



PLATINA
RESOURCES LIMITED

ABN: 25 119 007 939

Preliminary Environmental Assessment

for the

Owendale Scandium Project

PLATINA
RESOURCES LIMITED



Prepared by:

R.W. CORKERY & CO. PTY. LIMITED

March 2018

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for the

Owendale Scandium Project

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PROJECT SUMMARY

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| Project Component | Summary of the Project | | | |
|--|--|-----------------------------------|------------------------------------|--|
| Mining Method | Open Cut | | | |
| Resource | 300ppm Sc cut-off – 33.7Mt at 395ppm Sc, 0.28g/t Pt, 0.11%Ni and 0.06% Co 600ppm Sc cut-off – 1.54Mt at 675ppm Sc, 0.32g/t Pt, 0.16%Ni and 0.14% Co | | | |
| Reserve | 3.9Mt at 550ppm Sc, 0.09%Co and 0.13% Ni | | | |
| Disturbance Area | Mine Site – 67ha Processing Site – 10.6ha | | | |
| Annual Production | Up to 90 000 dry tonnes per annum. | | | |
| Mine Life | 28 years. | | | |
| Total Resource Recovered | Up to 2.5Mt (comprising up to 1.7Mt high grade and 0.8Mt of medium grade) | | | |
| Beneficiation | High pressure acid leach to be undertaken at the Processing Site in Condobolin. | | | |
| Management of Mining Waste | Medium grade ore (400ppm to 550ppm Sc) – stockpiled for future processing Low grade ore (300ppm to 400ppm Sc) – used for rehabilitation operations in a manner that would permit extraction for future processing if required. Waste rock (<300ppm Sc) – used for rehabilitation. | | | |
| General Infrastructure | Mine Site – transportable offices and ablutions, stores and workshop facility, site access road and intersection Processing Site – offices and ablutions, stores, workshops and laydown areas, water and tailings storage facilities. | | | |
| Product Transportation | Ore would be transported from the Mine Site to the Processing Site by B-double or B-triple trucks. Dewatered tailings would be transported from the Processing Site back to the Mine Site by B-triple trucks. | | | |
| Water Management | Mine Site – nil discharge site, water for dust suppression would be sourced from onsite storages or transported to site from a licenced source. Processing Site – nil discharge site, water for processing operations would be sourced from licenced surface water or groundwater sources, excess water would be permitted to evaporate | | | |
| Operational Workforce | Up to 121 persons | | | |
| Hours of Operation | Activity | Proposed Days of Operation | Proposed Hours of Operation | |
| | Land preparation | 7 days per week | 7:00am to 6:00pm | |
| | Construction operations | 7 days per week | 7:00am to 6:00pm | |
| | Mining operations | Monday to Friday | 7:00am to 10:00pm | |
| | Processing operations | 7 days per week | 24 hours per day | |
| | Transportation operations | 7 days per week | 7:00am to 10:00pm | |
| | Maintenance operations | 7 days per week | 24 hours per day | |
| | Rehabilitation operations | 7 days per week | 7:00am to 6:00pm | |
| Capital Investment Value | Approximately A\$125 million | | | |
| Key Environmental Impacts and Mitigation Measures – Mine Site | | | | |
| Groundwater | <ul style="list-style-type: none"> Groundwater inflows - extraction largely above the water table. Minor constraint. Groundwater quality - In-pit tailings will require lining of pit/cell walls. Significant constraint Licencing – minor constraint. | | | |

PROJECT SUMMARY (Cont'd)

Page 2 of 2

| Project Component | Summary of the Project |
|---|--|
| Key Environmental Impacts and Mitigation Measures – Mine Site | |
| Surface water | <ul style="list-style-type: none"> • Surface water quality – Erosion and sediment control plan required. Moderate constraint. • Surface water quantity – Mine site small. Negligible constraint. • Flooding – Negligible constraint. |
| Ecology | <ul style="list-style-type: none"> • Impacts on listed species or communities – limited present. Negligible constraint. |
| Heritage | <ul style="list-style-type: none"> • Negligible to minor constraint. |
| Noise and vibration | <ul style="list-style-type: none"> • Negligible to moderate constraint. |
| Air quality | <ul style="list-style-type: none"> • Minor constraint |
| Soils and land Capability | <ul style="list-style-type: none"> • Minor constraint. |
| Other | <ul style="list-style-type: none"> • Minor constraint. |
| Key Environmental Impacts and Mitigation Measures – Transportation Route | |
| Traffic and transportation | <ul style="list-style-type: none"> • Adequacy of the transport network – Minor constraint. • Road traffic noise – minor constraint. |
| Key Environmental Impacts and Mitigation Measures – Processing Site | |
| Groundwater | <ul style="list-style-type: none"> • Groundwater inflows - Negligible constraint. • Groundwater quality – bunding and sealing of reagent stores, plant area and tailings storage areas required. Significant constraint • Licencing – minor constraint. |
| Surface water | <ul style="list-style-type: none"> • Surface water quality – bunding and sealing of reagent stores, plant area and tailings storage area. Erosion and sediment control plan required. Moderate to significant constraint. • Surface water quantity – Processing site small. Negligible constraint. • Flooding – Negligible constraint. • Water balance/supply – moderate constraint. |
| Air quality | <ul style="list-style-type: none"> • Particulate matter – minor constraint. • Odour – Negligible constraint. • Gaseous emissions – moderate constraint. |
| Visual amenity | <ul style="list-style-type: none"> • Minor constraint. |
| Contaminated land | <ul style="list-style-type: none"> • Minor to moderate constraint. |
| Heritage | <ul style="list-style-type: none"> • Negligible to minor constraint. |
| Noise and vibration | <ul style="list-style-type: none"> • Negligible to moderate constraint. |
| Ecology | <ul style="list-style-type: none"> • Minor constraint |
| Soils and land | <ul style="list-style-type: none"> • Minor constraint. |
| Community | <ul style="list-style-type: none"> • Likely benefit |

LIST OF ACRONYMS

| | |
|-------|---|
| AHD | Australian Height Datum |
| bgl | below ground level |
| BSAL | Biophysical Strategic Agricultural Land |
| DFS | Definitive Feasibility Study |
| DPE | Department of Planning and Environment |
| EIS | Environmental Impact Statement |
| EL | Exploration Licences |
| EPA | Environment Protection Authority |
| PCT | Plant Community Type |
| ROM | Run-of-Mine |
| SEARs | Secretary's Environmental Assessment Requirements |

1. INTRODUCTION

1.1 SCOPE

This *Preliminary Environmental Assessment* has been prepared by R.W. Corkery & Co. Pty Limited on behalf of Platina Resources Limited (the Applicant) to describe the proposed Owendale Scandium Project (the Proposal). The proposed activities would be undertaken within two separate areas referred to as:

- the Mine Site located approximately 13km southwest of Tullamore; and
- the Processing Site located approximately 5km west of Condobolin (**Figure 1**).

This document has been prepared in accordance with the Mine Application Guideline published by the Department of Planning and Environment (DPE) dated October 2015.

The intent of this document is to provide an overview of the Proposal. The document has been prepared in sufficient detail to enable relevant regulators to provide their requirements for inclusion in the Secretary's Environmental Assessment Requirements (SEARs) for the *Environmental Impact Statement* (EIS) to accompany the application for development consent. This document is also intended to allow the community surrounding the Mine Site and Processing Site to develop an understanding of the proposed activities as they are currently understood to facilitate ongoing consultation and discussions with the Applicant.

1.2 THE APPLICANT

Platina Resources Limited (the Applicant) is an international resource company focused on the exploration and development of a global portfolio of precious and specialty and based metal projects. The Applicant is listed on the ASX and is based on the Gold Coast, Australia. The Applicant's management team includes a small but highly experienced Board and senior management team, including the following.

- Mr. Brian Moller (LLB (Hons)) - Non-Executive Chairman.
- Dr Chris Hartley (BSc, PhD), Executive Director.
- Paul Jurman - Non-Executive Director.
- Mr John Horton (BSc(Hons) DipCompSc, PGradCertGeostats, FAusIMM(CP) MAIG), Principal Geologist.
- Mr Roland (Roly) Wells (ARMIT Min, ARMIT Civ), Project Director.
- Boyd Willis (BAppSc(AppChem), FAusIMM(CP)).

1.3 PROJECT SITE

The Project Site for the Proposal, or the area over which any future development consent would apply, comprises two separate components, the Mine Site and the Processing Site. **Table 1** and **Figure 2** present the land titles within the Project Site. In addition, **Figures 3** and **4** presents landownership and the location of residences surrounding the Mine Site and Processing Site respectively.



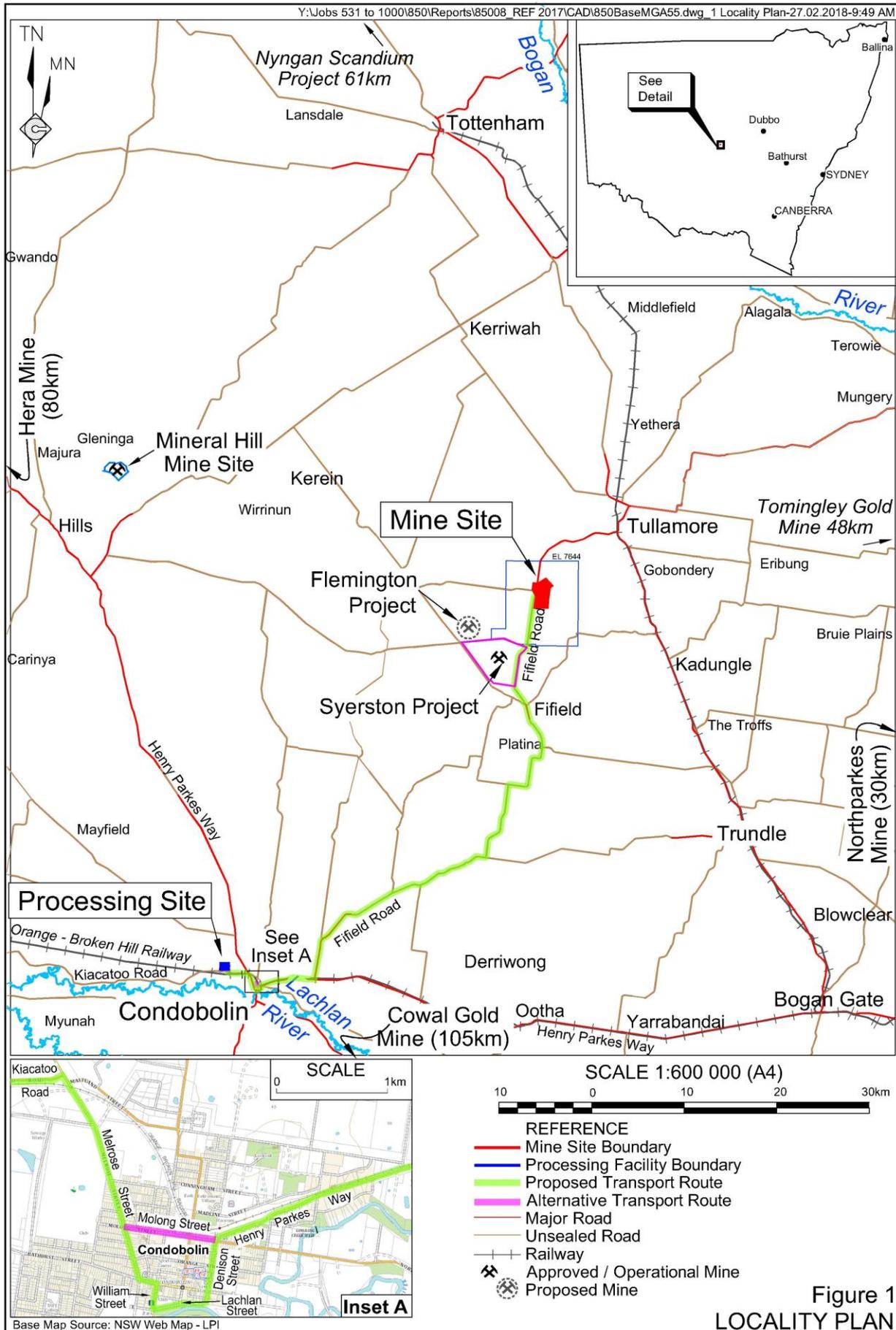
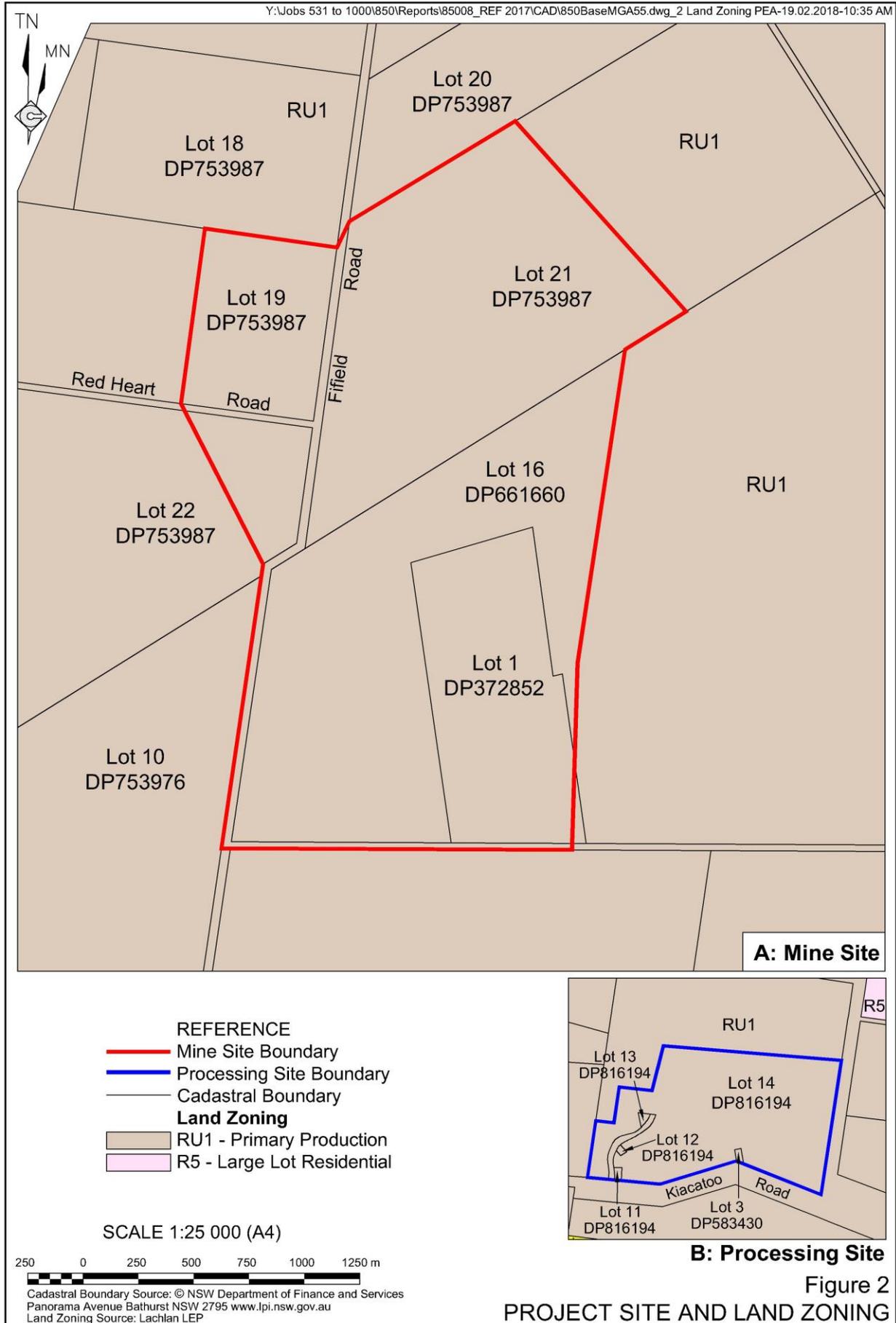
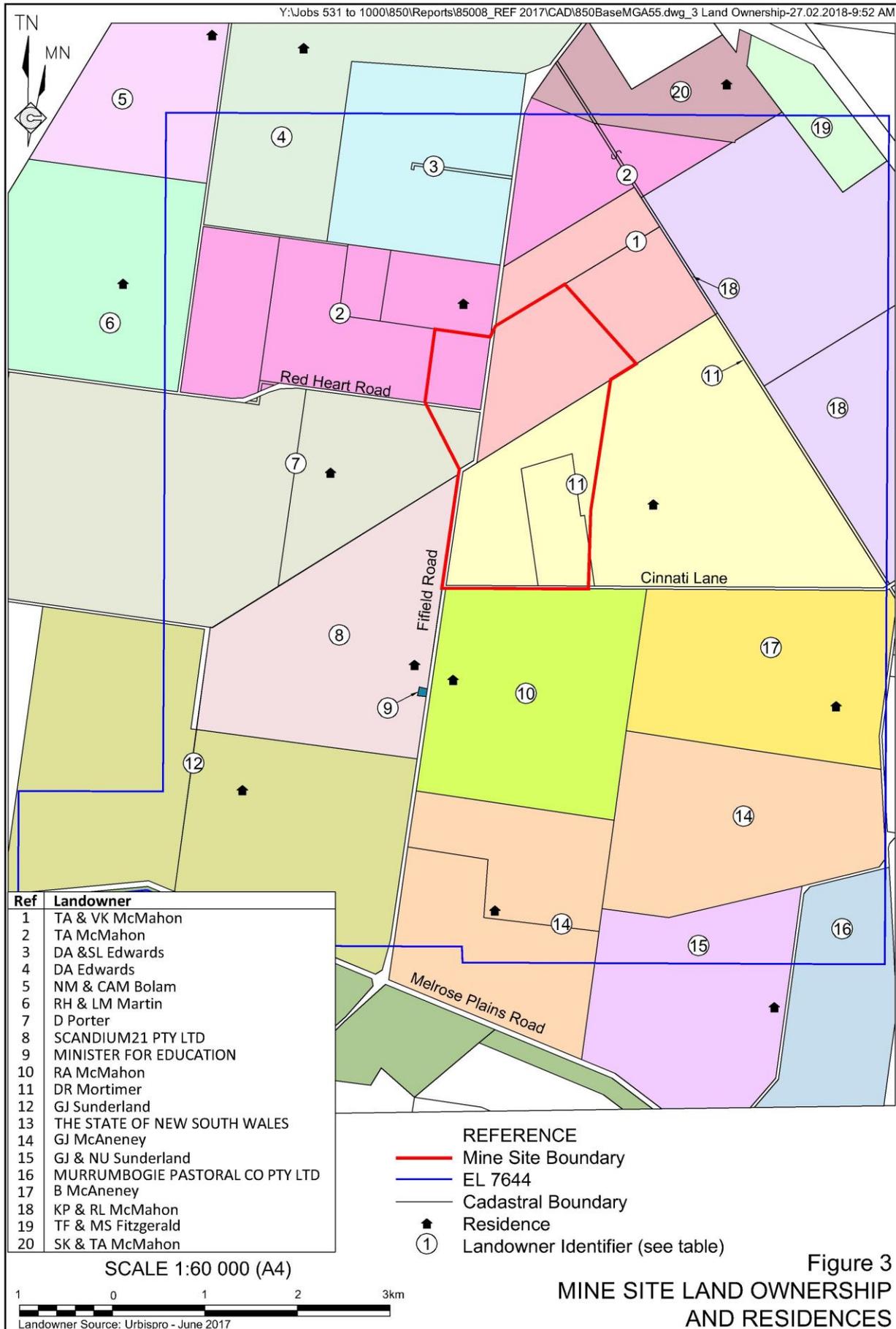


Figure 1
LOCALITY PLAN





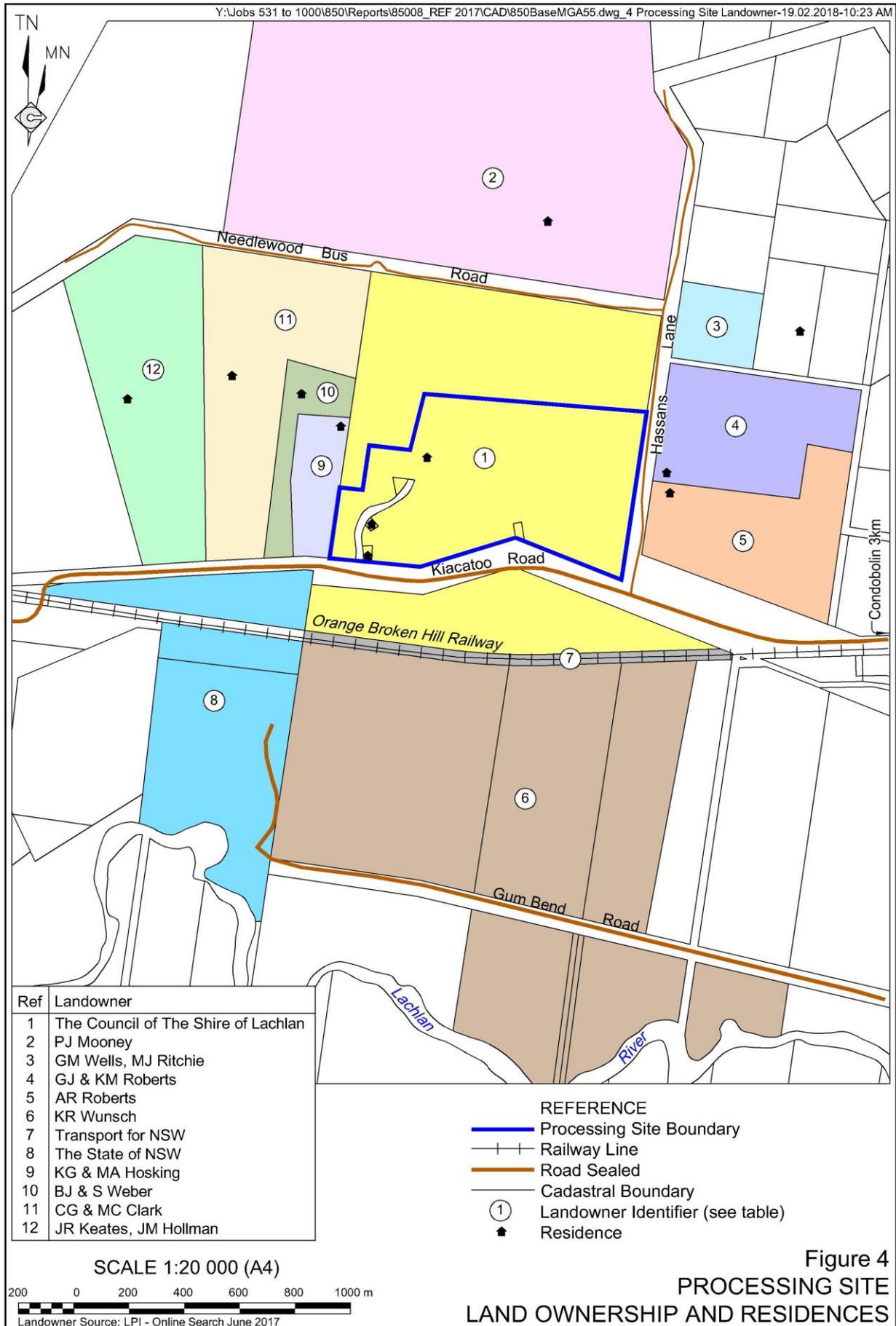


Figure 4
PROCESSING SITE
LAND OWNERSHIP AND RESIDENCES

Table 1
Project Site

| Lot | Deposited Plan | Lot | Deposited Plan |
|----------------------|----------------|------------------------|----------------|
| Mine Site | | Processing Site | |
| Part 21 | 753987 | 11 | 816194 |
| Part 22 | 753987 | 12 | 816194 |
| Part 19 | 753987 | 13 | 816194 |
| 1 | 372852 | 14 | 816194 |
| Part 16 | 661660 | 3 | 583430 |
| Unnamed road reserve | | | |

1.4 APPROVALS, LICENCES AND CONSENTS REQUIRED

In order to construct and operate the Proposal, the Applicant will require the following approvals, licences and consents.

- Development Consent from the Minister for Planning and Environment and under Division 4.1 of the *Environmental Planning and Assessment Act 1979*. The Proposal is classified as State Significant Development in accordance with Clause 5 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (State and Regional Development SEPP) as it would have a capital investment value of more than \$30 million.
- An Environment Protection Licence¹ issued by the Environment Protection Authority (EPA) under Section 47 of the *Protection of the Environment Operations Act 1997*.
- One or more Mining Leases¹ issued by the Department of Planning and Environment – Division of Resources and Geoscience under the *Mining Act 1992*. The Applicant, holds Exploration Licences (EL) 7644 and 8672 over the full area of the Mine Site and the southern section of the Processing Site (**Figure 1**). The Applicant is seeking advice in relation to the requirement for a Mining Lease for the Processing Site.
- A works approval and water access licence under the *Water Management Act 2000* for the supply of water under the *Water Sharing Plan for the Lachlan Regulated River Water Source* or the *Water Sharing Plan for the Lachlan Unregulated and Alluvial Water Sources*. Alternatively, the Applicant may source water under a commercial arrangement from Lachlan Shire Council.
- Section 138 Permit under the *Roads Act 1993*, for construction of the intersections of the site access roads and Fifield Road (Mine Site) and Kiacatoo Road (Processing Site).¹

¹ By virtue of Section 89K of the EP&A Act, such an authorisation or approval cannot be refused if it is necessary for carrying out State Significant Development that is authorised by a development consent under Division 4.1 of the EP&A Act. The authorisation or approval must be substantially consistent with the development consent.

2. DESCRIPTION OF THE PROPOSED ACTIVITIES

2.1 INTRODUCTION

2.1.1 Uncertainties

This section provides a necessarily conceptual description of the Proposal. The Applicant is currently preparing of a Definitive Feasibility Study (DFS) which is likely to further refine the proposed activities. As a result, there are a number of uncertainties in relation to some aspects of the proposed development. However, the Applicant anticipates that the DFS process will resolve those uncertainties and that the final description of the proposed activities presented in the EIS will reflect both the matters identified in the DFS and the matters identified during the scoping phase for the EIS.

This subsection provides an introduction to the proposed activities associated with the Proposal. The information provided in this subsection is preliminary and is provided to a level of detail that reflects the Applicant's current understanding of the Proposal.

2.1.2 OBJECTIVES

The objectives of the Applicant in the construction and operation of the Proposal include:

- to safely mine and process the economically extractable resources to produce a product for sale to local and overseas customers for use in the manufacture of innovative materials and products;
- to provide ongoing, stable, secure employment to its workers and to generate economic activity and wealth for the local, regional and State communities;
- to manage impacts on surrounding residents and the local environment during construction and operations;
- to continue to communicate and maintain transparent relationships with the community and relevant agencies;
- to implement a level of management control and mitigation measures that ensures compliance with relevant statutory requirements and reasonable community expectations;
- to create a final landform for the Mine Site that would be consistent with the existing land use, namely agriculture;
- to create a final landform for the Processing Site suitable for nature conservation; and
- to achieve the above objectives in a cost-effective manner to ensure security of employment and the continued economic viability of the Applicant.

2.1.3 OVERVIEW OF THE PROPOSAL

The Proposal would comprise the following activities (**Figure 5**).

- Development and operation of one or two small open cuts within the Mine Site with an annual production rate that would increase in a staged manner up to 90 000tpa using conventional free dig, load and haul mining methods.
- Construction and operation of a high-pressure acid leach plant within the Processing Site to leach and extract the contained scandium and cobalt from the ore.
- Transportation of ore approximately 70km by public road from the Mine Site to the Processing Site using B-triple trucks and back-loading of dewatered tailings.
- Placement of the dewatered tailings initially into a small Tailings Storage Facility until adequate volume becomes available for direct in-pit placement of tailings.
- Development of a range of ancillary infrastructure, including Waste Rock Emplacements, water storage and management facilities, site access roads and intersections with Fifield Road (for the Mine Site) and Kiacatoo Road (for the Processing Site).
- Progressive rehabilitation of the Mine Site and Processing Site to achieve final landforms suitable for agriculture and/or nature conservation.

2.2 MINE SITE ESTABLISHMENT

2.2.1 Introduction

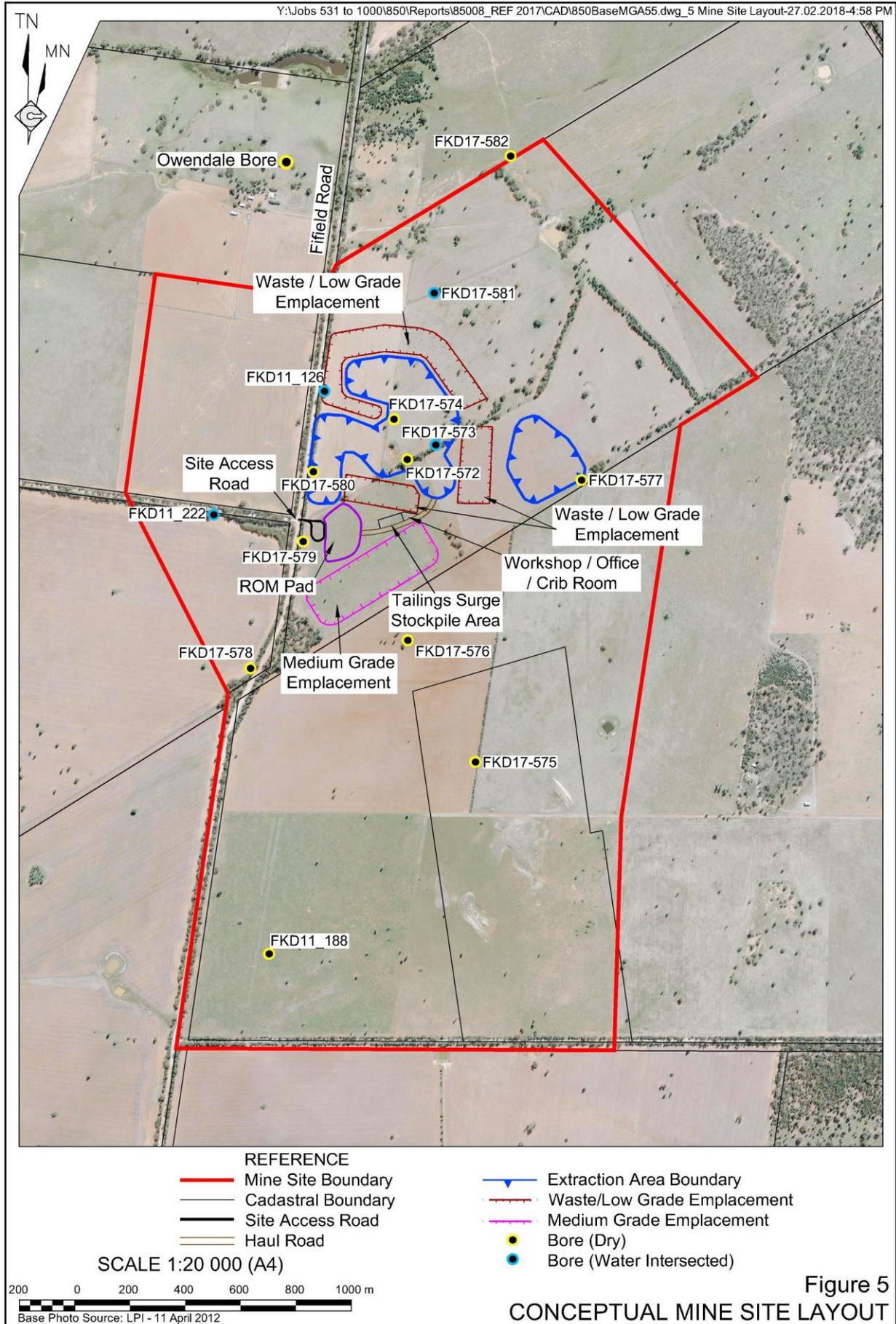
Prior to the commencement of mining operations, the Applicant would undertake a range of site establishment activities. These would include the following.

- Vegetation clearing (Section 2.2.2).
- Soil stripping and stockpiling (Section 2.2.3).
- Construction of the Site Access Roads and intersections with Fifield Road (Mine Site) and Kiacatoo Road (Processing Site).

2.2.2 Vegetation Clearing Operations

The Applicant has designed and will continue to refine the layout of the Mine Site in a manner that would, to the extent practicable, minimise the extent of vegetation to be disturbed. In order to minimise potential impacts associated with vegetation clearing operations, the Applicant would implement the following.

- Clearly mark on the ground approved areas of disturbance and ensure that only vegetation within approved areas is cleared.
- Check all hollow-bearing trees for nesting or roosting fauna prior to disturbance.



- Remove larger vegetation with a bulldozer or using a chain saw. Recover hollows and habitat timber for subsequent relocation to areas undergoing rehabilitation or to biodiversity offset areas. Remaining vegetation would be, where practicable, mulched for use during rehabilitation operations within the Mine Site or elsewhere.
- Remove groundcover with the topsoil.

2.2.3 Soil Stripping and Stockpiling Operations

The Applicant would engage a soil consultant to undertake a Soils and Land Capability Assessment. The Applicant would comply with the soil stripping and stockpiling recommendations prepared as part of that assessment. However, the Applicant would indicatively implement the following.

- Strip soil material to the depths recommended in the Soils and Land Capability Assessment.
- Use soil materials immediately in areas undergoing progressive rehabilitation or place into stockpiles.
- Construct topsoil and subsoil stockpiles in a manner that would ensure the viability of the material for use during rehabilitation operations.
- Revegetate soil stockpiles with suitable groundcover species to facilitate stabilisation of the surface material and ongoing viability of the stockpiled soil.

2.3 MINING OPERATIONS

2.3.1 Introduction

Development consent is to be sought for extraction of ore and waste rock from two small open cuts, although only one open cut would be mined at a time. This section provides an overview of the layout of the open cut, a description of the proposed mining methods, mining rate and sequence and the equipment that would be used during mining operations.

2.3.2 Design of the Proposed Open Cuts

The Applicant proposes to construct one or two small open cuts within the Mine Site (**Figure 5**). Geotechnical sampling and analysis has been completed with the following mine design criteria.

- Wall angle65°
- Bench height..... 10m
- Berm width..... 5m
- Overall wall angle (toe to crest)52°
- Design depth.....generally 25m but up to 35m below surface

2.3.3 Material Classification

Section 3.1 presents an overview of the resources and reserved within the Mine Site. Based on this work, the Applicant has identified four classes of material within the open cuts as follows.

- High grade ore, namely ore with a grade of 550ppm Sc or more. This material would be promptly transported to the Processing Site and processed to produce Sc₂O₃.
- Medium grade ore, namely ore with a grade between 400ppm and 550ppm Sc. A proportion of this material would be processed during the life of the Mine with the remainder of this material stockpiled separately for processing following completion of the life of the Proposal under a separate or modified development consent.
- Low grade ore, namely ore with a grade between 300ppm and 400ppm Sc. This material would be stockpiled in a manner that would permit it to be used during rehabilitation operations and recovered at a future date if required.
- Waste rock, namely material with a grade of 300ppm or less. This material may be divided into three different classes, each with a different end use as follows. In all cases higher grade material would be used as cell capping material to allow for future recovery.
 - Overburden material – this has no scandium and would be used for internal cell floor and wall construction and backfilling the upper sections of the open cuts.
 - Limonite material – this has some scandium and would generally be used for cell roof construction and backfilling to stabilise cell walls where they are expected to be re mined during another cut-back.
 - Sapolite material – this has some scandium and would be used for cell wall construction

Table 2 presents the anticipated material quantities within the combined open cuts.

Table 2
Current Ore Reserve Material Quantities

| Material Class | Approximate Quantity |
|-----------------------------------|----------------------|
| High Grade | 1.7Mt |
| Medium Grade | 2.2Mt |
| Low Grade | 1.7Mt |
| Waste Rock combined | 6.4Mt |
| Total | 12.1Mt |
| Source: Platina Resources Limited | |

2.3.4 Mining Methods and Equipment

The Applicant anticipates that the proposed open cuts would be mined in stages or cells, with each cell then used for tailings placement and backfilled (see Section 2.6.4). Each cell would be separated from the adjacent cell by an internal cell wall constructed from waste material which would permit concurrent placement of dewatered tailings with mining operations.

The Applicant, at this stage, proposes a maximum annual production rate of 90 000 tonnes of ore per annum.

Mining operations would be undertaken using free dig techniques, with no drill and blasting required. Mining equipment would indicatively include the following.

- 2 x excavators.
- 8 x articulated haul trucks.
- 2 x front-end loaders.
- 1 x small grader.
- 1 x small bull dozer.
- 1 x water cart.
- 1 x compactor.
- 1 x fuel cart.

Mining would be undertaken Monday to Friday on day shift only.

2.3.5 Material Handling and Management Operations

The Applicant would extract each of the material classes identified in Section 2.3.3 separately. These materials would be handled and managed as follows.

- High grade ore – this material would be stockpiled in a range of ore stockpiles within the Run-of-Mine (ROM) Pad according to grade and other material characteristics. The various grades of ore materials would be blended during loading to ensure a consistent grade of material for the product feed to the processing plant. This material would then be loaded into road registered B-triple trucks for transportation to the Processing Site. The ROM Pad would be sheeted with low or medium grade ore and would be designed in a manner that would ensure that sediment laden water would be captured for reuse for mining-related purposes.
- Medium grade ore – this material would be stockpiled long-term within the Medium Grade Ore Emplacement. The emplacement would be progressively shaped and rehabilitated to ensure the stability of the structure and to minimise the potential for discharge of sediment laden water. Active sections of the emplacement would be designed in a manner that would ensure that sediment laden water would be captured for reuse for mining-related purposes.
- Low grade ore – would be placed within the Waste / Low Grade emplacement, with each class of material stockpiled separately according to its proposed final use. The emplacement would also be progressively shaped and rehabilitated to

ensure the stability of the structure and to minimise the potential for discharge of sediment laden water. Active sections of the emplacement would be designed in a manner that would ensure that sediment laden water would be captured for reuse for mining-related purposes.

2.3.6 Mining Schedule

Mining would entail selectively excavating each class of ore and separately stockpiling that material within the ROM Pad such that the different grades can be blended before transport to the Processing Site. This would require pre-mining of approximately three months of mill feed at any stage.

The Applicant anticipated the following mining schedule.

- Processing year 150% ramp-up for an initial 25 000tpa facility
- Processing year 280% ramp-up for an initial 25 000tpa facility
- Processing year 380% ramp-up for an expanded plant 40 000tpa facility
- Processing year 440 000tpa
- Processing year 5 onwards..... 90 000tpa²

2.4 TRANSPORTATION OPERATIONS

2.4.1 Introduction

The Applicant has elected to establish a processing facility within the Processing Site, approximately 70km by road from the Mine Site. The EIS will include a full justification for this approach, however, for the purposes of this document, the Applicant notes that processing operations would require substantial quantities of water, power, gas, reagents and lime. Indeed, the quantity of reagents and limestone consumed would be greater than the volume of ore processed. The Processing Site is located adjacent to a rail line, close to the Lachlan River and power and gas infrastructure. Furthermore, a substantial number of people would be required for processing operations, with the Applicant anticipating that the Processing Site's proximity to Condobolin would make sourcing that labour easier.

As a result, the Applicant contends that transporting the ore from the Mine Site to the Processing Site would involve fewer vehicle movements than transporting the reagents and consumables to the Mine Site. In addition, this arrangement would also result in fewer employee travel hours, an important safety consideration.

² Following installation of the proposed 50 000tpa plant



2.4.2 Proposed Transportation Route

Transportation operations of ore would involve initially road train and B-triple truck configurations travelling between the Mine Site and Processing Site via the following route (**Figure 1**). The entire proposed transportation route is currently approved for 25/26m B-double trucks.

- Fifield Road – a two lane, sealed regional road, including a section that passes through the village of Fifield.
- Henry Parkes Way – a two lane, sealed State road.
- Dennison, Lachlan, William and Melrose Streets – a two lane, sealed Regional roads within the town of Condobolin.
- Kiacatoo Road – a two lane, sealed regional road.

The road distance between the Mine Site and the Processing Site is approximately 70km, with the entire route approved for used by 25m/26m B-triple trucks. Indeed, the section of the route from the Mine Site to Condobolin is the subject of regular road train and B-double traffic.

An alternative transportation route has been proposed via Molong St. This route would substantially reduce the distance that Project-related trucks would travel within Condobolin, as well as substantially reducing the number of residences passed. However, the alternative transportation route would require heavy vehicles to pass the Condobolin Public and High Schools.

In addition to ore, a significant quantity of limestone would be sourced either from one of two operations in the Bogan Gate vicinity or from the Westlime crushing plant at Parkes. These would be undertaken under commercial arrangement with the suppliers and likely to be by B-double or road train transport configurations. The transportation route would also be via Henry Parkes Way, through Condobolin to the Processing Site.

2.4.3 Proposed Road Upgrades

The Applicant would construct three intersections as follows.

- An intersection on Fifield Road to permit access for light and heavy vehicles to the Mine Site.
- An intersection on Kiacatoo Road to permit access for heavy vehicles to the Processing Site.
- A second intersection on Kiacatoo Road, if required, to permit access for light vehicles to the Processing Site.

The required intersections would be constructed in accordance with the *Road Design Guidelines* in consultation with Lachlan Shire Council and Roads and Maritime Service. A traffic and transportation assessment will be commissioned, however, the Applicant anticipates that standard BAL/BAR intersections will be required, with the possible exception of the intersection of the heavy vehicle intersection on Kiacatoo Road where sight distances may require an alternative treatment.

2.4.4 Transportation hours and Levels

2.4.4.1 Hours of Transportation

Transportation operations would be undertaken between the hours of 7:00am and 10:00pm only, 7 days per week.

2.4.4.2 Ore Transportation Levels

The Applicant anticipates that, based on a maximum production rate for 90 000tpa, and an average capacity of 50t/load for the lower road train configuration, that an average of approximately 6 return trips or 12 heavy vehicle movements would be required per day. However, taking into account the fact that:

- the tonnage of tailings is likely to be approximately 125% of the tonnage of processed ore;
- allowing for peaks in transportation rates to account for holiday periods or other factors such as reduced transportation rates during peak agricultural periods such as harvest; and
- a preference for Monday to Friday operations where possible.

As a result, the Applicant anticipates that the maximum daily vehicle movements would be approximately 16 return trips or 32 heavy vehicle movements per day. These movements are expected to be evenly spread throughout the day, with maximum hourly movements of approximately 2 return trips or 4 heavy vehicle movements.

2.4.5 Other Vehicle Movements

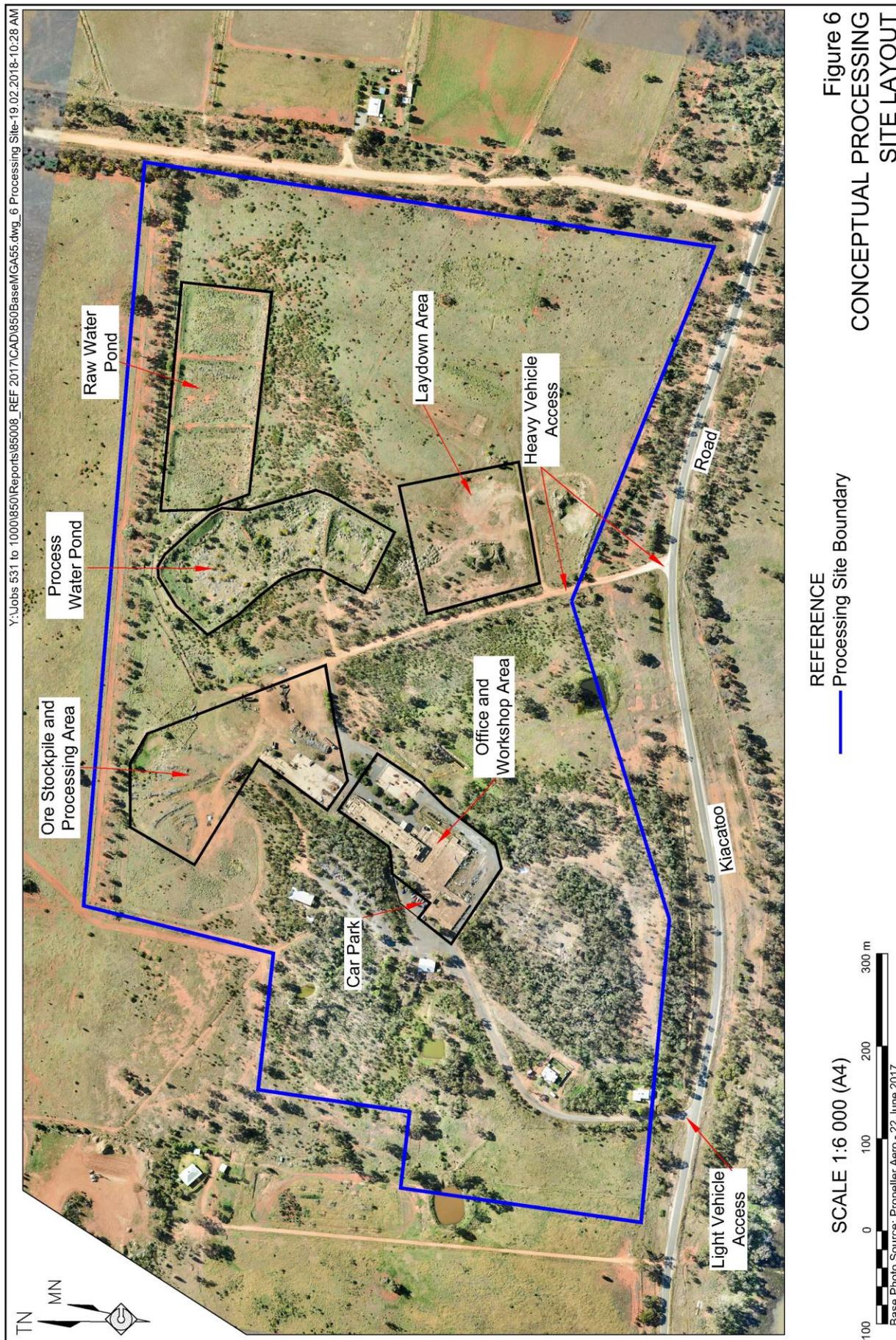
Additional vehicle movements would be required for reagent and consumable deliveries and for personnel. The EIS will include a description of these movements.

The most significant component is the regular import of limestone from Bogan Gate or Parkes at a rate of approximately 25% of the ore trucking rate.

2.5 PROCESSING OPERATIONS

2.5.1 Introduction

The Applicant proposes to construct the processing plant within the Processing Site (**Figure 6**). The Processing Site was formerly used as the Condobolin Abattoir, with a range of infrastructure, including buildings, roads, car parks, water tanks, dams and hardstands remaining. The Applicant has reached in-principle agreement with the owner of the land, Lachlan Shire Council, to lease or purchase the land following receipt of development consent.



Based on test work completed to date, the Applicant anticipates that ore would be processed using a high-pressure acid leach technique. While further work is in progress to refine the process flow sheet, this sub-section provides a brief overview of the proposed processing operations and reagent management as it is currently understood.

It is acknowledged that processing operations for the Proposal are complex and are likely to represent a higher risk for environmental harm than other aspects of the Proposal. While these risks, and their management are well understood, the *Environmental Impact Statement* will include a detailed description of the proposed processing operations and management measures that would be implemented.

2.5.2 Ore Stockpiling and Processing Operations

Ore would be blended at the Mine Site during ROM Pad operations. Ore would then be delivered to the Processing Site from the Mine Site via road trucks. This material would be stockpiled within the Ore Stockpiling and Processing Area. The stockpile size would be adequate to permit up to several weeks feed to accommodate road maintenance or agricultural peak seasons. Stockpiled ore would be loaded into a hopper using a front-end loader from where it would be fed to a crushing circuit and small wet ball mill.

A similar but smaller limestone supply will be required. This might be pre-ground fines or raw limestone that would be crushed on-site.

Ground material would then be pumped through a series of preheating stages to an autoclave operating at a nominal 255°C and 4500kPa where concentrated sulphuric acid would be added. Scandium, nickel and cobalt would be leached from the ore into the solution.

The leached slurry would then be cooled, and the liquid fraction would be mixed with an organic extractant which would extract the scandium from the leach solution.

Scandium, nickel and cobalt would then be stripped from the organic extractant using a strip liquor.

Scandium would then be precipitated from the strip liquor for further purification prior to calcining in an oven at 900°C to form a high purity scandium oxide (S_2O_3) powder.

Nickel and cobalt would be recovered from the scandium depleted solution as a mixed nickel-cobalt sulphide precipitate.

Once the liquid fraction has been removed from the leached slurry, the solid fraction would be transferred to a neutralisation circuit where hydrated lime and / or limestone would be added to increase the pH to near neutral. The material would then be dewatered using a filter press to create a “spadeable” material and stockpiled within a covered, concrete sealed area pending transportation from to the Mine Site.

The Applicant proposes to construct the processing plant in two stages as follows.

- Stage 1A – 25 000tpa capacity, ramping up over a two year period
- Stage 1B – 40 000tpa capacity, to be achieved through modification of the Stage 1 Plant.

- Stage 2 – 90 000tpa through the installation of a second processing stream with a further capacity of 50 000tpa.

2.5.3 Reagent Management

Reagents that would be used during processing operations would include the following.

- Concentrated sulphuric acid.
- Sodium hydroxide.
- Sodium hydrosulphide.
- Limestone
- Hydrated Lime.
- Flocculants.
- Water treatment chemicals for boiler feed water and cooling water treatment.
- Organic solvent.

Bulk reagents would be delivered to Site in a mixture of bulk tanker, drum, bulka bag and transport containers. The Applicant is investigating transportation options, with the potential for rail transportation for some reagents currently under investigation.

Reagents would be stored separately according their chemical properties and potential hazards and in accordance with the requirements of:

- the relevant safety data sheets;
- manufacturer's instructions; and
- relevant Australian standards.

In summary, however, the following management measures would be implemented to ensure that the storage, transfer and use of reagents within the Processing Site does not result in adverse environmental impacts.

- Transport reagents in accordance with the requirements of the *Australian Dangerous Goods Code*.
- Store and handle all reagents in accordance with the manufacturer's instructions, the relevant Safety Data Sheet and, where relevant, Australian Standard AS 4452 *The Storage and Handling of Toxic Substances*. This would include the following.
 - Store all reagents in bunded areas, or in double skinned tanks with adequate capacity to retain 110% of the volume of the largest container within the bund or outer liner.
 - Store incompatible reagents separately.
- Ensure that adequate spill detection and clean up systems are in place and that plant operators are adequately trained and experienced in managing these materials.

- Store the minimum practicable quantity of reagents required for ongoing operations.
- Control access to reagent and storage areas to prevent accidental or deliberate discharge or misuse of reagents.

2.6 TAILINGS MANAGEMENT

2.6.1 Introduction

The Applicant proposes to backload tailings from the Processing Site to the Mine Site. This section provides a necessarily brief description of the tailings transportation, placement and management operations, as well as the indicative design of the in-pit and out-of-pit tailings storage facilities.

2.6.2 Tailings Transportation Operations

Neutralised and dewatered tailings would be stockpiled in a covered and concrete sealed area. This material would comply with the physical requirements to be classified as Solid Waste, namely it would:

- have an angle of repose of more than 5° above horizontal;
- not become free-flowing at or below 60° Celsius or when it is transported; and
- be capable of being picked up by a spade or shovel.

The material would be loaded into B-triple trucks and backloaded back to the Mine Site. The Applicant anticipates that the tonnage of tailings to be transported to the Mine Site would be approximately 125% of the tonnage of ore processed. As a result, the proposed maximum tonnage of tailings to be transported to the Mine Site would be approximately 112 500tpa.

2.6.3 Out-of-pit Tailings Storage Facility

If necessary, the Applicant would construct an initial interim out-of-pit Tailings Storage Facility to accept and store tailings produced during the initial phase of the Proposal, until adequate capacity has been generated within the proposed open cut to permit in-pit placement. The location of the proposed facility has yet to be determined, however, the facility would have the minimum design characteristics.

- Permeability of the floor and walls – a maximum of 1×10^{-9} mm/s over 1m or equivalent.
- Slopes of the outer embankment – maximum 1:4 (V:H)
- Upper surface – capped with a liner equivalent to the above with a store and release cover suitable for a final land use of agriculture.

2.6.4 In-pit Tailings Storage Facility

Once adequate capacity has been established within the proposed open cut, the Applicant would establish an in-pit Tailings Storage Facility. In summary, this would be established using waste rock material to create a tailing placement cell. Each cell would have design characteristics equivalent to the out-of-pit Tailings Storage Facility. In particular, the Application would ensure that the permeability of the floor and walls of each cell achieves the maximum permeability of 1×10^{-9} m/s over 1m or equivalent. This may be achieved through:

- the natural permeability of the *in situ* material; or
- engineering of the *in situ* material to achieve the required standard, including through the addition of bentonite or similar materials; or
- installation of an artificial liner.

Tailings placed in-pit would be similarly covered with an impermeable liner and a store and release cover suitable for a final land use of agriculture.

Tests to date indicate the pit waste materials will provide the clay materials suitable for a compacted clay cell lining.

2.6.5 Tailings Characteristics

The Applicant acknowledges the importance of tailings management and ensuring that the proposed facilities would be suitable for the long-term storage of that material. As a result, the EIS will provide further information to demonstrate the characteristics of:

- the tailings to be placed, including their long-term potential to generate leachate with the potential to contaminate groundwater; and
- the material surrounding the open cuts, including demonstrating that the open cut walls and floor would have a permeability no greater than 1×10^{-9} m/s over 1m or equivalent, or if not, the actions that would needed to be implemented to achieve that standard.

2.7 ANCILLARY ACTIVITIES

Ancillary activities for which development consent would be sought include the following.

- Removal of infrastructure from the Processing Site that would not be required for the Proposal. This may include concrete slabs, structures, buildings and other infrastructure.
- Establishment of offices, stores, workshops and related infrastructure on both the Mine Site and the Processing Site.
- Establishment of power, communication and water supply infrastructure within the Processing Site. The Mine Site would be equipped with generator power, mobile telecommunication and water required for mining operations would be sourced from bores or transported to site.

- Establishment of a suitably licenced pumping station and related infrastructure to transfer water from the Lachlan River or elsewhere to the Processing Site.

2.8 DEVELOPMENT SCHEDULE

The Applicant notes that of the two Scandium-related operations to have received development consent in NSW, neither have commenced construction operations pending resolution of market-related matters, including securing funding and offtake agreements. As a result, the Applicant is not willing to propose a development schedule at this stage.

2.9 HOURS OF OPERATION AND LIFE OF THE PROPOSAL

2.9.1 Hours of Operation

Table 3 presents the conceptual hours of operation for the Proposal.

Table 3
Conceptual Hours of Operation

| Activity | Proposed Days of Operation | Proposed Hours of Operation |
|-----------------------------------|--|-----------------------------|
| Land preparation | 7 days per week on a campaign basis | 7:00am to 6:00pm |
| Construction operations | 7 days per week for a period of approximately 9 to 12 months | 7:00am to 6:00pm |
| Mining operations | Monday to Friday | 7:00am to 10:00pm |
| Processing operations | 7 days per week | 24 hours per day |
| Transportation operations | 7 days per week | 7:00am to 10:00pm |
| Maintenance operations | 7 days per week | 24 hours per day |
| Rehabilitation operations | 7 days per week | 7:00am to 6:00pm |
| Source: Platina Resources Limited | | |

2.9.2 Life of the Proposal

The Applicant has identified Ore Reserves to allow mining for a period of 47 years. However, the proposed open cuts and associated Ore Reserves only access one section of the identified Mineral Resource, with substantial resources remaining. As a result, the Applicant notes that there is potential for mining to be ongoing over several generations. This fact has influenced the design of the Project Site layout, with emphasis placed on ensuring that future resources are not sterilised.

Despite the above, the Applicant acknowledges that development consent spanning intergenerational timeframes are not considered appropriate by the Community. As a result, the Applicant is seeking development consent for a period of 30 years, inclusive of

- 2 years to complete initial site preparation and construction operations. and
- 28 years of mining operations.

As the Mine Site would be progressively rehabilitated, final rehabilitation operations would be limited and would be expected to be completed following completion of mining operations.

2.10 EMPLOYMENT, ECONOMIC CONTRIBUTION AND CAPITAL INVESTMENT VALUE

2.10.1 Employment

The Applicant anticipates that the following full-time equivalent positions for the largest stage would indicatively be required to operate the Proposal. The proposed staged development would facilitate a staged build-up of labour resources.

- Mining operations40 positions
- Processing and administration operations73 positions
- Transportation operations.....8 positions

In addition, the Applicant anticipates that additional indirect positions would be created as a result of the Proposal.

The Applicant anticipates that, with the exception of initial construction-related personnel, that all positions would be residential, with employees and contractors residing in either Condobolin, Parkes or surrounding communities. The Applicant has commenced discussions with Lachlan Shire Council and understands that there is availability of rental accommodation in Condobolin and that additional land is available for residential development if required. The Applicant will initiate similar discussions with Parkes Shire Council in relation to the availability of accommodation in the Parkes Local Government Area during the Scoping Phase for the EIS.

2.10.2 Economic Contribution

The Applicant anticipates that that Proposal would contribute the following to the local, regional, State and National economies annually throughout the life of the Proposal. All figures are approximate, based on full production, and will be reviewed and revised as part of the DFS process. In summary, the Applicant anticipates that the Proposal would contribute approximately \$30 million per annum at full production to the local, Regional and State economies, including \$4.1 million in royalties to the NSW government.

- Wages and salaries
 - Mining \$7 million
 - Processing \$9.7 million
- Local and regionally-based contractors and suppliers (a substantial proportion of which would be paid as wages and salaries)
 - Mining \$6 million
 - Processing..... \$3.5 million
- Royalties..... \$4.1 million

2.10.3 Capital Investment Value

The Applicant anticipates that the capital cost for the Proposal for the purpose of the DFS would initially be approximately \$50 million. Subsequent expansion of the processing facility would be likely to increase the capital cost for the accounting purposes to approximately \$175 million. The Applicant notes that these estimates are conceptual at this stage and that the methodology used to determine capital cost estimates presented in a DFS are not necessarily aligned with the methodology used to determine the Capital Investment Value (CIV) for the purpose of the application for Development Consent. As a result, the Applicant will review the capital cost and provided further justification for the final CIV at the time of submission of the EIS.

2.11 FINAL LANDFORM, LAND USE AND REHABILITATION

The final Mine Site landform would include the following.

- One or two backfilled open cuts with the final land form approximately 2m higher than original surface elevation.
- Medium grade stockpile backfilled into a pit void in a manner that would be suitable for future extraction and processing, pending receipt of a modified or additional development consent.
- No waste rock emplacements.
- All other areas of disturbance rehabilitated to a state consistent with its original purpose.

The final Processing Site landform would include the following.

- All buildings and other infrastructure not suitable for the final land use would be removed. Buildings and infrastructure that would be required for the final land use would be made safe and, if required, development consent for their final use would be obtained.
- All concrete sealed areas, bunds, footings and paths not required for the final land use would be removed, with the concrete crushed and recycled.
- All areas of disturbance would be ripped, shaped and covered with soil in a manner consistent with the existing landform.
- Native vegetation consistent with the surrounding vegetation communities would be established.

The final land use for the Mine Site would be consistent with the existing land use, namely agriculture. The final land use for the Processing Site would be nature conservation.

3. STRATEGIC CONTEXT AND CONSULTATION

3.1 TARGET RESOURCE

3.1.1 Introduction

This subsection provides an overview of the geological setting and mineral resources and reserves within the Mine Site. This information draws upon information within the following ASX announcements. These documents are available on the Applicants website.

- *Significant increase to the Owendale Mineral Resource* dated 9 August 2017.
- *Maiden Scandium and Cobalt Reserve* dated 13 September 2017.

3.1.2 Geological Setting

The Owendale Scandium Deposit is associated with a Devonian age Alaskan style intrusive complex comprising mafic and ultramafic phases. During weathering of these intrusive phases, particular elements become concentrated in the weathered laterite as a result or removal of some elements and concentration of others. The Applicant has identified a significant area in which scandium, platinum, copper, cobalt and chrome have become enriched.

3.1.3 Mineral Resource

While further details are available in the Applicant’s public announcements, **Table 4** presents the published mineral resource for the deposit at two difference cut-off grades, namely 600ppm and 300ppm. The Applicant notes that with 33Mt at 395ppm Sc that the Owendale deposit represents the “largest and highest-grade scandium, cobalt and platinum deposit so far reported.”

Table 4
Owendale Mineral Resource

| Status | Tonnes (Mt) | Grades | | | | Contained Metal | | | |
|--------------------------|--|------------|-------------|-------------|-------------|-----------------|------------|---------------|---------------|
| | | Sc (ppm) | Pt (g/t) | Ni (%) | Co (%) | Scandia (t) | Pt (koz) | Ni (t) | Co (t) |
| 300ppm Sc Cut Off | | | | | | | | | |
| Measured | 6.9 | 440 | 0.42 | 0.13 | 0.07 | 4,700 | 94 | 9,200 | 5,000 |
| Indicated | 11.6 | 400 | 0.26 | 0.11 | 0.07 | 7,100 | 99 | 13,200 | 7,700 |
| Inferred | 15.1 | 375 | 0.23 | 0.09 | 0.05 | 8,600 | 111 | 13,700 | 7,500 |
| Total | 33.7 | 395 | 0.28 | 0.11 | 0.06 | 20,400 | 304 | 36,100 | 20,200 |
| 600ppm Sc Cut Off | | | | | | | | | |
| Measured | 0.71 | 690 | 0.39 | 0.17 | 0.16 | 800 | 9 | 1,200 | 1,100 |
| Indicated | 0.56 | 675 | 0.29 | 0.17 | 0.13 | 600 | 5 | 900 | 700 |
| Inferred | 0.27 | 645 | 0.22 | 0.14 | 0.09 | 300 | 2 | 400 | 200 |
| Total | 1.54 | 675 | 0.32 | 0.16 | 0.14 | 1,600 | 16 | 2,500 | 2,100 |
| Note 1: | Sc = Scandium, Pt = Platinum, Ni = Nickel, Co = Cobalt | | | | | | | | |
| Note 2: | Scandium is typically sold as Scandia or Scandium Oxide (Sc ₂ O ₃) product and is calculated from scandium metal content and a 1.53 factor to convert to the oxide form | | | | | | | | |
| Source: | Platina Resources Limited – ASX Announcement 9/8/2017 | | | | | | | | |

3.1.4 Mining Ore Reserve

Table 5 presents the maiden Owendale ore reserve. The Applicant notes that the mining Ore Reserve tonnes represents only 12% of the identified Mineral Resources, highlighting the fact that substantial opportunity for ongoing or expanded mining operations exist within the Mine Site.

Table 5
Owendale Mineral reserve

| HG and MG Ore ¹ | Tonnage Dry (Mt) | Scandium (ppm) | Cobalt (%) | Nickel (%) | Scandia ² (t) | Cobalt (t) | Nickel (t) |
|---|------------------|----------------|-------------|-------------|--------------------------|--------------|--------------|
| Proven | 2.225 | 560 | 0.09 | 0.13 | 1 896 | 2 027 | 2 905 |
| Probable | 1.765 | 540 | 0.08 | 0.13 | 1 463 | 1 483 | 2 252 |
| Total | 3.990 | 550 | 0.09 | 0.13 | 3 359 | 3 510 | 5 157 |
| Note 1: 400 ppm Sc cut off | | | | | | | |
| Source: Platina Resources Limited – ASX Announcement 13/09/2017 | | | | | | | |

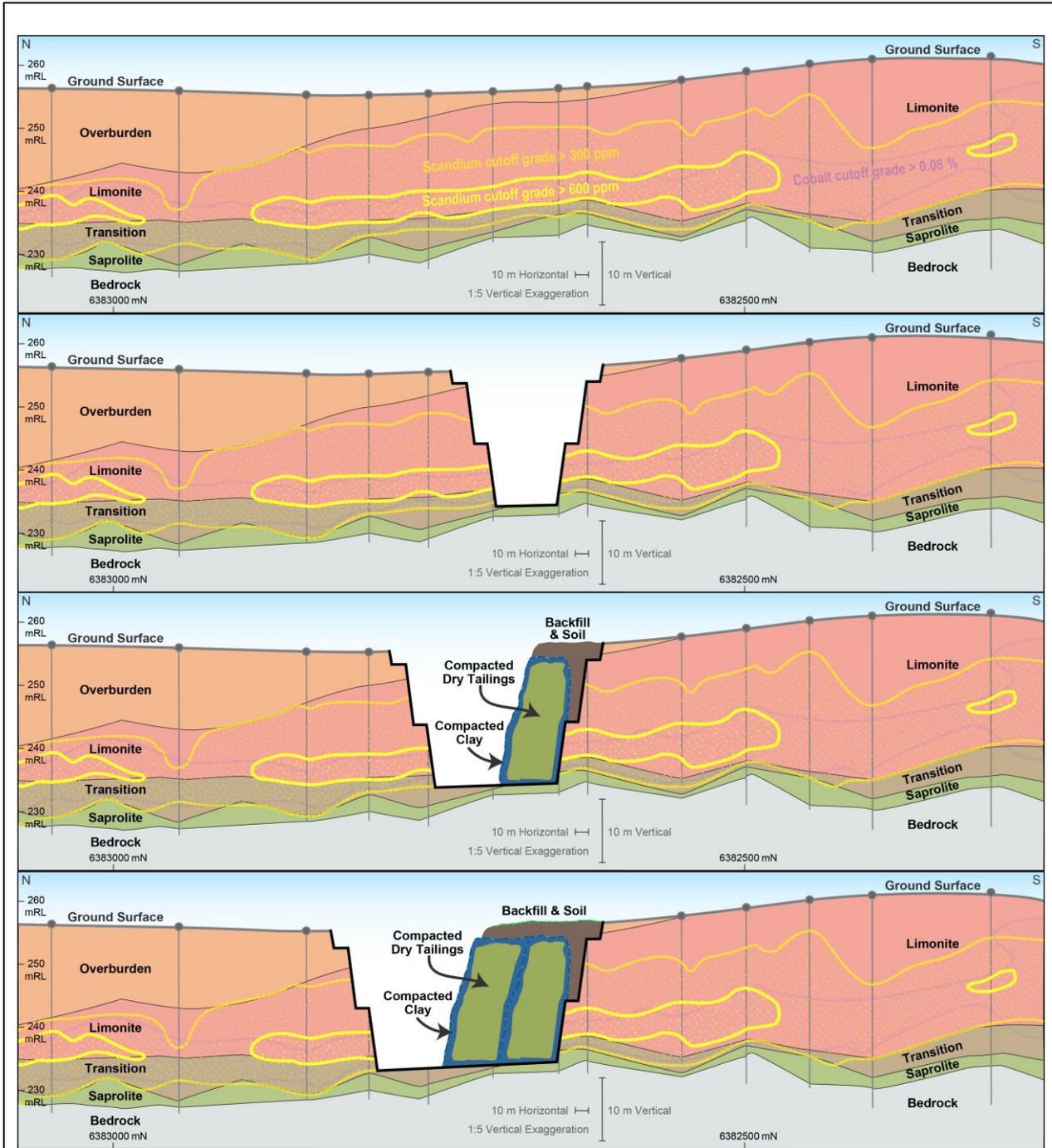
3.1.5 Efficiency of Resource Recovery

Figure 7 presents an example cross section through the Owendale Mineral Resource Model, displaying scandium grade and pit profile. Both scandium and cobalt grade decrease rapidly below the high iron limonite zone. In addition to the decrease grade the saprolitic material has higher magnesium significantly increasing the operating costs for any leaching extraction method. Combination of thin saprolite, lower grade and higher cost material means there is limited quantities of marginal grade material. It is envisaged that low grade material will be extracted with the highest grade material stockpiles and the most marginal material used as capping material where future extraction is possible.

The planned process would extract all Mineral Resources with the exception of the lower saprolite material. This material is unlikely to be economic due to high acid consumption costs and low grade. It is also required to maintain an in-situ clay base for the in-pit tailings disposal.

3.1.6 Potential Impact on Surrounding Mines

Figure 1 shows the location of surrounding approved and proposed mines. **Table 6** presents a summary of each operation and its current status. The following presents a brief overview of the potential interactions between the Proposal and each operation. The cumulative impacts of the Proposal on the approved operations will be assessed in detail in the EIS.



Source: Platina Resources Limited

Figure 7
EXAMPLE PROPOSED CROSS SECTION: PIT CUTBACKS AND REHABILITATION

Table 6
Surrounding Mining Operations

| Project/Mine | Owner | Commodity | Current Status |
|-------------------------|--|----------------------------------|---|
| Sunrise Project | Scandium 21 Pty Ltd | Nickel, Cobalt, Scandium | Approved, not yet constructed |
| Flemington Project | Australian Mines Limited | Cobalt, Scandium, Nickel | Application for Development Consent in progress |
| Mineral Hill Mine | Quintana Mineral Hill Holdings Limited | Gold, lead, zinc, copper, silver | Approved, in care and maintenance |
| Northparkes Mine | China Molybdenum Co Ltd | Copper | Approved, Operational |
| Tomingley Gold Mine | Tomingley Gold Operations | Gold | Approved, Operational |
| Nyngan Scandium Project | Scandium International Mining Corp | Scandium | Approved, not yet constructed |
| Lake Cowal Mine | Evolution Mining | Gold | Approved, Operational |

Sunrise Project

The Sunrise Project is operated by Scandium21, a wholly owned subsidiary of Clean TeQ Holdings Limited. The Sunrise Project is located approximately 8km to the south-southwest of the Mine Site. The Project has received development consent for the establishment and operation of the following.

- two open cuts;
- two waste rock emplacements;
- a processing plant that would process up to 2.5Mtpa;
- a tailings storage facility;
- water storage, evaporation, diversion and management structures;
- construction camp;
- a limestone quarry;
- rail siding;
- gas pipeline;
- borefields and water pipeline; and
- associated transport activities and transport infrastructure (e.g. the Fifield Bypass, road and intersection upgrades).

The Applicant notes that the proposed maximum production rate of 90,000t represents only 3.6% of the approved maximum production rate of the Sunrise Project. Notwithstanding this, potential interactions and/or cumulative impacts between the Proposal and the Sunrise Project include:

- traffic and transportation impacts;
- road noise impacts;

- competition for skilled operators and staff; and
- community amenity and cohesion associated with two mining operations in the same area.

Flemington Project

The Flemington Project is located immediately to the north of the Sunrise Project. An application for development consent is in preparation, with Secretary's Environmental Assessment Requirements issued on 8 January 2018. That Proposal seeks development consent for the following.

- An open cut pit with a proposed depth of approximately 50m.
- Waste rock emplacement area.
- Water storage facilities.
- Processing plant with a throughput of up to approximately 70,000tpa.
- Site office and staff amenities.

Potential interactions between the Flemington Project, should it be approved, will be as per potential interactions with the Sunrise Project.

Mineral Hill Mine

The Mineral Hill Mine is located approximately 45km to the northwest of the Mine Site and 60km north of the Processing Site. The Mineral Hill Mine is currently on care and maintenance. However, when the mine was operational, the majority of the staff and contractors reside in Condobolin.

Should mining operations recommence at the Mineral Hill Mine, the only significant interaction between the Proposal and that operation would be competition for skilled operators and staff.

Northparkes Mine

The Northparkes Mine is located approximately 60km to the east-southeast of the Mine Site. That operation is an established underground copper mine operated by China Molybdenum Co Ltd.

The Applicant anticipates limited interactions between the Proposal and the Northparkes Mine.

Tomingley Gold Mine

The Tomingley Gold Mine is located approximately 65km to the east-northeast of the Mine Site. That operation is an established open cut gold mine.

The Applicant anticipates limited interactions between the Proposal and the Tomingley Gold Mine.

Cowal Gold Mine

The Cowal Gold Mine is located approximately 65km to the south of the Mine Site. That operation is an established open cut gold mine.

The Applicant has been advised that a number of residents of Condobolin currently work at the Cowal Gold Mine. As a result, there may be limited competition for skilled operators and staff.

Nyngan Scandium Project

The Nyngan Scandium Project is an approved Open Cut Scandium Project located approximately 130km to the west-northwest of the Mine Site. That operation has received development consent, however, has yet to be constructed.

The Applicant anticipates limited interactions between the Proposal and the Nyngan Scandium Project.

3.2 PERMISSIBILITY AND STRATEGIC PLANNING

3.2.1 Permissibility and Local Planning Issues

Figure 2 presents the land zoning under the *Lachlan Local Environmental Plan 2013*. In summary, the Mine Site and the Processing Site are both zoned RU1 – Primary Production. The objectives of this Zone are as follows.

- “To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.”

Open cut mining is permissible with consent under this zone.

The Applicant contends that as ancillary development to an open cut mine, the activities proposed within the Processing Site are similarly permissible with consent under this zone. However, in the event that the determining authority determines that this is not the case, the Applicant notes that Clause 7 of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP) states that development for the purposes of “mining” is permissible with consent on land where “agriculture or industry may be carried out (with or without development consent).” The term “mining” is defined as.

“the winning or removal of materials ...for the purpose of obtaining minerals, and includes:

(b) the stockpiling, processing, treatment and transportation of materials extracted,”

As a result, the Applicant contends that the proposed activities within the Processing Site may be classified as “mining”. Therefore, as extensive agriculture may be carried out without consent on land zoned RU1 under the Lachlan LEP, the activities proposed within the Processing Site are permissible with consent.

3.2.2 Commonwealth Planning Issues

The Applicant, at this stage, does not anticipate that the Proposal would have an adverse impact on any matter of national environmental significance.

3.3 PROPOSED CONSULTATION

3.3.1 Government Agencies

Table 7 presents the consultation undertaken with relevant government agencies to date.

Table 7
Consultation Completed to Date

| Agency | Date | Matters Discussed |
|--|------------|--|
| Lachlan Shire Council | 20/34/2017 | Project overview |
| | 10/5/2017 | Potential lease/purchase of Processing Site |
| | 15/6/2017 | Contamination and remediation of Processing Site |
| | 17/8/2017 | Potential community constraints (accommodation, skills availability, etc.) |
| | 7/2/2018 | |
| Parkes Shire Council | 2/3/2017 | Project awareness and available infrastructure |
| | 10/5/2017 | |
| Department of Planning and Environment | 21/9/2017 | Project overview, anticipated environmental impacts, application process (one application or two) |
| Division of Resources and Geoscience | 22/11/2017 | Project overview, mine closure concepts, environmental impacts, potential exploration projects, schedule for moving forward. |

In addition to the consultation described in **Table 7**, the Applicant held an interagency meeting on 6 March 2017 that involved the following agencies.

- Department of Planning and Environment.
- Division of Resources and Geoscience.
- Environment Protection Authority.
- Crown Lands and Water.
- Office of Environment and Heritage.
- Department of Primary Industries – Agriculture.
- Department of Industry.
- Roads and Maritime Services.
- Lachlan Shire Council.
- Parkes Shire Council.

3.3.2 Community Consultation

The Applicant has commenced informal consultation with a range of landholders surrounding the Mine Site however limited consultation has been undertaken with landholders and the community surrounding the Processing Site.

The Applicant proposes to commence formal community consultation with community information sessions in Tullamore and Condobolin on 6 March 2017. This will be followed by more detailed consultation with the community immediately surrounding the Mine Site and Processing Site, as well as the wider community. This consultation would be undertaken generally in accordance with the requirements of the draft *Community and Stakeholder Engagement Guideline* placed on public exhibition by the Department of Planning and Environment in late 2017.

4. PROJECT RATIONALE

The rationale for the Proposal is to develop a stand-alone Scandium mine and processing facility. The Applicant has intentionally designed the Proposal in a manner that minimises the barriers to an early commencement of mining operations, with a processing facility that would be relatively low cost to construct and a production rate that would not overwhelm the available market. The Applicant anticipates that this would maximise the potential for a successful commencement and ramp up of production and gradual development of the Scandium market. Should the market develop as anticipated, the Proposal could, following receipt of further development consent, be scaled up through the addition of further processing lines within the Project Site.

The proposed small-scale nature of the Proposal would also ensure that the environmental impacts would be minimised to the greatest extent possible and would allow the Applicant to demonstrate to the community and relevant regulators that the Proposal can be operated with limited environmental impacts and substantial community benefits.

5. PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT

5.1 INTRODUCTION

This section has been divided into three subsections addressing the three separate components of the proposed activities, namely:

- the Mine Site;
- the transportation route between the Mine Site and the Processing Site; and
- the Processing Site.

This section has been prepared based on RWC's experience in the Central West of NSW and preliminary assessments completed by the following specialist consultancies in relation to the Mine Site.

- Groundwater.
 - *Preliminary Groundwater Assessment – Owendale Mine* prepared by Ground Doctor Pty Ltd and dates 26 October 2016. This report is referred to hereafter as Ground Doctor (2016).
 - *Drilling Targets and Monitoring Bore Installation Options – Technical Memorandum* prepared by GeoSquare Consulting Trust, referred to hereafter as GeoSquare (2017).
- Biodiversity
 - *Owendale Scandium Project – Ecological Assessment* prepared by OzArk Environmental and Heritage Management Pty Limited and dated November 2016. This report is referred to hereafter as OzArk (2016).

The information, presented in this subsection is, by its nature, preliminary and reliance should not be placed on the conclusions or assessments presented until further detailed assessment, including field surveys, can be completed. Rather, the information presented attempts to identify the principal environmental constraints upon the development of the Owendale Scandium Mine and Processing Facility and classify them as follows. Each of these issues will be addressed in detail in the EIS.

- **Significant constraint** – this issue, in the absence of appropriate management, has the potential to prevent granting of development consent.
- **Moderate constraint** – this issue will require active, detailed management but should not prevent granting of development consent.
- **Minor constraint** – this issue will require general management but should not prevent granting of development consent.
- **Negligible constraint** – this issue is not relevant and should not prevent granting of development consent.

Finally, it is noted that cumulative constraints will need to be assessed where the Proposal may increase or exacerbate impacts associated with surrounding mining operations, in particular, the Sunrise Project.

5.2 PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT – MINE SITE

5.2.1 Groundwater

5.2.1.1 Existing Environment

The Applicant has established a network of bores within the Mine Site. **Table 8** and **Figure 5** present the location of the bores. In summary, of the 15 bores drilled by the Applicant, 10 did not intersect water, with those that did, recording a standing water level between 33.6m and

38.09m below ground level. One bore, FKD17-583 recorded a standing water level of 24.43m below ground level. This compares with a maximum depth of mining of between approximately 25m and 35m below ground level. An existing bore, namely the Owendale bore, intersected water, however the standing water level could not be determined because the bore is equipped with a permanent pump, preventing access.

Table 8
Mine Site Bores

| Bore | Easting (MGA 94) | Northing (MGA 94) | Depth to Water (m) | Total Depth (m) |
|---------------|------------------|-------------------|--------------------|-----------------|
| FKD17-572 | 544449.5 | 6382551 | Dry | 31.7 |
| FKD17-573 | 544551.9 | 6382604 | 34.83 | 36.33 |
| FKD17-574 | 544401.4 | 6382697 | Dry | 32 |
| FKD17-575 | 544695.5 | 6381449 | Dry | 18 |
| FKD17-576 | 544451.3 | 6381892 | Dry | 26 |
| FKD17-577 | 545079.1 | 6382476 | Dry | 31 |
| FKD17-578 | 543882.6 | 6381790 | Dry | 31 |
| FKD17-579 | 544072.9 | 6382252 | Dry | 27 |
| FKD17-580 | 544109.6 | 6382506 | Dry | 32.9 |
| FKD17-581 | 544546.7 | 6383157 | 33.6 | 38.8 |
| FKD17-582 | 544823 | 6383656 | Dry | 76 |
| FKD17-583 | 545704 | 6384790 | 24.43 | 55.7 |
| FKD11_126 | 544150 | 6382800 | 35.95 | 49.6 |
| FKD11_188 | 543950 | 6380750 | Dry | 0 |
| FKD11_222 | 543750 | 6382350 | 38.09 | 50.17 |
| Owendale Bore | 544012 | 6383634 | Unknown | Unknown |

Source: Platina Resources Limited

Table 9 presents the results of water quality samples extracted from those bores with standing water. An additional sample was taken from a tap that the Applicant was advised came from the Owendale bore. In summary, groundwater all bores with the exception of the Owendale Bore was suitable for stock watering, provided the stock had been acclimatised to the water quality. Groundwater in the Owendale bore is suitable for drinking purposes.

Table 9
Groundwater Quality

| Bore | Temp (°C) | DO (ppm) | EC (µS/cm) | pH | ORP (mV) |
|-----------|-----------|----------|------------|------|----------|
| FKD11-126 | 19.3 | 7.98 | 4490 | 6.83 | 152 |
| FKD11-222 | 17.4 | 8.33 | 4740 | 7.26 | 156 |
| FKD17-573 | 20.6 | 7.40 | 5056 | 7.33 | 137 |
| FKD17-581 | 20.0 | 9.64 | 4171 | 7.14 | 132 |
| FKD17-583 | 20.3 | 9.13 | 8323 | 7.62 | 124 |
| Owendale | - | - | 1104 | 8.19 | 293 |

Note 1: DO = Dissolved oxygen; EC = Electrical Conductivity; ORP = oxidation / reduction potential

Source: Platina Resources Limited

GeoSquare (2017) completed a review of all exploration drilling logs and identified three potential aquifers as follows from shallowest to deepest.

- **Upper alluvium aquifer** – this aquifer comprises the shallowest unconsolidated sediments associated with geologically recent flooding. GeoSquare (2017) state that the aquifer is likely to be an unsaturated but high yielding aquifer, groundwater outflows likely to be limited to rainfall events.
- **Lower alluvium aquifer** – this aquifer comprises deeper, semi-consolidated sediments with potential local or perched groundwater bearing zones, with yields likely to be limited by the recharge potential of the material above.
- **Hard rock aquifer** – This aquifer comprises weathered to fresh basement rocks, with most likely water producing zones for this aquifer system is the contact between the saprolite and the bedrock or the upper fractured zone of the bedrock itself. Based on a review of regional bore data, most of the high yielding bores are located at depths greater than 30m below ground level, with yields in the order of 0.1L/s to 0.4L/s.

5.2.1.2 Potential Impacts and Constraints

Potential groundwater-related impacts include the following.

- Contamination of groundwater through inadequate containment of leachate, particularly associated with in-pit tailings placement.

This is likely to be a significant constraint. The EIS will present a detailed review of characteristics of the tailings material to be placed in-pit and the design of the impermeable barrier (assumed to be treated *in situ* clays) to achieve a minimum of 1×10^{-9} m/s over 1m.

- Drawdown of groundwater impacting on groundwater users or groundwater dependent ecosystems.

This is likely to be a minor constraint as the base of the open cut(s) will be at a similar depth to the standing water level in the underlying aquifers.

- Licencing. Adequate groundwater allocation will be required to account for groundwater lost through mine dewatering operations.

This is likely to be a minor constraint as adequate allocations are available for purchase and that the volume required is likely to be small. A detained assessment of likely groundwater inflows to the open cuts will be presented in the EIS. It is also noted that no mining is currently planned for depths below the current ground water depth.

5.2.2 Surface Water

5.2.2.1 Existing Environment

The Mine Site is within the Bogan Catchment, close to the boundary with the Lachlan Catchment. Two east-flowing ephemeral creeks, namely Burra and Spring Creeks exist to the north of the Mine Site.

The Mine Site is not cut by any significant watercourse. Surface water flows, where they occur, are typically overland flows, with limited topographic relief or significant catchment.

5.2.2.2 Potential Impacts and Constraints

Potential surface water-related impacts include the following.

- Contamination of downstream surface water through the discharge of chemical or sediment-laden water.

This is likely to be a moderate constraint, requiring preparation of a detailed Sediment and Erosion Control Plan and active management of chemicals and hydrocarbons.

- Loss of surface water flows through isolation of the Mine Site from the remainder of the catchment.

This is likely to be a negligible constraint as the area of the Mine Site is small compared with the area of the Bogan Catchment.

- Flooding-related impacts.

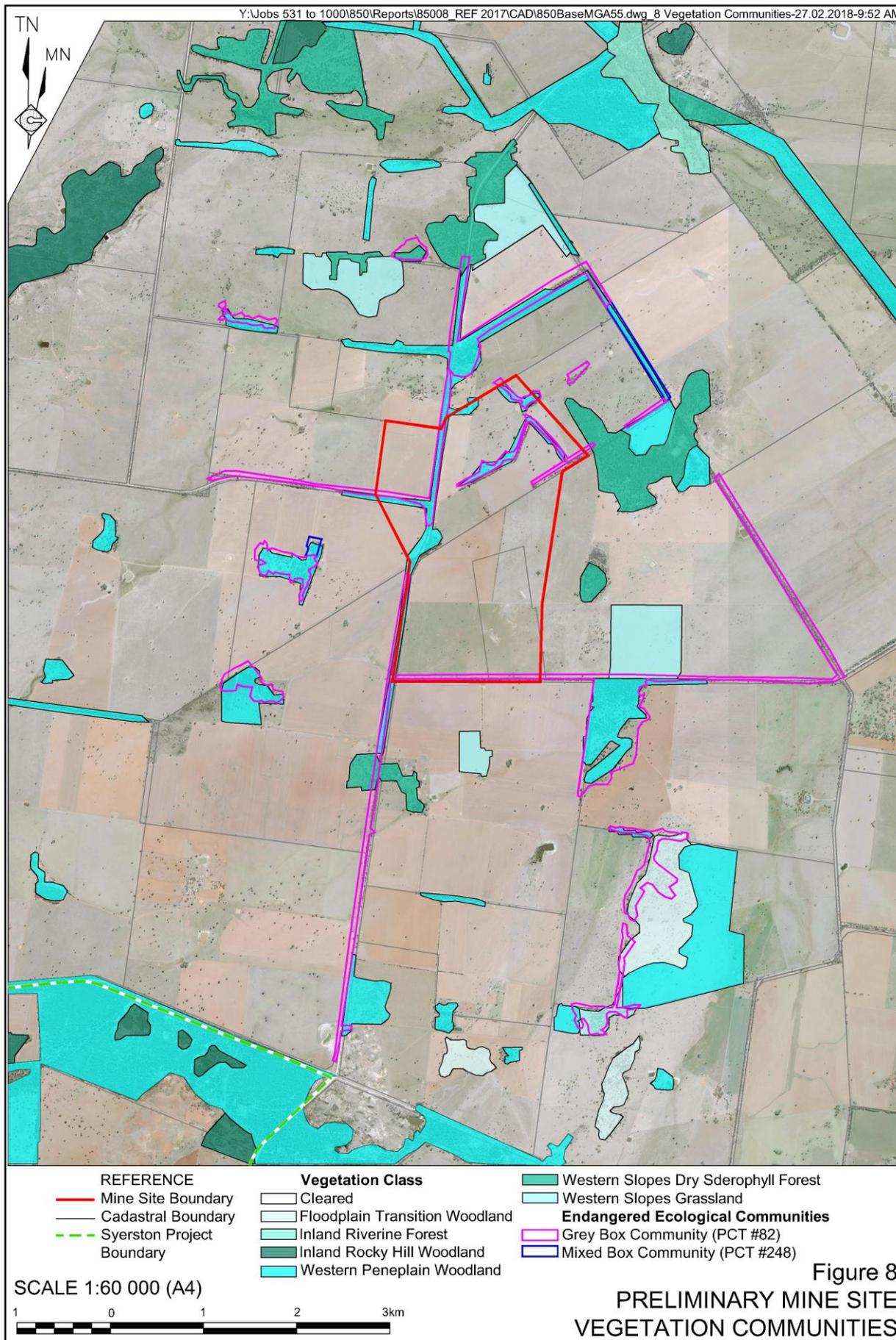
This is likely to be a negligible constraint as the Mine Site is unlikely to be affected by flood waters from Spring or Burra Creeks. However, rainfall intensities will be required to be taken into account when designing sediment and erosion control strictures.

5.2.3 Ecology

5.2.3.1 Existing Environment

OzArk (2016) undertook a three-day site inspection and assessment in October 2016. In summary, three vegetation types were identified as follows **Figure 8**.

- Plant Community Type (PCT) 82 – Western Grey Box – Poplar Box – White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain.
- PCT 83 – Yellow Box woodland on sandy loam soils on alluvial plains mainly in the upper Darling Riverine Plain Bioregion.
- Non-native vegetation.



- In summary, all tree lines and clusters of trees may be classified as PCT82 or PCT83, both of which are classified as an Endangered Ecological Community. Areas that have been the subject of cropping activities, including the occasional paddock tree, were classified as non-native vegetation.

OzArk (2016) also identified:

- 33 bird species, of which 3 were threatened and one was observed to be breeding within the MS;
- 6 species of mammals, of which one (a bat) was threatened.

5.2.3.2 Potential Impacts and Constraints

Potential ecology-related impacts include the following.

- Significant impacts on native vegetation and threatened species.

This is likely to be a minor constraint. RWC understands that disturbance of native vegetation would be avoided where possible and if necessary limited to disturbance associated with site access and potentially minor disturbance on site. The total area of native vegetation to be disturbed is likely to be less than 2ha. As State Significant Development, ecological impacts would be assessed in accordance with the Biodiversity Offset Scheme of the *Biodiversity Conservation Act 2016*. Credits generated as a result of the removal of native vegetation are likely to be purchased on the market and retired in accordance with the Biodiversity Offset Scheme or a financial contribution made to the Biodiversity Conservation Fund.

5.2.4 Heritage

5.2.4.1 Existing Environment

The presence or otherwise of objects of Aboriginal heritage significance within the Mine Site is not known. However, the Mine Site does not include landforms such as terraces beside permanent water courses that would indicate a high potential for significant archaeological deposits to occur.

There are no known historic or non-Aboriginal heritage sites within the Mine Site.

5.2.4.2 Potential Impacts and Constraints

Potential heritage-related impacts include the following.

- Impacts to known or unknown Aboriginal objects.

This is likely to be a minor constraint. An Aboriginal heritage survey will be undertaken.

- Impacts to historic or non-Aboriginal objects.

This is likely to be a negligible constraint.

5.2.5 Noise and Vibration

5.2.5.1 Existing Environment

The noise and vibration environment surrounding the Mine Site is likely to be typical of a rural environment, with agricultural and associated noise emissions during the day, with very limited noise emissions during the evening and night. Background noise levels are likely to be less than 35dBA and noise enhancing meteorological conditions such as temperature inversions, are likely to be a feature of the of the environment.

5.2.5.2 Potential Impacts and Constraints

Potential noise and vibration-related impacts include the following.

- Amenity impacts at surrounding residences as a result of construction or operational noise.

This is likely to be a moderate constraint. A noise assessment will be required. While mining activities will be limited to the daytime period (7:00am to 6:00pm) Monday to Saturday, the very low background noise levels in the surrounding environment may result in exceedances of noise-related criteria at surrounding residences. In that case, either the proposed activities would need to be modified or an agreement with the resident would need to be negotiated.

- Amenity impacts at surrounding residences as a result of vibration.

This is likely to be a negligible constraint.

5.2.6 Air Quality

5.2.6.1 Existing Environment

The air quality environment surrounding the Mine Site is likely to be typical of a rural environment, with dust the principal air quality-related pollutant.

5.2.6.2 Potential Impacts and Constraints

Potential air quality-related impacts include the following.

- Impacts associated with deposited or suspended dust at surrounding residences.

This is likely to be a minor constraint. An air quality assessment will be required. However, it is unlikely that the relevant air quality criteria would be exceeded at surrounding residences.

5.2.7 Soils, Agriculture and Land Capability

5.2.7.1 Existing Environment

The soils of the Mine Site have yet to be assessed. However, based on the existing land use of semi-regular cropping and intermittent grazing, the land capability may be classified as Class 3 or 4 land. These classifications are defined as follows.

- Class 3 – High capability land: Land has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices. However, careful management of limitations is required for cropping and intensive grazing to avoid land and environmental degradation.
- Class 4 – Moderate capability land: Land has moderate to high limitations for high-impact land uses. Will restrict land management options for regular high-impact land uses such as cropping, high-intensity grazing and horticulture. These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology.

The Mine Site is not identified as containing Biophysical Strategic Agricultural Land (BSAL), with the closest mapped BSAL located approximately 48km to the northeast of the Mine Site. The land on which the Mine Site would be located is unlikely to be BSAL given the soil characteristics and low annual rainfall.

5.2.7.2 Potential Impacts and Constraints

Potential soils, agriculture and land capability-related impacts include the following.

- Impacts on soils and agricultural land capability.
This is likely to be a minor constraint. However, the soils, land capability and anticipated lost agricultural productivity will need to be demonstrated in the EIS.

5.2.8 Other Environmental Impacts

Other environmental impacts such as bushfire, visual amenity, etc. are likely to be a negligible constraint.

5.3 PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT – TRANSPORTATION ROUTE

5.3.1 Existing Environment

The intersection location between the Mine Site Access Road and Fifield road has adequate site distances (**Figure 5**).

The transportation route from the Mine Site to the Processing Site is approximately 70km (**Figure 1**) and is primarily a two lane, sealed road in good condition. Substantial sections of the road have recently been upgraded and the Applicant understands that the route is the principal heavy vehicle route between southwestern NSW and western Victoria and Brisbane. The majority of the route, with the exception of Kiacatoo Road and Maitland Street, is classified as either State (controlled and funded by Roads and Maritime Service) or Regional (controlled by Council but partly funded by Roads and Maritime Service) Road. Kiacatoo Road and Maitland Street are classified as Local Roads (controlled and funded by Council alone). Intersections would generally appear to be adequate, with the exception of a railway crossing on Airport Road, close to the intersection with Henry Parkes Way. The road surface and condition would also appear to be adequate.

There are likely to be two site entrances to the Processing Site from Kiacatoo Road, an eastern site entrance that would most likely be used for heavy vehicles (B-triple trucks) while the western entrance would most likely be used for light vehicle/employee access (**Figure 6**).

The intersection of the Eastern Processing Site Access Road with Kiacatoo Road has good visibility to the west. However, a small ridgeline to the east of the intersection adversely impacts on sight distances in that direction. As a result, additional road works are likely to be required to enable safe intersection site distance and access to the site.

The intersection of the Western Processing Site Access Road with Kiacatoo Road has adequate visibility in both directions.

Lachlan Shire Council advised that all roads in the Lachlan Local Government Area are approved for higher mass vehicles such as B-triples. However, that does not necessarily mean that all intersections are adequate for the use of such vehicles and intersection upgrades may be required.

5.3.2 Potential Impacts and Constraints

Potential traffic and transportation-related impacts include the following. It is noted that cumulative impacts associated with the Sunrise Project will need to be considered.

- Adequacy of the transportation network and adverse impacts on road users, including the general public and Grain Corp.

This is likely to be a minor constraint. The entire proposed transportation route is an approved route for 25/26m B-double trucks and Molong St provides an alternative, more direct transportation route if required.

Consultation with Grain Corp in relation to potential interactions between the operation of the Condobolin Grain Facility and the Proposal will be required.

- Road traffic noise adversely impacts on residences along the transportation route.

This is likely to be a minor constraint, however a road traffic noise assessment will be required to demonstrate that the proposed activities will comply with the relevant criteria.

5.4 PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT – PROCESSING SITE

5.4.1 Groundwater

5.4.1.1 Existing Environment

The proposed processing operations are unlikely to intersect groundwater. However, alluvial aquifers associated with the Lachlan River may occur within the Processing Site, particularly in the lower sections of the site.

5.4.1.2 Potential Impacts and Constraints

Potential groundwater-related impacts include the following.

- Contamination of groundwater through inadequate containment of leachate, particularly associated with reagent process water or temporary tailings storage.

This is likely to be a significant constraint. Potential exists for groundwater contamination as a result of the proposed activities. As a result, a detailed assessment of the reagents to be used, the characterization of the process water and tailings to be produced and the manner in which these will be managed will be required.

- Drawdown of groundwater impacting on groundwater users or groundwater dependent ecosystems.

This is likely to be a negligible constraint.

5.4.2 Surface Water and Water Supply

5.4.2.1 Existing Environment

The Processing Site is largely elevated with good drainage. As a result, flooding is unlikely to be an issue.

A detailed water balance for the proposed activities, including an understanding of the likely water demands, source(s) and licencing will be included in the EIS.

5.4.2.2 Potential Impacts and Constraints

Potential surface water-related impacts include the following.

- Contamination of downstream surface water, including the Lachlan River or Gumbend Lake, through the discharge of chemical or sediment-laden water.

This is likely to be a moderate to significant constraint, requiring a commitment to best practice management of chemicals and reagents and preparation of a detailed *Chemical and Reagent Management Plan* and *Sediment and Erosion Control Plan*.

- Loss of surface water flows through isolation of the Processing Site from the remainder of the catchment.

This is likely to be a negligible constraint as the area of the Processing Site is small compared with the area of the Lachlan Catchment

- Flooding-related impacts.

This is likely to be a negligible constraint as the Processing Site is elevated above the Lachlan River Floodplain.

- The Water Balance indicates inadequate or insecure water supply

This is likely to be a moderate constraint requiring the preparation of a detailed water balance, including an assessment of the availability of water allocations or security of supply.

5.4.3 Air Quality

5.4.3.1 Existing Environment

The air quality environment surrounding the Processing Site is likely to be typical of a rural environment, with dust the principal air quality-related pollutant.

Principal dust sources would include vehicle movements on roads and hardstand areas, and wind-blown dust from stockpiles. Wheel generated dust will require careful management as clay spillage would be very easily mobilised and transported.

5.4.3.2 Potential Impacts and Constraints

Potential air quality-related impacts include the following.

- Impacts associated with deposited or suspended dust at surrounding residences.

This is likely to be a minor constraint. An air quality assessment will be required. However, it is unlikely that the relevant air quality criteria would be exceeded at surrounding residences.

- Impacts associated with odour at surrounding residences.

This is likely to be a negligible constraint.

- Impacts associated with chemical or other emissions.

This is likely to be a moderate constraint. The application for development consent will need to demonstrate that the processing plant would not result in emissions that exceed those identified for Group 6 plants under the Schedules of the *Protection of the Environment Operations (Clean Air) Regulation 2010*.

5.4.4 Visual Amenity

5.4.4.1 Existing Environment

There are a number of residences in close proximity to the Processing Site. In addition, sections of the Processing Site are elevated and visible to the east and west.

5.4.4.2 Potential Impacts and Constraints

Potential visual amenity-related impacts include the following.

- Adverse day-time or night-time visual amenity impacts.
This is likely to be a minor constraint.

5.4.5 Contaminated Land

5.4.5.1 Existing Environment

The Processing Site has a long history of use as an abattoir. In addition, recent land use practices, including use of the site as a storage facility for concrete and other waste and poor hydrocarbon practices by the current occupier of the Processing Site were noted during a site inspection. As a result, contamination of the land within the site is possible. However, clean-up of this contamination will be the subject of a commercial agreement between the Applicant and the current landowner, Lachlan Shire Council.

5.4.5.2 Potential Impacts and Constraints

Potential contamination-related impacts include the following.

- Impacts to existing contaminated land.
This is likely to be a minor constraint. A contamination assessment will be required to be prepared and a program to decontaminate the Processing Site will ensure that this issue is not a constraint on development.
- Proposed activities result in additional contamination.
This is likely to be a minor constraint. The EIS will demonstrate best practice reagent and chemical management practices.

5.4.6 Heritage

5.4.6.1 Existing Environment

The presence or otherwise of objects of Aboriginal heritage significance within the Processing Site is not known. However, the proximity of the Lachlan River, a permanent water source indicates the potential for such objects to occur. As a result, a heritage survey will be prepared to support the application for Development Consent.

Lachlan Shire Council officers have advised that no items of historic (non-Aboriginal) heritage significance occur within the Processing Site.

5.4.6.2 Potential Impacts and Constraints

Potential heritage-related impacts include the following.

- Impacts to known or unknown Aboriginal objects.
This is likely to be a minor constraint.
- Impacts to historic or non-Aboriginal objects.
This is likely to be a negligible constraint.

5.4.7 Noise and Vibration

5.4.7.1 Existing Environment

There are a number of residences in close proximity to the Processing Site (see **Figure 4**). The two residences on site would be considered to be Project-related and would not be considered for the purpose of the noise assessment.

Principal noise sources would likely to be mobile plant moving around site. Other noise sources such as pumps and electric motors are unlikely to be significant contributors to noise emissions.

5.4.7.2 Potential Impacts and Constraints

Potential noise and vibration-related impacts include the following.

- Amenity impacts at surrounding residences as a result of construction or operational noise.
This is likely to be a moderate constraint. A noise assessment will be prepared to support the application for development consent.
- Amenity impacts at surrounding residences as a result of vibration.
This is likely to be a negligible constraint.

5.4.8 Ecology

5.4.8.1 Existing Environment

Sections of the site are vegetated while the remainder of the Processing Site has either been previously disturbed or is used for agricultural activities. It is presumed that the remaining native vegetation within the Processing Site would be classified as EEC while cleared sections of the site would have negligible environmental constraints.

5.4.8.2 Potential Impacts and Constraints

Potential ecology-related impacts include the following.

- Significant impacts on native vegetation and threatened species.
This is likely to be a minor constraint.

5.4.9 Soils, Agriculture and Land Capability

5.4.9.1 Existing Environment

The soils of the Processing Site have yet to be assessed. However, based on the existing land use of irregular intermittent grazing and prior disturbance, the land capability may be classified as Class 5 or 6 land. These classifications are defined as follows.

- Class 5 – Moderate-low capability land: Land has high limitations for high-impact land uses. Will largely restrict land use to grazing, some horticulture (orchards), forestry and nature conservation. The limitations need to be carefully managed to prevent long-term degradation. Land capable for a limited set of land uses (grazing, forestry and nature conservation, some horticulture).
- Class 6 – Low capability land: Land has very high limitations for high-impact land uses. Land use restricted to low-impact land uses such as grazing, forestry and nature conservation. Careful management of limitations is required to prevent severe land and environmental degradation.

The Processing Site is not within land currently covered by the State-wide BSAL mapping and given the past uses and condition, is unlikely to be BSAL.

5.4.9.2 Potential Impacts and Constraints

Potential soils, agriculture and land capability-related impacts include the following.

- Impacts on soils and agricultural land capability.
This is likely to be a minor constraint. However, the soils, land capability and anticipated lost agricultural productivity will need to be demonstrated in the EIS.

5.5 COMMUNITY

The proposed activities would be likely to have a substantial socio-economic benefit to the surrounding community. The nature and scope of those benefits (and potential impacts) will be quantified, including:

- employment numbers (and availability);
- accommodation availability and suitability; and
- impacts on existing businesses (both positive and negative).

As a State Significant Development, a social impact assessment in accordance with the *Social Impact Assessment Guidelines* will be prepared. This document includes a requirement for substantial consultation early in the application process.

6. REFERENCES

Ground Doctor Pty Ltd (2016). *Preliminary Groundwater Assessment – Owendale Mine*, prepared on behalf of Platina Resources Limited.

GeoSquare Consulting Trust (2017). *Drilling Targets and Monitoring Bore Installation Options – Technical Memorandum*.

OzArk Environmental and Heritage Management Pty Limited (2016). *Ecological Assessment* prepared on behalf of Platina Resources Limited.