

ROUGH RANGE OIL PTY LIMITED

ACN 076 408 681

ENVIRONMENT PLAN SUMMARY

PRODUCTION LICENCE L16 (ROUGH RANGE-1B)

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L16/EPS170620-RR	2	20/06/2017

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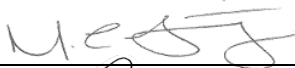


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ACRONYMS

ALARP	As low as reasonably practical
APPEA	Australian Petroleum Production and Exploration Association
C&M	Care and Maintenance
DER	Department of Environment Regulation
DAA	Department of Aboriginal Affairs
DMP	Department of Mines and Petroleum
DOW	Department of Water
DPAW	Department of Parks and Wildlife
DRF	Declared Rare Flora
DoTE	Department of the Environment
EP	Environment Plan
EP104	Exploration Permit 104
EPA	Environmental Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ESA	Environmentally Sensitive Area
Rough Range	Rough Range Oil Pty Limited
HAZID	Hazard Identification
HSE	Health, Safety and Environment
JHA	Job Hazard Analysis
Bounty	Bounty Oil and Gas NL
OSCP	Oil Spill Contingency Plan

Record of Revision		
It is certified that the amendments listed below have been incorporated in this copy of the publication		
REV NO.	SECTION	DESCRIPTION OF CHANGES
1	N/A	Creation of Document
2	1	Clarified Phase 1 activities
2	2.2.1	Altered work activities to match Phase 1 activity program.
2	2.2.2	Added commitment to perform sampling and contamination to DER and NEPM guidelines.
2	App A	Removed risks associated with wellhead maintenance and added fauna egress procedural safeguards.

1. OVERVIEW

Rough Range Oil Pty Limited ("Rough Range") is the operator of Production License 16 ("L16") and is located within Carnarvon Basin, situated along the Rough Range Anticline and Paterson Trough. L16 covers an area of 86 square kilometres. The Rough Range-1B ("RR-1B") well is located approximately 50 kilometres south of Exmouth on the Exmouth Gulf Pastoral Station, which has been cleared and grazed. [Figure 1](#) shows the location of L16 and Rough Range-1B.

This Environment Plan ("EP") Summary has been prepared for the care and maintenance activities, including:

- Annual well site inspection;
- Preliminary remediation/clean-up of site infrastructure and to ensure infrastructure is secure;
- Removal of items damaged by cyclone; and,
- Collecting soil and water samples to assess contamination levels, if any.

This EP Summary has been prepared as per the requirements of Regulation 11(7) and 11(8) of the *Petroleum and Geothermal Energy Resources (Environment) Regulations 2012*.

The preliminary site remediation clean-up and sampling activities are proposed to begin in July 2017, subject to Petroleum Division, Resource Safety and Environment Division approvals. The annual site inspection activities are proposed to occur at the conclusion of the preliminary site remediation activities.

It is estimated that the site remediation work, subject to sub-contractor agreements and logistics, can be completed within 15 days. Soil/water sampling is expected to only take 1 day.

The proponent, Rough Range Pty Limited has their corporate office located at Level Seven, 283 George Street, Sydney, New South Wales, Tel: +61 2 9299 7200. Email: philip.kelso@bigpond.com

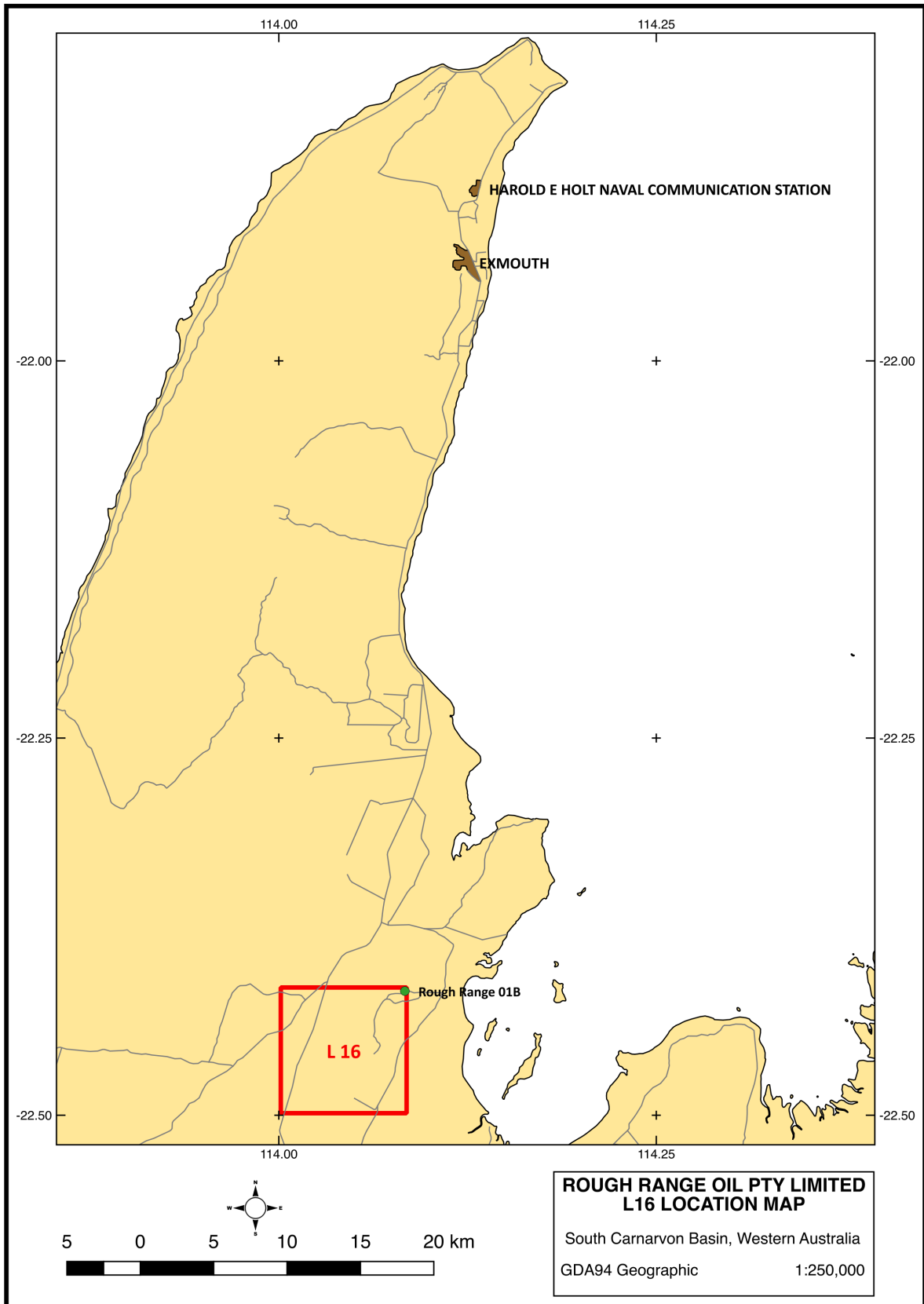


Figure 1. General Location of L16 and Rough Range-1B

2. DESCRIPTION OF THE ACTIVITY

The Rough Range-1B well has been suspended since June 2007 and was suspended by closing the tree valves and removing the artificial lift capacity.

The well integrity testing was last completed on 15 October 2014.

There are no other wells within the Rough Range-1B vicinity.

This EP relates to the activities associated with Phase 1 remediation and contamination sampling for the Rough Range-1B site.

2.1. Location and Tenure

The Rough Range-1B well is located approximately 50km south of Exmouth in the onshore Carnarvon Basin and is situated along the Rough Range Anticline and Paterson Trough. The permit covers an area of 86 square kilometres.

Access to site is from Minilya-Exmouth Road, known as Murat Road and the distance to the Cape Range National Park is approximately 20km, refer to [Figure 2](#).

The well site is located within the Shire of Exmouth, which has a total population of approximately 2,200 people. The town of Exmouth is the closest population centre to the well site.

The coordinates of the Rough Range-1B well site (GDA94):

Latitude: 114.083475

Longitude: -22.417773

The Rough Range 1B well is located within Exmouth Gulf Pastoral Station, with [Figure 3](#) showing the location to sensitive receptors the nearest residence is located (on a direct alignment) approximately 5km from the Rough Range-1B well.



Figure 2. Location of Rough Range-1B Well Site



Figure 3. Location of Rough Rang-1B to Sensitive Receptors (Nearest Residence)

2.2. Care and Maintenance Activities

Rough Range will conduct care and maintenance activities at Rough Range-1B site. The proposed start date for activities is 1 July 2017.

Consumables required for contamination sampling and site clean-up activities will be taken to site and all unused consumables or wastes will be removed from site at the completion of the maintenance activities and disposed of correctly.

2.2.1. Rough Range-1B Site Remediation

Rough Range will conduct a remediation operation of Rough Range-1B site. Rough Range proposes to conduct this work during the 2017 dry season, with a proposed start date July 2017. The activity will take fifteen (15) days to complete. Work will be performed only during daylight hours. Table 1 summarises each item inspected and the proposed work to be performed during the site remediation.

The site remediation will be undertaken by Key Petroleum Services Pty Ltd.

Table 1. RR-1B Site Remediation Proposed Work

No.	Item	Proposed work (2017)
1	Access Track	<ul style="list-style-type: none"> Remediation for truck access will be undertaken to address water wash-out, if required; New locks installed; and If deemed necessary, a better gate and additional fencing will be installed at the entrance to suppress ingress by unauthorised persons.
2	Laydown Area	<ul style="list-style-type: none"> The laydown area will be relocated to the western side of the workshop; and Items include tanks, scrap metal, drill pipe, electrical cables and poly pipe. The items will be assessed and securely stored in the new laydown area, the workshop shipping containers and/or removed from site and disposed of.
3	RR-1B Wellhead, Beam Pump and Cellar	<ul style="list-style-type: none"> Re-hinge gate and replace locks; and Install fauna egress for cellar.
4	Evaporation Ponds (north)	<ul style="list-style-type: none"> Tidy up pond area; Remove any torn lining; and Ensure fauna egress is installed/functional.
5	Oil Storage Tanks	<ul style="list-style-type: none"> Ensure locks for storage tanks are in place. Install, if required.
6	Loading Pumps & Pipes	<ul style="list-style-type: none"> Check for hydrocarbons; and Clean and securely store in the locked workshop.
7	Workshop	<ul style="list-style-type: none"> Tidy up; Remove lubricants and/or scrap from site and dispose of; and Replace locks.
8	Generator Shed	<ul style="list-style-type: none"> Replace locks.
9	Office Building	<ul style="list-style-type: none"> Picked up and removed to the Exmouth tip; Materials capable of recycling will be securely stored in workshop; and Area to be carefully cleaned of scrap metal, nails and general debris.
10	Green Plastic Water Tank & Shuttle	<ul style="list-style-type: none"> Items to be cleared and disposed of; and Materials capable of recycling will be securely stored in workshop.

2.2.2. Site Sampling and Analysis

Rough Range will conduct a contamination sampling and analysis program on the Rough Range-1B well site and surrounding areas to collect soil and water samples to assess for contamination levels, if any. The proposed start date for the activity is July 2017. The activity will take one (1) day to complete. Work will be performed only during daylight hours. The sampling and testing for contamination at the Rough Range site will occur in the following areas:

1. Rough Range-1B Wellhead;
2. Evaporation ponds (north of site);
3. Evaporation ponds (adjacent to oil storage tanks);
4. Oil storage tanks;
5. Within the bunded central area near existing drums and shuttles;
6. Septic system (non-operational);
7. LPG storage tanks;
8. Oil separator tank;
9. Current site of office donga debris; and,
10. Ground water bore (not operational).

Water samples will only be taken if surficial water is present. The ground water bore will not be used for any of the proposed care and maintenance activities.

Once this EP is approved, a specialised environmental consultant will be engaged to produce a Detailed Site Investigation Plan (DSI) and conduct soil and water sampling of the sites outlined in this EP. Two personnel will be required to attend the site for this activity.

All sampling, analysis and reporting will be conducted in accordance with the Department of Environment Regulation (DER) and National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM) guidelines..

2.2.3. Annual Site Inspection Activities

Rough Range will conduct ongoing annual site inspections to the Rough Range-1B and surrounding areas during the dry season between April and November to ascertain the site conditions and identify any remediation activities that may be required. The proposed start date for the activity at the conclusion of preliminary site remediation activities. The activity will take one (1) day to complete. Work will be performed only during daylight hours.

The annual site inspection activities will be performed by Rough Range management or a suitably qualified contractor.

These will include:

1. Photos of ground conditions at each location and surrounds;
2. Photos of all access points / tracks;
3. Photos of all infrastructure associated with and surrounding the Rough Range-1B well head, such as storage tanks, site infrastructure (sheds, containers, tanks, separator), fences, bunds, flowlines and the surrounding environment;
4. Conduct any minor environmental mitigation activities identified as being immediately required on site for environmental (e.g. fauna egress) or security protection (e.g. locks on gates, signage, etc.);

5. Identification of subsidence or erosion;
6. Identify any soil contamination (remove where appropriate and possible);
7. Assessment of any weed infestations;
8. Ensure no fires caused by the site inspection activities;
9. Fire suppression equipment available when personnel on site;
10. No contamination of land in or around the site created by activities;
11. Storage and disposal of materials is in accordance with MSDS requirements and banded in designated areas;
12. No long lasting impacts if spills or leaks do occur during any work program;
13. No native vegetation clearing to be conducted without relevant approvals;
14. Nil fauna fatalities as a direct result of activities;
15. Nil damage to vegetation through dust impact; and
16. Nil cultural heritage site damage or disturbance.

3. DESCRIPTION OF THE ENVIRONMENT

The Rough Range-1B well site is located within Production Licence L16 and is on existing cleared land where there are no identified Cultural Heritage sites, European Heritage sites, threatened flora or fauna or any direct impact on an ESA or EPP Lake.

L16 is located in the onshore Carnarvon Basin and is situated along the Rough Range Anticline and Paterson Trough. The physiography of the Rough Range Anticline is expressed on the current ground surface.

The surrounding area incorporates several geomorphological units including flood plains, alluvial fans and drainage lines, dissected low stony hills and exposed limestone and cave formations. The geology of the area comprises elements of the Cape Range Group consisting of Trealla Limestone and Tulki Limestone that overlie Mandu Limestone at depth. The soils of the surrounding area are characterised as skeletal and consist of shallow calcareous loams and exposed limestone outcrops.

Topographical contours show the Rough Range-1B well is situated 56.12m above sea level on the Rough Range mid-hills.

The Cape Range Peninsula is situated in the Carnarvon Basin area, falling into the Eremaean Botanical Province, dominated by arid, perennial shrub association. In general, the distribution of vegetation in the area varies with geology and geomorphology and hence can be related to the land systems of the Carnarvon Basin.

The flora of Cape Range Peninsula is generally of high conservation value and is very rich in species for an arid area. It consists of elements of both temperate and tropical desert floras; some of which are on the northern or southern end of their ranges.

The main vegetation group identified in the immediate surroundings of the existing cleared well site based on previous studies of the area is Limestone outcropping (crests), being scattered *Ficus platypoda* and *Acacia* spp. Over localised *Triodia angusta* and scattered herbs and soft grasses.

Declared Rare and Priority Species listed under the *WA Wildlife Conservation Act 1950* may be present in the general area surrounding the well site.

No extinct, endangered or vulnerable species listed under the *Environmental Protection and Biodiversity Conservation Act 1999* has been identified as being recorded within proximity to the well site.

The well site is within the Exmouth Gulf Pastoral Lease within which the vegetation has been extensively grazed over many years by introduced animal species including sheep, goats and horses.

There are 20 species of national significance (WoNS) reported in the general area, along with two introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity – *Cenchrus ciliaris* (Buffel grass) and *Prosopis* spp. (Mesquite) The introduced species are:

The well site does not overlap with any known occurrences of threatened or priority ecological communities.

There will be no clearing of native vegetation for the site activities program.

The Cape Range Subterranean Waterways, an environmentally sensitive area and ANCA Wetland, is located within a 10km radius of the well site. However, the activities involved in the site activities program will not impact any ESAs.

There are no records of any fauna of conservation significance within the vicinity of the well site. The vegetation of the surrounding area has suffered extensive disturbance, and is unlikely to represent a significant habitat for fauna.

In total, 13 species listed as 'threatened' or 'migratory' under the EPBC Act potentially occur within 10km of the well site. Maintenance activities will not impact bird species as they are transitory visitors.

A number of the species are under pressure from feral animals either directly through predation (e.g. from foxes and cats) or indirectly through habitat destruction or alteration (e.g. by rabbits and goats).

Cattle and sheep are also likely to be present given that the well site is located within an area used pastoral grazing.

The Cape Range Subterranean Waterway is the closest recognised wetland to the well site, approximately 45km north. The Waterway consists of the subterranean waterways, sinkholes, general groundwater and artificial wells of the coastal plain and foothills of Cape Range north of a line between Norwegian Bay, at the foot of the peninsula on the west coast, and the Bay of Rest in Exmouth Gulf. The site activities program is not expected to impact surface water.

The northern boundary of the Exmouth Gulf Station overlaps the Exmouth Water Reserve. There is minimal infrastructure associated with the station within the Water Reserve.

The Water Corporation wellfield is located to the south-west of Exmouth along the eastern flank of Cape Range. The wellfield consists of a large number of low yielding bores. The flow in the vicinity of the wellfield is in an easterly direction from the Cape Range toward the Exmouth Gulf. Groundwater is discharged from the aquifer to the ocean or springs near the coast, or by evapotranspiration and wellfield abstraction. Near the coast the watertable is extremely flat and saline water underlies a thin layer of fresh groundwater.

Groundwater flows through the limestone formations of Rough Range. The limestone in the Cape Range contains karst features such as sink holes and solution cavities. The karst environment supports unique communities of troglobitic stygofauna.

The site activities program is not expected to impact groundwater.

The air quality of the local area is excellent given the remote location, sparse population and subsequent low level of air pollutant emissions. Regional sources of air emissions are primarily related agricultural activities and vehicle use.

The overall impact during the site activities program is expected to be low given the distance to the nearest sensitive receptor and the activities involved.

A current Native Title application exists over the Project area. The Native Title claimants are the Gnulli people (WC1997/028).

A search of the Department of Aboriginal Affairs (DAA) Aboriginal Heritage Inquiry System was conducted and identified no registered Aboriginal heritage sites as defined by Section 5 of the *Aboriginal Heritage Act 1972* within proximity of the well site.

There were no heritage places identified by the EPBC Protected Matters Database Search Tool within a 10km buffer of the well site. A search of the InHerit database of the WA State Heritage Office identified no heritage items within 10km of the well site.

4. ENVIRONMENTAL HAZARDS AND CONTROLS

Rough Range has undertaken a comprehensive environmental risk assessment to identify the risks for the care and maintenance activities. Appropriate management measures and control measures have been identified and applied to minimise the risk of adverse environmental impact. The perceived level of risk presented for each activity is reflective of the likelihood and consequence of identified impacts.

When an environmental risk and impact is identified, the following process is undertaken:

- Environmental risks are assessed by utilising the risk assessment process;
- Whenever possible, steps are taken to eliminate any risk to the environment. If the risk cannot be eliminated, then controls are identified and treatments are established to manage and further reduce any risk;
- Identified treatments are implemented and monitored to assist in reducing or removing any risk; and
- Ongoing monitoring and review of the Environmental Risk Assessment Register.

An extract from the environmental risk register listing the pre-treatment risk rankings with a consequence rating of Intermediate and above is detailed in Appendix A.

5. MANAGEMENT APPROACH

The EP outlines the proposed strategies that Rough Range will implement to manage the potential environmental impacts associated with the care and maintenance activities and to meet its legal and corporate obligations. Rough Range'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. This outlines the environmental objectives and targets and provides a framework for Rough Range activities and is provided to all personnel including employees, contractors and subcontractors.

Awareness of the requirements of the EP will be provided to all Rough Range personnel and contractors. Personnel will be informed of their obligations and the specific environmental aspects, impacts and their control measures through familiarisation with the EP prior to attendance at site.

An HSE inspection will be conducted during the care and maintenance activities, however no formal audits will be conducted under the EP.

6. STAKEHOLDER CONSULTATION

The stakeholder consultation program will continue for the duration of the site activities program. The aim of the consultation program is to inform stakeholders and to identify any conflicts, concerns, management strategies and positive benefits.

Rough Range continues to consult with relevant stakeholders regarding the site activities program. These Stakeholders include Department of Water, Shire of Exmouth, Department of Parks and Wildlife, Department of Environment Regulation, Environmental Protection Authority and the Traditional Owners of the area.

Appendix A: Environmental Risk Assessment

**Rough Range-1B Phase 1 Care and Maintenance Program
Environmental Risk Assessment**

No	LOCATION (specific location or whole of asset)	RISK (the source with potential to harm)	EVENT (what can happen)	CAUSES (how and why it can happen)	CONSEQUENCE DESCRIPTION (what type of extent of injuries/impact)	Pre-Treatment Risk Ranking			PHYSICAL SAFEGUARDS (identify existing controls)	PROCEDURAL SAFEGUARDS (IDENTIFY EXISTING CONTROLS)	Residual Risk Ranking			Justification/ consideration/ description for ALARP	
						L	C	R			L	C	R		
1	All activities	Driving	Impact with wildlife Impact with livestock	Vision impaired by road conditions Speeding Driver fatigue Lack of awareness Loss of concentration	Loss of native fauna Loss of livestock Complaints	2	3	Low	Road worthy vehicles	Environmental Plan Speed Limits Movement kept to existing access tracks Awareness Licensed drivers JHA FFW Driving Safely Procedure Daylight operations only Liaison with Shire of Derby/West Kimberley	2	3	Low	Acceptable against objectives	
2	All activities	Unauthorised access to site	Third party access	Inadequate fencing/gates to site	Potential damage to assets Loss of native fauna/flora	2	3	Low	Gates/locks in place	Environmental Plan Movement kept to existing access tracks Awareness Warning signs	2	3	Low	Acceptable against objectives	
3	All activities	Noise	Noise generation above Regulations	Lack of procedures Lack of awareness	Disturbance to native fauna and livestock Disturbance nearby residents	2	1	Negligible		Notify Shire of Exmouth of activity Environmental Plan Awareness Experienced and competent personnel Regulation compliant equipment Nearest residence 5km away	1	Highly Probable	1	Negligible	Acceptable against objectives

**Rough Range-1B Phase 1 Care and Maintenance Program
Environmental Risk Assessment**

4	All activities	Dust	Activities cover vegetation with dust Reduction in visual amenity Impact on vegetation/ habitat Interference with land owners.	Dust generated from vehicle movement	Localised impact/ contamination of surrounding area	2 - R e m o t t e	2 - M i n o r	N e g l i g i b l e		Environmental Plan Driving Safely Procedure Speed Limits Experienced and competent personnel Awareness	1 - H y p o t h e t i c a l	2 - M i n o r	N e g l i g i b l e	Acceptable against objectives
5	All activities	Weeds and pathogens	Introduce weeds and pathogens into clean areas	Vehicle movements to site	Contamination of area resulting in degradation of the environment and a potential loss of species - worst case credible considered introduction of weeds rather than disease)	2 - R e m o t t e	2 - M i n o r	N e g l i g i b l e		Environmental Plan Awareness Weed hygiene inspection records Utilise existing disturbed areas and tracks Pre-start vehicle check to include weed/pollen check and removal	1 - H y p o t h e t i c a l	2 - M i n o r	N e g l i g i b l e	Acceptable against objectives
6	All activities	Bushfire	Outbreak of fire in bushland	Initiated from natural causes such as lightening Hot vehicle exhausts Vandalism Ignition sources in dry vegetated areas Diesel fuel tank	Loss of native flora and fauna habitat Loss of native fauna and livestock Fire could spread to surrounding bushland Loss of infrastructure integrity resulting in spill	2 - R e m o t t e	3 - S e v e r e	L o w		Environmental Plan Emergency Response Plan Diesel vehicles Fire extinguisher in vehicle Oil Spill Contingency Plan Training and awareness Designated refuelling station for loader Site within existing cleared areas	1 - H y p o t h e t i c a l	3 - S e v e r e	N e g l i g i b l e	Acceptable against objectives

**Rough Range-1B Phase 1 Care and Maintenance Program
Environmental Risk Assessment**

7	All activities	Impacts to Aboriginal Heritage sites/ artefacts	Damage to known or unknown Aboriginal Heritage sites including artefacts	Driving off access tracks	Potential impact to heritage sites and or artefacts found	2 - R e m o t e	3 - S e v e r e	Low		Environmental Plan Awareness Designated access tracks No known sites in the activity area Cultural Heritage Management Plan as part of the EP Site within existing cleared areas	1 - H y p o t h e t i c a l	3 - S e v e r e	Ne g l i g i b l e	Acceptable against objectives as there are no known Cultural Heritage sites within the activity area
8	All activities	Ground disturbance	Erosion Soil disturbance Fauna death or injury Fauna habitat disturbance Fauna entrapment Contamination	Lack of procedures Lack of awareness Heavy rainfall events Vehicle movements.	Loss of top soil and vegetation Soil compaction Soil contamination Fauna death or injury Fauna habitat disturbance Soil contamination	2 - R e m o t e	3 - S e v e r e	Low		Environmental Plan Designated access tracks Inspections Speed Limits Site within existing cleared areas Awareness Oil Spill Contingency Plan Report instances of contamination or ground disturbance immediately QA/QC procedures for soil sampling Ensure fauna egress are installed and fully functional Refuelling station within lined and bunded area on site	2 - R e m o t e	3 - S e v e r e	Low	Acceptable against objectives
9	All activities	Hazardous materials and chemicals	Spill	Spills or leaks originating from vehicles, equipment or existing infrastructure	Soil contamination Water contamination Loss of native flora, fauna and livestock	3 - U n l i k e l y	3 - S e v e r e	Intermediate		Environmental Plan Oil Spill Contingency Plan Emergency Response Plan No chemicals or hazardous materials stored on site Awareness All personnel trained in spill response Refuelling station within lined and bunded area on site Spill kit available when conducting inspections on site Vehicles maintained in good working order Inspections	2 - R e m o t e	3 - S e v e r e	Low	Acceptable against objectives

**Rough Range-1B Phase 1 Care and Maintenance Program
Environmental Risk Assessment**