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4.1 INTRODUCTION

This Chapter describes the land use, tenure and infrastructure within the footprint of the project mine development. This Chapter further includes an assessment of potential impacts of the mine to existing land use and tenure and identifies mitigation measures to address potential impacts.

4.2 EXISTING ENVIRONMENT

4.2.1 REGIONAL SETTING

The mine is located approximately 30 km to the north west of the township of Alpha, within the BRC (see **Figure 1**) and falls within the Central West (CW) Region. The beef cattle industry is the predominant land use within the region (CW Regional Plan, 2009).

The Project is located within a proposed MLA to be granted under the *Mineral Resources Act 1989* (MRA). The Project is exempt from assessment under the local authority planning scheme in accordance with:

Schedule 4 Table 5 of the *Sustainable Planning Regulation 2009*, mining and petroleum activities (as defined under the MRA) are determined to be development that cannot be declared to be development of a particular type and are therefore exempt from assessment from a planning scheme; and

Section 319 of the MRA, "Subject to subsection (2) and (3) the Planning Act does not apply to development authorised under this Act."

Given the projects designation as a significant project under the *State Development and Public Works Organisation Act 1971*, all works are exempt from requiring a Material Change of Use (MCU) under local authority planning schemes. Operational Works permits under the relevant planning schemes are not considered exempt and will be obtained where required prior to the commencement of construction activities.

The mine site is also located within the Central Highlands sub-region of the Central Queensland Regional Plan (CQRP). The major industries in this area are crop production, cattle grazing and coal mining with cattle grazing being the largest land use. The plan recognises the importance of resource extraction by stating that *"coal mining will remain a key economic driver of the region over the next twenty years"* and that *"access to the region's coal reserves needs to be maintained"*.

One of the strategies listed under Policy 3.1.1 (land use planning and management) of the CQRP is to

"identify and recognise mining, petroleum and extractive resources... and their economic potential, ensuring sites and access to them are protected from incompatible land uses, and impacts associated with their extraction are kept within socially and environmentally acceptable limits".

The Project would expand the use of one of the key economic drivers for the region and provide supporting infrastructure to ensure access to this resource is maintained. The EIS process will ensure the project is implemented in a socially and environmentally acceptable manner and that best practice environmental management methods are employed in its construction and operation.

4.2 LAND USE

The mine footprint is used for cattle grazing on natural vegetation and improved pastures. Cropping and / or horticulture are not undertaken within EPC 1040 and 1079. The vegetation within the mine open cut footprint comprised improved pasture and native open woodlands.

Less than 5% of the overall EPC is classified as Forest Reserve areas. This Reserve is not within the current mine footprint or the proposed Mining Lease footprint.

Approximately 25% of the proposed mine footprint is classified as Nature Refuge and Conservation Area (see **Figure 2**). The Bimblebox Nature Refuge (BNR) directly overlies the areas identified as Underground Mine 2 (UG2), Underground Mine 4 (UG4) and part of Open Cut 2 (OC2) South.

4.2.3 LAND TENURE

The current land tenure within the mine site are listed at **Table 1** and shown at **Figure 3**. A total of fifty-two separate allotments intersect EPC 1040 and EPC 1079. Of these, the predominant land tenure type is leasehold which comprised approximately 60 % of existing tenure types. Freehold land comprises approximately 25 % of tenure type with the remaining 15 % held as either forest reserve or easements. Four distinct parcels of freehold land exist within the mine footprint, while an additional three parcels of freehold land are located just south-west of the footprint, but within the proposed Mining Lease boundary.

Figure 1. Local Government Area

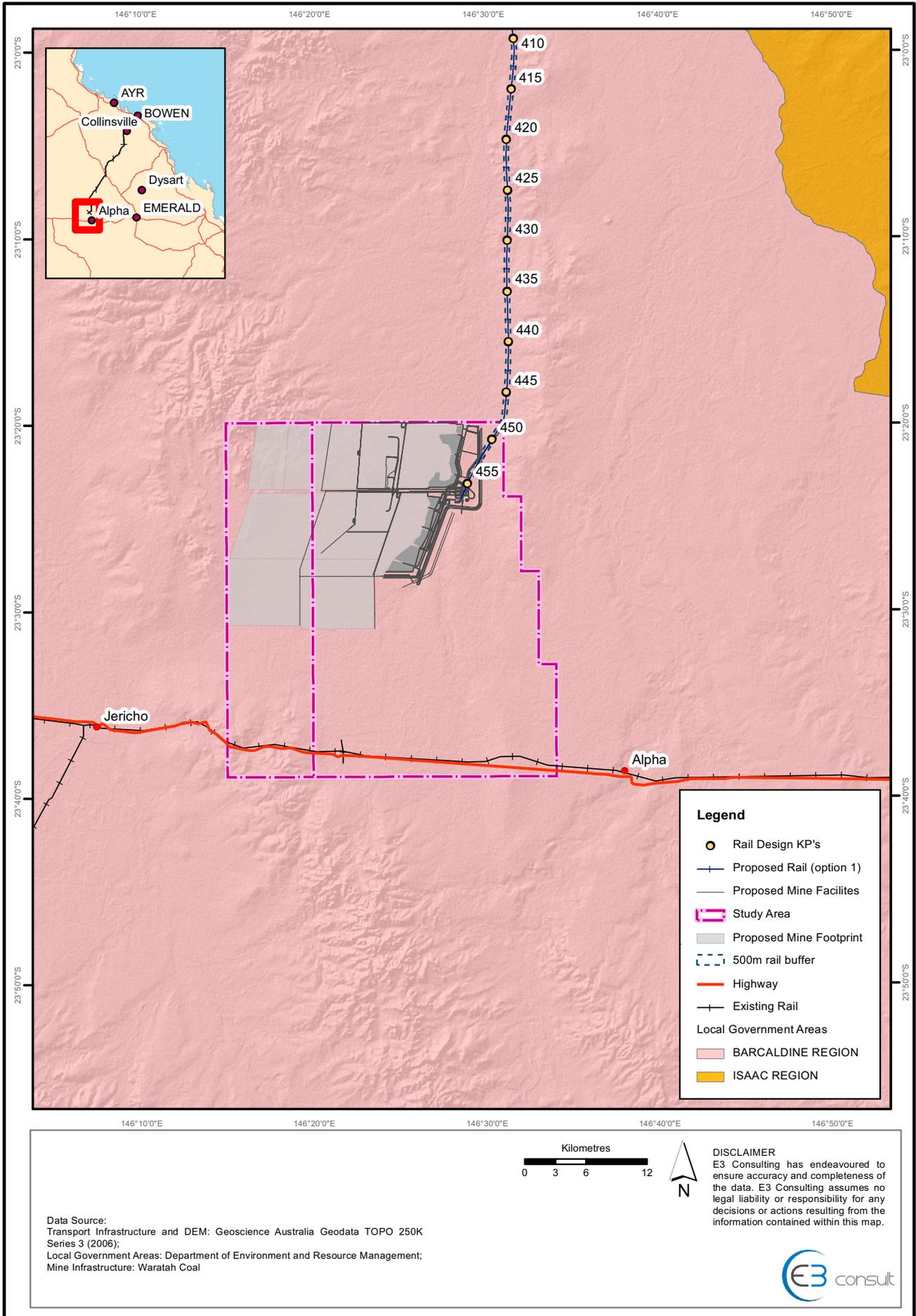


Figure 2. Mine Site – Land Use Conservation

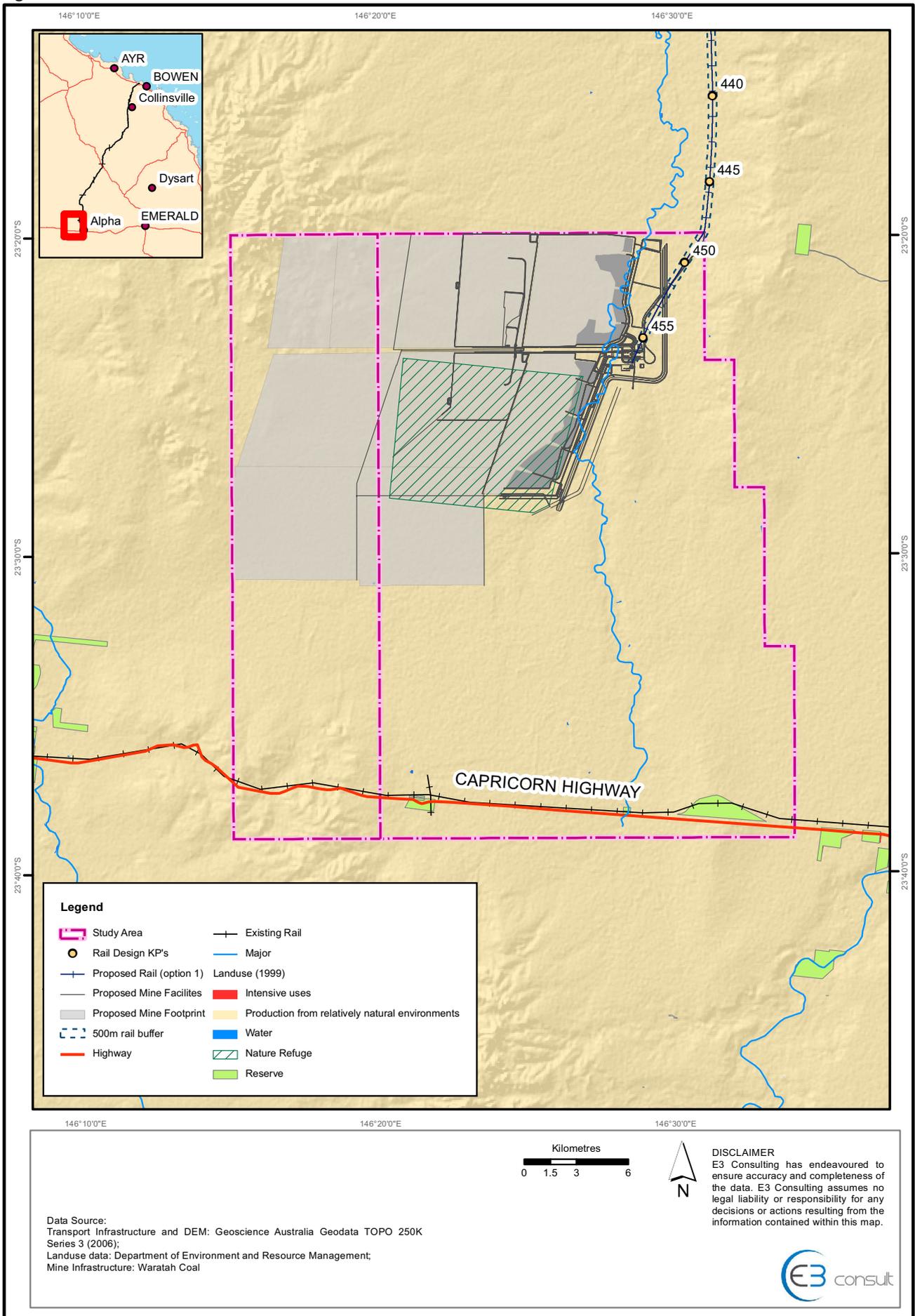


Table 1. Land Tenure – Mine site

LOT AND PLAN NUMBER	TENURE	LOT AND PLAN NUMBER	TENURE
Lot A on AP12280	Leasehold	Lot 3 on BF802451	Leasehold
Lot C on AP8791	Leasehold	Lot A on MX107	Easement
Lot 87 on BE34	Leasehold	Lot 2 on MX35	Freehold
Lot 31 on BF11	Leasehold	Lot 5 on MX43	Leasehold
Lot 6 on BF16	Leasehold	Lot 626 on MX806585	Leasehold
Lot 8 on BF16	Leasehold	Lot 1 on MX90	Freehold
Lot 7 on BF16	Leasehold	Lot 6 on MX95	Freehold
Lot 1 on BF17	Leasehold	Lot 1 on PER203647	Leasehold
Lot 4 on BF22	Leasehold	Lot 649 on PH1981	Leasehold
Lot 11 on BF25	Freehold	Lot 4315 on PH720	Leasehold
Lot 9 on BF28	Leasehold	Lot 1 on RL207022	Leasehold
Lot 2 on BF38	Forest Reserve	Lot A on RP612290	Easement
Lot 2 on BF38	Leasehold	Lot 10 on RP894235	Freehold
Lot 9 on BF4	Leasehold	Lot 273 on SP108314	Leasehold
Lot 8 on BF42	Forest Reserve	Lot 302 on SP108315	Forest Reserve
Lot 8 on BF42	Leasehold	Lot 303 on SP108315	Forest Reserve
Lot 5 on BF5	Leasehold	Lot 301 on SP108315	Leasehold
Lot 7 on BF57	Leasehold	Lot 362 on SP108316	Leasehold
Lot A on BF60	Easement	Lot 1 on BF72	Freehold
Lot A on BF61	Easement	Lot 363 on SP108316	Forest Reserve
Lot A on BF68	Easement	Lot 361 on SP108316	Leasehold
Lot A on BF69	Easement	3Lot 64 on SP108316	Forest Reserve
Lot 7 on BF7	Leasehold	Lot 2 on SP136836	Leasehold
Lot 365 on SP108316	Forest Reserve	Lot 2 on SP136836	Leasehold
Lot 31 on SP108317	Leasehold	Lot 3 on SP167133	Freehold

4.2.4 EXPLORATION PERMITS AND LEASES

The exploration permits and licenses occurring within and adjacent to the boundaries of the MLA are listed in

Table 2. Their locations in relation to the mine footprint are shown on Figure 4 to Figure 6.

Table 2. Exploration Permits for Coal (EPC), Minerals (EPM) and Petroleum (EPP): Mine site

TENURE TYPE	TENURE NO	STATUS	DATE GRANTED / LODGED	DATE EXPIRES	PRINCIPAL HOLDER	NO OF SUB BLOCKS
EPM	16868	Granted	07/12/2009	06/12/2011	Waratah Coal Pty Ltd	100
EPM	16870	Granted (Renewal Lodged)	28/2/2008	27/02/2010	Waratah Coal Pty Ltd	100
EPM	16871	Granted (Renewal Lodged)	28/02/2008	27/02/2010	Waratah Coal Pty Ltd	100
EPM	16873	Granted (Renewal Lodged)	12/03/2008	11/03/2010	Waratah Coal Pty Ltd	100
EPC	1210	Granted	18/09/2009	17/09/2014	Hancock Prospecting Pty Ltd	117
EPC	1040	Granted	22/06/2006	21/06/2011	Waratah Coal Pty Ltd	241
EPC	1079	Granted	02/11/2007	01/11/2012	Waratah Coal Pty Ltd	223
EPC	1156	Granted	22/10/2008	21/10/2011	Waratah Coal Pty Ltd	265
EPP	668	Granted	23/04/2003	30/04/2019	Australia Pacific LNG Pty Ltd	2500
EPP	780	Granted	09/12/2005	31/12/2017	Apiti Oil and Gas Exploration Limited	1650

4.2.5 INFRASTRUCTURE, SERVICES AND HOMESTEADS

Infrastructure, services and sensitive receptors (i.e. homesteads) located approximately to the mine's footprint are shown at Figure 7. The aspects to note are:

- most of the roads within the mine excavation areas (i.e. the open cut mine areas, tailings dams and supporting facilities) are unsealed farm access roads;
- the Capricorn Highway is located at the southern end of the study area, outside the proposed mining lease but inside the existing EPCs. The Highway connects Alpha to Jericho in the west and Emerald in the east;
- the Jericho-Degulla Road traverses the mine footprint from north east to southwest, while the Alpha-Clermont Road is located to the east of the mining lease;
- the Central Highlands railway line trends east to west and runs parallel the Capricorn Highway located at the southern extent of the proposed mining lease;
- 275 Kv powerlines run through the middle of the mine footprint;

- a stock route is present in the southern portion of the mine site outside of the proposed mining lease and follows the general alignment of east west railway line and Capricorn Highway;
- four homesteads lie within the mine footprint, namely Cavendish, Kiaora, Monklands and Lampton Meadows; and
- the closest town is Alpha, located over 25 km to the southeast.

4.2.6 NATIVE TITLE CLAIMS

Registered Native Title Claims (RNTCs) and Indigenous Land Use Agreements (ILUA) held by the Wangan and Jagalingou (W and J) People are shown at Figure 8. At present RNTCs encompass approximately 90 % of the proposed mining lease area. Currently there are no registered claims over the western portion (remaining 10 %) of the proposed mining lease area.

Figure 3. Mine Site - Land Tenure

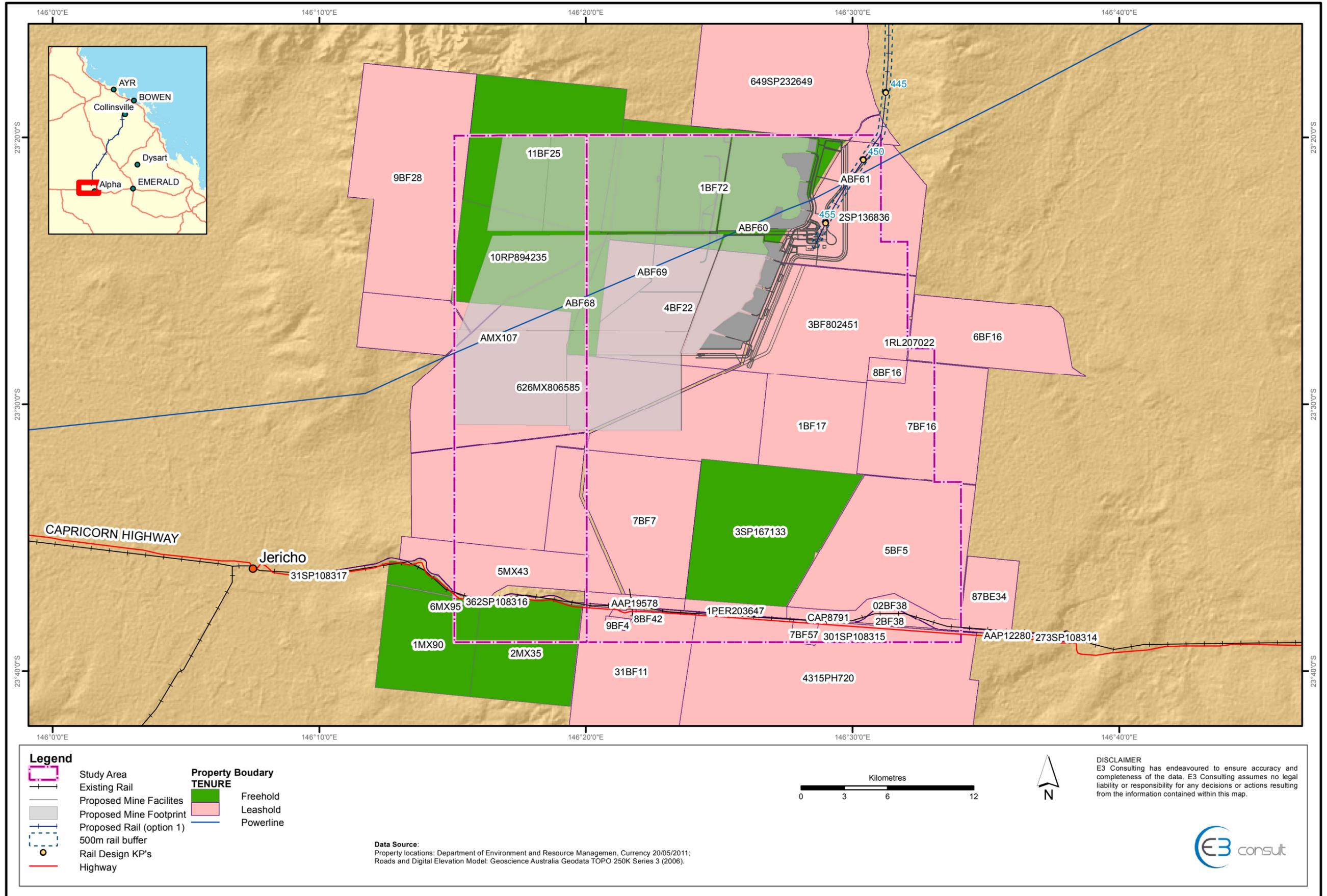


Figure 4. Mine site – Exploration Permits (Coal) and Leases

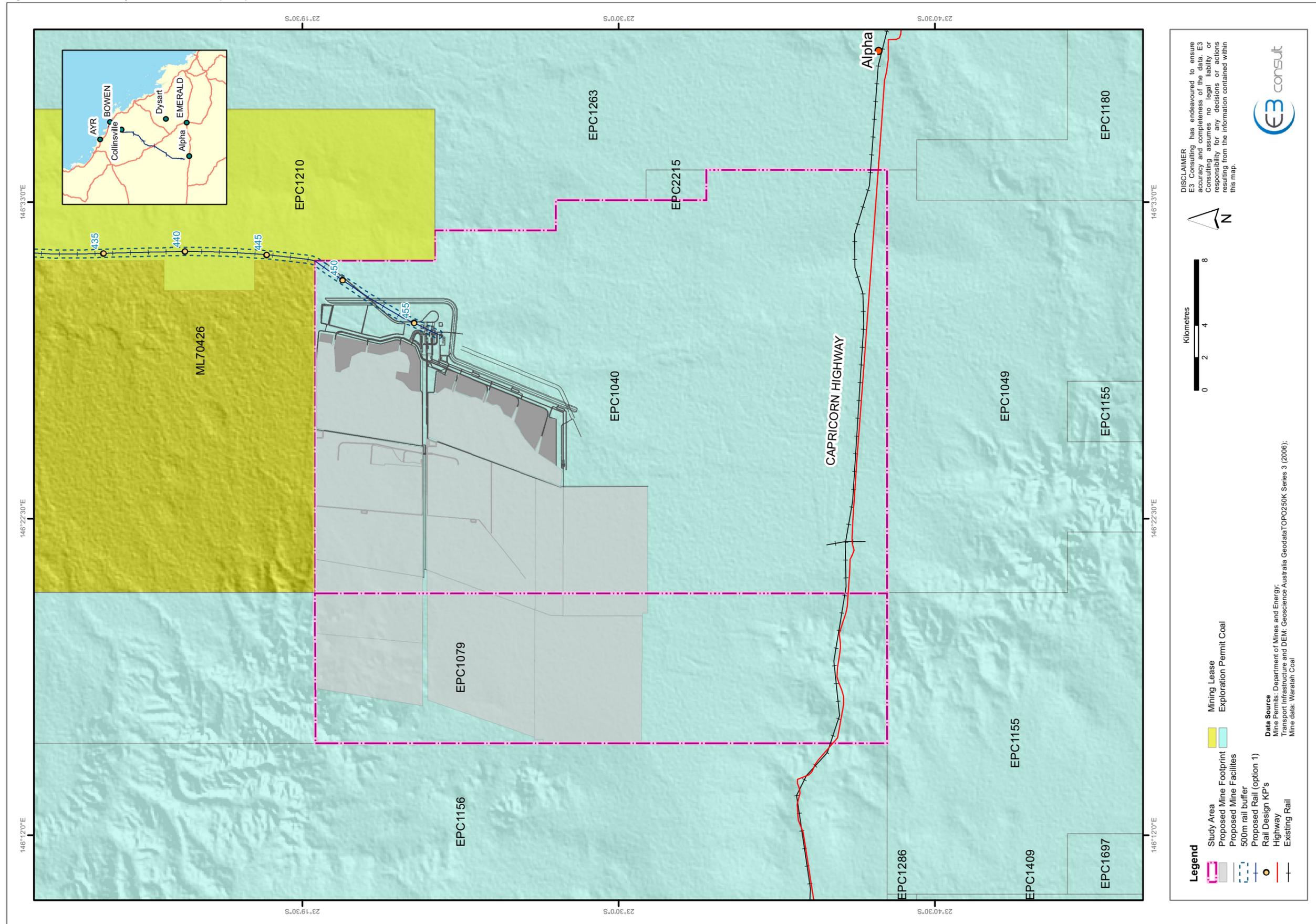


Figure 5. Mine site – Exploration Permits (Mineral) and Leases

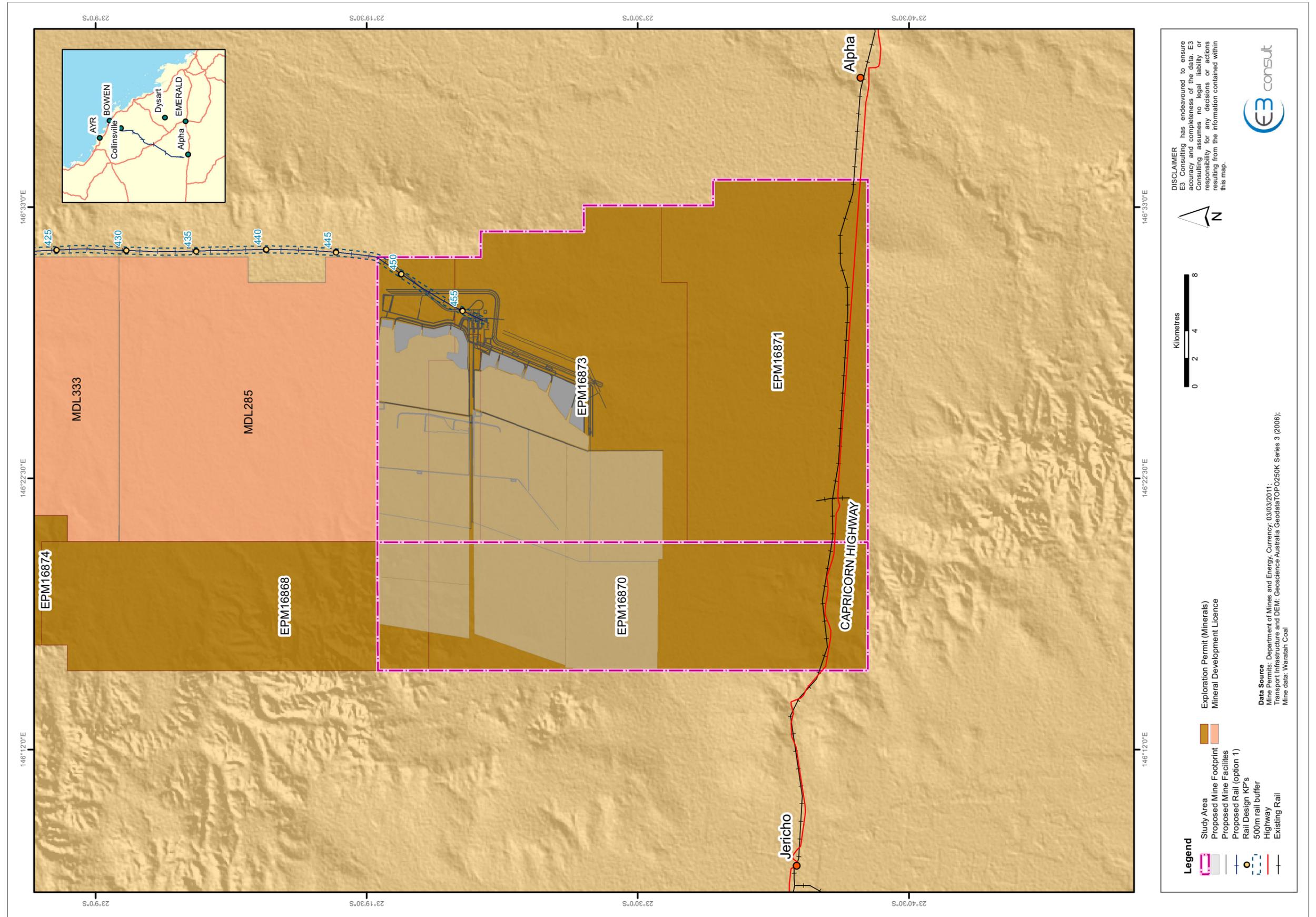


Figure 6. Mine site – Exploration Permits (Petroleum) and Leases

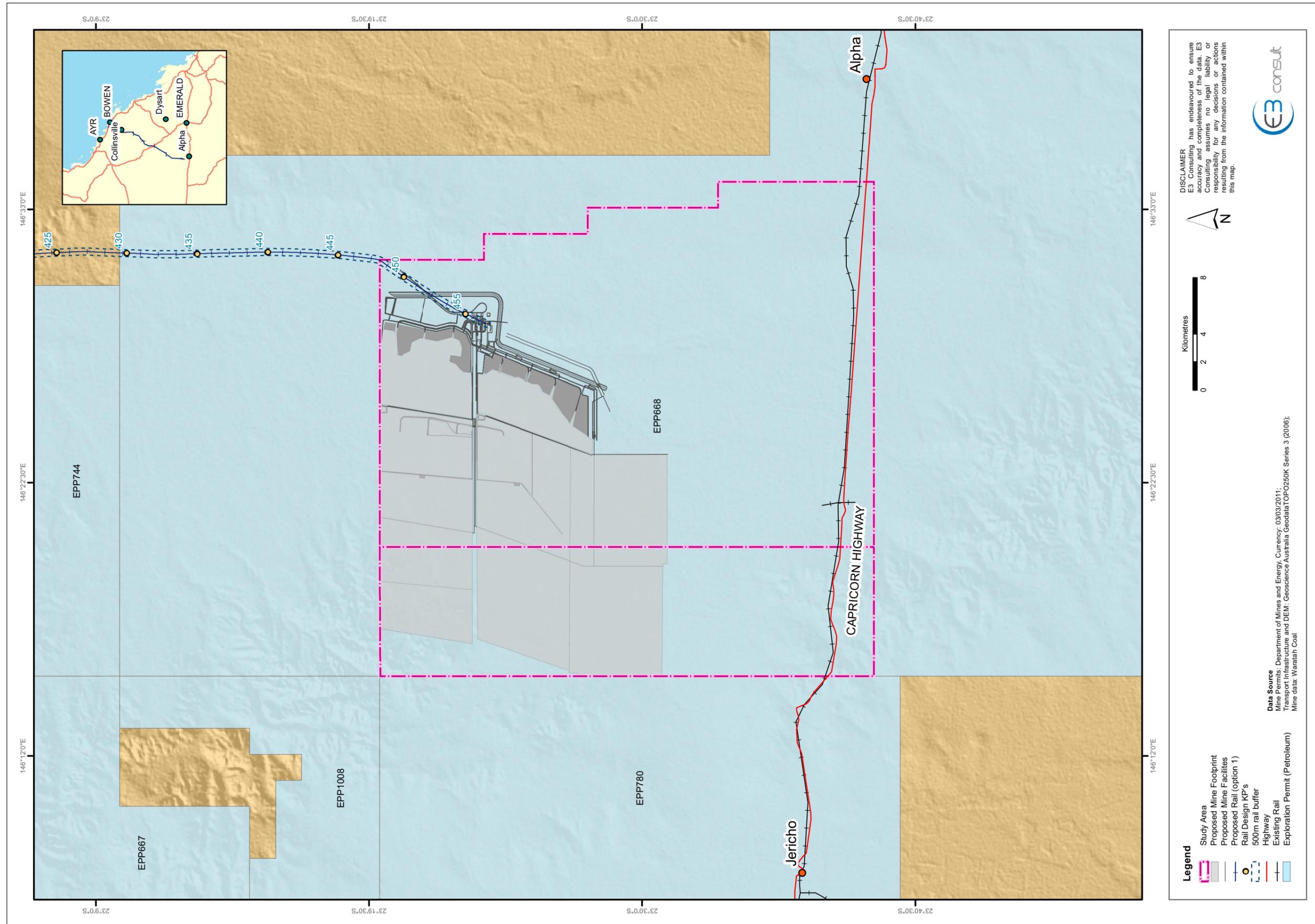
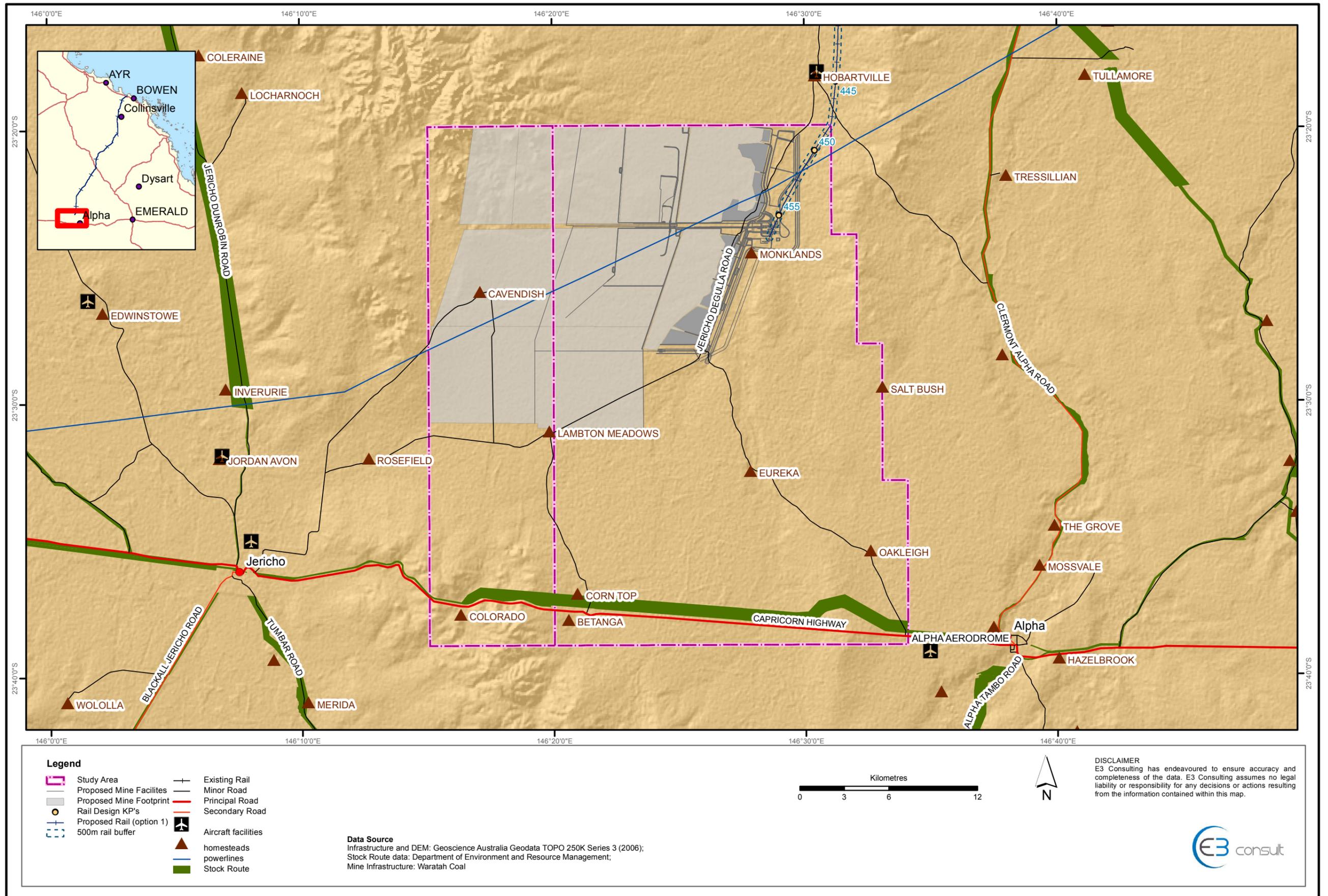


Figure 7. Mine Site - Infrastructure



4.3 POTENTIAL IMPACTS

4.3.1 LAND TENURE

Crown land under leasehold tenure to individuals, families and companies comprises approximately 55 % of the land within the proposed mining lease. Cattle grazing is the dominant land use of this tenure type. These leases would be revoked once the mining lease has been granted. Four allotments of land within the proposed mining lease are classified as freehold and these will require compulsory acquisition or sale agreements between the owners and Waratah for the sale of the properties.

4.3.2 LAND USE

The development of the mine will significantly change existing land use in the immediate area. The majority of the mine is comprised of land cleared for grazing with small patches of isolated vegetation. This is consistent with much of the surrounding land use. The development of the open cut mine will have an adverse impact on the total usable quantity of grazing land within the 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 open cut mines and supporting infrastructure. Areas required for the operation of the mine will be disturbed and no longer available for the existing land use. The land is not considered to have unique agricultural values compared to surrounding areas and as such, the mine would not be expected to have a significant impact on agriculture in the region. It is important to note that agricultural land uses on surface areas above underground mines is not expected to be significantly affected by mining operations.

The loss of grazing land would be offset by the 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 BNR is located within the mine footprint, and directly overlies the areas identified as UG2, UG4 and OC2 South. The BNR is composed of remnant semi arid woodlands with an understory of native shrubs, forbs and native and exotic grasses. Approximately half of the nature refuge would require clearing to construct the proposed associated infrastructure and open cut mine. Ecological impacts resulting from clearing of this area are discussed in **Volume 2, Chapter 6** and in **Volume 5, Appendix 10**.

4.3.3 INFRASTRUCTURE, SERVICES AND HOMESTEADS

A number of homesteads are located near the mine's footprint. Waratah will undertake negotiations with the respective landholders to mitigate disruption because of the proposed development.

The associated impacts on infrastructure and services were identified within the mine's footprint and the EPC boundary, in particular, the northeast to southwest overhead power line may require relocation from the mine area.

A detailed assessment of potential impacts to the road network is provided at **Volume 5, Appendix 21**.

4.3.4 NATIVE TITLE CLAIMS

A registered Native Title claim by the W and J People (QC04/5; QUD85/04) encompasses approximately 90 % of the mine site. Waratah Coal will address the requirements of the *Native Title Act 1993* (as amended) to meet its statutory obligations.

4.4 MITIGATION AND MANAGEMENT MEASURES

Mitigation and management measures will be developed and implemented to meet land use and planning objectives during both construction and operational phases of the mine. These measures will be incorporated into the Mine EMP (see Volume 2, Chapter 20) and include:

Land Tenure

- continue to consult with tenure holders and other relevant stakeholders to minimise the extent of disturbance to land owners or other affected persons; and
- implementing a Community Consultation Program to communicate both the potential impacts as well as benefits of the project to the broader community;

Land Use

- consulting with stakeholders to identify mutually suitable locations for infrastructure;
- where possible locating all infrastructure along fence lines, property boundaries or in areas identified by tenure holders to minimise fragmentation of properties;
- where fragmentation of properties is unavoidable include crossings and underpasses into the design of the rail to maintain existing or near existing access levels;
- minimise disturbance to surrounding residents during construction and operation by putting in place best practice management measures such as ensuring construction works occur within designated hours, keeping machinery properly maintained and fitting noise reduction devices where required and using dust suppression measures such as watering down unsealed roads prior to high traffic usage;
- if required temporarily relocate residents during the construction phase where the residual impacts after implementation of mitigation measures remain elevated; and
- maintaining or relocating infrastructure such as fences and cattle grids to ensure impacts to grazing are minimised.

Infrastructure

- where practicable minimise the extent of closure to or realignment of the existing road network to maintain connectivity;
- where realignment or complete closures cannot be avoided, supplementary roads will be constructed, and to the extent practicable, maintain or improve connectivity to pre-existing levels;
- a staged approach will be undertaken to ensure connectivity of infrastructure such as roads and transmission lines is maintained to reasonable levels during the construction phase;
- liaise with the utility providers to determine where infrastructure will be realigned, replaced, or retired. Retirement of such infrastructure will depend largely on the requirement for continued supply; and
- where practicable, disruption of services and / or access or permanent loss to utilities to the broader community will be minimised, and where it is anticipated to occur over an extended period, secondary source (i.e. generators) will be provided.

Road Network

A Traffic Management Plan will be implemented and will outline the traffic control devices to be developed and appropriate mitigation measures to be implemented during each phase of the project. Mitigation measures may include:

- vehicle speed and access will be limited in consultation with landowners;
- project vehicles to use designated routes;
- heavy construction vehicles should have right of way from all other vehicles;
- haulage distances should be kept to a minimum to minimise the impact to the Central Queensland road network; and
- project vehicles to comply with the Queensland and Project specific road rules at all times.

Conservation Areas

Clearing within conservation areas (i.e. BNR) will only occur to the extent required. A conservation hierarchy will be implemented following a hierarchy of avoid, minimise, rehabilitate, and offset. A Vegetation Clearing Management Plan (VCMP) will be prepared considering the relevant legislation.

4.5 CONCLUSION

The proposed mine will have an impact to land tenure and land use. The main impact will be the potential for disruption to existing land use regimes through the loss of land required for the mine development. A further impact will be the requirement to remove or relocate existing property infrastructure such as fences, gates, dams and irrigation systems.

Impacts associated with the loss and / or fragmentation of grazing land will be addressed through consultation with all tenure holders to ensure to the extent practicable that the extent of land required for the mine development and mine infrastructure is kept to the minimum required for the safe and efficient operation of the project. Impacts associated with changed grazing regimes will be addressed through the relocation and / or restoration of existing infrastructure or the construction of new infrastructure to reduce the impacts to a close as is practicable to existing conditions.

With the implementation of the mitigation measures it is expected that the significant potential impacts associated with disruptions to land use and changed grazing regimes will be addressed. Waratah Coal will liaise with all tenure holders through the final design phases to ensure that design takes into consideration to the extent practicable the requirements of all tenure holders.

4.6 COMMITMENTS

To ensure potential impacts to land use are minimised Waratah Coal commits to:

- minimising the land required for the open cut mine development to the extent practicable;
- existing vegetation which can practicably left in place will be retained and where practicable will be augmented by plantings of similar species and provenance
- undertaking consultation with relevant landholders in the area of the proposed development; and
- implementing the requirements of the EMPs throughout the life of the project.