



**RPI23-001 ANGLO AMERICAN –  
DIAMANTINA PROJECT**

RIDA Application:  
Supporting Information Report

**FINAL**

March 2023



## **RPI23-001 ANGLO AMERICAN – DIAMANTINA PROJECT**

RIDA Application:  
Supporting Information Report

### **FINAL**

Prepared by  
Umwelt (Australia) Pty Limited  
on behalf of  
Anglo American Exploration (Australia) Pty Ltd

Project Director: Kate Everding  
Project Manager: Kate Everding  
Report No. 22298\_R07  
Date: March 2023



Level 7, 500 Queen Street  
Brisbane Qld 4000



This report was prepared using  
Umwelt's ISO 9001 certified  
Quality Management System.

### **Acknowledgement of Country**

*Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.*

### **Disclaimer**

This document has been prepared for the sole use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that for which it was supplied by Umwelt (Australia) Pty Ltd (Umwelt). No other party should rely on this document without the prior written consent of Umwelt.

Umwelt undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this document. Umwelt assumes no liability to a third party for any inaccuracies in or omissions to that information. Where this document indicates that information has been provided by third parties, Umwelt has made no independent verification of this information except as expressly stated.

**©Umwelt (Australia) Pty Ltd**

### **Document Status**

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
1.0	David Carson	27/01/2023	David Carson	27/01/2023
1.1	Kate Everding	03/03/2023	Kate Everding	03/03/2023
2.0	Kate Everding	06/03/2023	Kate Everding	06/03/2023

# Table of Contents

<b>1.0</b>	<b>Introduction</b>	<b>1</b>
1.1	The Applicant	1
1.2	Project Overview	1
<b>2.0</b>	<b>Description of the Subject Land</b>	<b>3</b>
2.1	Property Titles	3
2.2	Easements	3
2.3	Land Use and Terrain	3
2.4	Climate	3
2.5	Vegetation and Biodiversity	4
2.6	Hydrological Values	5
2.6.1	Catchment Setting	5
2.6.2	Flood Regime	6
2.6.3	Wetlands and Springs	6
2.6.4	Groundwater Dependent Ecosystems	6
2.6.5	Groundwater	6
2.6.6	Water Quality	8
<b>3.0</b>	<b>Proposed Activities</b>	<b>10</b>
3.1	Phase 1 Exploration Activities	10
3.1.1	Passive Seismic Survey	10
3.1.2	Ground Gravity Survey	11
3.1.3	Controlled-Source Electromagnetic Survey	13
3.2	Phase 2 Exploration Activities	14
3.2.1	Exploration Drilling	14
3.3	Temporary Ancillary Activities	17
3.3.1	Access Tracks	17
3.3.2	Accommodation Camps	18
3.4	Total Disturbance	18
<b>4.0</b>	<b>SEA Assessment</b>	<b>21</b>
4.1	Assessment Criteria	21
4.2	Assessment of Compliance to Prescribed Solutions	21
<b>5.0</b>	<b>Conclusion</b>	<b>24</b>

## Figures

Figure 1	Location Plan	26
Figure 2	Diamantina Project Site	27
Figure 3	Subject Land	28
Figure 4	Regional Ecosystems and Biodiversity	29
Figure 5	Proposed Passive Seismic Survey Locations	30
Figure 6	Proposed Ground Gravity Survey Locations	31
Figure 7	Proposed CSEM Survey Locations	32
Figure 8	Indicative Locations of Exploration Drilling	33

## Plates

Plate 2.1	Location of Potential Terrestrial and Aquatic GDEs relative to the Subject Land	7
Plate 3.1	Example of a Passive Seismic Receiver Node and In-ground Placement	11
Plate 3.2	Example of a Ground Gravity Meter	12
Plate 3.3	Example of a CSEM Electrode Pit	13
Plate 3.4	Example of Drill Rigs	15

## Graphs

Graph 2.1	Average Daily Flow Volumes at Diamantina River at Diamantina Lakes (002104A)	8
-----------	--	---

## Tables

Table 1.1	Diamantina Project Tenure	2
Table 2.1	Climate Statistics for the Subject Land	4
Table 2.2	Regional Ecosystems within the Subject Land	4
Table 2.3	Key Water Quality Parameters at Diamantina River at Diamantina Lakes (002104A)	8
Table 3.1	Summary of Proposed Disturbance within the Subject Land	18
Table 4.1	Compliance of Proposed Activities to Prescribed Solutions	22

## Appendices

Appendix A	Environmental Authority P-EA-100152825
Appendix B	Title Searches

# 1.0 Introduction

This document provides information to support the Application for a Regional Interests Development Approval (RIDA) (application reference RPI23/001) for the exploration activities proposed by Anglo American Exploration (Australia) Pty Ltd (Anglo) within the Channel Country Strategic Environmental Area (SEA) for the Diamantina Project.

This document has been prepared by Umwelt (Australia) Pty Ltd (Umwelt) on behalf of Anglo, and provides supporting information in accordance with the requirements of the Assessment Application Form (RIDA Application Form) and the following legislation and guidelines:

- *Regional Planning Interests Act 2014* (RPI Act)
- *Regional Planning Interests Regulation 2014* (RPI Regulation)
- RPI Act Statutory Guideline 01/14 *How to make an assessment application for a regional interests development approval under the Regional Planning Interests Act 2014* (RPI Guideline 1/14)
- RPI Act Statutory Guideline 05/14 *Carrying out resource activities and regulated activities in a Strategic Environmental Area* (RPI Guideline 5/14)
- RPI Act Statutory Guideline 06/14 *Public notification of assessment applications* (RPI Guideline 6/14)
- RPI Act Statutory Guideline 11/16 *Companion Guide* (RPI Guideline 11/16).

This document also considers the advice and recommendations provided by the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) at the RIDA pre-application meeting held on 19 January 2023. The pre-application meeting was attended by representatives of Anglo and Umwelt, as well as Morag Elliot of DSDILGP, Scott Stevens of the Department of Regional Development, Manufacturing and Water (DRDMW), and Ayla Turner and Claudia Fone of the Department of Environment and Science (DES).

This document should be read in conjunction with the RIDA Application Form for RPI23/001.

## 1.1 The Applicant

The applicant is Anglo American Exploration (Australia) Pty Ltd.

## 1.2 Project Overview

The Diamantina Project (the Project) is located approximately 50 kilometres (km) to the east of Boulia in Western Queensland (refer **Figure 1**) and covers an area of approximately 692,025 hectares (ha). The Project site comprises 22 granted Exploration Permits for Minerals (EPMs) held by Anglo, as described in **Table 1.1**. There are three EAs which condition the Project, and which are the *Eligibility Criteria and Standard Conditions for Exploration and Mineral Development Projects – ESR/2016/1985 (Version 2.00)*. No further conditions on exploration activities have been imposed on the Project by DES.

Anglo has been undertaking exploration activities for the Project since 2020 in accordance with the requirements of the Project’s EAs. These activities have ranged from no- to low-impact preliminary exploration surveys, through to the construction of exploration drill holes. Anglo now wishes to undertake additional exploration within parts of the Channel Country SEA.

Of the 22 Project EPMs, only EPM 28077 and EPM 28079 overlap parts of the Channel Country SEA (refer **Figure 2** and **Table 1.1**). These EPMs are conditioned under Environmental Authority (EA) P-EA-100152825, which was granted 24 June 2022 (refer **Appendix A**).

**Table 1.1 Diamantina Project Tenure**

Tenure Number	Area (ha)	EPM Grant Date	EPM Expiry Date	Environmental Authority (EA) Number	Overlap with Channel Country SEA	
EPM 27133	31,529	19 Nov 2019	18 Nov 2024	EA0001615	No	
EPM 27134	31,502				No	
EPM 27135	31,480				No	
EPM 27138	31,659				No	
EPM 27140	31,641				No	
EPM 27141	31,625				No	
EPM 27142	31,599				No	
EPM 27143	31,571				No	
EPM 27136	31,461	18 Jul 2019	17 Jul 2024		No	
EPM 27137	31,443				No	
EPM 27139	31,422				No	
EPM 27438	31,522	6 Jul 2020	5 Jul 2025		No	
EPM 27986	30,649	16 May 2022	15 May 2027		P-EA-100121771	No
EPM 27987	31,628				No	
EPM 28077	31,312	23 Jun 2022	22 Jun 2027	P-EA-100152825	<b>YES</b>	
EPM 28079	31,042				<b>YES</b>	
EPM 28080	31,469				No	
EPM 28082	31,391				No	
EPM 28084	31,501				No	
EPM 28078	31,525	6 Sep 2022	5 Sep 2027		No	
EPM 28081	31,541				No	
EPM 28083	31,513				No	

## 2.0 Description of the Subject Land

The Land the Subject of the Application (the Subject Land) comprises an area of approximately 12,200 ha and represents the part of the Channel Country SEA that overlaps EPM 28077 and EPM 28079 (**Figure 2**). The Subject Land is located wholly within the Diamantina Local Government Area.

It should be noted that the Subject Land excludes the parts of the SEA within EPM 28077 that overlie the Diamantina National Park (Lot 6NPW560). In accordance with Condition A13 of the EA (P-EA-100152825), no exploration activities are permitted within a Category A Environmentally Sensitive Area (ESA), which includes National Parks, and therefore this area has been excluded from the Subject Land for the purposes of this application.

### 2.1 Property Titles

There are two properties which overlie the Subject Land, namely Lot 1 SP263961 and Lot 2 SP263962 (**Figure 3**). Both properties are leased by Paraway Pastoral Company Limited, and form part of the Davenport Downs Cattle Station, which covers an area of 1.5 million ha.

Titles for these properties are included in **Appendix B**.

### 2.2 Easements

An easement, associated with Petroleum Pipeline Licence (PPL) 41 held by Roverton Pty Ltd, traverses part of the Subject Land (**Figure 3**). The easement contains a natural gas pipeline for the Ballera Gas Centre to Mount Isa Pipeline.

### 2.3 Land Use and Terrain

The land within and in the vicinity of the Subject Land is primarily used for grazing activities. A large cattle station, Davenport Downs, overlies the full extent of the Subject Land. The Diamantina National Park and Astrebla Downs National Park are also located within 1 km of the Subject Land (refer **Figure 3**).

The terrain of the Subject Land is characterised by sparsely vegetated, gently undulating open plains, ranging in elevation from 90 m to 125 m.

### 2.4 Climate

The nearest long-term weather stations to the Subject Land are the Bureau of Meteorology's (BoM) Bedourie weather station (station number 038000), which is located approximately 125 km to the south-west of the Subject Land, and the Boulia Airport weather station (station number 038003) which is located approximately 135 km to the north-west.

Data from these stations indicates that the region typically experiences hot, wet summers and mild, dry winters (refer **Table 2.1**). Temperatures range from recorded average maximums of up to 39.6°C in the summer months, to an average minimum of 7.5°C in winter. The annual average rainfall at Boulia is 261.8 mm and 200.0 mm in Bedourie, with highest average rainfall totals in the region typically recorded from December to March.

**Table 2.1 Climate Statistics for the Subject Land**

Month	Bedourie (BoM Station Number 038000)				Boulia Airport (BoM Station Number 038003)			
	Average Max Temp (°C)	Average Min Temp (°C)	Average Rainfall (mm)	Highest Rainfall (mm)	Average Max Temp (°C)	Average Min Temp (°C)	Average Rainfall (mm)	Highest Rainfall (mm)
January	39.6	25.3	33.0	296.4	38.6	24.7	48.1	464.9
February	38.4	24.1	33.1	276.0	37.5	24.1	48.1	253.0
March	35.9	21.7	28.9	474.3	35.5	21.9	37.0	352.5
April	32.3	17.4	9.9	88.6	31.6	17.3	12.9	169.2
May	26.4	11.9	11.0	99.8	26.8	12.6	12.6	105.9
June	22.7	8.4	9.6	132.7	23.3	9.0	10.5	112.1
July	23.1	7.5	10.0	137.6	23.0	7.9	9.6	116.0
August	25.6	9.0	7.5	71.5	25.8	9.6	6.3	103.9
September	30.0	13.3	9.6	158.2	30.2	13.7	7.9	88.8
October	34.1	17.4	13.8	83.1	34.3	18.0	14.1	87.1
November	36.8	20.8	18.7	132.2	37.0	21.4	21.0	150.7
December	38.9	23.6	16.7	165.5	38.7	23.6	30.9	259.1
Annual	32.0	16.7	200.0	690.0	31.9	17.0	261.8	798.6

## 2.5 Vegetation and Biodiversity

The Subject Land is located in the Mitchell Grass Downs bioregion. The full extent of Subject Land comprises Least Concern (*Vegetation Management Act 1999* [VM Act] Status) remnant vegetation, consisting mostly of grassland species with areas of eucalypt and acacia low open woodland, and some open shrubland (refer **Table 2.2**). There are 14 Regional Ecosystems (REs) present in the Subject Land, with most REs forming mixed communities (refer **Figure 4**).

**Table 2.2 Regional Ecosystems within the Subject Land**

RE	VM Act Status	Biodiversity Status	Short Description	Structure
4.3.4x1	Least Concern	No Concern at Present	<i>Eucalyptus coolabah</i> open woodland on fringing drainage lines in clay and limestone landscapes	Very Sparse
4.3.17b	Least Concern	No Concern at Present	<i>Astrebla pectinata</i> +/- <i>Astrebla</i> spp. tussock grassland on alluvial plains	Grassland
4.3.20	Least Concern	No Concern at Present	Short grasses +/- <i>Astrebla</i> spp., <i>Sclerolaena</i> spp. and <i>Atriplex</i> spp. tussock grassland to open herbland on silty alluvial plains	Grassland
4.4.1x4a	Least Concern	No Concern at Present	<i>Astrebla pectinata</i> +/- <i>Aristida latifolia</i> +/- <i>Eulalia aurea</i> grassland on Tertiary clays overlying limestone	Grassland
4.4.1x5	Least Concern	No Concern at Present	<i>Astrebla pectinata</i> +/- <i>Aristida latifolia</i> +/- <i>Eulalia aurea</i> grassland on Tertiary clays overlying limestone	Grassland
5.3.8a	Least Concern	No Concern at Present	<i>Eucalyptus coolabah</i> low open woodland +/- <i>Duma florulenta</i> on braided channels, drainage lines, flood plain lakes and claypans	Very Sparse
5.3.18a	Least Concern	No Concern at Present	Braided channel complex of major alluvial plains, includes <i>Chenopodium auricomum</i> open shrubland and variable sparse to open-herbland	Sparse

RE	VM Act Status	Biodiversity Status	Short Description	Structure
5.3.18b	Least Concern	No Concern at Present	Braided channel complex of major alluvial plains, includes <i>Chenopodium auricomum</i> open shrubland and variable sparse to open-herbland	Sparse
5.3.19	Least Concern	No Concern at Present	Variable sparse to open herbland on frequently flooded alluvial plains	Sparse
5.3.21a	Least Concern	No Concern at Present	Variable sparse to open herbland, <i>Senna spp.</i> open shrubland and bare scalded areas on infrequently flooded alluvia of major rivers their distributaries, drainage channels and creeks	Sparse
5.3.22a	Least Concern	No Concern at Present	Sparse herbland, open water or bare areas on flood plain lakes and interdune clay pans and lakes	Other
5.6.1x1	Least Concern	No Concern at Present	<i>Crotalaria eremaea</i> +/- <i>Eragrostis eriopoda</i> sparse to open herbland on isolated and/or deflated sand dunes on alluvium	Other
5.6.5a	Least Concern	No Concern at Present	Variable sparse to open-herbland +/- <i>Triodia basedowii</i> on dune flanks, crests and sandy interdunes	Grassland
5.6.8a	Least Concern	No Concern at Present	<i>Zygochloa paradoxa</i> and/or <i>Crotalaria eremaea</i> +/- <i>Triodia basedowii</i> open tussock grassland and herbland on mobile crests and slopes of sand dunes	Grassland

Approximately 560 ha of Essential Habitat is present in the Subject Land (refer **Figure 4**), which may provide habitat for:

- Greater Bilby (*Macrotis lagotis*), a mammal listed as Endangered under the *Nature Conservation Act 1994* (NC Act) and Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- Plains Wanderer (*Pedionomus torquatus*), a bird listed as Critically Endangered under both the NC Act and EPBC Act.

There are no areas shown on the Protected Plants Trigger map within the Subject Land.

Statewide biodiversity corridors overlap small portions of the Subject Land in the south and north (refer **Figure 4**). The corridors are associated with riparian values relating to Nails Creek and Spring Creek.

## 2.6 Hydrological Values

### 2.6.1 Catchment Setting

The Subject Land is located within the Diamantina River Catchment (**Figure 3**) and within the Georgina-Diamantina Catchment Planning Area. The river systems in the region are typically ephemeral with creek systems recharged from rainfall events.

The Diamantina River, which flows through the Diamantina National Park to the south of the Subject Land, is located approximately 30 km downstream of the Subject Land. It is a braided channel river system with numerous tributaries and broad open floodplains.

Nails Creek traverses the Subject Land (**Figure 3**) and is of stream orders 3 and 4. Nails Creek is also a braided channel system and drains southward from the Subject Land into the Diamantina River. There are also various other unnamed tributaries of stream orders 1 to 3 that also traverse the Subject Land.

There are no watercourses or drainage features declared under the *Water Act 2000* that traverse the Subject Land.

### **2.6.2 Flood Regime**

Flows in the rivers and associated floodplains in the region can persist for extended periods following significant rainfall in the upstream catchments. Significant flooding can be experienced in the region following heavy rainfall events. The floodplain areas within the Subject Land support both cattle grazing and ecological processes.

Mapping of the Flood Hazard Area Level 1 Queensland Floodplain Assessment Overlay, which provides an estimate of areas potentially at threat of inundation by flooding, indicates the full extent of the Subject Land lies within this flood hazard area.

### **2.6.3 Wetlands and Springs**

There are no VM Act wetlands and no wetlands listed in the Directory of Important Wetlands (DIWA) located within the Subject Land. The nearest DIWA wetland is Lake Constance, which is located approximately 20 km to the east and upstream of the Subject Land (**Figure 2**).

There are no known springs (active or inactive) within the Subject Land. Some farm dams and cattle watering points are located within the Subject Land.

### **2.6.4 Groundwater Dependent Ecosystems**

The BoM Groundwater Dependent Ecosystem (GDE) Atlas indicates that there may be low potential terrestrial GDEs within the Subject Land (refer **Plate 2.1**), which may be associated with Eucalypt-dominated REs in the vicinity of the drainage lines.

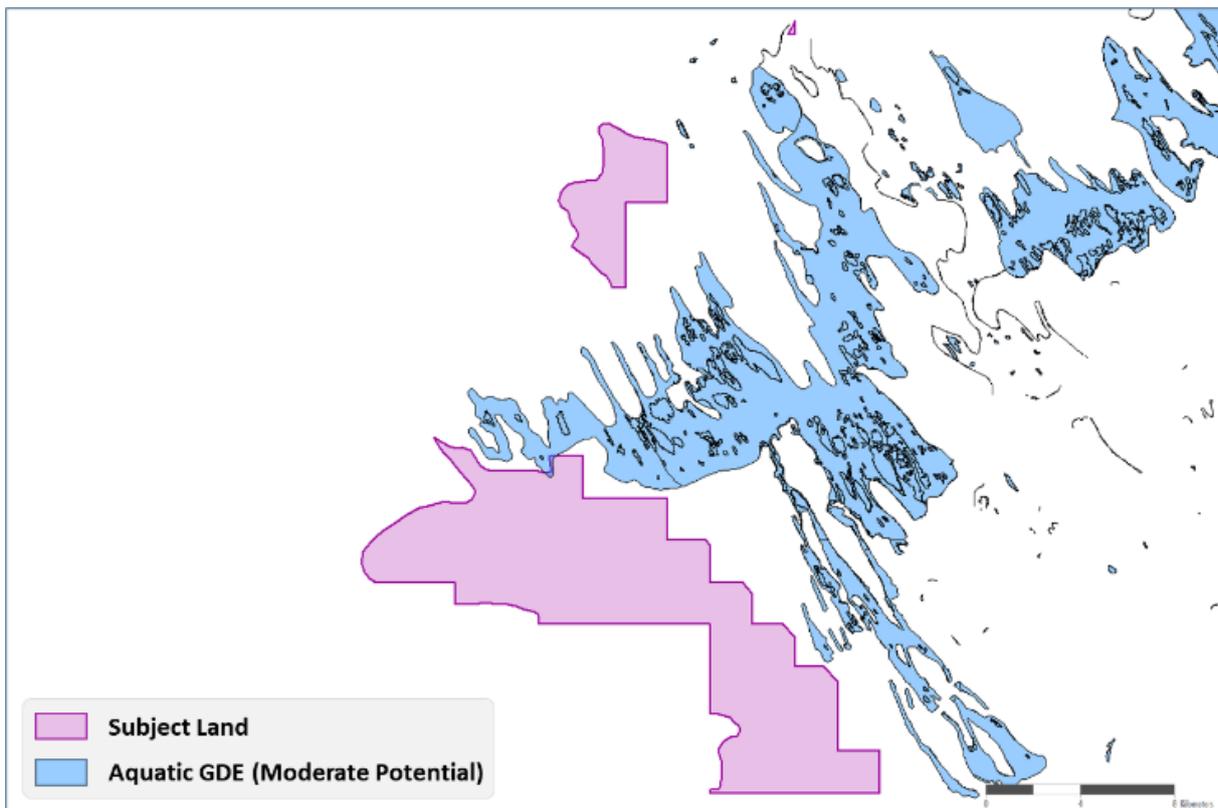
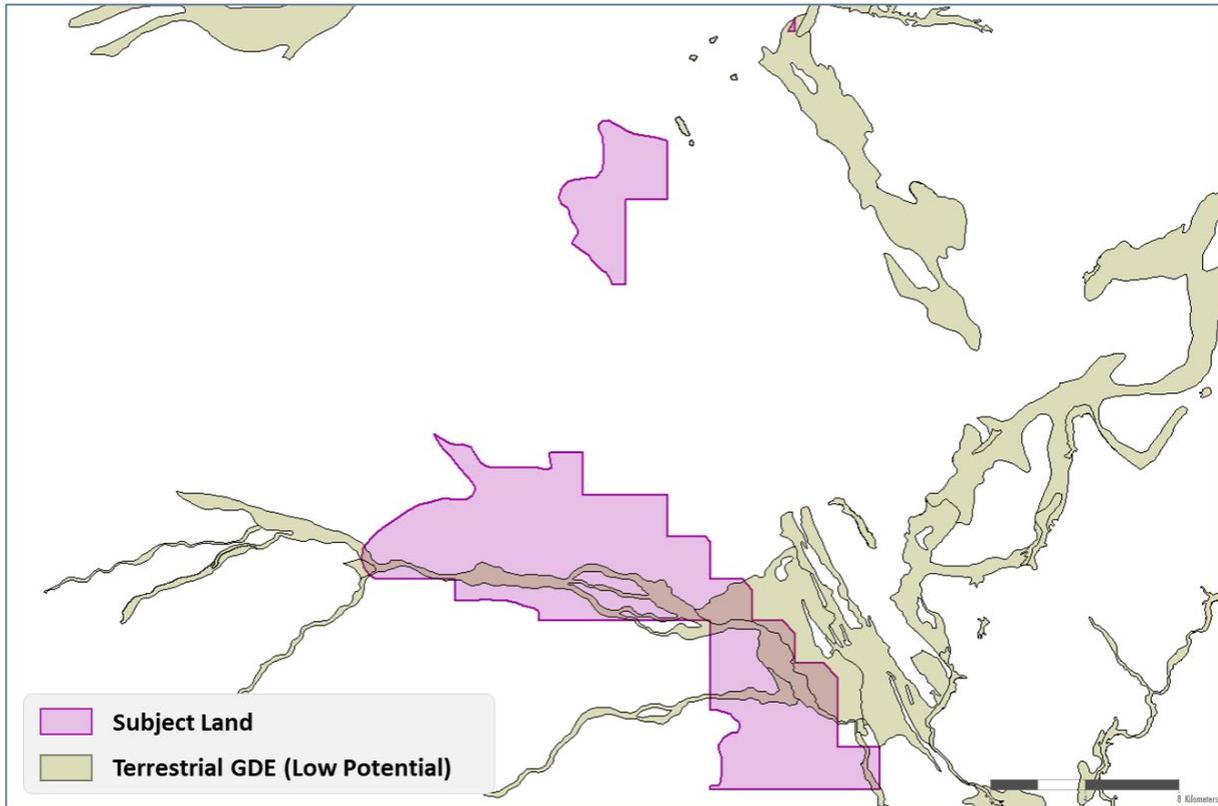
The GDE Atlas indicates there may be moderate potential aquatic GDEs that traverses a very small portion of the Subject Land (refer **Plate 2.1**), which is likely to be associated with wetland REs in the vicinity of the VM Act wetlands.

There are no GDE springs located within the Subject Land. The nearest recorded GDE springs are located approximately 20 km to the north of the Subject Land.

There are no subterranean GDEs within the Subject Land.

### **2.6.5 Groundwater**

The Subject Land is located within the Great Artesian Basin and Other Regional Aquifers (GABORA) Water resource planning area, and within the declared Greater Western Underground Water Area. The Subject Land is assumed to be underlain by multiple aquifer systems, including the Great Artesian Basin (GAB). Shallow aquifers are likely to be recharged during rainfall events from creek flows and seepage into the ground.



**Plate 2.1 Location of Potential Terrestrial and Aquatic GDEs relative to the Subject Land**

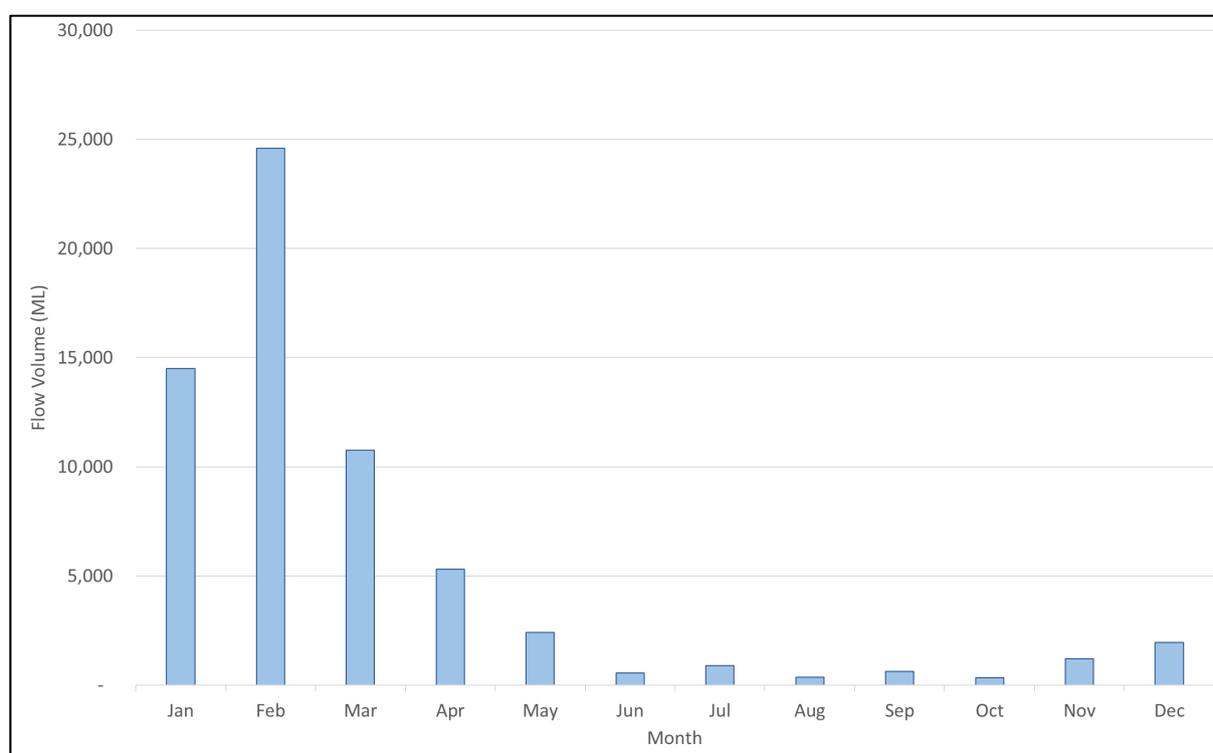
## 2.6.6 Water Quality

The nearest Queensland Government gauging station to the Subject Land is Station 002104A – Diamantina River at Diamantina Lakes, which is located approximately 30 km to the north-east by direct line and upstream of the Subject Land. This station has been in operation since the late 1960s. **Table 2.3** provides a summary of the key water quality parameters collected at this site.

**Table 2.3 Key Water Quality Parameters at Diamantina River at Diamantina Lakes (002104A)**

Parameter	Data Count	Mean	Maximum
Electrical Conductivity ( $\mu\text{S}/\text{cm}$ )	31	123.8	440.0
pH (pH units)	31	7.1	8.1
Turbidity (NTU)	21	1,091.7	3,290.0
Dissolved Oxygen (mg/L)	16	7.8	11.0
Nitrate ( $\text{NO}_3$ ) (mg/L)	22	2.2	5.6
Total Nitrogen (mg/L)	17	1.1	1.9
Total Phosphorus (mg/L)	18	0.4	0.9

The quality of the surface waters at this site is fresh with a high sediment load, which is not unexpected given the ephemeral nature of the waterways in the region and high flooding flows experienced during the wet season. The average daily flow volumes recorded at this site show that high flows are experienced from January to March (**Graph 2.1**).



**Graph 2.1 Average Daily Flow Volumes at Diamantina River at Diamantina Lakes (002104A)**

There are no data available on the groundwater quality in the Subject Land. It is assumed that the alluvial groundwater in the Channel Country SEA is recharged by surface water flows during rain events, and that groundwater quality is therefore likely to reflect the quality of surface waters in the area.

There are two GAB Water Supply Monitoring Bores located within a 30 km radius of the Subject land, namely Bore RN5101 and Bore RN13173. These bores are screened in the GAB and monitored for a variety of physico-chemical parameters. The water from these bores is considered suitable for stock watering purposes only.

## 3.0 Proposed Activities

Anglo is proposing to undertake exploration activities for minerals within the Subject Land in two phases. The initial Phase 1 exploration program will focus on no- and low-impact ground survey techniques comprising Passive Seismic (PS), Ground Gravity and Controlled-Source Electromagnetic (CSEM) methods. Following completion and analysis of the results of the initial Phase 1 exploration activities, Anglo is proposing to commence Phase 2 exploration activities comprising exploration drilling.

**Figure 5 to Figure 8** show the location of the Project's proposed exploration program in relation to the Subject Land.

The overall exploration program for the Project is proposing a total disturbance of 10.68 ha, which includes 8.59 ha of surface disturbance within the Channel Country SEA (i.e. the Subject Land).

A summary of the proposed exploration methods for both Phases and a description of the disturbance associated with each survey method within the Subject Land is provided in the following sections. A summary of the total disturbance is provided in **Section 3.4**.

### 3.1 Phase 1 Exploration Activities

#### 3.1.1 Passive Seismic Survey

PS survey is the measurement of natural low frequency vibrations that travel through the earth to map geological structures deep in the earth. It is a passive survey method that does not require a human-made source of energy. The technique has no impact on the earth, the environment, or the community. Clearing of vegetation or land is not required for this survey.

The PS survey requires the temporary installation of seismic receiver nodes, which are small devices of about 20cm high x 10cm wide x 9.5cm long (refer **Plate 3.1**). To deploy the nodes, small shallow holes will be dug using small handheld digging tools to a maximum depth of 20 cm and a width no greater than about 12 cm square. The node is then placed in the hole to sit flush with the ground surface (refer **Plate 3.1**). The receivers will remain buried in situ for a period of 2 to 4 weeks.

A total of approximately 226 PS survey holes will be required for the exploration program, which includes 114 PS survey holes within the Subject Land (**Figure 5**).

The PS survey will be undertaken during the dry season, and is planned for approximately June to July 2023. Three 4WD vehicles (each with two personnel) will be used for this survey, and no new access tracks are required to be constructed for this survey.

The total estimated surface disturbance for the PS survey within the Subject Land is 0.0002 ha.



**Plate 3.1 Example of a Passive Seismic Receiver Node and In-ground Placement**

The indicative locations of the PS survey locations within the Subject Land are shown on **Figure 5**. These locations are based on the following considerations:

- Limitations to exploration activities as described in the EA, including:
  - No activities within 100 m of a Historical, Archaeological or Ethnographic site (Condition A14)
  - No activities within a Category A ESA (Condition A13)
- Avoiding the pipeline easement
- Located at least 50 m from mapped drainage lines
- Located at least 100 m from mapped wetlands.

The final locations of the PS survey lines will also factor in any additional conditions imposed in the RIDA, as well as any sensitive features observed at the time of the survey, such as avoiding trees, shrubs, riparian vegetation, heritage finds, etc.

No erosion and sediment controls are required to be installed for this survey.

Following completion of the survey, the receiver nodes will be removed, and all holes will be backfilled to leave the environment in the condition it was prior to the PS survey.

### **3.1.2 Ground Gravity Survey**

The Ground Gravity surveys study the anomalies of the Earth's gravitational field due to changes in densities below the surface. The ground gravity survey has completely no impact on the ground, and no line clearing, vegetation clearing or ground disturbance will be required for this survey.

The proposed Ground Gravity Survey involves the placement of a gravity meter on the ground surface (**Plate 3.2**) to record the Earth's gravity field at either 250 m or 500 m spacings.

A total of approximately 1,663 Ground Gravity sites will be required for the exploration program, which includes 1,111 sites within the Subject Land (**Figure 6**).

The Ground Gravity survey will be undertaken during the dry season, and is planned for a three week period during approximately June to July 2023. The survey will be undertaken by four team members using two 4WD or UTV vehicles, and no new access tracks are required to be constructed for this survey.

There is no surface disturbance associated with the Ground Gravity survey.



**Plate 3.2 Example of a Ground Gravity Meter**

The indicative locations of the Ground Gravity survey sites within the Subject Land are shown on **Figure 6**. These locations are based on the following considerations:

- Limitations for exploration as described in the EA, including:
  - No activities within 100 m of a Historical, Archaeological or Ethnographic site (Condition A14)
  - No activities within a Category A ESA (Condition A13).

The final locations of the Ground Gravity survey will also factor in any additional conditions imposed in the RIDA, as well as any on-ground limitations observed at the time of the survey, such as avoiding riparian vegetation, mature trees, heritage finds, etc.

No erosion and sediment controls are required to be installed for this survey.

Following completion of the survey at each location, the ground gravity meter will be removed.

Ground Gravity surveys do not involve any ground disturbance, and rehabilitation is therefore not required for these survey sites.

### 3.1.3 Controlled-Source Electromagnetic Survey

The CSEM survey is a geophysical method which places sensors into the ground and uses a generator to introduce time variant currents into the earth to measure the electrical resistivity and chargeability of the sub-surface. This method has minimal ground disturbance and no line clearing is required. Clearing of vegetation will be avoided for this survey.

The proposed CSEM survey will be conducted along three parallel transects. The transects will consist of four types of pits:

- Current electrode pits approximately 1.5 m long x 1.5 m wide x 0.4 m deep
- Potential electrode pits approximately 0.35 m long x 0.25 m wide x 0.4 m deep
- Vertical magnetometer holes approximately 0.25 m in diameter x 0.7 m deep
- Horizontal magnetometer trenches approximately 1.2 m long x 0.25 m wide x 0.25 m deep

At each current electrode location, two pits will be constructed using a small bobcat. The potential electrode pits and vertical magnetometer holes will be constructed using a mechanical bobcat mounted auger. The horizontal magnetometer trenches will be constructed using handheld digging tools.

A total of approximately 651 CSEM pits will be required for the exploration program, which includes 490 CSEM pits within the Subject Land (**Figure 7**).

The CSEM survey will be undertaken during the dry season, and is planned for a three-week period in approximately August / September 2023. Four 4WD vehicles with trailers and one light truck (e.g. Cantor 4x4) will be used for this survey, and no access tracks are required to be constructed for this survey.

The total estimated surface disturbance for the CSEM survey within the Subject Land is 0.01 ha.



**Plate 3.3 Example of a CSEM Electrode Pit**

The indicative locations of the CSEM survey sites within the Subject Land are shown on **Figure 7**. These locations are based on the following considerations:

- Limitations to exploration activities as described in the EA, including:
  - No activities within 100 m of a Historical, Archaeological or Ethnographic site (Condition A14)
  - No activities within a Category A ESA (Condition A13)
  - No activities involving machinery within 1,000 m of a Category A ESA (Condition A13)
- Avoiding the pipeline easement
- Located at least 50 m from mapped drainage lines
- Located at least 100 m from mapped wetlands.

The final locations of the CSEM survey sites will also factor in any additional conditions imposed in the RIDA, as well as any on-ground limitations observed at the time of the survey, such as riparian vegetation, mature trees, heritage finds, drainage lines, waterbodies etc.

As the CSEM survey will take place during the dry season, erosion and sediment controls are unlikely to be required. The requirement for any controls will be assessed by the project team at the time of excavation of the pits to ensure compliance with the EA.

Following completion of the CSEM survey, all equipment will be removed, and holes will be backfilled to leave the environment in the condition it was prior to the commencement of the survey.

## 3.2 Phase 2 Exploration Activities

### 3.2.1 Exploration Drilling

Following completion and analysis of the results of the initial Phase 1 exploration activities (as described in **Section 3.1**), Anglo is proposing to undertake exploration drilling.

The drill pads will be 30 m x 30 m, and each pad will include one drill hole and up to three temporary sumps. Drilling will typically be to depths ranging from approximately 400 m to 900 m, but may be up to 1,200 m depending on geology. A diamond drill rig will be used (**Plate 3.4**) with mud rotary technique through the cover overburden, followed by diamond core drilling into the basement geology.

A total of approximately 24 exploration drill pads will be constructed for the exploration program, which includes up to 22 drill pads within the Subject Land (**Figure 8**).

Drilling will only occur in the dry season, and is currently planned to commence in August 2023 through to approximately October 2026. Each hole will take approximately 5 to 21 days to drill depending on depth and ground conditions. One drill rig and three 4WD vehicles will be used for this survey. Some access tracks are required to be constructed for the Phase 2 drilling program (refer **Section 3.3.2**).

The total estimated surface disturbance for the Exploration Drilling within the Subject Land is approximately 1.98 ha.

Drilling activities will be undertaken in accordance with the EA, and will include:

- Completion of a preclearance survey to identify any ecological and cultural heritage values of the proposed drill pad, and to determine if the drill pad needs to be relocated
- Pegging of the drill pad centre point and corners
- Construction of access tracks to the drill pad location
- Clearing of any scrub / groundcover vegetation, and stockpiling of topsoils
- Installation of sediment and erosion control structures as required
- Excavation of temporary sumps and commencement of drilling
- Geophysical logging of the boreholes and cores
- Grouting and capping of boreholes
- Removal of all machinery, equipment and wastes
- Rehabilitation of the drill site to return the site to its pre-disturbed state.

All drilling muds and fluids will be collected and contained in shallow temporary sumps excavated in the drill pad. Where feasible, biodegradable muds and fluids will be utilised.

All fuels and oils will be stored in accordance with the relevant Australian Standards (including AS1940) to minimise the risk of spills. Fully stocked spill kits will be readily available at each drill pad, and any spills will be cleaned up immediately. All refuse will be appropriately stored and removed from the drill sites at the completion of drilling.

Water supply for drilling operations will be sourced from existing stock watering dams with agreement from the landholder for the drill site locations. Water will be trucked to the drill pads via water carts, as required. There will be no requirement for water take from surface waters or groundwaters for the drilling program.



**Plate 3.4 Example of Drill Rigs**

Indicative locations for these drill holes have been provided in **Figure 8**, given the locations of the drill sites will initially be dependent on the findings from the Phase 1 exploration activities. The final siting of the drill holes will take into consideration the following:

- Findings of the Phase 1 exploration works
- Limitations to exploration activities as described in the EA, including:
  - No activities within 100 m of a Historical, Archaeological or Ethnographic site (Condition A14)
  - Drilling activities at least 100 m from riverine areas to avoid watercourses and drainage lines (Condition B22)
  - No activities within a Category A ESA (Condition A13)
  - No activities involving machinery within 1,000 m of a Category A ESA (Condition A13)
- Avoiding areas of Essential Habitat
- Avoiding areas mapped as potential terrestrial GDEs
- Avoiding the pipeline easement
- Located at least 100 m from mapped drainage lines
- Located at least 100 m from mapped wetlands.

The final locations of the drill sites will also factor in any additional conditions imposed in the RIDA. A preclearance survey for each proposed drill site will also be undertaken prior to any land disturbance to identify any ecological or heritage values that may further constrain the siting of drilling, such as riparian vegetation, mature trees, heritage finds, drainage lines, waterbodies etc., and the drilling program will avoid disturbance to these features.

Erosion and sediment controls will be installed to ensure that any runoff from the drill pads is appropriately managed and contained. Controls will be designed to minimise soil erosion from wind, rain and runoff, and to allow stormwater to pass through or around the site in a controlled manner. Clearing of the drill pads will be undertaken immediately prior to activities taking place to minimise the time that soil is left exposed to further limit erosion potential.

All exploration boreholes will be drilled and rehabilitated in accordance with the requirements of the EA and GABORA Water Plan to ensure there are no adverse impacts on groundwater resources. A suitably licenced class 3 water bore driller will be engaged for the construction and sealing of boreholes.

Following the completion of drilling activities at each drill site, boreholes will be grouted with cement to the full depth of the borehole, and capped to the relevant depth depending on the land type, in accordance with condition B16 of the EA. Boreholes on land to be used for cropping will be capped at least 1 m below the ground surface, boreholes on other land not used for cropping will be capped approximately 300 mm below the ground surface, and boreholes on rocky outcrops will be capped at surface level.

Any non-biodegradable drilling muds and fluids will be removed from the temporary sumps and disposed off-site. The cleaned out temporary sumps will be backfilled with stockpiled soil. All materials and refuse from

the drill pad area will be removed and disposed off-site. Any sediment and erosion control structures will be removed. Stripped topsoil will be re-spread on the decommissioned drill pad. Natural regeneration of vegetation will occur from the inherent seedstock in the topsoil.

A post clearance / rehabilitation survey will then be undertaken by an appropriately qualified person and a report prepared to confirm that the drill sites (and any associated access tracks) have been appropriately rehabilitated in accordance with the conditions of the EA and RIDA.

### **3.3 Temporary Ancillary Activities**

#### **3.3.1 Access Tracks**

##### **3.3.1.1 Phase 1 Activities**

No tracks will be cleared for the proposed Phase 1 exploration activities, with the team accessing survey locations via 4WD or ATVs.

##### **3.3.1.2 Phase 2 Activities**

It is estimated that up to approximately 22 km of temporary access tracks may be required within the Subject Land for the Phase 2 drilling program. The tracks will have an approximate width of 3 m. Indicative locations of track are shown on **Figure 8**. The total estimated disturbance for the temporary access tracks within the Subject Land is 6.60 ha.

The survey team will primarily utilise existing tracks where possible, however for tracks requiring construction, a grader or loader will be used. A grader will be used in areas where there is minimal tree and shrub cover. In areas where there are trees or shrubs, the tracks will be cleared using a loader applying the “blade up” method to minimise disturbance to topsoil and the roots of trees and shrubs. Tracks will only be cleared as required, and all clearing activities will take place in the dry season.

A preclearance survey for the proposed access track locations will also be undertaken prior to any land disturbance to identify any ecological or heritage values that may constrain the alignment of the access tracks, such as riparian vegetation, mature trees, heritage finds, drainage lines, waterbodies etc.

The locations of any waterway crossings required will also be assessed during the preclearance survey to confirm that the chosen locations provide minimal disturbance to the drainage line and surrounding vegetation. Waterway crossings for new tracks will be minimised and avoided where possible. Any waterway crossing locations for the tracks will be selected to avoid areas with high and/or steep banks, as far as possible. Crossing locations will also be selected in areas where the waterway has a stable bed and banks, and there is no water flow, and no ponded water. Where necessary, erosion protection will be provided in any bank cut areas in waterway crossings. No temporary or permanent structures will be constructed within the bed of the waterway, other than appropriate sediment and erosion controls.

Any access tracks crossing floodplain areas will be inspected prior to construction and realigned to avoid any sensitive floodplain features such as mature trees or waterholes. Access tracks will be constructed along the natural grades as far as possible to avoid any significant cutting and/or filling in floodplain areas. Access track construction work will be conducted during the dry season to avoid any impacts on watercourse or floodplain flows. Erosion and sediment controls will be installed as required to maintain compliance to the EA.

Any soils cleared during construction of the tracks will be stockpiled in windrows adjacent to the tracks.

All access tracks will be constructed and maintained in accordance with the relevant conditions in the EA, including for any tracks required to be constructed across drainage lines. The alignment and construction of the access tracks will also factor in any additional conditions imposed in the RIDA.

Following completion of drilling and once the access track is no longer required, any erosion and sediment controls will be removed and the stockpiled soils will be respread across the access tracks. Natural regeneration of vegetation will occur from the inherent seedstock in the topsoil.

### 3.3.2 Accommodation Camps

#### 3.3.2.1 Phase 1 Activities

No accommodation camps will be required to be constructed for the exploration team for the Phase 1 activities.

#### 3.3.2.2 Phase 2 Activities

A temporary accommodation camp will be required by the exploration team for the Phase 2 drilling program, however this camp is not located within the Subject Land (refer **Figure 8**). There will be no disturbance associated with the construction or operation of the Accommodation Camp within the Subject Land.

## 3.4 Total Disturbance

A summary of the total proposed disturbance for the Project within the Channel Country SEA (i.e. the Subject Land) is provided in **Table 3.1**.

**Table 3.1 Summary of Proposed Disturbance within the Subject Land**

Proposed Activity	Description of Activity within the Subject Land	Indicative Timing of Activity within the Subject Land	Total Proposed Disturbance within the Subject Land
<b>PHASE 1 EXPLORATION ACTIVITIES</b>			
<b>Passive Seismic Survey</b>	<b>114 PS Sites</b> <ul style="list-style-type: none"> <li>- Minimal ground disturbance. Clearing of vegetation will be avoided. No new access tracks are required.</li> <li>- PS holes are approximately 12cm wide x 12cm long and constructed with handheld digging tools.</li> <li>- At the completion of the survey all survey equipment will be removed and holes backfilled.</li> </ul>	June to July 2023	<b>0.0002 ha</b>
<b>Ground Gravity Survey</b>	<b>1,111 Ground Gravity Sites</b> <ul style="list-style-type: none"> <li>- No ground disturbance. No excavation or vegetation clearing is required. No new access tracks are required.</li> <li>- Equipment will be placed on the ground surface and gravity measurements will be taken.</li> <li>- At the completion of the survey the equipment will be removed.</li> </ul>	June to July 2023	<b>Nil</b>

Proposed Activity	Description of Activity within the Subject Land	Indicative Timing of Activity within the Subject Land	Total Proposed Disturbance within the Subject Land
<b>CSEM Survey</b>	<p><b>490 CSEM Sites</b></p> <ul style="list-style-type: none"> <li>- Minimal ground disturbance. Clearing of vegetation will be avoided where possible. No new access tracks are required.</li> <li>- CSEM survey comprises:               <ul style="list-style-type: none"> <li>- 36 current electrode pits approximately 1.5 m long x 1.5 m wide, constructed using a bobcat</li> <li>- 399 potential electrode pits approximately 0.35 m long x 0.25 m wide, constructed using a mechanical bobcat mounted auger</li> <li>- 11 vertical magnetometer holes approximately 0.25 m long x 0.25 m wide, constructed using a mechanical bobcat mounted auger</li> <li>- 44 horizontal magnetometer trenches approximately 1.2 m long x 0.25 m wide, constructed using handheld digging tools</li> </ul> </li> <li>- At the completion of the survey all survey equipment will be removed, and pits backfilled.</li> </ul>	August to September 2023	<b>0.01 ha</b>
<b>PHASE 2 EXPLORATION ACTIVITIES</b>			
<b>Exploration Drilling</b>	<p><b>22 Drill Pad Sites</b></p> <ul style="list-style-type: none"> <li>- Vegetation on the drill pads will be cleared and topsoils stockpiled.</li> <li>- Drill pads will be approximately 30 m x 30 m, and include one drill hole and up to three sumps.</li> <li>- At the completion of the drilling, the borehole will be grouted and capped, sumps cleaned out, topsoil respread, and the drill pad rehabilitated.</li> </ul>	August 2023 to October 2026	<b>1.98 ha</b>
<b>Temporary Access Tracks</b>	<p><b>22 km of Access Tracks</b></p> <ul style="list-style-type: none"> <li>- Tracks will be cleared using a grader or loader.</li> <li>- Up to 22 km temporary access tracks of 3 m wide may be required for the drilling program.</li> <li>- At the completion of the drilling, stockpiled topsoil will be respread on the tracks.</li> </ul>	August 2023 to October 2026	<b>6.60 ha</b>
<b>Temporary Accommodation Camps</b>	<p><b>Nil Accommodation Camps</b></p> <ul style="list-style-type: none"> <li>- One temporary accommodation camp is required for the proposed drilling program. This is not located within the Subject Land.</li> </ul>	N/A	<b>Nil</b>
<b>Total Proposed Disturbance within Subject Land</b>			<b>8.59 ha</b>

It should be noted that all ground disturbance associated with the proposed exploration activities is temporary, and any areas disturbed by exploration activities will be rehabilitated to a stable landform similar to that of the surrounding undisturbed areas at the completion of exploration activities, in accordance with Condition B28 of the EA. Rehabilitation activities will occur prior to the commencement of the wet season.

Further, the Eligibility Criteria of the EA conditions disturbance to no more than 10 ha at any one time. At all times, Anglo will not exceed the maximum 10 ha disturbance limit as set by the EA, and will undertake progressive certification of rehabilitated disturbance areas as required to maintain compliance to this disturbance limit.

## 4.0 SEA Assessment

### 4.1 Assessment Criteria

The RPI Regulations provide the following required outcome for activities within an SEA:

*The activity will not result in a widespread or irreversible impact on an environmental attribute of a strategic environmental area*

In accordance with Part 3 of the RPI Regulation, the environmental attributes for the Channel Country SEA are:

- (a) *the **natural hydrologic processes** of the area characterised by –*
  - (i) *natural, unrestricted flows in and along stream channels and the channel network in the area; and*
  - (ii) *overflow from stream channels and the channel network onto the flood plains of the area, or the other way; and*
  - (iii) *natural flow paths of water across flood plains connecting waterholes, lakes and wetlands in the area; and*
  - (iv) *groundwater sources, including the Great Artesian Basin and springs, that support waterhole persistence and ecosystems in the area;*
- (b) *the **natural water quality** in the stream channels and aquifers and on flood plains in the area;*
- (c) *the **beneficial flooding** of land that supports flood plain grazing and ecological processes in the area.*

The RPI Regulations (Schedule 2, Part 5, Section 15) provides SEA Assessment Criteria to determine if the required outcome can be met through prescribed solutions.

### 4.2 Assessment of Compliance to Prescribed Solutions

An assessment of the project against the prescribed solutions has been undertaken to confirm if the project activities can meet the required outcome, and a summary of the results is provided in **Table 4.1**.

**Table 4.1 Compliance of Proposed Activities to Prescribed Solutions**

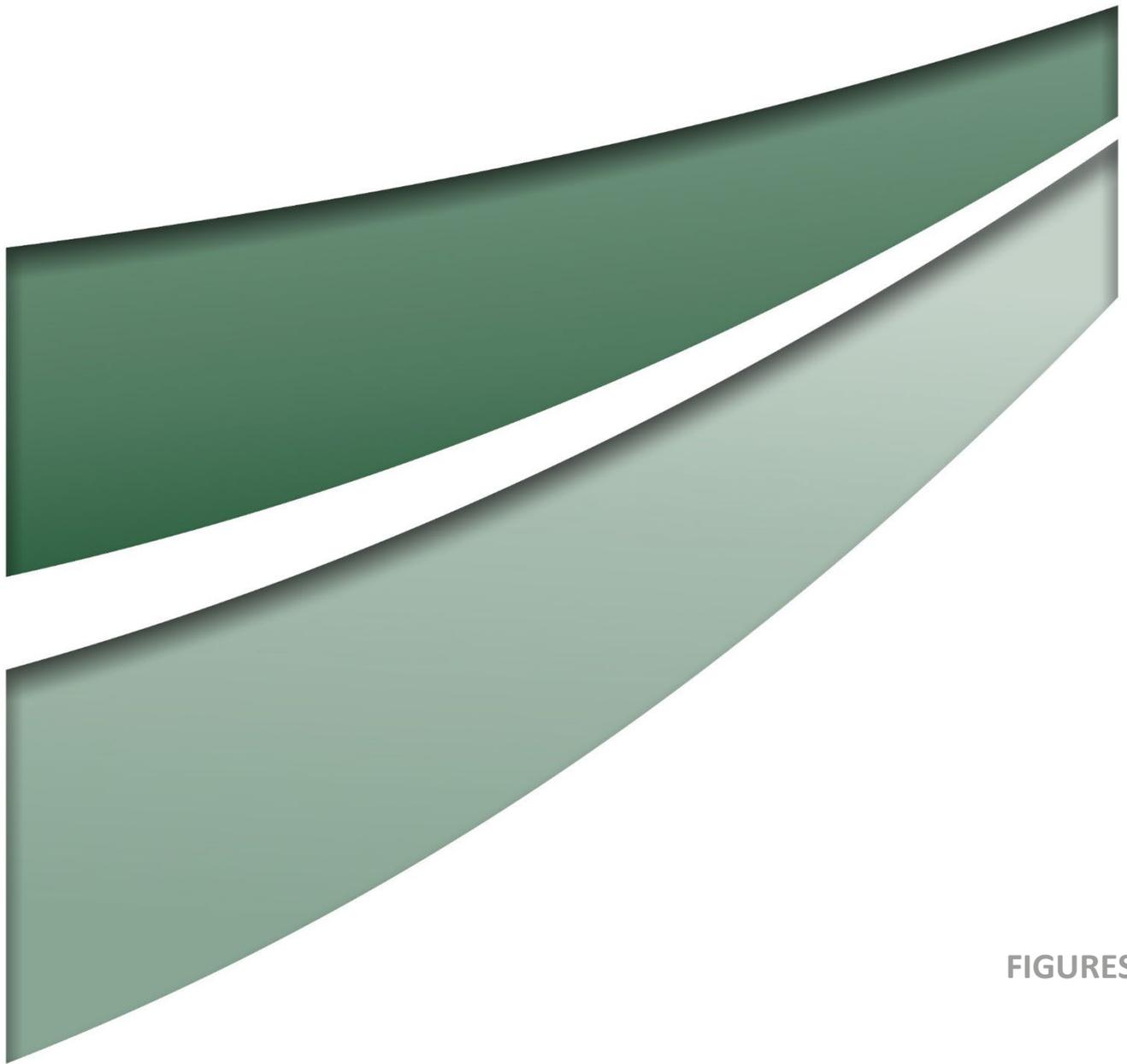
Prescribed Solution	Environmental Attribute	Evidence of Compliance
<p><b>The activity will not, and is not likely to, have a direct or indirect impact on an environmental attribute of the SEA</b></p>	<p><b>Hydrologic processes</b></p>	<p>The proposed activities will not directly or indirectly impact on hydrological processes as they:</p> <ul style="list-style-type: none"> <li>- are temporary in nature.</li> <li>- will be undertaken in the dry season.</li> <li>- will limit clearing of land and vegetation, and avoid clearing riparian vegetation.</li> <li>- do not involve significant earthworks.</li> <li>- will avoid disturbance near surface water features.</li> <li>- will not install any permanent or temporary structures in waterways for access track crossings.</li> <li>- will not require any surface water or groundwater take.</li> <li>- will not impact regimes associated with in-channel or overbank flows.</li> <li>- will be located at least 100 m from mapped drainage lines (for drilling activities), and at least 50 m from mapped drainage lines (for survey activities involving ground disturbance).</li> <li>- will be located at least 100 m from mapped wetlands (for drilling and survey activities involving ground disturbance).</li> <li>- will avoid areas of potential terrestrial GDEs (for drilling activities).</li> <li>- will be cognisant of the requirements of the EA and GABORA Water Plan for drilling and rehabilitating bores.</li> <li>- will utilise a suitably licenced water bore driller for the construction and sealing of bores.</li> <li>- will rehabilitate all disturbance areas following completion of the surveys and drilling program, to leave the environment in the condition it was prior to the commencement of the survey.</li> </ul>
	<p><b>Natural water quality</b></p>	<p>The proposed activities will not directly or indirectly impact water quality of in channel or floodplain waters as they:</p> <ul style="list-style-type: none"> <li>- are temporary in nature.</li> <li>- will be undertaken in the dry season.</li> <li>- will limit clearing of land and vegetation, and avoid clearing riparian vegetation.</li> <li>- do not involve significant earthworks.</li> <li>- will install sediment and erosion controls where necessary.</li> <li>- will not release contaminants to the environment.</li> <li>- will be located at least 100 m from mapped drainage lines (for drilling activities), and at least 50 m from mapped drainage lines (for survey activities involving ground disturbance).</li> <li>- will be located at least 100 m from mapped wetlands (for activities involving ground disturbance).</li> <li>- will rehabilitate all disturbance areas following completion of the surveys and drilling program, to leave the environment in the condition it was prior to the commencement of the survey.</li> </ul>

Prescribed Solution	Environmental Attribute	Evidence of Compliance
	<b>Beneficial flooding</b>	<p>The proposed activities will not directly or indirectly impact beneficial flooding processes as they:</p> <ul style="list-style-type: none"> <li>- are temporary in nature.</li> <li>- will be undertaken in the dry season.</li> <li>- will limit clearing of land and vegetation, and avoid clearing riparian vegetation.</li> <li>- do not involve significant earthworks.</li> <li>- will not impact regimes associated with in-channel or overbank flows.</li> <li>- will not impede the flow of floodwaters.</li> <li>- will not alter the path of floodwaters.</li> <li>- will rehabilitate all disturbance areas following completion of the surveys and drilling program, to leave the environment in the condition it was prior to the commencement of the survey.</li> </ul>

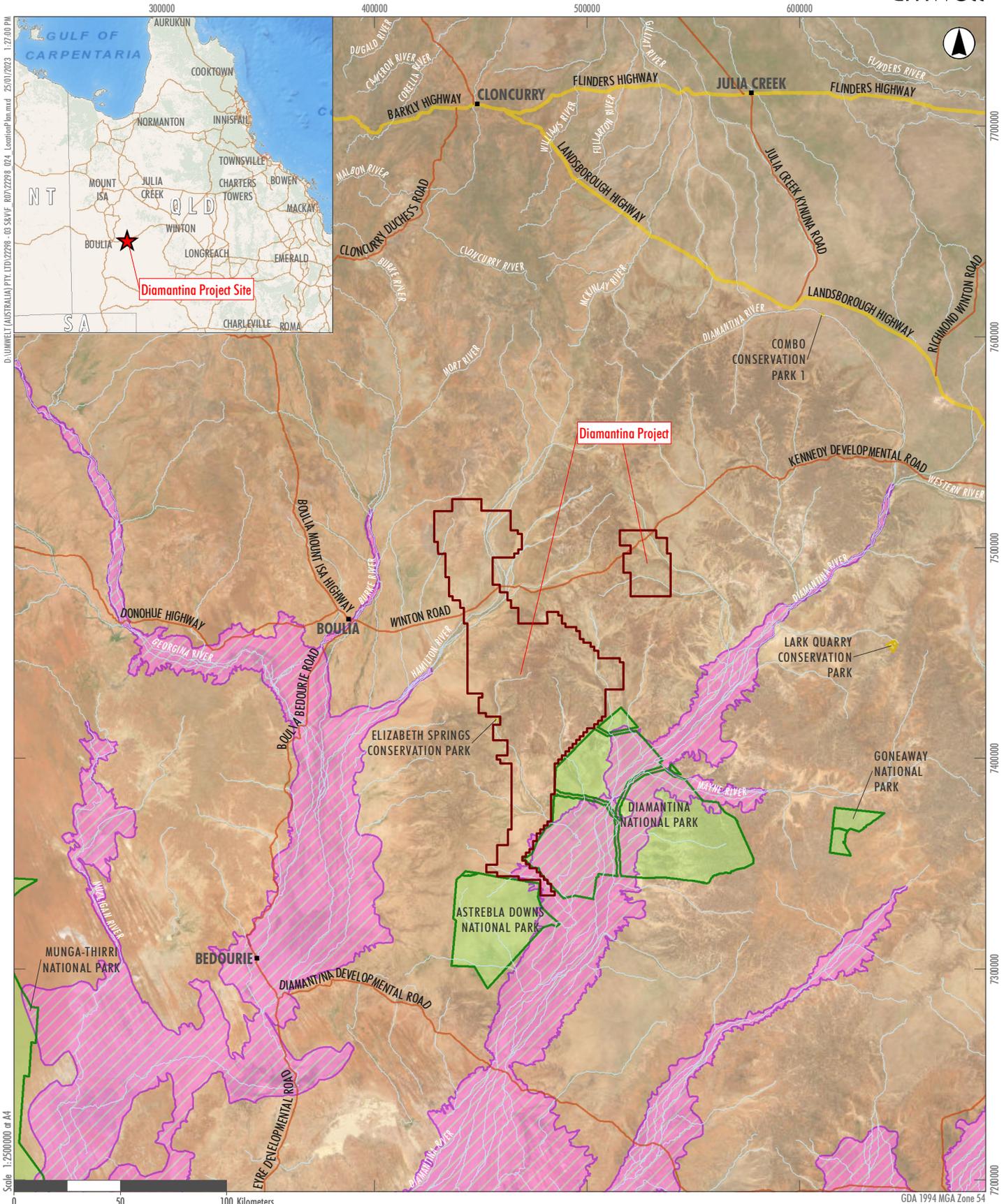
Prescribed Solution	Evidence of Compliance
<b>OR</b>	
<p><b>(i) If the activity is being carried out in a designated precinct in the SEA—the activity is not an unacceptable use for the precinct.</b></p> <p style="text-align: right;"><b>AND</b></p>	<p>The activity is not an unacceptable use for the precinct:</p> <ul style="list-style-type: none"> <li>- The full extent of the Channel Country SEA is a designated precinct. The proposed exploration activities do not include the unacceptable uses in a designated precinct as listed in the RPI Regulation. That is, the proposed activities do not include open cut mining, broadacre cropping or a water storage (dam).</li> </ul>
<p><b>(ii) the construction and operation footprint of the activity on the environmental attribute is minimised to the greatest extent possible.</b></p> <p style="text-align: right;"><b>AND</b></p>	<p>The footprint of the proposed activities will be minimised as far as possible:</p> <ul style="list-style-type: none"> <li>- Existing access tracks will be used where possible.</li> <li>- Watercourse crossings for new tracks will be minimised and avoided where possible.</li> <li>- Clearing of vegetation will be minimised and avoided where possible.</li> <li>- Clearing for the proposed activities will adhere to clearing limits specified in the EA.</li> <li>- All ground disturbance will be rehabilitated to leave the environment in the condition it was prior to the commencement of the program.</li> </ul>
<p><b>(iii) the activity does not compromise the preservation of the environmental attribute within the SEA.</b></p> <p style="text-align: right;"><b>AND</b></p>	<p>The activity does not compromise the preservation of the environmental attributes within the SEA:</p> <ul style="list-style-type: none"> <li>- The proposed activities will not significantly impact, nor compromise the preservation of any of the environmental attributes of the Channel Country SEA.</li> <li>- All ground disturbance will be rehabilitated to leave the environment in the condition it was prior to the commencement of the program.</li> </ul>
<p><b>(iv) if the activity is to be carried out in a SEA identified in a regional plan—the activity will contribute to the regional outcomes, and be consistent with the regional policies, stated in the regional plan.</b></p>	<p>The activity is consistent with regional outcomes:</p> <ul style="list-style-type: none"> <li>- The Subject Land is located within the Diamantina Shire Council area, which forms a part of the Central West Regional Plan (CWRP). The CWRP was prepared in 2009 prior to the development of the RPI Act, and therefore does not reference Strategic Environmental Areas. Despite this, the proposed activities are consistent with the regional outcomes and policies as stated in the CWRP.</li> <li>- The Diamantina Shire Council Planning Scheme (DSCPS) was prepared in July 2021, and includes reference to the Channel Country SEA as a part of the General Development Codes (refer the DSCPS, Table 6.2.2.1, Performance Outcome [PO] 26). The proposed activities are consistent with the Performance Outcomes of the code.</li> </ul>

## 5.0 Conclusion

Based on the exploration activities described in **Section 3.0**, and the assessment of compliance of the activities to the prescribed solutions provided in **Section 4.2**, the proposed activities for the Diamantina Project within the SEA will be compliant with the required outcome for activities within the Channel Country SEA. The disturbance associated with the proposed activities is minor, will not result in a widespread or irreversible impact on any environmental attributes of the Channel Country SEA, and will not impact cattle grazing or ecological processes in the region.

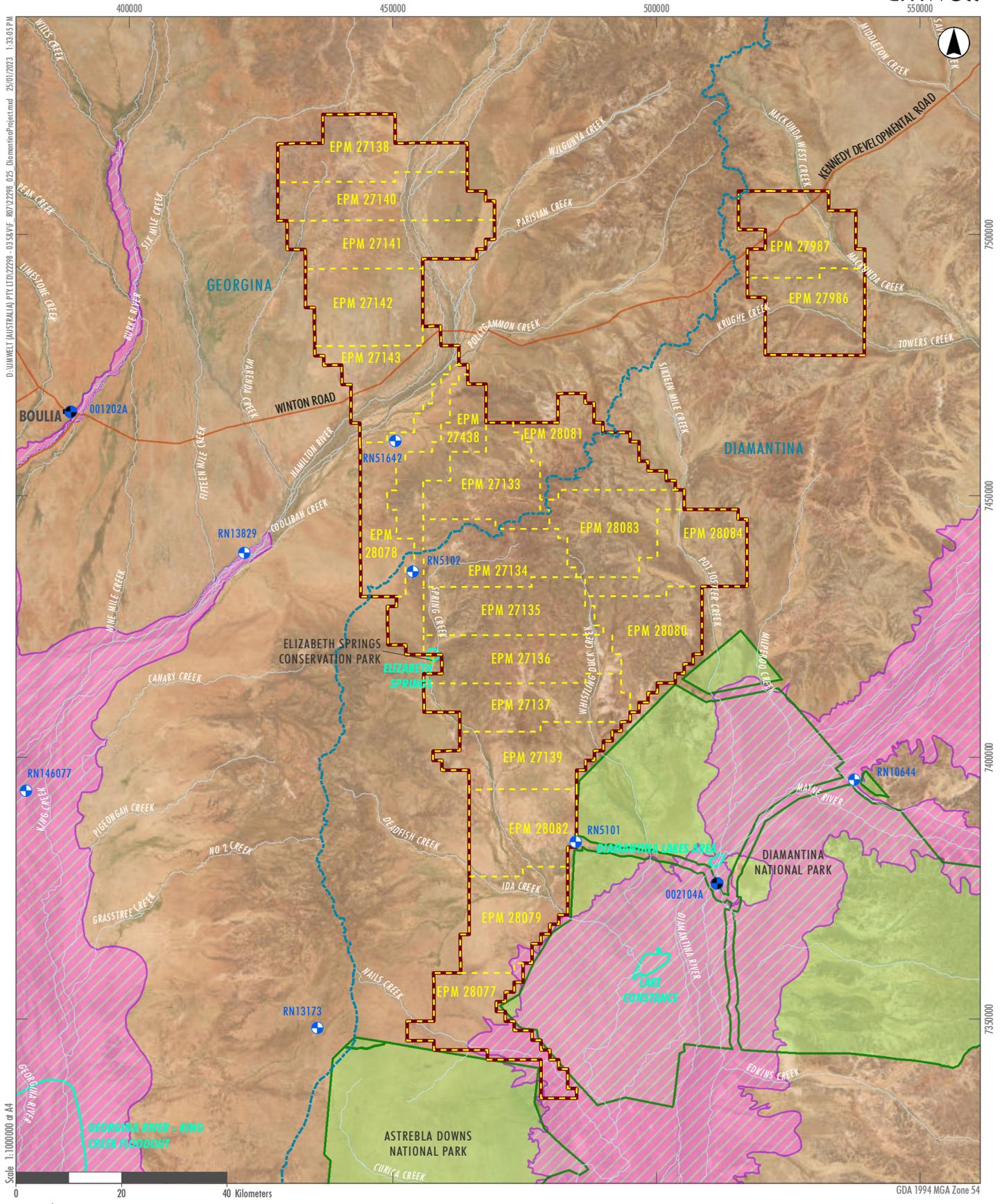


FIGURES



**FIGURE 1**  
**Location Plan**

Image Source: ESRI Basemap (2021) Data source: QLD Spatial (2022)

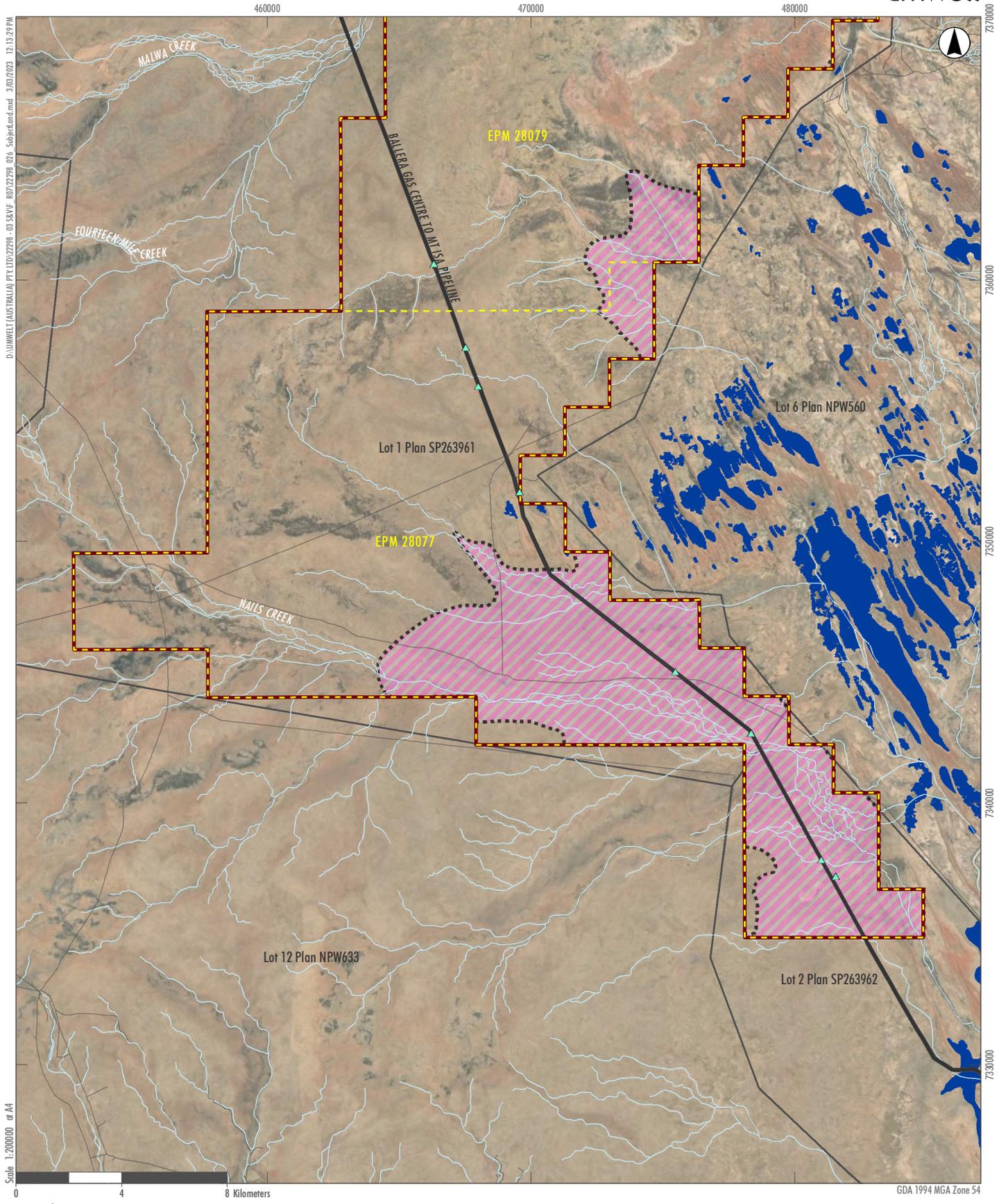


D:\UMWELT (AUSTRALIA) PVT LTD\22298-03\S&VF- RD\22298-03\S&VF- 25/01/2023 1:33:05 PM  
 Scale 1:1000000 at A4  
 GDA 1994 MGA Zone 54

- Legend**
- Diamantina Project Site
  - Channel Country Strategic Environmental Area
  - EPM - Granted
  - Major Roads
  - Drainage Lines
  - Surface Water Gauging Stations
  - ⊕ Groundwater Monitoring Bores
  - Drainage Basins
  - Directory of Important Wetlands (DIWA)
  - Protected Areas
  - Conservation Park
  - National Park

**FIGURE 2**  
**Diamantina Project Site**

Image Source: ESRI Basemap (2021) Data source: QLD Spatial (2022)



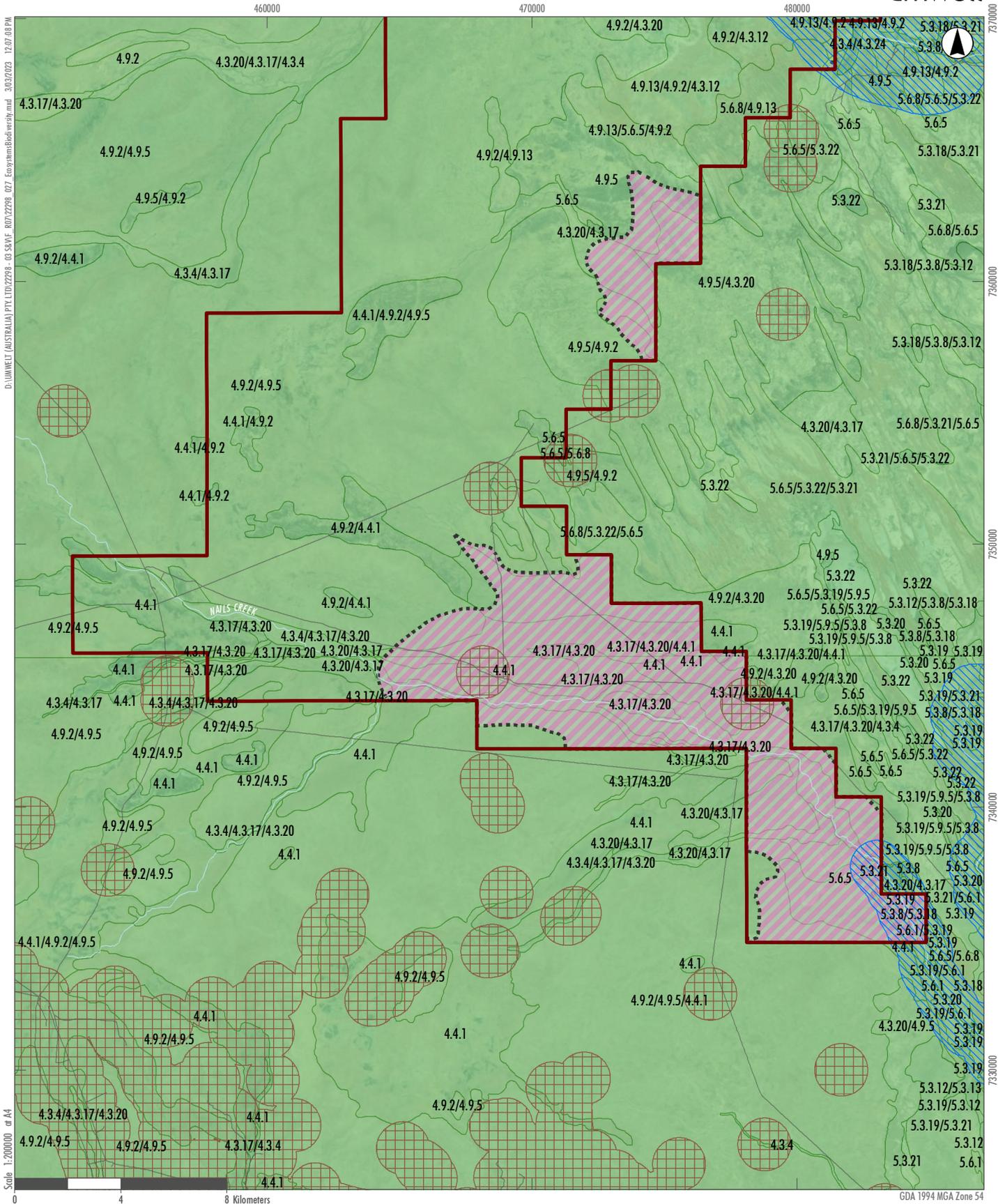
D:\UMWELT (AUSTRALIA) PTY LTD\22298 - 03 SRVF - R07\22298\_026\_SubjectLand.mxd 3/03/2023 12:13:29 PM

Scale 1:200000 or A4

- Legend**
- Diamantina Project Site
  - Subject Land
  - EPM - Granted
  - Minor Roads & Tracks
  - Gas Pipeline Easement (for PPL41)
  - Property Boundaries
  - VM Act Watercourses and Drainage Lines
  - VM Act Wetlands
  - ▲ Recorded Cultural Heritage Sites

Image Source: ESRI Basemap (2021) Data source: QLD Spatial (2022)

**FIGURE 3**  
**Subject Land**



D:\UMWELT (AUSTRALIA) PTY.LTD\2298-03 SEAVE ROD\2298-027 Ecosystems\Biodiversity.mxd 30/3/2023 12:07:08 PM

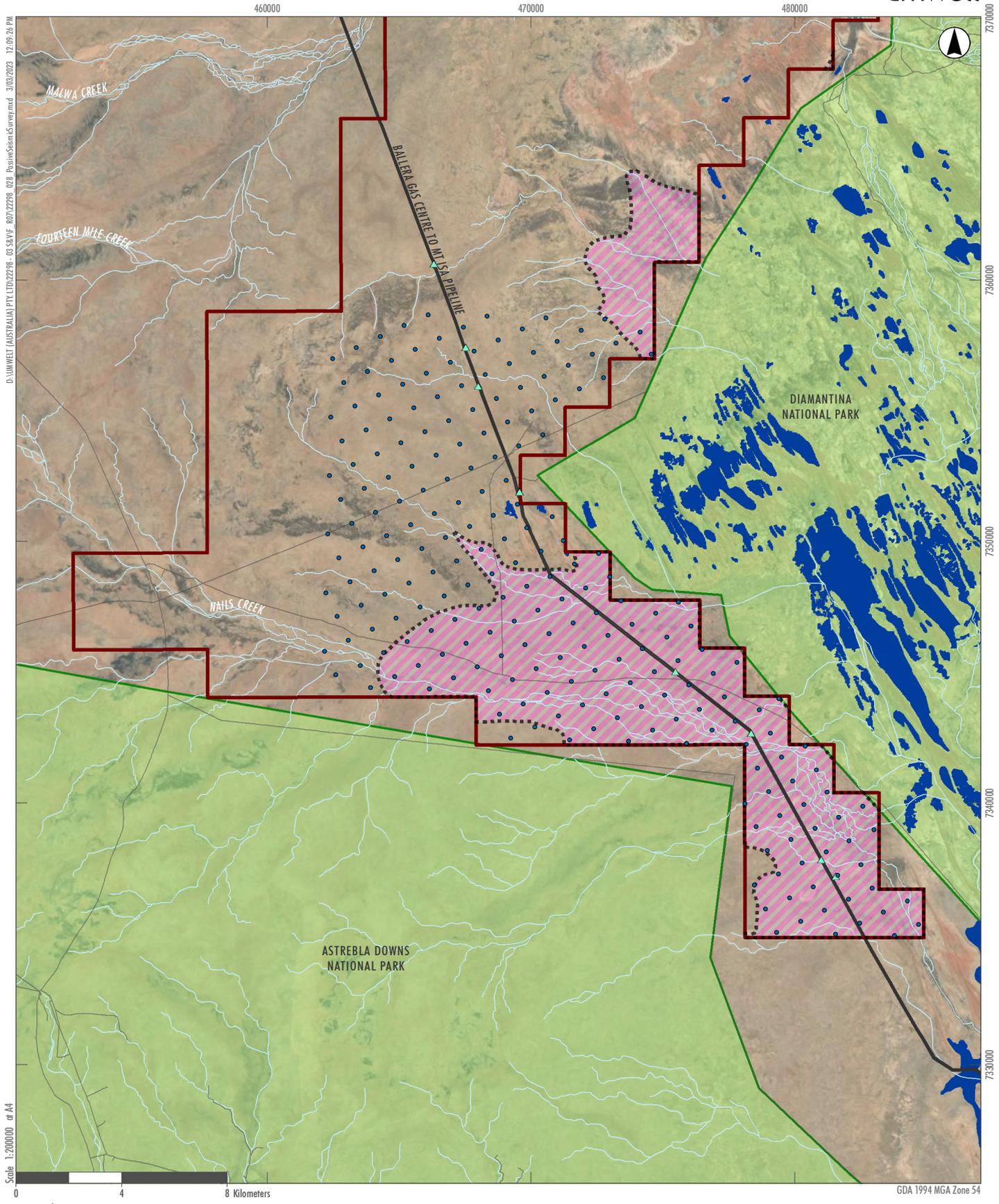
730000  
734000  
738000  
742000

- Legend**
- Diamantina Project Site
  - Subject Land
  - Minor Roads & Tracks
  - Drainage Lines
  - Essential Habitat
  - Statewide Biodiversity Corridors

- Regional Ecosystems (VM Act Status)**
- Endangered
  - Of Concern
  - Least Concern

**FIGURE 4**

**Regional Ecosystems and Biodiversity**



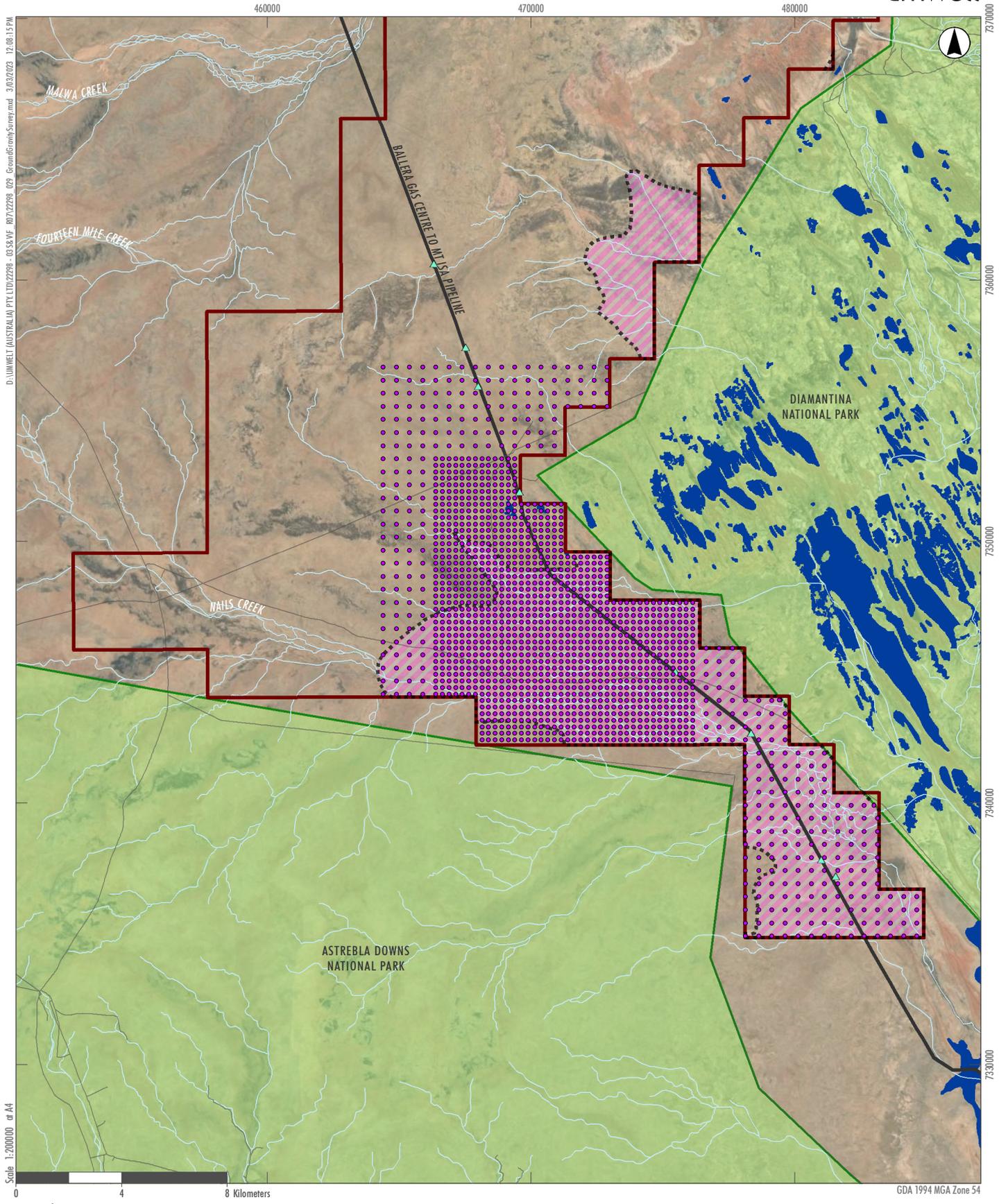
D:\UMWELT (AUSTRALIA) PVT.LTD\22298 - 03 SKVPF - 028\_PassiveSeismicSurvey.mxd 30/03/2023 12:09:26 PM

Scale 1:200000 at A4

- Legend**
- Diamantina Project Site
  - Subject Land
  - Proposed Passive Seismic Survey Locations
  - Minor Roads & Tracks
  - Gas Pipeline Easement (for PPL41)
  - VM Act Watercourses and Drainage Lines
  - VM Act Wetlands
  - Recorded Cultural Heritage Sites
  - National Park (Category A ESA)

Image Source: ESRI Basemap (2021) Data source: QLD Spatial (2022)

**FIGURE 5**  
**Proposed Passive Seismic Survey Locations**



D:\UMWELT (AUSTRALIAN PTY LTD)\2298 - 03 & VF\07\2298 - 03 & VF Ground Gravity Survey.mxd 3/03/2023 12:08:15 PM  
 Scale 1:200000 or A4

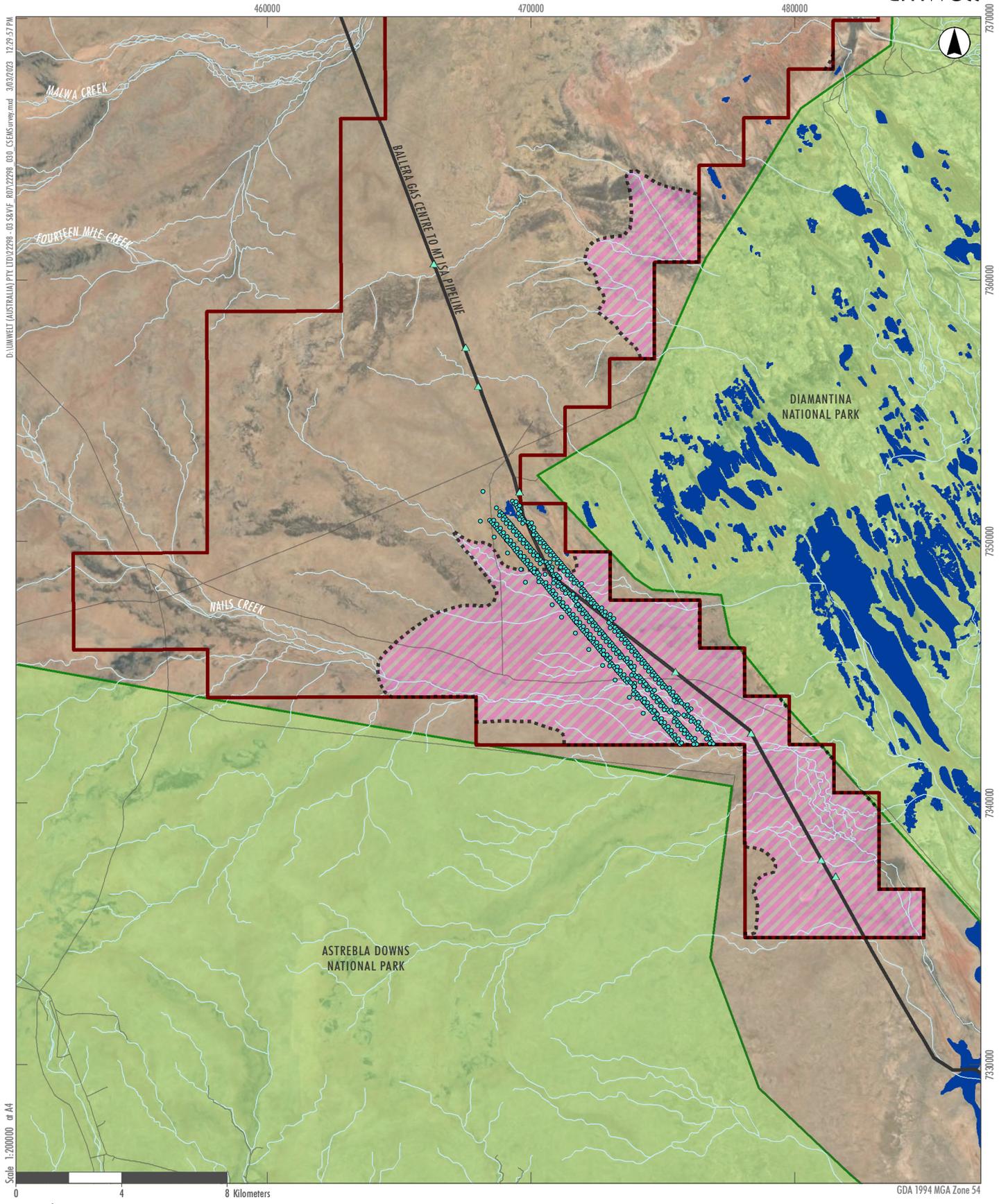
**Legend**

- Diamantina Project Site
- Subject Land
- Proposed Ground Gravity Survey Locations
- Minor Roads & Tracks
- Gas Pipeline Easement (for PPL41)
- VM Act Watercourses and Drainage Lines
- VM Act Wetlands
- ▲ Recorded Cultural Heritage Sites
- National Park (Category A ESA)

Image Source: ESRI Basemap (2021) Data source: QLD Spatial (2022)

**FIGURE 6**

**Proposed Ground Gravity Survey Locations**



D:\UMWELT (AUSTRALIA) PTY LTD\22298 - 03 SRVF - R07\22298\_030\_CSEM\umwelt\_30032023\_12:29:57 PM

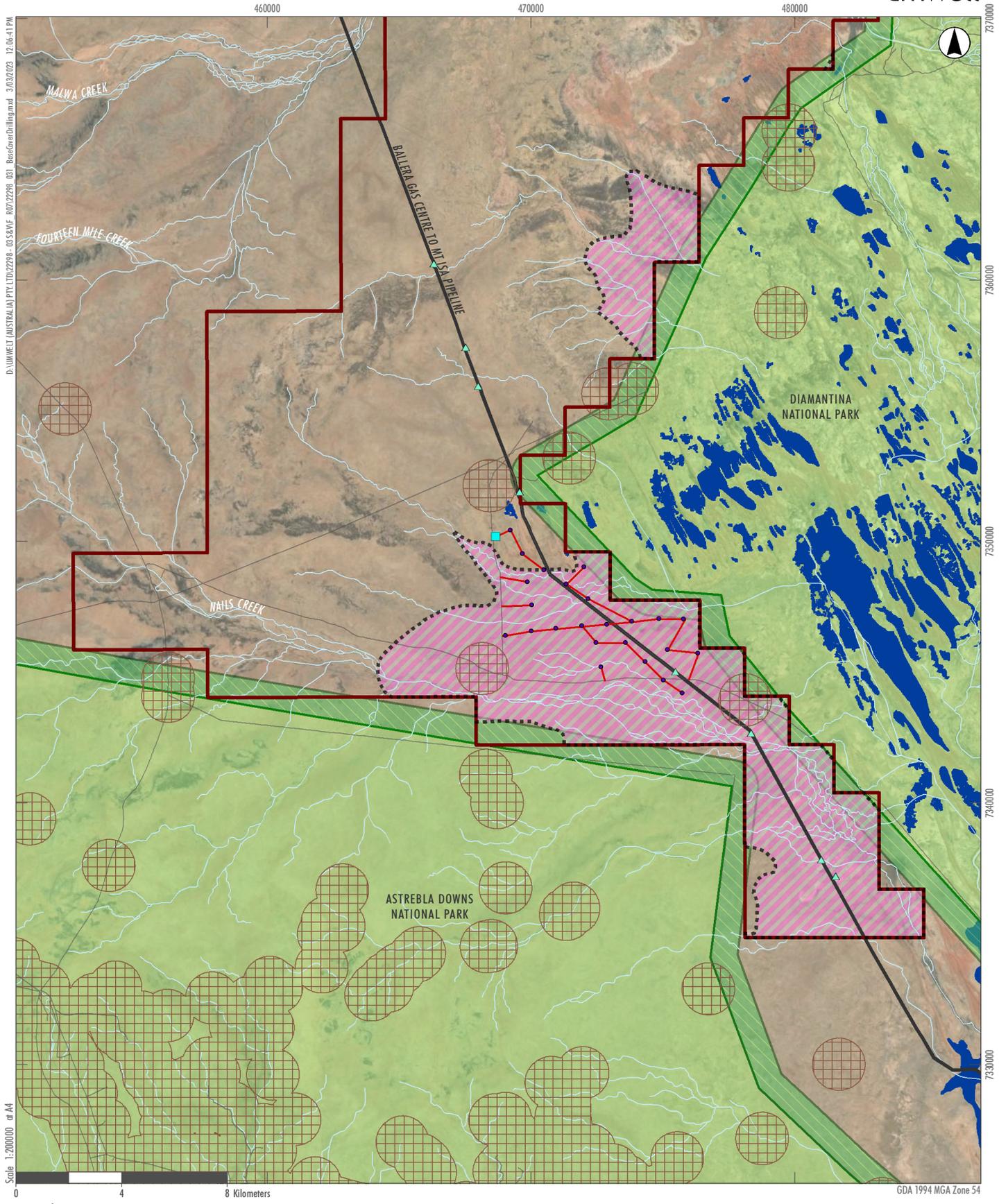
Scale 1:200000 or A4

**Legend**

- Diamantina Project Site
- Subject Land
- Proposed CSEM Survey Locations
- Minor Roads & Tracks
- Gas Pipeline Easement (for PPL41)
- VM Act Watercourses and Drainage Lines
- VM Act Wetlands
- ▲ Recorded Cultural Heritage Sites
- National Park (Category A ESA)

**FIGURE 7**

**Proposed CSEM Survey Locations**



Scale 1:200000 or A4  
0 4 8 Kilometers

- Legend**
- Diamantina Project Site
  - Subject Land
  - Indicative Locations of Exploration Drilling
  - Indicative Locations of New Temporary Access Tracks
  - Proposed Location of Temporary Accommodation Camp
  - Minor Roads & Tracks
  - Gas Pipeline Easement (for PPL41)
  - Essential Habitat
  - VM Act Watercourses and Drainage Lines
  - VM Act Wetlands
  - Recorded Cultural Heritage Sites
  - National Park (Category A ESA)
  - Category A ESA Buffer (1,000m)

FIGURE 8

Indicative Exploration Drilling Locations



**APPENDIX A**

**Environmental Authority P-EA-100152825**

# Permit

*Environmental Protection Act 1994*

## Environmental authority P-EA-100152825

*This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.*

**Environmental authority number:** P-EA-100152825

**Environmental authority takes effect on a date to be decided later.**

### Environmental authority holder(s)

Name(s)	Registered address
ANGLO AMERICAN EXPLORATION (AUSTRALIA) PTY LIMITED	201 Charlotte Street BRISBANE CITY QLD 4000

### Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Non-Scheduled - Mining Activity - Exploration Permit Mineral (EPM)	EPM28077
Non-Scheduled - Mining Activity - Exploration Permit Mineral (EPM)	EPM28078
Non-Scheduled - Mining Activity - Exploration Permit Mineral (EPM)	EPM28079
Non-Scheduled - Mining Activity - Exploration Permit Mineral (EPM)	EPM28080
Non-Scheduled - Mining Activity - Exploration Permit Mineral (EPM)	EPM28081
Non-Scheduled - Mining Activity - Exploration Permit Mineral (EPM)	EPM28082
Non-Scheduled - Mining Activity - Exploration Permit Mineral (EPM)	EPM28083

Environmentally relevant activity/activities	Location(s)
Non-Scheduled - Mining Activity - Exploration Permit Mineral (EPM)	EPM28084

### Additional information for applicants

#### Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

#### Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days)

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website [www.qld.gov.au](http://www.qld.gov.au), using the search term 'duty to notify'.

#### Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority - on the nominated day; or
- b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or
- c) otherwise on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

The anniversary day of this environmental authority is the same day each year as the original take effect date unless you apply to change the anniversary day. The payment of the annual fee will be due each year on this day. An annual return will be due each year on 01 April.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.

Department of Environment and Science  
Delegate of the administering authority  
*Environmental Protection Act 1994*

Permit and Licence Management  
Department of Environment and Science  
GPO Box 2454 BRISBANE QLD 4001  
Phone: 1300 130 372 (option 4)  
Email: [palm@des.qld.gov.au](mailto:palm@des.qld.gov.au)

**Privacy statement**

Pursuant to section 540 of the EP Act, the Department is required to maintain a register of certain documents and information authorised under the EP Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able to take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety, unless alteration is required by the EP Act. There is no general discretion allowing the Department to withhold documents or information required to be kept on the public register. For more information on the Department's public register, search 'public register' at [www.qld.gov.au](http://www.qld.gov.au). For queries about privacy matters please email [privacy@des.qld.gov.au](mailto:privacy@des.qld.gov.au) or telephone 13 74 68.

### **Obligations under the *Environmental Protection Act 1994***

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

### **Other permits required**

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access state controlled roads), the Department of Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

**Conditions of environmental authority**

Conditions of approval for this environmental authority are:

- All reasonable steps must be taken to ensure the activity complies with the eligibility criteria.
- The eligibility criteria and standard conditions contained within the attached document(s) entitled:
  - Eligibility criteria and standard conditions for exploration and mineral development projects – Version 2

**End of conditions.**

**END OF ENVIRONMENTAL AUTHORITY**

# Permit

## Eligibility criteria and standard conditions for exploration and mineral development projects—Version 2

This document provides eligibility criteria and standard conditions for exploration and mineral development licence activities. Eligibility criteria are to be used for making a standard or variation application for an environmental authority. Standard conditions are to be used in an environmental authority (standard or variation application) or where necessary and desirable on an environmental authority (site specific application).

### Eligibility criteria

Eligibility criteria are constraints set to ensure environmental risks associated with the operation of the environmentally relevant activity (ERA) are able to be managed by the standard conditions. Eligibility criteria set out the circumstances in which a standard or variation application for an environmental authority can be made.

### Standard conditions

Standard conditions are the minimum operating requirements an environmental authority holder must comply with.

### Standard applications

If an applicant can meet all of the eligibility criteria, they can make a standard application for an environmental authority that is subject to all standard conditions. Applicants are required to complete a 'Standard application form'.

### Variation applications

If an applicant can meet all of the eligibility criteria but needs to vary one or more of the standard conditions to suit their operational needs, then they can make a variation application for an environmental authority. Applicants are required to complete a 'Variation application form'.

### Site specific applications

Applicants who cannot meet the eligibility criteria must make a site specific application for an environmental authority. Applicants are required to complete a 'Site specific application form'.

### Amendment applications

If the holder of an environmental authority needs to amend a standard condition in the issued environmental authority, then the holder must submit an 'Amendment application form'.

### Application forms

The relevant application forms can be downloaded from the Queensland Government's Business and Industry Portal at [www.business.qld.gov.au/ea](http://www.business.qld.gov.au/ea).

### Definitions

Some terms used in this document are defined in Appendix 2.

### References to other documents

References in this document to laws, regulations, standards, policies, programs, guidelines and similar documents and instruments are to the current version of those documents and instruments, as amended or

replaced from time to time.

### Uranium mining

The Queensland Government has determined that mining activities associated with uranium do not meet the eligibility criteria for this code of environmental compliance. This determination is based on an environmental impact statement (EIS) being triggered for uranium mining activities as they are defined as the “introduction of novel or unproven resource extraction process, technology or activities”. A standard application for mining activities associated with uranium therefore cannot be made. As such a site specific application is required for all mining activities associated with uranium.

### Version history

Version	Effective date	Description of changes
2.00	31 March 2016	Minor amendments to remove outdated legislative requirements and references. Publication number changed from EM586 to ESR/2016/1985.

## Eligibility criteria

- a) The mining activity does not, or will not, at any one time, cause more than 10ha of land to be significantly disturbed;
- b) the mining activity is not, or will not be, carried out in a category A environmentally sensitive area or a category B environmentally sensitive area;
- c) the mining activity is not, or will not be, carried out under an environmental authority under which either of the following is, or is to be, authorised—
  - i. an environmentally relevant activity to which a section of schedule 2 of the Environmental Protection Regulation 2008 applies and for which there is an aggregate environmental score;
  - ii. a resource activity, other than a mining activity, that is an ineligible ERA;
- d) the mining activity is not, or will not be, carried out in a strategic environmental area, unless—
  - i. the mining activity is authorised under an environmental authority for a mining activity relating to a mining claim, an environmental authority for a mining activity relating to an exploration permit or an environmental authority for a mining activity relating to a mineral development licence; or
  - ii. the mining activity involves alluvial mining and is, or will be, carried out at a place that is not in a designated precinct in a strategic environmental area; or
  - iii. the mining activity involves clay pit mining, dimension stone mining, hard rock mining, opal mining or shallow pit mining and is, or will be, carried out at a place that is not in a designated precinct in a strategic environmental area.
- e) the mining activity does not, or will not, at any one time, cause more than 5000m<sup>2</sup> of land to be disturbed at a camp site;
- f) no more than 20m<sup>3</sup> of any substance is, or will be, extracted from each kilometre of a riverine area affected by the mining activity in a year.

## Standard conditions

Schedule A – General conditions
<b>Financial Assurance</b>
<p><b>A1:</b> The holder of the environmental authority must submit the required amount of financial assurance to the administering authority prior to carrying out any activities on the mining tenement. If the activities that are being carried out by the holder of the environmental authority are altered so as to cause a change in the category of total area of disturbance shown in Appendix 4 - Form 3: Schedule of Rehabilitation Costs, the holder of the environmental authority must submit an application to amend their financial assurance to the administering authority. If an application is lodged to transfer the environmental authority to another person or company, the proposed transferee must submit the required financial assurance prior to the transfer taking effect.</p>
<p>Note 1 - Financial assurance must be calculated in accordance with Form 3: Schedule of Rehabilitation Costs in Appendix 4 of this environmental authority.</p> <p>Note 2 - Chapter 5, Part 12, Division 2 of the <i>Environmental Protection Act 1994</i> requires that the holder of the environmental authority gives the administering authority a financial assurance in a form acceptable to the administering authority. When necessary, the holder of the environmental authority must submit an application to amend their financial assurance under section 302 of the <i>Environmental Protection Act 1994</i>. The holder of the environmental authority must lodge a single financial assurance with the District Mining Registrar, Department of Natural Resources and Mines. The financial assurance will consist of two components:</p> <ul style="list-style-type: none"><li>(i) An amount to cover the potential costs to the Department of Environment and Heritage Protection of rehabilitating areas disturbed by mining activities should the environmental authority holder failure to do so; and</li><li>(ii) An amount to cover the potential costs to the Department of Natural Resources and Mines of restoring property improvements disturbed by mining activities and the failure of the tenure holder to pay rents and royalties.</li></ul>
<b>Land disturbance</b>
<p><b>A2:</b> The holder of the environmental authority must ensure that the area and duration of disturbance to land and vegetation is minimised. Not more than 1000m<sup>2</sup> can be disturbed at any one location, excluding campsites.</p>
<p>Note 3 – To minimise the area and duration of disturbance to land and vegetation the following measures or similar measures can be used:</p> <ul style="list-style-type: none"><li>– avoid disturbing large and/or mature trees;</li><li>– select specific trees to be cleared and avoid causing damage to surrounding vegetation;</li><li>– where practical leave the rootstock intact to promote regeneration and regrowth.</li></ul>

Note 4 – Before carrying out activities on the tenement refer to the Technical Guideline ‘Good Relations with Landowners’ and the Department of Mines and Energy Code of Conduct, ‘Procedure for Sound Landholder/Explorer Relations’.

### **Air quality**

**A3:** The holder of the environmental authority must not cause an unreasonable release of dust.

Note 5 - To prevent the unreasonable release of dust, the following measures or similar measures can be used:

- altering work practices to avoid or minimise the generation of dust;
- scheduling activities for times when they will have least impact;
- spraying water on roads and tracks;
- revegetating disturbed areas as soon as practicable;
- leaving or creating wind breaks or screening; and
- installing pollution control equipment (e.g. fitting bag filters or a cyclone to dust generating equipment).

### **Noise emissions**

**A4:** The holder of the environmental authority must not cause unreasonable noise at a noise sensitive place.

Note 6 - To prevent causing unreasonable noise at a noise sensitive place the following measures or similar measures can be used:

- construct and maintain noise barriers and enclosures around noisy equipment or along the noise transmission path;
- implement noise reduction measures at noise sensitive places;
- provide and maintain low noise equipment;
- carry out routine maintenance on fans to minimise bearing noise;
- repair or replace defective mufflers of vehicles and plant with suitable effective mufflers; and
- limit the hours of operation of the project to between the hours of 7am to 6pm Monday to Saturday.

Note 7 - If aircraft are being used for mining activities operate them so as to minimise disturbance to livestock (e.g. helicopters).

### **Erosion and Sediment Control**

**A5:** The holder of the environmental authority must design, install and maintain adequate banks and/or diversion drains to minimise the potential for storm water runoff to enter disturbed areas.

**A6:** The holder of the environmental authority must design, install and maintain adequate erosion and sediment control structures wherever necessary to prevent or minimise erosion of disturbed areas and the sedimentation of any watercourse, waterway, wetland or lake.

Note 8 - When designing and constructing sediment ponds refer to the “Engineering Guidelines for Queensland Construction Sites” Soil Erosion and Sediment Control.

Note 9 – Regularly clean out sediment traps, ponds and drains and maintain them in effective working order, until erosion stability has been achieved in disturbed areas.

Note 10 – The capacity of sediment traps, ponds, drains and banks should not be reduced below 70% of their design capacity.

### **Topsoils and overburden management**

**A7:** The holder of the environmental authority must ensure that topsoil is removed and stockpiled prior to carrying out any mining activity. Prevent or minimise the mixing and erosion of topsoil and overburden stockpiles.

Note 11 - To separate topsoil and overburden and to prevent or minimise the erosion of these stockpiles the following measures or similar measures can be used:

- identify topsoil and overburden layers before stripping topsoil;
- store topsoil and overburden in separate stockpiles;
- install silt fences or bunding around the stockpiles;
- where practical reuse topsoil stockpiles within 12 months;
- establish and maintain a temporary cover crop on stockpiles; and
- limit the height of topsoil stockpiles to 2 metres.

### **Hazardous contaminants**

**A8:** The holder of the environmental authority must plan and conduct activities on site to prevent any potential or actual release of a hazardous contaminant.

Note 12 - Section 442 of the *Environmental Protection Act 1994* makes it an offence to release a prescribed contaminant. A prescribed contaminant is a contaminant prescribed by an Environmental Protection Policy.

Note 13 - Section 443 of the *Environmental Protection Act 1994* makes it an offence to cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.

**A9:** The holder of the environmental authority must ensure that spills of hazardous contaminants are cleaned up as quickly as practicable. Such spillage must not be cleaned up by hosing, sweeping or otherwise releasing such contaminants to any watercourse, waterway, groundwater, wetland or lake.

<p>Note 14 - If a mining lease becomes Significantly Disturbed Land because it is contaminated, it ceases to be significantly disturbed land if a Suitability Statement is issued for the land. Refer to Chapter 7, Part 8 of the <i>Environmental Protection Act 1994</i>.</p> <p>Note 15 – A Site Management Plan approved under Chapter 7, Part 8 of the <i>Environmental Protection Act 1994</i> may be required by the administering authority for sites recorded on the Environmental Management Register or the Contaminated Land Register. Such sites may include acid producing waste rock stockpiles or tailings dams containing acid producing wastes.</p>
<p><b>A10:</b> The holder of the environmental authority must, where practical, separate acid producing waste rock from benign waste rock.</p>
<p><b>A11:</b> The holder of the environmental authority must dispose of acid producing waste rock in an excavation or pit and backfill as soon as practical. Backfill the excavation or pit containing acid producing waste rock with benign, low permeability material and seal the excavation or pit with a compacted capping layer at least 1m thick.</p>
<p>Note 16 – The owner or occupier of a mining lease must notify the administering authority if they become aware that a Notifiable Activity listed in Schedule 4 of the <i>Environmental Protection Act 1994</i>, is being carried out on the land within 30 days, by giving notice to the administering authority in the approved form. For example, an exploration or mineral development project that generates waste materials that contain hazardous contaminants must notify the administering authority that this activity is being carried out. Refer to section 371 of the <i>Environmental Protection Act 1994</i>.</p> <p>Note 17 – For detailed information on the management of acid mine waste material refer to the “Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland”, Part B, ‘Assessment and Management of Acid Drainage’ and the ‘Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland’.</p>
<p><b>Nature conservation</b></p>
<p><b>A12:</b> The holder of the environmental authority must prevent the spread of Declared Plants by ensuring that all vehicles and machinery are adequately cleaned before taking the vehicles and machinery out of a Declared Plant Area.</p>
<p>Note 18 - Every precaution should be taken to ensure there is no dispersal of Parthenium weed or the seed of any other declared plant within the meaning of the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> as a result of mining activities or as a result of access to the area of the mining tenement.</p> <p>Note 19 – The Department of Agriculture and Fisheries provided Pest Fact sheets for declared plants in Queensland as well as clean down procedures for vehicles and machinery working in declared plant areas. For advice on declared plant areas contact the Department of Agriculture and Fisheries or your Local Government.</p>
<p><b>A13:</b> The holder of the environmental authority must not carry out activities in a category A or B environmentally sensitive area. Activities involving machinery must not be carried out within 1km of a category A environmentally sensitive area or within 500m of category B environmentally sensitive</p>

<p>area. Prior to carrying out activities in a category C environmentally sensitive area, consult with the relevant administering authority and the Environmental Protection Agency. If it is determined through the consultation that additional conditions are necessary, the holder must comply with those conditions.</p>
<p>Note 20 – Refer to Appendix 3 - Environmentally sensitive areas.</p>
<p><b>A14:</b> The holder of the environmental authority must not carry out activities within 100m of a Historical, Archaeological or Ethnographic site.</p>
<p>Note 21 – Refer to the <i>Aboriginal Cultural Heritage Register</i> established under the <i>Aboriginal Cultural Heritage Act 2003</i> and the <i>Queensland Heritage Act 1992</i>. Prior to carrying out any activities on the mining tenement, the holder of the environmental authority should consult with the administering authority if a site has the potential to be designated as a historical, archaeological or ethnographic site.</p>
<p><b>Prescribed environmentally relevant activities</b></p>
<ol style="list-style-type: none"> <li>1. <b>A15:</b> The holder of the environmental authority must not carry out the following prescribed environmentally relevant activities (ERA) on the mining tenement: ERA 61 Waste incineration and thermal treatment at threshold 1 - incinerating waste vegetation, clean paper or cardboard;</li> <li>2. ERA 52 Battery Recycling – operating a facility for receiving, and recycling or reprocessing, any type of battery; and</li> <li>3. ERA 59 Tyre Recycling – operating a facility on a commercial basis for receiving and recycling or receiving and reprocessing 1000 or more equivalent passenger units of tyres, or parts of tyres, in a year. (The relevant activity does not include retreading tyres).</li> </ol>
<p><b>Schedule B – Activity based conditions</b></p>
<p><b>Roads and tracks</b></p>
<p><b>B1:</b> The holder of the environmental authority must consult with the landowner prior to establishing any new roads and tracks.</p>
<p>Note 22 - Refer to the Technical Guidelines in appendix 6 when planning and constructing all new roads and tracks.</p> <p>Note 23 - Repair all damage to existing private roads and tracks resulting from mining activities, so that they are as trafficable as they were prior to any damage.</p>
<p><b>B2:</b> When constructing new roads and tracks, the holder of the environmental authority must ensure that the area and duration of disturbance to land, vegetation and watercourses is minimised.</p>
<p>Note 24 - When planning and constructing new roads and tracks the following measures or similar measures can be used to minimise the area and duration of disturbance of land, vegetation and watercourses:</p>

- wherever possible use or upgrade existing roads and tracks;
- construct roads and tracks along natural grades;
- minimise the width of roads and tracks;
- minimise the number of crossings in riverine areas;
- construct crossings in riverine areas in a stable section of the bed;
- avoid constructing roads or tracks that run straight down the bank to the crossing;
- do not disadvantage other users of existing public roads & tracks;
- construct a bed level causeway, a culvert or a bridge where natural bed conditions within a watercourse will not carry the intended traffic load or where crossing of the bed will generate a significant increase in turbidity;
- minimise the number of cuts and fills in riverine areas;
- position cuts and fills in riverine areas to minimise risk of erosion from subsequent flood events;
- position crossings to prevent flow being directed towards the banks and provide erosion resistance to the bed and banks downstream of a crossing for a distance equal to the width of the normal flow channel;
- do not create any downstream or upstream drops at the lip of culverts or causeways;
- regularly clean out culverts, bridges and causeways to prevent flow being impeded or redirected; and
- construct in-stream crossings outside of main fish migration periods.

### **Campsites**

**B3:** The holder of the environmental authority must consult with the landowner prior to establishing any campsites.

**B4:** When establishing a campsite, the holder of the environmental authority must ensure that the area and duration of disturbance to land, vegetation and watercourses is minimised.

Note 25 - When establishing and maintaining campsites the following measures or similar measures can be used to minimise the area and duration of disturbance to land, vegetation and watercourses:

- locate campsites at least 100m from any riverine areas;
- only disturb the minimum area necessary for the safe functioning of the campsite;
- install an appropriate human waste disposal facility (e.g. portable self-contained toilets, pit toilets, septic tanks);
- use absorption trenches, transpiration beds or spray irrigation to dispose of grey water; and
- locate all disposal areas at least 100m distance from any watercourse, waterway, groundwater recharge area, wetland or lake.

Note 26 – With regard to on site waste water management refer to the Environmental Protection (Water) Policy 2008.

### **Waste management**

**B5:** The holder of the environmental authority must not directly or indirectly release waste from the project area to any watercourse, waterway, groundwater, wetland or lake.

Note 27 - When managing waste materials the following strategy should be adopted:

- avoid creating excess waste;
- reuse waste materials;
- recycle waste;
- create and utilise energy from waste;
- treat waste; and
- dispose of waste (e.g. provide rubbish containers on site).

Note 28 - Where practicable take all General Waste to a Licensed General Waste Disposal Facility.

**B6:** The holder of the environmental authority must not dispose of more than 50 tonnes of general waste on the mining tenement per year.

Note 29 -The holder of the environmental authority may bury up to 50 tonnes of general waste on the mining tenement per year. When burying general waste the following measures or similar measures should be used:

- locate the waste pit so as to ensure that the waste will not contaminate any watercourse, waterway, groundwater, wetland or lake;
- divert stormwater runoff from entering the pit;
- crush drums and other containers to reduce the volume of waste;
- make the pit safe and protect it from scavengers;
- backfill the pit when the level of rubbish in the pit is not less than 1m below the surface; and

- sufficiently overfill the pit to allow for settlement.

Note 30 – The holder of the environmental authority may dispose of limited regulated waste to a licensed general waste disposal facility provided the annual volume of limited regulated waste does not exceed 10% of the annual volume of general waste (e.g. tyres).

### **Service, Maintenance and Storage Areas**

**B7:** The holder of the environmental authority must not directly or indirectly release fuels, oils, lubricants or other contaminants to any watercourse, waterway, groundwater, wetland or lake.

Note 31 - To prevent the direct or indirect release of fuels, lubricants or other contaminants to any watercourse, waterway, groundwater, wetland or lake the following measures or similar measures can be used:

- maintain all refuelling equipment in good working order;
- use groundsheets or drip trays to capture spillage during maintenance of machinery and vehicles;
- locate all fuel storages within an impermeable bund;
- ensure all liquid containment, including fuel tank bunds and process water ponds, have a volume at least equal to the design volume plus an additional 10% of that volume; and
- where practical, undertake all refuelling and routine maintenance of vehicles within designated service areas.

**B10:** The holder of the environmental authority must ensure that all chemical, fuel and oil storage facilities less than 10 000L on a mining tenement, must be designed and operated in accordance with Australian Standard 1940 – ‘The storage and handling of flammable and combustible liquids’, Section 2, Minor Storage.

**B11:** The holder of the environmental authority must ensure that:

1. all chemical, fuel and oil storage facilities of more than 10 000L on a mining tenement, must be banded to contain at least one hundred percent of the volume of the largest container, plus twenty-five percent of the storage capacity of the largest container up to a maximum of 10,000L, together with ten percent of the storage capacity beyond 10,000L; and
2. the facility must be operated and maintained in accordance with the Australian Standard 1940 – “The Storage and Handling of flammable and combustible liquids”.

### **Drilling, Excavating and Sampling**

**B12:** The holder of the environmental authority must ensure:

1. all marker pegs are marked with contrasting colour so as to be clearly visible;
2. all marker pegs are removed from the tenement at the completion of exploration activities;
3. all permanent markers (example, concrete plugs or steel plates) are installed at ground level and made safe.

**B13:** When drilling, excavating or sampling, the holder of the environmental authority must ensure that the area and duration of disturbance to land and vegetation is minimised.

Note 32 - When drilling, excavating or sampling the following measures or similar measures can be used to minimise the area and duration of disturbance to land and vegetation:

- consider seasonal influences, such as rainfall before excavating or establishing a drill site;
- construct drill pads no larger than necessary to safely accommodate the drilling rigs and ancillary equipment;
- use excavators or backhoes wherever possible in preference to bulldozers; and
- use drilling fluids and other process fluids which are non-toxic.

Note 33 - Prior to working in riverine areas refer to the “Technical Guidelines for the Environmental Management of Mining and Exploration in Queensland”, Part B, “Exploration and Mining in Watercourses”.

Note 34 - Install and maintain adequate warning signs, fences and rock bunds to exclude people, livestock and native animals from excavations and shafts.

Note 35 - Provide safe access to water for livestock and native animals by:

- providing hard surfaces around water storage areas; and
- fencing off any soft areas around the edge of water storage areas.

**B14:** The holder of the environmental authority must not drill, excavate or clear vegetation:

1. in standing waters, wetlands or lakes; or
2. on the sloped banks or within 3m of the top of the bank or 5m of the toe of the bank; or
3. within, or on the levee banks of the normal flow channel.

Note 36 - For representative diagrams that define the different landform elements that make up a watercourse refer to Figure 1 - Cross Section Through a Watercourse and Figure 2 – Plan View of a Watercourse.

**B15:** The holder of the environmental authority must not directly or indirectly release wastewater to any watercourse, waterway, groundwater, wetland or lake.

Note 37 - To prevent the direct or indirect release of waste water to any watercourse, waterway or groundwater, wetland or lake the following measures or similar measures can be used:

- where practical recycle all waste water (e.g. recycle waste water for drilling water);
- use waste water for dust suppression;
- discharge waste water onto benign overburden or waste rock heaps for absorption; and
- discharge wastewater to an evaporation pond.

Note 38 - With regard to the on site management of water refer to the Environmental Protection (Water) Policy 2008.

### Exploration drill holes

**B16:** The holder of the environmental authority must decommission all non-artesian drill holes, apart from those still required for monitoring purposes as soon as practical, but no later than 6 months after the hole was drilled by undertaking the following actions:

1. where practical dispose of all unused drill chips to the hole or to a sump pit and;
2. cap the hole at a depth that is appropriate for the previous land use of the area (unless the land owner stipulates a future use which requires the cap to be placed deeper); and
3. backfill the hole above the cap with soil or material similar to the surrounding soil or material.

Note 39 - The following depths are considered as appropriate for capping:

- surface level in rock outcrops; and
- at least 1m below the surface on land used for cropping; and
- at least 300 mm below the surface on other land.

**B17:** The holder of the environmental authority must isolate non-artesian aquifers where a drill hole intersects more than one water bearing strata by casing or plugging the hole as soon as practical after the hole is no longer required, but no later than 2 months after the hole was drilled, apart from those holes that are still required for monitoring purposes if:

1. the flow difference between aquifers exceeds 500 L/hour; and
2. the difference in electrical conductivity of water is greater than 10% of the lower value.

**B18:** Conditions 16 and 17 do not apply to a non-artesian exploration drill hole if:

1. the land owner and the explorer have agreed that it should be left for conversion to a water bore; and
2. the landowner gives a written undertaking to accept responsibility for the hole; and
3. the details of the agreement and the drill hole (such as its GPS location and the drill logs showing the water bearing strata and flow rates) are provided to the Department of Natural Resources and Mines within 30 days of the land owner giving the undertaking; and
4. the hole is temporarily capped so as to prevent possible ingress of surface waters and associated sediments and pollutants.

Note 40 - Drill holes that are to be converted to a water bore must be done so by a licensed water bore driller.

**B19:** The holder of the environmental authority must ensure that exploration drill holes that strike artesian flows of water that exceeds 500 L/hour for seven days must be either:

1. decommissioned as soon as practical, but no later than 1 month after the hole was drilled, apart from holes that are still required for monitoring or evaluation purposes. Refer to Report No. SW4 – “Minimum Construction Requirements for Water Bores in Australia”, (ARMCANZ 1997); or
2. capped to allow for future conversion into a controlled artesian bore by a licensed water bore driller; or
3. converted into a controlled artesian bore by a licensed water bore driller, provided that:
  - (a) the land owner has undertaken in writing to accept responsibility for the drill hole; and
  - (b) the explorer provides details of the agreement and the drill hole to the Department of Natural Resources and Mines within 30 days of obtaining the landowner’s agreement.

Note 41 - Provisions apply under the Water Act 2000 with respect to the utilisation of ground water from boreholes in Proclaimed Areas (which include all Artesian Basin areas) and the rehabilitation of boreholes.

**B20:** The holder of the environmental authority must ensure that exploration drill holes that are to be retained for future mineral resource evaluation purposes are cased and capped. Holes to be retained for more than three years must be capped with steel casing and appropriately identified.

#### **Gridlines and Geophysical Surveys**

**B21:** The holder of the environmental authority must plan and determine the final position of gridlines and geophysical lines in consultation with the landowner.

**B22:** When constructing gridlines and geophysical lines, the holder of the environmental authority must ensure that the area and duration of disturbance to land and vegetation is minimised.

Note 42 - When constructing gridlines and geophysical lines the following measures or similar measures can be used to ensure that the area and duration of disturbance to land and vegetation is minimised:

- conduct surveying of gridlines on foot;
- use existing gates, tracks, roads and seismic lines;
- before deciding on the location of new seismic lines, record the location of all underground or surface pipelines, cables, power lines, etc. and avoid these areas;
- in planning for drilling and sampling activities, where possible, ensure the activities occur at least 100m from riverine areas;
- construct seismic lines that do not exceed the width necessary to safely undertake the survey;
- use Global Positioning Systems (GPS), or other techniques, to reduce the need for line of sight clearing;
- maintain buffer widths of at least 25m between all disturbed areas;
- minimise the use of bulldozers and excavators when cutting gridlines and/or seismic lines; and
- notify landowners at least 24 hours prior to detonating seismic explosives.

#### **Monitoring, reporting and emergency response procedures**

**B23:** The holder of the environmental authority must record and notify the administering authority of any emergency or incident which demonstrates non-compliance with the standard environmental conditions.

Note 43 - A notification of any emergency or incident which demonstrates non-compliance to the standard environmental conditions cannot be used in evidence in any further action taken by the administering authority as a result of the notification.

Note 44 - To demonstrate ongoing compliance with the standard environmental conditions, the holder complete Form 1, 'Monitoring and Record Keeping Summary' and establish programs to monitor project activities and maintain monitoring records for review by the administering authority.

Note 45 - To demonstrate compliance complete Form 2, 'Emergency Response Table'. Provide and maintain appropriate emergency response equipment and inform all operational personnel, contractors and visitors of emergency procedures

Note 46 - Observe the provisions and regulations under the *Fire and Emergency Services Act 1990* and the *Mining and Quarrying Safety and Health Act 1999*.

<b>Rehabilitation</b>
<b>B24:</b> In Riverine Areas, the holder of the environmental authority must complete the Rehabilitation Processes on all areas disturbed by mining activities, apart from those areas currently being utilised for mining activities, as soon as practical and prior to the onset of the wet season.
Note 47 - <b>Condition B24</b> is to ensure that there is adequate erosion protection in riverine areas prior to the onset of the wet season. In Queensland the wet season is generally considered to be from November to April each year.
<b>B25:</b> For all other areas on the mining tenement, the holder of the environmental authority must complete the rehabilitation processes on all areas disturbed by mining activities, apart from those areas currently being utilised for mining activities, as soon as practical and at least within six months of the completion of works in those areas.
Note 48 – Where practical undertake progressive rehabilitation of disturbed areas.
<b>B26:</b> The holder of the environmental authority must backfill all excavations, drill holes or sampling sites as soon as practical following the completion of exploration activities.
<b>B27: Condition B26</b> does not apply to any excavations, drill holes or sampling sites that are to remain after the completion of exploration activities, by agreement with the land owner.
<b>B28:</b> The holder of the environmental authority must rehabilitate areas disturbed by mining activities to a stable landform similar to that of surrounding undisturbed areas.
Note 49 - When rehabilitating disturbed areas refer to the “Technical Guidelines for the Environmental Management of Mining and Exploration in Queensland”, Part D, ‘Geo-technical Slope Stability’.
<b>B29:</b> The holder of the environmental authority must spread seeds or plant species that will promote vegetation of a similar species and density of cover to that of the surrounding undisturbed areas or vegetation that is appropriate for providing erosion control and stabilisation of the disturbed areas.
Note 50 - To revegetate disturbed areas the following measures or similar measures can be used: <ul style="list-style-type: none"><li>– for areas which have become compacted during the project, break up the soil surface to a depth</li><li>– that is suitable for establishing vegetation; and</li><li>– spread stockpiled topsoil over disturbed areas to a depth that is suitable as a rooting medium for</li><li>– the revegetation process; and</li><li>– provide suitable nutrient conditions for planting by using fertiliser if necessary; and</li><li>– collect and store native seeds to be used in rehabilitation.</li></ul>

Note 51 - When revegetating disturbed areas, the holder of the environmental authority should plant native species endemic to the area and location in the landscape (e.g. if clearing has occurred in a riverine area, revegetate the disturbed area using local riverine species).

Note 52 - Vegetation used to provide erosion protection and stabilise disturbed areas in the short term should be comprised of sterile, short-lived species (e.g. a cover crop). However, the long term aim of revegetating any disturbed area is to establish a stable vegetation community that is similar to that of the surrounding undisturbed areas or endemic species.

Note 53 - The environmental authority holder is not liable for rehabilitating disturbed areas that existed prior to the grant of the tenure unless those areas are disturbed during the term of the tenure.

**B30:** For any Mine Infrastructure to remain after all mining activities have ceased, the holder of the environmental authority must obtain the written agreement of the land owner stating they will take over responsibility for that infrastructure.

**B31:** The holder of the environmental authority must complete rehabilitation of disturbed areas to the satisfaction of the administering authority.

Note 54 - **Condition B31** is a requirement of the *Environmental Protection Act 1994*. The environmental authority holder must submit a Final Rehabilitation Report (FRR) and a compliance statement prior to the cancellation or expiry of the mining tenement. The surrender of the environmental authority will not be granted until the administering authority has accepted the FRR and the compliance statement.

## Appendix 1: General obligations under the *Environmental Protection Act 1994*

### Responsibilities under the *Environmental Protection Act 1994*

Separate to the requirements of standard conditions, the holder of the environmental authority must also meet their obligations under the *Environmental Protection Act 1994*, and the regulations made under that Act. For example, the holder must be aware of the following provisions of the *Environmental Protection Act 1994*.

#### General environmental duty

Section 319 of the *Environmental Protection Act 1994* states that we all have a general environmental duty. This means that we are all responsible for the actions we take that affect the environment. We must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures to prevent or minimise the harm. To decide what meets your general environmental duty, you need to think about these issues:

- the nature of the harm or potential harm
- the sensitivity of the receiving environment
- the current state of technical knowledge for the activity
- the likelihood of the successful application of the different measures to prevent or minimise environmental harm that might be taken
- the financial implications of the different measures as they would relate to the type of activity.

It is not an offence not to comply with the general environmental duty, however maintaining your general environmental duty is a defence against the following acts:

- (a) an act that causes serious or material environmental harm or an environmental nuisance
- (b) an act that contravenes a noise standard
- (c) a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG. More information is available on the Department of Environment and Heritage Protection website [www.ehp.qld.gov.au](http://www.ehp.qld.gov.au).

#### Duty to notify

Section 320 of the *Environmental Protection Act 1994* explains the duty to notify. The duty to notify applies to all persons and requires a person or company to give notice where serious or material environmental harm is caused or threatened. Notice must be given of the event, its nature and the circumstances in which the event happened. Notification can be verbal, written or by public notice depending on who is notifying and being notified.

The duty to notify arises where:

- a person carries out activities or becomes aware of an act of another person arising from or connected to those activities which causes or threatens serious or material environmental harm
- while carrying out activities a person becomes aware of the happening of one or both of the following events:
  - the activity negatively affects (or is reasonably likely to negatively affect) the water quality of an aquifer
  - the activity has caused the unauthorised connection of 2 or more aquifers.

For more information on the duty to notify requirements refer to the department's *Guideline: Duty to notify of environmental harm (EM467)*.

#### Notifiable activities

It is a requirement under the *Environmental Protection Act 1994* that if an owner or occupier of land

becomes aware that a Notifiable Activity (as defined by Schedule 4 of the *Environmental Protection Act 1994*) is being carried out on the land or that the land has been affected by a hazardous contaminant, they must, within 22 business days after becoming so aware, give notice to the administering authority.

### **Some relevant offences under the *Environmental Protection Act 1994***

#### **Non-compliance with a condition of an environmental authority (section 430)**

Section 430 of the *Environmental Protection Act 1994* requires that a person who is the holder of, or is acting under, an environmental authority must not wilfully contravene, or contravene a condition of the authority.

#### **Environmental authority holder responsible for ensuring conditions complied with (section 431)**

Section 431 of the *Environmental Protection Act 1994* requires that the holder of an environmental authority must ensure everyone acting under the authority complies with the conditions of the authority. If another person acting under the authority commits an offence against section 430, the holder also commits an offence, namely, the offence of failing to ensure the other person complies with the conditions.

#### **Causing serious or material environmental harm (sections 437–39)**

Material environmental harm is environmental harm that is not trivial or negligible in nature. It may be great in extent or context or it may cause actual or potential loss or damage to property. The difference between material and serious harm relates to the costs of damages or the costs required to either prevent or minimise the harm or to rehabilitate the environment. Serious environmental harm may have irreversible or widespread effects or it may be caused in an area of high conservation significance. Serious or material environmental harm excludes environmental nuisance.

#### **Causing environmental nuisance (section 440)**

Environmental nuisance is unreasonable interference with an environmental value caused by aerosols, fumes, light, noise, odour, particles or smoke. It may also include an unhealthy, offensive or unsightly condition because of contamination.

#### **Depositing a prescribed water contaminant in waters (section 440ZG)**

Prescribed contaminants include a wide variety of contaminants listed in Schedule 9 of the *Environmental Protection Act 1994*.

It is your responsibility to ensure that prescribed contaminants are not left in a place where they may or do enter a waterway, the ocean or a stormwater drain. This includes making sure that stormwater falling on or running across your site does not leave the site contaminated. Where stormwater contamination occurs you must ensure that it is treated to remove contaminants. You should also consider where and how you store material used in your processes onsite to reduce the chance of water contamination.

#### **Placing a contaminant where environmental harm or nuisance may be caused (section 443)**

A person must not cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.

### **Some relevant offences under the *Waste Reduction and Recycling Act 2011***

#### **Littering (section 103)**

Litter is any domestic or commercial waste and any material a person might reasonably believe is refuse, debris or rubbish. Litter can be almost any material that is disposed of incorrectly. Litter includes cigarette butts and drink bottles dropped on the ground, fast food wrappers thrown out of the car window, poorly secured material from a trailer or grass clippings swept into the gutter. However, litter does not include any gas, dust, smoke or material emitted or produced during, or because of, the normal operations of a building, manufacturing, mining or primary industry.

#### **Illegal dumping of waste (section 104)**

Illegal dumping is the dumping of large volumes of litter (200L or more) at a place. Illegal dumping can also include abandoned vehicles.

## Responsibilities under other legislation

An environmental authority pursuant to the *Environmental Protection Act 1994* does not remove the need to obtain any additional approval for the activity that might be required by other State and/or Commonwealth legislation. Other legislation for which a permit may be required includes but is not limited to the:

- Aboriginal *Cultural Heritage Act 2003*
- contaminated land provisions of the *Environmental Protection Act 1994*
- Fisheries *Act 1994*
- Forestry *Act 1959*
- Nature *Conservation Act 1992*
- Petroleum and Gas (*Production and Safety*) *Act 2004 / Petroleum Act 1923*
- Queensland *Heritage Act 1992*
- Sustainable *Planning Act 2009*
- *Water Supply (Safety and Reliability) Act 2008*
- *Water Act 2000*

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

An environmental authority for petroleum activities is not an authority to negatively impact on water levels or pressure heads in groundwater aquifers in or surrounding formations. There are obligations to minimise or mitigate any such negative impact under other Queensland Government and Commonwealth Government legislation.

## Appendix 2: Definitions

Term	Definition
Administering authority	Means: (a) for a matter, the administration and enforcement of which has been devolved to a local government under section 514 of the <i>Environmental Protection Act 1994</i> ; or (b) for all other matters – the Chief Executive of the Department of Environment and Heritage Protection; or (c) another State Government Department, Authority, Storage Operator, Board or Trust, who's role is to administer provisions under other enacted legislation
Annual exceedence probability (AEP)	For a given rainfall event the AEP is the probability that the event will be exceeded within a one year period. The AEP is usually expressed as a one in 'n' (years) or a percentage.
Approved form	Means a form approved by the administrating authority.
Archaeological site	A site that has physical evidence of the past, which has the potential to increase our knowledge of earlier human occupation, activities and events.
Artesian drill hole	An exploration drill hole from which water freely flows at a rate of greater than 500 L/hour for at least 7 days after being drilled.
Banks	The feature which confines major flows within a watercourse. They are steeper than a terrace and are generally of a slope greater than 1:1 on outer bends. Refer to Figure 1 – Cross Section through a Watercourse.
Bund	(a) An earth mound or similar structure (e.g. a concrete block wall), whether impervious or not, constructed to contain spilled material (e.g. petrol, diesel, oil etc.); or (b) a structure to prevent or reduce soil erosion.
Campsite	The area encompassing any dwelling, amenities (e.g. toilet block, power generator), sewage or general waste disposal facility and includes the office area and vehicle parking areas associated with a temporary or permanent mining camp.
Contaminant	The <i>Environmental Protection Act 1994</i> defines, under Section 11, a contaminant as: (a) a gas, liquid or solid; or (b) an odour; or (c) an organism (whether alive or dead), including a virus; or (d) energy, including noise, heat, radioactivity and electromagnetic

	radiation; or (e) a combination of contaminants.
Contamination	Section 10 of the <i>Environmental Protection Act 1994</i> defines contamination of the environment is the release (whether by act or omission) of a contaminant into the environment.
Contaminated land	Schedule 4 of the <i>Environmental Protection Act 1994</i> defines contaminated land as land contaminated by a hazardous contaminant. (See below for a definition of hazardous contaminant.)
Contaminated land register	Means the register kept by the administering authority under section 541 of the <i>Environmental Protection Act 1994</i> .
Contour banks	Are mounds of earth constructed along the contours of the land to reduce the amount and velocity of run-off down the slope.
Costeaning	The digging of a trench or pit across the seam or ore body for exposing, sampling and mapping of the ore body.
Culvert	A covered channel or a pipe of large diameter conveying water below ground level. Also applies to a tunnel through which water is pumped or permitted to flow.
Declared plant area	Areas designated by the Department of Agriculture and Fisheries or Local Government as areas infested with plants declared under <i>Land Protection (Pest and Stock Route Management) Act 2002</i> .
Declared plant -	A plant that has been declared under the <i>Land Protection (Pest and Stock Route Management) Act 2002</i> .
Density of cover	In reference to trees and/or shrubs, it means the number of trees or shrubs in a specified area (e.g. 50 trees per square kilometre). With reference to understorey plant species (e.g. grasses and forbs), it means the percentage of surface area covered by a particular species.
Designated service area	Is a nominated site, selected and managed to minimise contamination of land or water, where the majority of services or maintenance of machinery or plant is to be conducted.
Disturbed	Any area that has had its natural state altered by the action or interference of carrying out an activity associated with the exploration project.
Environment	Section 8 of the <i>Environmental Protection Act 1994</i> defines the environment as:  (a) ecosystems and their constituent parts, including people and communities; and (b) all natural and physical resources; and (c) the qualities and characteristics of locations, places and areas,

	<p>however large or small, that contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony and sense of community; and</p> <p>(d) the social, economic, aesthetic and cultural conditions that affect, or are affected by, things mentioned in paragraphs (a) to (c).</p>
Environmental authority	Means a licence or approval issued by the administering authority under the <i>Environmental Protection Act 1994</i> .
Environmental management register	Means the register kept by the administering authority under section 541 of the <i>Environmental Protection Act 1994</i> .
Environmental nuisance	<p>Section 15 of the <i>Environmental Protection Act 1994</i> defines environmental nuisance as “unreasonable interference or likely interference with an environmental value” caused by:</p> <p>(a) aerosols, fumes, light, noise, odour, particles or smoke ; or</p> <p>(b) an unhealthy, offensive or unsightly condition because of contamination; or</p> <p>(c) another way prescribed by regulation. (e.g. unreasonable noise or dust emissions)”</p>
Environmental protection policy	Means an environmental protection policy approved under chapter 2 of the <i>Environmental Protection Act 1994</i> .
Environmental relevant activity	Means an activity prescribed by regulation as an environmental relevant activity.
Environmentally sensitive areas	Refers to locations, however large or small, that have environmental values that contribute to maintaining biological diversity and integrity, have intrinsic or attributed scientific, historical or cultural heritage value, or are important in providing amenity, harmony or sense of community. Refer to Appendix 3.
Environmental value	<p>Section 9 of the <i>Environmental Protection Act 1994</i> defines an environmental value as:</p> <p>(a) a quality or physical characteristic of the environment that is conducive to ecological health or public amenity or safety; or</p> <p>(b) another quality of the environment identified and declared to be an environmental value under an environmental protection policy or regulation (e.g. water suitable for swimming in or drinking).</p>
Ethnographic site	An archaeological site of particular importance to the study of a cultural group.
Final rehabilitation report	Means a final rehabilitation report prepared under section 264 of the <i>Environmental Protection Act 1994</i> . The report assesses the extent to which the standard environmental conditions and any additional conditions of the environmental authority have been met.

Financial assurance	Means a security deposit, either cash or a bank guarantee, that is held by the administrating authority to cover the potential:  (a) costs to rehabilitate areas disturbed by mining activities; and (b) costs to restore property improvements disturbed by mining activities; and (c) failure of the tenure holder to pay rents and royalties.
Flood flow channel	For a representative drawing of a flood flow channel refer to Figure 1- 'Cross Section Through a Watercourse' and Figure 2 – 'Plan View of a Watercourse'.
General waste	Schedule 12 of the Environmental Protection Regulation 2008 defines general waste as “means waste other than regulated waste”. Waste rock, overburden and the contents of tailings dams are not included in the definition of general waste for the purposes of these conditions.
Guidelines for livestock drinking water	Recommended water quality guidelines for livestock drinking water. Refer to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 1992.
Hazardous contaminant	Schedule 4 of the Environmental Protection Act 1994 defines a hazardous contaminant as “a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of:  (a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity, flammability; or (b) its physical, chemical or infectious characteristics (e.g.: spills of mercury, cyanide, petrol, diesel or oil)”.
Historical site	A site containing objects from the past that allows the study of the way people lived and worked at that place in the past.
Infrastructure	Project infrastructure includes roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, pipelines, powerlines, airstrips, helipads etc., which are constructed or installed specifically for the project.
Lake	A natural or artificial body of water, either permanent or intermittent.
Landowner	Schedule 4 of the <i>Environmental Protection Act 1994</i> defines the owner of the land as –  1. The “ <b>owner</b> ” of land is—  (a) for freehold land—the person recorded in the freehold land register as the person entitled to the fee simple interest in the land; or  (b) for land held under a lease, licence or permit under an Act—the person who holds the lease, licence or permit;

	<p style="text-align: center;">or</p> <ul style="list-style-type: none"> <li>(c) for trust land under the <i>Land Act 1994</i>—the trustees of the land; or</li> <li>(d) for Aboriginal land under the <i>Aboriginal Land Act 1991</i>—the persons to whom the land has been transferred or granted; or</li> <li>(e) for Torres Strait Islander land under the <i>Torres Strait Islander Land Act 1991</i>—the persons to whom the land has been transferred or granted; or</li> <li>(f) for land for which there is a native title holder under the <i>Native Title Act 1993 (Cwlth)</i> —each registered native title party in relation to the land.</li> </ul> <p>2. Also, a mortgagee of land is the owner of the land if—</p> <ul style="list-style-type: none"> <li>(a) the mortgagee is acting as a mortgagee in possession of the land and has the exclusive management and control of the land; or</li> <li>(b) the mortgagee, or a person appointed by the mortgagee, is in possession of the land and has the exclusive management and control of the land.</li> </ul>
Licensed general waste disposal facility	A site authorised by the administering authority to receive general waste or limited regulated waste (e.g. a rubbish dump).
Limited regulated waste	Schedule 12 of the <i>Environmental Protection Regulation 2008</i> , defines limited regulated waste. The only limited regulated wastes relevant to mining projects are asbestos and tyres.

Material environmental harm	<p>Section 16 of the <i>Environmental Protection Act 1994</i> defines material environmental harm as:</p> <ol style="list-style-type: none"> <li>1. material environmental harm is environmental harm (other than environmental nuisance) – <ol style="list-style-type: none"> <li>(a) that is not trivial or negligible in nature, extent or context; or</li> <li>(b) that causes actual or potential loss or damage to property of an amount of, or amounts totalling, more than the threshold amount but less than the maximum amount; or</li> <li>(c) that results in costs of more than the threshold amount but less than the maximum amount being incurred in taking appropriate action to – <ol style="list-style-type: none"> <li>i. prevent or minimise the harm; and</li> <li>ii. rehabilitate or restore the environment to its condition before the harm.</li> </ol> </li> </ol> </li> </ol> <p>In this section –</p> <p>“maximum amount” means the threshold amount for serious environmental harm.</p> <p>“threshold amount” means \$5 000 or, if a greater amount is prescribed by regulation, the greater amount.</p>
Mine	<p>Section 6A of the <i>Mineral Resources Act 1989</i>, defines mining as –</p> <ol style="list-style-type: none"> <li>(1) “<b>Mine</b>” means to carry on an operation with a view to, or for the purpose of <ol style="list-style-type: none"> <li>(a) winning mineral from a place where it occurs; or</li> <li>(b) extracting mineral from its natural state; or</li> <li>(c) disposing of mineral in connection with, or waste substances resulting from, the winning or extraction.</li> </ol> </li> <li>(2) For subsection (1), extracting includes the physical, chemical, electrical, magnetic or other way of separation of a mineral.</li> <li>(3) Extracting includes, for example, crushing, grinding, concentrating, screening, washing, jigging, tabling, electro winning, solvent extraction electro winning (SX-EW), heap leaching, flotation, fluidised bedding, carbon-in-leach (CIL) and carbon-in-pulp (CIP) processing.</li> <li>(4) However, extracting does not include <ol style="list-style-type: none"> <li>(a) a process in a smelter, refinery or anywhere else by which mineral is changed to another substance; or</li> <li>(b) testing or assaying small quantities of mineral in teaching institutions or laboratories, other than laboratories</li> </ol> </li> </ol>

	<p>situated on a mining lease; or</p> <p>(c) an activity, prescribed under a regulation, that is not directly associated with winning mineral from a place where it occurs.</p> <p>(5) For subsection (1), includes the disposal of tailings and waste rock.</p> <p>A regulation under subsection (4)(c) may prescribe an activity by reference to the quantities of minerals extracted or to any other specified circumstances.</p>
Native vegetation	Vegetation that occurs naturally in a certain area.
Noise sensitive place	<p>Means any of the following places –</p> <p>(a) a dwelling;</p> <p>(b) a library, childcare centre, kindergarten, school, college, university or other educational institution;</p> <p>(c) a hospital, surgery or other medical institution;</p> <p>(d) a protected area or an area identified under a conservation plan as a critical habitat or an area of major interest, under the <i>Nature Conservation Act 1992</i>;</p> <p>(e) a marine park under the <i>Marine Parks Act 2004</i>; and</p> <p>(f) a park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment).</p>
Normal flow channel	For a representative drawing of a normal flood flow channel of a water course refer to Figure 1 – ‘Cross Section Through a Watercourse’ and Figure 2 - ‘Plan View of a Watercourse’.
Notifiable activity	Means an activity in schedule 3 of the <i>Environmental Protection Act 1994</i> .
Outer bends	For a representative drawing of an outer bend of a watercourse refer to Figure 1 – “Cross Section Through a Watercourse” and Figure 2 – “Plan View of a Watercourse”.
Overburden	Material overlying a mineral ore deposit, up to but not including the topsoil.
Referable dam	<p>The <i>Water Resources Act 1989</i> defines referable dams as</p> <p>(a) works or proposed works that include or would include a barrier whether permanent or temporary that does or could or would impound, divert or control water, which barrier</p> <p>(i) is more than 8 m in height and has a storage capacity of more than 500 ML; or</p> <p>(ii) is more than 8 m in height and has a storage capacity of more than 250 ML and a catchment area that is more</p>

	<p>than 3 times its maximum surface area or full supply level;</p> <p>(b) works</p> <p>(i) that consist of or include or would consist of or include a barrier whether permanent or temporary that does or could or would impound, divert or control water or hazardous waste, other than a barrier defined in paragraph (a);</p> <p>(ii) other than a barrier whether permanent or temporary that does or could or would impound, contain, divert or control hazardous waste; declared by the chief executive by notification published in the gazette to be a referable dam by reason of the danger to life or property that could or would eventuate upon the collapse or failure of or the escape of hazardous waste from those works and includes the storage areas created by the works but does not include a tank constructed of steel or concrete or a combination of those materials.</p> <p>The term does not include a weir, other than a weir that has a variable flow control structure on the crest of the weir.</p>
Regulated waste	<p>Section 65 of the <i>Environmental Protection Regulation 2008</i>, defines mining as –</p> <p>1) Regulated waste is waste that—</p> <p>(a) is commercial or industrial waste, whether or not it has been immobilised or treated; and</p> <p>(b) is of a type, or contains a constituent of a type, mentioned in schedule 7, part 1.</p> <p>2) Waste prescribed under subsection (1) includes—</p> <p>(a) for an element—any chemical compound containing the element; and</p> <p>(b) anything that contains residues of the waste.</p> <p>3) However, waste is not regulated waste if it is mentioned in schedule 7, part 2.</p>
Rehabilitation processes	<p>The measures and actions taken to achieve rehabilitation outcomes, including any or all of the following:</p> <p>(a) removing all unwanted infrastructure;</p> <p>(b) backfilling mine excavations (e.g. pits) and capping drill holes;</p> <p>(c) reshaping the land surface to a stable landform similar to that of surrounding undisturbed areas;</p> <p>(d) spreading of topsoil;</p> <p>(e) spreading seed or planting seedlings to promote revegetation;</p> <p>(f) benching ridge cuts and removing any overhanging material.</p>

Riverine area	Refers to the land adjoining and associated with watercourses, including the bed, banks, adjoining terraced land and riparian vegetation. Refer to Figure 1 – “Cross Section Through a Watercourse”.
Sediment pond	A bunded or excavated structure used to contain and settle waterborne sediment running off disturbed areas.
Sediment trap	A device used to filter waterborne sediment running off disturbed areas. May include silt fences, hay bales or grassed strips.
Serious environmental harm	<p>Section 17 of the <i>Environmental Protection Act 1994</i> defines serious environmental harm as</p> <ol style="list-style-type: none"> <li>1) serious environmental harm (other than environmental nuisance) <ol style="list-style-type: none"> <li>(a) that is irreversible, of a high impact or widespread; or</li> <li>(b) caused to – <ol style="list-style-type: none"> <li>(i) an area of high conservation value;</li> <li>(ii) an area of special significance, such as the Great Barrier Reef World Heritage Area;</li> </ol> </li> <li>(c) that causes actual or potential loss or damage to property of an amount of, or amounts totalling, more than the threshold amount; or</li> <li>(d) that results in costs of more than the threshold amount being incurred in taking appropriate action to— <ol style="list-style-type: none"> <li>(i) prevent or minimise the harm; and</li> <li>(ii) rehabilitate or restore the environment to its condition before the harm.</li> </ol> </li> </ol> </li> <li>2) In this section - “<b>Threshold amount</b>” means \$50 000 or, if a greater amount is prescribed by regulation, the greater amount.</li> </ol>
Significantly disturbed land	<p>Land is significantly disturbed if –</p> <ol style="list-style-type: none"> <li>(a) it is contaminated land; or</li> <li>(b) it has been disturbed and human intervention is needed to rehabilitate it.</li> </ol> <p>Significantly disturbed land includes:</p> <ul style="list-style-type: none"> <li>– areas where soil has been compacted, removed, covered, exposed or stockpiled;</li> <li>– areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation &amp; topsoil)</li> <li>– areas where land use suitability or capability has been</li> </ul>

	<p>diminished;</p> <ul style="list-style-type: none"> <li>- areas within a watercourse, waterway, wetland or lake where mining project activities occur;</li> <li>- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;</li> <li>- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be removed after mining has ceased; or</li> <li>- areas where land has been contaminated.</li> </ul> <p>However, the following areas are <u>not</u> included:</p> <ul style="list-style-type: none"> <li>- areas off lease (e.g. roads or tracks which provide access to the mining lease);</li> <li>- areas previously significantly disturbed which have achieved the rehabilitation outcomes;</li> <li>- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objectives due to circumstances beyond the control of the mine operator (such as climatic conditions);</li> <li>- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the Department of Environment and Heritage Protection;</li> <li>- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.</li> </ul>
Site management plan	Means a site management plan approved under chapter 7, part 8 of the <i>Environmental Protection Act 1994</i> .

Standard criteria	<p>Are defined in schedule 4 of the <i>Environmental Protection Act 1994</i>. They are:</p> <ul style="list-style-type: none"> <li>(a) the following principles of environmental policy as set out in the Intergovernmental Agreement on the Environment— <ul style="list-style-type: none"> <li>(i) the precautionary principle;</li> <li>(ii) intergenerational equity;</li> <li>(iii) conservation of biological diversity and ecological integrity; and</li> </ul> </li> <li>(b) any applicable Commonwealth or State government plans, standards, agreements or requirements about environmental protection or ecologically sustainable development; and</li> <li>(c) any applicable environmental impact study, assessment or report; and</li> <li>(d) the character, resilience and values of the receiving environment; and</li> <li>(e) all submissions made by the applicant and submitters; and</li> <li>(f) best practice environmental management for activities under any relevant instrument, or proposed instrument, as follows— <ul style="list-style-type: none"> <li>(i) an environmental authority;</li> <li>(ii) a transitional environmental program;</li> <li>(iii) an environmental protection order;</li> <li>(iv) a disposal permit;</li> <li>(v) a development approval; and</li> </ul> </li> <li>(g) the financial implications of the requirements under an instrument, or proposed instrument, mentioned in paragraph (g) as they would relate to the type of activity or industry carried out, or proposed to be carried out, under the instrument; and</li> <li>(h) the public interest; and</li> <li>(i) any applicable site management plan; and</li> <li>(j) any relevant integrated environmental management system or proposed integrated environmental management system; and</li> <li>(k) any other matter prescribed under a regulation.</li> </ul>
Standard environmental conditions	<p>For an environmental authority, means the standard environmental conditions approved for the authority under Chapter 5A Part 1 of the <i>Environmental Protection Act 1994</i>.</p>
Standard mining activity	<p>Means a mining activity decided to be a standard activity under section 151 of the <i>Environmental Protection Act 1994</i>.</p>
Suitability statement	<p>The <i>Environmental Protection Act 1994</i> defines a suitability statement as:</p> <p>for land, means a statement about the uses and activities for which</p>

	the land is suitable.
Technical guidelines	Guidelines that indicate best practice environmental management.
Topsoil	The surface layer of a soil profile, which is usually more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from natural surface.
Unreasonable noise	<p>Section 18 of the Environmental Protection (Noise) Policy 1997 defines unreasonable noise as noise that:</p> <ul style="list-style-type: none"> <li>(a) causes unlawful environmental harm; and</li> <li>(b) is unreasonable, having regard to the following matters: <ul style="list-style-type: none"> <li>(i) its characteristics;</li> <li>(ii) its intrusiveness;</li> <li>(iii) the time at which it is made;</li> <li>(iv) where it can be heard;</li> <li>(v) other noises ordinarily present at the place where it can be heard; and</li> </ul> </li> <li>(c) is not declared to be reasonable in Schedule 2 of the Environmental Protection (Noise) Policy 1997 'Reasonable Noise Levels'.</li> </ul>
Unreasonable release of a contaminant to the air environment	<p>means a release of odours, dust, smoke or other atmospheric contaminants, that:</p> <ul style="list-style-type: none"> <li>(a) cause unlawful environmental harm; and</li> <li>(b) is unreasonable having regard to the following matters: <ul style="list-style-type: none"> <li>(i) its characteristic;</li> <li>(ii) its intrusiveness;</li> <li>(iii) other releases of contaminants at the place affected by the release;</li> <li>(iv) where the effect of the release of the contaminants can be noticed; or</li> <li>(v) the order in which the person releasing the contaminant started to carry out the activity from which the release is made and persons affected by the release started to carry out other activities that may be affected by the release of the contaminant.</li> </ul> </li> </ul>
Watercourse	Means a river, creek or stream in which water flows permanently or intermittently in a visibly defined channel (natural, artificial or artificially improved) with clear bed and banks and evidence of biological dependence.

Waterway	A naturally occurring feature where surface water runoff normally collects, such as a clearly defined swale or gully, but only flows in response to a local rainfall event.
Wetland	Are areas of permanent or periodic/intermittent inundation, whether natural or artificial, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed 6m. Wetlands typically include areas such as lakes, swamps, marshes, estuaries or mudflats.

## Appendix 3: Environmentally sensitive areas

### Category A Environmentally Sensitive Areas

Category A Environmentally sensitive areas are defined in Schedule 12, Part 1 of the *Environmental Protection Regulation 2008* and reproduced below.

A **category A environmentally sensitive area** means any of the following—

- (a) any of the following under the *Nature Conservation Act 1992*—
  - (i) a national park;
  - (ii) a national park (Aboriginal land);
  - (iii) a national park (Torres Strait Islander land);
  - (iv) a national park (Cape York Peninsula Aboriginal land);
  - (v) a regional park (general);
  - (vi) a forest reserve;
- (b) the wet tropics area under the *Wet Tropics World Heritage Protection and Management Act 1993*;
- (c) the Great Barrier Reef Region under the *Great Barrier Reef Marine Park Act 1975* (Cwlth);
- (d) a marine park under the *Marine Parks Act 2004*, other than a part of the park that is a general use zone under that Act.

### Category B Environmentally Sensitive Areas

Category B Environmentally sensitive areas are defined in Schedule 12, Part 1 of the *Environmental Protection Regulation 2008* and reproduced below.

A **category B environmentally sensitive area** means any of the following—

- (a) any of the following areas under the *Nature Conservation Act 1992*—
  - (i) a coordinated conservation area;
  - (ii) an area of critical habitat or major interest identified under a conservation plan;
  - (iii) an area subject to an interim conservation order;
- (b) an area subject to the following conventions to which Australia is a signatory—
  - (i) the 'Convention on the Conservation of Migratory Species of Wild Animals' (Bonn, 23 June 1979);
  - (ii) the 'Convention on Wetlands of International Importance, especially as Waterfowl Habitat' (Ramsar, Iran, 2 February 1971);
  - (iii) the 'Convention Concerning the Protection of the World Cultural and Natural Heritage' (Paris, 23 November 1972);
- (c) a zone of a marine park under the *Marine Parks Act 2004*;
- (d) an area to the seaward side of the highest astronomical tide;
- (e) the following under the *Queensland Heritage Act 1992*—
  - (i) a place of cultural heritage significance;
  - (ii) a Queensland heritage place, unless there is an exemption certificate issued under that Act;
- (f) an area recorded in the Aboriginal Cultural Heritage Register established under the *Aboriginal Cultural Heritage Act 2003*, section 46, other than the area known as the 'Stanbroke Pastoral Development Holding', leased under the *Land Act 1994* by lease number PH 13/5398;
- (g) a feature protection area, State forest park or scientific area under the *Forestry Act 1959*;
- (h) a declared fish habitat area under the *Fisheries Act 1994*;
- (i) a place in which a marine plant under the *Fisheries Act 1994* is situated;
- (j) an endangered regional ecosystem identified in the database known as the 'Regional ecosystem

description database' kept by the department.

### Category C Environmentally Sensitive Areas

LAND AREA CLASSIFICATION	ADMINISTERING LEGISLATION	ADMINISTERING AUTHORITY
Nature Refuges; and Resource Reserves	<i>Nature Conservation Act 1992</i>	Department of Environment and Heritage Protection
Declared Catchment Areas; Declared Irrigation and Irrigation Project Areas; and Water Reservoirs and Drainage Areas.	<i>Water Act 2000</i> , various Water Board Acts	Department of Natural Resources and Mines and/or Relevant Storage Operator or Board
River Improvement Areas	<i>River Improvement Trust Act 1940</i>	Department of Natural Resources and Mines and the Relevant River Trust
Designated Landscape Area (e.g. Stanbroke Pastoral Holding)	<i>Aboriginal Cultural Heritage Act 2003</i>	Department of Aboriginal and Torres Strait Islander Partnerships
Historic Mining Sites	Nil (Inter Departmental Notifications)	Department of Environment and Heritage Protection and the Department of Natural Resources and Mines
State Forest or Timber Reserves	<i>Forestry Act 1959</i>	Department of National Parks, Sport and Racing
DPI Research Sites	Nil (Inter Departmental Agreement)	Department of Agriculture and Fisheries
Critical Areas and Public Purpose Reserves	<i>Land Act 1994</i>	Department of Natural Resources and Mines
Areas under Coastal Management Plans and Control Districts	<i>Coastal Protection and Management Act 1995</i>	Department of Environment and Heritage Protection
An area subject to a State Planning Policy that the policy declares is in need of environmental protection.	<i>Sustainable Planning Act 2009</i>	Department of State Development, Infrastructure and Planning
Erosion Prone Areas and Coastal Management Control Districts	<i>Coastal Protection and Management Act 1995</i>	Department of Environment and Heritage Protection
Areas of land occupied by the Bureau of Sugar Experiment Stations to conduct research	<i>Sugar Industry Act 1999</i>	Department of Agriculture and Fisheries
Nature Refuges; and Resource Reserves	<i>Nature Conservation Act 1992</i>	Department of Environment and Heritage Protection
Declared Catchment Areas; Declared Irrigation and Irrigation	<i>Water Act 2000</i> , various Water Board Acts	Department of Natural Resources and Mines and/or

Project Areas; and Water Reservoirs and Drainage Areas.		Relevant Storage Operator or Board
River Improvement Areas	<i>River Improvement Trust Act 1940</i>	Department of Natural Resources and Mines and the Relevant River Trust

## Appendix 4: Forms

### Form 1: Monitoring and record keeping summary

Environmental Authority No:

Project No:

Term of Plan (yrs):

Commencement Date

Data and Information	Method of record keeping to be used				Frequency
	Site Plans	Journal	Photographs	Other	
Topsoil stripping and stockpiling (e.g. record topsoil stockpiles, location and age)					
Area disturbed and rehabilitation (e.g. map of the area of disturbance and photos of rehabilitation)					
Pre and post-mine landform (e.g. record photographs of the area prior to and following mining)					
Water discharge quality (e.g. note colour of discharge water from sediment dams)					
Dam maintenance (e.g. record of dam maintenance such as sediment removal)					
Record of complaints (e.g. air, noise, tracks etc.) (e.g. record in journal any complaints received by adjoining land owner, actions taken and the outcomes of the action)					
Site specific conditions (e.g. record of monitoring to demonstrate compliance with any site specific conditions)					
Remediation of contaminated land (e.g. record of current and remediated contaminated land)					
Waste Management (e.g. record of waste taken to a regulated waste collection depot)					

Data and Information	Method of record keeping to be used				Frequency
	Site Plans	Journal	Photographs	Other	
Rehabilitation quotes, estimates and actual costs					
Others – relevant to performance category					

**Form 2: Emergency response table**

<b>Emergency situation</b>	<b>Who to contact in case of emergency situation occurring</b>	<b>Equipment required to be kept and maintained on site</b>	<b>Procedure to be followed in case of emergency situation occurring</b>
<b>Hydrocarbon spill causing serious or material environmental harm</b>			
<b>Chemical spill causing serious or material environmental harm</b>			
<b>Other</b>			

**Form 3: Schedule of rehabilitation costs**

TOTAL AREA OF DISTURBANCE	REHABILITATION TYPES	
	LOW RISK Simple straightforward rehabilitation. Successful rehabilitation of analogous sites has previously been achieved	HIGH RISK Difficult rehabilitation (e.g. dispersive soils, steep topography, remoteness, sensitive areas, etc.)
<b>Category 1 — Less than 1 hectare</b>	\$2,500	\$5,000
<b>Category 2 — 1 to 4 hectares</b>	\$10,000	\$20,000
<b>Category 3 — 4 to 10 hectares</b>	\$20,000	\$40,000

**Notes:** The final assurance for each category are based on rehabilitating the maximum area in that category (e.g. financial assurance for 1 to 4 hectares is based on the cost of rehabilitating 4 hectares). The financial assurance for environmental authority with additional conditions attached allow that the operator to disturb more than 10ha, will be calculated using the above schedule with the additional area of disturbance calculated according to the relevant category. For example, the financial assurance for 18ha of low risk disturbance will be \$40,000 (i.e. \$20,000 for the first 10ha and another \$20,000 for the extra 8ha because it is also in category 3).

## **Appendix 5: Watercourse figures**

### **Figure 1: Cross section through a watercourse**

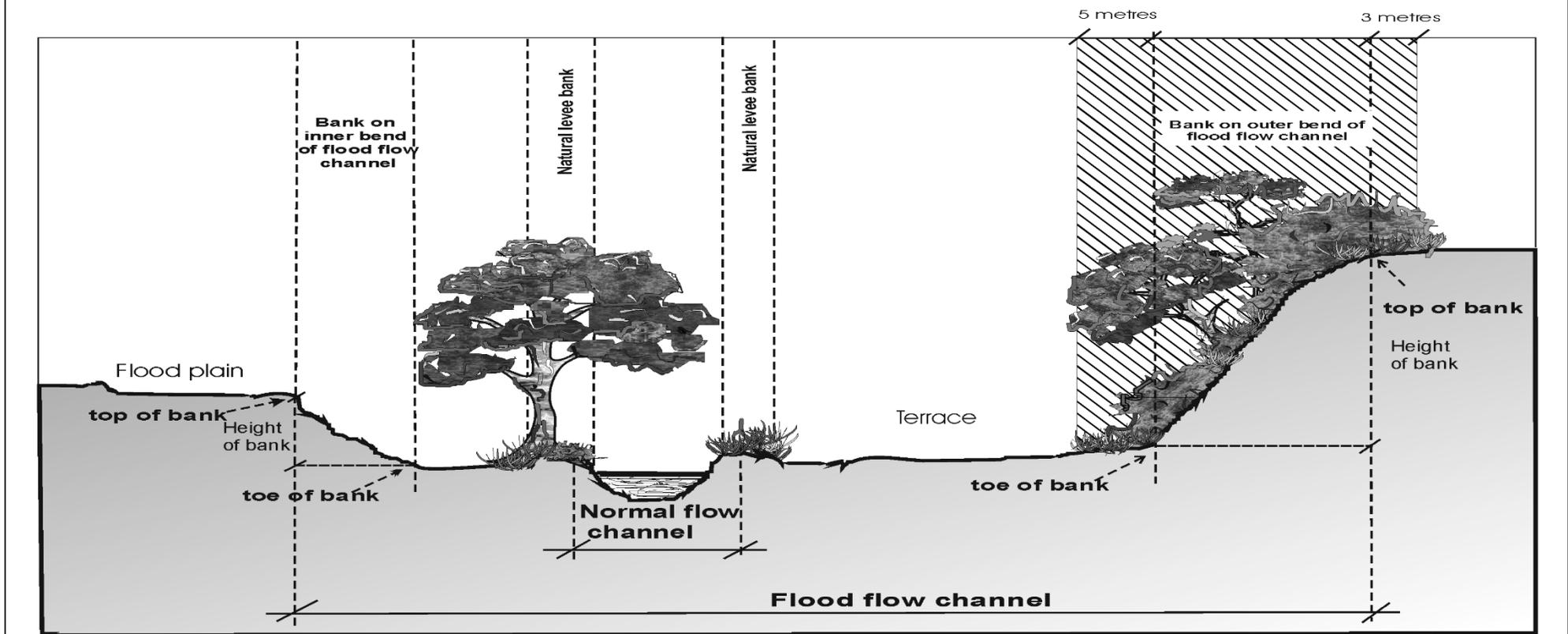
**Figure 1**

(not to scale)

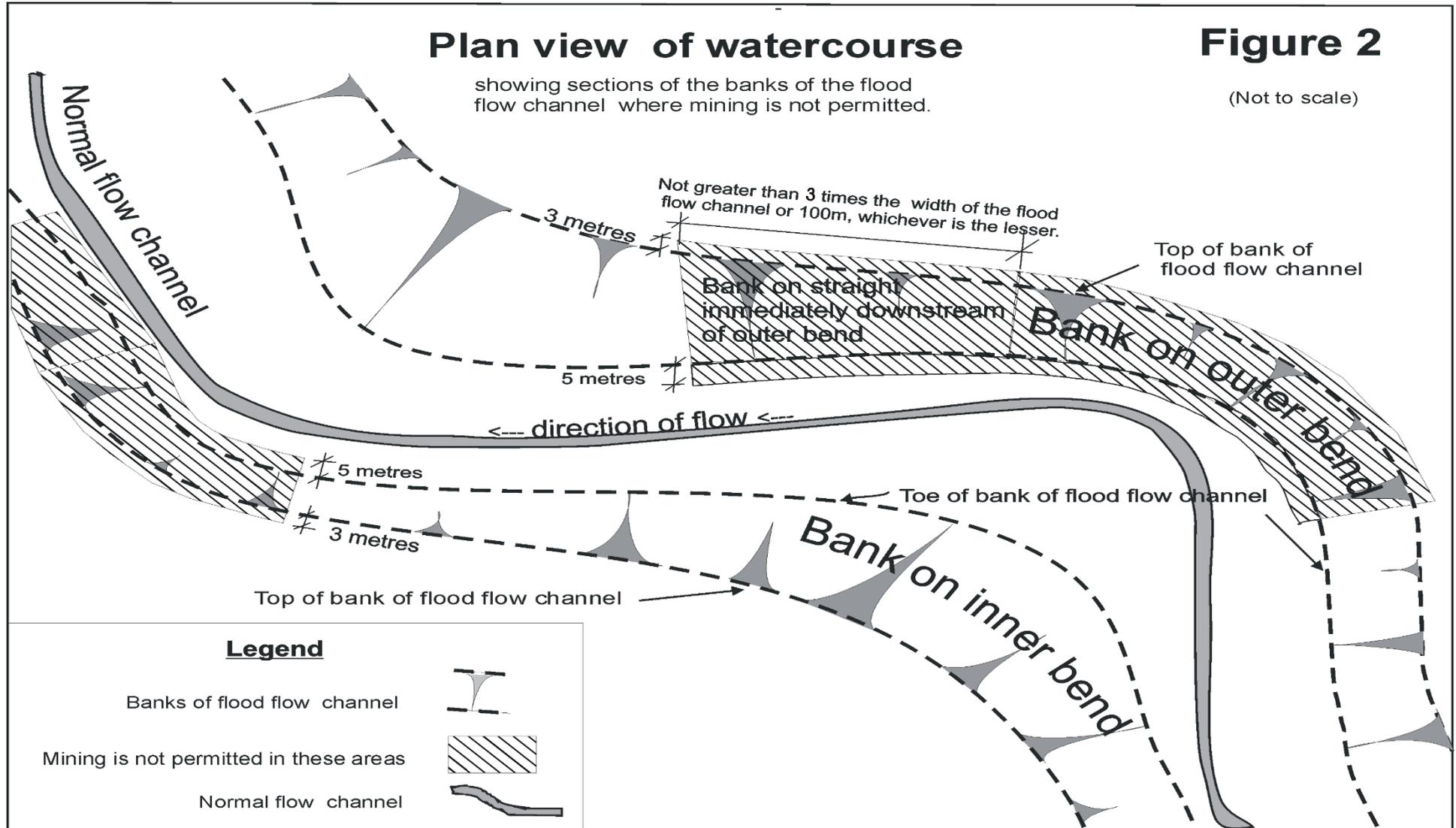
## Cross section through a watercourse

showing sections of the banks of the flood flow channel where mining is not permitted.

Mining is not permitted in the areas shown as 



**Figure 2: Plan of a watercourse**





## Appendix 6: Technical guidelines

*Australian Standard 1940 - The storage and handling of flammable and combustible liquids*. Standards Australia (1993).

*Australian Water Quality Guidelines for Fresh and Marine Water Quality*, Australian and New Zealand Environment and Conservation Council (1992).

*Commonwealth Best Practice Environmental Management in Mining Guidelines*, Environment Australia.

*Dredging, Extraction and Spoil Disposal, Fish Habitat Management Operational Policy: FHMOP 004*, Department of Primary Industries (1998).

*Farm Water Supplies Design Manual*, Department of Primary Industries, (1992).

*Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland*, Department of Natural Resources (1998).

*Soil Erosion and Sediment Control - Engineering Guidelines for Queensland Construction Sites*, The Institution of Engineers, Australia, Queensland Division (1996).

*Technical Guidelines for Environmental Management of Exploration and Mining*, Department of Mines and Energy, Queensland, 1995.

*The Conservation Status of Queensland's Bioregional Ecosystems*, Environmental Protection Agency (1999).

Prepared by: Resources Sector Regulation and Support, Department of Environment and Heritage Protection

© The State of Queensland (Department of Environment and Heritage Protection) 2015

Copyright inquiries should be addressed to <copyright@ehp.qld.gov.au>

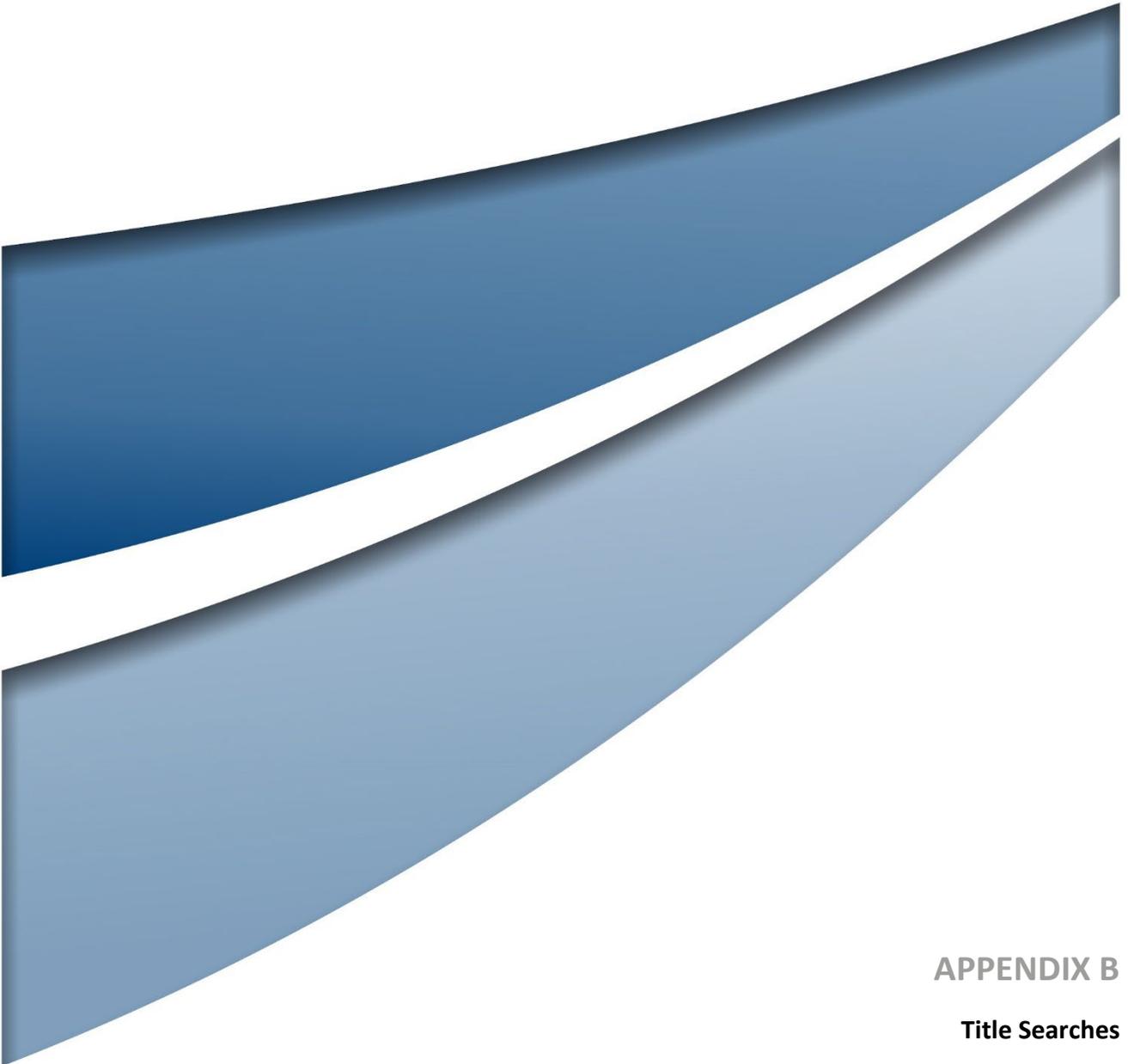
### Disclaimer

This document has been prepared with all due diligence and care, based on the best available information at the time of publication. The department holds no responsibility for any errors or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties. Information contained in this document is from a number of sources and, as such, does not necessarily represent government or departmental policy.

If you need to access this document in a language other than English, please call the Translating and Interpreting Service (TIS National) on 131 450 and ask them to telephone Library Services on +61 7 3170 5470.

This publication can be made available in an alternative format (e.g. large print or audiotape) on request for people with vision impairment; phone +61 7 3170 5470 or email <library@ehp.qld.gov.au>.

March 2016



## APPENDIX B

### Title Searches

Queensland Titles Registry Pty Ltd  
ABN 23 648 568 101

<b>Title Reference:</b> 40033432	<b>Search Date:</b> 06/03/2023 14:47
<b>Date State Tenure Created:</b> 14/06/2002	<b>Request No:</b> 43765060
<b>Previous Title:</b> 17777037, 40026643	

## DESCRIPTION OF LAND

Tenure Reference: TL 217564  
Lease Type: ROLLING TERM LEASE  
LOT 1 SURVEY PLAN 263961  
Local Government: DIAMANTINA  
Area: 390000.000000 Ha. (ABOUT)  
No Land Description  
No Forestry Entitlement Area  
Purpose for which granted:  
PASTORAL

## REGISTERED LESSEE

Dealing No: 714006571 11/08/2011  
PARAWAY PASTORAL COMPANY LIMITED A.C.N. 122 572 641

## TERM OF LEASE

Term and day of beginning of lease  
Term: 21 years 3 months commencing on 01/04/2002  
Expiring on 30/06/2023  
Extended to 30/09/2044

## CONDITIONS

A126 SPECIFIED CONDITIONS FOR: Term Lease  
PURPOSE: Rolling term lease - pastoral

-----  
STATUTORY CONDITIONS:  
-----

Statutory conditions are the general mandatory conditions of a lease and binds the lessee in accordance with Part 2 Division 1 of the Land Act.

1. Permitted Use: The lessee must use the land only for the purpose for which the tenure was issued under the Land Act 1994.
2. Duty of Care: The lessee has the responsibility for a duty of care, for the land under the Land Act 1994.
3. Rent/Instalment: The lessee must pay the annual rent/instalment in accordance with the Land Act 1994 and the Land Regulation 2009.  
For further information on how annual rent is determined, refer to the department's website at [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au).
4. Noxious plants: The lessee must keep noxious plants on the land under control. If the lessee does not comply with this condition, the Minister may bring the noxious plants under control, the cost of which will be recovered from the lessee.
5. Information to Minister: The lessee must give the Minister administering the Land Act 1994, information the Minister asks for about the tenure.

**CONDITIONS (Continued)**

6. Monies for Improvements: No money for improvements is payable by the State on the forfeiture, surrender or expiry of this lease but money may be payable if the State receives payment from an incoming lessee or buyer for the improvements on the land. However, the previous lessee may apply to the Minister to remove the improvements that belong to the lessee, within a period of 3 months from the date of the forfeiture, surrender, or expiry of this lease. The lessee may only undertake the removal of the improvements in the presence of an authorised representative of the department, if required by the Minister. The lessee may only remove those improvements if all monies due from the lessee to the department under this lease have been paid.

REGULATORY-CONDITIONS:-----

A regulatory condition relates to a lease , in accordance with the Land Regulation.

1. Indemnity: The lessee indemnifies and agrees to keep indemnified the Minister, and the State of Queensland and its Representatives, (the "Indemnified parties") against all liability, costs, loss and expenses including claims in negligence (including any claims, proceedings or demands brought by any third party, and any legal fees, costs and disbursements on a solicitor and client basis) ("Claim") arising from or incurred in connection with:

- a. the granting of this lease to the lessee;
- b. the lessee 's use and occupation of the land; or
- c. personal injury (including sickness and death) or property damage or loss in connection with the performance (or attempted purported performance or non-performance) of the lease or a breach of the lease by the lessee .

The lessee hereby releases and discharges to the full extent permitted by law, the Indemnified parties from all actions, claims, proceedings or demands and in respect of any loss, death, injury, illness or damage (whether personal or property and whether special, direct, indirect or consequential financial loss) arising out of the use and occupation of the lease. To the full extent permitted by law, the Minister, the State of Queensland and their Representatives will not be liable to the lessee for any special, indirect or consequential damages, including consequential financial loss arising out of the use and occupation of the lease.

2. Public Liability: The lessee must effect a public liability insurance policy with an insurer authorised under the Insurance Act 1973 (Commonwealth) or, if not so authorised then only with the Minister's approval, which can be given or withheld in the Minister's sole discretion, naming the lessee as the insured covering legal liability for any loss of, or damage to any property and for the injury (including death) to any person arising out of anything done or omitted on or about the land or any improvements thereon and against all claims, demands, proceedings, costs, charges, and expenses whatsoever (including claims in negligence) Such policy must:

- a. be for an amount of not less than \$20,000,000.00 and have no per event sublimit or such higher amounts as the Minister may reasonably require.
- b. be effected on a "claims occurring" basis; and
- c. be maintained at all times during the currency of the lease, and upon receipt of any notice of cancellation, the lessee must immediately effect another public insurance policy in accordance with the terms of the lease .

**CONDITIONS (Continued)**

The lessee must, as soon as practicable, inform the Minister, in writing, of the occurrence of any event that the lessee considers is likely to give rise to a claim under the policy of insurance effected and must ensure that the Minister is kept fully informed of subsequent actions and developments concerning the claim. The lessee must renew such policy, at the lessee's expense, each year during the currency of this lease.

The condition will be satisfied if the lessee is the State of Queensland or a statutory authority eligible for cover under the Queensland Government Insurance Fund and is insured and continues to be insured by the Queensland Government Insurance Fund.

This condition will be satisfied if the lessee is the Commonwealth of Australia or a statutory authority eligible for cover under the Comcover Insurance Fund and is insured and continues to be insured by Comcover.

3. Access: The provision of access, further access or services to the land will not be the responsibility of the State.
4. Survey Costs: If the land needs to be surveyed or re-surveyed the lessee must do this at their own cost under the Survey and Mapping Infrastructure Act 2003. This survey plan must be lodged in the land registry within the specified time.
5. Extension: The lease is subject to the extensions of rolling term leases provision of the Land Act 1994 and the Minister must grant an extension of the term of a rolling term lease if the lessee makes an application in the approved form. The extension will be for the original term of the lease and may be given subject to condition changes.
6. Jurisdiction: The lessee is subject to the Land Act 1994 and all other relevant Queensland and Commonwealth legislation.
7. Compliance with Laws - the lessee must comply with all lawful requirements of the -
  - a. Local Government; and
  - b. any department within the Queensland or Commonwealth governments (including the department administering the Land Act 1994), local authority or statutory instrumentality having jurisdiction over the land, or the development, use and occupation of the land, in regard to its use, occupation and development of the land.

SPECIAL-CONDITIONS:-----  
-----

These conditions relate to this lease.

Improvements or development on or to the land

1. The lessee must, to the satisfaction of the relevant authorities, maintain existing improvements on the land in a good and substantial state of repair.

Quarry material

1. The lessee must allow any person authorised under the Forestry Act 1959 access to the leased land for the purpose of cutting and removing timber or removing other forest products, or quarry material, or other material from the leased land. Except as hereinafter provided the lessee must not interfere with any forest products or remove any quarry material (including any stone, gravel, sand, earth, soil, rock, guano or clay which is not a mineral within the meaning of the Mineral Resources Act 1989) or other material upon the leased land without the permission of the Minister administering the Land Act 1994 except under the authority of and in compliance in every respect with the requirements or a permit, licence, agreement or contract granted or made under the Forestry Act 1959.

Queensland Titles Registry Pty Ltd  
 ABN 23 648 568 101

<b>Title Reference:</b>	<b>40033432</b>
-------------------------	-----------------

**ENCUMBRANCES AND INTERESTS**

1. Rights and interests reserved to the Crown by  
Lease No. 40033432
2. RESUMPTION EASEMENT No 702801670 22/07/1998 at 12:23  
burdening the land  
THE STATE OF QUEENSLAND  
over  
EASEMENTS W and X on SP101047  
EASEMENT AA on SP101049
3. EASEMENT IN GROSS No 704228396 02/08/2000 at 11:57  
burdening the land  
THE STATE OF QUEENSLAND  
over  
EASEMENTS Y,Z AND A ON SP 101048
4. AMENDMENT OF LEASE CONDITIONS No 716068971 13/10/2014 at 05:00  
THE CONDITIONS OF THE WITHIN TENURE ARE HEREBY AMENDED.
5. MORTGAGE No 717505931 09/09/2016 at 16:08  
NATIONAL AUSTRALIA BANK LIMITED A.C.N. 004 044 937
6. EASEMENT IN GROSS No 720244233 02/09/2020 at 13:10  
burdening the land  
THE STATE OF QUEENSLAND  
(REPRESENTED BY DEPARTMENT OF TRANSPORT AND MAIN ROADS)  
over  
EASEMENT XX ON SP263961

**ADMINISTRATIVE ADVICES**

Dealing	Type	Lodgement Date	Status
719767646	EXEMPT CONS SEC 322AA LAND ACT 1994	02/12/2019 08:28	CURRENT
720759482	CON COM AGMT MINERAL AND ENERGY RESOURCES (COMMON PROVISIONS) ACT 2014	30/04/2021 09:46	CURRENT

**UNREGISTERED DEALINGS**

NIL

Corrections have occurred - Refer to Historical Search

Caution - Charges do not necessarily appear in order of priority

\*\* End of Current State Tenure Search \*\*

Information provided under section 34 Land Title Act (1994) or section 281 Land Act (1994)

Queensland Titles Registry Pty Ltd  
ABN 23 648 568 101

<b>Title Reference:</b> 40033431	<b>Search Date:</b> 06/03/2023 14:47
<b>Date State Tenure Created:</b> 14/06/2002	<b>Request No:</b> 43765060
<b>Previous Title:</b> 17667225, 40026642	

## DESCRIPTION OF LAND

Tenure Reference: PH 217563  
Lease Type: ROLLING TERM LEASE  
LOT 2 SURVEY PLAN 263962  
Local Government: DIAMANTINA  
Area: 587000.000000 Ha. (ABOUT)  
No Land Description  
No Forestry Entitlement Area  
Purpose for which granted:  
PASTORAL

## REGISTERED LESSEE

Dealing No: 712332298 08/04/2009  
PARAWAY PASTORAL COMPANY LIMITED A.C.N. 122 572 641

## TERM OF LEASE

Term and day of beginning of lease  
Term: 21 years 3 months commencing on 01/04/2002  
Expiring on 30/06/2023  
Extended to 30/09/2044

## CONDITIONS

A126 SPECIFIED CONDITIONS FOR: Term Lease  
PURPOSE: Rolling term lease - pastoral

-----  
STATUTORY CONDITIONS:  
-----

Statutory conditions are the general mandatory conditions of a lease and binds the lessee in accordance with Part 2 Division 1 of the Land Act.

1. Permitted Use: The lessee must use the land only for the purpose for which the tenure was issued under the Land Act 1994.
2. Duty of Care: The lessee has the responsibility for a duty of care, for the land under the Land Act 1994.
3. Rent/Instalment: The lessee must pay the annual rent/instalment in accordance with the Land Act 1994 and the Land Regulation 2009.  
For further information on how annual rent is determined, refer to the department's website at [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au).
4. Noxious plants: The lessee must keep noxious plants on the land under control. If the lessee does not comply with this condition, the Minister may bring the noxious plants under control, the cost of which will be recovered from the lessee.
5. Information to Minister: The lessee must give the Minister administering the Land Act 1994, information the Minister asks for about the tenure.

**CONDITIONS (Continued)**

6. Monies for Improvements: No money for improvements is payable by the State on the forfeiture, surrender or expiry of this lease but money may be payable if the State receives payment from an incoming lessee or buyer for the improvements on the land. However, the previous lessee may apply to the Minister to remove the improvements that belong to the lessee, within a period of 3 months from the date of the forfeiture, surrender, or expiry of this lease. The lessee may only undertake the removal of the improvements in the presence of an authorised representative of the department, if required by the Minister. The lessee may only remove those improvements if all monies due from the lessee to the department under this lease have been paid.

REGULATORY-CONDITIONS:-----

A regulatory condition relates to a lease , in accordance with the Land Regulation.

1. Indemnity: The lessee indemnifies and agrees to keep indemnified the Minister, and the State of Queensland and its Representatives, (the "Indemnified parties") against all liability, costs, loss and expenses including claims in negligence (including any claims, proceedings or demands bought by any third party, and any legal fees, costs and disbursements on a solicitor and client basis) ("Claim") arising from or incurred in connection with:

- a. the granting of this lease to the lessee;
- b. the lessee 's use and occupation of the land; or
- c. personal injury (including sickness and death) or property damage or loss in connection with the performance (or attempted purported performance or non-performance) of the lease or a breach of the lease by the lessee .

The lessee hereby releases and discharges to the full extent permitted by law, the Indemnified parties from all actions, claims, proceedings or demands and in respect of any loss, death, injury, illness or damage (whether personal or property and whether special, direct, indirect or consequential financial loss) arising out of the use and occupation of the lease. To the full extent permitted by law, the Minister, the State of Queensland and their Representatives will not be liable to the lessee for any special, indirect or consequential damages, including consequential financial loss arising out of the use and occupation of the lease.

2. Public Liability: The lessee must effect a public liability insurance policy with an insurer authorised under the Insurance Act 1973 (Commonwealth) or, if not so authorised then only with the Minister's approval, which can be given or withheld in the Minister's sole discretion, naming the lessee as the insured covering legal liability for any loss of, or damage to any property and for the injury (including death) to any person arising out of anything done or omitted on or about the land or any improvements thereon and against all claims, demands, proceedings, costs, charges, and expenses whatsoever (including claims in negligence) Such policy must:

- a. be for an amount of not less than \$20,000,000.00 and have no per event sublimit or such higher amounts as the Minister may reasonably require.
- b. be effected on a "claims occurring" basis; and
- c. be maintained at all times during the currency of the lease, and upon receipt of any notice of cancellation, the lessee must immediately effect another public insurance policy in accordance with the terms of the lease .

**CONDITIONS (Continued)**

The lessee must, as soon as practicable, inform the Minister, in writing, of the occurrence of any event that the lessee considers is likely to give rise to a claim under the policy of insurance effected and must ensure that the Minister is kept fully informed of subsequent actions and developments concerning the claim. The lessee must renew such policy, at the lessee's expense, each year during the currency of this lease.

The condition will be satisfied if the lessee is the State of Queensland or a statutory authority eligible for cover under the Queensland Government Insurance Fund and is insured and continues to be insured by the Queensland Government Insurance Fund.

This condition will be satisfied if the lessee is the Commonwealth of Australia or a statutory authority eligible for cover under the Comcover Insurance Fund and is insured and continues to be insured by Comcover.

3. Access: The provision of access, further access or services to the land will not be the responsibility of the State.
4. Survey Costs: If the land needs to be surveyed or re-surveyed the lessee must do this at their own cost under the Survey and Mapping Infrastructure Act 2003. This survey plan must be lodged in the land registry within the specified time.
5. Extension: The lease is subject to the extensions of rolling term leases provision of the Land Act 1994 and the Minister must grant an extension of the term of a rolling term lease if the lessee makes an application in the approved form. The extension will be for the original term of the lease and may be given subject to condition changes.
6. Jurisdiction: The lessee is subject to the Land Act 1994 and all other relevant Queensland and Commonwealth legislation.
7. Compliance with Laws - the lessee must comply with all lawful requirements of the -
  - a. Local Government; and
  - b. any department within the Queensland or Commonwealth governments (including the department administering the Land Act 1994), local authority or statutory instrumentality having jurisdiction over the land, or the development, use and occupation of the land, in regard to its use, occupation and development of the land.

SPECIAL-CONDITIONS:-----

-----  
These conditions relate to this lease.

Improvements or development on or to the land

1. The lessee must, to the satisfaction of the relevant authorities, maintain existing improvements on the land in a good and substantial state of repair.

Quarry material

1. The lessee must allow any person authorised under the Forestry Act 1959 access to the leased land for the purpose of cutting and removing timber or removing other forest products, or quarry material, or other material from the leased land. Except as hereinafter provided the lessee must not interfere with any forest products or remove any quarry material (including any stone, gravel, sand, earth, soil, rock, guano or clay which is not a mineral within the meaning of the Mineral Resources Act 1989) or other material upon the leased land without the permission of the Minister administering the Land Act 1994 except under the authority of and in compliance in every respect with the requirements or a permit, licence, agreement or contract granted or made under the Forestry Act 1959.

Queensland Titles Registry Pty Ltd  
 ABN 23 648 568 101

Title Reference: 40033431

## ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by Lease No. 40033431
2. RESUMPTION EASEMENT No 702801670 22/07/1998 at 12:23 burdening the land  
 THE STATE OF QUEENSLAND  
 over  
 EASEMENTS AA and AB on SP101049  
 EASEMENT AD on SP101050
3. AMENDMENT OF LEASE CONDITIONS No 716068970 13/10/2014 at 05:00  
 THE CONDITIONS OF THE WITHIN TENURE ARE HEREBY AMENDED.
4. MORTGAGE No 717505931 09/09/2016 at 16:08  
 NATIONAL AUSTRALIA BANK LIMITED A.C.N. 004 044 937

## ADMINISTRATIVE ADVICES

Dealing	Type	Lodgement Date	Status
716940065	NT DETERM NATIVE TITLE ACT 1993 (CTH)	08/12/2015 14:55	CURRENT
719767646	EXEMPT CONS SEC 322AA LAND ACT 1994	02/12/2019 08:28	CURRENT

## UNREGISTERED DEALINGS

NIL

Corrections have occurred - Refer to Historical Search  
 Caution - Charges do not necessarily appear in order of priority

\*\* End of Current State Tenure Search \*\*

Information provided under section 34 Land Title Act (1994) or section 281 Land Act (1994)

