

SARAJI EAST MINING LEASE PROJECT

Environmental Impact Statement

Chapter 4 Land Use and Tenure

BHP

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Saraji East Mining Lease Project

4 Land use and tenure

4.1 Introduction

This chapter provides an assessment of the existing and proposed land use and tenure associated with the Saraji East Mining Lease Project (the Project). It assesses the suitability of the proposed land use and identifies applicable land use constraints. It also identifies and assesses the potential impacts of the Project on both existing and likely future land uses and details management and mitigation methods.

The assessment provided within this chapter is, in part, reliant on Certificates of Title provided by BMA which are dated May 2018.

4.2 Existing environment

4.2.1 Land tenure and ownership

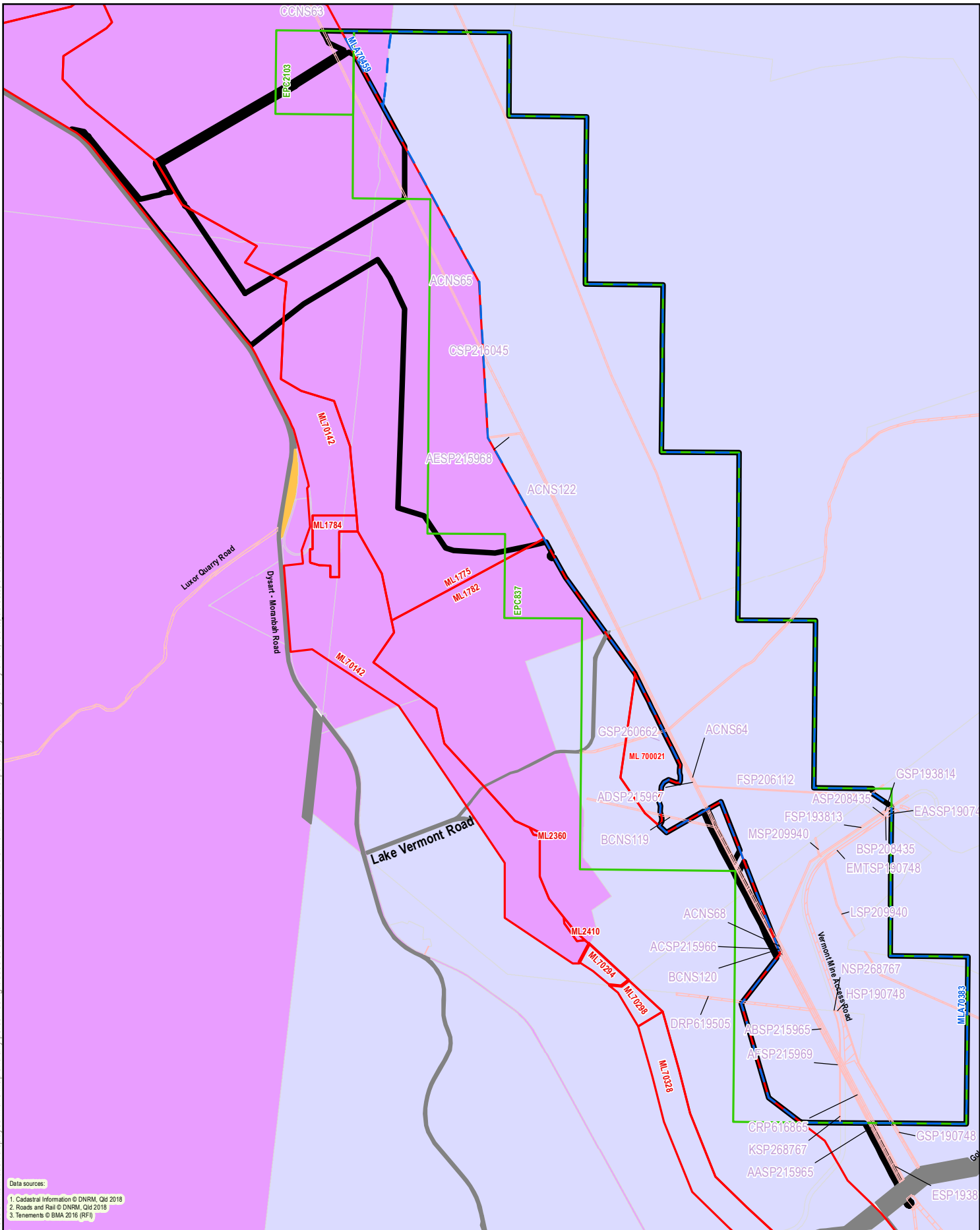
Land tenure is the means of identifying who has the right to use and occupy land in accordance with varying degrees of ownership (DNRM 2009). Land tenure within Queensland is administered under the *Land Act 1994*.

The Project Site comprises 14 registered land parcels, as shown in Figure 4-1. The tenure of these properties is a mix of freehold and leasehold. Details of the underlying tenure and ownership within the Project Site are provided in Table 3.5 and presented in Figure 3-4 within **Chapter 3 Project Description**.

Approximately 36 easements intersect the Project Site, across both freehold and leasehold areas. These easements generally protect and accommodate infrastructure such as water pipelines, electricity infrastructure and railways. These easements demonstrate a right or interest on the property that is registered against the title.

There are two homesteads located within the Project Site (Lake Vermont Homestead and Meadowbrook Homestead) on freehold land. An additional five homesteads are located within the vicinity of the Project Site and have been identified as sensitive receptors. The location of these homesteads is illustrated in Figure 4-2 and their ownership details are provided in Table 4.1.

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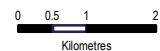
LEGEND

- | | |
|--------------------------------|------------------|
| Project Site | Land Tenure |
| Exploration Permit Coal (EPC) | Easement |
| Mining Lease (ML) | Freehold |
| Mining Lease Application (MLA) | Leasehold |
| | Reserve |
| | Road Type Parcel |



Figure 4-1
Land Tenure

Environmental Impact Statement
Saraji East Mining Lease Project



Scale: 1:110,000 (when printed at A4)

Projection: Map Grid of Australia - Zone 55 (GDA94)

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Table 4.1 Homesteads within and nearby to the Project Site

Homestead	Property details	Owner
Meadowbrook Homestead	Lot 101 SP310393	BHP Coal Pty Ltd Umal Consolidated Pty Ltd BHP Queensland Coal Investments Pty Ltd Mitsubishi Development Pty Ltd QCT Investment Pty Ltd QCT Mining Pty Ltd QCT Resources Pty Ltd
Lake Vermont Homestead	Lot 101 SP310393	BHP Coal Pty Ltd Umal Consolidated Pty Ltd BHP Queensland Coal Investments Pty Ltd Mitsubishi Development Pty Ltd QCT Investment Pty Ltd QCT Mining Pty Ltd QCT Resources Pty Ltd
Tay-Glen Homestead	Lot 3 SP235303	Private landholder
Saraji Homestead 1	Lot 59 SP235297	Private landholder
Saraji Homestead 2	Lot 59 SP235297	Private landholder
Saraji Homestead 3	Lot 59 SP235297	Private landholder
Kyewong Homestead	Lot 5 SP235303	Private landholder

4.2.2 Resource tenements

Current resource tenements

A number of resource tenements authorised under the *Mineral Resources Act 1989* (MR Act) are located within the Project Site. These tenements include ML, MLA and exploratory permits for coal (EPC) and are illustrated in Figure 3-4 within **Chapter 3 Project Description**.

Exploration tenements allow the holder to undertake the activities that are required to identify the quality and quantity of a resource prior to extraction. Extraction tenements allow the holder to extract the resource in alignment with the relevant approvals. As such, exploration tenements are typically (but not always) granted over much larger areas than extraction tenements. An exploration permit authorises entry to land to use advanced exploration methods to determine the presence of minerals, for any mineral to which the exploration permit applies (Queensland Government 2017). Activities that are normally undertaken under an exploration permit include geophysical surveys, drilling and sampling and testing of materials.

The Project is located adjacent to the existing Saraji Mine, which BMA currently operates on ML 1775, ML 70142, ML 1784, ML 1782, ML 2360, ML 2410, ML 70294, ML 70298, ML 70328 and ML 700021 under Environmental Authority (EA) Permit No. EPML00862313.

The Project mining lease tenements are overlapped by two Authority to Prospect (ATP), being ATP 1103 and ATP 814. ATP 1103 is managed by Arrow Energy on behalf of Arrow CSG Pty Ltd, ACL Energy Pty Ltd and CH4 Pty Ltd. ATP 814 is managed by Eureka Petroleum Pty Ltd. Overlapping tenements held by other resource authority holders will be subject to the provisions of the *Mineral and Energy Resources (Common Provisions) Act 2014*. In the event that ATP 1103 or ATP 814 are converted to Petroleum Leases, co-ordination arrangements will be negotiated with the above companies as a prerequisite for developing both the coal and gas resources and securing the grant of MLA 70383 and MLA 70459.

Proposed resource tenements

Two new MLs are required to allow for the development of the Project which is located outside of the existing Saraji ML area. The proposed mining tenement (MLA 70383), commences from the boundary of ML 1775. MLA 70459 is required for the proposed infrastructure and transport corridor.

The Project's mining tenements overlap a number of EPCs held by CQCA Joint Ventures, which are the prerequisite tenements for the MLAs. These EPCs are listed in Table 4.2.

Table 4.2 Prerequisite tenements for the Project

Tenement	Holder	Overlapping tenement	Status	Date granted/ lodged	Expiry date
EPC 837	CQCA Joint Venture	MLA 70383 and MLA 70459	Granted	20/10/2003	19/10/2022
EPC 2103	CQCA Joint Venture	MLA 70459	Granted	12/10/2010	11/10/2022

The Project Site encompasses approximately 11,427 hectares (ha) of land. Mining and the infrastructure required to support the Project is not proposed within the full extent of the Project Site with direct impacts constrained to a smaller area of some 3,541 ha within MLA 70383, MLA 70459, ML 70142 and ML 1775.

No licenses or permits are held by BMA for petroleum, geothermal activities or greenhouse gas activities within the Project Site.

4.2.3 Existing land uses

The Project is located within a rural area containing land mainly used for livestock grazing (refer to Plate 4.1). Areas of cropping activity are located to the south-east of the mine. The area is sparsely populated with two homesteads located within the Project Site (Meadowbrook and Lake Vermont) and four homesteads to the west of the Project Site (Saraji Homestead 1, Saraji Homestead 2, Saraji Homestead 3, and Tay-Glen) (refer to Plate 4.2). Kyewong Homestead is located to the east of the Project Site.

The Project Site directly abuts the existing BMA Saraji Mine to the west. This open cut coal mine has been operational since 1974 and extends approximately 30 kilometres (km) from the north to the south, with a width averaging more than 4 km (refer to Plate 4.3). The existing Saraji Mine is serviced by various elements of infrastructure, including the Goonyella railway line, Saraji Road (Dysart Moranbah Road), the Burdekin Pipeline and Eungella Water Pipeline Company (EWPC) Southern Extension Water Pipeline (refer to Plate 4.4).



Plate 4.1 Cattle grazing in the vicinity of the Project



Plate 4.2 Meadowbrook Homestead



Plate 4.3 Existing Saraji Mine



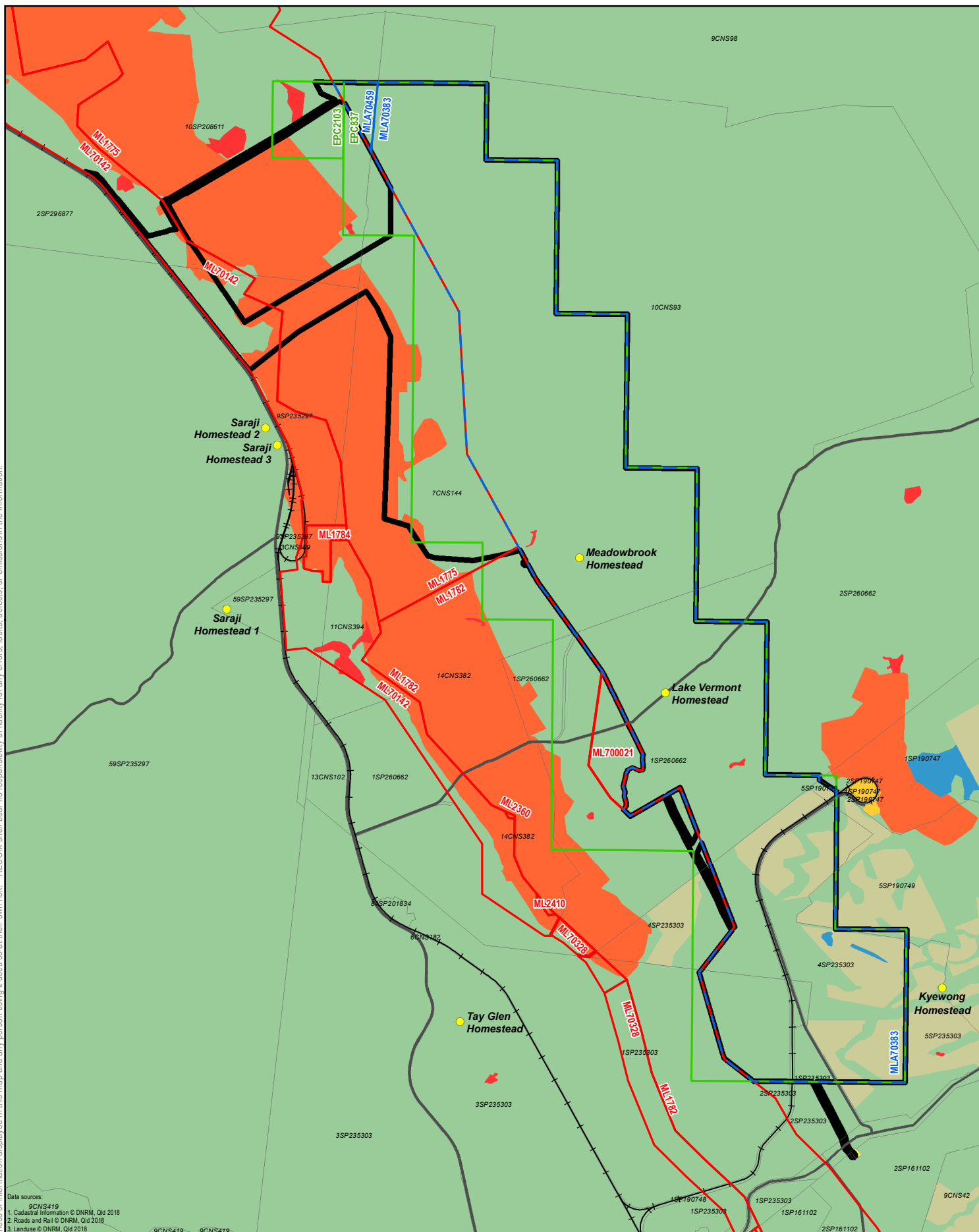
Plate 4.4 Existing land use and utilities

Queensland Land Use Mapping Program

The assessment considered the Queensland Land Use Mapping Program (QLUMP). QLUMP assesses and maps land use patterns and changes across the state, according to the Australian Land Use and

Management (ALUM) Classification which has six primary land use classes, 32 secondary land uses, and 63 tertiary land uses classes.

Figure 4-2 presents the current land uses within the Project Site as per QLUMP classifications (Queensland Government, 2013). The land use types present within the Project Site are identified in Table 4.3 in accordance with the QLUMP classifications (primary and secondary).



LEGEND		QLUMP Secondary Land Use	
	Project Site		Other minimal use
	Exploration Permit Coal (EPC)		Grazing native vegetation
	Mining Lease (ML)		Cropping
	Mining Lease Application (MLA)		Utilities
	Public Road		Transport and communication
	Existing Railway		Mining
	Cadastral Boundary		Reservoir/dam

Figure 4-2
Land Use and Homesteads

Environmental Impact Statement
Saraji East Mining Lease Project

0 0.5 1 2
Kilometres

Scale: 1:120,000 (when printed at A4)

Projection: Map Grid of Australia - Zone 55 (GDA94)

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Table 4.3 QLUMP land use classes. Source: DES, 2016

Primary land use	Land use definition	Secondary land use	Land use definition
Production from relatively natural environments	Land that is subject to relatively low levels of intervention and not be used more intensively because of its limited capability. The structure of the native vegetation generally remains intact despite deliberate use. Where the native vegetation structure is, for example, open woodland or grassland, the land may be grazed.	Grazing native vegetation	Land uses based on grazing by domestic stock on native vegetation where there has been limited or no deliberate attempt at pasture modification.
Intensive uses	Land uses that involve high levels of interference with natural processes, generally in association with closer settlement. The level of intervention may be high enough to completely remodel the natural landscape - the vegetation, surface-water and groundwater systems, and the land surface.	Mining	Includes mines, quarries, tailings and extractive industry not in use.
Water	Water features are important for natural resources management and as points of reference in the landscape. However, the inclusion of water is complicated because it is normally classified as a land cover type. At the secondary level, the classification identifies water features, both natural and artificial. Tertiary classes relate water features to intensity of use.	Reservoir/dam	A body of water collected and stored behind a constructed barrier for some specific use. Includes: reservoir, water storage-intensive use/farm dams and evaporation basin.
Conservation and natural environments	Land that has a relatively low level of human intervention which be formally reserved by government, legal or administrative for conservation purposes. Areas may have multiple uses, but nature conservation is the prime use.	Other minimal use	Areas of land that are largely unused but may have ancillary uses which may be a deliberate decision. The land may be available for use but remain 'unused' for various reasons.
Production from dryland agriculture and plantations	Land that is used principally for primary production, based on dryland farming systems. Native vegetation has largely been replaced by introduced species through clearing, the sowing of new species, the application of fertilisers or the dominance of volunteer species. The range of activities includes plantation forestry, pasture production for stock, cropping and fodder production, and a wide range of horticultural production.	Cropping	Land that is under cropping. Land under cropping at the time of mapping may be in a rotation system, so that at another time the same area may be, for example, under pasture.

4.2.4 Utilities and services

Water distribution infrastructure

BMA operates a water pipeline network in Central Queensland, servicing its mines, landholders and towns. The existing EWPC Southern Extension Water Pipeline supplies water to the nearby Lake Vermont Mine. The EWPC pipeline will be relocated and reconnected into a new infrastructure and transport corridor to minimise any potential impacts of subsidence.

BMA holds contractual rights to approximately 10,000 mega litres per year (ML/yr) of water from the Burdekin Pipeline (owned by SunWater) as a supply source for BMA operations in the vicinity of Moranbah. In addition, BMA has a water allocation of 6,200 ML/yr from the Eungella Dam that is also available for use in BMA operations in the vicinity of Moranbah. In securing its water rights, BMA has allowed for the current and potential future use of water from these sources at the Saraji Mine and for growth options associated with MLA 70383.

Water transport associated with the Project will utilise and where necessary, enhance the existing BMA water pipeline network which connects the Saraji Mine to other BMA mines to the north and south.

Boreholes

A number of registered groundwater bores are located within the Project Site (refer to Figure 4-3).

Electricity infrastructure

Two powerlines intersect the Project Site (refer to Figure 4-3):

- 132 kilovolt (kV) Powerlink
- 66 kV Saraji Mine powerline (Ergon supply – Dysart).

Bulk electricity demand will be supplied by the existing Ergon Supply – Dysart 66 kV supply to Saraji Mine and a new co-aligned 66 kV powerline connection will be constructed. Saraji Mine currently has an authorised maximum demand of 43 megawatts (MW). The current maximum demand of the mine is 26 MW – 30 MW.

The existing 132 kV powerline, which is owned and operated by Powerlink, will be relocated to the eastern transport and infrastructure corridor. A number of transformers will be required to step down the voltage in order to supply other mine infrastructure.

Telecommunications infrastructure

There are no existing telecommunications towers within the Project Site (refer to Figure 4-3).

The telecommunications network will be managed by extending the services from the existing Saraji Mine through to the Project Site via the existing service corridor. Telecommunications will be controlled and monitored through the Project control room located on site or from a centrally located facility in Brisbane.

4.2.5 Transport and infrastructure

Road infrastructure

The Dysart-Moranbah Road runs along the western edge of the Project Site. Dysart-Moranbah Road is a sealed, two lane road and is under the jurisdiction of Isaac Regional Council (IRC) (i.e. local road). Access to the Mine Infrastructure Area (MIA) and the Coal Handling and Preparation Plant (CHPP) will require a new intersection into Dysart-Moranbah Road. Additionally, an internal access road will be required to link the proposed accommodation villages to Lake Vermont Road or any replacement that may be required should Saraji Mine operations lead to its closure in the future. The Peak Downs Highway (State-controlled) is located approximately 30 km north-west of the Project Site.

Stock route network

The *Land Protection (Pest and Stock Route Management) Act 2002* establishes Queensland's stock route network. The Queensland stock route network is used for moving stock, pasture for emergency agistment and long-term grazing. Stock routes are classified based on their significance to the transportation of stock and their connectivity. Classification routes include primary (P), secondary (S), minor (M) or unused. Stock routes have no specific title or tenure from the underlying road reserve and are managed by local governments and the Queensland Department of Natural Resources, Mines and Energy (DNRME).

A secondary (S) stock route (405ISAA) is located in the south of the Project Site where the Project's powerline is proposed. Extension of a powerline will intersect the stock route (405ISAA). If required, BMA will liaise with IRC and DNRME regarding management and mitigation strategies for the temporary closure of the stock route during construction.

Rail

The Lake Vermont rail spur encroaches into the Project Site. The spur is part of the Goonyella system. The Goonyella system is an electrified train system located in central Queensland, which services the Bowen Basin coal region. The corridor connects to export terminals at Hay Point in Mackay and Abbot Point in Bowen. The system hauls coal for a range of coal mining companies, including BMA.

Coal will be transported along the existing Goonyella rail system that currently runs along the western boundary of the Saraji Mine ML 70142. Refer to **Chapter 14 Transport** for further detail.

Air

Dysart airport is located approximately 11 km south of the Project Site. The airport is privately owned by BMA and at present, is only open to the Royal Flying Doctor Service and Medivac flights.

Moranbah airport, which will be used to transport commuting personnel for the Project, is located approximately 35 km north west of the most northern extent of the Project Site. The airport is operated by BMA and services an average of 36 flights each week to Brisbane and Townsville.

A helipad located near the Project Site is shown in Figure 4-3.

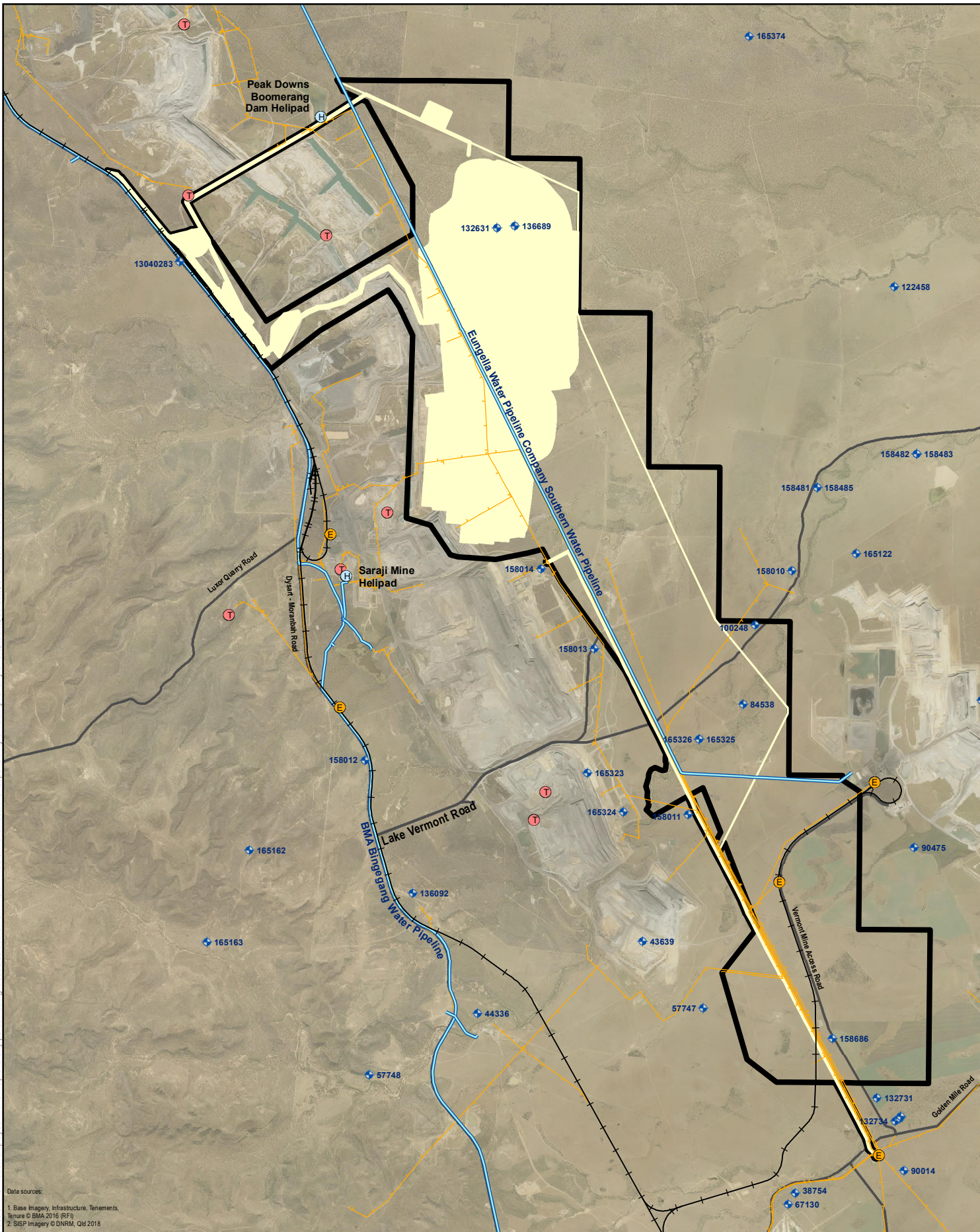
Port/sea

The nearest port to the Project Site is Hay Point Coal Terminal.

Product coal from the Project will be exported to international markets via either:

- Hay Point Coal Terminal, located approximately 155 km north east of the Project Site and 40 km south of Mackay. The Hay Point Coal Terminal commenced operations in the 1970s and is owned and operated by BMA.
- Abbot Point Coal Terminal, located approximately 261 km north of the Project Site and 25 km north of Bowen on the Central Queensland Coast.

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Data sources:
1. Base Imagery, Infrastructure, Tenements,
Tenure © BMA 2016 (RFI)
2. SISIP Imagery © DNRM, Qld 2018

LEGEND

- | | | |
|-------------------|-----------------------------|--------------------------|
| Project Site | Water Pipeline | Substation |
| Project Footprint | Powerline | Telecommunications Tower |
| Public Road | Helipad | |
| Existing Railway | Registered Groundwater Bore | |



Figure 4-3
Existing Infrastructure

Environmental Impact Statement
Saraji East Mining Lease Project

0 0.5 1 2
Kilometres

Scale: 1:120,000 (when printed at A4)

Projection: Map Grid of Australia - Zone 55 (GDA94)

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4.2.6 Native title

Native title is the recognition by the Commonwealth and State Governments of the laws, rights and interests over land and water possessed by Indigenous people in Australia, under their traditional laws and customs.

Where native title has not been previously extinguished, it is necessary to comply with the requirements of the NT Act prior to the granting of appropriate tenure.

A search of the National Native Title Tribunal (NNTT) online Native Title Vision mapping did not identify any claims or determinations over the Project Site. BMA considers that the mining lease application area is over land tenure that is not subject to native title as indicated in the ML 70383 application.

A native title determination area (non-exclusive) is located adjacent to the Project Site (refer to Figure 4-4). The determination was made by the Barada Barna People under Tribunal Number QCD2016/007. On 29 June 2016 it was determined that native title exists in parts of the determination area (refer to Table 4.4).

Table 4.4 Native title surrounding the Project

Party name	Tribunal and Federal Court number	Determination outcome and date
Barada Barna People	QCD2016/007 QUD380/2008	Native title exists (non-exclusive) on 29 June 2016 in parts of the determination area

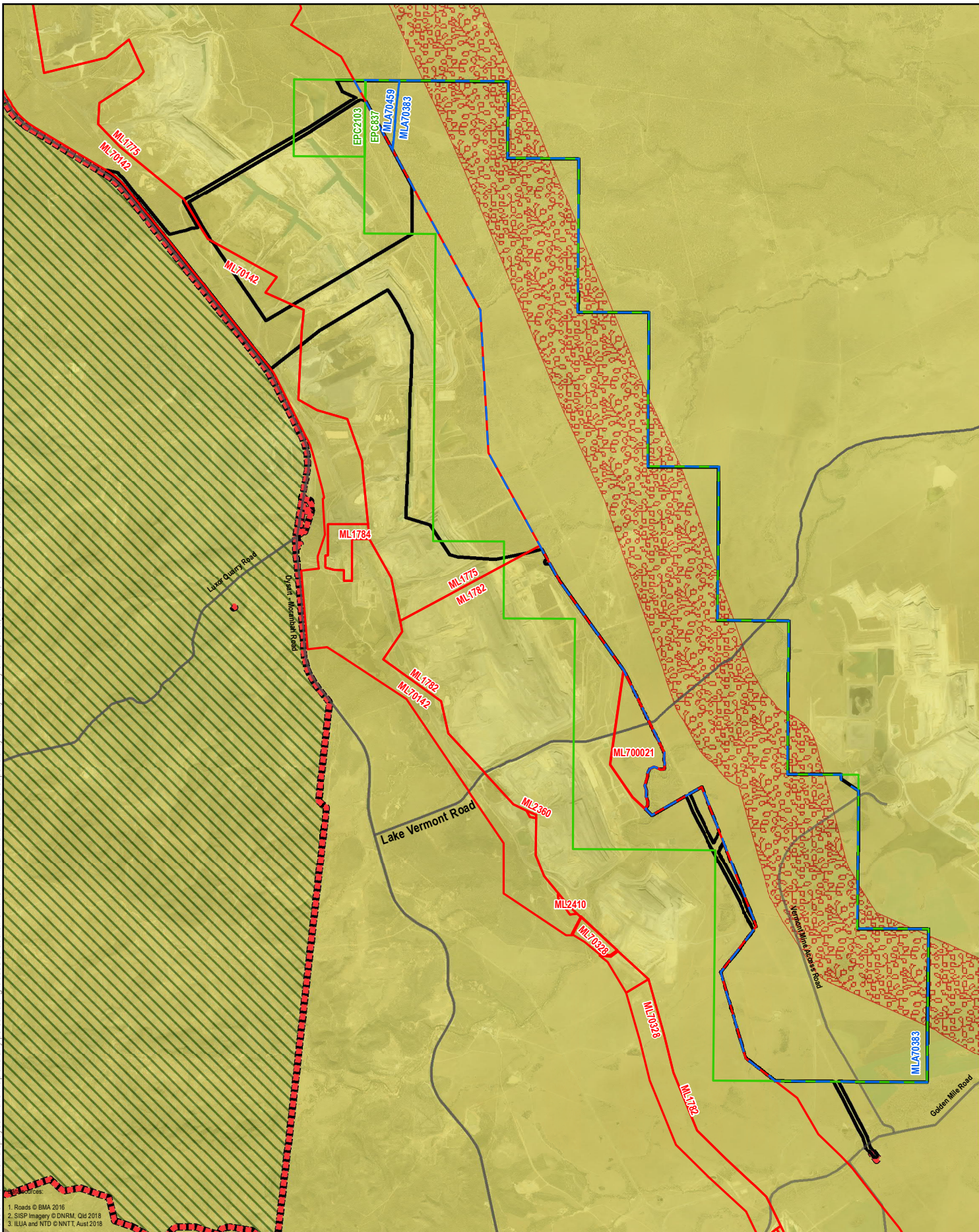
Indigenous land use agreements

A number of Indigenous land use agreements (ILUA) overlap the Project Site. These are illustrated in Figure 4-4 and presented in Table 4.5.

Table 4.5 ILUAs relevant to the Project

Name	Tribunal number	Date of registration
Barada Barna People/Logan Creek and Cherwell ILUA	QI2016/011	31 August 2016
QGC and Barada Barna ILUA	QI2012/062	21 September 2012
Arrow Barada Barna People LNG Project ILUA	QI2011/031	14 December 2011
Barada Barna and Ergon Energy ILUA	QI2016/008	30 August 2016
Barada Barna People and Local Government ILUA	QI2016/007	29 August 2016
Enertrade – BBKY #4 CQGP Agreement	QI2006/028	16 November 2006

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LEGEND

- Project Site
- Exploration Permit Coal (EPC)
- Mining Lease (ML)
- Mining Lease Application (MLA)
- Public Road

Native Title Determinations

- Barada Barna People

Indigenous Land Use Agreements

- Arrow Barada Barna People LNG Project ILUA
- Barada Barna People and Local Government ILUA
- Barada Barna and Ergon Energy ILUA
- QGC and Barada Barna ILUA
- Barada Barna People/Logan Creek and Cherwell ILUA
- Enertrade - BBKY #4 CQGP Agreement

Figure 4-4
Native Title and
Indigenous Land Use Agreements

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Saraji East Mining Lease Project

0 0.5 1 2
Kilometres

Scale: 1:120,000 (when printed at A4)

Projection: Map Grid of Australia - Zone 55 (GDA94)

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4.2.7 Protected areas

Protected areas of Queensland represent those areas protected for the conservation of natural and cultural values and those areas managed for production of forest resources, including timber and quarry material. Under the *Nature Conservation Act 1992* (NC Act), preserving the natural condition of parks is the underlying principle for park management.

The NC Act protects National Parks, nature refuges, regional parks and coordinated conservation areas.

The *Forestry Act 1959* (Forestry Act) protects state forests and timber reserves.

There are no National Parks or State Reserves within or adjacent to the Project site. The nearest National Park is the Peak Range National Park, located approximately 44 km west of the Project Site.

4.2.8 Regional planning interests

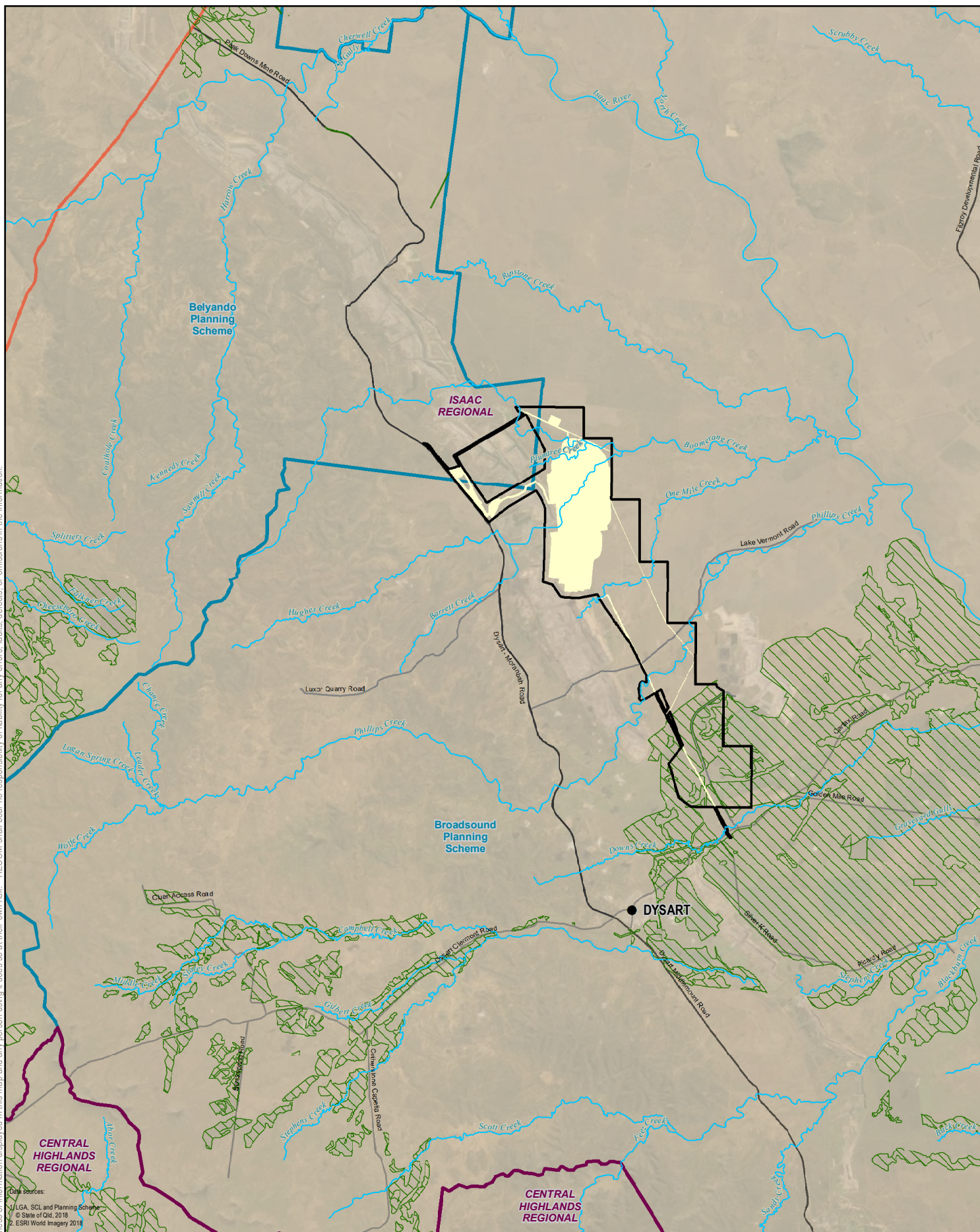
The *Regional Planning Interests Act 2014* (RPI Act) identifies and protects areas of Queensland that are of regional interest.

Each area of regional interest is defined under the RPI Act. The Act has identified each RPI based on its contribution, or likely contribution to Queensland's economic, social and environment prosperity. There are four areas of regional interests under the RPI Act and Regional Planning Interests Regulation 2014 which are detailed in Table 4.6.

Table 4.6 Regional planning interests

Interest	Description of RPI	Relevance to the Project
Priority agricultural area (PAA)	A PAA is an area of regional interest because it contains one or more priority agricultural land uses. A priority agricultural area may also include other features such as regionally significant water sources which support the priority agricultural land uses.	No PAAs are located within or in the vicinity of the Project Site.
Priority living area (PLA)	Established to safeguard areas required for the growth of towns from incompatible resource activities.	No PLAs are located within or in the vicinity of the Project Site.
Strategic cropping area (SCA)	SCAs are areas that are highly suitable for cropping because of a combination of the land's soil, climate and landscape features.	State-mapped SCA is located in the southern extents of the Project Site, in MLA 70383. This is illustrated in Figure 4-5.
Strategic environmental area (SEA)	Identified as containing regionally significant environmental attributes.	No SEAs are located within or in the vicinity of the Project Site.

The Project's proposed 66 kV powerline encroaches within a mapped SCA and will therefore require a Regional Interests Development Application (RIDA). The Project's infrastructure corridor traverses a lot mapped with SCA but does not directly disturb a mapped SCA. A pre-approval application meeting was held with the Queensland Department of State Development, Tourism and Innovation (DSDTI) and DNRME. BMA will comply with the requirements of the RPI Act and the application process is in progress. Further details are contained within **Appendix A-2 Approvals Framework**.



- LEGEND**
- Project Site
 - Project Footprint
 - Regional Locality
 - Watercourse
 - Highway
 - Major Road
 - Other Road
 - RPI Act Strategic Cropping Land (SCL)
 - Local Government Areas
 - Planning Scheme Boundary



**Figure 4-5
Planning Features**

**Environmental Impact Statement
Saraji East Mining Lease Project**

0 1.25 2.5 5
Kilometres

Scale: 1:300,000 (when printed at A4)

Projection: Map Grid of Australia - Zone 55 (GDA94)

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4.3 Relevant planning instruments

Planning instruments applicable to the Project include the Queensland State Planning Policy (SPP), the *Mackay, Isaac and Whitsunday Regional Plan* (2012), and the Broadsound and Belyando Planning Schemes. The following sections describe the Project's compatibility with these planning instruments.

4.3.1 State Planning Policy

The SPP outlines 17 state interests that must be considered in every planning scheme across Queensland. These state interests are arranged under five broad themes:

- liveable communities and housing
- economic growth
- environment and heritage
- safety and resilience to hazards
- infrastructure.

The integration of the SPP into local planning schemes ensures that the most important state planning interests are protected and managed in a way that is relevant to every area across Queensland. The relevant state interests to the Project are assessed in Table 4.7.

Table 4.7 Relevant state interest policies and assessment benchmarks under the SPP

State interest	Comment
<p><u>Agriculture – State Interest Policies</u></p> <p>The following state interest policies must be appropriately integrated in planning and development outcomes, where relevant.</p> <ol style="list-style-type: none"> 1. Agriculture and agricultural development opportunities are promoted and enhanced in important agricultural areas (IAAs). 2. Agricultural Land Classification (ALC) Class A and Class B land is protected for sustainable agricultural use by: <ol style="list-style-type: none"> a. avoiding fragmentation of ALC Class A or Class B land into lot sizes inconsistent with the current or potential use of the land for agriculture b. avoiding development that will have an irreversible impact on, or adjacent to, ALC Class A or Class B land c. maintaining or enhancing land conditions and the biophysical resources underpinning ALC Class A or Class B land. 3. Fisheries resources are protected from development that compromises long-term fisheries productivity, sustainability and accessibility. 4. Growth in agricultural production and a strong agriculture industry is facilitated by: <ol style="list-style-type: none"> a. promoting hard to locate intensive agricultural land uses, such as intensive animal industries, aquaculture, and intensive horticulture in appropriate locations b. protecting existing intensive agricultural land uses, such as intensive animal industries, aquaculture, and intensive horticulture, from encroachment by development that is incompatible and/or would compromise the safe and effective operation of the existing activity c. locating new development (such as sensitive land uses or land uses that present biosecurity risks for agriculture) in areas that avoid or minimise potential for conflict with existing agricultural uses through the provision of adequate separation areas or other measures d. facilitating opportunities for co-existence with development that is complementary to agricultural uses that do not reduce agricultural productivity (e.g. on-farm processing, farm gate sales, agricultural tourism) e. considering the provision of infrastructure and services necessary to support a strong agriculture industry and associated agricultural supply chains f. ensuring development on, or adjacent to, the stock route network does not compromise the network's primary use for moving stock on foot, and other uses and values including grazing, environmental, recreational, cultural heritage, and tourism values. 	<p>The southern extent of the Project Site overlaps land identified as IAA. Due to the existing disturbed nature of the area, it is unlikely that any IAA values will be lost. This area is also mapped as ALC Class A1 land. The only infrastructure proposed within this area is an overhead powerline.</p> <p>The post mining land use will be an undulating landscape that could be used as grazing land, consistent with the surrounding pastoral land use that dominates the region.</p>
<p><u>Mining and Extractive Resources – State Interest Policies</u></p> <p>The following state interest policies must be appropriately integrated in planning and development outcomes, where relevant.</p> <p>Extractive Resources</p> <ol style="list-style-type: none"> 1. Key resource areas (KRAs) are identified, including the resource/ processing area, separation area, transport route and transport route separation area. 	<p>The Project Site does not overlap with any KRAs. The Project will co-exist mutually and complement the existing extractive land uses surrounding the Project Site (i.e. Saraji Mine).</p>

State interest	Comment
<p>2. KRAs are protected by:</p> <ol style="list-style-type: none"> maintaining the long-term availability of the extractive resource and access to the KRA avoiding new sensitive land uses and other incompatible land uses within the resource/ processing area and the related separation area of a KRA that could impede the extraction of the resource avoiding land uses along the transport route and transport route separation area of a KRA that are likely to compromise the ongoing use of the route for the haulage of extractive materials avoiding new development adjacent to the transport route that is likely to adversely affect the safe and efficient transportation of the extractive resource. <p>Mineral, Coal, Petroleum and Gas Resources</p> <ol style="list-style-type: none"> The importance of areas identified as having valuable minerals, coal, petroleum and gas resources, and areas of mining and resource tenures are considered. Opportunities for mutually beneficial co-existence between coal, minerals, petroleum and gas resource development operations and other land uses are facilitated. The location of specified petroleum infrastructure is considered. 	
<p><u>Biodiversity – State Interest Policies</u></p> <p>The following state interest policies must be appropriately integrated in planning and development outcomes, where relevant:</p> <ol style="list-style-type: none"> Development is located in areas to avoid significant impacts on matters of national environmental significance and considers the requirements of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act). Matters of state environmental significance are identified and development is located in areas that avoid adverse impacts; where adverse impacts cannot be reasonably avoided, they are minimised. Matters of local environmental significance are identified and development is located in areas that avoid adverse impacts; where adverse impacts cannot be reasonably avoided, they are minimised. Ecological processes and connectivity is maintained or enhanced by avoiding fragmentation of matters of environmental significance. Viable koala populations in south east Queensland are protected by conserving and enhancing koala habitat extent and condition. 	<p>Impacts to Commonwealth, State and local biodiversity interests have been assessed in Chapter 6 Terrestrial Ecology. The design development process for the project has adopted to avoid, minimise, mitigate and offset approach in relation to areas of environmental value.</p>
<p><u>Cultural Heritage – State Interest Policies</u></p> <p>The following state interest policies must be appropriately integrated in planning and development outcomes, where relevant:</p> <ol style="list-style-type: none"> Matters of Aboriginal cultural heritage and Torres Strait Islander cultural heritage are appropriately conserved and considered to support the requirements of the <i>Aboriginal Cultural Heritage Act 2003 (Qld)</i> (ACH Act) and the Torres Strait Islander Cultural Heritage Act 2003. Adverse impacts on the cultural heritage significance of world heritage properties and national heritage places prescribed under the EPBC Act are avoided. 	<p>Impacts to cultural heritage values have been assessed in Chapter 16 Cultural Heritage.</p> <p>Where there is the potential for significant impacts these have been avoided through design development. Where impacts cannot be avoided they will be suitably minimised</p>

State interest	Comment
<ol style="list-style-type: none"> 3. Adverse impacts on the cultural heritage significance of state heritage places are avoided. 4. Local heritage places and local heritage areas important to the history of the local government area are identified, including a statement of the local cultural heritage significance of the place or area. Development of local heritage places or local heritage areas does not compromise the cultural heritage significance of the place or area by: <ol style="list-style-type: none"> a. avoiding adverse impacts on the cultural heritage significance of the place or area, or b. minimising and mitigating unavoidable adverse impacts on the cultural heritage significance of the place or area. 5. The conservation and adaptive reuse of local heritage places and local heritage areas are facilitated so that the cultural heritage significance is retained. 	<p>and mitigated. Compliance with all provisions of the Project's Cultural Heritage Management Plans (CHMP) will be maintained during all Project works.</p>
<p><u>Water Quality– State Interest Policies</u></p> <ol style="list-style-type: none"> 1. Development facilitates the protection or enhancement of environmental values and the achievement of water quality objectives for Queensland waters. 2. Land zoned for urban purposes is located in areas that avoid or minimise the disturbance to: <ol style="list-style-type: none"> a. High risk soils b. High ecological value aquatic ecosystems c. Groundwater dependent ecosystems d. Natural drainage lines and landform features. 3. Development is located, designed, constructed and operated to avoid or minimise adverse impacts on environmental values of receiving waters arising from: <ol style="list-style-type: none"> a. altered stormwater quality and hydrology b. wastewater (other than contaminated stormwater and sewage) c. the creation or expansion of non-tidal artificial waterways d. the release and mobilisation of nutrients and sediments. 4. At the construction phase, development achieves the applicable stormwater management design objectives. 5. At the post-construction phase, development: <ol style="list-style-type: none"> a. achieves the applicable stormwater management design objectives on-site b. achieves an alternative locally appropriate solution off-site that achieves an equivalent or improved water quality outcome to the relevant stormwater management design objectives. 6. Development in water resource catchments and water supply buffer areas avoids potential adverse impacts on surface waters and groundwaters to protect drinking water supply environmental values. 	<p>Water quality is addressed in Appendix E-1 Surface Water Quality Technical Report and Chapter 8 Surface Water Resources. Management measures within the water quality assessment are to achieve water quality objectives for Queensland waters. The Project will include a number of mitigation and management measures to mitigate potential adverse impacts on drinking water supply environmental values.</p>

State interest	Comment
<p><u>Natural Hazards Risk and Resilience- State Interest Policies</u></p> <p>The following state interest policies must be appropriately integrated in planning and development outcomes, where relevant.</p> <ol style="list-style-type: none"> 1. Natural hazard areas are identified, including: <ol style="list-style-type: none"> a. bushfire prone areas b. flood hazard areas c. landslide hazard areas d. storm tide inundation areas e. erosion prone areas. 2. A fit-for-purpose risk assessment is undertaken to identify and achieve an acceptable or tolerable level of risk for personal safety and property in natural hazard areas. Bushfire, flood, landslide, storm tide inundation, and erosion prone areas. 3. Land in an erosion prone area is not to be used for urban purposes, unless the land is located in: <ol style="list-style-type: none"> a. an urban area in a planning scheme, or b. an urban footprint identified in a regional plan. 4. Development in bushfire, flood, landslide, storm tide inundation or erosion prone natural hazard areas: <ol style="list-style-type: none"> a. avoids the natural hazard area, or b. where it is not possible to avoid the natural hazard area, development mitigates the risks to people and property to an acceptable or tolerable level. 5. Development in natural hazard areas: <ol style="list-style-type: none"> a. supports, and does not hinder disaster management capacity and capabilities b. directly, indirectly and cumulatively avoids an increase in the exposure or severity of the natural hazard and the potential for damage on the site or to other properties c. avoids risks to public safety and the environment from the location of the storage of hazardous materials and the release of these materials as a result of a natural hazard d. maintains or enhances the protective function of landforms and vegetation that can mitigate risks associated with the natural hazard. 6. Community infrastructure is located and designed to maintain the required level of functionality during and immediately after a natural hazard event. 7. Coastal protection work in an erosion prone area is undertaken only as a last resort where coastal erosion or inundation presents an imminent threat to public safety or existing buildings and structures, and all of the following apply: <ol style="list-style-type: none"> a. The building or structure cannot reasonably be relocated or abandoned. b. Any erosion control structure is located as far landward as practicable and on the lot containing the property to the maximum extent reasonable. 	<p>Areas of the Project Site are within mapped flood hazard areas and medium potential bushfire hazard. The Project Site is not within a landslide hazard area, storm tide inundation area or erosion prone area.</p> <p>Chapter 8 Surface Water Resources assesses the potential for hydrology impacts.</p> <p>Chapter 20 Hazards, Health and Safety identifies mitigations for flooding and bushfire.</p>

State interest	Comment
<ul style="list-style-type: none"> c. Any increase in coastal hazard risk for adjacent areas from the coastal protection work is mitigated. Erosion prone areas within a coastal management district: 8. Development does not occur unless the development cannot feasibly be located elsewhere and is: <ul style="list-style-type: none"> a. coastal-dependent development; or b. temporary, readily relocatable or able to be abandoned development; or c. essential community infrastructure; or d. minor redevelopment of an existing permanent building or structure that cannot be relocated or abandoned. 9. Development permitted in policy 8 above, mitigates the risks to people and property to an acceptable or tolerable level. 	
<p><u>Energy and Water Supply – State Interest Policies</u></p> <p>The following state interest policies must be appropriately integrated in planning and development outcomes, where relevant.</p> <ul style="list-style-type: none"> 1. Existing and approved future major electricity infrastructure locations and corridors (including easements and electricity substations), and bulk water supply infrastructure locations and corridors (including easements) are protected from development that would compromise the corridor integrity, and the efficient delivery and functioning of the infrastructure. 2. Major electricity infrastructure and bulk water supply infrastructure such as pump stations, water quality facilities and electricity substations, are protected from encroachment by sensitive land uses where practicable. 3. Development of major electricity infrastructure and bulk water supply infrastructure avoids or otherwise minimises adverse impacts on surrounding land uses and the natural environment. 4. The development and supply of renewable energy at the regional, local and individual scale is enabled in appropriate locations. 	<p>The Project has assessed its potential impacts on the surrounding land uses and has sought to avoid, minimise and mitigate impacts. The existing EWPC Southern Extension Water Pipeline and existing 132 kV powerline will be relocated into a new infrastructure and transport corridor to the eastern boundary of MLA 70383 and northern boundary of MLA 70459.</p>
<p><u>Transport Infrastructure – State Interest Policies</u></p> <p>The following state interest policies must be appropriately integrated in planning and development outcomes, where relevant.</p> <p>All transport infrastructure:</p> <ul style="list-style-type: none"> 1. Transport infrastructure and existing and future transport corridors are reflected and supported through compatible land uses. 2. Development is located in areas currently serviced by transport infrastructure, and where this cannot be achieved; development is facilitated in a logical and orderly location, form and sequence to enable cost-effective delivery of new transport infrastructure to service development. 3. Development achieves a high level of integration with transport infrastructure and supports public passenger transport and active transport as attractive alternatives to private transport. 4. Development is located and designed to mitigate adverse impacts on development from environmental emissions generated by transport infrastructure. 	<p>The Project Site does not overlap any State Controlled Roads.</p> <p>A Traffic Impact Assessment is provided in Chapter 14 Transport. Safety and access has also been assessed, including mitigation measures where necessary.</p>

State interest	Comment
<p>5. A road hierarchy is identified that reflects the role of each category of road and effectively manages all types of traffic.</p> <p>State transport infrastructure:</p> <p>1. Development in areas surrounding state transport infrastructure, and existing and future state transport corridors, is compatible with, or support the most efficient use of, the infrastructure and transport network.</p> <p>2. The safety and efficiency of existing and future state transport infrastructure, corridors, and networks is not adversely affected by development.</p>	

4.3.2 Mackay, Isaac and Whitsunday Regional Plan

Regional plans provide a long-term strategic direction to guide how regions will grow and respond to change over time, and ensure good planning outcomes are delivered for communities, the economy and the environment.

Whilst local governments have the primary responsibility for land use planning, the state maintains an interest in ensuring regions are sustainable, resilient and prosperous. Regional plans identify and interpret matters of state interest for a particular region and provide the strategy and direction to advance the State Planning Policy, and guide its application to achieve these outcomes.

The Project Site is located within the area covering the *Mackay, Isaac and Whitsunday Regional Plan* (DILGP, 2012). The Regional Plan establishes a vision and direction for the region to 2031 through the provision of strategies to inform future decision making. Under the Regional Plan there are ten overarching Desired Regional Outcomes (DROs) which outline the policy framework for the region. They include:

- sustainability, climate change and natural hazards
- environment
- regional landscapes
- natural resource management
- strong communities
- strong economy
- managing growth
- urban form
- infrastructure and servicing
- transport.

Table 4.8 provides an assessment of the Project against each DRO and the respective principles.

Table 4.8 DROs relevant to the Project

Principle	Assessment of the Project against DRO
Sustainability, climate change and natural hazards	
Decision-making supports ecologically sustainable development.	Chapter 2 Project Alternatives and Justification outlines sustainable development principles.
The generation of greenhouse gases is reduced through land-use planning and development design, and long-term climate change impacts are considered in planning decisions.	The Project's impact on greenhouse gas emissions and proposed mitigation measures are discussed in Chapter 11 Air Quality and Greenhouse Gas . The Project is considered to have a low vulnerability to climate change.
Environment	
The region's natural assets, biodiversity values and ecological services are protected, managed and enhanced to improve their resilience to the anticipated effects of climate change and other threats.	The Project will impact ecological values however this will be limited to the Project Site. Potential impacts and mitigation measures are described in Chapter 6 Terrestrial Ecology and Chapter 7 Aquatic Ecology .
The ecological health, environmental values and water quality of coastal, surface, ground waters and wetlands are protected.	The Project's impact on ecological values and how these are proposed to be mitigated are discussed in Chapter 6 Terrestrial Ecology and Chapter 7 Aquatic Ecology . Impacts from the Project on water quality are discussed in Chapter 8 Surface Water Resources .
The environment is protected to maintain the health and wellbeing of the community and the natural environment through effective management of air quality and noise.	The impacts of the Project on the community are discussed in Chapter 17 Social . Impacts from the Project in terms of air and noise are discussed in Chapter 11 Air Quality and Greenhouse Gas and Chapter 12 Noise and Vibration respectively.
Regional landscapes	
Manage and enhance the values of the regional landscape to optimise their ability to contribute to the region's liveability, lifestyle, health and economy.	Chapter 17 Social discusses the impacts of the Project on the community and identified how impacts will be mitigated.
Optimise multiple community benefits through coordinated planning, management and investment in regional landscape areas.	The Project will contribute significantly to the economy in terms of provision of employment. Refer to Chapter 18 Economics .

Principle	Assessment of the Project against DRO
Natural resource management	
The management and use of natural resources enhance community, economic and landscape values.	The Project will contribute significantly to the economy in terms of provision of employment, which will enhance local communities and the economy. Management and use of natural resources is discussed through all technical chapters of the EIS. Landscape values are discussed in Chapter 13 Scenic Amenity and Lighting .
Ecosystems are sustainably managed, ensuring their cultural, social, economic and environmental services and values are protected.	Ecological impacts will be limited to the Project Site noting that the design development process for the Project has adopted to avoid, minimize, mitigate and offset approach in relation to areas of environmental value. The Project's impact on ecological values and proposed mitigation measures are discussed in Chapter 6 Terrestrial Ecology and Chapter 7 Aquatic Ecology .
Mineral, petroleum and extractive resources are managed for current and future use, and their extraction, processing, transport and downstream value-adding continue to contribute to the economy.	The Project involves the production of coal from an identified resource and it will contribute significantly to the economy as discussed in Chapter 18 Economics .
The region's agricultural production areas are protected and sustainably managed to ensure their continuing contribution to the economy, and to mitigate the anticipated effects of climate change.	It is anticipated that the Project will not have a significant impact on current agricultural activities occurring in the vicinity of the proposed works. The Project is complementary with the current land uses of the area.
Water, as a valuable and finite regional resource, is planned and managed on a total water cycle basis.	Water resource planning and management is discussed in Chapter 8 Surface Water Resources .
Strong communities	
Social planning is incorporated into planning processes to manage and respond to changing communities and support community well-being and quality of life.	Members of the public and other interested parties will be consulted as a part of the EIS process. Refer to Chapter 1 Introduction for information on the public consultation process and Chapter 17 Social and Chapter 19 Stakeholders .
The long-term viability of resource communities is sustained by enhancing liveability, providing diverse housing and employment options and accommodating the needs of the resource sector.	Chapter 17 Social discusses the impacts of the Project on the community and identified how impacts will be mitigated.

Principle	Assessment of the Project against DRO
Traditional Owners and Elders are actively engaged in planning and development processes, and their connectivity with Country is understood, considered and respected.	BMA will comply with the current CHMP covering the Project Site. This CHMP also covers the existing Saraji Mine.
Strong economy	
Suitable land, infrastructure and facilities are available and managed to enable sustainable economic and employment growth in the region.	This chapter covers the land, infrastructure and facilities. Chapter 18 Economics discusses the economics of the Project.
The economy grows through increasing levels of human-capital and is resilient to external factors through multiple strong industry sectors that provide diverse employment opportunities.	The Project will contribute significantly to the economy in terms of provision of employment. Refer to Chapter 18 Economics .
Maintain existing and expand sustainable and economically viable primary industries and diversify opportunities in the region.	Chapter 18 Economics discusses the economic opportunities associated with the Project.
Manage mining and extractive resources to maximise economic opportunities and other community benefits, while minimising negative environmental and social impacts for present and future generations.	The Project will provide a number of opportunities for employment while minimising social impacts on the community where possible. Refer to Chapter 18 Economics and Chapter 17 Social .
Urban form	
Rural communities benefit from growth and are serviced by appropriate levels of infrastructure and support services.	Benefits to communities are discussed in Chapter 17 Social .
Infrastructure	
The region's waste is minimised, re-used or recycled, and promotes energy recovery.	Chapter 15 Waste Management identifies the waste minimisation schemes in place for the Project.

4.3.3 Local planning schemes

Following the amalgamation of local councils in 2008, the IRC was formed from the Belyando, Nebo and Broadsound Shire Councils. Consequently, there are three different planning schemes that govern development within the IRC area:

- The Belyando Planning Scheme 2009
- The Nebo Planning Scheme 2008
- The Broadsound Planning Scheme 2005.

A new planning scheme (*Proposed Isaac Regional Planning Scheme*) that covers the entire Isaac region has been drafted. IRC has advised that, subject to the State Government Approvals, the planning scheme is expected to be adopted in early 2021. Until then, the planning schemes listed above remain in force. The majority of the Project Site is located within the scope of the Broadsound Planning Scheme 2005, with only the northern extent of the Project Site within the Belyando Planning Scheme area.

Broadsound Planning Scheme outlines a number of desired environmental outcomes (DEOs) in which the planning scheme seeks to achieve for the whole of the previous Broadsound Shire area. An assessment of the Project against relevant DEOs is detailed in Table 4.9.

Table 4.9 Assessment against relevant Broadsound Planning Scheme DEOs

Principle	Assessment of the Project against DEO
Ecological processes and natural systems	
Adverse effects on the qualities and life supporting functions of Broadsound's natural systems are minimised. Air and water quality, the soil, biological diversity and ecosystems are protected and enhanced.	Refer to Chapter 6 Terrestrial Ecology, Chapter 7 Aquatic Ecology, Chapter 8 Surface Water Resources, Chapter 9 Groundwater, Chapter 5 Land Resources and Chapter 11 Air Quality and Greenhouse Gas.
The effects of development on the multiple attributes of the nearby Great Barrier Reef World Heritage Area, coastal and other wetlands and foreshores are minimised.	The Project Site is located approximately 490 km upstream from the mouth of the Fitzroy River and subsequently, the Great Barrier Reef World Heritage Area. Detrimental impact upon this area is considered unlikely due to distance, underground nature of the mine and the extent of controls over mine water.
Economic development	
Broadsound has a diverse, prosperous local economy with farming and grazing and mining the most prominent activities in the rural area and industry and business primarily in towns and villages. Tourism, rural and mining-based business and industries are established in locations throughout the Shire where there is a strong nexus to the resources on which they rely.	Due to the highly disturbed nature of the Project Site, there is not expected to be a significant detrimental impact on grazing land or the agricultural sector. Economic impacts and benefits are discussed in Chapter 18 Economics.
The Shire's extensive natural economic resources, including good quality agricultural land, substantial coal reserves, forestry resources, fisheries and the declared fish habitat areas along much of Broadsound's coast are available and protected from incompatible development.	The Project does not intersect any areas of forestry or fisheries. The southern extent where an overhead powerline is proposed intersects a small amount of SCA. Due to the highly disturbed nature of the Project Site, there is not expected to be a significant detrimental impact on grazing land.

Principle	Assessment of the Project against DEO
Maintenance of cultural, economic, physical and social well-being of people and communities	
High standards of public health and safety are maintained, avoiding or minimising adverse effects associated with the natural and built environments, including erosion, flood, storm tide inundation, fire and traffic hazards, together with safe domestic water supply and responsible waste disposal practice.	The Project Site is not exposed to significant risk from natural erosion, flooding, storm tide or bushfire. Traffic hazards are discussed in Chapter 14 Transport . Refer to Chapter 20 Hazards, Health and Safety for management of risks associated with the Project.
Areas and places of special aesthetic, architectural, cultural, historic, scientific, social or spiritual significance and their values are conserved or enhanced.	Management of cultural heritage items is discussed in Chapter 16 Cultural Heritage .
Local and neighbourhood amenity is maintained and enhanced, including by minimising effects from incompatible land uses.	Scenic amenity is discussed in Chapter 13 Scenic Amenity and Lighting .

Belyando Shire Planning Scheme outlines a number of DEOs in which the planning scheme seeks to achieve for the whole of the previous Belyando Shire area. An assessment of the Project against relevant DEOs is detailed in Table 4.10.

Table 4.10 Assessment against relevant Belyando Planning Scheme DEOs

Principle	Assessment of the Project against DEO
The Natural Environment and Cultural Heritage	
In Belyando Shire, ecological systems, the natural environment (including natural features and unique habitats such as Peak Range National Park, Mazeppa National Park, Narrien Range National Park, Epping Forest National Park, Wilandspey Conservation Park, Doongmabulla Springs Important Wetland and the declared catchment), and items and places of cultural and heritage significance are protected such that biodiversity, cultural heritage values and existing or intended landscape character are maintained.	Refer to Chapter 6 Terrestrial Ecology, Chapter 7 Aquatic Ecology, Chapter 8 Surface Water Resources, Chapter 9 Groundwater, Chapter 5 Land Resources and Chapter 11 Air Quality and Greenhouse Gas . Management of cultural heritage items is discussed in Chapter 16 Cultural Heritage .
Economic Development	
The viability of the mining industry is protected, while the economy of Belyando Shire is diversified in a manner that supports the intended land use structure and character of the urban centres of Clermont and Moranbah and the rural parts of the Shire. Activities that do not require a rural location are consolidated within the towns of Clermont and Moranbah, so that investment in the towns is maximised. Moranbah's role as the primary service centre for the northern Bowen Basin mining industry is enhanced. Town centres in each of the Shire's urban communities form vibrant and compact commercial and community cores. Industrial nodes in Clermont and Moranbah are consolidated. Natural resources (including land, water and mineral resources) are used sustainably.	Due to the highly disturbed nature of the Project Site, significant detrimental impact upon existing land uses are not expected. Economic impacts are discussed in Chapter 18 Economics .

Principle	Assessment of the Project against DEO
Community Well-Being	
<p>Moranbah and Clermont provide a wide range of government and community services and employment opportunities. Moranbah continues to have a significant role as the primary service centre for the northern Bowen Basin mining industry. The towns of Moranbah and Clermont accommodate strong, connected and vibrant communities, well supported by recreational and other community facilities, highly accessible by walking and cycling. Town centres provide a clear community focal point. Moranbah and Clermont are characterised by a strong and growing permanent resident population. A wide range of affordable housing types is available, and all housing is designed to contribute to the quality of the urban environment. Dwelling units providing for permanent accommodation are predominant, with a significantly smaller proportion of other forms of accommodation intended for temporary residents. The rural amenity and productive capacity of other parts of the Shire is maintained.</p>	<p>Economic impacts are discussed in Chapter 18 Economics.</p> <p>Due to the highly disturbed nature of the Project Site, there is not expected to be a significant detrimental impact on grazing land or the agricultural sector. The social impact assessment is detailed within Chapter 17 Social.</p>

4.4 Potential impacts and mitigation measures

4.4.1 Agricultural land use and values

The Project has the potential to impact on existing land uses through:

- direct loss of agricultural land
- land degradation
- contamination of lands underlying the Project
- dust and noise which may affect stock.

The Project Site traverses an SCA, however disturbance will be minor given the nature of the powerline infrastructure. Further detail on this is provided in **Chapter 5 Land Resources**. Any new resource activities proposed in the SCA must comply with the provisions of the RPI Act and will be subject to assessment by the DSDTI.

The Project Site is predominantly used for grazing which can continue through the use of the mine. It is noted that the conversion of these areas for mining activities will generate net economic benefits associated with the construction and operation of the mine, which include increased employment and positive secondary impacts on the local economy through increased local business opportunities.

The Project is highly complementary with the existing Saraji Mine. The area has experienced ongoing land use change as the mine has developed over the past decades. The development of the Project will not significantly change the existing land use in the immediate area. During the operation of the mine, existing land uses such as grazing may be able to continue within the proposed mining lease in areas not directly impacted by the mine and supporting infrastructure.

Rehabilitation will be undertaken with consideration of the *Mined Land Rehabilitation Policy* (DES, 2018a) and BHP's *Queensland Coal Rehabilitation Completion Criteria* (BHP, 2018c).

Other impacts on the agricultural land uses are the potential effects of noise and dust on livestock. Noise impacts are not expected to be discernible outside the Project Site. Dust impacts associated with the Project are also predicted to be negligible outside the Project Site (refer to **Chapter 11 Air Quality and Greenhouse Gas** and **Chapter 12 Noise and Vibration**). As such, agricultural and grazing land uses surrounding the Project area will continue and generally co-exist with the Project.

4.4.2 Residential and other sensitive land uses

Land uses that may be considered sensitive land uses and that may be impacted by the Project are homesteads and rural residences.

There are two homesteads that may be directly impacted by the Project due to their location within the Project Site, being Meadowbrook and Lake Vermont. These properties are detailed in Table 4.1 and shown on Figure 4-2. These two homesteads are owned by BMA and are currently occupied, however when required for mining or subject to mining impacts the homestead will be vacated.

Properties may be impacted by:

- dust and other windblown particulate contaminants (refer to **Chapter 11 Air Quality and Greenhouse Gas**)
- noise and acoustic intrusion (refer to **Chapter 12 Noise and Vibration**)
- reductions in visual amenity (refer to **Chapter 13 Scenic Amenity and Lighting**)
- increased vehicular traffic and associated impacts on amenity (refer to **Chapter 14 Transport**).

Studies undertaken for the EIS have indicated that, with mitigation measures in place, the Project will have low or negligible impact on the amenity of adjacent landholders and the listed sensitive receivers.

To mitigate the sensitive nature of these homesteads, BMA has purchased Lake Vermont and Meadowbrook. BMA also has compensation agreements with some of the other landowners nearby the Project Site to address and manage potential impacts.

4.4.3 Utilities and services

The EWPC water pipeline is to the west of the proposed activities and is not expected to be impacted by the Project. The existing pipeline will be relocated and reconnected into a new infrastructure and transport corridor to the eastern boundary of MLA 70383 and northern boundary of MLA 70459 will occur. A new water pipeline is also proposed in the northern extent of the Project Site to transfer water to the process water dam from mining and process activities. The existing powerlines will also be relocated into the infrastructure corridor.

4.4.4 Transport infrastructure

Roads

A transport impact assessment detailing the expected traffic generation potential and associated impacts on the road network for the Project is contained within **Chapter 14 Transport**.

The state-controlled Peak Downs Highway may be impacted by the Project during the construction phase and special access provisions may need to be implemented. To address impacts, BMA will undertake consultation with DTMR and seek a Road Corridor Permit and Traffic Control Permits under the *Transport Infrastructure Act 1994* (TI Act) prior to works commencing.

The Project will require one new intersection into Dysart-Moranbah Road and one intersection into Lake Vermont Road, which are both local roads managed by Isaac Regional Council. BMA will consult with IRC to identify relevant design requirements for intersections and ensure necessary local road permits are obtained.

IRC retains control of these roads and is responsible for their maintenance. The proposed intersections will not affect the existing road network (refer to **Chapter 14 Transport**).

Railways

The Goonyella rail system runs along the western boundary of ML 70142 and the existing Lake Vermont QR rail spur encroaches within the Project Site. The Project will involve the construction of a new rail spur; balloon loop and signalling system to connect in with the Goonyella rail system.

The volume of coal to be transported via the network will be within Aurizon's existing approval limits. As such, no additional impacts or approvals are expected.

4.4.5 Native title

BMA understands that no further native title notification or agreements are required for the Project given the nature of the tenure underlying the Project Site.

4.5 Summary and conclusions

This chapter has assessed the existing and proposed land uses associated with the Project. It has also assessed the suitability of the proposed land use and identified applicable land use constraints. Appropriate mitigation measures have been provided for the potential impacts.