COPI MINERAL SANDS PROJECT
SCOPING REPORT

April 2022

DOCUMENT CONTROL

RZ Resources Limited GPO Box 2367, Brisbane QLD 4000 Australia Ph: 0408 766 186 ABN: 23 160 863 892 www.rzresources.com	Document:	RZ_Resources_Copi_Mineral_Sands_Scoping_Report_20220321.docx
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	Project Manager:	Paul Smith
	Author:	Paul Smith
	Client:	RZ Resources Limited
	Contact:	Paul Smith / Logan Francis
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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 (**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 22km. The deposit width varies between a few hundred metres to 4km (expected to increase as exploration continues), with an average orebody thickness of 40m. The deposit is overlain by up to 20m of sediment (overburden) cover. The mineral assemblage of the deposit is dominated (54%) by ilmenite ($FeTiO_3$) but also contains high value zircon ($ZrSiO_4$, 11.3%), rutile (TiO_2, 10.8%) and the alteration product leucoxene (10.0%).

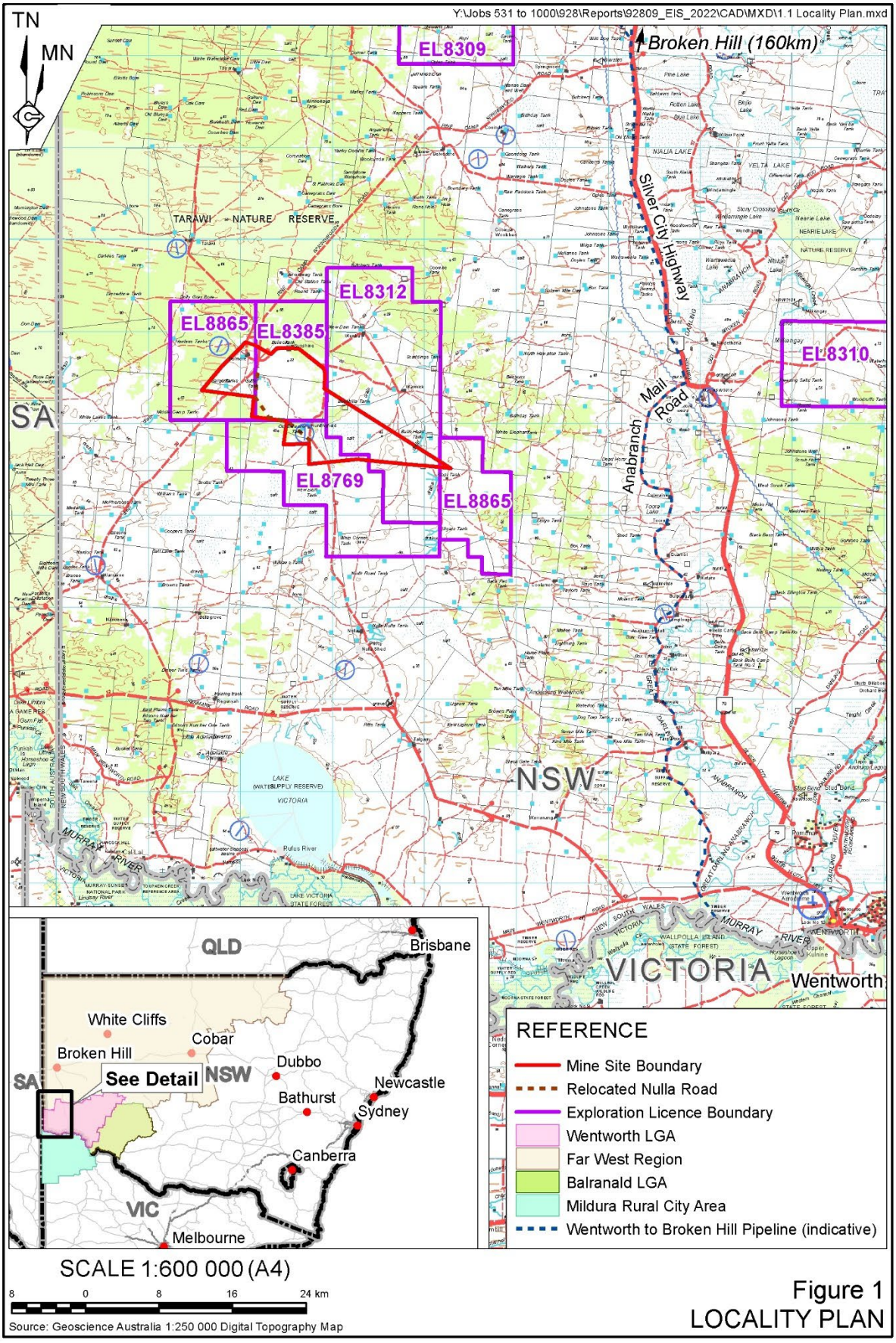
The Project-life would be up to approximately 30 years, comprising:

- A construction period of approximately 1.5 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**:

- Dredge mining operation to extract between 35 - 45 million tonnes per annum (Mtpa) of ore material.
- On-site processing of extracted ore to produce an average of 350,000tpa of heavy mineral concentrate via:
    - A floating wet processing plant for screening and gravity separation.
    - A shore-based concentrate upgrade and fresh water wash process.
- An initial box cut tails and overburden placement cell offset to the mine path
- Progressive tailings, overburden cells behind the mine path
- large water and tails storage dam.
- A ~30MW solar, wind and gas (liquid natural gas) combination power station
- A range of ancillary infrastructure, including:
    - mine laydown area and workshop;
    - weighbridge;
    - water management and storage infrastructure;
    - administration buildings, amenities, car park and mine team member accommodation;
    - internal roads; and
    - rehabilitation related greenhouse, laboratory, reverse osmosis and other support services infrastructure

Figure 1 Locality Plan



As a mineral sands 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 (State and Regional Development) 2011* (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, to be prepared in accordance with the provisions of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and to address the yet to be provided 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 (DPIE, 2021)* for circulation to the Department of Planning Environment (DPE), other relevant State government agencies, the Wentworth Shire Council and the local and wider communities.

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 that is based in 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 in Pinkenba, Queensland. This acquisition of the only mineral separation plant located on the east coast of Australia represents the Applicant's long-term strategic commitment to discovering and developing minerals sand resources.

1.3 Project Summary

As noted in Section 1.1, The Applicant is proposing to develop and operate an open cut mine approximately 75km northwest of Wentworth, NSW. The proposed mine would extract and process heavy mineral ore to produce a heavy mineral concentrate. Produced concentrate would then be transported via road to Broken Hill for loading and despatch by rail to the mineral separation plant at Pinkenba, Brisbane.

Table 1 presents a summary of the Project, including the nominal project components that would be located within the boundary of the proposed Mine Site (refer **Figure 1**).

Table 1 Project Summary

Project Component	**Summary of the Project**
Mining Method	Dredge mining operation from open excavation.
Resource	Heavy mineral placer deposit approximately 22km long, of varying width (between 100m and 4,000m) and up to 80m below the surface.
Total Recoverable Resource	Up to 818Mt at 1% total heavy mineral, with the percentage of heavy mineral components.
Annual Production	Mining and processing up to 45Mtpa of ore material, to produce an average of 350,000tpa (dry) of heavy mineral concentrate (zircon and TiO_2 rich products).
Mine Life	~30+ years, comprising 1.5 years of construction, 20+ years of mining and 5 years of rehabilitation.
Total Resource Recovered	Approximately 8.2Mt of heavy mineral products.
Disturbance Area	Approximately 5,000ha (all disturbance).
Beneficiation	Wet screening followed by gravity at Copi, and magnetic and electrostatic separation at the mineral separation plant.
Management of Mining Waste	Slimes and tailings would be returned to the open cut void. Oversize material would be screened and stockpiled within the open cut. Tailings and overburden would initially be placed out-of-pit, with subsequent material placed within the open cut.
General Infrastructure	On-site infrastructure would include: • heavy mineral product washing and refining treatment plant; • reverse osmosis water unit; • truck loading and weighing facility; • fuel storage; • mine camp; and • administration, workshop, stores and amenities buildings. The relocation of Nulla Road would also be required at approximately years 10 - 12 of mining operations. This relocation would re-direct Nulla Road along the southern boundary of the proposed Mine Site to with Pine Camp / Springwood Road south of the current intersection.
Power	A 30MW combined solar, wind and gas power station would be constructed parallel to the mine path. The gas generators would be installed during site establishment with construction of the solar power station following commencement of mining operations.
Product Transportation	Road transportation via Pine Camp / Springwood Road and the Silver City Highway using AB-quad or triple road trains to a rail siding in Broken Hill. Rail transportation to the Applicant's mineral separation plant at Pinkenba, Queensland.

<table>
<tr><th>Project Component</th><th>Summary of the Project</th></tr>
<tr><td>Water Management</td><td>Previous groundwater investigations have identified the aquifer hosting the deposit is highly saline. Dredging operations would be reliant on groundwater inflows to the open cut pit to form the pond upon which the dredge and concentrator would be floated.
To support efficient dredging operations, the Applicant is presently assessing two dredge pond water level management options, namely:
1. Option 1 pond water level manipulation via the removal and evaporative disposal of saline groundwater inflows using a Solar Drying and Infiltration Dam with evaporative products (salt) harvested and sold.
2. Option 2 mining operations using dredges capable of deep mining (up to 60m depth). Under this option, a Solar Drying and Infiltration Dam would not be required as pond water level manipulation would not be needed to facilitate mining.
As dredging operations progress across the deposit, oversize and slimes from the wet processing plant would be returned to the mining void as tailings directly behind the mining equipment.
No fresh makeup water would be required for mineral processing.
A reverse osmosis unit would be used to produce reduced salinity water for camp amenities, maintenance, concentrate washing and dewatering and dust control where required.</td></tr>
<tr><td>Operational Workforce</td><td>Construction: approximately 250 persons
Operations: approximately 200 persons
Rehabilitation: approximately 40 persons</td></tr>
<tr><td>Hours of Operation</td><td><table>
<tr><th>Activity</th><th>Proposed Days of Operation</th><th>Proposed Hours of Operation</th></tr>
<tr><td>Land preparation</td><td>7 days per week on a campaign basis</td><td>7:00am to 5:00pm</td></tr>
<tr><td>Construction operations</td><td>7 days per week</td><td>24 hrs per day</td></tr>
<tr><td>Mining operations</td><td>7 days per week</td><td>24 hours per day</td></tr>
<tr><td>Processing operations</td><td>7 days per week</td><td>24 hours per day</td></tr>
<tr><td>Transportation operations</td><td>7 days per week</td><td>24 hours per day</td></tr>
<tr><td>Maintenance operations</td><td>7 days per week</td><td>24 hours per day</td></tr>
<tr><td>Rehabilitation operations</td><td>7 days per week</td><td>7:00am to 7:00pm</td></tr>
</table></td></tr>
<tr><td>Capital Investment</td><td>Approximately $250 - $400 million pending chosen commercial strategy</td></tr>
</table>

1.4 Project Objectives

The objectives of the Project would be as follows.

- To safely and economically mine the identified mineral sand reserves.

- 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, agriculture, or following receipt of additional approvals 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

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; and
- EL8769.

Further information on the Mine Site, including lots, deposited plans and land zoning is provided in Section 3.2.

Regional Geology

The Mine Site is situated within the central Murray Basin. The Murray Basin is a 300,000km^2, Cenozoic, intracratonic, sedimentary (marine and terrestrial) basin with low relief.

During the Tertiary period, up to 600m of sediments accumulated over the Palaeozoic to Mesozoic basement. The eastern portion of the basin contains the record of paleo-shorelines, extending in a south westerly direction from 500km inland to the present coast.

Figure 2 presents the regional and local geology. The basal units of the Murray Basin are the Renmark Group. The earliest unit of the Renmark Group, the Warina Sand is overlain by the Olney Formation and deep marine limestone and marls of the Murray Group in the western part of the basin; shallow marine Gerra Clay in the central portion and shallow regressive sands of the Upper Renmark Group in the east. After an upper Miocene hiatus, periods of transgressive and progressive sedimentation formed the river and lake sands of the Calivil Formation in the east and the clays and marls of the Bookpurnong Formation in the centre and west of the basin. The economically significant unit of the Loxton-Parilla Sands formed during the early Pliocene during a marine transgression and subsequent regression. Reworking of this material allowed for the concentration of coarse-grained heavy minerals in beach strandlines and finer grained heavy minerals in deeper marine environments. The Loxton-Parilla Sands are disconformably overlain by the non- marine Blanchetown Clay. Where the Blanchetown Clay

is absent, the Loxton-Parilla Sands is disconformably overlain by the Holocene aeolian Woorinen Formation which forms the red sand dunes on the surface that is characteristic of the present-day Mallee landforms.

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 (see **Figure 2**).

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.

Mineral Resources and Reserves

Whilst a number of strandline type deposits are identified as being present within the Mine Site, the target orebody for the Project is a strandline-type, continuous mineral sand placer deposit formed by three ancient beach strandlines that are stacked on top of each other. These strandlines have formed a deposit with a low-grade core that is surrounded by a high grade upper and lower orebody containing similar assemblages of ilmenite-rutile-zircon-leucoxene and other rare earth metals (Monazite and Xenotime). The mineral assemblage of the deposit is dominated (54%) by ilmenite ($FeTiO_3$) but also contains high value zircon ($ZrSiO_4$, 15.04%), rutile (TiO_2, 13.4%) and the alteration product leucoxene (10.0%).

The upper, lower and mid 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 4km (expected to increase as exploration continues). The average orebody thickness of 40m and a maximum thickness of approximately 60m.

Table 2 presents a JORC compliant Mineral Resource for the current Copi orebodies that was undertaken by Optiro Pty Ltd in 2021 (Optiro, 2021). Optiro estimated that the deposit contained a total Mineral Resource of 818Mt at 1% total heavy mineral within the 80% revenue factor optimised mine plan pit shell. The deposit is characterised by low slimes (<5%) and minimal oversize (<8%).

The resource data shown on **Table 2** is based on data from approximately 16,300m of drilling in 547 vertical reverse circulation drill holes undertaken by previous holders of the exploration titles, Iluka Resources Limited and Broken Hill Minerals Pty Ltd. 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 open cut optimisation studies completed to date indicate the mineable ore within the preliminary open cut pit is estimated to be approximately 818 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.

Figure 2 Regional and Local Geology

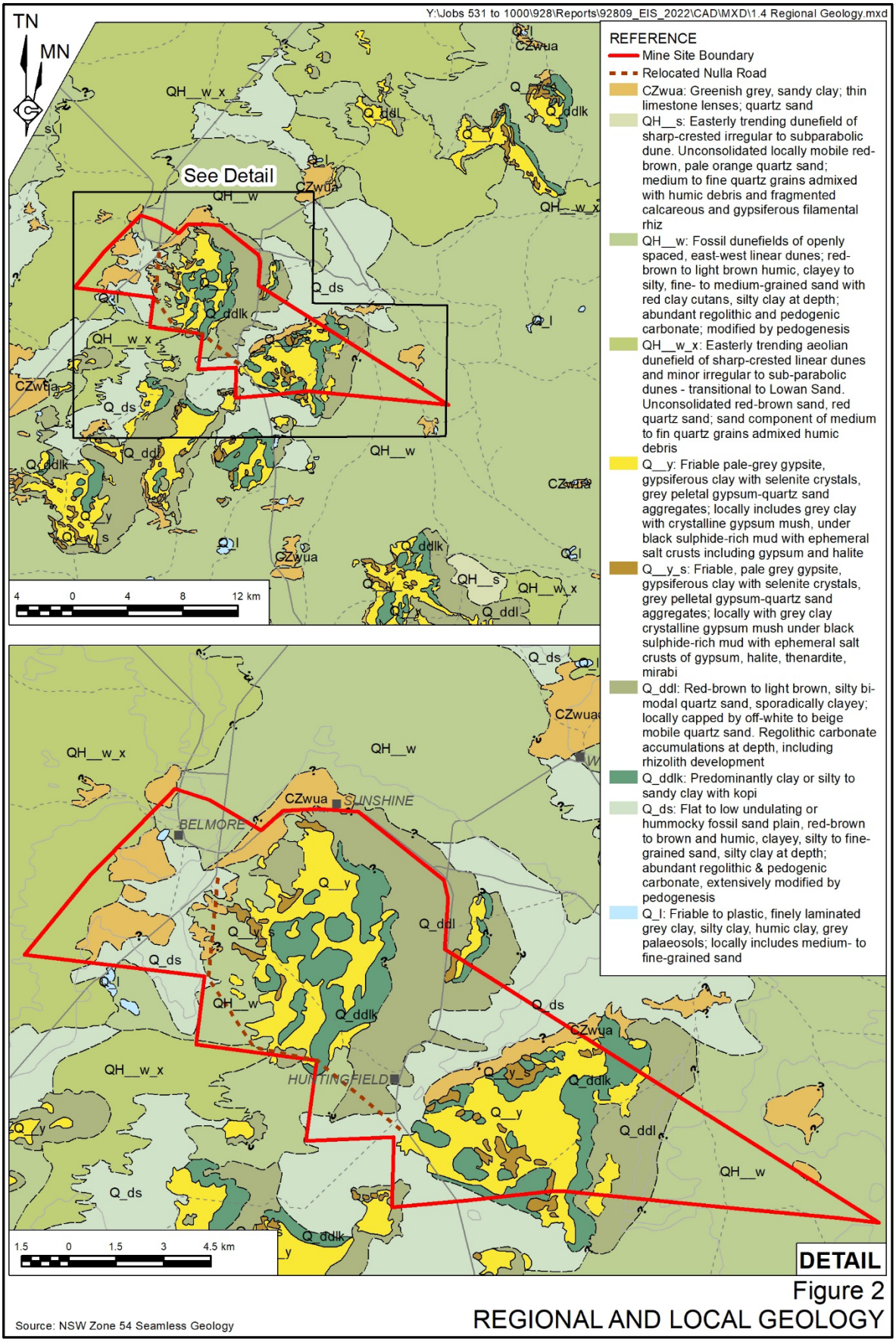


Table 2 JORC Compliant Mineral Resource

Classification	Domain	Description	Million tonnes	Total Heavy Mineral %	Slimes %	Oversize %	% of Total Heavy Mineral (THM)					
							Ilmenite	Leucoxene	Rutile	Zircon	Monazite	Xenotime
Indicated	10	Upper strandline (+1% THM)	22	4.5	2.8	2.4	19	27	14	9	0.6	0.07
	16 and 17	Lower sheet-style (+1% THM)	51	3.0	5.2	3.3	13	38	12	19	1.4	0.16
	1	Upper low grade halo (0.3 to 1% THM)	16	0.5	3.1	5.5	18	27	14	9	0.6	0.07
	4	Lower low grade halo (0.3 to 1% THM)	32	0.6	4.2	7.7	11	40	13	18	1.3	0.17
	Sub-total		**120**	**2.3**	**4.2**	**4.6**	**15**	**34**	**13**	**15**	**1.1**	**0.13**
Inferred	10, 12, 13 and 14	Upper strandlines and lower domain 13 (+1% THM)	14	2.1	4.5	2.5	16	26	14	7	0.4	0.08
	16 and 17	Lower sheet-style (+1% THM)	157	2.3	4.9	2.9	16	36	13	17	1.2	0.15
	1, 2 and 3	Upper low grade halos (0.3 to 1% THM)	35	0.6	3.7	6.4	16	27	14	7	0.4	0.09
	4 and 5	Lower low grade halos (0.3 to 1% THM)	147	0.6	4.9	4.1	17	35	14	16	1.1	0.15
	200	Inter-burden (<0.3% THM) within 80% Rev pit shell	346	0.2	3.7	11.3	17	28	13	12	0.8	0.11
	Sub-total		**698**	**0.8**	**4.2**	**7.5**	**16**	**34**	**13**	**16**	**1.1**	**0.14**
Total Mineral Resource			**818**	**1.0**	**4.2**	**7.1**	**16**	**34**	**13**	**15**	**1.1**	**0.13**
Exploration Target			**100 to 125**	**1.2 to 1.5**	**4.7 to 5.8**	**3.4 to 4.1**	**16 to 19**	**31 to 38**	**12 to 14**	**16 to 20**	**1.1 to 1.4**	**0.16 to 0.20**

Notes:

1. The Copi Project Mineral Resource has been classified and reported in accordance with the guidelines of the JORC Code (2012).
2. All Loxton-Parilla sediments (including inter-burden) reported within the 80% Rev pit shell and additional mineralisation (within interpreted domains) reported outside of the 80% Rev pit shell and within the 100% Rev pit shell (i.e., excludes inter-burden material).
3. The majority of the total HM is from within the +53 µm to -1 mm size fraction and is reported as a percentage of the total material. The majority of slimes are from the -53µm fraction and oversize is the +1 mm fraction.
4. Estimates of the mineral assemblage (zircon, ilmenite, rutile and leucoxene) are presented as percentages of the total HM component of the deposit, as determined from QEMSCAN. QEMSCAN rules used for the majority of the mineral determination are: ilmenite: 50 to 70% TiO_2; leucoxene: 70 to 95% TiO_2; rutile: >95% TiO_2.
5. All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus sum of columns may not equal.
6. The potential quantity and grade of the Exploration Target is conceptual in nature, as there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource. Consistent with this, all tonnages and grades are approximations.

2. STRATEGIC CONTEXT

2.1 Justification of the Project

Introduction

The Commonwealth and NSW Governments have published a range of planning documents that collectively provide the basis for government strategic planning for NSW. 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.

Strategic Plans

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.

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 300 jobs over the 30+ year life of the Project.

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.

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 Wentworth local Government area 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 local Government area. 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.

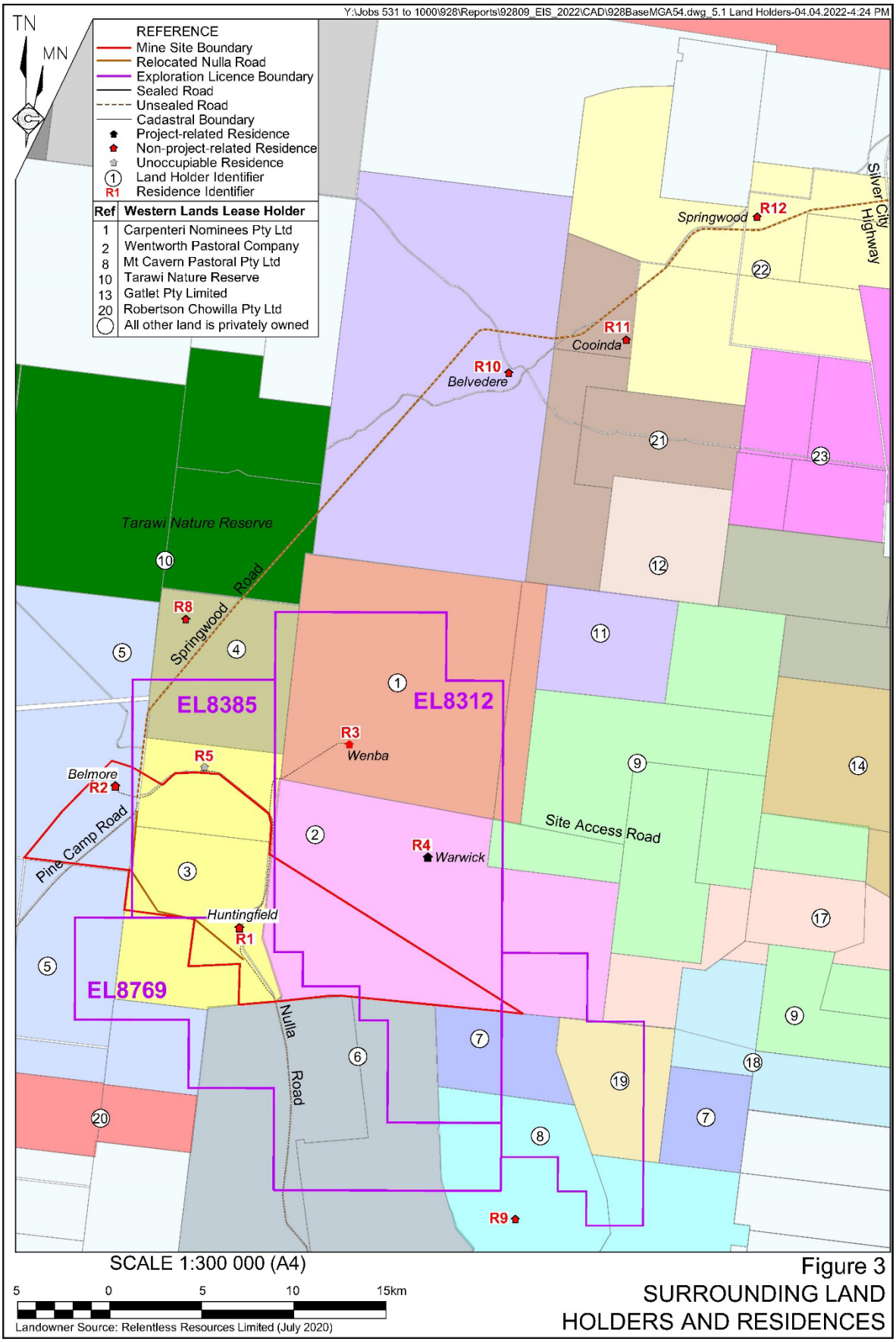
2.2 Land ownership

The proposed Mine Site and therefore the areas of principal disturbance would be situated wholly within pastoral stations "Huntingfield", "Warwick" and "Belmore" (**Figure 3**). 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 lease / land holders for pastoral stations is as follows:

- Huntingfield (**Figure 3** land holder identifier "3") –under negotiation for acquisition with Wentworth Pastoral Company, a wholly owned subsidiary of RZ Resources Limited
- Warwick (**Figure 3** land holder identifier "2") – Owned by Wentworth Pastoral Company, a wholly owned subsidiary of RZ Resources Limited,
- Belmore (**Figure 3** land holder identifier "5") –under negotiation for lease/acquisition with Wentworth Pastoral Company, a wholly owned subsidiary of RZ Resources Limited

Figure 3 Surrounding Land Holders and Residences



2.3 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.
- Full impact and risk assessment will be undertaken in the use of the Solar Drying and Infiltration Dam to evaporate groundwater and produce salt for sale.
- 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.
- 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 Anabranch 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.

2.4 Native Title

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). Whilst native title over these lands was established on 16 June 2015 (determination NCD2015/001 – Barkandji Traditional Owners #8 [Part A], in 2002 the High Court of Australia had extinguished native title over all lands that were the subject of Western Lands Leases.

2.5 Economic Considerations

The Mine Site is located in an area that is reasonably close to Wentworth and Broken Hill to benefit from (and contribute to) the local economies.

2.6 Sterilisation of Resources

The Applicant considers that, as no known economic resource exists below the identified orebodies, the Project would not result in sterilisation of any resources.

2.7 Cumulative Impacts and Interaction with Existing Mines

The target resource is not related to any existing mine operations. To date, no component of the identified resource has been excluded due to impacts on sensitive areas with the economic ore to be recovered to the greatest extent possible.

Whilst development of the Mine is expected to provide substantial benefits to local businesses that support the mining industry, no other industries or projects are considered to be dependent on the development of the target resource.

The Applicant recognises that Project-related traffic has the potential to generate cumulative impacts in Broken Hill due to the presence of other active mining operations that also utilise the local road network. An assessment of cumulative traffic impacts on the local road network and proposed mitigation measures would be presented in the EIS.

3. PROJECT DESCRIPTION

3.1 Introduction

This section provides an overview of the Project in sufficient detail to enable the reader to understand the type and scale of activities proposed. A more detailed description of the Project will be included in the EIS. It is noted that during the preparation of the EIS, further design work is proposed which will assist in the identification of the preferred design of specific components. This may result in minor modifications to the Mine Site layout and project components presented throughout this document.

3.2 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 3 provides the details of all land within the proposed Mine Site boundary, or the area over which any future development consent would apply (the Application Area). **Table 3** presents the lot and deposited plan numbers and, for reference the relevant landowner (previously identified in Section 2.2).

The locations of these titles and land zoning is presented on **Figure 4**.

Table 3 Lot and Deposited Plan Numbers for the Project

Lot	Deposited Plan	Landowner
1	756199	Private individual
1907	763791	Private individual
1940	763792	Private individual
4068	766543	Wentworth Pastoral Company
Unnamed road reserves		Crown Land

3.3 Project Description

Figure 4 also provides an illustration of the study area that forms the proposed Mine Site (Application Area) for the Project. This study area represents the focus of environmental investigations undertaken to support the development application and EIS. Apart from amendments to the existing road network, such as road improvements and intersection treatments to ensure safe transportation of produced concentrate on public roads, all Project related disturbance would occur within the proposed Mine Site.

The following activities would occur within the proposed Mine Site that is shown on **Figure 5** during the operational phase of the Project using the components described as follows:

- Progressive development of an open cut pit and the extraction of up to 45 million tonnes per annum (Mtpa) of ore material via dredge/s floated upon a pond formed from saline groundwater inflows to the open cut pit.
- Pumped transfer of extracted ore material from the dredge to a floating wet concentrator plant for screening and gravity separation.

Figure 4 Mine Site and Land Zoning

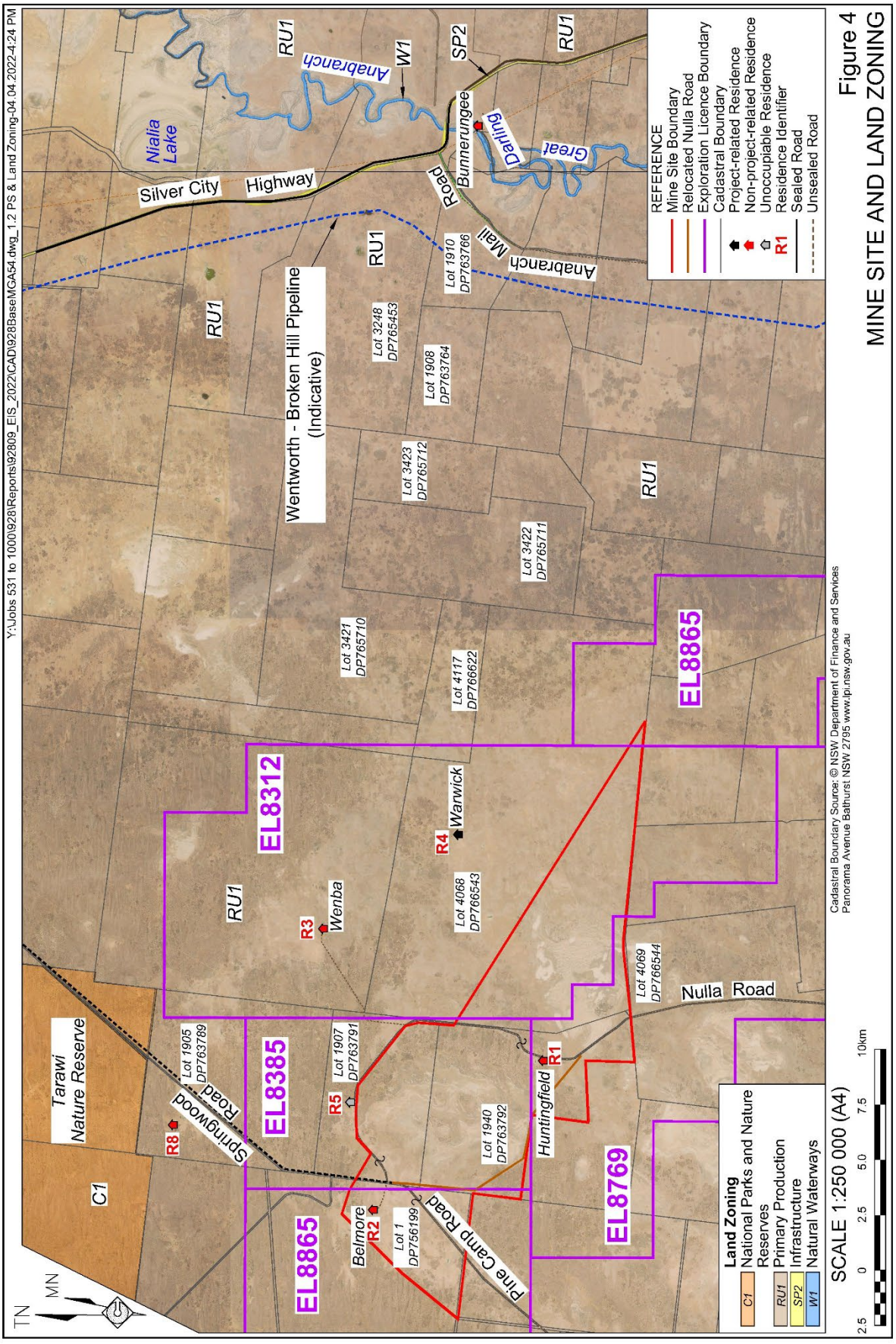
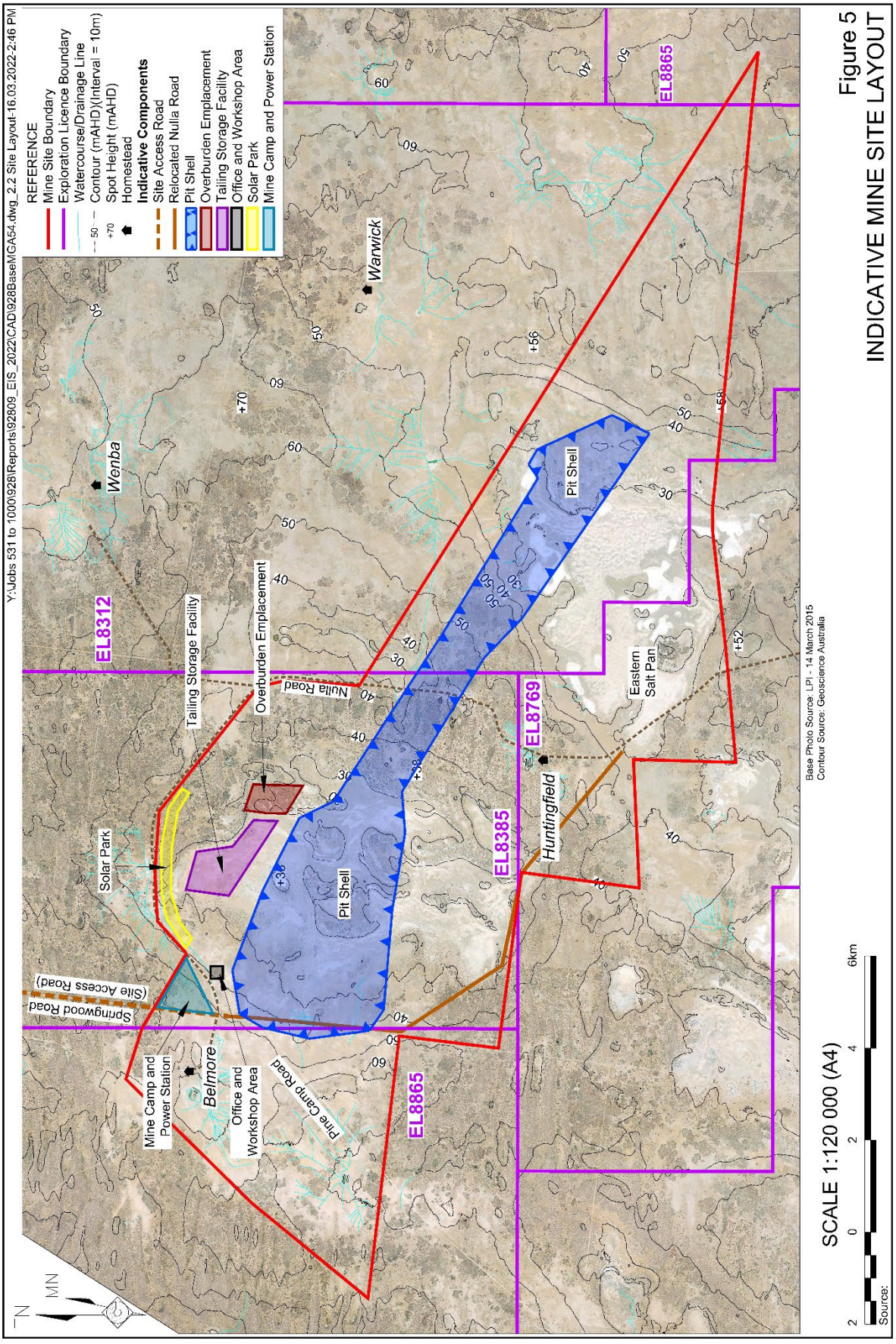


Figure 5 Indicative Mine Site Layout



- Pumped transfer of screened and gravity separated ore from the floating wet processing plant to shore-based dewatering, upgrading and freshwater wash equipment to produce HMC stockpiles (producing an average of 350,000tpa of heavy mineral concentrate).
- In-pit disposal of screened oversize and slimes from WCP.
- Transfer and placement of overburden either in-pit (above the tailings profile from the floating wet processing plant) or in the initial out-of-pit overburden emplacement. 2 out-of-pit emplacements would likely remain in the final landform - a tailings dump and an overburden dump.
- Progressive rehabilitation and land reprofiling over the Project-life to minimise the duration of land disruption.

Heavy mineral concentrate would be transported off-site to a rail siding in Broken Hill via road using AB-quad or triple road trains. The proposed haulroad transport route would comprise Pine Camp / Springwood Road and the Silver City Highway.

Once within Broken Hill, the proposed transport route is yet to be finalised but will follow a designated heavy vehicle route to and from the rail siding.

The approved heavy vehicle route(s) within Broken Hill include the following roads:

- Silver City Highway
- Wentworth Road
- Patton Street
- Comstock Street
- Eyre St
- Holten Drive

The rail siding will be managed by an external contractor and is situated on the following titles:

- 1/DP1112089 – Rail infrastructure
- 1/DP1062254 – Rail siding
- 7479/DP1200701 – Adjacent land

Once loaded onto rail stock, heavy mineral concentrate would then be transported by rail to either Newcastle or the Applicant's mineral separation plant at Pinkenba, Queensland.

In considering the option to manipulate localise pond water level and utilising the solar drying and infiltration concept, a potential location has been identified within existing salt expressions, with the forecast actual utilisation within these expressions to cover approximately 300,000m^2. Surplus groundwater inflows to the dredge pond would be directed from the active dredge pond to these expressions via HDPE piping and a pumping system in the dredge pond. Further investigations in these expressions will centre principally upon a range of technical aspects relating to the hydrogeological characteristics of the host aquifers, ground stability and salt harvesting requirements.

To facilitate progressive development of the open cut pit that would eventually traverse a section of Nulla Road, the Applicant is proposing to relocate this section of Nulla Road and direct it northwest to join Pine Camp Road south of the current intersection. A nominal alignment of the proposed relocation is provided on **Figure 5**.

The Applicant plans to undertake the development of the mine components in a manner that would be consistent with the long-term post-mining landform wherever possible. The final landform would incorporate a back-filled series of voids.

3.4 Development Schedule

The Project would require approximately 18 months for site establishment and construction activities that would include:

- Vegetation clearing of areas for initial plant construction, access roads and the starter open cut pit.
- Access road construction and bulk earthworks.
- Installation of mining components and construction of a range of ancillary infrastructure, including:
  - mine laydown area and workshop;
  - administration buildings, amenities, car park and mine team member accommodation;
  - internal roads;
  - water management and storage infrastructure;
  - processing treatment facility including reverse osmosis plant, weighbridge and road transport load out facility; and
  - rehabilitation related greenhouse, laboratory and other support services infrastructure.
- Construction and installation of a gas generated power station for initial power supply.
- Construction of processing plant and associated infrastructure areas.
- Initial pre-strip and selective handling of soils and overburden from the first mining block of the open cut pit footprint for placement in out-of-pit stockpiles.
- Construction of a Solar Drying and Infiltration Dam to allow for management of mine pond water, reduce salt load in the aquifer and potential salt harvesting as a product[1].
- Construction and installation of intersection treatments and road upgrades at the junction of Springwood Road and Silver City Highway.
- Upgrades to the existing rail siding in Broken Hill, including access road and product hard stand.
- Process plant commissioning.
- Construction of LNG (liquified natural gas) power station with a solar and farm that will provide 30MW power to the Project. The solar array would be placed on a designed landform that would ensure solar system efficiency and allow for future alternative energy storage solutions as necessitated over the expected Project-life.

During site establishment and construction activities, the fabrication and assembly of the Dredges and WCP would be concurrently undertaken. These units would subsequently be transported to the Mine Site for final construction, installation and commissioning. The installation of all water management infrastructure would also occur during the site establishment and construction period.

Following completion of the site establishment and construction operations, mining operations would be undertaken for a period of +30 years, followed by a period of up to 5 years to complete final rehabilitation operations.

[1] Refer **Table 1**, Solar Drying and Infiltration Dam only required if dredge pond water level management. Option 2 is identified as most feasible method.

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
Power to grant consent	As a minerals sands project, the Project is classified as SSD under Clause 5(1)(a) of Schedule 1 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). The Project Development Application (DA) will therefore require assessment under Division 4.7 of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The consent authority for the Project will be the Minister for Planning. 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. Alternatively, under Clause 8A of the SRD SEPP, the Independent Planning Commission would be the consent authority in the event that the following criteria are met. • Wentworth Shire Council provides a submission objecting to the Project. • There are more than 50 submissions objecting to the Project. • The Proponent has made a reportable political donation.
Permissibility	The proposed Mine Site is situated on land that is zoned RU1 (Primary Production) under the *Wentworth Local Environmental Plan 2011* (Wentworth LEP). The Wentworth LEP identifies that open cut mining is permissible with consent within this zone and as a result, the Project is permissible with consent.
Other approvals (Consistent Approvals)	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. • 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 *Protection of the Environment Operations Act 1997* (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. • Permits / Work Authority Deeds issued under Section 138 of the *Roads Act 1993* by: – Transport for NSW for works within the Silver City Highway road reserve; – Broken Hill City Council for works within the Holten Drive reserve; – Wentworth Shire Council for works within the Springwood Road reserve; and – Wentworth Shire Council for the relocation of Nulla Road. • An aquifer interference approval issued under the *Water Management Act 2000*
Other approvals (EPBC Act Approvals)	Approval under the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* 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.

Matter	**Project Relevance**
Other approvals (Not integrated into the SSD Assessment)	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. • Water Access Licences issued under the *Water Sharing Plan for the NSW Murray Darling Basin (MDB) Porous Rock Groundwater Sources 2011*to account for groundwater inflows to the open cut pit and associated losses (operations and evaporative). • All necessary approvals from Wentworth Shire Council for construction, erection and/or placement of buildings, structures and appropriate sewage treatment systems for the Project.
Other approvals (Not required)	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. • An Aboriginal Heritage Impact Permit under section 90 of the *National Parks and Wildlife Act 1974*. • A water use approval under section 89 of the *Water Management Act 2000*. • A water management work approval under section 90 of the *Water Management Act 2000*.

Table 5 Pre-conditions to Granting Approval

Statutory Reference	Pre-condition	Relevance
Biodiversity Conservation Act 2016 (BC Act)		
Section 7.14	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: 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.	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.
Wentworth Local Environmental Plan 2011 (Wentworth LEP)		
Clause 2.3(2) (Zoning)	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.	Open cut mining is permissible on land zoned as RU1.
Clause 7.1(3) (Earthworks)	Before granting development consent for earthworks (or for development involving ancillary earthworks), the consent authority must consider the following matters: 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, h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.	The Project would result in disturbance of land. The matters identified in this Clause will be addressed in the EIS.

Statutory Reference	**Pre-condition**	**Relevance**
Clause 7.4(3) (Terrestrial Biodiversity)	Before determining a development application for development on land to which this clause applies, the consent authority must consider whether or not the development— 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.	Review of Wentworth LEP Map Sheet NRB_002 identifies that the Project would result in removal of native vegetation on land to which this clause applies and, as a result, a Biodiversity Development Assessment Report will be prepared to assess the anticipated Project-related impacts.
Clause 7.4(4) (Terrestrial Biodiversity	Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that— 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.	Review of Wentworth LEP Map Sheet NRB_002 identifies that the Project would result in removal of native vegetation on land to which this clause applies and, as a result, a Biodiversity Development Assessment Report will be prepared to assess the anticipated Project-related impacts

Statutory Reference	Pre-condition	Relevance
Clause 7.5(3) (Wetlands)	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— 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	Review of Wentworth LEP Map Sheet NRW_002 identifies that the Project would result in the disturbance of land to which this clause applies and, as a result a Biodiversity Development Assessment Report to assess potential impacts to native flora and fauna. The EIS will also present an assessment of the potential impacts to the surface water and groundwater environment.
Clause 7.5(4) (Wetlands)	Before granting consent to development to which this clause applies the consent authority must be satisfied that— 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	Review of Wentworth LEP Map Sheet NRW_002 identifies that the Project would result in the disturbance of land to which this clause applies. The matters identified in this Clause will be addressed in the EIS.

Statutory Reference	Pre-condition	Relevance
Clause 7.7(3) (Watercourses)	Before determining a development application to carry out development on land to which this clause applies, the consent authority must consider whether or not the development— a) is likely to have any adverse impact on the following— b) the water quality and flows within the watercourse, c) aquatic and riparian species, habitats and ecosystems of the watercourse, d) the stability of the bed and banks of the watercourse, e) the free passage of fish and other aquatic organisms within or along the watercourse, f) any future rehabilitation of the watercourse and its riparian areas, and g) is likely to increase water extraction from the watercourse.	The Project would result in impacts to surface water. The matters identified in this Clause will be addressed in the EIS.
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (Mining SEPP)		
Clause 12	Consent authority must be satisfied that • proper consideration is given to 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 uses and any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses • the respective public benefits of the development and the land uses are evaluated • 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.
Clause 12A	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.

Statutory Reference	**Pre-condition**	**Relevance**
Clause 12AB	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 be addressed in the EIS.
Clause 13	Consent authority must be satisfied that proper consideration is given to; • 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.
Clause 14	Consent authority must consider whether or not impacts on significant water resources and threatened species and biodiversity are avoided or minimised and that greenhouse gas emissions are minimised to the greatest extent practicable.	The EIS will include an assessment of water resources, threatened species and biodiversity and greenhouse gas emissions.
Clause 15	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.	The EIS will include an assessment of the efficiency of the recovery of the resource and reuse of materials.

Statutory Reference	Pre-condition	Relevance
Clause 16	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 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 siding off Holten Drive in Broken Hill, thereby limiting transportation on the public road network. Transport impacts will be assessed in the EIS.
Clause 17	Consent authority must be satisfied that there is a plan for the proposed final landform and end use, waste management, contaminated soil remediation and public safety during development and rehabilitation of the Project Site.	The Applicant would backfill all proposed open cuts and construct the remaining overburden emplacements in a manner than would ensure their long-term stability. Matters related to waste and contaminated soil management and public safety will also be addressed in the EIS.
State Environmental Planning Policy No 33 – Hazardous and Offensive Development (SEPP 33)		
Clause 13	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): 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	Key risks associated with the Project pertain to noise, air quality, visual amenity, biodiversity, surface water and social impacts. An assessment of additional hazardous substances will be included in the EIS.

Statutory Reference	Pre-condition	Relevance
Clause 13 (Cont'd)	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.	
State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55)		
Clause 7(1)	A consent authority must not consent to the carrying out of any development on land unless: 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.	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.
State Environmental Planning Policy (Koala Habitat Protection) 2021 (Koala SEPP)		
Clause 11	2. 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. 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. 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.	Whilst previous flora and fauna surveys did not identify the presence of feed trees or Koala, the EIS will include an assessment of Project-related impacts on Koala.

Statutory Reference	Pre-condition	Relevance
State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP)		
Clause 45(2)	Before determining a development application (or an application for modification of a consent) for development to which this clause applies, the consent authority must— 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.	No electricity transmission infrastructure is located proximal to the Mine Site and the Project would generate its own power. As a result, this clause is not applicable.
Clause 101(2)	The consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that— 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— (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.	The EIS will include an assessment of Project-related impacts to the local transport network.

Statutory Reference	**Pre-condition**	**Relevance**
Clause 104(3)	Before determining a development application for development to which this clause applies, the consent authority must— a) give written notice of the application to TfNSW within 7 days after the application is made, and b) take into consideration— (iv) 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 (v) the accessibility of the site concerned, including— 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 (vi) any potential traffic safety, road congestion or parking implications of the development.	This is a matter for the consent authority.

Table 6 Mandatory Matters for Consideration

Statutory Reference	Mandatory Consideration
Considerations under the EP&A Act	
Section 1.3	Relevant objects of the Act: • 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	Relevant environmental planning instruments.
	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.
	The likely impacts of the development, including environmental impacts on both the natural and built environment, and social and economic impacts in the locality.
	The suitability of the site for the development.
	Any submissions made in accordance with the EP&A Act or the regulations.
	The public interest.
Considerations under the EP&A Regulations	
Clause 96A	A development consent may only be granted subject to a condition referred to in Section 4.17(4A) or (4B) of the Act if the development is SSD.
Considerations under Environmental Planning Instruments	
Wentworth LEP	
Part 2	Objectives and land uses for zone RU1.
Other	Other relevant LEP sections.
State Environmental Planning Policies (SEPPs)	
State and Regional Development SEPP	Clauses 5(1) of Schedule 1 and 8A.
SEPP 33	Section 13 – matters for consideration by consent authorities.
SEPP 55	Section 7(1) – land contamination and suitability for development.
Mining SEPP	Clause 12, 12A, 12AB, 13, 14, 15, 16 & 17.
Koala SEPP	Clause 11
Infrastructure SEPP	Clauses 45, 101 and 104

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 2021).

The Applicant employs a dedicated managerial resource for Environment and Community, an Environment Officer, a Logistics Supervisor, Senior Geologist, Health, Safety and Training Manager, 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 Community Engagement

The key principles of the Applicant's Community Engagement Strategy are as follows.

- Openness and honesty – the Applicant has at all times sought to provide open and honest information about the Project as it grew from and exploration prospect to an SSD Project.
- Approachable – the Applicant has at all times sought to make its personnel available to the local community to answer question or provide information. This has included informal conversations during casual social gatherings and interactions typical of a small, close-knit community.
- Meaningful, relevant and respectful – the Applicant has at all times sought to provide information in a manner that is meaningful and relevant to the community and respectful of community concerns. This has resulted in the consultation being focused on those aspects that are important to the community, including site access, purchase or lease of land (direct impact/near neighbours) and jobs, timing of the Project and business opportunities (wider community). As a result, consultation has focused less aspects that have been identified by the local community as of less concern, including biodiversity, groundwater, and air quality. The Applicant has also been respectful of the desire of some sections of the community who preferred not to be consulted.

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

- Landholders within the proposed Mine Site and along the proposed transport route (direct impacts).

- Landholders in the vicinity of the proposed Mine Site, access route and proposed transport route (near neighbours).
- Residents of Wentworth and surrounds.
- Businesses within Wentworth and surrounds.
- Community groups, including clubs, service organisations and special interest groups.
- Local Aboriginal Community.
- Local Councils.
- Government and non-government service and infrastructure providers.
- Government regulators.
- Elected representatives (and advisors).

Table 7 illustrates the engagement strategy for each of these stakeholder groups.

Table 7 Engagement Strategy

Key Stakeholder	Consultation Methods	Frequency
Landholders within the proposed Mine Site, access route and along the proposed transport route (direct impacts).	Face-to-face/telephone discussions Site visits/inspections Negotiated access and other agreements	Throughout exploration and Project planning Prior to, during and following site surveys, drilling access Weekly where possible
Landholders in the vicinity of the access route and proposed transport route (near neighbours).	Face-to-face/telephone discussions Site visits/inspections Post/email (for non-resident landholders)	Throughout exploration and Project planning Once Project description available
Businesses within Wentworth, and surrounds	Face-to-face/telephone discussions Public meetings/displays Presentations to business groups Consultation with selected suppliers	Throughout exploration and Project planning Once Project description available During exhibition of the EIS During pre-procurement process
Residents of Wentworth and surrounds	Information stall at the Wentworth Show Face-to-face/telephone discussions Public meetings/displays	Throughout exploration and Project planning Once Project description available During exhibition of the EIS
Community groups, including clubs, service organisations and special interest groups	Public meetings/displays Presentation to meetings	Throughout exploration and Project planning Once Project description available During exhibition of the EIS

Key Stakeholder	Consultation Methods	Frequency
Local Aboriginal Community	Formal consultation through heritage assessment Site visits/inspections	As per consultation guidelines (Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010) Once Project description available During exhibition of the EIS
Local Councils	Formal and informal meetings/teleconferences Negotiations re Planning Agreements with Wentworth Shire and Broken Hill City Councils Telephone/email requests for information	Throughout exploration and Project planning Once Project description available During exhibition of the EIS
Government and non-government service and infrastructure providers	Formal and informal meetings/teleconferences Email	Once Project description available
Government agencies	SEARs process Formal and informal meetings/teleconferences	Scoping and SEARs application phase Throughout EIS preparation Once impact assessments available
Elected representatives (and advisors)	Formal and informal meetings/teleconferences Site inspections	Once Project description (incl employment and economic contributions) available

5.2 Consultation with Government Agencies

A Planning Focus Meeting (PFM) and site inspection was held in Wentworth and at the Mine Site on 23 August 2018 to discuss the Project as then proposed. The following government agencies were provided with the document entitled *Briefing Paper for the Copi Mineral Sands Project* and invited to attend the PFM, with an asterisk (*) indicating those government agencies in attendance.

- Department of Industry (DoI)*
- Department of Industry: Lands and Water
- Department of Planning and Environment (DPE)
- Department of Primary Industries
- Department of Regional NSW: Mining, Exploration and Geoscience
- Division of Resources and Geoscience (attended site separately on 1 August 2018)
- Environment Protection Authority (EPA)*

- NSW Department of Premier & Cabinet (DPC) *
- NSW Health - Far West Public Health Unit (NSW Health) *
- Office of Environment and Heritage (OEH)*
- Roads and Maritime Service (RMS)*
- Wentworth Shire Council (WSC)*
- Mildura Rural City Council (MRCC)

During the meeting, an overview of the Project as it was then understood was presented to all attendees from the various government agencies. During the PFM and following the site inspection, the various government agencies verbally outlined their respective matters that the EIS for the Project, as proposed at that time, should address.

During the preparation of the original EIS and development of this scoping report, the Applicant and/or their representative(s) consulted with a number of government agencies and continued to provide updates via the online portal, formal correspondence or via telephone.

Department of Planning and Environment

The Applicant's representatives met with the then Department of Planning, Industry and Environment (now DPE) via videoconference on 17 September 2020. During that meeting, the Applicant's representatives provided the Department with an update on the Project, including the proposed activities, consultation completed and anticipated environmental impacts. The submission schedule for the EIS was also discussed. Key matters requiring resolution in the EIS and during the assessment phase of the Project were identified as follows.

- Licencing for groundwater to be extracted from the Loxton-Parilla Sands groundwater system, with both the Applicant and DPE to consult with the Department of Planning and Environment-Water (DPE-Water).
- Agreement with Council in relation to terms of a Planning Agreement.
- Identification of appropriate biodiversity offset mechanisms, including payment into the biodiversity offset fund and / or establishment of a Stewardship Site.

Subsequent to the aforementioned meeting in 2020, the following correspondence and updates have been provided to the department.

- Telephone contact was made in mid-December 2020, notifying of the Applicant's intentions withdraw the EIS for adequacy and revisit the project in 2021.
- A project update and request for extension of the SEARs was submitted by the Applicant Resources Limited on the 13th of May 2021.
- Due to COVID-19 restrictions, video contact was made with department representatives, on the 28th of May 2021. At that meeting, it was notified of the increase in size and scale of the project, and therefore the need for new SEARs was agreed.
- Following on from that meeting, a withdrawal of SEARs notification letter was provided with a commitment to re-apply for new SEARs once the project details had been better developed. A follow up letter was lodged on the 17th of November 2021 via the portal, formally withdrawing the existing SEARs.
- Contact was made with the departmental representative on the 26th of October 2021 notifying the department of the intent to apply for new SEARs.

- Contact was re-established in January 2022, notifying the department of progress towards the development of this scoping report and application for a new SEARs.

Wentworth Shire Council

The Applicant and its representatives have regularly consulted with officers of Wentworth Shire Council, including the Mayor, General Manager, Director of Roads and Engineering and Manager Works. Matters addressed during this consultation included the following.

- General project updates (12 occasions between November 2018 and June 2020).
- Discussions on the establishment of a future Community Consultative Committee including suitable Council representatives.
- Negotiation of a suitable Planning Agreement. Negotiations were suspended once the decision to not proceed with Dry Mining was made.

Following the exploration, the substantial increase in resources and the decision to advance with a wet mining scenario, the Applicant and its representatives re-established contact with the Mayor, General Manager, Director of Roads and Engineering and Manager Works. Matters addressed during this consultation included the following.

- Presenting the preliminary findings from Tonkin Civil Engineering consultants for use of the existing public road – Springwood - Nulla Road.
- The preliminary investigation determined the road suitable for haulage of the proposed mine's material with minor widening, cattle grid improvements and intersection upgrade with a truck turn out lane at the Silver City Highway intersection.
- Council indicated general satisfaction with the approach that the Applicant would maintain the road maintenance in house.

A subsequent meeting with the CEO of Wentworth Regional Council was made on 9 November 2021. Matters addressed during this consultation included the following.

- General project update.
- Contributions to local projects (e.g. annual Wentworth Show in 2020, Wentworth Airport).
- The encouragement for future employees to relocate locally was discussed.
- A revised haulage option using Springwood Nulla Road.

On the 24 February 2022, contact was made with council via the CEO following the December 2021 elections to provide a further update on the project. Discussions were once again very positive and included a desire to ensure the haul road would be managed appropriately and in consultation between the applicant and the council with a view to upgrading the road to a sealed standard.

Mildura Regional City Council

As the Project is in NSW, from a statutory context the Applicant notes that it does not require input from Mildura Rural City Council (Mildura Council). However, the Applicant acknowledges that employees and businesses that would likely service and support the Project reside within the Mildura Council area. Therefore, the Applicant recognises Mildura Council's role as an interested stakeholder. The Applicant met with Mildura Council on 13 February 2020 to provide an overview of the Project and discuss regional employment and services. The Applicant is committed to ongoing consultation with Mildura Council throughout the Project's assessment and construction phases.

Broken Hill City Council

The Applicant is scheduled to meet with Broken Hill City Council as part of discussions with the third-party contractors responsible for haulage of product from site and the agents responsible for management of the rail siding and product loading. These discussions are scheduled to commence once contractual arrangements are finalised with the third parties. The Applicant would also consult with Broken Hill City Council on any proposed intersection treatments and road upgrades, as identified by the traffic assessment, to mitigate potential, Project-related traffic impacts.

Biodiversity and Conservation Division

The Applicant and EnviroKey consulted with the Biodiversity Conservation Division (BCD) of the DPE in relation to the cost of biodiversity credits and the BDAR prepared for the original Project area. In summary, BCD, at the Applicant's request, updated the Biodiversity Assessment Method Calculator to include a price for species credits for *Austrostipa nullanulla* and clarified the approach for assessment of the Painted Burrowing Frog given that suitable conditions for observation (substantial rainfall) did not occur during the assessment period.

The Applicant also discussed land management issues under a Stewardship Agreement, including fencing and management of weeds, pests and watering points.

Natural Resources Access Regulator and DPE-Water

The Applicant proposes to engage extensively with DPE-Water in relation to water licencing for the Project. The Applicant has been advised that the *Water Management Act 2000* does not make allowance for allocation of water for dredge mining under its current permitting schemes. This is a matter that will be addressed in the EIS.

Transport for NSW

Tonkin Consulting Pty Ltd undertook consultation with Transport for NSW during the initial stages of the traffic and transportation assessment, and subsequently following completion of the original project design. Transport for NSW had declined to provide feedback on the intersection design, noting that the design will be assessed when the EIS is formally received during the exhibition stage.

Tonkin Consulting Pty Ltd was re-engaged to undertake detailed design and cost estimate of this work which was completed and presented to Wentworth Shire Council who noted they would support the Project and the use of the roads required by mining operations.

Further engineering design drawings will be prepared at a later time of Project development. This process will follow Council's approval process at the appropriate time.

Resources Regulator

A site inspection was held with six officers of the Resources Regulator on 1 August 2018, during which the status of resource definition drilling was discussed and approval for completion of the Conceptual Project Development Project was provided.

A subsequent site inspection with a Mines Inspector from the Regulator was undertaken on 19 December 2019 and a subsequent follow-up meeting on 8 January 2020.

Following a number of site inspections triggered by a complaint of a landowner, an investigation commenced to which the Applicant provided information to the regulator throughout 2021. This investigation led to a commitment by the Applicant to undertake an independent audit on their exploration work related systems in 2021 and in 2023. The audit was completed in accordance with the condition in 2021. Consultation with the regulator regarding these matters is ongoing.

WaterNSW

The Applicant consulted WaterNSW in relation to accessing water from the Wentworth to Broken Hill pipeline. This option was deemed uneconomic and the Applicant will utilise saline groundwater for the project with possible use of this water for rehabilitation activities.

Appropriate licencing for groundwater will be obtained prior to extraction operations commencing.

NSW Department of Premier and Cabinet

The Applicant met with representatives of the Department of Premier and Cabinet (DPC) on five occasions in 2018 and six occasions in 2019. A planned site meeting for March 2020 was cancelled due to COVID-19 travel restrictions. Consultation has primarily revolved around providing updates to DPC on the status of the Project and the relevant challenges that the Applicant have faced through the exploration and planning phases of the Project.

Engagement During Assessment

The Applicant proposes to undertake a range of engagement activities during the exhibition and assessment of the Project, including 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 original project as it was described in the original SEARs (SSD9572).

The fields of study and the specialist consultants and consultancies managed directly by the Applicant or by RWC on behalf of the Applicant for the original SEARs were as follows:

- Groundwater – Messrs Paul Ryall, Andrew Durick and James Tomlin – Australasian Groundwater and Environmental Consultants Pty Ltd (AGE)
- Biodiversity – Mr Steve Sass – EnviroKey Pty Ltd
- Land Capability and Soil – Dr Pat Hulme – Sustainable Soils Management Pty Ltd
- Aboriginal and Historic Heritage – Dr Jodie Benton and Ms Stephanie Rusden – OzArk Environmental & Heritage Management Pty Ltd
- Traffic and Transport – Mr Nicholas Firth – Tonkin Consulting Pty Ltd
- Surface Water – Mr Alistair Lowry, Carrick Consulting WA Pty Ltd
- Noise – Mr Oliver Muller and Mr Dale Redwood – Muller Acoustic Consulting Pty Ltd
- Air Quality – Dr Martin Doyle – Northstar Air Quality Pty Ltd
- Social – Mr Mitchell Bland and Mr Jack Flanagan – R.W. Corkery & Co. Pty Limited

The results of the studies from each of the above consultancies have been summarised into the environmental values descriptions below.

With the expanded study boundary that encompasses the proposed Mine Site and the change in mining process to wet mining, the Applicant and RWC have retained the majority of the original consultancies, as well as contracting the following additional organisations / individual consultants:

- Environment and Rehabilitation, Community and Social – Mr Paul Smith and Mrs Tracy Smith – Pandanus Environmental
- Rehabilitation – Mr Timothy Zwiersen – Ecotypic Pty Ltd
- Rehabilitation – Ms Alice Quarmby – Swainsona Seed Services
- Groundwater – Mr Mark Robertson – GeoEng Pty Ltd
- Salt and Groundwater – Mr James Williams – Hydro Consulting Services
- Social Impact Assessment – Mr Euan Morton – Synergies Economic Consulting

Additional consultancies and subject matter experts will be engaged where required.

6.2 Existing Environmental Values

Significant environmental assessment efforts have already been undertaken across a portion of the proposed study area. This work forms the basis of RZ's understanding of the local environment and risks and will guide the additional work required to complete the assessment of the entire Project area. The existing environment is summarised in **Table 8** below.

Table 8 Existing environment

Group	Specific matters of relevance to the project	Existing environmental assessment
Access	Access to property Traffic Road and rail facilities	Tonkin (2020) undertook the Traffic Assessment and prepared concept designs for the site access arrangements as proposed at the time. These proposed works were the subject of consultation with Wentworth Shire Council, with Council indicating general satisfaction of the proposed concept designs. Tonkin (2020) determined that Springwood Road and the Silver City Highway do not operate near their respective design capacities. As a result, traffic generated by the Project would not significantly affect the operating capacity of the existing public road network. The Silver City Highway and Springwood Road are both approved AB-triple road train routes. Project-related traffic would significantly impact on the maintenance requirements for Springwood Road. The Applicant will negotiate a Planning Agreement with Wentworth Shire Council, including contributions to the maintenance of Springwood Road.
Air	Atmospheric emissions Gases Particulate matter	Northstar (2020) undertook the Air Quality and Greenhouse Gas Assessment. The assessment determined that the assessed dry mining would not lead to exceedances of the relevant air quality assessment criteria at any residence surrounding the Mine Site as proposed at that time. Since this assessment was completed, dry mining has been adopted and whilst the area of proposed disturbance has expanded, there are no additional residential receivers located proximal to the Project. Notwithstanding this, the Project will be re-assessed in the EIS.
Amenity	Noise	Muller Acoustic Consultants (2020) undertook the Noise Assessment for the original project. The assessment determined that the original project would not result in exceedances of the construction, operational, sleep disturbance or road traffic noise criteria at any residential receivers surrounding the Mine Site or adjacent to the transportation routes. Notwithstanding this, the Project will be re-assessed in the EIS.

Group	Specific matters of relevance to the project	Existing environmental assessment
Biodiversity	Terrestrial flora and fauna	The biodiversity assessment completed by EnviroKey (2020) in accordance with the Biodiversity Assessment Methodology (BAM) for the original project area identified the following: • 69 flora species, including 65 native species and four exotic species. One threatened flora species, *Austrostipa nullanulla*, a perennial grass was identified. • eight plant community types were identified with one, PCT28 classified as an endangered ecological community under the BC Act. • 14 threatened and one migratory fauna species were recorded. Two of the observed species, namely the Little Eagle and Pink Cockatoo required species credit under the BAM.
Built environment	Private property Public infrastructure	The Project is situated across three pastoral stations. No Public infrastructure, other than existing Council and State roads will be utilised as part of the Project.
Economic	Natural Resources use Livelihood Opportunity cost	The economic assessment determined the following; • The contained heavy mineral within the Mine Site represents a significant resource for the State of NSW and the Project, should it proceed, would provide for future development of additional substantial resources identified by the Applicant. • The Project would contribute the following economic benefits to Wentworth and surrounding areas. – Up to 250 new positions during construction and 200 new positions during operations. – Up to $400 million in capital expenditure during construction, with a substantial proportion of the operational contributions retained within Wentworth and surrounding areas. – significant taxes and royalties to local, State and National governments. • The Project's economic costs, including lost agricultural productivity and increased competition for resources, would be negligible.

Group	Specific matters of relevance to the project	Existing environmental assessment
Hazards and Risks	Flooding Groundwater contamination	Carrick (2020) prepared a report outlining Surface Water management for the project as then proposed. This assessment will be contemporised to reflect the new mining methodology and proposed Mine Site. Surface water drainage within and surrounding the Mine Site is typically internally draining, with the dominant features being the Eastern and Western Salt Pans. As part of operational risk reduction, the Applicant would exclude surface water from undisturbed sections of the Mine Site and would prevent salt or sediment-laden water from flowing from the active mining area to other sections of the Mine Site. As large-scale use of chemicals is not required for the treatment or beneficiation of ore material, there is limited potential for the Project to cause groundwater contamination from spills or waste storage. However, the EIS would consider potential groundwater contamination from hydrocarbons etc.
Heritage	Aboriginal Historic	OzArk (2020) undertook the Aboriginal Heritage Assessment of the originally proposed areas of disturbance in consultation with the local Aboriginal community. In summary, the assessment identified 81 sites with Aboriginal objects, including: • ten sites with potential (buried) archaeological deposits (PAD); and • eleven hearths (which may contain potentially dateable material). As PADs were identified, a test pitting program was undertaken. That program identified 12 artefacts with OzArk (2020) concluding that the extremely low incidence of subsurface artefacts indicated a very low potential for buried artefacts within the area surveyed. There were no items of historic heritage identified in the previous study area. An additional program of field survey has been undertaken in in consultation with the local Aboriginal community to assess the potential for Aboriginal objects in the proposed Mine Site.

Group	Specific matters of relevance to the project	Existing environmental assessment
Land	Soil Chemistry Land capability Topography	SSM (2020) undertook an electromagnetic induction survey of the originally proposed areas of disturbance, excavated 25 soil test pits and completed a targeted acid sulphate soils assessment. Based on this assessment, SSM (2020) identified the following soil associations within the Mine Site. • Dunes and Sand Plains – primarily occupying areas of higher elevation. • Lunettes – primarily comprising wind-blown material to the east of the Salt Pans. • Lake Footslopes – primarily occupying areas to the west of the Salt Pans. • Lake Floor East and West – primarily occupying the deepest sections of the Eastern and Western Salt Pans respectively. • Gipsite Flats – primarily occupying flat areas within the Salt Pans at slightly higher elevations than the Lake Floor soil association. SSM (2020) determined that all soils are suitable for use in rehabilitation, with the exception of the Lake Floor East soil association which has chemical characteristics that are toxic to plants. No acid sulphate soils were identified. An additional program of field survey is currently underway to assess soils in the proposed Mine Site.
Social	Way of life Community Accessibility Culture Livelihoods	A Social Impact Assessment of the Wentworth Area indicated the following: • 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. • The community in close proximity to the Mine Site was particularly concerned about adverse impacts to their way of life, road infrastructure, agricultural operations and potential groundwater-related impacts. • By contrast, those living further from the Mine Site were mostly positive about the Project, citing potential employment, economic activity and diversification of the local economy as likely positive impacts.

Group	Specific matters of relevance to the project	Existing environmental assessment
Social (Cont'd)		The initial Social Impact Assessment concluded that with the exception of those whose land would be directly impacted by the Project, social impacts would largely be positive. The Applicant is currently negotiating with those landholders likely to be directly impacted by the Project to ensure equitable access arrangements to offset potential social impacts. A Social Impact Assessment, prepared in accordance with all relevant guidelines, will be provided with the EIS.
Water	Hydrology Water quality Water availability	The existing groundwater analysed to date is summarised as follows. • The deposit is hosted by the Loxton-Parilla Sands aquifer, a high yielding, locally confined to unconfined and highly saline aquifer. The Loxton Parilla Sands aquifer is underlain by two deeper aquifers that are not hydrologically connected to it. • The regional groundwater gradient indicates a gentle northeast to southwest groundwater flow. • Groundwater levels within the Mine Site are typically between 24m AHD and 25m AHD or between 1.47m and 29.91m below ground level. • Groundwater quality is very poor, considered to be hyper-saline, with total dissolved solids concentrations substantially higher than 35 000mg/L, i.e. the concentration of dissolved solids in sea water. • There are 13 registered bores within 20km of the Mine Site, none of which are screened within the Loxton-Parilla Sands. • There are no groundwater dependent ecosystems within the proposed Mine Site.

6.3 Proposed Impact Assessment

Building on work undertaken to date, **Table 9** below illustrates the Applicant's proposed impact assessment of the matters for assessment for the Project. A Scoping Summary Table, outlining the relevant government plans, policies and guidelines that will be used in that assessment is found in **Appendix (Table 8.1)**. **Table 10** details matters which the Applicant contends no further assessment is required in the EIS.

Table 9 Proposed matters for impact assessment

Specific matters of relevance to the project	Investigations required	Potential Impacts	Proposed assessment
Traffic and parking	Detailed assessment of the road network and proposed heavy and light vehicle traffic generated by the Project will be required. This will also include potential improvements required to local roads and agreements with Wentworth Shire Council.	The existing state and local roads can support the proposed traffic volumes, however there may be some impact on the local road through increased vehicle traffic. There may also be some impacts on other local road users through increased volumes and vehicle sizes. Rail siding and rail activities may increase traffic volumes within Broken Hill.	A traffic assessment will be undertaken to assess the potential impacts of Project-related road transport arrangements with respect to existing transport infrastructure and traffic conditions within the Wentworth and Broken Hill Local Government Areas. Mitigation of potential traffic impacts, such as intersection treatments and upgrading works to road transport infrastructure would be identified in the EIS. The design of intersection treatments and upgrading works would be developed in consultation with Wentworth Shire Council, Broken Hill City Council and Roads and Maritime Services. Indicative layouts of the Site Access Road, intersection treatments and upgrading works will be included in the EIS.
Road and rail facilities	Material will be transported to a rail siding at Broken Hill, with material then transported to either Newcastle or the Applicant's mineral separation plant in Pinkenba (QLD) for further processing.		
Atmospheric emissions Particulate matter	The Project is situated in a very remote area with a small number of residential receivers.	There is a low potential for the Project to impact on residential receivers due to the Project's location.	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.

Specific matters of relevance to the project	Investigations required	Potential Impacts	Proposed assessment
Noise	The Project is situated in a very remote area with a small number of residential receivers.	There is a low potential for the Project to impact on sensitive receptors due to the Project's location.	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 Project is situated in a very remote area with limited neighbours and little to no through traffic.	There is a low potential for the Project to impact on sensitive receptors due to the Project's location.	Given the distances to surrounding residences, no formal visibility assessment is proposed. An assessment of sight lines from the nearest residences would be undertaken and figures prepared for the EIS.
Terrestrial flora and fauna	Seasonal ecological surveys are proposed for the entire Project area. These include vegetation surveys, targeted threatened flora surveys, fauna surveys including targeted threatened fauna. Surveys undertaken to date will be incorporated into additional work. Spring surveys (2021) have already commenced in the proposed Mine Site.	The Project will impact native vegetation and threatened species, principally due to clearing and removal of habitat area. The potential significance of these impacts is yet to be determined.	A comprehensive Biodiversity Impact Assessment is being undertaken to identify the presence and status of the Threatened Ecological Communities and individual species within the area to be disturbed. Appropriate design and operational safeguards will also be investigated, including rehabilitation goals of disturbed lands, as well as effective management of lands not to be disturbed. A potential stewardship site is also being investigated for lands adjacent to the Project.

Specific matters of relevance to the project	**Investigations required**	**Potential Impacts**	**Proposed assessment**
Private property	The Applicant has been working closely with all three affected property owners.	Temporal removal of pastoral lands for stock and access, significant disruption to grazing access. Potential sterilisation of some lands due to retained infrastructure post mining. Disturbance to residences (only relevant to non-Project related properties).	The Project will directly impact on three properties. Road haulage will pass an additional three properties. Prior to mining, the Applicant will negotiate to either purchase or lease the properties with appropriate compensation. The Applicant purchased the property "Warwick" in 2021.
Public infrastructure	Road and rail infrastructure is the only public infrastructure anticipated to be impacted by the Project. Detailed assessment of the road network and proposed heavy and light vehicle traffic generated by the Project will be required. This will also include potential improvements required to local roads and agreements with the Wentworth Shire Council. Material will be transported to a rail siding at Broken Hill, with material then transported to Brisbane (QLD) for further processing.	The existing state and local roads can support the proposed traffic volumes, however there may be some impact on the local road through increased vehicle traffic. There may also be some impacts on other local road users through increased volumes and vehicle sizes. Rail siding and rail activities may increase traffic volumes within Broken Hill.	A traffic assessment will be undertaken to assess the potential impacts of Project-related road transport arrangements with respect to existing transport infrastructure and traffic conditions within the Wentworth and Broken Hill Local Government Areas. Mitigation of potential traffic impacts, such as intersection treatments and upgrading works to road transport infrastructure would be identified in the EIS. The design of any intersection treatments and upgrading works would be developed in consultation with Wentworth Shire Council, Broken Hill City Council and Roads and Maritime Services. Indicative layouts of the Site Access Road, and upgrading works will be included in the EIS.
Natural Resources use Livelihood	Due to the significant change in the scale and mine life of the Project, a detailed review of the	The Project is expected to have a significant positive impact for the local economy with a minor impact on the	A Social Impact Assessment will ascertain the social characteristics and views of the local community and will recommend measures for

Specific matters of relevance to the project	Investigations required	Potential Impacts	Proposed assessment
Opportunity cost	projects economic and potential social impacts will be required The mining method selected is considered the most efficient use of the region's resources.	underlaying landholders (which may be further reduced through purchase or compensation agreements). Whilst Tonkin (2020) considered all roads proposed for use by the Project as not operating near their respective design capacities, there may be minor impacts on road users, these will be addressed in the traffic management section of the EIS.	the Applicant to adopt. Social and economic impacts will be assessed during the EIS process.
Flooding	The topography surrounding the proposed Mine Site is generally flat to very gently sloping with drainage lines in the area typically draining into slight depressions or salt pans. Surface water drainage in the vicinity of the proposed Mine Site typically flows southwest towards internally draining salt pans that receive overland surface water flows only immediately following intense rainfall events.	Following a high rainfall event, substantial surface water flows could move from the northeast to southwest towards the salt pan located immediately southwest of mine. This may result in the ingress of floodwaters to the pit or substantial disruption of surface water flows. Solar drying activities could be disrupted during high rainfall / flooding events. Solar drying wastes could be liberated by floodwaters.	A detailed Water Management Plan that would include an Erosion and Sediment Control Plan would be prepared and implemented. A Groundwater Impact Assessment will be undertaken that would, 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 recommended impact mitigation measures and management techniques, and an appropriate monitoring program.

Specific matters of relevance to the project	**Investigations required**	**Potential Impacts**	**Proposed assessment**
Flooding (Cont'd)	Rainfall in the area is low, with an annual median rainfall of 251mm being recorded at the Wentworth (Toora) weather station (BoM Id 47099) that is approximately 36km east of the proposed Mine Site. Evaporation exceeds average rainfall in all months. Given the nature of the existing surface water environment, no further investigation of flooding is proposed.		
Waste	Processing of extracted ore would involve gravity, sizing, magnetic and electrostatic separation. Therefore, waste material from ore processing would be chemically unaltered and reflect the host geology of the deposit. The Project would generate waste as the result of operations and the management of these wastes will be described in the EIS.	Emphasis will be placed upon waste avoidance, recycling and recovery. All chemicals and hydrocarbons would be transported, stored and used in accordance with manufacturers' specifications and Australian Standards.	A comprehensive list of all waste generated on-site throughout the Project-life and its management would be presented in the EIS.
Aboriginal Heritage	A cultural heritage field survey of the Project area will be	The approach to the management of any identified cultural heritage sites	Detailed Assessment in accordance with Code of Practice for Archaeological Investigation of

Specific matters of relevance to the project	Investigations required	Potential Impacts	Proposed assessment
Historic Heritage	undertaken by a heritage consultancy in consultation with Registered Aboriginal Parties (RAPs), for the purpose of compiling an inventory of observed and likely cultural heritage artefacts or sites and reporting on the location and condition of any sites identified.	would be developed in consultation with RAPs.	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 discussed with all RAPs.
Stability Soil Chemistry Land capability Topography	Additional electromagnetic induction survey of expanded study area, along with the excavation of additional test pits will be required. Additional survey for acid sulphate soils and an assessment of the landscape (topography) and Land capability will be undertaken,	Mining will significantly disturb the soils within the proposed Mine Site. Soil values (chemistry and capability) will need to be preserved during mining activities and a comprehensive rehabilitation program post mining must include measures to prevent soil loss, loss of soil qualities, and indeed measures to improve rehabilitated soils.	The EIS will detail the soil values and land capability for the proposed mining area. In addition, a Water Management Plan that would include an Erosion and Sediment Control Plan would be prepared and implemented. All three plans will incorporate measures to protect existing soil values and significant topographical features.
Way of life Community Accessibility Culture Livelihoods	Due to the significant change in the scale and mine life of the Project, a detailed review of the Project's economic and potential social impacts will be required	The Project is expected to have a significant positive impact for the local economy with a minor impact on the underlaying landholders which may be reduced through purchase or compensation agreements. There may be some impacts on road users which will be addressed in the traffic management section of the EIS.	A Social Impact Assessment will ascertain the social characteristics and views of the local community and will recommend measures for the Applicant to adopt. Social and economic impacts will be assessed during the EIS process.

Specific matters of relevance to the project	**Investigations required**	**Potential Impacts**	**Proposed assessment**
Hydrology Water quality Water availability	The Applicant has undertaken a range of field investigations involving installation of monitoring bores, and pump testing and injection trials in relevant geological strata. The site-specific data generated from the field investigations will be utilised to inform a numerical groundwater modelling assessment of the potential impacts to the local and regional groundwater system as a result of the open cut pit development and potential evaporation of surplus groundwater inflows.	Noting that the groundwater is hyper-saline, potential exists for localised drawdown of standing water levels within the Loxton-Parilla Sands. However, due to its hyper-salinity, there are no users of this water and thus would not adversely impact surrounding water users or groundwater dependent ecosystems. Changes to groundwater chemistry during mining and processing could result in a further reduction of groundwater quality.	A Groundwater Impact Assessment will be undertaken that would, 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.

Table 10 Matters for no further assessment

Group	Matter for no further assessment	Rationale
Access	Access to property	The Project will not impact on any access to property. Access agreements are in place with the underlying tenure holders. The Applicant holds one of the three pastoral stations tenements (Warwick station).
	Port and airport facilities	There are no port or airport facilities impacted or likely to be impacted as the result of the Project.
Air	Gases	The Project is not expected to mobilise any gases as the substrate is purely sand and clay. No coal seams will be impacted.
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. The only potential vibrational impact (machinery working on overburden / topsoil) is not expected to generate any vibration of any magnitude.
	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	The Project is not adjacent to, or within, any zone of influence of a conservation area.
Built environment	Public land	The Project is situated across three pastoral stations. No Public land will be affected by the Project or product transport.
Hazards and Risks	Bushfire	The Project is a wet mining process within a totally cleared footprint, therefore, is not expected to pose a bushfire risk. Additionally, the existing environment consists of predominantly cleared paddocks of very low grasses and salt bush, which has a very low fire risk even under extreme conditions.
Hazards and Risks	Groundwater contamination	The Project will require detailed groundwater modelling and analysis, however the Project footprint is entirely within a hyper saline aquifer. This aquifer is separated from usable water by a series of clay layers. These layers are continuous and mining will not extend into these aquitard layers.

7. REFERENCES

Carrick Consulting WA Pty Ltd (2020). *Surface Water Assessment for the Copi Mineral Sands Project*, Part 6 of the Specialist Consultant Studies Compendium. Prepared on behalf of Relentless Resources Limited

EnviroKey Pty Ltd (2020). *Biodiversity Development Assessment for the Copi Mineral Sands Project*, Part 2 of the Specialist Consultant Studies Compendium. Prepared on behalf of Relentless Resources Limited

Muller Acoustic Consulting (MAC) (2020). *Noise Impact Assessment for the Copi Mineral Sands Project*, Part 7 of the Specialist Consultant Studies Compendium. Prepared on behalf of Relentless Resources Limited

Northstar Air Quality Pty Ltd (2020). *Air Quality Impact Assessment for the Copi Mineral Sands Project*, Part 7 of the Specialist Consultant Studies Compendium. Prepared on behalf of Relentless Resources Limited

Optiro Pty Ltd (2021). *(Commercial in confidence Resources Report)*

OzArk (2020). *Aboriginal Cultural Heritage Assessment Report for the Copi Mineral Sands Project*, Part 4 of the Specialist Consultant Studies Compendium. Prepared on behalf of Relentless Resources Limited

Sustainable Soils Management Pty Ltd (SSM) (2020). *Soils and Land Capability Assessment for the Copi Mineral Sands Project*, Part 3 of the Specialist Consultant Studies Compendium. Prepared on behalf of Relentless Resources Limited

Tonkin Consulting Pty Ltd (2020). *Traffic Assessment for the Copi Mineral Sands Project*, Part 5 of the Specialist Consultant Studies Compendium. Prepared on behalf of Relentless Resources Limited

8. APPENDICES

8.1 Scoping Summary Table

Level of assessment	Specific matters of relevance to the project	CIA required?	Engagement	Relevant government plans, policies, guidelines
Detailed	Traffic	Yes	General	Guide to Traffic Generating Development (RTA) Road Design Guide (RMS) & relevant Austroads Standards Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE)
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 (DPE-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)

Level of assessment	**Specific matters of relevance to the project**	**CIA required?**	**Engagement**	**Relevant government plans, policies, guidelines**
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 Proponents (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) Hazardous and Offensive Development Application Guidelines – Applying SEPP 33 (DoP)
Standard	Visual	No	General	Nil

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