</i> (HSE-ER-015).	Given the mitigation and management measures that will be implemented, major alteration to surface water is unlikely.	- Person In Charge (PIC) to ensure no personnel or vehicle access outside of the Activity area. - PIC to ensure wastes are appropriately stored prior to disposal. - PIC to complete weekly operational checklist. - PIC to ensure well maintained machinery, vehicles and equipment.
Geology, Landforms and Soil	The Activity area is located in the Fitzroy Trough, a major subdivision of the Canning Basin, and the Dampierland Interim Biogeographic Regionalisation of Australia bioregion. The geology and soils characteristic of the Dampierland bioregion are comprised of extensive riverine plains with grey and brown cracking clays, extensive sandplains or red earthy sands, low uplands of sandstone and limestone with shallow stony soils. The area around the existing Activity area is comprised of a series of sand sheets intersected by alluvial flood plains that are either no longer active or not frequently inundated.	Soil erosion, sedimentation or compaction. Potential contamination of soil.		Given the mitigation and management measures that will be implemented, soil contamination and erosion is unlikely.	
Groundwater	The major aquifers used by pastoral stations in the vicinity of the Activity are the Broome and Wallal Sandstones. The nearest water bore operated by a third party is approximately 2 km to the east. The closest drainage area to the Activity is a small drainage depression about 6 km to the west. The Ring Road is being constructed to bypass an area inundated during significant rainfall events.	Potential contamination of groundwater.		Given the mitigation and management measures that will be implemented, groundwater contamination is considered unlikely.	
Vegetation and Flora	Within Dampierland the vegetation is characterised by the pindan formation which occurs on sand plains. Pindan is described by as a “grassland wooded by a sparse upper layer of trees and a dense, thicket-forming middle layer of unarmed, phyllodal <i>Acacia</i> ”. No conservation significant flora species were recorded during the on-ground survey of the Ring Road route.	Potential loss of a local population of a conservation significant flora species. Loss of native flora.	- Vehicle and personnel access limited to the Activity area. - Earthmoving machinery and equipment will be inspected and cleaned. - Externally sourced gravel will be weed free. - Vehicles comply with the <i>Travel Management Procedure</i> (HSE-PRO-002). - Firefighting equipment available. - Operations limited to daylight hours.	Given that minimal clearing is required, the Activity will not have a significant impact on flora and vegetation, ESAs or fauna.	- PIC to ensure well maintained firebreaks and firefighting equipment, regular servicing of machinery and equipment. - PIC to ensure no personnel or vehicle access outside of the Activity area. - PIC to ensure all earthmoving machinery/ equipment is checked prior to entering the Activity area. - Weekly inspection of the Activity area.
Environmentally Sensitive Areas (ESAs)	The nearest ESA is Taylor's Lagoon, approximately 6 km to the west of the Activity area.	Potential loss of environmental values associated with ESA.			
Fauna	The only of fauna of conservation significance sighted during survey of the Activity area was the rainbow bee-eater (<i>Merops ornatus</i>). Evidence of cattle was recorded in the area.	Death or injury of fauna. Loss of conservation significant fauna habitat.			
Social	The Activity is located within a sparsely populated region with limited settlement, transport or communications infrastructure. Land use is dominated by open range pasture grazing of beef stock. The townships of Derby to the northeast and Broome to the west are the largest population centres in the vicinity of the Activity. The nearest Homestead is Yakka Munga approximately 50 km southeast of the Activity.	Disturbance of livestock. Disturbance of local landholders.	- On-going consultation with local landholders and other stakeholders including regular notice/updates until completion of the Activity. - Vehicles will comply with the <i>Travel Management Procedure</i> (HSE-PRO-002). - All wastes removed from the Activity area for disposal at a licenced facility.	Through the implementation of management measures, it is unlikely the Activity will have an impact on Social values.	- PIC to ensure no disturbance outside of Activity area. - Weekly inspection for impacts outside of the Activity area.
Cultural	Heritage survey of the Ring Road route has been undertaken by Traditional Owners. There are no listed heritage sites in the vicinity of the Activity area.	Damage to cultural heritage site/s or object/s.	- Vehicle and personnel access limited to the Activity area. - Minimal clearing as part of the Activity. - Land access agreements in place with relevant Traditional Owner group.	Given that minimal clearing is required, it is unlikely that the Activity will have an impact on cultural heritage site/s or object/s.	- PIC to ensure no disturbance outside of Activity area. - Weekly inspection of the Activity area for impacts outside of the Activity area.

4. COMMUNICATION

The Company has engaged in communication and consultation with relevant stakeholders as summarised in the Environment Plan. As the Activity area 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 with to date include:

- Roebuck Plains Pastoral Station; and
- Yawuru Traditional Owners.

These stakeholders have been consulted via phone, written notices and face-to-face meetings.

No issues have been raised in relation to the Activity through the consultation process. The Company will continue to communicate with stakeholders and consult during all phases of the Activity, on a formal and informal basis, and by email, letter, face-to-face and telephone.