

RZ

RESOURCES



Copi Mineral Sands Project Scoping Report

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Document Control

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1. Introduction

1.1 SCOPE

This Scoping Report has been prepared by RZ Resources Limited with assistance from R.W. Corkery & Co. Pty Limited (RWC) to describe the proposed Copi Mineral Sands Project (the Project). The Project would be located approximately 75km northwest of Wentworth in the Murray Basin region of southwestern NSW and within the Wentworth Local Government Area (LGA) (**Figure 1**).

The Project proposes to extract ore from a deposit situated within exploration licences EL8385, EL8865, EL8312 and EL8769, which are all held by the Applicant. The deposit is a continuous, strandline-type mineral sands placer deposit with a northwest-orientated strike length of approximately 23km. The deposit width varies between a few hundred metres to 5km (expected to increase as exploration continues), with an average orebody thickness of 20m. The deposit is overlain by up to 40m of sediment (overburden and interburden) cover. The mineral assemblage of the deposit is dominated by ilmenite (FeTiO_3 , 45%) but also contains high value zircon (ZrSiO_4 , 15%), rutile (TiO_2 , 15%), leucoxene (9%), and monazite (1.03%).

The Project-life would comprise the following:

- A construction period of approximately 2.5 years.
- Mining operations for up to 20 years; and
- A 5-year period for rehabilitation following cessation of mining operations.

The Project would be comprised of the following components and activities that would be situated within the proposed Mine Site that is also shown on **Figure 1**:

- Extraction of overburden (low grade material above the water table) up to approximately 29 million bank cubic metres (BCM) per annum (MBCMpa) by a conventional truck and shovel mobile fleet.
- Extraction of interburden material (low grade material below the water table) up to approximately 35 Mtpa by dredging. This material is not processed and treated as waste, being disposed directly to the tailings area.
- Dredge mining operation to process up to approximately 28 Mtpa of ore material.
- A floating wet concentration plant (WCP) processes the ore to produce a heavy mineral concentrate (HMC) by utilising screening and gravity separation.
- A shore-based concentrate upgrade plant (CUP) and freshwater wash process to upgrade HMC to an ilmenite product, monazite product and non-magnetic concentrate. The CUP will utilise drying and a combination of magnetic, electrostatic and gravity separation to produce up to approximately.
 - 260,000 tpa of ilmenite product,
 - 10,000 tpa of monazite
 - 180,000 tpa of non-magnetic concentrate.
- The above products would be transported in sealed containers using AB-triple or AB-quad road trains via a Site Access Road to Anabranh Mail Road and an upgraded

section of Anabranh Mail Road to the Silver City Highway. From there the above products would be transported via the Silver City Highway and the approved heavy vehicle route through Broken Hill, namely Wentworth Road, Patton, Comstock and Eyre Street and Holten Drive to a Rail Facility.

- An initial off-path tails storage area and off-path overburden storage area, for the first 18 months of operation.
- Progressive placement of tailings and overburden behind the dredge pond, after the first 18 months of Operation.
- Water dam to store water used only to flood the construction pit to allow the WCP and other infrastructure to be floated into the deeper operating mine pond.
- A hybrid diesel power station supported by a combination of solar, and battery energy storage system (BESS) with a planned longer-term connection to the existing network assets (Transgrid 220kV overhead powerline to X2: Buronga – Broken Hill).
- A range of ancillary infrastructure, including:
 - mine laydown area and workshops,
 - weighbridge,
 - water management (bores in the upper aquifer),
 - warehousing and storage infrastructure,
 - administration buildings, amenities, car park,
 - construction camp and mining operation accommodation for 200 people,
 - internal roads, and
 - rehabilitation related greenhouse, laboratory, reverse osmosis water treatment plant and other support services infrastructure

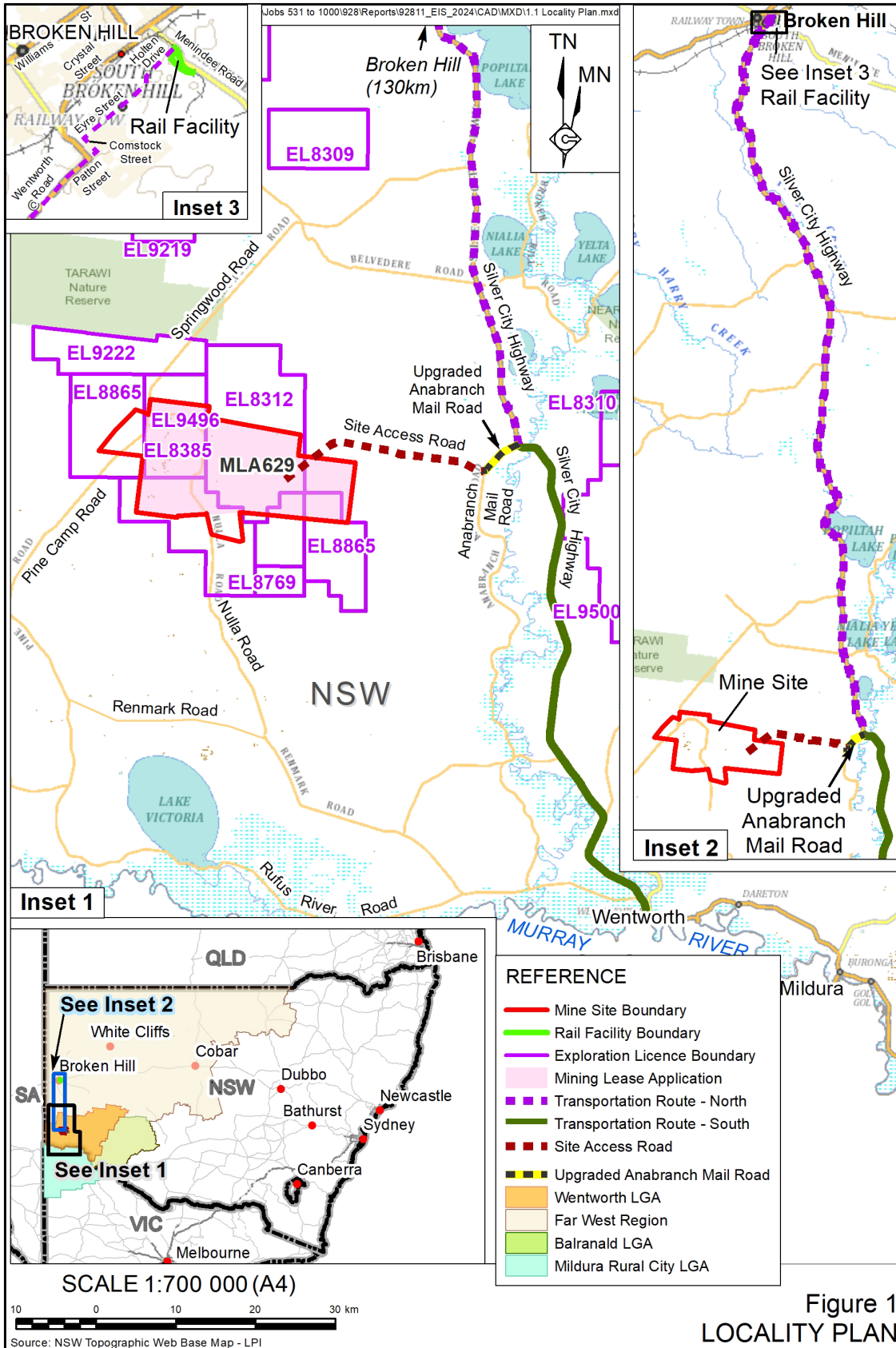
From the Rail Facility the products would be transported via rail to the Applicants Mineral Separate Plant at Pinkenba in Brisbane or elsewhere under separate approval. Limited quantities of material may be transported from Broken Hill by road, also under separate approval.

As a mineral sand mine, the Project is classified as being State Significant Development (SSD) under Clause 5(1)(a) of Schedule 1 of the State Environmental Planning Policy (Planning Systems) 2011 (Planning SEPP). This schedule nominates that all mineral sands mines are classified as SSD irrespective of their Capital Investment Value.

The information presented in this document will ultimately be incorporated into and expanded upon within a comprehensive Environmental Impact Statement (EIS), to be prepared in accordance with the provisions of the Environmental Planning and Assessment Act 1979 (EP&A Act) and to address the Secretary's Environmental Assessment Requirements (SEARs).

This Scoping Report has been prepared in accordance with Appendix A of the State Significant Development Guidelines – Preparing a Scoping Report (DPE, 2022) for circulation to the Department of Planning and Environment, other relevant State government agencies, Wentworth Shire and Broken Hill City Councils and the local and wider communities.

Figure 1 Locality Plan



1.2 THE APPLICANT

RZ Resources Limited (ABN: 23 160 863 892) and hereafter referred to as “the Applicant” is an unlisted Australian mining company with its head office at Level 8, 10 Eagle Street, Brisbane and focused on developing mineral sands resources in the Murray Basin of NSW.

Incorporated in 2012, the Applicant in 2015 entered into a joint venture which controlled three tenements in the Murray Basin. The Applicant acquired 100% ownership of these joint venture tenements and a further five tenements in the area in 2017.

In 2020, the Applicant also acquired a mineral separation plant (MSP) in Pinkenba, Queensland. This acquisition of the only MSP located on the east coast of Australia represents the Applicant’s long-term strategic commitment to discovering and developing minerals sand resources.

1.3 THE MINE SITE

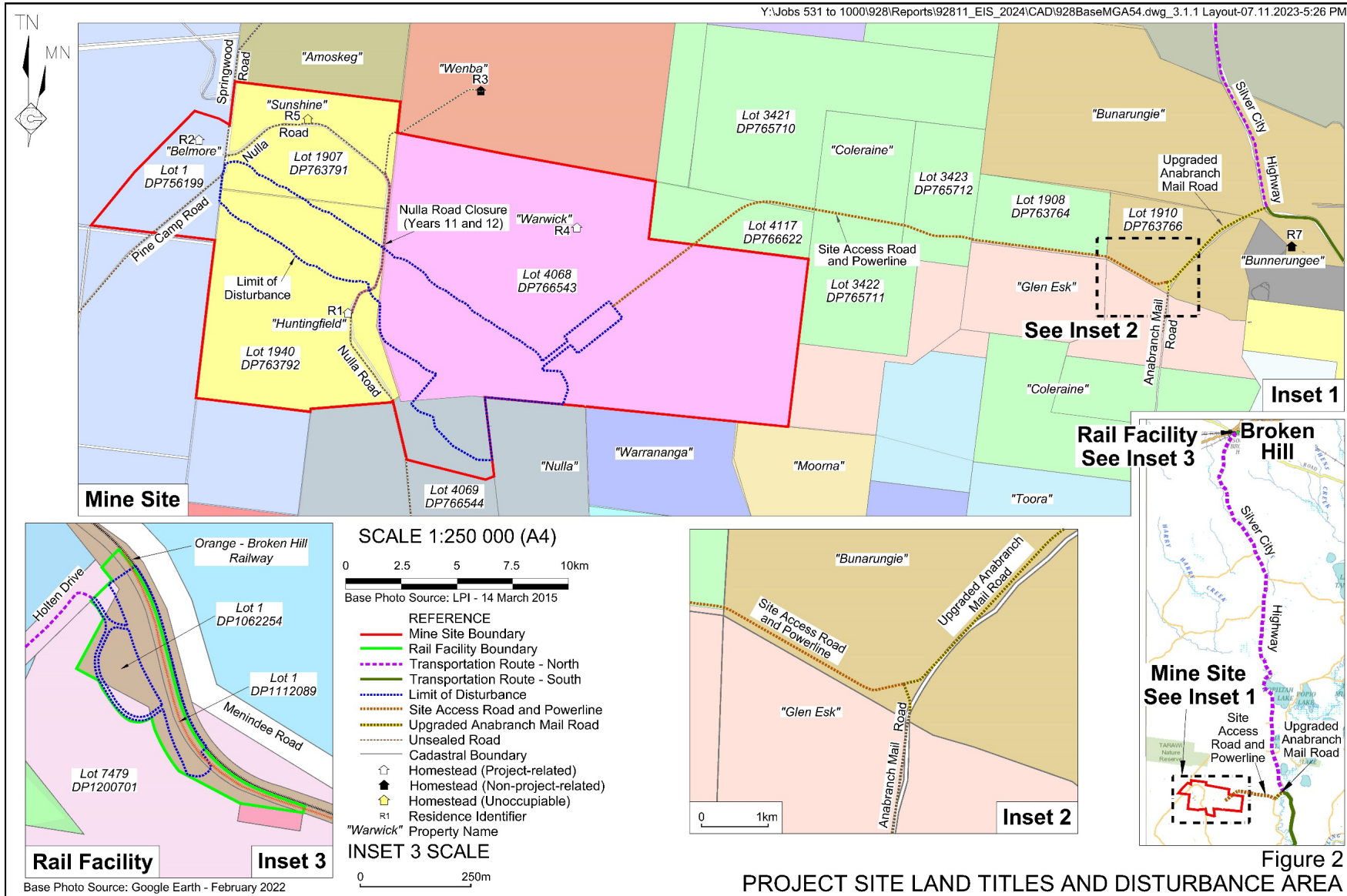
The proposed Mine Site would be situated on land that is zoned as RU1 in the *Wentworth Local Environmental Plan 2011*. Open cut mining is permissible with consent on land with this zoning.

Table 1 and Figure 2 provide the details of all land within the proposed Mine Site boundary, or the area over which any future development consent would apply (the Project Site).

Table 1 Lot and Deposited Plan Numbers for the Project

LOT	DEPOSITED PLAN	LOT	DEPOSITED PLAN	LOT	DEPOSITED PLAN
MINE SITE		SITE ACCESS ROAD		RAIL FACILITY	
1	756199	4068	766543	1	1112089
1907	763791	4117	766622	1	1062254
1940	763792	3421	765710	7479	1200701
4068	766543	3422	765711		
4069	766544	3423	765712		
Road Reserve for Nulla, Springwood and Pine Camp Roads		1908	763764		
		1910	763766		
TRANSPORTATION ROUTES					
C	377667 ¹	Road reserves for Anabranh Mail Road, Silver City Highway, Wentworth Road, Patton, Comstock and Eyre Streets and Holten Drive			
Note 1: The use of an approximately 1.5m ² of Lot C, DP377667 is dependent on the final design for the intersection of Patton and Comstock Streets.					

Figure 2 Project Site Land Titles and Disturbance Area



1.4 PROJECT OBJECTIVES

The objectives of the Project would be as follows:

- To safely and economically mine the identified mineral sand reserves to produce critical minerals and rare earths.
- To operate the Project in a manner that would minimise surface disturbance and impacts on surrounding residents and the local environment.
- To implement a level of management control and mitigation measures that ensures compliance with appropriate environmental criteria and reasonable community expectations.
- To develop and operate the Project in compliance with all relevant statutory requirements.
- To create a final landform that is suitable for a post-mining land of nature conservation, grazing, or following receipt of additional approvals for alternative industry.
- To continue to maintain an open and honest relationship with and to work cooperatively with the surrounding community to build socio-economic capacity within communities surrounding the Project Site.
- To achieve the above objectives in a cost-effective manner to ensure security of employment of employees and contractors and the continued economic viability of the Applicant, its suppliers, and partners.

1.5 PROJECT BACKGROUND

1.5.1 Titles under the Mining Act

The proposed Mine Site shown on **Figure 1** lies within the following exploration licence areas that are held by the Applicant and which are also shown on **Figure 1**:

- EL8385;
- EL8865;
- EL8312;
- EL8769;
- EL8865;
- EL9222;
- EL9496;
- ELA6643;
- ELA6644; and

A mining lease application (MLA629) has been submitted over the majority of the Mine Site, with a second MLA to be submitted for areas not covered by MLA629..

1.5.2 Regional Geology

The Copi Project is located within the Murray Basin in New South Wales. The Murray Basin is host to the Loxton Sand, within which numerous heavy mineral deposits are found. During the early Pliocene, the Loxton Sand sequence was deposited during marine transgression/regression, often comprising long linear beaches, subject to onshore wave action and contemporaneous sorting and heavy mineral concentration.

The Murray Basin covers an area of approximately 300,000 km² and consists of Cenozoic marine and terrestrial sediments that were deposited in a low-relief, saucer-shaped intracratonic basin. The basin is bounded to the southwest by basement rocks of the Mount Lofty and southern Flinders Ranges, and to the north by the Archean Broken Hill Block and the Upper Palaeozoic rocks of the Darling Basin. The sea inundated the Murray Basin several times during the Cenozoic, with the last marine transgression occurring during the Pliocene (Brown and Stephenson, 1991).

Sedimentation began in the Murray Basin in the Palaeocene with the deposition of a dominantly non-marine succession, the Renmark Group. The second phase of deposition (Oligocene-middle Miocene) was mainly marine and comprised clays (Geera Clay) and limestone of the Murray Group. The third phase (upper Miocene-middle Pliocene) took place during a marine transgression, beginning with the deposition of plastic green, grey and brown calcareous clays and silts, with minor sand, of the Bookpurnong Beds. The Bookpurnong Beds are conformably overlain by a succession of marginal-marine sands belonging to the Loxton Sand (Brown and Stephenson, 1991).

The Loxton Sand is disconformably overlain by non-marine late Pliocene to Recent sediments. In the central area of the basin the overlying sediments are fluvio-lacustrine clays of the Blanchetown Clay unit. Where the Blanchetown Clay is absent, the Loxton Sand is disconformably overlain by a thin succession of unconsolidated red-brown siliceous silty sand, sandy clay and clay-pellet aggregates which form extensive east-west orientated dunes of the Woorinen Formation. In the eastern and south-eastern parts of the Murray Basin, the Loxton Sand is disconformably overlain by the fluvial sediments of the Shepparton Formation. This is a sequence of clays, sandy clays and medium- to coarse-grained sands associated with floodplain deposition of the major river systems (Brown and Stephenson, 1986).

The Loxton Sand contains HM concentrations, the majority of which are likely to have formed during reworking of the underlying Renmark Group, and erosion of the granites of the Lachlan Fold Belt, mafic volcanics in the Great Dividing Range and sandstones of the Mesozoic basins, all of which were transported by paleo-river systems into the Murray Basin (Brown and Stephenson, 1991). Research completed in 2015 indicates that the source material for the heavy mineral concentrations at Copi North could be from Broken Hill. The extent of metamorphism documented at Broken Hill would have provided the conditions to form high-grade titanium-rich oxides including rutile and ilmenite, and as the Broken Hill Block was oxidising, it is possible that the HM within the north-western area of the Murray Basin were sourced through the Mulculca Fault (Poon, 2015).

The mineralisation at the Copi Project is contained within the Loxton Sand, a sequence of marine sands representing a range of environments, including deep-water (offshore), near shore, tidal, beach and back dunal sediments. The mineralisation at the Copi Project is hosted by coarse-grained strandlines and finer-grained sediments that are thought to be aeolian (dunal) in origin. The Loxton Sand at the Copi Project is underlain by Geera clay. Geera clay is carbonaceous silts and minor carbonates, massive pyritic clays with minor sand and silt layers, with sparse marine fossils.

1.5.3 Mine Site Geology

Surface geology within the Mine Site is dominated by the aeolian sediments of the Woorinen Formation dunes, comprising a series of discontinuous, east-west orientated sand dunes separated by broad swales and sand plains (**Figure 3**).

Mineralisation generally occurs as stacked lenses of heavy minerals which are interpreted as having been concentrated during storm events and associated wave action. However, mineralisation also occurs as thin extensions to the stacked lenses, potentially from continuous regression or storm overthrow and aeolian ablation, as compared to the high-grade strands developed from periodic regression.

1.5.4 Mineral Resources and Reserves

The target orebody for the Project is interpreted to be a sequence of stacked strandline-type, continuous mineral sand placer deposits formed by ancient beaches. These strandlines have formed deposits with a high-grade core that is surrounded by low-grade halo's containing similar assemblages of Ilmenite-Rutile-Zircon-Leucoxene and other rare earth metals (Monazite and Xenotime). Below these strandline orebodies are a series of what have been interpreted as paleo-dune deposits. The mineral assemblage of the project deposit is dominated (45%) by Ilmenite (FeTiO_3) but also contains high value Zircon (ZrSiO_4 , 15.04%), Rutile (TiO_2 , 15%) and the alteration product Leucoxene (9.0%).

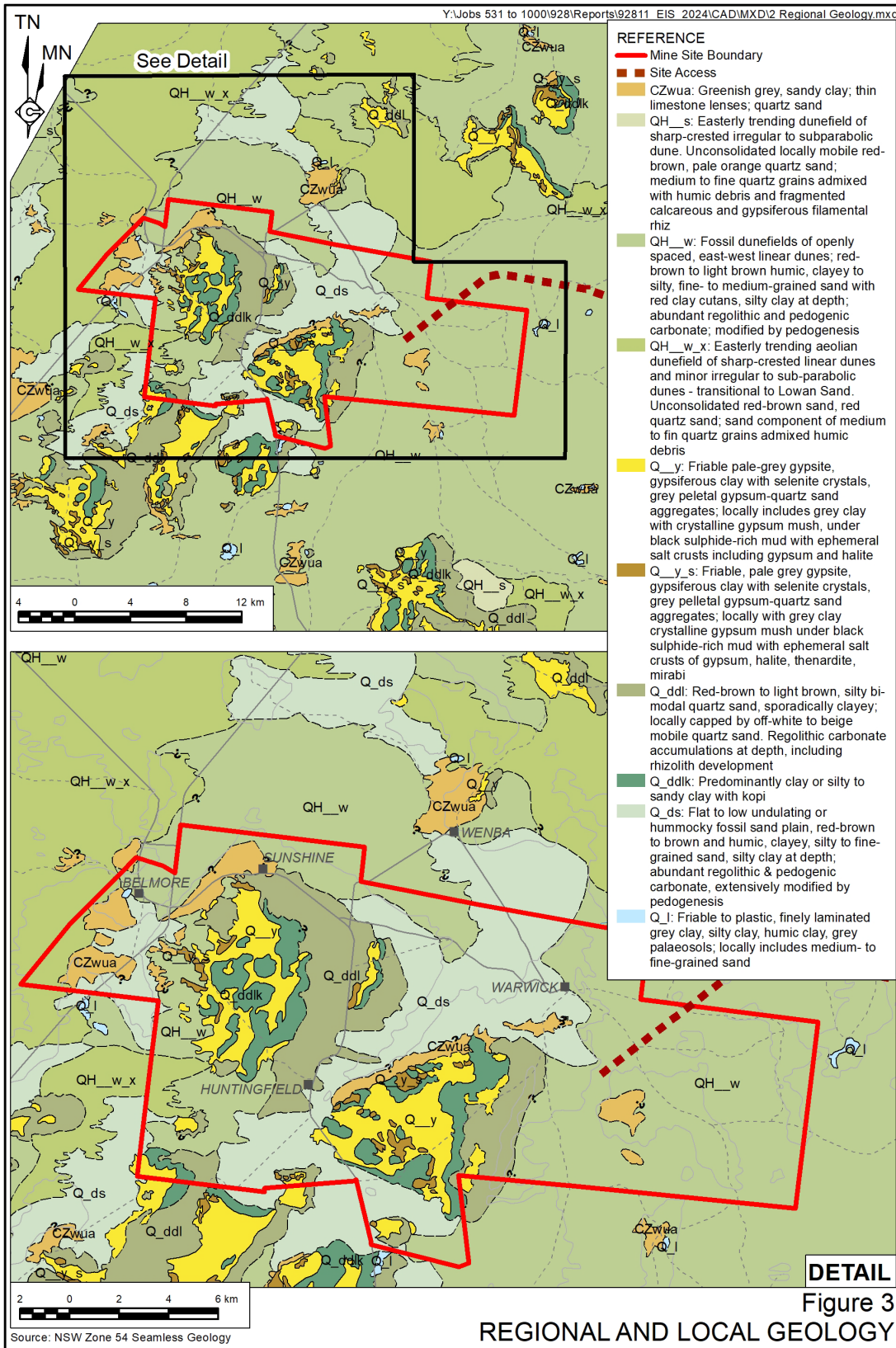
The upper and lower Copi orebodies are the principal focus of the Project, with further resource and mine design work to be completed to define the current orebody boundaries which will then be assessed for future development opportunity.

The deposit has a northwest-orientated (303°) strike length of approximately 25km with a deposit width that varies between a few hundred metres to 5km (expected to increase as exploration continues). The average orebody thickness of 40m and a maximum thickness of approximately 60m.

The resource data shown on **Table 2** is based on data from approximately 101,300m of drilling in 1,962 vertical reverse circulation drill holes undertaken by previous holders of the exploration titles and RZ Resources. Additional exploration drilling, being undertaken by the Applicant, is proposed, and is aimed at increasing the confidence in the definition of the strandline deposits and increasing the confidence level to reserve categories.

The mine optimisation studies completed to date indicate the mineable ore within the mine path design is estimated to be approximately 452 million tonnes, although this quantity will likely increase as a result of the current and proposed exploration studies that will increase knowledge within the proposed disturbance area. To dredge the 452Mt of ore, the extraction of 204 BCM of overburden and 520Mt of interburden is required.

Figure 3 Regional and Local Geology



1.6 KEY STRATEGIES TO AVOID AND MINIMISE IMPACTS

The following key strategies have been adopted during the design process for the Project to avoid and minimise Project-related impacts.

- Engagement of recognised industry experts over an extended period (2017 to present) to complete selected aspects of the Project design to ensure that the Project would be constructed and operated in accordance with relevant regulatory standards and requirements, with the lowest environmental impacts practicable and in line with reasonable community expectations.
- Ensure that the Project-footprint is minimised to the maximum extent possible.
- Ensure that progressive final landform creation and rehabilitation is undertaken as soon as practicable following completion of disturbance.
- Consideration of all reasonable and feasible development alternatives.
- Early and regular consultation with the community surrounding the Mine Site, as well as the residents and businesses of the Wentworth LGA and surrounding areas.
- Early and regular consultation with relevant government agencies to ensure that the Applicant and the Project team had a detailed understanding of the expectations and requirement of key agencies throughout the design phase for the Project.

In addition, the Applicant would implement the following key strategies throughout the life of the Project to avoid and minimise Project-related impacts.

- Ensure that the Project is developed strictly in accordance with the commitments included within the EIS and all regulatory conditional requirements.
- Prepare clear and detailed Management Plans that incorporate all regulatory requirements and commitments made by the Applicant.
- Continue to engage a highly qualified, experienced and appropriately resourced management team to manage the Project's day-to-day operations.
- Implement the identified monitoring program and review all results against the relevant compliance and assessment criteria to ensure that the Project is operating in compliance with all approvals and the predictions included within this document.
- Continue to engage closely with the community surrounding the Mine Site, as well as residents and businesses within the Wentworth and Broken Hill LGA's to maintain open and honest communication and facilitate feedback in relation to the Project's impacts.
- Continue to engage closely with relevant government agencies to ensure that the Project's impacts on the environment are within relevant conditional and assessment criteria.
- Continue to focus on continual improvement and refine Project-related processes and procedures to avoid and minimise impacts.

Finally, the Applicant would offset unavoidable biodiversity-related impacts via the mechanisms identified under the *Biodiversity Conservation Act 2016*.

Table 2 JORC Compliant Mineral Resource

RESOURCE CATEGORY	MILLION TONNES	TOTAL HM %	% OF TOTAL HM						SLIMES %	OVERSIZE %
			ILMENITE	LEUCOXENE	RUTILE AND HITI85	ZIRCON	MONAZITE	XENOTIME		
Indicated	1,960	1.3	45	8.9	15	15	1.06	0.13	5.9	3.2
Inferred	580	0.9	43	9.4	15	12	0.87	0.11	6.8	2.9
Total	2,540	1.2	45	9.0	15	15	1.03	0.12	6.1	3.1
RESOURCE CATEGORY	MILLION TONNES	TOTAL HM %	IN-SITU GRADE (%)						SLIMES %	OVERSIZE %
			ILMENITE	LEUCOXENE	RUTILE AND HITI85	ZIRCON	MONAZITE	XENOTIME		
Indicated	1,960	1.3	0.60	0.12	0.20	0.20	0.014	0.0017	5.9	3.2
Inferred	580	0.9	0.37	0.08	0.13	0.11	0.008	0.0009	6.8	2.9
Total	2,540	1.2	0.55	0.11	0.18	0.18	0.013	0.0015	6.1	3.1
RESOURCE CATEGORY	IN-SITU TONNES (Kt)									
	TOTAL HM	ILMENITE	LEUCOXENE	RUTILE AND HITI85	ZIRCON	MONAZITE	XENOTIME	TOTAL VHM		
Indicated	26,094	11,780	2,318	3,938	3,943	275	33	22,289		
Inferred	5,021	2,135	473	753	623	44	5	4,033		
Total	31,116	13,916	2,791	4,691	4,566	319	39	26,322		

Notes:

1. The Copi Project Mineral Resource has been classified and reported in accordance with the guidelines of the JORC Code (2012).
2. Reported above a total HM cut-off grade of 0.3%.
3. The total HM is reported as a percentage of the total material. The majority (95%) of data has reported total HM from within the +53 µm to -1 mm size fraction, slimes from the -53 µm fraction and oversize as the +1 mm fraction.
4. Estimates of the mineral assemblage (zircon, ilmenite, rutile and HiTi85, leucoxene, monazite and xenotime) are from within the total HM component of the deposit, as determined from QEMSCAN, magnetic fractionation and XRF analysis. The rules used for the majority (99%) of the titanium mineral determinations are ilmenite 40–70% TiO₂; leucoxene 70–85% TiO₂; rutile and HiTi85 >85% TiO₂.
5. All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus sum of columns may not equal.

2. STRATEGIC CONTEXT

2.1 JUSTIFICATION OF THE PROJECT

2.1.1 Introduction

The Commonwealth and NSW Governments have published a range of planning documents that collectively provide the basis for government strategic planning relevant to the Project. Central to many of these documents is the recognition that the mining, agriculture and transport industries provide essential employment and economic activity for regional areas of NSW and that each of these industries must be developed in a manner that supports the communities and environment within which those industries operate. The planning documents that are relevant to the Project and a brief description of how each of those documents provides strategic support to the Project are outlined in the following subsections. Additional discussion of each of these documents will be provided in the EIS.

2.1.2 Commonwealth Legislation and Strategic Plans

2.1.2.1 CLIMATE CHANGE ACT 2022

The Commonwealth *Climate Change Act 2022* seeks to legislate Australia's greenhouse gas emissions reduction target of:

- 43% below 2005 levels by 2030; and
- Net zero emissions by 2050.

The Project would contribute to these targets as follows.

- By providing critical minerals that are essential to the development and manufacture of low carbon technology.
- By committing at the outset to;
 - collect the Project to the National grid, thereby removing the need for on-site generation of power during the operational phase of the Project; and
 - install sufficient solar generation capacity or purchase renewable power to reduce emissions associated with power generation by approximately 30%.
- By committing to regularly review the Project's greenhouse gas emissions and either increase the proportion of renewable energy purchased for the Project or install additional renewable generation and energy storage capacity as technology develops and economic circumstances change.

2.1.2.2 AUSTRALIA'S CRITICAL MINERALS STRATEGY 2019

Development of heavy mineral sands resources is a component of the Commonwealth Government's Critical Minerals Strategy 2019. This document outlines the policy framework for Australia's critical minerals market with the goal of enabling development in the critical minerals sector. This includes downstream processing and manufacturing opportunities that match resource potential to international demand. This document identifies critical mineral deposits within the Murray Basin as opportunities to capitalise on rising global demand for these resources.

The Project would materially support each of these objectives by:

- providing a new, long-life, stable, domestic supply of titanium, zirconium and rare earth minerals; and
- providing for further processing of the raw heavy mineral concentrate at the Applicant's Pinkenba Mineral Separation Plant.

2.1.3 Commonwealth Legislation and Strategic Plans

2.1.3.1 ECONOMIC DEVELOPMENT STRATEGY FOR REGIONAL NSW

The *Economic Development Strategy for Regional NSW* (the Strategy), published by the Department of Trade and Investment, Regional Infrastructure and Services in 2015, provides a framework for the NSW government with the aim of driving economic growth in regional NSW. The Strategy covers all regional NSW, encompassing all industries and sectors within the State. Mining is highlighted as one of the key drivers of economic growth. The Strategy identifies five high level goals encompassing twenty-three actions for Governments. The following identifies how the Project is consistent with the relevant goals and actions.

Goal 1 – Promote key regional sectors and regional competitiveness.

The Strategy highlights the mining industry as one of the top three contributors to Gross Regional Product, alongside manufacturing and healthcare and social assistance. The Project would be consistent with the following actions.

- Action 1.2 - Increase the value of NSW's mineral industry and the energy sector.
The Project would help to increase the value of NSW mineral industry through the continued delivery of mineral product as well as the continued support, utilisation and development of the supporting industries.

Goal 2 – Drive regional employment and regional business growth.

Regional employment and business growth is highlighted as a key goal of the Strategy. The Strategy states that increasing the regional skill base as a means to offset the effects of population decline in regional NSW is a key priority; in particular, the development of youth and Aboriginal employment outcomes. The Project would be consistent with the following actions.

- Action 2.1 - Promote regional job creation.
The Project would enable the creation and retention of approximately 240 jobs over the 20-year life of the Project.

2.1.3.2 20-YEAR ECONOMIC VISION FOR REGIONAL NSW

The *20-Year Economic Vision for Regional NSW* (the Vision) published by the NSW Government in February 2021, aims to drive sustainable, long-term economic growth in regional NSW and unlock the significant economic potential of the regional areas in NSW. The Vision aims to add 180 000 residents and 64 000 jobs to regional areas in NSW over the next 20 years. Mining is identified as one of the seven "engines" of the regional NSW. The Vision describes several priority actions for regional economic development. The following identifies how the Project is consistent with these priority actions.

- Principle 5 - A skilled labour force for current and future needs of the regions.
The Project would enable the Applicant to continue to employ and train regionally based employees, including young people and members of the Aboriginal community.

2.1.3.3 DRAFT FAR WEST REGIONAL PLAN 2041

The draft *Far West Regional Plan 2041* (Draft Regional Plan) was released in September 2022 and provides an update on the NSW Government's priorities for the Far West Region. The Draft Regional Plan includes 16 objectives. The Project would be consistent with or assist in the successful implementation of the following objectives.

- Objective 1 – Protect, connect, and enhance biodiversity throughout the region.
The Applicant has, to the extent practicable, sought to avoid and minimise impacts on biodiversity. The Applicant would progressively rehabilitate mined land throughout the life of the Project and would remove all infrastructure not required at the end of the Project life and rehabilitate all remaining disturbed land. The Applicant would also offset unavoidable biodiversity impacts in accordance with the Biodiversity Conservation Act 2016. Finally, the Applicant would fund research and restoration projects for the listed *Austrostipa nullanulla*.
- Objective 9 – Facilitate accommodation options for seasonal, temporary, and key workers.
This objective requires development applications for large-scale projects to be supported by a workforce accommodation strategy. The Project would preferentially recruit residents of the Wentworth LGA, but those workers would be accommodated on site in the proposed Mine Camp. The Applicant anticipates that many of the workers currently engaged with comparable mining projects in the Wentworth LGA that are nearing the end of their known lives would be able to transition their employment and skills to the Project, with no change in the demand for housing within the LGA.
- Objective 10 – Plan for connected cross-border communities.
The Project would rely on workers and businesses located within the Wentworth LGA. However, as the principal population and service centre of the region, Mildura and surrounding areas would also support and benefit from the Project.
- Objective 12 – Protect rural and mining industries.
This objective recognises the importance of the mining industry for the Far West Region, including the following. The Project would be a long-life critical minerals project within the Region, with all the benefits that that would entail, particularly considering the imminent closure of other operations within the Wentworth LGA.
- Objective 15 – Support the transition to net zero by 2050.
The Project would produce a range of critical minerals that would provide key inputs to products required to achieve NSW's stated objective of achieving net zero emissions by 2050.

2.1.3.4 CLIMATE CHANGE POLICY FRAMEWORK

The NSW *Climate Change Policy Framework* published in 2016:

- defines the NSW Government's role in reducing carbon emissions and adapting to the impacts of climate change.
- sets policy directions to guide implementation of the framework.
- commits NSW to achieving aspirational long-term objectives of net-zero emissions by 2050 and to help NSW become more resilient to a changing climate; and
- sets out next steps for implementation.

The Project is consistent with the Policy Framework, in particular, achieving the identified reduction in emissions for the reasons described in Section 2.1.21.

2.1.3.5 CRITICAL MINERALS AND HIGH-TECH METALS STRATEGY

The NSW *Critical Minerals and High-tech Metals Strategy* (Critical Minerals Strategy) outlines the NSW Government's vision to build on and position NSW as a major global supplier and processor of critical minerals and high-tech metals well into the future. The Critical Minerals Strategy identifies the importance of critical minerals for developing technologies and decarbonisation, with demand for these minerals expected to surge in the coming decades. Titanium, zircon and rare earth elements are all identified as critical minerals and the Project has been recognised as a Critical Minerals Project by both the NSW and Commonwealth Governments.

2.1.4 Local Planning Context

2.1.4.1 WENTWORTH SHIRE COUNCIL LOCAL STRATEGIC PLANNING STATEMENT

The *Wentworth Shire Council Local Strategic Planning Statement* was published by the NSW Government on 18 March 2020 and presents strategies for ensuring economic growth, social cohesion and environmental stability in the LGA over the next 20 years and beyond. This statement identifies several planning priorities and actions to achieve these goals. The following identifies how the Project is consistent with the priorities and actions.

- Planning Priority 3 – manage resources and renewable energy.

The statement recognises that the Murray Basin is endowed with high value mineral sand deposits that have been historically underutilised. The statement also notes that these resources have the potential to grow both mining and construction industries within the LGA. The Project would allow for utilisation of these identified resources, providing a significant contribution to the local economy through direct employment and flow-on benefits to the community.

2.1.4.2 BROKEN HILL LOCAL STRATEGIC PLANNING STATEMENT

The Broken Hill *Local Strategic Planning Statement 2020 - 2040* seeks to translate the vision and priorities expressed in a range of Council plans and policies into specific land-use actions. The following planning priorities are relevant to the Project.

- Mining Priority 3 - Continue to advocate for a heavy vehicle bypass for Broken Hill that connects all State highways and regional roads and removes heavy vehicle haulage from residential areas and other sensitive land-uses.

In the absence of a heavy vehicle bypass around Broken Hill, the Applicant has sought to minimise transport-related impacts associated with the Project through the use of the largest vehicles practicable, thereby reducing the number of vehicle movements, and by committing to upgrade two existing intersections on an identified heavy vehicle route that are currently not suitable for the vehicles using them. In addition, the Applicant would be pleased to work with Council to advocate for a heavy vehicle bypass that would permit access to the Rail Facility without travelling through the Broken Hill urban area.

2.2 LAND OWNERSHIP

The proposed Mine Site and therefore the areas of principal disturbance would be situated wholly within pastoral stations “Warwick”, “Nulla”, “Huntingfield”, and “Belmore” (**Figure 2**). An ancillary infrastructure mining lease is proposed over pastoral stations “Colleraine” and “Bunnerungie” (**Figure 2**) for site access to Anabranh Mail Road. These landholdings were created as *Western Lands Leases in Perpetuity* that were issued under the *Western Lands Act, 1901* (now *Crown Lands Management Act 2016*).

The transportation route is limited to public roads and is generally located within road reserves associated with Anabranh Mail Road, the Silver City Highway, Wentworth Road, Patton Street, Comstock Street, Eyre Street and Holten Drive.

Figure 2 presents relevant land tenure surrounding the Rail Facility. In summary, the land within the Rail Facility is held by the State Rail Authority for the purposes of a Rail Facility. A small section of the Rail Facility, namely an existing access track, occurs on the Willyama Common, Crown land managed by Broken Hill City Council.

2.3 NATURAL AND BUILT FEATURES

2.3.1 Mine Site

The Wentworth LGA is dominated by sparsely populated arid to semi-arid rangelands with a very low population density. The dominant regional watercourses are the Darling and Murray Rivers, as well as the Great Darling Anabranh however none of these drainage features are hydraulically connected to the Mine Site. Internally drainage catchments with central salt pans or drainage depressions are common, particularly within and in close proximity to the Mine Site.

Agricultural lands, except for those subject to cultivation in the vicinity of the Murray and Darling Rivers, are typically unimproved and are dominated by arid to semi-arid open woodland and shrubland.

The built environment within the Wentworth LGA is dominated by:

- widely spaced rural residences and associated agricultural infrastructure.
- transportation infrastructure, including:
 - the Silver City Highway and associated bridges and other infrastructure; and
 - local roads, like Anabranh Mail Road; and
- the Wentworth to Broken Hill transmission line and water pipeline.

2.3.2 Rail Facility

The Rail Facility occurs in a highly modified environment on the eastern boundary of the Broken Hill urban area (**Figures 1 and 2**). The built environment is dominated by Perilya’s North Mine and CBH’s Rasp Mine located to the east and northwest of the Rail Facility respectively and Mawsons’ Broken Hill Quarry, located to the south of the Rail Facility.

2.4 LAND USE CONSTRAINTS

The following land use constraints are identified for the proposed Mine Site.

- Within the proposed Mine Site, the land has previously been used (and is still being used) for low intensity grazing at very low stocking rates.
- Whilst the Mine Site is surrounded by rural land uses, no specific sensitive land uses have been identified to date that are likely to pose a constraint.
- There are no known competing industries within the surrounding area.
- The proposed Mine Site is not located within a defined drinking water storage area or town water supply.
- The Mine will not intercept, disturb or access any freshwater aquifers for its processes. All water for operations will be sourced from the shallow, hyper-saline aquifer.
- The Mine Site is not located within land shown on the Strategic Agricultural Land Map and therefore an application for a Site Verification Certificate in relation to Biophysical Strategic Agricultural Land is not required.
- Further assessment of surface water and groundwater interception, storage, and usage will be undertaken as part of the EIS, however, there are currently no significant practical water constraints identified.
- Warwick station has access to water from the Anabran pipeline for the purposes of stock watering. Whilst this water would be utilised by the Wentworth Pastoral Company for stock watering and the Project's rehabilitation activities, it would not be used for mineral processing.
- The proposed Mine Site is situated within leasehold lands (Western Lands Leases) that were issued by the Crown in perpetuity under the Western Lands Act 1901 or acquired as freehold under the Crown Lands Management Act (2016). In 2002 the High Court of Australia had extinguished native title over all lands that were the subject of Western Lands Leases.

See also Section 4 for further discussion of land with environmental constraints as identified by the Wentworth Local Environmental Plan 2011 and Broken Hill Local Environmental Plan 2013.

2.5 RISKS AND HAZARDS

The EIS will include a detailed risk assessment and an assessment of hazards associated with the Project. However, key risks are likely to include the following.

- Adverse rehabilitation-related impacts associated with failure of revegetation as a result of the harsh climate and poor soil conditions.
- Biodiversity impacts related to clearing of native vegetation.
- Traffic-related impacts associated with heavy-vehicle movements on the public road network.

The Project would not be classified as a hazardous industry, however, the Monazite Product would be classified as a Class 7 Radioactive Material under the Australian Dangerous Goods Code. This material would be handled and transported in accordance with a Radiation Management Plan to be included with the EIS.

2.6 CUMULATIVE IMPACTS

The following mining-related Projects exist or are proposed in the vicinity of the Mine Site.

- Snapper and Gingko Mineral Sands Mines (closing 2025/2026).
- Euston Mineral Sands Project (proposed).
- Hawsons Iron Ore Project (proposed).

In addition, the Applicant is aware of a number of yet to be announced non-mining projects in the Wentworth LGA.

The Applicant does not anticipate that the Project will result in substantial cumulative impacts with these other Projects.

3. Project Description

3.1.1 Project Overview

Table 3 presents an overview of the Project and Figures 4 to 6 present the proposed layout of the Project.

Table 3 Project Overview

PROJECT ELEMENT	SUMMARY OF THE PROJECT
Mining Method	<ul style="list-style-type: none"> • Dredge mining from an Extraction Area approximately 17km long and up to approximately 3.0km wide. • Mining would commence with a starter pond at the at the southwestern extent of the deposit. The starter pond would be extracted using conventional free dig, load and haul mining techniques. Extracted overburden, namely material located above the water table with no heavy mineral, would be used to construct infrastructure within the Mine Site or stockpiled for later use during rehabilitation operations. • Following establishment of the starter pond, the first dredge would be installed, followed by the floating Wet Concentration Plant and subsequent dredges. • Interburden, namely material located below the water table with no heavy mineral, would be extracted using floating dredges. Interburden would initially be transferred to the Tailings Storage Facility. Once the dredge pond has achieved its minimum operational size, extracted interburden would be used to backfill completed sections of the Extraction Area. • Ore, namely material with sufficient heavy mineral to justify processing, would be extracted using a floating dredge. The ore would be transferred to the floating Wet Concentration Plant (Wet Concentration Plant) for processing. • Tailings and interburden placed within the Extraction Area would be used to progressively backfill completed sections of the Extraction Area and would be covered by overburden and soil before being rehabilitated
Mineral Resource	<ul style="list-style-type: none"> • Heavy mineral sand deposit approximately 23km long and up to 5km wide. • Indicated and Inferred JORC-compliant resource (September 2023) – 2,540Mt at 1.2% heavy mineral comprising ilmenite, leucoxene, rutile, zircon, monazite and xenotime.
Annual Production	<ul style="list-style-type: none"> • Ore up to approximately 28Mtpa • Interburden up to approximately 35Mtpa • Overburden up to approximately 50Mtpa
Mine Life	<ul style="list-style-type: none"> • Construction approximately 2.5 years • Mining approximately 20 years • Post-mining Rehabilitation progressive plus approximately 5 years post mining <p>Note: Construction and mining operations would be partially undertaken concurrently</p>
Total Resource Recovered	<ul style="list-style-type: none"> • Ore mined up to 452Mt
Disturbance Area	<ul style="list-style-type: none"> • Mine Site approximately 5,622ha • Rail Facility approximately 3.0ha (existing), nil additional
Processing	<ul style="list-style-type: none"> • Processing operations would involve the following. <ul style="list-style-type: none"> – Wet screening and gravity separation of approximately 28Mtpa of ore within the Wet Concentration Plant. – Dewatering and transfer of the Heavy Mineral Concentrate to the Concentrate Upgrade Plant.

PROJECT ELEMENT	SUMMARY OF THE PROJECT
	<ul style="list-style-type: none"> – Washing, drying and separation within the Concentrate Upgrade Plant to produce the following. <ul style="list-style-type: none"> ○ an ilmenite productapproximately 260,000tpa ○ a monazite product approximately 10,000tpa ○ a non-magnetic concentrate approximately 180,000tpa
Management of Mining Waste	<ul style="list-style-type: none"> • Overburden <ul style="list-style-type: none"> – Extracted using dry mining techniques. – Initially used to construct infrastructure within the Mine Site or stockpiled for later use, after which it would be transferred directly to completed sections of the Extraction Area to reestablish the final landform. • Oversize <ul style="list-style-type: none"> – Screened and transferred directly to completed sections of the Extraction Area. • Wet Concentration Plant tailings and slimes <ul style="list-style-type: none"> – Initially placed within the Tailings Storage Facility after which they would be placed within completed sections of the Extraction Area. • Concentrate Upgrade Plant tailings <ul style="list-style-type: none"> – Placed within completed sections of the Extraction Area. • General wastes and recyclables <ul style="list-style-type: none"> – Collected from site and transferred to a licenced waste management facility.
Transportation Operations	<ul style="list-style-type: none"> • Internal transportation <ul style="list-style-type: none"> – Mine Site Access Road (approximately 29.6km) – would be constructed from Anabranh Mail Road to the Infrastructure Area. – Other light and heavy vehicle internal roads would be constructed within the proposed area of disturbance and would be relocated as required. • Transportation routes. <ul style="list-style-type: none"> – Transportation Route - North (to Broken Hill) – Anabranh Mail Road, Silver City Highway, Patton, Comstock and Eyre Streets and Holton Drive. – Transportation Route - South (to Wentworth) – Anabranh Mail Road and Silver City Highway. – Other routes – use of other routes would be prohibited for Applicant-controlled vehicles and discouraged for all other vehicles. • Public road upgrades to accommodate Project generated traffic. <ul style="list-style-type: none"> – Realigned and upgraded section of Anabranh Mail Road from the intersection with the Mine Site Access Road to the Silver City Highway. – Upgraded intersection of Anabranh Mail Road and the Silver City Highway. – Upgraded intersection of Patton and Comstock Streets. – Upgraded intersection of Comstock and Eyre Streets. – Upgraded intersection of Holten Drive and the Rail Facility Access Road.
Transportation Operations (Cont'd)	<ul style="list-style-type: none"> • Public road closure <ul style="list-style-type: none"> – Nulla Road between the “Huntingfield” homestead and the “Wenba” Station access road would be closed indicatively during Years 11 and 12 when the Project would mine through the road. The road would be reinstated as soon as practicable once mining has progressed through that section of the road. • Product/concentrate transportation <ul style="list-style-type: none"> – Route via Transport Route North to the Rail Facility – Traffic levelup to 12 laden movements per day – Vehicle type.....AB-triple or AB-quad road trains

PROJECT ELEMENT	SUMMARY OF THE PROJECT
	<ul style="list-style-type: none"> - Material classification (under Australian Code for the Transport of Dangerous Goods by Road & Rail) <ul style="list-style-type: none"> o Ilmenite product and non-magnetic concentrateNot classified o Monazite productClass 7 (Radioactive Material) - Onward transportation (under separate approval) <ul style="list-style-type: none"> o Ilmenite product and non-magnetic concentrateby rail o Monazite productby road or rail <p>Note: AB-quad road trains would be used only once the required road permits have been obtained</p> <ul style="list-style-type: none"> • All other deliveries/consumables <ul style="list-style-type: none"> - Route <ul style="list-style-type: none"> o Transport Route South..... approximately 90% of movements o Transportation Route North.....approximately 10% of movements - Traffic level..... up to 11 laden movements per day - Vehicle type up to B-double
General Infrastructure	<p>On-site infrastructure not addressed above would include the following.</p> <ul style="list-style-type: none"> • Mine Camp associated infrastructure for up to 200 personnel. • A 66kV transmission line from the 220kV Buronga to Broken Hill transmission line. The transmission line would be located adjacent to the Mine Site Access Road. • Solar Farm and associated infrastructure. • A power station comprising modular, silenced, diesel generators and associated infrastructure for use during construction operations. • Offices and Administration Area. • Workshops, Stores and Laydown Areas.
Power	<ul style="list-style-type: none"> • Power for the Project would be provided by a combination of: <ul style="list-style-type: none"> - diesel generated power during construction operations; - solar power from a solar farm and associated battery energy storage system; and - mains power sourced via the above 66kV powerline. • Power distribution infrastructure, including substations and overhead, buried and floating transmissions lines. • A minimum 30% of the Project's power would be sourced from renewable sources, including the onsite solar farm and/or externally contracted and certified renewable sources.
Water Management	<ul style="list-style-type: none"> • Groundwater within the target Loxton Parilla Sands is highly saline, with limited to no beneficial use. • Dredging operations would be reliant on groundwater inflows to the Extraction Area to form the pond upon which the dredges and Wet Concentration Plant would be floated. • Production bores would be installed within the Loxton-Parilla Sands to provide water for initial construction operations and feed for one or more reverse osmosis plants. <ul style="list-style-type: none"> - Treated water would be used for camp amenities, concentrate washing, dust suppression (in conjunction with polymer-based dust suppressants) and other purposes as required. - Brine from the reverse osmosis plant would initially be placed within a pond within the Extraction Area footprint, after which it would be transferred to the dredge pond. • Production bores would also be used to manage the water level within the Starter Pond to allow construction and floating of the dredges and Wet Concentration Plant. • Sediment laden (dirty) water would be retained on site and used for mining-related purposes.

PROJECT ELEMENT	SUMMARY OF THE PROJECT		
	<ul style="list-style-type: none"> Water from undisturbed sections of the Mine Site (clean water) would be prevented from entering disturbed sections of the Mine Site. Where clean water accumulates adjacent to the clean water exclusion bunds, that water would be used for mining-related purposes. 		
Workforce	<ul style="list-style-type: none"> Construction <ul style="list-style-type: none"> Average approximately 290 persons Peak approximately 480 persons Operations approximately 240 persons Rehabilitation approximately 40 persons Note: Work and fatigue management rosters would result in not all personnel being on site at the same time		
Hours of Operation	Activity	Proposed Days of Operation	Proposed Hours of Operation
	Land preparation	7 days per week	7:00am to 6:00pm
	Construction operations <ul style="list-style-type: none"> Road construction within Broken Hill LGA All other construction 	7 days per week 7 days per week	7:00am to 10:00pm 24 hours per day
	Mining operations	7 days per week	24 hours per day
	Processing operations	7 days per week	24 hours per day
	Transportation operations <ul style="list-style-type: none"> Heavy mineral concentrate transportation within Broken Hill LGA All other transportation 	7 days per week 7 days per week	7:00am to 10:00pm 24 hours per day
	Maintenance operations	7 days per week	24 hours per day
	Rehabilitation operations	7 days per week	7:00am to 10:00pm
Capital Investment Value	A\$940 million		
Final Landform	<ul style="list-style-type: none"> All infrastructure not required for the final land use removed or reduced in size. A backfilled, shaped and revegetated Extraction Area. Nulla Road reinstated. Upgraded public infrastructure retained for public use 		
Final Land Use	Native ecosystem, with active investigation of alternative post-mining land uses, including renewable energy generation.		
Rehabilitation	Rehabilitation would occur progressively throughout the life of the Project, with the Extraction Area progressively backfilled, shaped and rehabilitated.		

Figure 4 Project Site Layout

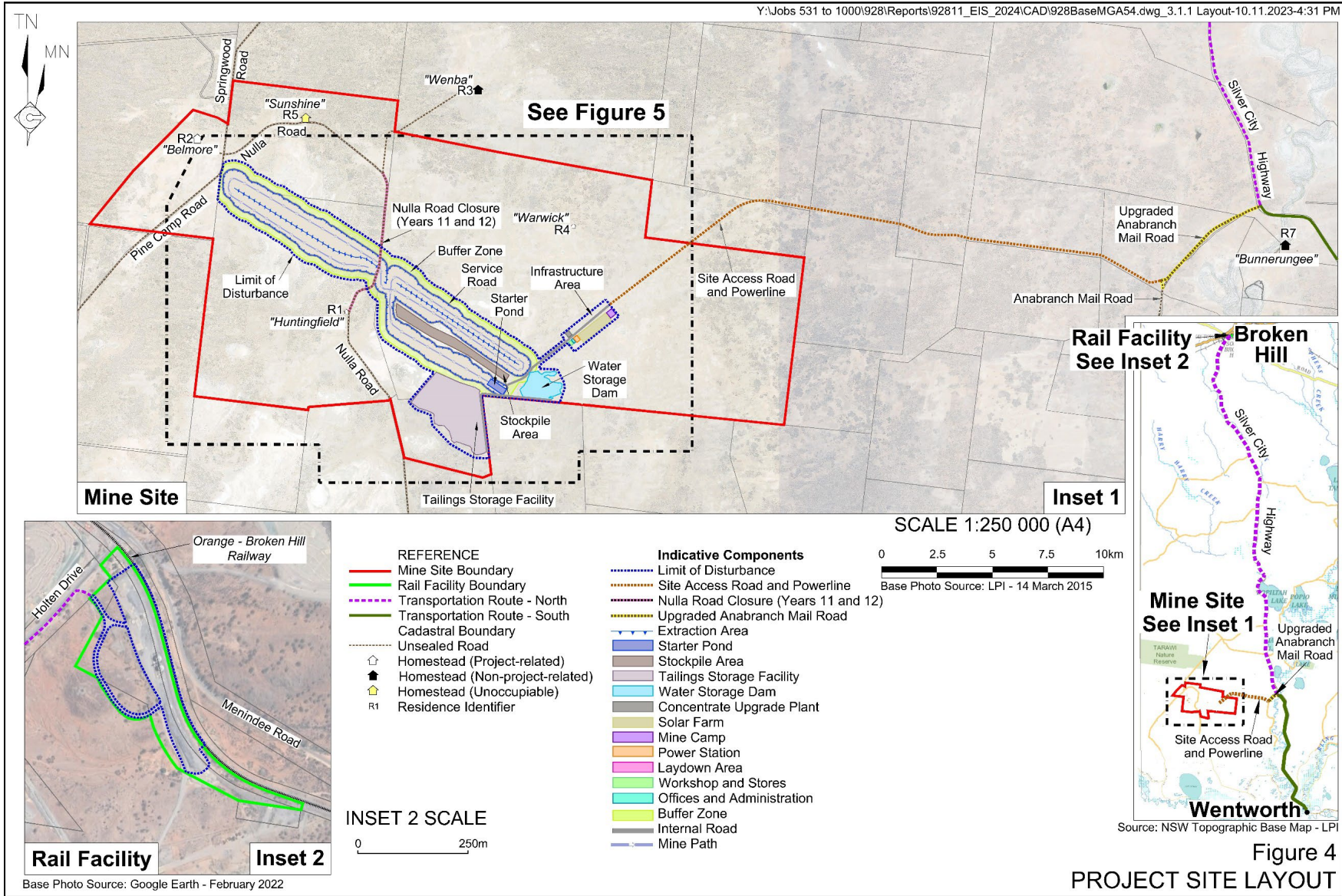


Figure 5 Mine Site Layout

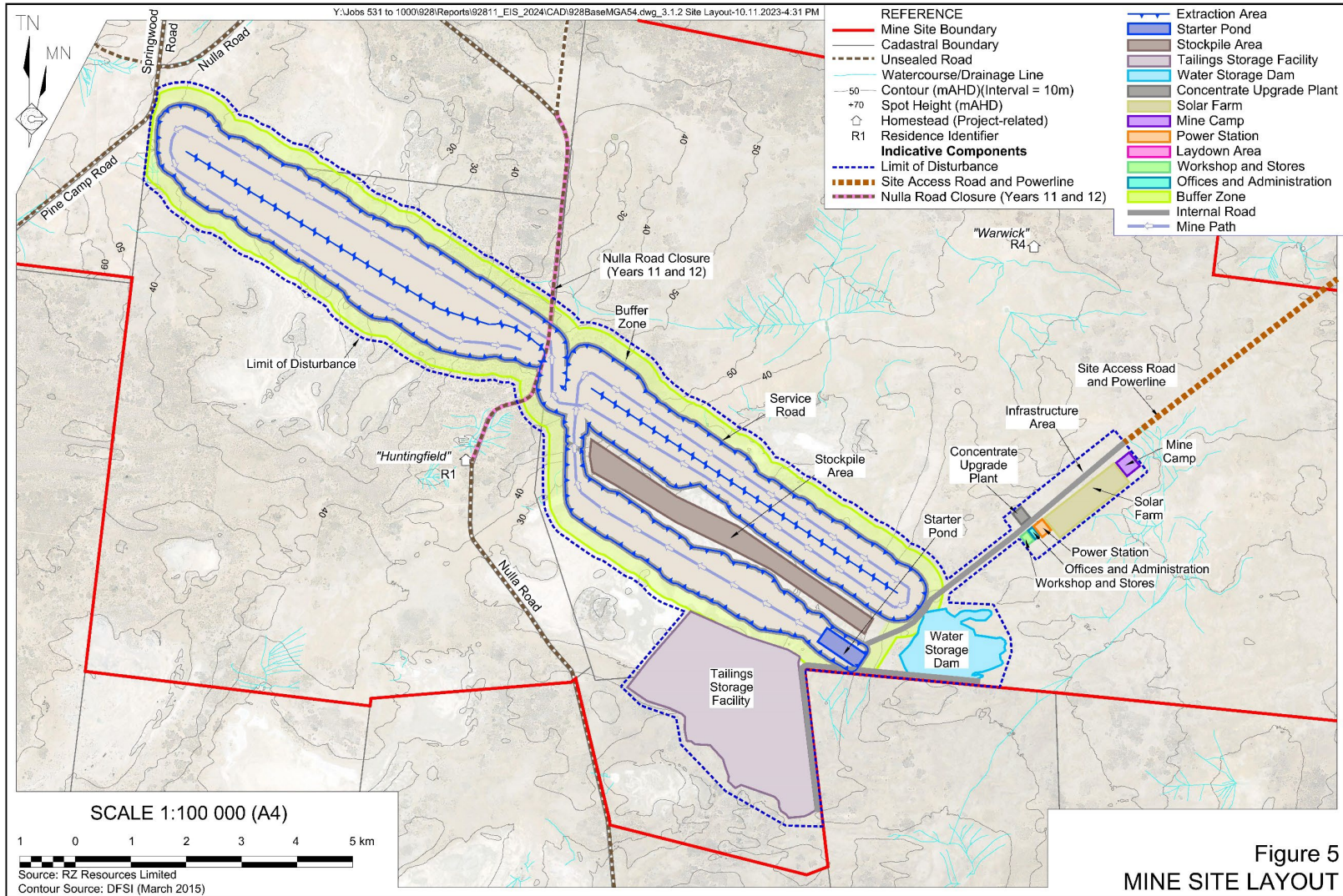
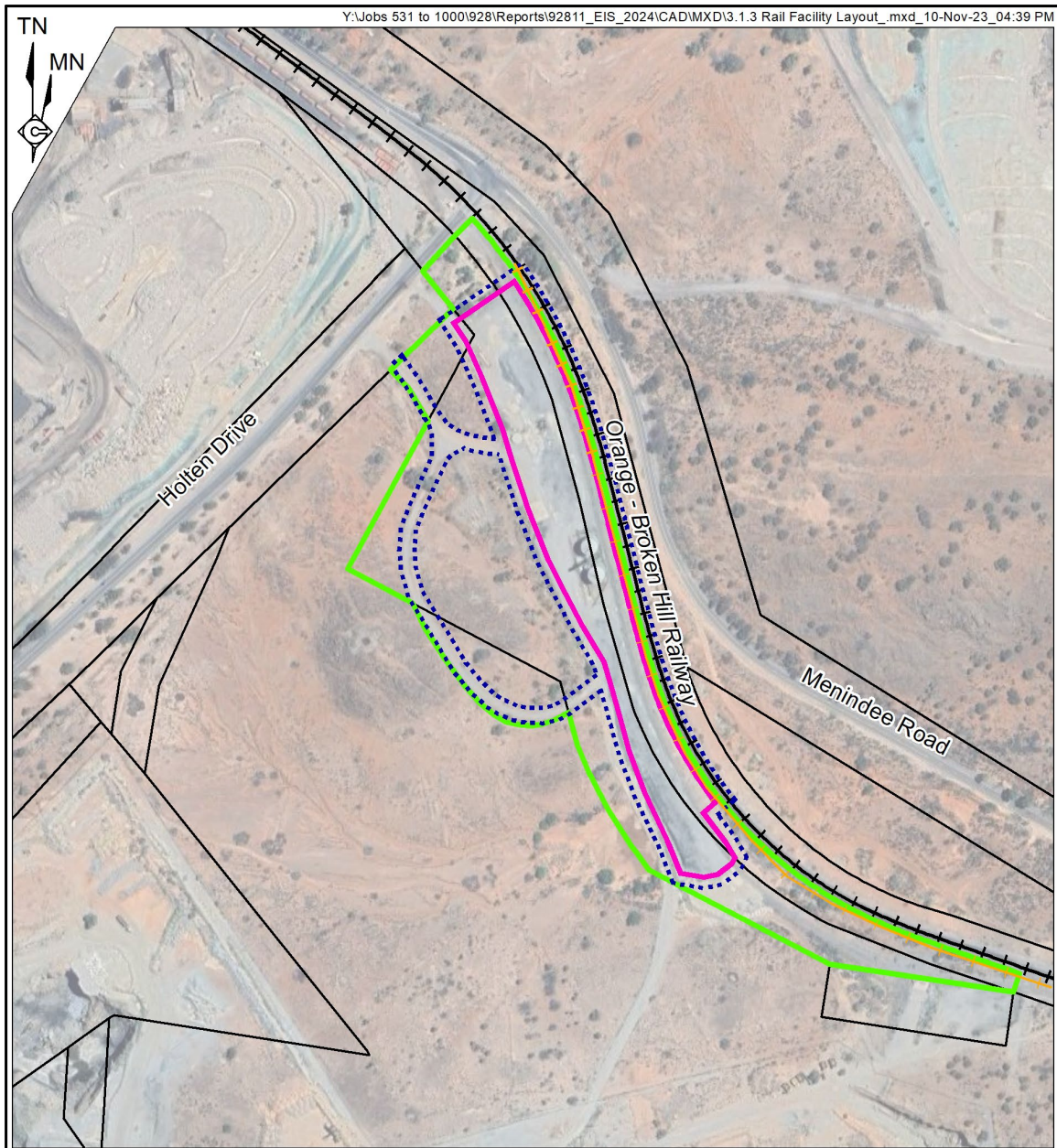


Figure 6 Rail Facility Layout



REFERENCE

- Rail Facility Boundary
- Rail Laydown and Load-out Area
- - - Transportation Route - North
- - - Limit of Disturbance
- Cadastral Boundary
- + + Rail Line
- + + Rail Siding

SCALE 1:5 000 (A4)

50 0 50 100 150 200 m

Base Photo Source: Google Earth - February 2022

Figure 6
RAIL FACILITY LAYOUT

3.1.2 Alternatives Considered

Table 3 describes the Project as proposed. The EIS will present a description of the feasible alternatives that were considered and rejected during the design and planning phase of the Project, including the following.

- Alternative mining methods, including dry mining.
- Alternative power supply options, including 100% onsite power generation.
- Alternate site access options, including access via springwood road.
- Alternate onsite processing options.
- Alternate infrastructure components layout locations.
- Incorporation of a final void.
- No mine camp.

4. Statutory Context

Tables 4, 5 and 6 present an overview of the key statutory requirements, preconditions and mandatory considerations for the Project. Each of these matters will be addressed in the EIS.

Table 4 Key Statutory Requirements

Matter	Project Relevance
<p>Power to grant consent</p>	<p>As a minerals sands project, the Project is classified as SSD under Clause 5(1)(a) of Schedule 1 of the <i>State Environmental Planning Policy (Planning Systems) 2021</i> (Planning Systems SEPP). The Project Development Application (DA) will therefore require assessment under Division 4.7 of Part 4 of the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act).</p> <p>The consent authority for the Project will be the Minister for Planning and Public Spaces. In practice, it is understood that the Minister has delegated his/her authority to determine such applications to a senior officer of the Department of Planning, Industry and Environment.</p> <p>Alternatively, under Section 2.7(1) of the Planning Systems SEPP, the Independent Planning Commission would be the consent authority in the event that the following criteria are met.</p> <ul style="list-style-type: none"> • Wentworth Shire or Broken Hill City Councils provide a submission objecting to the Project. • There are more than 50 unique submissions objecting to the Project. • The Applicant has made a reportable political donation.
<p>Permissibility</p>	<p>The proposed Mine Site is situated on land that is zoned RUI (Primary Production) under the Wentworth Local Environmental Plan 2011 (Wentworth LEP) (Figure 7). The Wentworth LEP identifies that open cut mining is permissible with consent within this zone.</p> <p>The Rail Facility is situated on land that is zoned SP2 – Infrastructure (Rail Infrastructure Facility) and SP1 – Special Activities (Mining) under the Broken Hill Local Environmental Plan 2013 (Broken Hill LEP) (Figure 7). Development for the purpose of a Rail Facility is permissible under each of these zones.</p> <p>As a result, the Project is permissible with consent.</p>
<p>Other approvals (Consistent Approvals)</p>	<p>Section 4.42 of the EP&A Act identifies a range of approvals that must be applied consistently to any SSD consent granted. The following approvals will be required for the Project and are covered by this requirement.</p> <ul style="list-style-type: none"> • A mining lease issued under Part 5 of the Mining Act 1992 to permit mining of minerals. • An Environment Protection Licence under Chapter 3 the <i>Protection of the Environment Operations Act 1997</i> (POEO Act) to permit mining for minerals as the Project would exceed the 4ha disturbance threshold under Clause 29(2) of Schedule 1 of the POEO Act. • A permit under Section 138 of the Roads Act 1993 for works within the road reserves of Anabranck Mail Road, the Silver City Highway, Patton, Comstock and Eyre Streets and Holten Drive.
<p>Other approvals (EPBC Act Approvals)</p>	<p>Approval under the Commonwealth Government's <i>Environment Protection and Biodiversity Conservation Act 1999</i> is unlikely to be required as preliminary biodiversity assessments indicate that the Project would not result in significant adverse impacts to any Matter of National Environmental Significance.</p>
<p>Other approvals (Not integrated into the SSD Assessment)</p>	<p>Other approvals that would be required for the Project but are not covered by the provisions of Sections 4.41 (see below) or 4.42 of the EP&A Act are as follows.</p> <ul style="list-style-type: none"> • Water Access Licences issued under the <i>Water Sharing Plan for the NSW Murray Darling Basin (MDB) Porous Rock Groundwater Sources Order 2020</i> to account for groundwater inflows to the open cut pit and associated losses (operations and evaporative).

Matter	Project Relevance
	<ul style="list-style-type: none"> All necessary approvals from Wentworth Shire Council for construction, erection and/or placement of buildings, structures and appropriate sewage treatment systems for the Project.
<p>Other approvals (Not required)</p>	<p>Section 4.41 of the EP&A Act identifies that if development consent is granted for SSD the following relevant authorisations that would otherwise have been required for the Project are not required.</p> <ul style="list-style-type: none"> An Aboriginal Heritage Impact Permit under section 90 of the <i>National Parks and Wildlife Act 1974</i>. A water use approval under section 89 of the <i>Water Management Act 2000</i>. A water management work approval under section 90 of the <i>Water Management Act 2000</i>.

Figure 7 Land Zoning and Land with Environmental Constraints

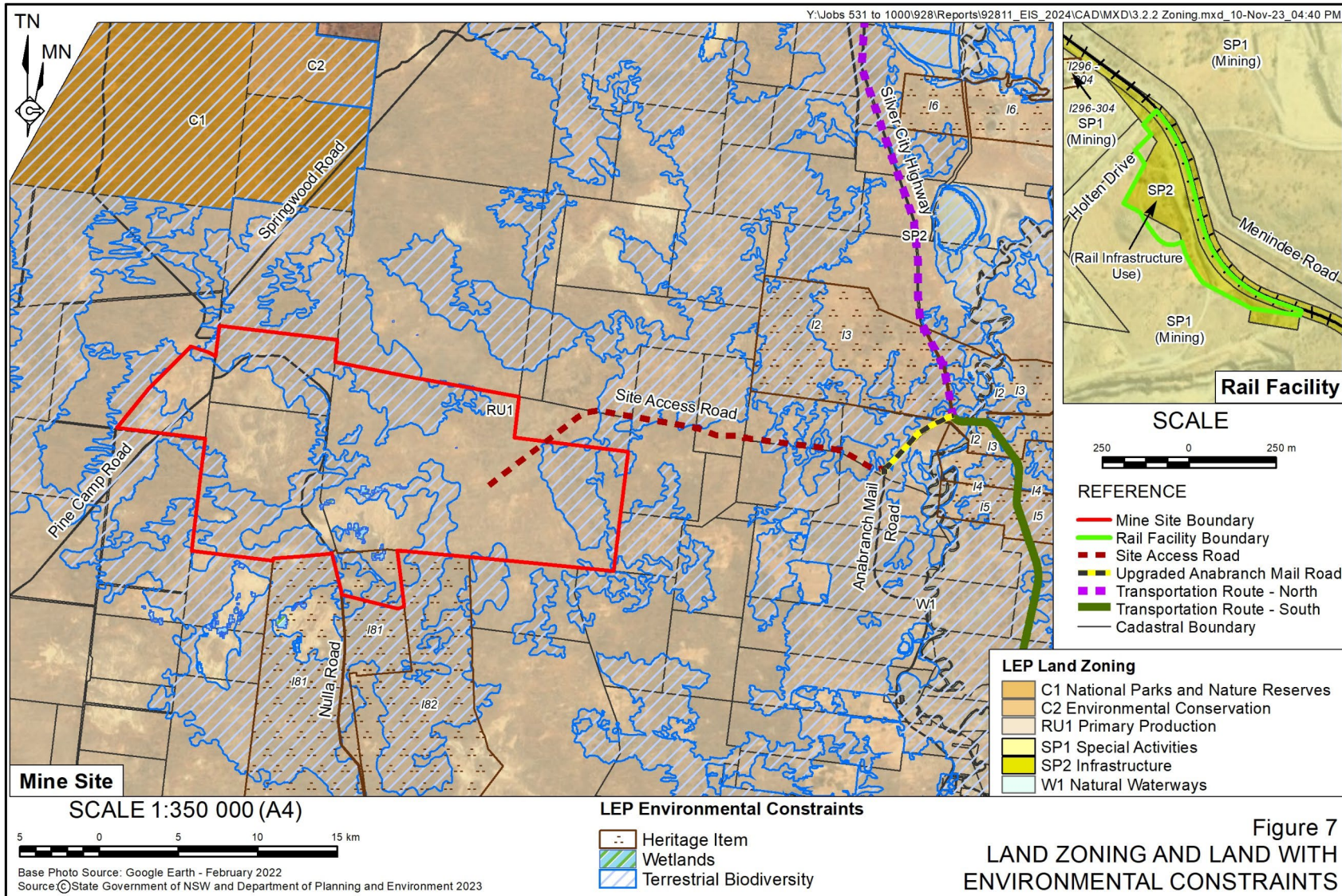


Table 5 Pre-conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
Biodiversity Conservation Act 2016 (BC Act)		
Section 7.16	<p>If the Minister for Planning is of the opinion that a proposed SSD is likely to have serious or irreversible impacts on biodiversity values, the Minister:</p> <ul style="list-style-type: none"> a) is required to take those impacts into consideration, and b) is required to determine whether there are any additional and appropriate measures that will minimise those impacts if consent or approval is granted. 	<p>The Project would result in removal of native vegetation and, as a result, a Biodiversity Development Assessment Report will be prepared to assess the anticipated Project-related impacts.</p>
Wentworth Local Environmental Plan 2011 (Wentworth LEP)		
Clause 2.3(2) (Zoning)	<p>The consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.</p>	<p>Open cut mining is permissible on land zoned as RU1.</p>
Clause 5.10(4) (Effect of proposed development on heritage significance)	<p>The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned.</p>	<p>The Mine Site includes land identified under the Wentworth LEP as “Heritage Item” (Figure 7). The identified Heritage Item would not be disturbed by the Project; however, an assessment of the anticipated impacts will be presented in the EIS.</p>
Clause 7.1(3) (Earthworks)	<p>Before granting development consent for earthworks (or for development involving ancillary earthworks), the consent authority must consider the following matters:</p> <ul style="list-style-type: none"> a) the likely disruption of, or any detrimental effect on, drainage patterns and soil stability in the locality of the development, b) the effect of the proposed development on the likely future use or redevelopment of the land, c) the quality of the fill or the soil to be excavated, or both, d) the effect of the proposed development on the existing and likely amenity of adjoining properties, e) the source of any fill material and the destination of any excavated material, f) the likelihood of disturbing relics, g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area, 	<p>The Project would result in disturbance of land. The matters identified in this Clause will be addressed in the EIS.</p>
Clause 7.4(3) (Terrestrial Biodiversity)	<p>Before determining a development application for development on land to which this clause applies, the consent authority must consider whether or not the development—</p>	<p>The Project would result in land identified as containing Terrestrial Biodiversity (Figure 7). As a result, a Biodiversity</p>

Statutory Reference	Pre-condition	Relevance
	<ul style="list-style-type: none"> a) is likely to have any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and b) is likely to have any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and c) has any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and d) is likely to have any adverse impact on the habitat elements providing connectivity on the land. 	Development Assessment Report will be prepared to assess the anticipated Project-related impacts.
Clause 7.4(4) (Terrestrial Biodiversity)	<p>Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—</p> <ul style="list-style-type: none"> a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or c) if that impact cannot be minimised—the development will be managed to mitigate that impact. 	The Project would result in land identified as containing Terrestrial Biodiversity (Figure 7). As a result, a Biodiversity Development Assessment Report will be prepared to assess the anticipated Project-related impacts
Clause 7.5(3) (Wetlands)	<p>When assessing a development application for development on land to which this clause applies, the consent authority must consider potential adverse impacts from the proposed development on—</p> <ul style="list-style-type: none"> a) the growth and survival of native flora and fauna, b) the condition and significance of the native flora on the land and whether it should be substantially retained, and c) the provision and quality of habitats for indigenous and migratory species, and d) the surface and groundwater characteristics of the site, including water quality, natural water flows and salinity, and e) any wetland in the vicinity of the proposed development and any proposed measures to minimise or mitigate those impacts 	The Project would result in land identified as containing Wetlands (Figure 7). As a result, the EIS will present an assessment of the potential impacts to the surface water and groundwater environment.
Clause 7.5(4) (Wetlands)	<p>Before granting consent to development to which this clause applies the consent authority must be satisfied that—</p> <ul style="list-style-type: none"> a) the development is sited, designed and managed to avoid potential adverse environmental impacts, or b) where an impact cannot be avoided, and having taken into consideration feasible alternatives, the proposed design, construction and operational management of the development will mitigate and minimise those impacts 	The Project would result in land identified as containing Wetlands (Figure 7). The matters identified in this Clause will be addressed in the EIS.
Broken Hill Local Environmental Plan 2013 (Broken Hill LEP)		
Clause 2.3(2) (Zoning)	The consent authority must have regard to the objectives for development in a zone when	Rail facilities are permitted without

Statutory Reference	Pre-condition	Relevance
	determining a development application in respect of land within the zone.	consent on land zoned SP1 and SP2.
State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP)		
Clause 3.12	<p>In determining an application to carry out development to which this Part applies, the consent authority must consider (in addition to any other matters specified in the Act or in an environmental planning instrument applying to the development):</p> <ul style="list-style-type: none"> a) current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development, and b) whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply, and c) in the case of development for the purpose of a potentially hazardous industry—a preliminary hazard analysis prepared by or on behalf of the applicant, and d) any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application), and e) any likely future use of the land surrounding the development. 	<p>Key risks associated with the Project pertain to noise, air quality, visual amenity, biodiversity, surface water and social impacts.</p> <p>An assessment of additional hazardous substances will be included in the EIS.</p>
Clause 4.6(1)	<p>A consent authority must not consent to the carrying out of any development on land unless:</p> <ul style="list-style-type: none"> a) it has considered whether the land is contaminated, and b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose. 	<p>The Project would not be situated on contaminated land and contamination levels within the Project Site will be compatible with the final land uses of agriculture and nature conservation.</p>
State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP)		
Clause 2.48(2)	<p>Before determining a development application (or an application for modification of a consent) for development to which this clause applies, the consent authority must—</p> <ul style="list-style-type: none"> a) give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and b) take into consideration any response to the notice that is received within 21 days after the notice is given. 	<p>The Applicant is consulting with TransGrid in relation to this matter and information in relation to that consultation will be presented in the EIS.</p>

Statutory Reference	Pre-condition	Relevance
Clause 2.119(2)	<p>The consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that—</p> <ul style="list-style-type: none"> a) where practicable and safe, vehicular access to the land is provided by a road other than the classified road, and b) the safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development as a result of— <ul style="list-style-type: none"> (i) the design of the vehicular access to the land, or (ii) the emission of smoke or dust from the development, or (iii) the nature, volume or frequency of vehicles using the classified road to gain access to the land. c) the development is of a type that is not sensitive to traffic noise or vehicle emissions, or is appropriately located and designed, or includes measures, to ameliorate potential traffic noise or vehicle emissions within the site of the development arising from the adjacent classified road. 	The EIS will include an assessment of Project-related impacts to the local transport network.
Clause 2.122(4)	<p>Before determining a development application for development to which this clause applies, the consent authority must—</p> <ul style="list-style-type: none"> a) give written notice of the application to TfNSW within 7 days after the application is made, and b) take into consideration— <ul style="list-style-type: none"> (i) any submission that RMS provides in response to that notice within 21 days after the notice was given (unless, before the 21 days have passed, TfNSW advises that it will not be making a submission), and (ii) the accessibility of the site concerned, including— <ul style="list-style-type: none"> a. the efficiency of movement of people and freight to and from the site and the extent of multi-purpose trips, and b. the potential to minimise the need for travel by car and to maximise movement of freight in containers or bulk freight by rail, and (iii) any potential traffic safety, road congestion or parking implications of the development. 	This is a matter for the consent authority.
State Environmental Planning Policy (Biodiversity and Conservation) 2021		
Section 3.6 to Section 3.8	<ul style="list-style-type: none"> 1) Before a council may grant consent to a development application for consent to carry out development on the land, the council must assess whether the development is likely to have any impact on koalas or koala habitat. 2) The council may be satisfied as to whether or not land is a potential koala habitat only on information obtained by it, or by the applicant, 	There is no suitable habitat for Koala within the Mine Site.

Statutory Reference	Pre-condition	Relevance
	<p>from a person who is qualified and experienced in tree identification.</p> <p>3) If the council is satisfied that the development is likely to have low or no impact on koalas or koala habitat, the council may grant consent to the development application.</p> <p>4) If the council is satisfied that the development is likely to have a higher level of impact on koalas or koala habitat, the council must, in deciding whether to grant consent to the development application, take into account a koala assessment report for the development.</p>	
State Environmental Planning Policy (Resources and Energy) 2021		
Section 2.16	Consent authority must be satisfied that consideration is given to development standards on particular matters related to mining that, if complied with, prevents the consent authority from requiring more onerous standards for those matters.	Each of the non-discretionary standards, with the exception of vibration, which is not relevant, will addressed in the EIS.
Section 2.17	<p>Before determining an application for consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must —</p> <ul style="list-style-type: none"> • consider the existing and approved land uses in the vicinity of the development, whether or not the development is likely to have a significant impact on the preferred land uses, and any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses • Evaluate the respective public benefits of the development and the land uses • Evaluate measures proposed by the Applicant to avoid or minimise any incompatibility 	Existing land uses include low intensity agriculture, transportation and, at substantial distances from the Mine Site, mining for mineral sands and other minerals.
Section 2.18	Consent authority must be satisfied that proper consideration is given to any applicable provisions of the voluntary land acquisition and mitigation policy	The Voluntary Land Acquisition and Mitigation Policy does not apply because the relevant assessment criteria are not expected to be exceeded.
Section 2.19(2)	<p>Consent authority must be satisfied that proper consideration is given to;</p> <ul style="list-style-type: none"> • the existing uses and approved uses of land in the vicinity of the development, and • whether or not the development is likely to have a significant impact on current or future extraction or recovery of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources), and • any ways in which the development may be incompatible with any of those existing or approved uses or that current or future extraction or recovery and, • evaluation of the respective public benefits of the development and the uses, extraction and recovery 	The Project would not be incompatible with surrounding land uses and would result in substantial additional public benefit when compared with the existing and potential future public benefit that may be obtained from the existing uses.

Statutory Reference	Pre-condition	Relevance
	evaluation of any measures proposed by the Applicant to avoid, minimise any incompatibility	
Section 2.20	<p>The consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following—</p> <ul style="list-style-type: none"> a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable, (b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable, (c) that greenhouse gas emissions are minimised to the greatest extent practicable. 	An assessment of water resources, threatened species and biodiversity, and greenhouse gas emissions will be included in the EIS.
Section 2.21	Consent authority must consider whether the Project will be carried out in such a way as to optimise the efficiency of recovery of minerals and to minimise the creation of waste in association with the extraction, recovery or processing of minerals.	An assessment of the efficiency of the recovery of the resource and reuse of materials has been included.
Section 2.22	Consent authority consider whether the Proposal is subject to any conditions that; require all or some of the transport of materials to not be by public road, limit or preclude truck movements that occur on roads in residential areas or near schools, and/or require the preparation of a code of conduct for the transport of materials on public roads.	The Applicant would transport heavy mineral products to the Railway Facility off Holten Drive in Broken Hill. With the exception of the Monazite Product (approximately 10,000tpa), all other product will be transported from the Rail Facility via rail. All road transportation would be undertaken on existing approved road train roads.
Section 2.23	<p>The consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring the rehabilitation of land that will be affected by the development</p> <p>In particular, the consent authority must consider whether conditions of the consent should—</p> <ul style="list-style-type: none"> a) require the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated, or b) require waste generated by the development or the rehabilitation to be dealt with appropriately, or c) require any soil contaminated as a result of the development to be remediated in accordance with relevant guidelines, or d) require steps to be taken to ensure that the state of the land, while being rehabilitated and at the completion of the rehabilitation, does not jeopardize public safety. 	The Applicant would backfill the Extraction Area and remove all infrastructure and plant not required for the final land use. The original surface topography would be re-established. Matters related to waste and contaminated soil management and public safety will be addressed within the EIS.

Table 6 Mandatory Matters for Consideration

Statutory Reference	Mandatory Consideration
Considerations under the EP&A Act	
Section 1.3	<p>Relevant objects of the Act:</p> <ul style="list-style-type: none"> • to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State’s natural and other resources, • to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment, • to promote the orderly and economic use and development of land, • to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats, • to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage), • to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State, • to provide increased opportunity for community participation in environmental planning and assessment.
Section 4.15	<p>Relevant environmental planning instruments.</p> <p>The EP&A Regulation – to the extent that it prescribes matters for the purposes of Section 4.15(1)(a)(iv) of the EP&A Act.</p> <p>The likely impacts of the development, including environmental impacts on both the natural and built environment, and social and economic impacts in the locality.</p> <p>The suitability of the site for the development.</p> <p>Any submissions made in accordance with the EP&A Act or the regulations.</p> <p>The public interest.</p>

5. Engagement

The Applicant has been an active member of the community within and surrounding the Mine Site, as well as Wentworth and the surrounding areas since exploration commenced in September 2017. Since mid-2018, the Applicant has employed a full-time Exploration Manager resident within the Wentworth LGA, with a number of personnel employed and on the ground at the exploration offices in Wentworth.

Given the size of the community in Wentworth and surrounding areas, the Applicant's personnel are well known within the community and, as a result, the community engagement strategy has evolved gradually and informally in accordance with the identified stakeholder strategy.

Engagement has been and continues to be undertaken to the extent practicable (with COVID-19 restrictions) in accordance with the Applicant's Community Engagement Strategy. The Strategy is consistent with the engagement in EIA guideline, *Undertaking Engagement Guidelines for State Significant Projects* (DPIE 2022).

The Applicant employs the following dedicated resources for community engagement:

- General Manager – Environment, Sustainability and Governance
- Health and Safety and Community Relations Advisor
- Environmental Advisor
- As well as other members of the Applicants teams such as Farm operator, Logistics Supervisor, Senior Geologist, GM- Exploration, Legal Counsel as well as a Chief Operations Officer who actively engage with landholders and the community.

All personnel employed by the Applicant hold stakeholder engagement responsibilities. The company also has implemented a sophisticated series of online stakeholder engagement tools and management processes to ensure all stakeholders are adequately consulted on the Project and that contact data and actions are recorded.

5.1 THE APPLICANTS' COMMUNITY ENGAGEMENT STRATEGY

The Applicant's Community Engagement Strategy was initially prepared in a manner consistent with the following documents published by the Department of Planning and Environment.

- Draft *Engagement in EIA* guideline (June 2019).
- Social Impact Assessment Guideline (September 2017).

The Strategy has been revised and updated to ensure it is also consistent with the following updated guidelines.

- *Undertaking Engagement Guidelines for State Significant Projects* (October 2022).
- *Social Impact Assessment Guideline* (October 2022 and February 2023).

The Strategy has been implemented throughout the design and planning phase of the Project, commencing in 2018, and during the preparation of this Environmental Impact Statement.

The overarching goals of the strategy are to:

- Work in a proactive way with local communities and stakeholders to build confidence and positive, enduring relationships.

- Enable the Applicant to establish a reputation as a good corporate citizen and neighbour, with a visible, ongoing commitment to maintaining a long-term presence in the Region and delivering enduring value to those living and working in the areas that the Project will serve.
- To meet the Applicant's key risk requirements for Community and Stakeholder Management.
- The key principles of the Applicant's Community Engagement Strategy remain as follows:
 - Openness and honesty – to provide at all times open and honest information about the Project from exploration prospect to resource definition, to project design and permitting as an SSD Project.
 - Approachable – encourage two-way communication with community members and stakeholders, offering various formal and informal opportunities for engagement with all sectors of the community.
 - Meaningful, relevant, and respectful – to deliver relevant and meaningful information to the community in respectful manner that is cognisant of community values, needs, and concerns.

The Wentworth LGA is a relatively small community with a resident population of approximately 7,500 people and many of the Applicant's management team and site personnel are well known within the local community. The engagement strategy has evolved both formally and informally over time as COVID-19 related restrictions were imposed and subsequently relaxed, permitting in-person consultation with community members, landholders and key stakeholders.

The Applicant has identified the following broad groups with particular interest in the Project.

- Landholders within the Mine Site and along Nulla and Anabranh Mail Road (direct impacts).
- Landholders in the vicinity of the proposed Mine Site (near neighbours).
- Residents of Wentworth and surrounds.
- Businesses within Wentworth and surrounds.
- Residents of Broken Hill in the vicinity of the proposed Northern Transportation Route, particularly residents of Wentworth Road, Patton Street, Comstock Street, Eyre Street and Holten Drive.
- Businesses within Broken Hill, particularly those located in the vicinity of the Patton Street and Comstock Street intersection.
- Community groups, including clubs, service organisations and special interest groups.
- Local Aboriginal Community.
- Local Councils (Wentworth and Broken Hill).
- Government and non-government service and infrastructure providers.
- Government regulators.
- Elected representatives (and advisors).

Table 7 presents the Applicant's Engagement Strategy with stakeholder groups for the Project. Landholder, stakeholder, and community consultation opportunities were significantly constrained during 2020 and 2021 due to travel restrictions imposed by the

COVID-19 pandemic. Implementation of the engagement strategy was reinvigorated from June 2021 onwards once restrictions were eased and lifted, with the reintroduction of face-to-face meetings with Landholders, near-neighbours, business, and community members, elected representatives at all levels of government and other interest groups.

Table 7 Engagement Strategy

Key Stakeholder	Consultation Methods	Frequency
Landholders within the Mine Site and along the Site Access Road and Anabranch Mail Road (direct impacts)	<ul style="list-style-type: none"> • Face-to-face/telephone discussions • Site visits/inspections • Negotiated access and other agreements 	<ul style="list-style-type: none"> • Throughout exploration and Project planning • Prior to, during and following site surveys • Once Project description available • Once preliminary environmental impact assessment results available
Landholders in the vicinity of the proposed Mine Site (near neighbours)	<ul style="list-style-type: none"> • Face-to-face/telephone discussions • Site visits/inspections • Post/email (for non-resident landholders) 	<ul style="list-style-type: none"> • Throughout exploration and Project planning • Once Project description available • Once preliminary environmental impact assessment results available (on request)
Residents of Wentworth and surrounds	<ul style="list-style-type: none"> • Information stall at the Wentworth Show • Face-to-face/telephone discussions • Public meetings/displays 	<ul style="list-style-type: none"> • Throughout exploration and Project planning • Once Project description available • During exhibition of the EIS
Businesses within Wentworth, and surrounds	<ul style="list-style-type: none"> • Face-to-face/telephone discussions • Public meetings/displays • Presentations to business groups • Consultation with selected suppliers 	<ul style="list-style-type: none"> • Throughout exploration and Project planning • Once Project description available • During exhibition of the EIS • During pre-procurement process
Residents of Broken Hill along the transportation route¹	<ul style="list-style-type: none"> • Media articles • Letter box drop • Community meeting 	<ul style="list-style-type: none"> • Once preliminary environmental impact assessment results available (on request)
Businesses within Broken Hill	<ul style="list-style-type: none"> • Media articles • Community meeting • Presentations to business groups 	<ul style="list-style-type: none"> • Throughout exploration and Project planning • Once preliminary environmental impact assessment results available

Key Stakeholder	Consultation Methods	Frequency
	<ul style="list-style-type: none"> • Consultation with selected suppliers 	<ul style="list-style-type: none"> • During pre-procurement process
Community groups, including clubs, service organisations and special interest groups	<ul style="list-style-type: none"> • Public meetings/displays • Presentation to meetings 	<ul style="list-style-type: none"> • Throughout exploration and Project planning • Once preliminary environmental impact assessment results available • During exhibition of the EIS
Local Aboriginal Community	<ul style="list-style-type: none"> • Formal consultation through cultural heritage assessment • Site visits/inspections 	<ul style="list-style-type: none"> • As per consultation guidelines (<i>Aboriginal Cultural Heritage Consultation Requirements for Applicants 2010</i>) • Once Project description available • Once preliminary environmental impact assessment results available

The Applicant has recorded over 300 individual discussions and engagements with the above groups. In general, those engaged have reported generally positive perception of the Project and Applicant. The following includes a high-level overview of the community's views and questions raised.

- Landholders
 - Generally positive, with commercial agreements either complete or in negotiation at the time of finalisation of this document.
 - At the time of finalisation of this document, the Applicant is in arbitration with the owner of "Huntingfield" and "Sunshine" in relation to access. The arbitration process is expected to be complete prior to submission of the EIS. In the event that a suitable arrangement for landholder consent is not in place at the time of submission of the EIS, the "Huntingfield" and "Sunshine" properties will be excluded from the Mine Site.
 - Questions raised principally related to the following.
 - Transportation, include site access and road upgrades.
 - Impacts to agricultural operations and impacts to the water line from the Great Darling Anabranh.
- Wider community - Wentworth
 - Very positive.
 - Questions raised principally related to the following.
 - Jobs, contracting opportunities and economic contributions.
 - Location, size, duration and scale of the Project.
 - Transportation, include site access and road upgrades.
 - Potential impacts to groundwater (middle and lower aquifer).
 - Rehabilitation of the Mine Site.

The Applicant will continue to engage with each of the identified stakeholders/stakeholder groups during preparation of the EIS as described in **Table 7**.

5.2 INDEPENDENT SOCIAL IMPACT ASSESSMENT

Element Environmental have been engaged by the Applicant to undertake a social impact assessment commensurate with the *Social Impact Assessment Guideline for State Significant Projects, February 2023*. As detailed in section 3.1 a scoping and initial assessment to determine the size and scale of likely social impacts of the project must be included in a scoping report. Appendix 2 details a summary of this initial assessment.

Element Environmental will undertake separate engagement to the Applicant as part of completing the independent social impact assessment.

5.3 CONSULTATION WITH GOVERNMENT AGENCIES

The Applicant has consulted extensively with government agencies in the preparation of the original EIS and this scoping report. Agencies consulted and details of those consultations will be reported in the EIS but in summary the Applicant has engaged with the following:

- Department of Planning, Industry and Environment
- Wentworth Shire Council
- Mildura Regional City Council
- Broken Hill City Council
- Biodiversity and Conservation Division
- Natural Resources Access Regulator and DPIE Water
- Transport for NSW
- Resources Regulator
- Water NSW
- NSW Department of Premier and Cabinet
- Engagement During Assessment

The Applicant proposes to undertake a range of engagement activities during the exhibition consistent with the methodology outlined in Table 7.

Additionally, the Applicant will undertake the following.

- Publication and distribution of fact sheets and information about the Project to the residents of Wentworth and surrounds.
- Preparation of a video and virtual information session to be made available on the Applicant's website.
- Presentation, on request, of information about the Project to community groups, individuals, and other stakeholders.

In all cases, community engagement would be undertaken in a COVID-safe manner, with virtual presentation preferred and strict social distancing for any face-to-face meetings.

6. Proposed Assessment of Impacts

6.1 EXISTING ENVIRONMENTAL STUDIES

A range of environmental investigations have already been undertaken by Specialist Consultancies, initially to identify the environmental constraints that needed to be taken into account by the Applicant during the design of the Project and subsequently, to assess the impacts of the Project as it was understood prior to May 2023.

The fields of study, specialist consultancies and lead consultants managed directly by the Applicant or by RWC on behalf of the Applicant are as follows:

- Groundwater - GEO-ENG - Mark Robertson (MAsc (Geological Engineering – Hydrogeology))
- Biodiversity - EnviroKey Pty Ltd - Steve Sass (BAppSc (EnvSc) (Hons)) – Director / Principal Ecologist
- Land and soil capability - Sustainable Soils Management Pty Ltd - Dr. Pat Hulme (BScAg (Hons), PhD) – Managing Director
- Traffic - Tonkin Consulting Pty Ltd - Mr Nicholas Firth BEng(Civil and Structural)(Hons) – Senior Engineer
- Noise - Muller Acoustic Consulting Pty Ltd - Mr Dale Redwood (B.Sc) – Senior Acoustic Consultant
- Air Quality - Northstar Air Quality Pty Ltd - Dr Martin Doyle (BSc(hons), PhD, AAQual) – Director
- Social Impacts – Element Environmental - Dr Jamie Seaton
- Economic Impacts - Synergies Economic Consulting Pty Ltd - Mr Daniel Culpitt (BEcon) – Director
- Rehabilitation – Ecotypic Pty Ltd - Mr Timothy Zwiarsen and Swainsona Seed Services - Ms Alice Quarmby.

6.2 MATTERS REQUIRING FURTHER ASSESSMENT IN THE EIS

Table 8 presents the matters requiring further assessment in the EIS, having regard to the requirements of Section 3.6 and Appendices B to E of *State significant development guidelines – preparing a scoping report*.

Table 8 Matters requiring further assessment in the EIS

MATTER	EXISTING ENVIRONMENT	POTENTIAL IMPACTS	LEVEL OF ASSESSMENT	PROPOSED ASSESSMENT
Access to property Traffic and parking Road and rail facilities Public infrastructure	<p>Anabranch Mail Road and the Silver City Highway are local and State roads respectively and do not operate near its respective design capacities.</p>	<p>Increased traffic levels</p> <p>Existing intersections not fit-for-purpose</p> <p>Onward rail transportation to be undertaken under separate approval</p>	Detailed	<p>A traffic assessment will be undertaken to assess the proposed Project-related road transport infrastructure with respect to existing transport infrastructure and traffic conditions. The design of the construction and upgrading works would be developed in consultation with Wentworth Shire Council and Transport for NSW. Indicative layouts of the Site Access Road and upgrading works will be included in the EIS.</p> <p>Any potential impacts of the project within Broken Hill will be assessed as part of the EIS.</p>
Atmospheric emissions Gases Particulate matter	<p>The Mine Site is typical of a rural environment in western NSW, with limited industrial pollutants but abundant particulate matter</p>	<p>Increased particulate emissions.</p> <p>Increased gaseous emissions (including greenhouse gas emissions)</p>	Detailed	<p>Detailed assessment in accordance with the Approved methods for modelling and assessment of air pollutants in NSW will be undertaken, including an analysis of potential emissions both of greenhouse gases and particulate matter.</p>

MATTER	EXISTING ENVIRONMENT	POTENTIAL IMPACTS	LEVEL OF ASSESSMENT	PROPOSED ASSESSMENT
Noise	The Mine Site is typical of a rural environment in western NSW, with noise emissions associated with agricultural operations and animal/insect/wind noise	Increase noise levels	Detailed	Detailed assessment in accordance with the Noise Policy for Industry will be undertaken to predict the received noise levels under different operational scenarios and under predominant meteorological conditions. A range of design and operational safeguards will be incorporated into the Project in order to achieve compliance with applicable noise criteria.
Visual	The Mine Site is situated in a very remote area with limited neighbours and little to no through traffic.	Indirect, distant views only	Standard	An assessment of sight lines from the nearest residences would be undertaken and figures prepared for the EIS
Terrestrial flora and fauna	<p>The biodiversity assessments to date identify the following within the Mine Site</p> <p>One endangered flora species, namely <i>Astrostipa nullanulla</i>.</p> <p>A total of eight Plant Community Types (PCTs), with one listed as an endangered ecological community under the NSW Biodiversity Conservation Act 2016 and a second associated with the Eastern Mallee Bird Community endangered ecological community listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999</p> <p>No threatened or migratory fauna species have been recorded.</p>	Clearing of native vegetation and loss of ecological values	Detailed	<p>A comprehensive Biodiversity Development Assessment Report is being undertaken.</p> <p>Appropriate design and operational safeguards will be investigated, including rehabilitation goals of disturbed lands, as well as effective management of lands not to be disturbed.</p> <p>A potential stewardship site is also being investigated for lands adjacent to the Project.</p>

MATTER	EXISTING ENVIRONMENT	POTENTIAL IMPACTS	LEVEL OF ASSESSMENT	PROPOSED ASSESSMENT
Natural Resources use Livelihood Opportunity cost	The economy of the Wentworth LGA is dominated by agriculture, with limited contribution from mining.	Largely positive	Detailed	An economic assessment prepared in accordance with Guideline for the Economic Assessment of Mining and Coal Seam Gas Proposals will be prepared
Flooding Bushfire Dangerous goods Waste	The Mine Site is not located in the vicinity of any major rivers and is dominated by internally draining salt pans and deflation basins. Limited vegetation exists that would sustain a bushfire. The Monazite product would be classified as a radioactive material. Waste (overburden, interburden and tailings) would be managed on site. All other waste would be removed from site.	Nil flooding impacts Limited bushfire or waste impacts Hazardous goods would be managed in accordance with the Dangerous Goods Code	Standard	A Surface Water Assessment will be prepared to address flooding. A Radiation Management Plan will be prepared to address radiation-related matters. The EIS will address waste and bushfire matters
Heritage (Aboriginal and historic)	Surveys have to date identified 122 sites with Aboriginal objects, including: isolated finds; artefact scatters; hearth; and one scar tree. Two historic heritage sites have also been identified	A number of Aboriginal objects will be disturbed. No historic heritage sites will be disturbed	Detailed	Detailed Assessment in accordance with Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010 and Assessing Significance for Historical Archaeological Sites and 'Relics' 2009 of the proposed disturbance footprint will be undertaken, and the significance of any identified objects will be assessed in accordance with the relevant guidelines. The approach to the salvage and curation of any identified artefacts or sites within areas to be disturbed would be

MATTER	EXISTING ENVIRONMENT	POTENTIAL IMPACTS	LEVEL OF ASSESSMENT	PROPOSED ASSESSMENT
				discussed with all Registered Aboriginal Parties.
Stability Soil chemistry Land capability Topography	<p>The Mine Site is largely flat, with poor quality soils and low land capacity</p>	<p>Soils improperly stripped or placed and therefore not suitable for rehabilitation</p>	<p>Detailed</p>	<p>The EIS will detail the soil values and land capability for the proposed mining area.</p> <p>A Rehabilitation Management Plan, as per the requirements of the legislation is being prepared for submission with the EIS.</p> <p>In addition, a Water Management Plan that would include an Erosion and Sediment Control Plan would be prepared and implemented.</p> <p>All three plans will incorporate measures to protect existing soil values and significant topographical features.</p>
Way of life Community Accessibility Culture Livelihoods	<p>The area surrounding the Mine Site is very sparsely populated with large distances between residences.</p> <p>Statistical data for the Wentworth LGA indicates a range of challenges, including higher levels of disadvantage when compared with other areas in Australia, a high reliance on agriculture and limited services within the LGA.</p>	<p>The Project is expected to have a significant positive impact for the local economy with a minor impact on the underlying landholders which may be reduced through purchase or compensation agreements.</p> <p>There may be some impacts on road users which will be addressed in the traffic</p>	<p>Detailed</p>	<p>A Social Impact Assessment (SIA) will be prepared in accordance with the Social Impact Assessment Guideline to ascertain the social characteristics and views of the local community and will recommend measures for the Applicant to adopt. Appendix 2 presents the Social Impact Assessment Summary Table prepared for the (SIA).</p>

MATTER	EXISTING ENVIRONMENT	POTENTIAL IMPACTS	LEVEL OF ASSESSMENT	PROPOSED ASSESSMENT
		management section of the EIS.		
<p>Hydrology Water quality Water availability</p>	<p>Surface water drainage within and in the vicinity of the Mine Site is characterised by a series of internally draining surface depressions with indistinct, ephemeral watercourses that only flow immediately following rainfall. Surface water flows would be very unlikely to overtop these depressions even under a maximum probable rainfall event.</p> <p>The existing groundwater includes three non-connected groundwater systems as follows.</p> <p>An upper, highly saline system hosted by the Loxton-Parilla Sands which also hosts the Cipi deposit.</p> <p>A middle and lower groundwater system with less saline groundwater.</p> <p>There are 13 registered bores within 20km of the Mine Site, none of which are screened within the Loxton-Parilla Sands.</p> <p>There are mapped groundwater dependent ecosystems within the Mine Site.</p>	<p>Surface water - nil Groundwater - inflows to the Extraction Area and losses via evaporation</p>	<p>Surface water – standard Groundwater – detailed</p>	<p>A surface water assessment identifying the location and size of exclusion bunds will be prepared.</p> <p>A Groundwater Impact Assessment will be undertaken that will include the development of a Peer Reviewed groundwater model. The assessment would also include an assessment of potential impacts on local and regional groundwater resources throughout the life of the Project recommending impact mitigation measures and management techniques, and an appropriate monitoring program.</p>

6.3 MATTERS REQUIRING NO FURTHER ASSESSMENT

TABLE 10 MATTERS FOR NO FURTHER ASSESSMENT

Group	Matter for no further assessment	Rationale
Access	Port and airport facilities	There are no port or airport facilities in NSW impacted or likely to be impacted as the result of the Project.
Amenity	Vibration	Due to the sandy nature of the proposed Mine Site, and the distances from any vibration sensitive receptor, the Project is not expected to have any vibrational impacts.
	Odour	The processing and operation of the mine, mine infrastructure and ancillary infrastructure (gas fire power plant) will not generate odours that may impact on a sensitive receptor.
Biodiversity	Conservation areas Aquatic Flora and Fauna	The Project is not adjacent to, or within, any zone of influence of a conservation area. Nor does any aquatic flora and fauna exist within the Mine Site.
Built environment	Private Property Public land Design quality	The Project is situated across three pastoral stations. No Public land will be affected by the Project or product transport.
Hazards and Risks	Biosecurity Groundwater contamination Coastal hazards Hazardous and offensive development Dams safety Land contamination Land movement Environmental hazards	The Project would be unlikely to adversely impact on any of the identified risks

7. Appendices

APPENDIX 1 SCOPING SUMMARY TABLE

Level of assessment	Specific matters of relevance to the project	CIA required?	Engagement	Relevant government plans, policies, guidelines
Detailed	Traffic	No	General	Guide to Traffic Generating Development (RTA). Road Design Guide (RMS) & relevant Austroads Standards
Detailed	Air Quality	No	General	Protection of the Environment Operations (Clean Air) Regulation 2002 Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA) Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA) National Greenhouse Accounts Factors (Commonwealth)
Detailed	Noise	No	General	NSW Noise Policy for Industry (EPA) Interim Construction Noise Guideline (EPA) NSW Road Noise Policy (EPA) Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC)
Detailed	Water	CIA	General	Aquifer Interference Policy (DPIE-Water) Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom) Managing Urban Stormwater: Soils and Construction Volume 2 (DECC) Australian and New Zealand Guidelines for

				Fresh and Marine Water Quality (ANZECC) Using the ANZECC Guidelines and Water Quality Objectives in NSW (DEC)
Detailed	Aboriginal Cultural Heritage	CIA	Specific	Code of Practice for the Investigation of Aboriginal Objects in New South Wales (DECCW) Aboriginal Cultural Heritage Consultation Requirements for Applicants (DECCW)
Detailed	Heritage	CIA	General	Assessing Heritage Significance (DoP)
Detailed	Biodiversity	CIA	General	Biodiversity Assessment Methodology (OEH)
Detailed	Soils	CIA	General	Acid Sulfate Soils Assessment Guidelines (DoP)
Detailed	Social	CIA	Specific	Social Impact Assessment Guidelines for State Significant Projects (DPIE)
Standard	Hazards and Risks	CIA	General	Waste Classification Guidelines (DECCW) State Environmental Planning Policy (Resilience and Hazards) 2021 (DoP)
Standard	Visual	No	General	Nil

APPENDIX 2 SOCIAL IMPACT ASSESSMENT SCOPING SUMMARY TABLE

7 November 2023

Mitchell Bland
Principal/Managing Director
R.W. Corkery & Co.
Via email: Mitchell@rwcorkery.com



PO Box 1563
Warriewood
NSW 2102

ABN 45 162 835 083

Dear Mitchell

Re: Copi Mineral Sands Social Impact Assessment (SIA) – preliminary scoping results

Element Environment (Element) understands that a meeting between RW Corkery & Co (RWC) and NSW Department of Planning and Environment (DPE) was held in late October to discuss the scoping report for the Copi Mineral Sands Environmental Impact Statement (EIS) (the project). Element understands DPE requested at the meeting that the scoping report be amended to include SIA scoping results. This letter responds to DPE's request.

Below I provide some background information, the status of the SIA, and the SIA preliminary scoping results to append to the EIS scoping report.

Background

In April 2022 RZ Resources submitted a Secretary's Environmental Assessment Requirements (SEARs) request to DPE for the project. The project was granted its SEARs on 19 May 2022.

Subsequent to its receipt of the SEARs, RZ Resources prepared a SIA report outlining the results of its assessment of the project.

Following a review of the SIA report, DPE requested a SIA be prepared in accordance with the SIA Guideline published by DPE. Element was engaged by RWC in September 2023 to conduct this revised SIA.

Element has commenced its work by:

- Verifying past consultation and engagement methods adopted by the project team
- Collecting new and verifying existing secondary data assessed in the project's initial SIA
- Liaising with RWC and RZ Resources personnel to verify aspects of the new project design
- Populating DPE's SIA scoping worksheet and categorising the project's potential social impacts
- Developing the upcoming community and stakeholder engagement program, and the SIA methodology.

Preliminary scoping results

Element has populated DPE's SIA scoping worksheet with the results of its SIA scoping activities. A copy of the worksheet is provided in **Attachment 1**. The project's potential social impacts (both positive and negative) contained in the worksheet will be further investigated in Stage 2 of the SIA.

Upcoming stakeholder engagement and SIA tasks

Element is preparing to conduct community and stakeholder engagement activities, and the remainder of the SIA tasks in accordance with the DPE Social Impact Assessment Guideline. Element will conduct the next steps in the SIA:

- Collecting additional social data as required, to address the project design changes
- Engagement and consultation with:
 - Landholders in both Wentworth and Broken Hill LGA's, including landholders whose properties adjoin the Mine Site and Site Access Road.
 - The Local Aboriginal Land Council in Wentworth
 - Local councils at Wentworth and Broken Hill
- A field trip to site, Wentworth and Broken Hill to conduct face-face engagement activities
- Consistent with the SIA Guideline, authoring the SIA report which will comprise part of the EIS submission to DPE.

Submission

Element welcomes feedback from RWC and DPE in relation to the progress of the SIA and the preliminary SIA scoping results submitted herein.

Regards

A handwritten signature in black ink, appearing to read 'J Seaton'.

Dr Jamie Seaton
Principal, Engagement and Social

0466413645

Social Impact Assessment (SIA) Worksheet																	
PROJECT ACTIVITIES	CATEGORIES OF SOCIAL IMPACTS			POTENTIAL IMPACTS ON PEOPLE			PREVIOUS INVESTIGATION OF IMPACT		CUMULATIVE IMPACTS		ELEMENTS OF IMPACTS - Based on preliminary investigation			ASSESSMENT LEVEL FOR EACH IMPACT		What methods and data sources will be used to investigate this impact?	
	what social impact categories could be affected by the project activities	What impacts are likely, and what concerns/aspirations have people expressed about the impact? Summarise how each relevant stakeholder group might experience the impact. NB: Where there are multiple stakeholder groups affected differently by an impact, or more than one impact from the activity, please add an additional row.	Is the impact expected to be positive or negative	Has this impact previously been investigated (on this or other project(s))?	If "yes - this project," briefly describe the previous investigation. Identify the other project and investigation	Will this impact combine with others from this project (think about when and where), and/or with impacts from other projects (cumulatively)?	If yes, identify which other impacts and/or projects	Will the project activity (without mitigation or enhancement) cause a material social impact in terms of its: duration or extent i.e. number of people potentially affected?	Will the project activity (without mitigation or enhancement) cause a material social impact in terms of its: sensitivity or vulnerability of people potentially affected?	Level of assessment for each social impact	Secondary data	Primary Data - Consultation	Primary Data - Research				
Which project activity/ activities could produce social impacts?																	
Employment, training, contracting and other economic opportunities	livelihoods	Potential for landholders to be contracted to manage neighbouring station owned by component. Also potential for supply agreement - for machinery providing employment opportunities to local contractors. Income for families.	Positive	Yes - other project	Current Broken Hill Cobalt Project. Investigations included economic contribution to the region by engaging local contractors and purchasing locally	Unknown	Yes	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Community donations and investments (eg. investing in the pavilion)	community	Potential positive impact to community through investment to the pavilion, and potential positive impact in providing 50k grant for 3 year research for PhD student to conduct research on rare Nulla grass.	Positive	Yes - other project	Broken Hill Cobalt Project. Investigation included opportunities for community enhancement.	Unknown	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Economic opportunities	community	Potential positive impacts to community through gravel supply to local council to further road development and financial compensation to landholders	Positive	Unknown		Unknown	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Agricultural impacts - biosecurity risks	health and wellbeing	Landholder expressed anxiety around perceived safety surrounding biosecurity and the cleaning frequency.	Negative	Unknown		Unknown	No	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Transportation related impacts on public roads	health and wellbeing	Landholder concerns with increasing traffic along road where young children play and live.	Negative	Yes - other project	Broken Hill Cobalt Project. Investigations surrounding traffic impacts	Unknown	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Amenity Related impacts	surroundings	Concerns with dust and speed limits on Nulla Road haul route, concerned with health and safety issues related to speed limits and excess dust due to unsealed road.	Negative	Yes - other project	Broken Hill Cobalt Project. Investigation demonstrate dust level are in excess for maximum total deposited dust level.	Unknown	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Service impacts	access	The influx of mine workforce would increase likelihood of injury/accidents in the area. Lack of mobile reception hampers the possibility of contacting emergency services to tender medical assistance. This poses a potential negative health/wellbeing impact.	Negative	No		Unknown	Yes	Unknown	No	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Service impacts	access	Design and registration of RFDS strip located at the mine would positively influence the community's access to emergency services.	Positive	Unknown		Unknown	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Amenity related impacts	health and wellbeing	Potential impacts to landholders health and wellbeing when mine is operational relating to light, noise and traffic impacts	Negative	Yes - other project	Hawson Iron Ore Project. Investigation into increased noise from construction, drilling and blasting operations.	Unknown	No	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Physical impacts	livelihoods	Potential impact to water storage from drilling near landholder dam which could affect crop and sheep farming.	Negative	Yes - other project	Current Broken Hill Cobalt Project. Investigations into altered land uses: supply of water for live stock and physical access	Unknown	Unknown	Unknown	Unknown	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Transportation related impacts on public roads	livelihoods	Concerns around potential livelihood impacts resulting from sheep being hit by cars on Renmark/Nulla Rd/Springwood.	Negative	Yes - other project	Broken Hill Cobalt and Hawson Iron Ore Projects. Investigation into impacts surrounding management of livestock movement and fencing requirements.	Unknown	Yes	Yes	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research				
Employment, training, contracting and other economic opportunities	culture	Potential impacts to livelihood through Aboriginal employment by way of apprenticeships, seed collection etc.	Positive	Yes - other project	Broken Hill Cobalt Project. Investigation included economic advancement for Aboriginal Community including training, education and access to employment	Unknown	Unknown	Unknown	Yes	Detailed assessment of the impact	Required	Broad consultation	Targeted research				