

Rehabilitation Strategy

Rasp Mine

Prepared for Broken Hill Operations Pty Ltd

November 2023

Rehabilitation Strategy

Rasp Mine

Broken Hill Operations Pty Ltd

E220501 RP3

October 2023

Version	Date	Prepared by	Approved by	Comments
V1	8 November 2022	Michael Frankcombe	Nick Travers	Final for submission to DPE
V2	11 April 2023	Michael Frankcombe	Lachlan Hammersley	Revised to address DPE comments
V3	14 June 2023	Tom Frankham/Paul Freeman	Lachlan Hammersley	Revised to address DPE 2 nd review comments
V4	28 June 2023	Tom Frankham/Paul Freeman	Lachlan Hammersley	
V5	20 September 2023	Tom Frankham/Bret Jenkins	Janet Krick	Revised draft for stakeholder review/comment (prepared to address DPE and Resources Regulator review)
V6	14 November 2023	Tom Frankham/Bret Jenkins	Janet Krick	Final for submission to DPE

Approved by



Janet Krick

Associate Environmental Planner

14 November 2023

Level 3 175 Scott Street Newcastle

NSW 2300

This report has been prepared in accordance with the brief provided by Broken Hill Operations Pty Ltd and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of Broken Hill Operations Pty Ltd and no responsibility will be taken for its use by other parties. Broken Hill Operations Pty Ltd may, at its discretion, use the report to inform regulators and the public.

© Reproduction of this report for educational or other non-commercial purposes is authorised without prior written permission from EMM provided the source is fully acknowledged. Reproduction of this report for resale or other commercial purposes is prohibited without EMM's prior written permission.

TABLE OF CONTENTS

Acronyms and Abbreviations	iv
1 Introduction	6
1.1 Overview and history of operations	6
1.2 Purpose and scope	6
1.3 Rehabilitation strategy requirements	6
1.4 Ongoing Rehabilitation Management Plans and Closure Plans	7
1.5 Structure of the Rehabilitation Strategy	8
2 Statutory and strategic context	12
2.1 Legislation and environmental planning instruments	12
2.2 Integrated Mining Policy	12
2.3 Guidelines	13
2.4 Adoption of leading practices	15
3 Final land use	16
3.1 Regulatory requirements for rehabilitation	16
3.2 Final land use options assessment	16
3.3 Final land use	21
3.4 Final land use and mining domains	21
4 Rehabilitation risk assessment	40
4.1 Rehabilitation risk assessment approach	40
4.2 Key rehabilitation risks	40
4.3 Climate	40
4.4 Growth mediums	43
4.5 Geochemistry	45
4.6 Contamination	52
4.7 Subsidence	54
4.8 Pit wall geotechnical stability	55
4.9 Socio economic	56
5 Rehabilitation objectives and completion criteria	58
5.1 Rehabilitation objectives and rehabilitation completion criteria	58
6 Stakeholder consultation	100
7 Final landform and rehabilitation plan	115

8	Rehabilitation implementation	116
8.1	Life on mine rehabilitation schedule	116
8.2	Life of mine mining schedule	118
8.3	Phases of rehabilitation and general methodologies	120
8.4	Rehabilitation of areas affected by subsidence	128
9	Review and implementation	129
	References	130

Appendices

Appendix A	Approvals	A.1
Appendix B	Rehabilitation risk assessment	B.1
Appendix C	Landforms and rehabilitation plans	C.1
Appendix D	DPE approval of expert team	D.1
Appendix E	Stakeholder consultation correspondence	E.1

Tables

Table 1.1	Regulatory requirements for rehabilitation	7
Table 3.1	Excluded post-mine land uses	17
Table 3.2	Vegetation Map Units	18
Table 3.3	Rasp Mine – final land use domains	21
Table 3.4	Surface water management works undertaken by NML	24
Table 3.5	Water storages	26
Table 3.6	Statutory listing implications	26
Table 3.7	Gazetted heritage items	27
Table 3.8	Shaft safety works undertaken by NML	29
Table 3.9	Rasp Mine Infrastructure	37
Table 4.1	Comparison of metalliferous drainage data with ground baseline data	49
Table 5.1	Rehabilitation objectives and rehabilitation completion criteria	59
Table 6.1	Stakeholder consultation	101
Table 8.1	Indicative rehabilitation schedule	117
Table 8.2	Indicative life of mining schedule	119
Table 8.3	Dangerous goods quantities	123
Table 8.4	Surface dangerous goods manifest	123

Figures

Figure 1.1	Regional setting	9
Figure 1.2	Local environment	10
Figure 1.3	CML7 Surface Exclusion Areas	11

Figure 3.1	Modelled vegetation communities prior to mining disturbance	20
Figure 3.2	Final land use domains	22
Figure 3.3	Mining domains	23
Figure 3.4	Gazetted heritage items	31
Figure 3.5	Kintore Pit (TSF3) and Little Kintore Pit final landform	34
Figure 3.6	Kintore Pit (TSF3) final landform cross section	35
Figure 3.7	Box Cut and TSF2 final landform	36
Figure 3.8	Blackwoods Pit (TSF2) final landform conceptual cross section	39
Figure 4.1	Relationship between contact cover and soil loss (Kirby 1969)	42
Figure 4.2	Relationship between annual rain and erosion (Kirby 1969)	42
Photographs		
Photograph 4.1	Tree death due to drought conditions	41

Acronyms and Abbreviations

As	Arsenic
BHCC	Broken Hill City Council
BHMIAC	Broken Hill Mining inter-Agency Committee
BHOP	Broken Hill Operations Pty Ltd
CBH	CBH Resources Ltd
CML 7	Consolidated Mining Lease 7
Cu	Copper
DMR	Department of Mineral Resources
DPE	Department of Planning and Environment
DPI	Department of Primary Industries
DSI	Detailed site investigation
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection & Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
Ha	Hectares
LEP	Local Environmental Plan
LOLA	Line of Lode Association
LOLRT	Line of Lode Reserve Trust
m ³	Cubic metres
MEG	Department of Regional NSW – Mining, Exploration and Geoscience
ML	Mining Lease
mm	millimetres
MMM	Minerals Mining and Metallurgy Limited
MOP	Mining operations plan
NAF	Non-acid forming
NHL	National Heritage Register
NMI	Normanby Mining Investments
NML	Normanby Mining Limited
NSW	New South Wales
PAF	Potentially acid forming
Pb	Lead
PMLU	Post-mining land use
POEO Act	<i>Protection of Environment Operations Act 1997</i>

PSI	Preliminary site investigation
RMP	Rehabilitation management plan
RS	Rehabilitation Strategy
SHR	State Heritage Register
TSF1	Tailings Storage Facility 1 (Horwood Dam)
TSF2	Tailings Storage Facility 2 (Blackwood Pit)
TSF3	Tailings Storage Facility 3 (Kintore Pit)
Zn	Zinc

1 Introduction

1.1 Overview and history of operations

The Rasp Mine is centrally located in the City of Broken Hill, in the far west region of New South Wales (NSW). Mining activities occupy the central region of the historic Broken Hill Line of Lode orebody and incorporate the original mine areas that commenced operations in the 1880's. Figure 1.1 and Figure 1.2 illustrate respectively the regional and local environments in which the Rasp Mine is located.

CBH Resources (CBH) acquired the Rasp Mine tenements from Normandy Mining Ltd (NML) in 2001 and commenced surface exploration activities and then the development of the Rasp underground exploration decline. BHOP continued rehabilitation of the lease to the point where it met the requirements set down by the then Department of Mineral Resources (DMR), however, final relinquishment was not sought as BHOP planned to restart mining. Project approval 07_0018 was granted in 2011 and the mine was officially opened in 2012. Broken Hill Operations (BHOP), a subsidiary of CBH, currently operates the Rasp Mine.

Development of the Rasp Mine is undertaken within Consolidated Mining Lease 7 (CML7, the lease) and is operated in accordance with the relevant Authorities of mining leases and in accordance with Project Approval 07_0018, which has been modified 10 times to facilitate ongoing operations. As shown in Figure 1.3, CML7 includes surface exclusion areas. These surface excluded areas have not been and will not be disturbed by BHOP and as such are not considered further in this Rehabilitation Strategy. Other key approvals, licences and permits for the mine are summarised in the Rasp Mine Environmental Management Strategy.

1.2 Purpose and scope

The Rehabilitation Strategy has been prepared by BHOP to satisfy the requirements under PA 07_0018 and specifically Schedule 3, Condition 34.

It covers the final landform design, mine closure planning, rehabilitation planning, post mine land uses and proposed rehabilitation techniques for the Rasp Mine.

The objectives of this strategy are to:

- Define the rehabilitation objectives for the mine that considers heritage values, dust management, water and leachate management, subsidence, visual amenity and public safety.
- Provide a concept final rehabilitation landform design and rehabilitation plan.
- Provide a life of mine rehabilitation and mining schedule which outlines key progressive rehabilitation milestones from the commencement of operation (being MOD 6) through to decommissioning and mine closure.
- Define measures to manage and mitigate adverse socio-economic effects of mine closure.

1.3 Rehabilitation strategy requirements

This strategy has been prepared in accordance with requirements of Schedule 3, Condition 34 of 07_0018. Table 1.1 lists the requirements relevant of Schedule 3, Condition 34 and where they are addressed in the Strategy.

Table 1.1 Regulatory requirements for rehabilitation

Condition	Requirement	Section addressed
Schedule 3, Condition 34	The proponent must rehabilitate the site progressively, that is, as soon as practicable following disturbance, to the satisfaction of the Secretary.	This Strategy
Schedule 3, Condition 34A	Within 6 months from approval of Modification 6, the proponent must prepare a Rehabilitation Strategy for the site to the satisfaction of the Secretary. This strategy must:	This Strategy
Schedule 3, Condition 34A(a)	<ul style="list-style-type: none"> Be prepared by a team of suitably qualified and experienced experts whose appointment has been endorsed by the Secretary. 	Appendix D
Schedule 3, Condition 34A(b)	<ul style="list-style-type: none"> Be prepared in consultation with relevant stakeholders including the RR, MEG, EPA, NSW Health (Western NSW Local Health District), DPE Water, Heritage NSW, Council and Perilya Broken Hill Limited. 	Section 6
Schedule 3, Condition 34A(c)	<ul style="list-style-type: none"> Define the rehabilitation objectives for and schedule of the mine site and “free areas”, with consideration of heritage values, dust management, water and leachate management, subsidence, visual impacts and public safety. 	Chapters 3,4,5,8
Schedule 3, Condition 34A(d)	<ul style="list-style-type: none"> Include a conceptual final landform and rehabilitation plan. 	Chapter 7, Appendix C
Schedule 3, Condition 34A(e)	<ul style="list-style-type: none"> Include a life of mine rehabilitation and mining schedule which outlines key progressive rehabilitation milestones from the commencement of operations through to decommissioning and mine closure. 	Section 8.1
Schedule 3, Condition 34A(f)	<ul style="list-style-type: none"> Managing and minimising any adverse socio-economic effects associated with mine closure. 	Section 4.9
Schedule 3, Condition 34A	The proponent must implement the approved Rehabilitation Strategy for the project.	Noted

1.4 Ongoing Rehabilitation Management Plans and Closure Plans

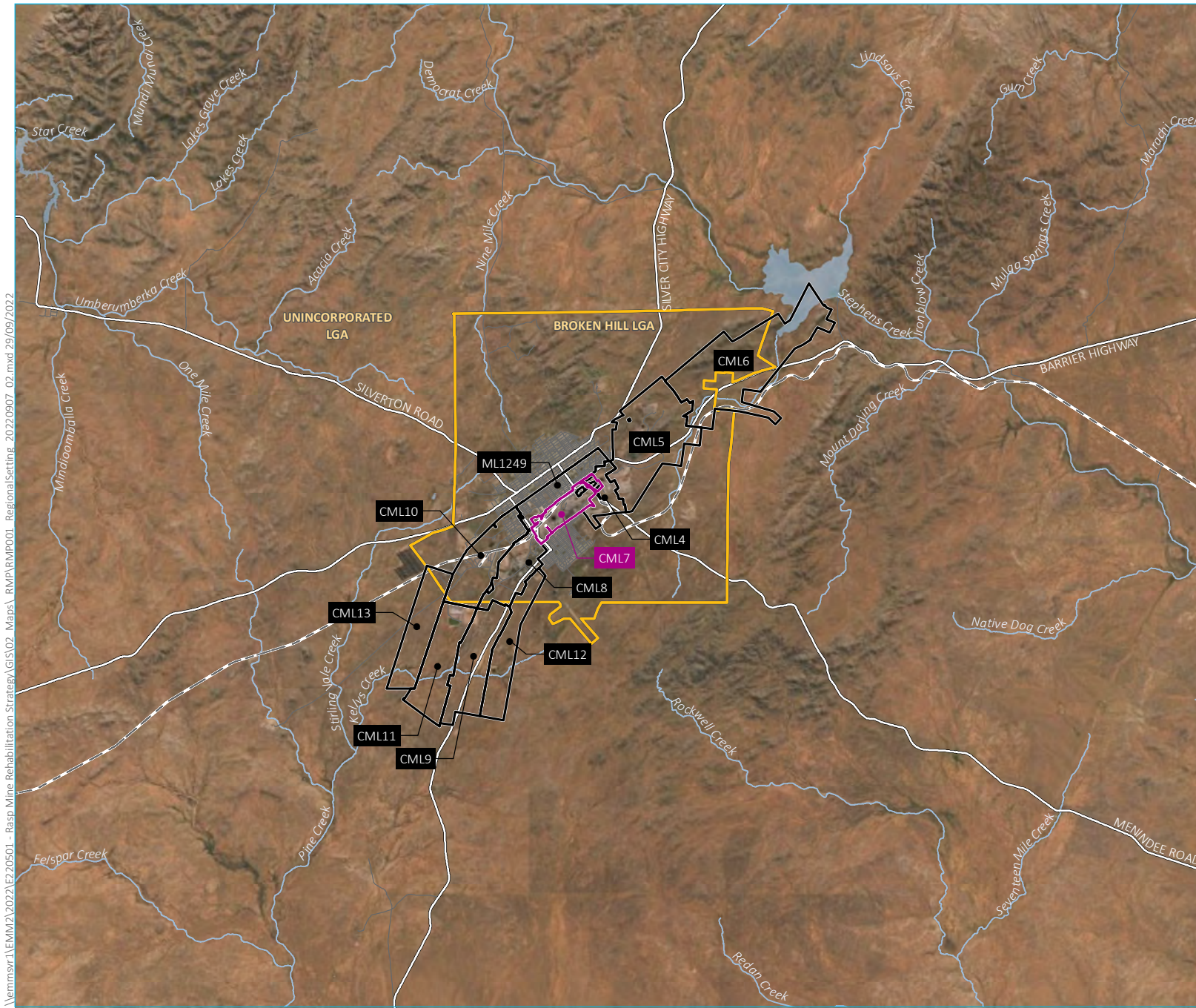
This Strategy has been prepared in acknowledgement that a Rehabilitation Management Plan (RMP) has been prepared and submitted to the Resources Regulator in accordance with the requirements under the Mining Amendment (Standard Conditions of Mining Leases – Rehabilitation) Regulation 2020 (the Mining Amendment Regulation). This RS is consistent with the rehabilitation and closure commitments described in the RMP.

As the mine progresses, knowledge of rehabilitation methods and techniques will be further developed and refined, and new approaches may be developed including technological advances. Refinements of the proposed rehabilitation approach, methods, and schedule may be made to address these potential changes, as such this Strategy provides a broad overview of the rehabilitation and closure techniques which may be adopted by BHOP however the detailed methodology and implementation plans are documented within the RMP.

1.5 Structure of the Rehabilitation Strategy

The remainder of the Rehabilitation Strategy is structured as follows:

- Chapter 2: Outlines the statutory obligations relevant to this Rehabilitation Strategy.
- Chapter 3: Outlines the final land uses proposed at the Rasp Mine.
- Chapter 4: Details the rehabilitation risk assessment.
- Chapter 5: Outlines rehabilitation objectives and rehabilitation completion criteria.
- Chapter 7: Outlines the final landform and rehabilitation plan.
- Chapter 8: Provides an overarching framework as to how rehabilitation is proposed to be implemented.
- Chapter 9: Outlines review process of this document

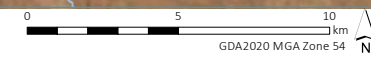


- KEY**
- Broken Hill Operations mining lease
 - Perilya mining lease
 - Rail line
 - Major road
 - Minor road
 - Named watercourse
 - Named waterbody
 - Local government area
- INSET KEY**
- Major road
 - NPWS reserve
 - State forest

Regional setting

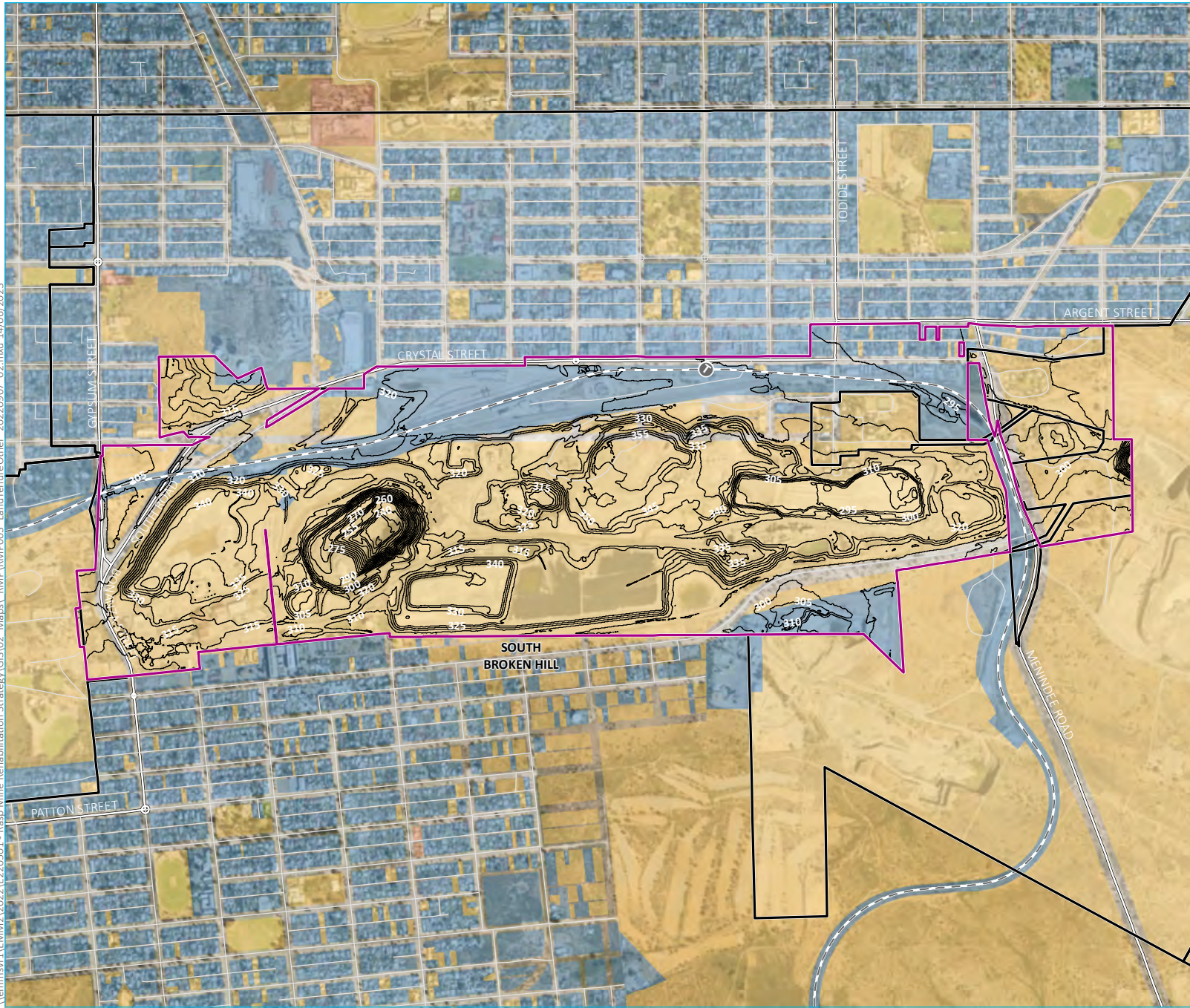
Rasp Mine Rehabilitation Strategy
Figure 1.1

Source: EMM (2022); CBH (2021); DPE (2019); ABS (2021); DFSI (2017, 2020); ESRI (2022); GA (2011)



\\lemmsvr1\EMM2\2022\E220501 - Rasp Mine Rehabilitation Strategy\GIS\02 Maps\ RMP\RMP001 RegionalSetting_20220907_02.mxd 09/09/2022

\\lemmsvr1\EMM2\2022\E220501 - Rasp Mine Rehabilitation Strategy\GIS\02 Maps\ RMP\RMP003 LandTenureOther_20220907_02.mxd 14/06/2023



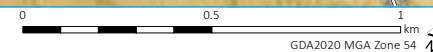
- KEY**
- Broken Hill Operations mining lease
 - Perilya mining lease
 - Train station
 - Rail line
 - Major road
 - Minor road
 - Topographic contour (5 m)
- Land ownership**
- Crown
 - Freehold
 - Local Government Authority
 - NSW Government
 - Unknown

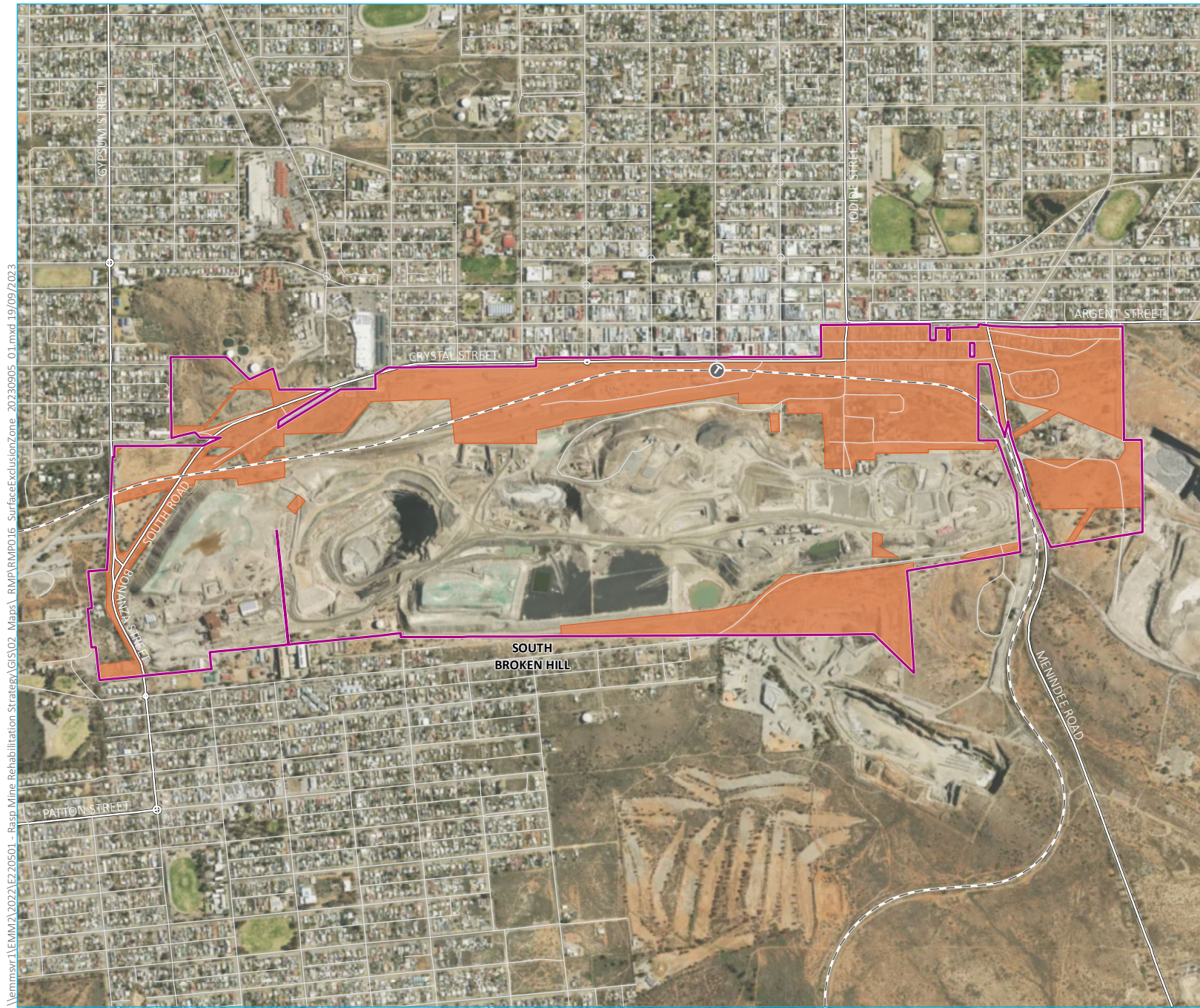
Local environment

Rasp Mine
Rehabilitation Strategy
Figure 1.2



Source: EMM (2022); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011)

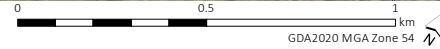




- KEY
- Broken Hill Operations mining lease
 - CML7 surface exclusion zone
 - Train station
 - Rail line
 - Major road
 - Minor road

\\lemmsvr1\EMM\2022\EZ20501 - Rasp Mine Rehabilitation Strategy\GIS\02 Maps\ RMP\RMP016 SurfaceExclusionZone_20230905_01.mxd 19/09/2023

Source: EMM (2023); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011)



CML7 Surface Exclusion Areas

Rasp Mine
Rehabilitation Strategy
Figure 1.3



2 Statutory and strategic context

2.1 Legislation and environmental planning instruments

2.1.1 Mining Act 1992

The Project operates within a CML7 granted under the *Mining Act 1992* (the Mining Act). The Mining Amendment Regulation commenced on 2 July 2021. The Mining Amendment Regulation imposes standard rehabilitation conditions for all mining lease holders in NSW through amendment of the Mining Regulation 2016.

As a large mine subject to an existing mining lease, a transitional period applied to the Project, and the new standard rehabilitation conditions were introduced in July 2022. An RMP has been prepared for mine and uploaded to the Project website 2 August 2022.

2.1.2 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) establishes the State's environmental regulatory framework and includes licensing requirements for certain activities. The objectives of the POEO Act that relate to decommissioning and rehabilitation include "...to protect, restore and enhance the environment, to reduce risks to human health and prevent degradation of the environment".

The POEO Act objectives have been used in the preparation of this strategy and are principally reflected in one of the overarching goals of the strategy; to minimise the risk of pollution occurring from the site during and following closure, decommissioning and rehabilitation.

The Project holds an Environment Protection Licence (EPL 12559) which does not have specific requirements relating to rehabilitation and closure.

2.2 Integrated Mining Policy

The *Integrated Mining Policy* (IMP) was developed by DPE, to improve the assessment of mining projects. The benefits and costs associated of resource proposal, including economic, social and environmental impacts are taken into account as part of the IMP.

The *Integrated Mining Policy* (IMP) is a whole-of-government policy that aims to:

- improve the regulation and assessment of major mining projects
- strike a balance between the significant benefits mining can bring to the economy and the potential impacts on communities and the environment
- help manage the environmental and social impacts of mining
- ensure the community has access to relevant and timely information about mining projects.

The IMP seeks to improve transparency, consistency and accountability during assessment decisions, by guiding proponents to develop applications that communicate key issues that are interest to government and the community. This Mine Closure and Rehabilitation Strategy has been prepared having regard to the IMP guidance documents by providing relevant information regarding mine rehabilitation and post mining land uses, which are key community and regulatory issues.

2.3 Guidelines

This strategy has been prepared generally in accordance with the appropriate guidelines, policies and industry requirements, where appropriate. Guidelines and policies referenced are as follows:

- Guideline for mineral exploration drilling; drilling and integrity of petroleum exploration and production wells (NSW Department of Industry, Skills and Regional Development – Division of Resources and Energy, March 2016)
- Form and Way: Rehabilitation Management Plan for Large Mines (RMP) Guidelines, September 2020 (Department of Regional NSW – Resources Regulator)
- The Strategic Framework for Mine Closure (ANZMEC and MCA, 2000)
- Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia, 2006)
- Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia, 2006).

The relevance of each of the guidelines is discussed briefly in the following sections.

2.3.1 Borehole Sealing Requirements on Land

The Guideline for mineral exploration drilling; drilling and integrity of petroleum exploration and production wells (the drilling guideline) provides an overview of the process for rehabilitation of boreholes not licensed under the *Water Management Act 2000*.

If any boreholes remain open at completion of the operational phase, BHOP will rehabilitate any remaining boreholes, having regard to the borehole sealing requirements in the drilling guideline.

2.3.2 Rehabilitation Plan Guidelines

The *Form and Way: Rehabilitation Management Plans for Large Mine*, September 2020 (the RMP guidelines) (Department of Regional NSW – Resources Regulator) apply to Rasp Mine.

A RMP for the mine area has been prepared for large mines in accordance with the timeframe specified in the Regulation (2 August 2022). It incorporates risk control measures identified in a rehabilitation risk assessment and is consistent with the site's project approvals. Importantly, the RMP replaces the MOP. The RMP is to be amended over time to reflect any changes to the risk control measures identified in a rehabilitation risk assessment, as well as the approved rehabilitation objectives and completion criteria, and final landform and rehabilitation plan.

This strategy has been prepared in consideration of the various requirements of the closure and rehabilitation aspects of the RMP guidelines. Mining and final land-use domains have been identified as per the guidelines, as well as objectives and completion criteria for these domains. A closure and rehabilitation risk assessment has been undertaken to inform the development of this strategy.

2.3.3 Strategic Framework for Mine Closure

The *Strategic Framework for Mine Closure* (Australian and New Zealand Minerals and Energy Council and Minerals Council of Australia, 2000) (SFMC) was developed to promote nationally consistent mine closure management. The SFMC provides guidelines for the development of a mine closure plan to make sure that all stages of mine closure are conducted appropriately, including stakeholder engagement, development of mine closure methodology, financial planning, and implementation of mine closure. The SFMC also describes the expected standards for mine closure and relinquishment of the mine to a responsible authority. Whilst the objectives generally relate to mine closure, there are key elements that are relevant to rehabilitation of the Project, in particular the allocation of appropriate resources and the establishment of rehabilitation criteria, which have been included in this strategy.

The main objectives of the SFMC are to:

- enable all stakeholders to have their interests considered during the mine closure process
- ensure the process of closure occurs in an orderly, cost-effective and timely manner
- ensure the cost of closure is adequately represented in company accounts and that the community is not left with a liability
- ensure there is clear accountability, and adequate resources, for the implementation of the closure plan
- establish a set of indicators which will demonstrate the successful completion of the closure process
- reach a point where the company has met agreed rehabilitation criteria to the satisfaction of the Responsible Authority.

2.3.4 Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry

The aim of *Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry* (NSW Department of Industry, Tourism and Resources, 2006) (MR Handbook) is to provide guidelines to promote ‘leading practice’ sustainable mine plan and rehabilitation design, considering environmental, economic, and social aspects to support on-going sustainability of a mining development.

The MR Handbook recommends procedures and mitigation measures that should be considered during mine plan and rehabilitation design, including stakeholder consultation, material and handling, water balance, final landform design, soil (topsoil and subsoil) management, vegetation and fauna habitat re-establishment and rehabilitation, and agriculture/commercial forestry suitability.

The MR Handbook also provides relevant mine development case studies supporting the recommended procedures and mitigation measures. Where relevant to the Project, the above principals have been addressed in this strategy.

2.3.5 Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry

The aim of *Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry* (NSW Department of Industry, Tourism and Resources, 2006) (MCC Handbook) is to provide guidelines to promote ‘leading practice’ sustainable mine closure and completion, minimising any long-term environmental, economic, and social impacts and resulting in a suitable final landform for an agreed land use. Specifically, the MCC Handbook provides that a progressive rehabilitation plan, which is a key principle of this strategy, should be developed for mine closure.

2.4 Adoption of leading practices

BHOP is committed to adopting leading practices in the operation, rehabilitation and closure of the Project. This includes leading practice measures to avoid, minimise and/or mitigate potential environmental and social impacts. In relation to rehabilitation the leading practices adopted are:

- verification of landform stability using Light Detection and Ranging (LIDAR) monitoring and erosion modelling
- backfilling open cut voids
- scheduling mining operations to maximise progressive rehabilitation
- using inert waste rock and recycled crushed concrete covers to minimise lead dust emissions and erosion in the absence of topsoil and suitable growing mediums
- preserving mining and industrial heritage to allow as mining heritage post mine land use on relevant areas of the Project.

3 Final land use

3.1 Regulatory requirements for rehabilitation

No final land-uses are mandated in the Project Approvals or Development Consents that apply to the project. Site rehabilitation is regulated under a Rehabilitation Management Plan prepared in accordance with the Mining Lease issued under the *Mining Act 1992*.

As outlined in Section 1.1 and shown in Figure 1.3, CML7 includes surface exclusion areas. These surface excluded areas have not been and will not be disturbed by BHOP. Similarly other areas within CML7 are outside of the responsibility of BHOP such as the Vodaphone communications tower lease area and Crown land areas.

The LOLA was established in 1995 as a community-based group to oversee the development of tourism and other commercial possibilities with CML7. Several residential and other buildings were donated to LOLA in 2000. In September 2011 the LOLA was dissolved and their assets located on CML7 transferred to the then Land and Property Management Authority and now DPE Crown Land (Crown Lands), that established the Line of Lode Reserve Trust (LOLRT) and act as trustee of these assets. These assets include two residences location on South Road or Bonanza Street, Jamieson House (residence 27A and 27B), British Flats within Proprietary Square, and the Café and Miners Memorial.

Crown land areas and CML7 surface exclusion areas within CML7 do not require consideration in this rehabilitation strategy and have been excluded from the identified mining and post mining land uses domains.

The following information in this section is reproduced in the Rehabilitation Management Plan.

3.2 Final land use options assessment

3.2.1 Overview

CBH purchased the Rasp Mine from Normanby Mining Investments (NMI) in March 2001. Prior to this, NML managed the site under a care and maintenance management plan having undertaken and completed rehabilitation of the site (to the extent that was agreed by the then Department of Mineral Resources (DMR)). The mine was being used by the Line of Lode Association (LOLA) as a tourist operation with guided tours conducted through the old processing plant and heritage buildings, and a private tourist operator conducted underground tours via the Delprats Shaft. Tourism operations ceased when the mine reopened in 2010.

The Rasp Mine site is uniquely located centrally within the City of Broken Hill and occupies the central region of the historical Broken Hill Line of Lode orebody whose mining leases were continually mined from the mid 1880's until the early 1990's. As such, the conventional final land use options of returning the site to native ecosystem and/or agricultural land uses are not appropriate for the site.

3.2.2 Mining heritage tourism

Department of Primary Industries – Lands (DPI Lands 2016) prepared a draft Broken Hill, Line of Lode Masterplan that outlines a range of projects associated with mining heritage at the line of lode including:

- interpretative mining tours
- construction of an amphitheatre for memorial ceremonies, open air cinema or musical performances
- expansion of the Broken Earth café (currently being undertaken)
- construction of new methods of accessing the top of hill including walkways, cycle paths and chair lift.

A Broken Hill Rehabilitation Steering Committee (Broken Hill Mining inter-Agency Committee) (BHMIAC) was formed with the purpose of facilitating a coordinated whole of government approach to establishing sustainable post-mining land use options for the mines within the Broken Hill district (M Newton, pers.com). The initial focus of the Committee is limited to the Rasp mine and adjacent Perilya mining operations and associated facilities.

It is the objective that the focus of the Committee will be expanded in the future to the broader Broken Hill mining district. The Group is comprised of representatives from NSW Department of Premier and Cabinet (DPC), NSW Environment Protection Authority (EPA), NSW Resources Regulator, Crown Lands, NSW Office of Environment and Heritage (OEH), Broken Hill Lead Program, DPE as well as Broken Hill City Council (BHCC). It is not the role of the Group to be part of any decision making required as part of any regulatory function executed by the government agencies represented on the Group.

Site inspections at Broken Hill were undertaken by Committee on 13–14 August 2019. The purpose of the inspection was to provide the site context to members of the group to ensure committee members understand the complexity of issues that need to be addressed in developing a pathway to confirming post-mining land use option(s) (M. Newton, NSW Resources Regulator, pers. comm). It also intended to provide an opportunity for both BHOP and Perilya to outline issues that required further clarification.

BHOP has had no further contact with the committee since the 2019 inspection however it can be inferred that there is a desire for a mining tourism post-mining land use (PMLU) for relevant sections of the site. In the absence of specific guidance from the Committee or DPI Lands, BHOP has adopted a ‘base case’ safe, stable and non-polluting final landform for the entire site that provides for mining heritage-related tourism PMLU with the opportunity for other appropriate PMLUs for the non-heritage related components of the mine. BHOP re-initiated consultation with the Committee and other relevant stakeholders (Section 6) on this base case, acknowledging that due to the complexity of issues it may take several years for consensus to be achieved.

3.2.3 Alternative final land uses

Other alternate PMLUs which have been excluded are summarised in Table 3.1 with further detail provided for the exclusion of a biodiversity final land use in Section 3.2.3(i) below.

Table 3.1 Excluded post-mine land uses

Post-mine land use	Reasons
Grazing	Aridity, lack of growing media, lack of suitable water, contamination, available area, waste landforms with suitable gradients will be capped with inert waste rock for lead dust control preventing the establishment of pastures.
Biodiversity	Aridity, lack of growing media, waste landforms will be capped with inert waste rock for lead dust control.
Industry	Visual amenity, geotechnical stability, available area, conflict with heritage use.
Residential	Geotechnical, contamination, visual amenity, available area, conflict with heritage use.

i Biodiversity

A biodiversity final land use may be possible on site if the waste rock has sufficient fines to support sparse native vegetation. Waste rock typically contains between 1–2% silt and sand sized particles which severely limits the water and nutrient holding capacity of the waste rock and generally results in hostile conditions for plant germination and establishment.

Desktop mapping of vegetation mapping undertaken by OzArk (2017) (Figure 3.1) for the adjacent Perilya Mine indicates that two vegetation communities are likely to have existed prior to being cleared by historical mining:

- 27. *Acacia aneura*-*Acacia tetragonophylla* tall shrub land
- 34. *Atriplex vesicaria* dwarf open scrub.

These vegetation communities are described in detail in Pickard and Norris (1994), reproduced in Table 3.2.

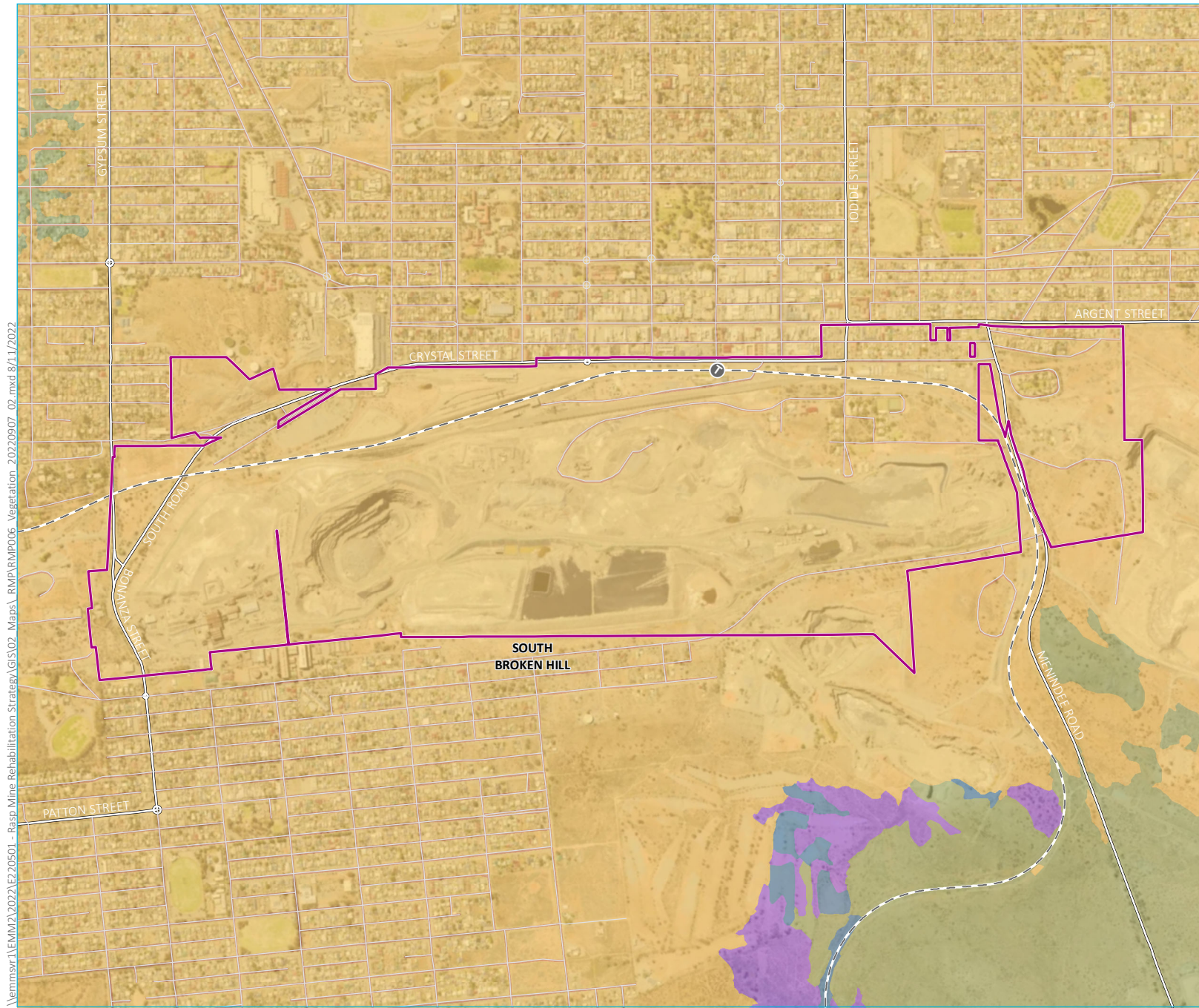
Table 3.2 Vegetation Map Units

Number/name	Map unit 27 <i>Acacia aneura</i> – <i>Acacia tetragonophylla</i> (Mulga-Dead Finish)	Map unit 34. <i>Atriplex vesicaria</i> dwarf open scrub (Bladder Saltbush on downs and ranges)
Geographic distribution	Widespread and scattered community on rocky hills and ridges, such as the Barrier Ranges, where it is most common and extensive, the Grey Range, Scopes Range east of Broken Hill and mesas of White Cliffs. Also occurs on both sides of the Darling River north-west of Wilcania, and on parts of the Cobar pediplain.	Widespread in the north-west of the map area from Wilcania to both South Australian and Queensland borders.
Landforms	Steep to moderate slopes on hills of Devonian sandstone, rocky cliffs, abutment out-cropping sandstone.	Broad undulating stony plains, often of plateaus, and on stony ranges.
Soils	Skeletal lithosols, some desert loams. Local patches of aeolian sediment.	Brown desert loams with extensive lags of silcrete gibbers, gilgai brown clays; skeletal lithosols.
Structure	Open-shrubland of rather small and stunted bushes of <i>Acacia aneura</i> and <i>Acacia tetragonophylla</i> with extensive open areas. Also, extensive areas of dead shrubs from wildfire or drought stress.	Moderate to sparse <i>Atriplex vesicaria</i> forming dwarf open-scrub with open inter-bush areas. On strongly gilgaied sites, <i>Astrebla lappacea</i> and various herbs usually occur in the depression and <i>Atriplex vesicaria</i> on the rises. On rocky ranges, the inter-bush area is frequently occupied by various herbs and low shrubs.
Canopy species	<i>Acacia aneura</i> , <i>Acacia tetragonophylla</i> , <i>Atalaya hemiglaucua</i> , <i>Casuarina pauper</i> , <i>Grevilia striata</i> .	Vary with the site and habitat. Downs often have <i>Atriplex vesicaria</i> , <i>Maireana pyramidata</i> (especially in sandier soil in drainage lines), and <i>Astrebla lappacea</i> . Ranges and rocky sites of have <i>Atriplex vesicaria</i> , <i>Maireana pyramidata</i> and scattered emergent <i>Acacia aneura</i> and <i>Casuarina pauper</i> . Low open woodland of <i>Acacia cana</i> on sandier rises and in creeks.
Other species	Various herbs including <i>Ptilotus spp.</i> , and grasses, especially <i>Enneapogon avenaceus</i> and <i>Aristida contorta</i>	Wide ranges of herbs and grasses, especially <i>Astrebla lappacea</i> . In some areas, scattered <i>Sarcostemma austral</i> and <i>Sclerostegia spp.</i> occur. Ground cover species on downs are usually short-lived perennial grasses, especially <i>Enneapogon spp.</i> , <i>Triraphis mollis</i> , <i>Sporobolus actinocladius</i> , <i>Dicanthium sericeum</i> , and the more long-lived perennial <i>Eragrostis setifolia</i> . Common forbes include <i>Sclerolaena brachyptera</i> , <i>Sclerolaena eriantha</i> and <i>Sclerolaena ventricosal</i> .

Previous revegetation trials on site have failed due to lack of suitable growing media and the harsh climatic conditions. BHOP are currently undertaking an assessment to see if it is feasible to manufacture a growth media from commercially produced organic waste. If the outcome from the assessment is positive, then BHOP may consider undertaking further trials.

To minimise the potential for lead dust generation from land shaping, constraints posed by historical mining wastes (e.g. TSF1), and a desire to not alter historical landforms, BHOP propose to leave the outer facing batters at angle of repose as agreed and approved by the then DMR for NML in 1996. BHOP will undertake LIDAR or equivalent erosion monitoring technique to determine if the rate of erosion on the outer batters is tolerable. If

monitoring demonstrates that erosion rates are higher than tolerable then rock mulching of the batters will be undertaken where required. If rock mulching is required, then there will be insufficient growing media for vegetation establishment on the outer batters.



- KEY**
- Broken Hill Operations mining lease
 - Train station
 - Rail line
 - Major road
 - Minor road
- Plant community type**
- 0 | Not native vegetation
 - 123 | Mulga - Dead Finish on stony hills mainly of the Channel Country Bioregion and Broken Hill Complex Bioregion
 - 128 | Nelia tall open shrubland of semi-arid sandplains
 - 139 | Prickly Wattle tall open shrubland of dunes and sandplains of semi-arid and arid regions
 - 155 | Bluebush shrubland on stony rises and downs in the arid and semi-arid zones

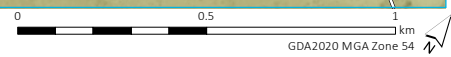
Modelled vegetation communities prior to mining disturbance

Rasp Mine Rehabilitation Strategy
Figure 3.1



\\lemmsvr1\EMM\2022\E220501 - Rasp Mine Rehabilitation Strategy\GIS\02 Maps\ RMP\RMP006 Vegetation_20220907_02.mxd 8/11/2022

Source: EMM (2022); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011); OEH (2022)



3.3 Final land use

The proposed PMLUs for the mine will be a combination of:

- mining landscape – safe, stable and non-polluting waste landforms
- mining and industrial heritage
- mining heritage related tourism.

3.4 Final land use and mining domains

The Rasp Mine has four final land-use domains and seven mining domains as summarised in Table 3.3 and shown in Figure 3.2 and Figure 3.3.

Domain codes are in accordance with the NSW Resources Regulator Mine Rehabilitation Portal Guideline (RR 2021a). Detailed descriptions of these domains are provided in the following sub-sections.

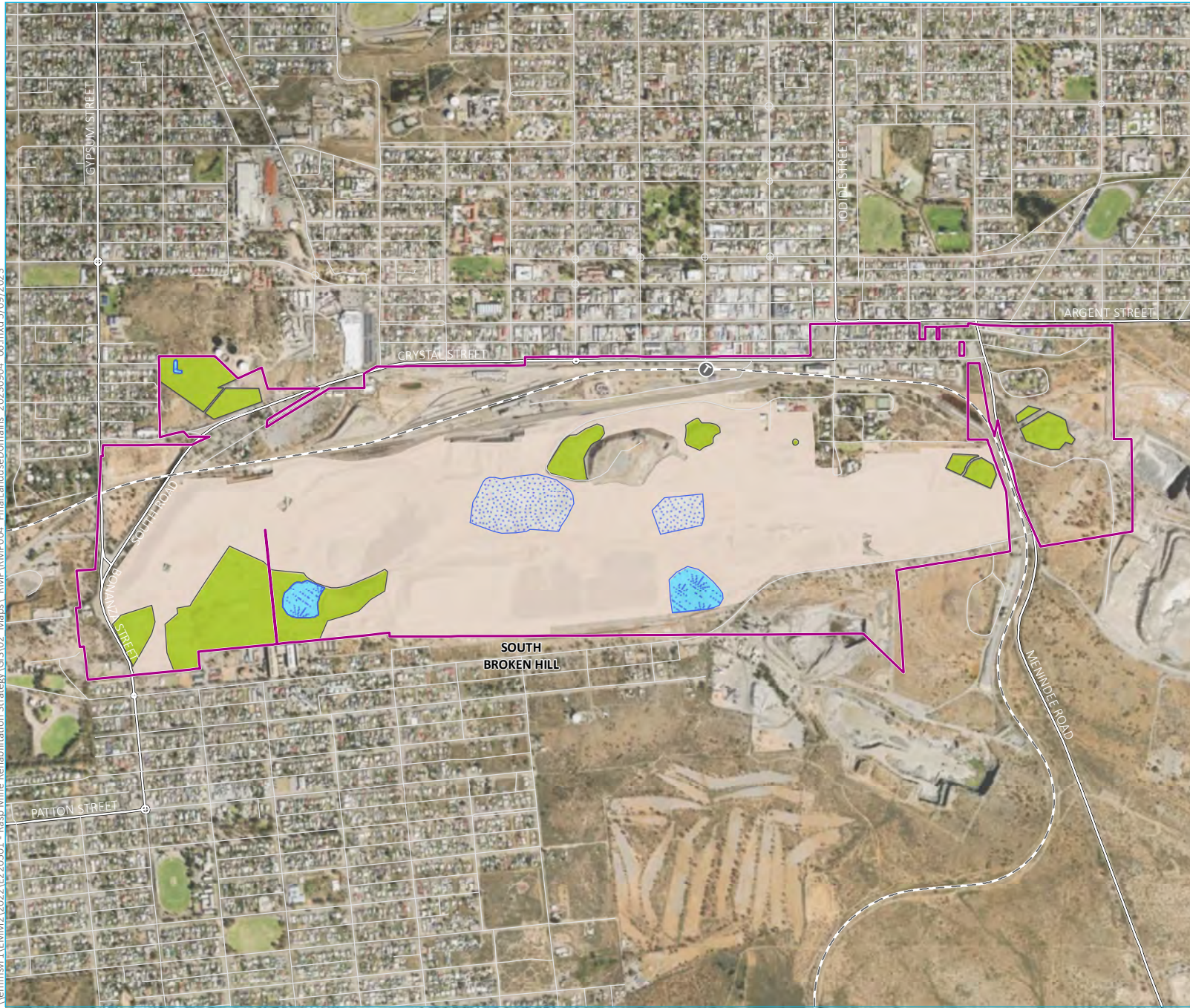
As noted in Section 3.2.1, the Rasp Mine site has a unique location within the central region of the historical Broken Hill Line of Lode orebody within the City of Broken Hill. The conventional final land use options of returning the site to native ecosystem and/or agricultural land uses are therefore not appropriate for the site.

BHOP has adopted a ‘base case’ safe, stable and non-polluting final landform for the entire site that provides for mining heritage-related tourism PMLU with the opportunity for other appropriate PMLUs for the non-heritage related components of the mine. Accordingly, the final land use domain of “Other” has been assigned in accordance with the NSW Resources Regulator Mine Rehabilitation Portal Guideline (RR 2021a) and NSW Resources Regulator Guideline Rehabilitation Objectives and Rehabilitation Completion Criteria (RR 2021b).

Table 3.3 Rasp Mine – final land use domains

Code	Domain name	Area (ha)
Final land use domains		
F	Water management areas	5.39
H	Heritage area	39.67
J	Final void	11.45
K	Other mining heritage related tourism	207.72
Mining domains		
1	Infrastructure areas	0.10
2	Tailings storage facilities	57.97
3	Water management areas	10.49
4	Waste emplacement areas	135.06
5	Active mining area (Open cut void)	11.45
7	Beneficiation facility	5.80
8	Other – mining heritage related	43.37

\\lemmsvr1\EMM\2022\E2\20501 - Rasp Mine Rehabilitation Strategy\GIS\02 - Maps\ RMP\RMP004 - FinalLandUseDomains_20230904_06.mxd 5/09/2023

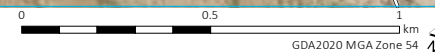


- KEY**
- Broken Hill Operations mining lease
 - Train station
 - Rail line
 - Major road
 - Minor road
- Final land use domain**
- Final void
 - Heritage area
 - Other
 - Water management area

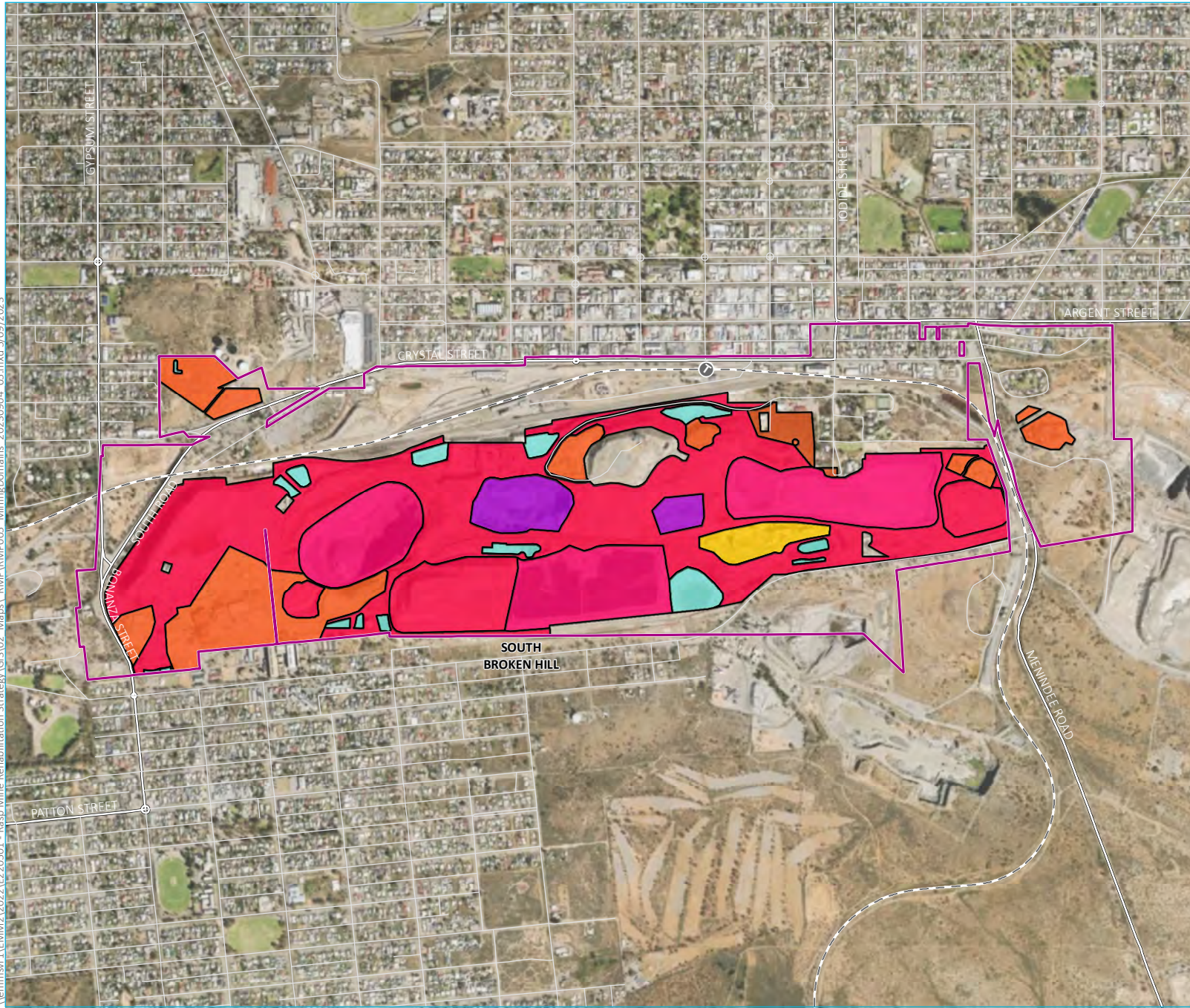
Final land use domains

Rasp Mine
Rehabilitation Strategy
Figure 3.2

Source: EMM (2023); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011)



\\lemmsvr1\EMM\2022\E2\20501 - Rasp Mine Rehabilitation Strategy\GIS\02 Maps\ RMP\RMP005 MiningDomains_20230904_05.mxd 5/09/2023



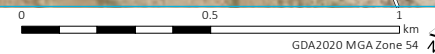
- KEY**
- Broken Hill Operations mining lease
 - Train station
 - Rail line
 - Major road
 - Minor road
- Mining domain type**
- Active mining area (open cut void)
 - Beneficiation facility
 - Infrastructure area
 - Other - heritage
 - Other - other users
 - Overburden emplacement area
 - Tailings storage facility
 - Water management area

Mining domains

Rasp Mine
Rehabilitation Strategy
Figure 3.3



Source: EMM (2023); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011)



3.4.1 Final land use domains

i Domain F – Water management area

Significant water management works were undertaken by NML from 1993 through to 2000 to minimise the discharge of surface water from site and divert it to evaporation basins within or adjacent to the lease (NML, 2000).

A summary of surface water management works undertaken by NML prior to BHOP purchasing the mine is detailed in Table 3.4.

Table 3.4 Surface water management works undertaken by NML

Location	Works	Date	Purpose
Haul road at the toe of the Horwood tailings dump (TSF1) and Horwood Dam.	Bunding of haul road and Horwood Dam.	January 1993	To prevent stormwater from the southern side of the city entering the lease.
Horwood tailings dump (TSF1).	Earth fill near Kintore pit and change of road gradients. Trenching from Dump 1A to Kintore Pit.	January 1993	Diversion of flow away from TSF1. Diversion of flow from the old crusher and mill areas to the then mill dam and an area south of Kintore Pit. Trenching was undertaken to divert flow from Dump 1A to Kintore Pit.
Waste dumps (including old tailings dumps covered with rock) in the Delprats area.	Recontouring and excavation of a drainage channel.	1993/1994	Divert flow from the waste dumps to the BHP pit.
Delprats waste dump.	Recontouring and redirecting drainage.	1994/1995, extended in 1997/1998	Divert flow from Delprat dump and roadway to BHP pit to the south and Block 14 to the north.
Dump 1A and All Nations tailings dump.	Perimeter bunding.	1995/1996 and 1996/1997	Runoff from the top of Dump 1A and All Nations tailings dump re-directed to Kintore Pit.
No 7 winder south-east to the old mill.	Bunding.	1995/1996 and 1996/1997	Divert flow to the old Kintore Pit.
Old Broken Hill South tailings dump western side of CML7 overlooking the rail yards.	Using waste rock to cover and construct a stormwater retention area.	1996/1997	Cover tailings and create stormwater capture and evaporation.
Old Sulphide Corporation fire/ambulance building.	Excavation of a retention basin.	1996/1997	Capture of stormwater from the south-eastern side of CML7 and redirecting it via a culvert under the main access road into old Kintore Pit.
North-east boundary fence.	Removal of mullock and slack and construction of major drainage bunds.	1996/1997	Direct stormwater to the Horwood Dam to eliminate any runoff or seepage outside the lease boundary from that area.
Rail yards.	Construction of an evaporation pond at the base of the black slag dump and connection to the rail yards evaporation pond.	1999/2000	To divert, capture and evaporate contaminated stormwater.
Blackwoods waste rock dump.	Bunding and regrading of benches.	1997/1998	To redirect stormwater from Blackwoods waste rock dump to Blackwoods Pit.

The concept final landform design maximises the opportunity for diversion of stormwater flow away from the angle of repose outer batters and maintains internal drainage to pits and low points to encourage retention and evaporation. Modification to some of the works undertaken by NML is proposed to minimise concentration of flows and erosion potential, and to avoid the reliance on structural erosion controls. It also accounts for drainage modification undertaken by BHOP over the life of mine.

A surface water model of the proposed final landform is currently being developed and detailed investigations are being undertaken to:

- improve the retention capacity of the Ryan Street Dam to minimise the potential for off-site discharge
- determine treatment options for stormwater contained in the Ryan Street Dam to permit lawful discharge
- assess:
 - all monitoring systems, alerts and associated action plans
 - the integrity of all water storage facilities including permeability and their ability to prohibit discharge
 - verify the aspect and required design capacities of all water storages
 - water storage facility maintenance programs
 - permanent and temporary pumping systems.

In accordance with Condition U1 of EPL12559 and this strategy will be updated accordingly if required.

The key formal evaporation dams (other than the final voids) planned to remain following closure are detailed in Table 3.5.

Table 3.5 Water storages

Water storage	Capacity	Purpose	Comments
Ryan Street Dam (S49)	1,951 m ³	Collect contaminated stormwater run-off from the historical Block 10 smelter.	BHOP investigating an option to establish an artificial wetland in this dam (and other treatment options) to improve contaminant capture.
Horwood Dam	7,663 m ³	Receives seepage and stormwater runoff from the Mt Hebbard and TSF1 outer batters.	BHOP are investigating an option to establish an artificial wetland in this dam (and other treatment options) to improve contaminant capture.
Lochness (S22)	18,000 m ³	Receives runoff from the surface of TSF1.	This dam will be modified to form a single cell during rehabilitation works in preparation for closure.

Crest bunding of waste rock dumps in preparation for closure will form temporary water storages that are anticipated to evaporate. Details of evaporation dams to remain will be refined in the surface water model currently being developed for the site.

ii Domain H – Heritage areas

The Rasp mine site has many items that possess heritage significance on a local, state and national level. As a result, constraints apply to some actions that would ordinarily form part of conventional mine rehabilitation works as detailed in Table 3.6.

Table 3.6 Statutory listing implications

Listing	Relevant legislation	Protections	Implications
National Heritage List (NHL)	<i>Environmental Protection Biodiversity Conservation Act 1999</i> (EPBC Act)	Site is listed on the NHL are defined as Matters of National Environmental Significance (MNES). Under the EPBC Act, an action that may have a <i>significant impact</i> on a MNES is deemed to be a ‘controlled action’ and can only proceed with the approval of the Commonwealth Minister for the Environment. An action that may potentially have a significant impact on a MNES is to be referred to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) for determination as to whether or not it is a controlled action. If deemed a controlled action the project is assessed under the EPBC Act for approval.	The project area falls under the NHL listing for the City of Broken Hill. Whether an action needs to be referred is determined by the proponent via a self-assessment process. <i>Matters of National Environmental Significance, Significant Impact Guidelines 1.1</i> (Department of the Environment 2013) provides a framework to assist proponents. The Rasp Mine Closure Remediation Plan would need to be self-assessed to determine whether the implementation of the plan would have a significant impact on the assessed significance of the City of Broken Hill NHL listing. It would be deemed to have a significant impact if one of the following statements is found to be true: <ul style="list-style-type: none"> • one or more of the National Heritage values to be lost • one or more of the National Heritage values to be degraded or damaged, or • one or more of the National Heritage values to be notably altered, modified, obscured or diminished.

Table 3.6 Statutory listing implications

Listing	Relevant legislation	Protections	Implications
State Heritage Register (SHR)	<i>Heritage Act 1977</i>	Items are protected under Section 57 of the Heritage Act as they are significant in the development of NSW.	<ul style="list-style-type: none"> • Cannot be disturbed/impacted/changed without approval. • Change must be justified. • Approval not guaranteed.
LEP listing	<i>Environmental Planning and Assessment Act 1979</i>	As defined by the LEP and the Development Control Plan (DCP).	<ul style="list-style-type: none"> • Council to approve changes. • Development that has the potential to affect heritage items is discouraged.

Gazetted heritage items located within CML7 as detailed in Table 3.7 and displayed in Figure 3.4

Table 3.7 Gazetted heritage items

Item	Register	Item ID
City of Broken Hill	NHL	C2015G00102
BHP Chimney Ruins of First Offices	SHR / LEP	01820/I14
BHP North Slag Dump	LEP	I15
British Flats – Proprietary Square	LEP	I21
Sydney Railway Station (former)	LEP	I210
Radford House	LEP	I116
Mining Precinct 1	LEP	I236–I262
Mining Precinct 2	LEP	I263–I280
Mining Precinct 5	LEP	I285–I295
Mining Precinct 6	LEP	I296–I304
Mining Precinct 7	LEP	I305–I309
Mining Precinct 11	LEP	I417
Mining Precinct 12	LEP	I415–416

NML’s rehabilitation and closure program focused on the preservation of significant buildings and structures on the leases. NML’s rehabilitation program commenced in 1991 with comprehensive and systematic identification of movable items that constituted either:

- salvageable (i.e. saleable) material
- scrap, or
- heritage items for conservation.

Direct sale of equipment was undertaken up until 1995 when an auction was held to sell remaining equipment. Scrap material was removed for burial in several campaigns from 1992 to 1997, and moveable heritage items were retained for future use by the LOLA or removed to museums in Broken Hill.

A gap behind a prominent freestanding stone and brick wall, which formed part of the original BHP smelter, and which over time had been washed out, was filled with rock by NML from 1993–1994 to support it and prevent any further deterioration

The tailings grinding and retreatment plant near the mill and its associated feed bin, apron feeder and conveyors were removed, foundations excavated, and the site cleared and graded. The coarse ore feed bin, primary crusher, secondary crushing and screening plants and conveyors were dismantled and removed, but the concrete foundations were left in place at the request of the LOLA. The voids were filled with rock.

At the South Mine Mill water supply tanks, thickeners and filter plant were removed and the mill dams filled with waste rock. Unwanted water pipes, tailings pipes, railway tracks and the firehouse drying mast were removed.

Important and distinctive infrastructure that was retained included:

- No.7 and No.4 headframes and winder houses, and the complex of associated structures, such as the covered walkway at No.7
- Brownes shaft (Junction) complex
- Thompsons shaft (Junction) complex
- Delprats headframe and winder
- South Mine ambulance rooms, changeroom/bathhouse, etc.
- South Mine Mill and workshops
- offices in Eyre Street (freehold, not on CML 7) and houses on South Road, Delprats Managers house and the British Flats.

Plant and equipment excluded from the main auction sale held by MMM in May 1995 and left in place for future mining heritage tourism included:

- the winders at Brownes shaft, Delprats, Thompsons and No. 7 (main) shafts
- in the mill, one set of roll crushers, one ball mill and the Mt Hebbard flotation cells and two solid displacement Aldridge pumps
- all the original electrical switching and control stations
- the sand fill plant with several sets of drag classifier
- in the workshops, two pre 1900 lathes and several overhead cranes
- in the compressor building, the original compressor
- in the fire service pump house, several examples of high-pressure water pumps.

In 1994–1995, old plans and records dating back to the early 1900's were collected and stored and made available to the LOLA. Work commenced to make safe for public access (to the then DMR and Workcover requirements at that time) the buildings and mine structures to be retained. This included:

- removing scrap, removing or repairing unsafe walkways, and removing contaminated material from the Mill and filling pits in the basement with rock
- removing scrap and filling pits at the No.7 shaft crusher station

- clean-up and removal of scrap and removal of tailings around the old sand plant building.

Repair of the buildings continued in 1996–1997. Damaged roofs and walls were re-clad (with iron sheets chosen for their ‘weathered’ look) and, in the Mill, unwanted stairways, power cables, pipework, walkways and steel work were repaired or removed, all accessible areas were cleared, and potentially hazardous areas partitioned off.

Shafts were either capped or fenced as detailed in Table 3.8.

Table 3.8 Shaft safety works undertaken by NML

Shaft	Details of works
No.1	Previously filled, reinforced concrete slab
No.4	Open, with steel mesh safety grid, chainwire cyclone fence
No.5	Open upcast airway, mesh safety grid and security fence repaired
No.6	Open upcast airway, additional chainwire security fence
Sandpass decline	Previously filled, reinforced concrete slab
Sandpass shaft	Previously filled, chainwire security fence
Campbell	Decked and fenced, signage fitted
Delprats vent shaft	Upcast airway, chainwire safety fence
Jimmy Green	Previously filled, reinforced concrete slab
Brownes	Decked with heavy gauge railway line and erection of security fencing
Thompsons	Open, with decking, security fence repaired
Thompsons vent shaft	Previously filled, reinforced concrete slab
King	Open, reinforced concrete slab
King vent shaft	Open, gaps around fan duct housing decked and concreted
Reyallick	Decked and chainwire security fence
McIntyre	Decked and chainwire security fence
Marsh	Decked and chainwire security fence

It is BHOP’s intention that the mine’s heritage items remain following the cessation of mining, however, the responsibility for the heritage items will ultimately need to be transferred from BHOP to another entity. Formal consultation has commenced with relevant stakeholders to plan for this process (Section 6).

Some heritage items may be structurally unsound and may not be fit for purpose for future mining use or tourism use (e.g. Carpenters Paint Shop). It may be necessary to seek development approval to demolish these items.

A draft conservation management plan (CMP) was prepared for BHOP in 2012 by Austral Archaeology Pty Ltd in association with Dr Peter Bell. The CMP comprises two volumes: Volume 1 is the main body of the CMP, and Volume 2 includes the individual heritage inventory forms for each building and site.

GML Heritage (GML) prepared the *Rasp Mine Conservation Management Strategy*, in August 2015. The objective of the report (GML 2015) was:

...to integrate the findings and policies of the Draft CMP with the current management framework for Rasp Mine, to provide for appropriate management of the large number of individual heritage items, to align with BHOP's planning for mine closure and lease relinquishment and to form the basis for preparation of a revised Conservation Management Plan.

In September 2022 archaeologists from EMM undertook a visual condition assessment of the mining precincts identified in the draft *Conservation Management Plan Rasp Mine* prepared by Austral Archaeology & Bell in 2013. The condition assessment also employed the *Conservation Management Plan Rasp Mine, CML7, Broken Hill, Volume 2 – Heritage Inventory Forms Part 1 and 2* prepared by Austral Archaeology & Bell in 2012.

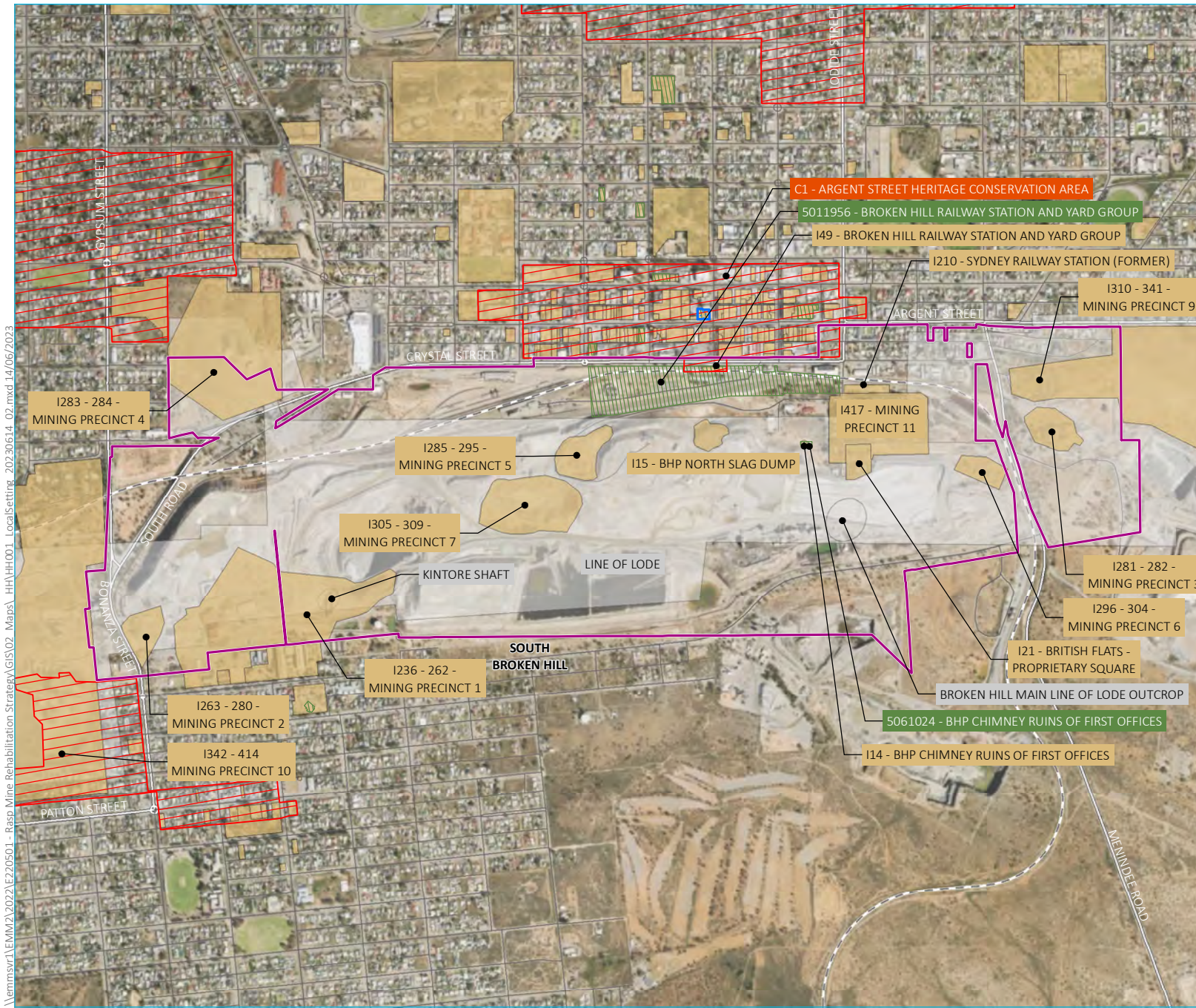
Assessment of the condition of the heritage items was based on a visual only inspection, and in many cases dilapidation and structural instability of existing structures on site did not allow for internal inspections of buildings and structures.

The existing condition of heritage items, identified in Table 3.7, were mapped against the heritage inventory forms prepared by Austral Archaeology & Bell, which will allow for a revised assessment of significance of all heritage items and will also form the basis for retaining/removal of heritage items.

EMM recommend that BHOP:

- Maintain existing precincts as is with as many elements as can be retained. The analysis above has been categorized as 'can be retained' and 'should be retained'. The 'should be retained' elements must be retained as they contribute significantly to the heritage value of the precincts, whereas the 'can be retained' refers to elements which although significant might be in a poor condition, and retention of these items might not be possible or would be financially not viable for CBH or any future owners of the site.
- Undertake detailed visual documentation of each precinct via LIDAR to capture all elements on each precinct.
- Develop a heritage interpretation strategy and heritage interpretation plan for the whole mining site and each precinct could be detailed out in terms of historical uses, existing elements, and heritage value of all elements as there is very strong scope for interpretation on the site, notably Precincts 5, 6 and 7. The heritage interpretation strategy and plan should integrate the Line of Lode projects currently being undertaken by Crown Lands as the Rasp Mine site forms the context of the Line of Lode. It is recommended that this process be undertaken in consultation with the BHMIAC, other relevant Line of Lode stakeholders and heritage consultants.

A revised CMP is being prepared by EMM in accordance with Schedule 3, Condition 30 of PA 07_0018 to inform the protection and management of heritage items following the cessation of mining. This strategy will be amended (if required) once the revised CMP has been developed.



- KEY**
- Broken Hill Operations mining lease
 - Rail line
 - Major road
 - Minor road
 - Commonwealth Heritage List
- Broken Hill Local Environmental Plan 2013**
- Conservation Area - General
 - Item - General
- Heritage act**
- State heritage register
- Non-Statutory listing**
- Register of the national estate
- Note: The entire project area falls within the National Heritage List

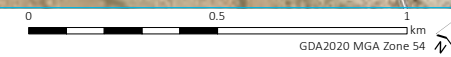
Gazetted heritage items

Rasp Mine
Rehabilitation Strategy
Figure 3.4



\\lemmsvr1\EMM2\2022\E220501 - Rasp Mine Rehabilitation Strategy\GIS\02_Maps_HH\HH001_Local\Setting_20230614_02.mxd 14/06/2023

Source: EMM (2022); CBH (2021); DPE (2021); DFSI (2020); Metromap (2022); GA (2011)



iii Domain J – Final voids

Two final voids will remain at closure:

- BHP Pit
- Box Cut.

Little Kintore Pit will be partially backfilled with waste rock from the excavation of the Box Cut to form a shallow stormwater detention pond designed to capture runoff from the capped Kintore Pit landform (Figure 3.5 and Figure 3.6) where it would evaporate or seep into the floor of the backfilled pit.

The finished surface will be a rough surface inert waste rock with 1 to 2% fines.

a BHP Pit

The BHP Pit is currently used for storage of waste rock. It is expected at closure that the BHP pit will be largely backfilled with waste rock and then capped with inert waste rock. The extent of backfilling is limited by the in-situ heritage items within the pit. The volume of waste rock to be placed in the pit is dependent on approval being obtained to increase the rate of covering free areas with inert waste rock thereby reducing the need to store inert waste rock within the pit or a further modification to PA 07_0018.

It is expected that the BHP pit will form part of the mining heritage final land use, and if not completely backfilled, will be bunded for public safety purposes.

b Box Cut

MOD6 approved the harvesting of dry tailings from the Blackwood Pit (TSF2) for disposal in Kintore Pit (TSF3) as TSF2 is reaching its maximum capacity. This will require excavation of a Box Cut, mainly via earthworks with some surface blasting at the lower levels (30 m), to gain access to competent rock from which a new portal and decline would be installed. This would require relocating up to 490,000 t of excavated material to Little Kintore Pit and BHP Pit (all material has been deemed to be >0.5% Lead (Pb) and would be stored in-pit).

Following cessation of underground operations, removal of all infrastructure and plugging and capping of the portal, the Box Cut will be partially backfilled with waste rock then capped with inert waste rock to form a stormwater detention pond (Figure 3.7). Surface water contained in the stormwater detention pond would be expected to evaporate or seep to ground water.

The finished surface will be a rough surface of inert waste rock with 1–2% fines.

The sides of the Box Cut above the backfilled surface will be exposed in-situ rock.

iv Domain K – Other (mining heritage related tourism)

The greater mine area will be used for historical mining and industrial related tourism to minimise the socio-economic impacts on the City of Broken Hill.

This domain will be rehabilitated to be a safe, stable and non-polluting mining landscape that is consistent with the mines industrial and mining heritage. This involves leaving all mining landforms not constructed or modified by BHOP as constructed as reshaping is either not possible due to impact waste storages that were constructed prior to BHOP such as TSF1, mining lease boundary or existing infrastructure such as rail, road and powerline constraints, and the potential to generate lead dust during shaping operations.

In 1993, BHCC was granted funding by the Heritage Council of NSW to support a study by industrial archaeologist J. McCarthy BHCC noted, in presenting the findings of this report that:

Preservation of the mining character of Broken Hill was essential for the long term prosperity of the town. This would impact on the rehabilitation strategies of the mines, with potential tourists coming to see mines, not vegetation.

(MREMP minutes March, 1993).

Of note in the report was reference to the black slag dump overlooking Crystal Street on the western side of the lease, while not listed on any heritage register, it was agreed the distinctive nature of this feature warrants its preservation and not covered or regraded in any way. The high density and cohesiveness of the slag makes the dump highly stable, and its vertical face prevents access.

Newer buildings, not important to understanding the site history – including a heavy equipment workshop, assay office, reagent store and training office were dismantled and removed in 1995–1996.

At mine closure, infrastructure that has been installed by BHOP will be demolished and disposed of underground or within Kintore Pit (TSF3) and capped. Concrete structures and pads will be removed and placed underground or within TSF3 or crushed and placed around heritage areas to minimise lead-bearing dust emissions. Contaminated material will be removed and disposed of underground or to TSF3 where it will be capped and covered with inert waste rock. Slopes greater than 18 degrees (°), installed by BHOP, will be reshaped in accordance with the final landform plan to ensure geotechnical and erosional stability.

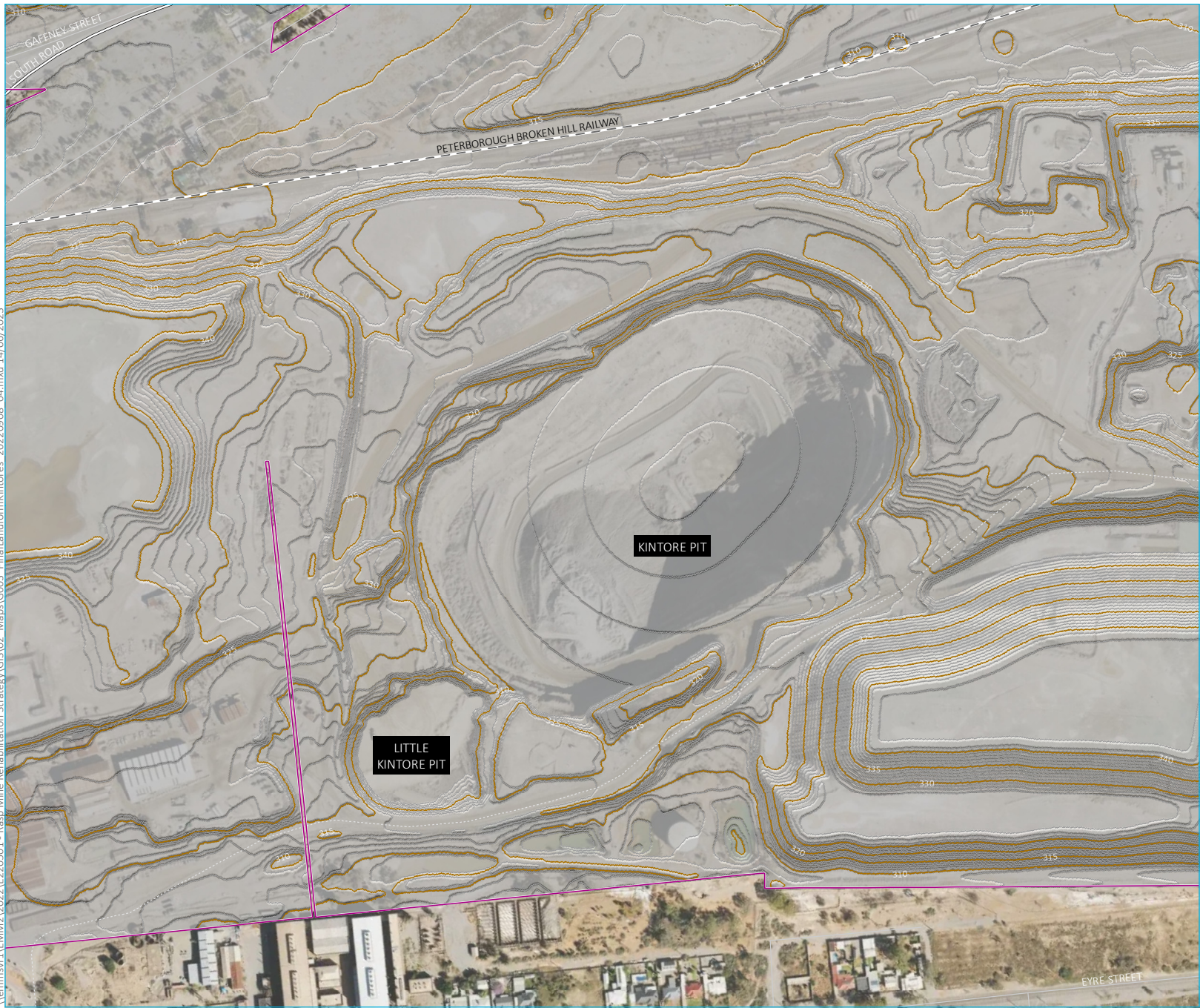
Crushed inert waste rock/concrete will be placed as cover around heritage items to provide for public safety and to minimise lead-bearing dust emissions.

There are several sealed and unsealed hardstand and laydown areas across the site. The sealed areas will remain in-situ with removal of any contaminated material and the areas cleaned down. Most of the sealed areas are located around historic buildings and will remain for the proposed mining tourism final land use. Unsealed areas will have contaminated material removed and then covered with inert waste rock to minimise dust emissions.

It is intended that electrical services will be retained for mining heritage tourism purposes and therefore will only be partially terminated. Two electrical substations will be terminated, demolished, and placed underground.

Development approval will be required for demolition of buildings and structures erected by NML in the 1990s. Demolition of current BHOP structures and buildings may also require a modification to the PA07_0018, which references the original Environmental Assessment that requires their retention to add another layer of mining history to the site.

Some unsealed and sealed roads will remain to allow access to the heritage items for the mining heritage tourism final land-use, access to the Vodaphone tower, Line of Lode Café, Miners Memorial, and lookout.



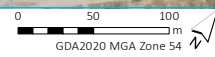
- KEY**
- Broken Hill Operations mining lease
 - Rail line
 - Major road
 - Minor road
 - Vehicular track
 - Contour**
 - 1 m contour interval
 - 5 m contour interval

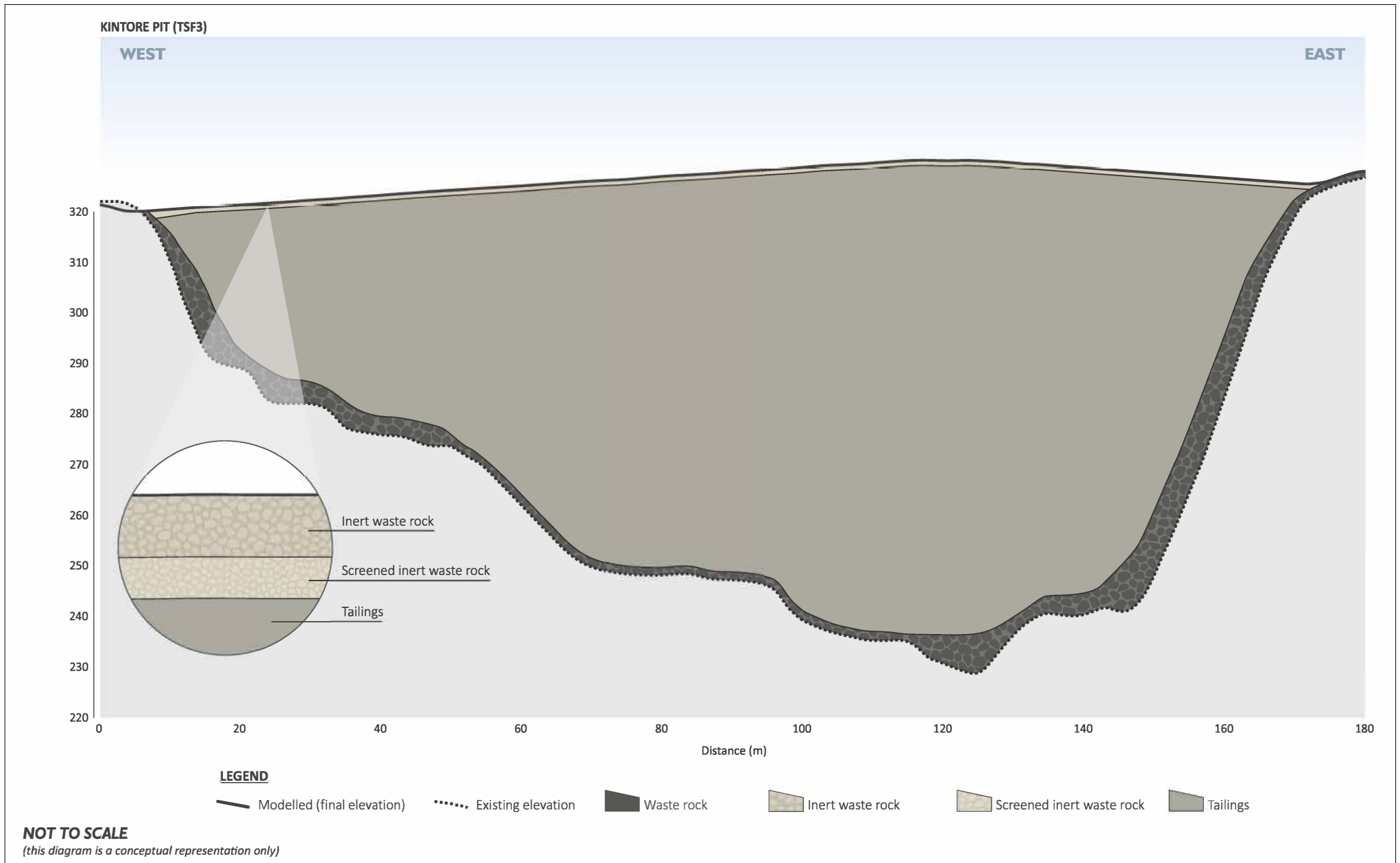
\\lemmsvr1\EMM2\2022\E220501 - Rasp Mine Rehabilitation Strategy\GIS\02 Maps\G003 FinalLandform\Kintores_2022\0908_04.mxd 14/06/2023

Kintore Pit (TSF 3) and Little Kintore Pit final landform

Rasp Mine
Rehabilitation Strategy
Figure 3.5

Source: EMM (2022); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011)





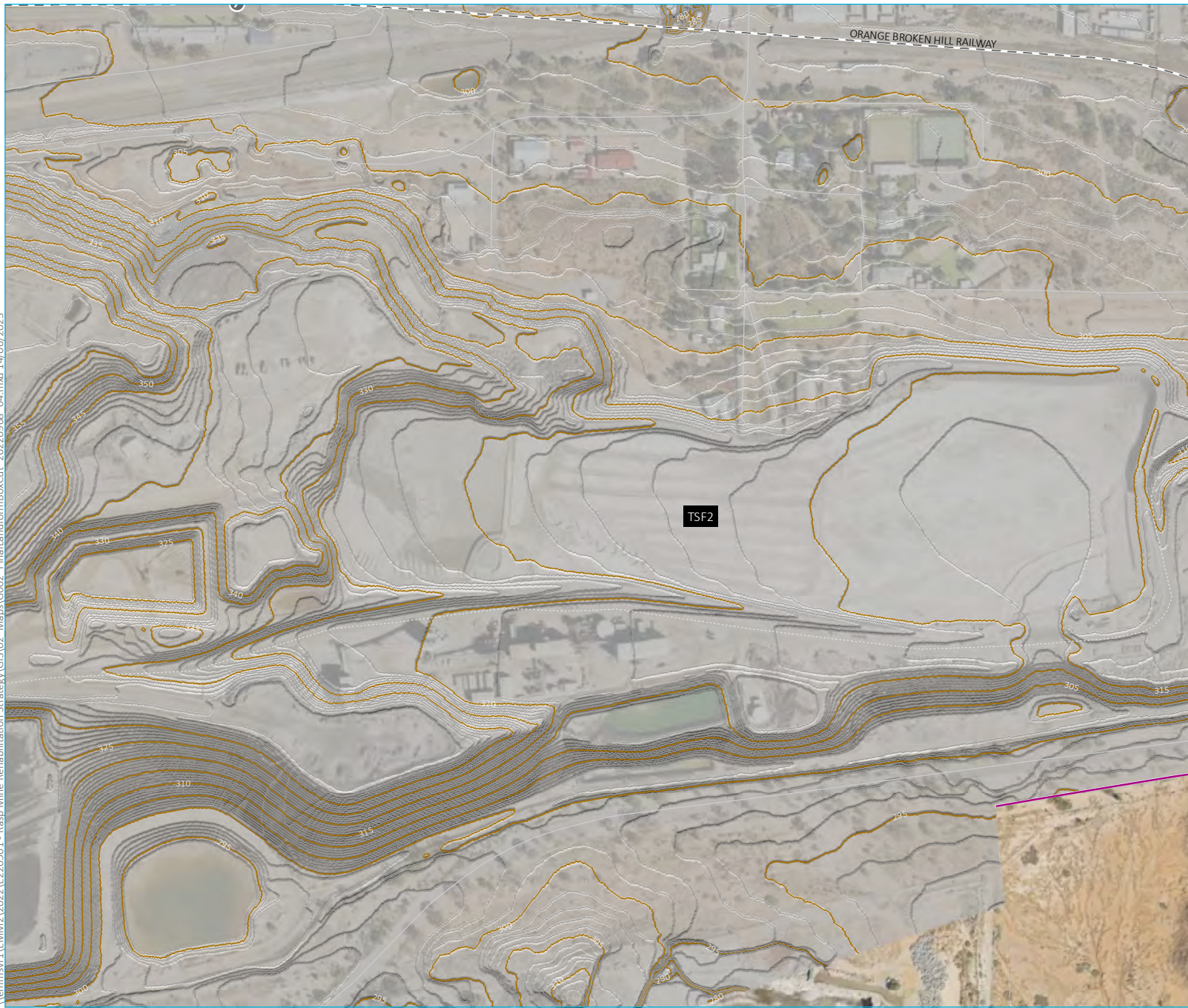
Kintore Pit (TSF3) final landform cross section

RASP Mine Rehabilitation Strategy

Broken Hill Operations Pty Ltd

Figure 3.6

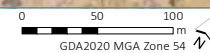
\\lemmsvr1\EMM2\2022\E220501 - Rasp Mine Rehabilitation Strategy\GIS\02 Maps\G002 FinalLandformBoxCut_20220908_04.mxd 14/06/2023



- KEY**
- Broken Hill Operations mining lease
 - - - Rail line
 - Major road
 - Minor road
 - Vehicular track
 - Final landform contour (m)
 - 1 m contour interval
 - 5 m contour interval

Box Cut and TSF2 final landform

Source: EMM (2022); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011)



Rasp Mine
Rehabilitation Strategy
Figure 3.7



3.4.2 Mining domains

i Domain 1 – Infrastructure

Infrastructure associated with the mine excluding the processing plant are listed in Table 3.9.

Table 3.9 Rasp Mine Infrastructure

Area	Sub area	Assets	Requirements for demolition, removal or disconnection
Backfill plant	Buildings and infrastructure	Structure, tanks, cyclone	DA. Demolish and place underground.
Mechanical workshop	Buildings and infrastructure	Offices, workshops	Heritage structure to be in-situ with minor repairs for safety, refer to Final Land use Domain H.
Electrical workshop	Buildings and infrastructure	Offices, workshops	Heritage structure to be in-situ with minor repairs for safety, refer to Final Land use Domain H.
Mining workshop	Buildings and infrastructure	Offices, workshops	Heritage structure to be in-situ with minor repairs for safety, refer to Final Land use Domain H.
Employee facilities	Buildings and infrastructure	Shower block, laundry, employee carpark	DA. Disconnect services, demolish and place underground.
Access roads and haul roads	Sealed roads		Strip bitumen and contaminated material and cover with inert waste rock.
Sewage treatment	Mill and mechanical workshop	Septic systems x 2	DA. Disconnect services, demolish and place underground.
Hardstands and laydown areas			Items removed and disposed underground, areas cleaned and contaminated materials removed.
Remote learning area		Bunding, structure	DA. Bund to be pushed back over the area.
Power, electrical substations	Power lines	22kV, 415kV	Power connection for South Mill heritage area to remain. Dismantle and remove.
		7 switch yard and sub-stations	Dismantle and remove.
Rail load out facility and spur line		Rail line	Dismantle and remove unless ownership is transferred to ARTC.

ii Domain 2 – Tailings storage facilities

There are two existing and one proposed tailings storage facilities at Rasp Mine:

- Horwood Dam (TSF1)
- Blackwoods Pit (TSF2)
- Kintore Pit (TSF3).

a **Horwood Dam (TSF1)**

The Horwood Dam (TSF1) was capped by NML using smelter slag as approved by the then DMR. Some modification to the surface of TSF1 proposed to divert surface flows away from the north-eastern angle of repose batter to decrease the risk of erosion.

b **Blackwoods Pit (TSF2)**

The Blackwoods Pit (TSF2) is reaching its maximum capacity. MOD6 approved removing tailings from TSF2 to Kintore Pit (TSF3) for disposal. TSF2 will be capped as detailed in Section 4.5.5ii.

c **Kintore Pit (TSF3)**

Underground access is currently through Kintore Pit. MOD6 approved the construction of a Box Cut and portal for a new underground access to allow Kintore Pit to be backfilled with waste rock and tailings trucked from TSF2. TSF3 will be capped as detailed in Section 4.5.5ii.

iii **Domain 3 – Water management areas**

The Rasp water management system consists of a network of infrastructure to control the movement of water around the site. The Rasp water management system is described within the Rasps Mine Site Water Management Plan (BHO-PLN-ENV-004).

iv **Domain 4 – Overburden emplacement areas**

Domain 4 includes overburden emplacement areas. The area covered by Domain 4 changes continually due to the progressive nature of mining operations.

Overburden is removed and transported to designated emplacements areas where it is placed in benches (layers) to reach the final design profile, following which it is shaped with dozers to create a final landform.

Domain 4 is inclusive of the designated 'Free Areas' in which no mining disturbance has occurred due to Rasp Mine operations however provide a source of wind borne dust.

Overburden emplacement areas, including the 'Free Areas' will be capped with inert waste rock to minimise dust emissions and the angle of repose batters will be rock mulched if required for erosional stability.

v **Domain 5 – Active mining area (Open cut void)**

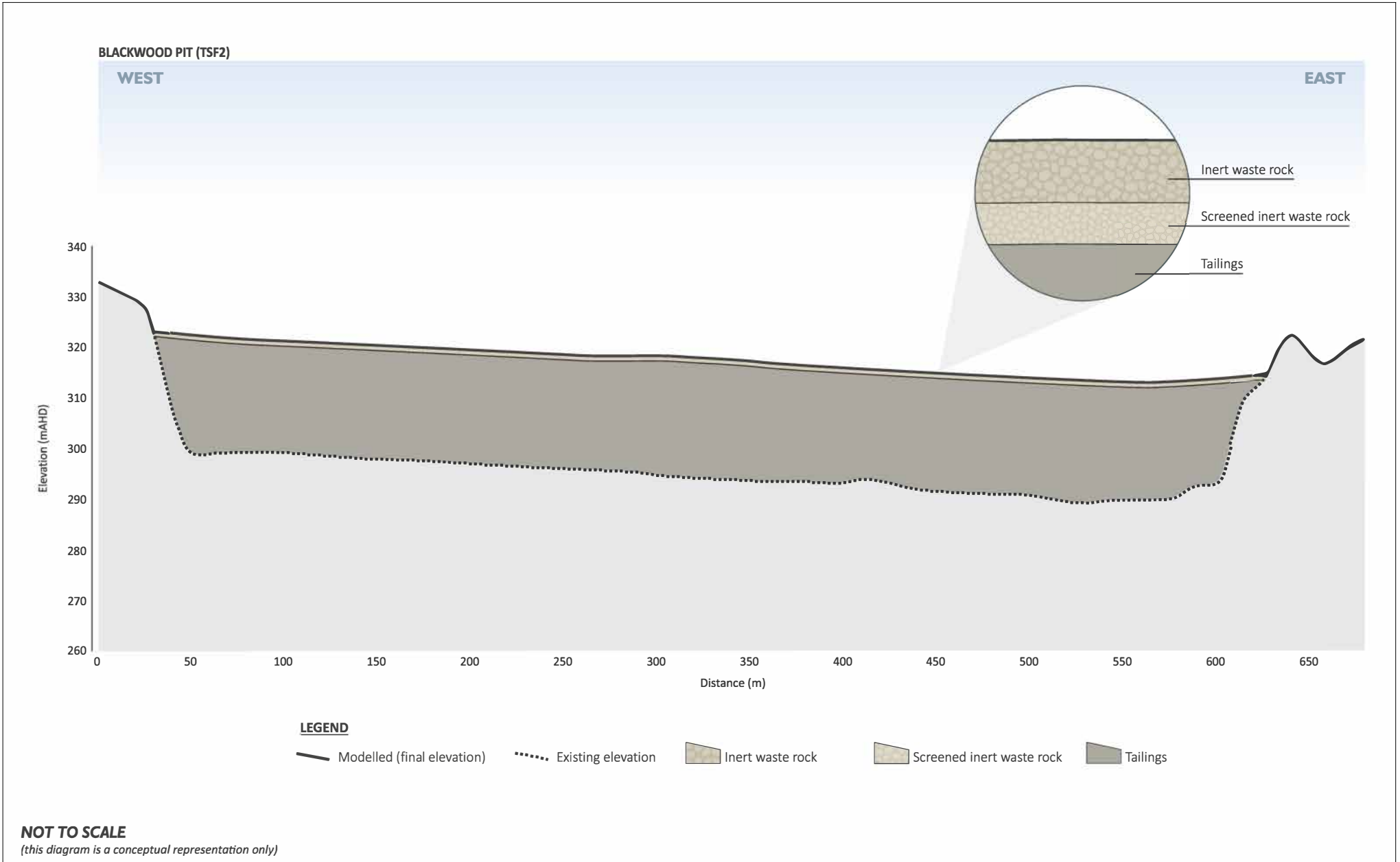
Domain 5 contains infrastructure related to ongoing mining activities including ancillary mining activities in the BHP pit and underground mining access from the Box Cut.

vi **Domain 7 - Beneficiation facility**

Domain 7 includes the product preparation facilities, and associated infrastructure, however does not include the product stockpiles.

vii **Domain 8 - Other Heritage**

Domain 8 contains in-situ heritage items identified within Section 3.4.1, located within CML7 to be maintained post mining. Rasp Mine where appropriate may utilise heritage items to support ongoing mining operations.



Blackwoods Pit (TSF2) final landform conceptual cross section

RASP Mine Rehabilitation Strategy

Broken Hill Operations Pty Ltd

Figure 3.8

4 Rehabilitation risk assessment

4.1 Rehabilitation risk assessment approach

A rehabilitation risk assessment was completed in August 2021 (being reviewed in June 2022 and May 2023) in accordance with the principles outlined in *AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines (AS/NZS ISO 31000:2009)* (Standards Australia, 2009) and Clause 7 of Schedule 8A of the *Mining Regulation 2016* and available in Appendix B.

Rehabilitation risk has been considered with regards to risk which exists from past mining and proposed rehabilitation phases of the operation and has been developed with reference to available guidance from the Resources Regulator. The risk assessment supporting this Strategy, available in Appendix B, was completed by BHOP staff and DPE approved experts nominated in Appendix D. Noting the current rehabilitation risk assessment largely relies on risk assessments developed in support of previous MOPs relied upon by BHOP and developed in consultation with regulatory authorities. Risks have been identified on the basis of industry experience, site knowledge, relevant industry guidelines and contemporary materials made available by the Resource Regulator.

The risk assessment is maintained by BHOP. Key outcomes of the risk assessment are summarised in the following sections, detailing the risk, impact, risk control, and where the risk controls are described in detail in this Strategy. Where the risk assessment has identified a residual risk level of 'High' following the consideration of mitigation measures, further consideration is provided within the following sections. Of note, the only residual risk level of 'High', identified in the Risk Assessment, relates to the insufficient volume of inert waste rock which is discussed in Section 4.4.3.

It is noted that this Strategy provides an overarching framework and general principals to achieve rehabilitation at Rasp Mine in accordance with PA 07_0018, specifically Schedule 3, Condition 34. The Rehabilitation Management Plan required under Clause 9 of Schedule 8A to the Mining Regulation 2016 provide additional detail in regards to the implementation of rehabilitation objectives to the satisfaction of the Resources Regulator.

4.2 Key rehabilitation risks

Broken Hill has been a significant mining centre since the discovery of silver-lead-zinc ore bodies in 1883. The history of mineral development at Broken Hill and the heritage value of associated infrastructure has State and National significance (NSW Government, 2020). In January 2015, the City of Broken Hill was granted heritage status and placed on the National Heritage Listing for its contribution to mining (Australian Government 2020).

Historic operations have left the Mine area highly modified and disturbed. The original landform has been significantly altered, most native vegetation has been removed and soils have been degraded and covered with waste rock or tailings (BHOP, 2020a). As a result, the following sections outline the key risks identified via the Risk Assessment, see Appendix B, which have warranted further consideration within this Strategy. Other risks identified via the Risk Assessment which can be managed via normal operating procedures are address in the Risk Assessment only.

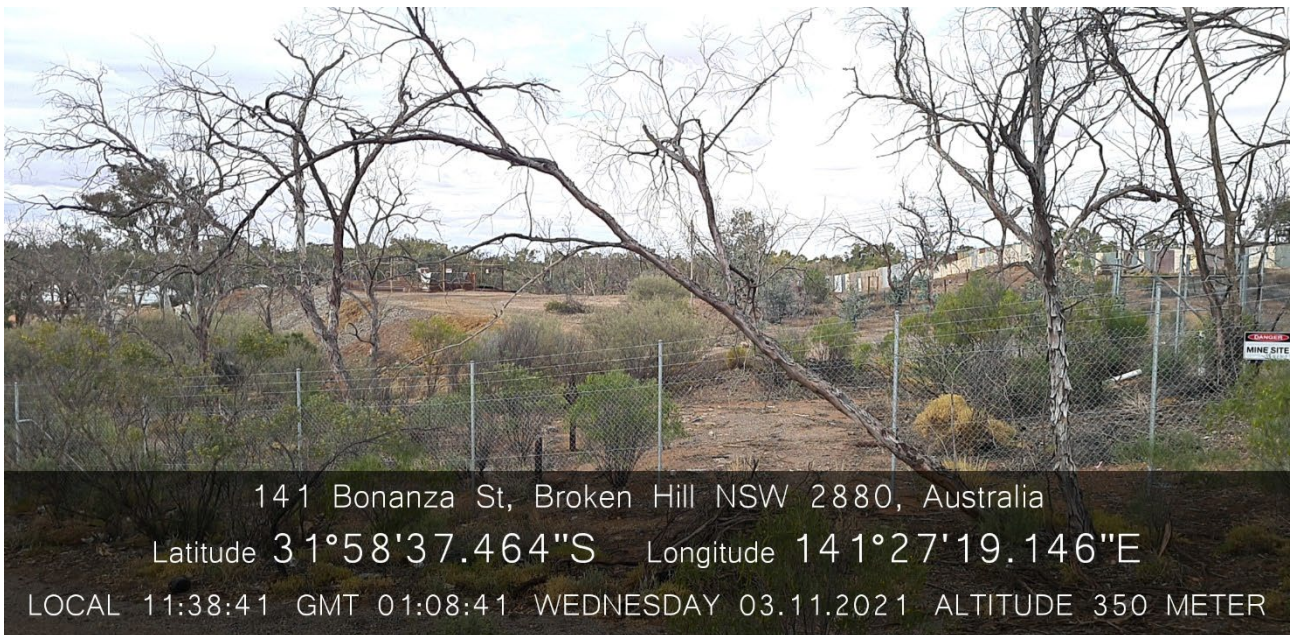
4.3 Climate

4.3.1 Constraint

The Rasp Mine is situated in the NSW arid zone which has a hot dry climate. A median rainfall of 254 mm has been recorded at the Broken Hill Airport Station with most rain falling in the summer months. The mean maximum temperatures range from 15.6 degrees Celsius (°C) in July to 33.6°C in January, while the mean minimum temperatures range from 4.8°C in July to 19.3°C in January. The annual evaporation rate is high, in the order of 2,614 mm (BOM 2021).

Current climatic conditions (i.e. drought and high evaporation rates) are hostile to the germination of seed and plant growth particularly with the lack of suitable growth media within Mine areas. Successful revegetation programs in the region have utilised irrigation to overcome the climatic issues. The use of town water for irrigation, however, is not considered to be a viable long-term closure solution. Wastewater was used successfully for the establishment of vegetation in the 1930's in the Broken Hill area. Irrigation is unlikely to be a suitable option given the value of water resources in Broken Hill and the likely failure of the revegetation once irrigation activities cease.

The climate of the mine is characterised by low annual rainfall and high evaporation rates. During 2019 and 2020, the Mine experienced drought conditions with total annual rainfall being 96 mm and 109 mm respectively. Both years were below the long-term annual average rainfall (150 mm) at Broken Hill (BOM 2021). There is evidence of tree death within the mine due to these drought conditions (Photograph 4.1).



Photograph 4.1 Tree death due to drought conditions

The frequent drought conditions are considered unlikely to support revegetation adequate for water or wind erosion control purposes.

Vegetation is commonly used to stabilise rehabilitated mining landforms against erosion and this approach is generally appropriate for where rainfall is adequate to support plant growth where soil surface cover equal to or greater than 60% can be achieved. However, in semi-arid and arid rainfall environment, the impacts of vegetation on erosion are generally minimal because the prevailing rain cannot sustain sufficient vegetation cover to control erosion.

The cover response curve developed by Kirby (1969) (Figure 4.1) shows that the impact of contact cover on erosion is not adequate until a cover level greater than approximately 30% is achieved.

Data from the United States of America (USA) suggests that peak erosion rates occur where annual rainfall is in the order of 300 mm to 350 millimetres per hour (mm/h) (Figure 4.2) which is slightly more than the annual average rainfall at the mine.

This means that other forms of soil surface cover such as timber debris or rock in combination with vegetation will be required to provide adequate erosion protection on rehabilitated landforms.

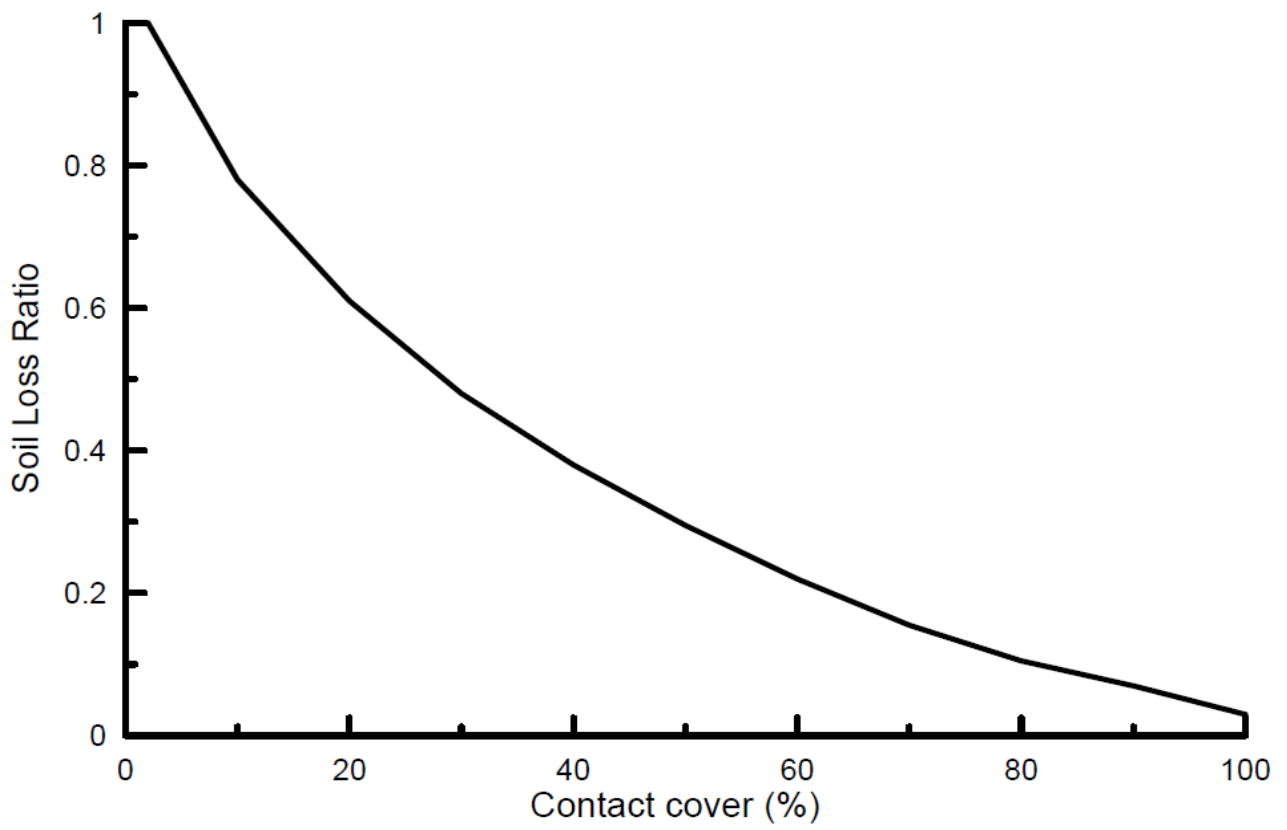


Figure 4.1 Relationship between contact cover and soil loss (Kirby 1969)

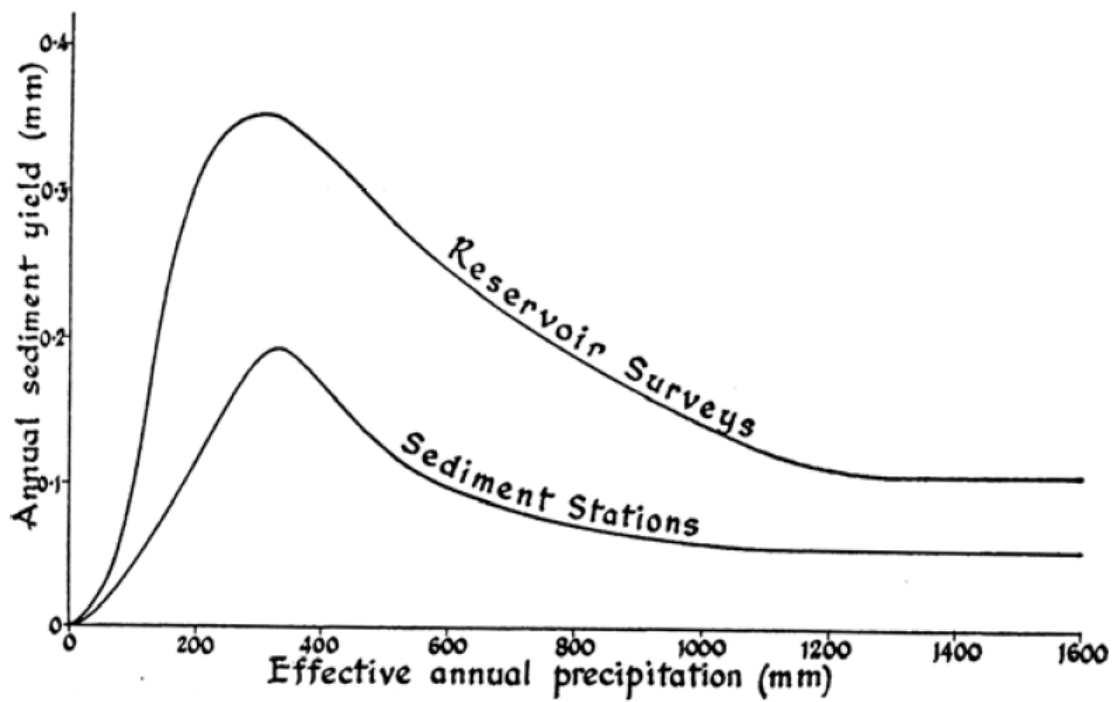


Figure 4.2 Relationship between annual rain and erosion (Kirby 1969)

Loch and Howard (2019) propose a risk-based approach to defining acceptable rates of erosion that considers many site-specific factors including:

- rates of soil renewal
- rates of natural erosion in adjoining areas
- water quality and connectivity
- the consequences of erosion rates greater than acceptable
- the presence or absence of bed rock layers to limit the migration of the erosion features
- ability to access slope to manage or mitigate the erosion.

It is typical for steeply sloping mining landform batters to have sufficient slope length/catchment area to be prone to rill and gully erosion as can be observed on the angle of repose outer batters at Rasp Mine.

Loch and Howard, 2019 recommend that where the risk and consequence of a landform performing poorly is high, then it is appropriate to reduce the acceptable rate of erosion used in landform design. They propose the following erosion rates, measured as tonnes per hectare per year (t/ha/y):

- low risk – 9 t/ha/y
- medium risk – 6 t/ha/y
- high risk sites – 3 t/ha/y.

Portions of the Rasp Mine landform where tailings are encapsulated such as TSF1 are considered high risk whereas areas of inert waste rock are low risk.

4.3.2 Management and mitigation

BHOP will continue to segregate and preserve waste rock with low lead (<0.5%) and low sulphur ($\leq 0.2\%$) for rehabilitation capping purposes (inert waste rock). A surface cover of inert waste rock (300 mm deep) will provide the necessary protection from water and wind erosion. Erosion modelling and monitoring will be undertaken to assess the erosion stability of the waste rock dumps.

The coarse rock fragments within the existing landforms are expected to have sufficient diameter and density such that their critical shear from overland flow is unlikely to be exceeded however, if monitoring demonstrates that existing rills/gullies are increasing over time such that they pose a risk to the stability of the landform then additional rock mulching will be undertaken with necessary rock size determined from erosion modelling.

4.4 Growth mediums

4.4.1 Constraint

There are no topsoil or subsoil resources available within the mining area due to past historical mining practices. Waste rock is the only growth medium present at the Mine. During the site inspection, vegetation was not typically observed on areas treated with waste rock. This is most likely associated with low concentrations of nutrients, low water holding capacity of the waste rock and high surface temperatures.

Waste rock has been used as a growth medium at other mine sites throughout Australia, however the success of revegetation has been varied with vegetation typically taking longer to establish. If waste rock is used as a growth medium, ameliorants are typically required to increase the water holding capacity, improve the nutrient status and increase the concentration of organic matter.

Rock/soil matrices have been used successfully on other mine sites in Australia with these climatic constraints, the most relevant being Cowal Gold in NSW.

They consist of a ratio of approximately three parts rocks to one part soil with proportions adjusted such that it is close to the optimal packing density for binary mixture (R. Loch, pers. comm.).

Because of its high level of erosion resistance and low rates of erosion, the rock/soil matrix layer only needs to be 300–500 mm deep. Importantly:

- the rock/soil matrices move with the underlying waste rock and is unaffected by any settlement or movement that may occur
- vegetation growth is vigorous when sufficient soil is mixed with the rock and the properties of the rock are not detrimental to vegetation growth (non-acid forming, non-saline)
- high surface roughness means that cross-slope concentration of flow is minimised or eliminated and therefore gully formation is unlikely
- erosion control and stability of the rock/soil matrices are predictable and reliable.

Rock/soil matrices rely on having suitable growing media to mix with the rock. Given the absence of soil resources on site, suitable soil would either need to be imported to site or manufactured from suitable organic material.

BHOP consider the importation of growing media to unsustainable due to cost and the potential environmental impacts on the source borrow area.

4.4.2 Management and mitigation

BHOP consider that the manufacture of a growing media may be possible using locally sourced organic material feed sources such as mechanically harvested weeds, municipal organic and putrescible wastes, biosolids and woody wastes such as tub-ground pallets and have commenced an investigation into the feasibility of doing this.

The manufacture of growing media for green wastes and waste organic material is anticipated to require treatment via composting or biological breakdown using processes such as the VRM Biologik Groundswell® Continuous Fermentation process.

Composting is an aerobic process that involves shredding the organic material into finer particles and then forming them into triangular or trapezoidal shaped windrows. The stockpiles need to have a moisture content between 45–65%. During warmer months it often necessary to apply additional water to maintain moisture levels.

Turning is required more often during the initial stages of rapid decomposition and less frequently as decomposition approaches completion.

The Groundswell® continuous fermentation process is a licenced process that facilitates and accentuates the activity of a special group of photosynthetic bacteria that manage the production and consumption of odour producing substances and promote the digestion of organic material. This forms a product that is closer to an organic soil than a compost, called Humisoil®.

It involves the addition of two inoculants mixed with water during the organic shredding process, or in layers during the windrowing process, to achieve a 40% moisture content in the windrow. The material is formed into 'M' shaped windrows and then covered with a tarpaulin for a six week period.

The windrow is then spread out and the process repeated, and the windrow is covered again for a 20 week period.

At the end of 20 week period the process is complete and the Humisoil® would be available for rehabilitation purposes on site.

Manufactured growth mediums such as high-quality composts and Humisoil® organic soil can rapidly establish beneficial soil bacteria and arbuscular mycorrhizal fungi further binding the soil with glomalin (soil carbon cement) and increasing soil aggregation (Hendrickson et. al. 2008).

In seasonally dry, variable, or unpredictable environments like the mine, mycorrhizal fungi play an extremely important role in plant-water dynamics. The hyphal tips are hydrophilic – both the end in the plant and the end in the soil – enabling both water and nutrients to diffuse from one end to the other along a moisture gradient (Allen 2007).

Mycorrhizal fungi can supply moisture to plants in dry environments by exploring micropores not accessible to plant roots. They can also improve hydraulic conductivity by bridging macropores in dry soils of low water-holding capacity. Further, mycorrhizal fungi can increase drought resistance by stimulating an increase in the number and depth of plant roots (Solamain *et al.* 2010).

Morris, 2004 identified that a 1% increase soil humus can result in a 4% increase in stored soil water or 160,000 litres (L) of water per hectare based on a 0.3 m soil depth.

4.4.3 Residual Risk

As a result of the uncertainties associated with the above noted management and mitigation measures regarding the lack of growth mediums (or waste rock) the residual risk level is considered 'High' within the risk assessment, see Appendix B.

BHOP are investigating the feasibility of growth media manufacture realising that a successful outcome will require collaboration with Broken Hill City Council, Landcare Broken Hill and other industries.

BHOP proposes to commence consultation with the above noted agencies by the end of 2023. If it is determined that the process is feasible, then BHOP may undertake rehabilitation trails on site where the manufactured growth media would be mixed with available inert waste rock and then seeded with appropriate native grass and ground cover species.

Following completion of consultation and determination if the process is feasible, trails would commence with the overarching schedule to align where possible to meet the life of mine rehabilitation schedule outlined in Section 8.1. Should consultation of trials prove unsuccessful BHOP would further investigate the BHOP the importation of growing media in consultation with relevant regulatory authorities.

4.5 Geochemistry

4.5.1 General

Underground waste rock material comprises the following geological units:

- Metasediments – The most abundant rock type comprising psamimite (quartz – feldspar) and pelite (biotite, sillimanite, garnet, feldspar).
- Potosi Gneiss – A leucocratic quartzo-feldspathic gneiss comprising quartz + feldspar + biotite + garnet with varying occurrences of sillimanite.
- Pegmatite – Coarse grained leucocratic quartzo – feldspathic rocks comprising feldspar and quartz with lesser amounts of muscovite. Locally biotite may be present.

- Amphibolites – A rock which contains greater than 40% mafic minerals, generally comprising pyroxenes, amphibole, plagioclase, garnet. Grades into garnet, amphibolite and soliated, quartz – feldspar – biotite – garnet rock.

Mine ore lacks pyrite and contains only traces of protoxide, and acid waters are not generated from ore oxidation and tailings oxidation. Furthermore, calcite is a common mineral in Broken Hill ores. The presence of calcite buffers any acid fluid and, with oxidative coatings on galena and sphalerite in tailings, acid mine waters have not derived from the ore or tailings over the last 130 years of mining. While there is minor visual evidence of isolated pockets of waste rock oxidation, ground and surface water monitoring records all reveal stable pH ranging from pH 5.09 – pH 7.3.

Assay records from metallurgy do not detect free sulphur.

The Potosi Gneiss unit is quarried as ‘blue metal’ from an adjacent quarry. This rock is used for road base in Broken Hill and surrounding areas. As such, Potosi Gneiss from development activities will be crushed onsite and used for road base in the construction of the underground roads.

Waste rock from underground mine development is primarily used for back filling underground voids. Small amounts are also used for road base, surface covering to reduce dust and noise bunding. Grading of waste rock will be integrated into future rehabilitation trials.

Waste material is tested and low grade (<0.5% Pb, ≤0.2% Sulphur) material is used for road repair, surface coverings and noise abatement bunds, where required.

Placement of waste rock is critical to meeting the rehabilitation requirement to minimise dust generation from the site post closure.

4.5.2 Waste rock lead dust potential

i Constraint

In 2017, BHOP engaged Pacific Environment Ltd (PE) to study waste rock and provide recommendations for its suitability and effectiveness as a medium for dust suppression over selected surfaces of the Rasp Mine.

PE undertook an assessment of waste rock from the stockpile within Kintore Pit, to use as embankment material for the extension of the Blackwood Pit TSF2, proposed by MOD4, and more generally, its use for other dust suppression applications as part of the rehabilitation process for the Mine site. This included cover for existing areas that may otherwise have a potential to generate dust containing elevated lead concentrations. The rock is known to contain potentially elevated lead concentrations due to the ore bodies being mined.

To minimise any potential health affects for the local community, the original Environmental Assessment (EA) for the mine stipulated that any waste rock material used for rehabilitation, or other site surface purposes, will be ‘inert’. What constitutes ‘inert’ material was not defined in the EA and no directly applicable criteria are available for assessing the potential for hazardous dusts generated from the weathering of waste rock at the site, potentially resulting in exposure scenarios for inhalation/ingestion by residents outside the site, or for site users post-rehabilitation.

For rehabilitation planning purposes inert waste rock shall be waste rock that contains <0.5% Pb and ≤0.2% S.

The study utilised a ‘multiple lines of evidence approach’, in accordance with the NEPM 2013. This is used for evaluating and integrating information from different sources of data and uses best professional judgement to assess the consistency and plausibility of the conclusions which can be drawn.

PE studied the rock type (geological description), moisture content, particle size distribution (PSD), and metals content of the waste rock. In addition, consideration was given to the prior Human Health Risk Assessment work undertaken by Toxikos (2010, 2015), background soil/dust data, air quality modelling and recent Confined Air Burst Chamber (CABC) testing undertaken by Pacific Environment on-site for the purposes of quantifying dust control.

The results of the waste rock assessment identified that:

- The rock type varies, however all rock types identified are competent and mostly hard, with good resistance to weathering.
- The rock comprises only approximately 1% fines capable of producing dust.
- This was qualified by Confined Air Burst Chamber tests, which identified a 99.7% reduction in dust generation from the waste rock, compared to disturbed dry tailings.
- Lead concentrations averaged 2,371.5 milligrams per kilogram (mg/kg) (0.24%) and were taken from crushed samples (and therefore conservative). This is approximately 4 times the NEPM HIL-C criterion (600 mg/kg), but significantly below surface dust averages (15,640 mg/kg, or 1.56%); whilst the NEPM criteria are not directly applicable, they do represent a level below which soils would not be considered a risk to human health.
- Bio-accessibility is very low (7.3% on average). This is much lower than the 50% (bioavailability) assumed for the calculation of HIL's. This would suggest that results, if adjusted for bio-accessibility, would meet HIL-C criteria.
- Air quality modelling conducted by PE (2017), assumed a waste rock concentration of 0.5% (5,000 mg/kg). Results demonstrate compliance with all the NSW EPA impact assessment criteria for all air quality parameters assessed.

The results support the use of the waste rock for dust suppression for the TSF and 'free areas' and are considered unlikely to cause an unacceptable risk to human health based upon the site's ultimate final land use as mining heritage tourism.

Air quality modelling has assumed lead concentrations above those identified in the waste rock on site (0.5% compared to 0.24%), and therefore the waste rock is likely to meet NSW EPA impact assessment criteria and is unlikely to impact further upon surface soil lead concentrations within local communities. The very low dusting potential of the rock supports this conclusion.

PE concluded that the 0.5% lead concentration adopted by the air quality model is a suitable criterion for waste rock placement on-site and that the waste rock, when placed, is suitable as a means of reducing, to an acceptable level, the potential for dust generation from the TSF and 'free areas' of the site.

PE recommended that:

- waste rock be tested prior to placement to ensure median level of lead concentration does not exceed 0.5%
- dust suppression water spraying is carried out during capping material (waste rock) placement to ensure finer particles are washed between the larger rocks.

ii Management and mitigation

BHOP will segregate and preserve waste rock with low lead (<0.5%) and low sulphur ($\leq 0.2\%$) for rehabilitation capping purposes. The waste rock will provide the necessary surface roughness soil surface cover and critical shear to limit wind erosion and the generation of dust. Waste rock will be watered during placement and spreading to minimise dust generation.

4.5.3 Waste rock acid rock drainage potential

i Constraints

The low levels of sulphur and pyrite in the ore indicate there is negligible potential for acid generation. This is confirmed by site ground (pH 5.09 to pH 7.3) and surface water (pH 5.78 to pH 7.59) monitoring records all reveal stable pH.

The drainage, while neutral, does contain metals, particularly where water contacts with rock materials as is the case with the *in-situ* orebody as well as ores altered by processing (grinding and refining).

ERM (2021) undertook geochemical analysis of the waste rock material and found that regarding the potential for acidic drainage:

- Most samples tested were classified as non-acid forming (NAF) (76%) with low sulphur (S) (<0.3%) and low to moderate acid neutralising capacity (ANC), only 3 of the 50 samples showed moderate to high sulphur (0.42% to 1.14%).
- Two psammopelite samples (4% of samples) were classified as potentially acid forming (PAF) and 10 samples (20%) as uncertain (UC). All PAF and UC samples were <0.2% sulphur.
- Mineralogy testing demonstrated that the samples mostly consist of quartz and very slow to slow reacting silicates. Some chlorite was present in most samples, a mineral with immediate reactivity. Garnets were identified in all samples, which can provide fast reacting silicate buffering. No carbonate minerals were identified.
- All rock type groupings, including the psammopelite rock type, had average net potential ratio (NPR) values ≥ 2 . The NPR ratio is the ratio of acid neutralisation capacity (ANC) over maximum potential acidity (MPA), with a ratio above 2 indicating that the material is NAF.

ERM 2021 concluded that while a small subset of samples were identified as PAF, the central tendency in the data (and specifically the average NPR ratio ≥ 2 for all rock types) indicate that the material is expected to be largely NAF.

Additional waste rock and ROM samples were collected by BHOP and assessed by EMM as part of the ongoing site testing and verification program outlined in the geochemical sampling and analysis plan (SAP) detailed in the *Rasp Mine Waste Rock Management Strategy* (EMM 2022). Following the sampling program outlined in the SAP, the additional 20 samples underwent the following analysis:

- cationic acid-base accounting, including pH, EC, total sulphur content and ANC
- whole-rock sample metal and metalloid analysis
- de-ionised water leach testing.

The 2022 sample results are consistent with the findings of the previous geochemical characterisation studies indicating that most waste rock on site is NAF and contains low sulphur contents (all the 2022 samples are classified as NAF). Leachate compositions of all samples analysed to date indicate that drainage is likely to be predominantly neutral rather than saline or acidic.

It is noted that the few samples with pH below 6 are unlikely to be acid forming because they lack the capacity to generate significant quantities of acidity; as such pH values remain close to 6, rather than decreasing to 4.5 or below (pH 4.5 or lower is generally the point at which most buffering capacity is exhausted and acidity may be generated by precipitation of ions such as Fe³⁺ and Al³⁺).

ii Management and mitigation

Waste rock with >0.2% sulphur will be placed in the Kintore Pit for disposal with dry tailings and ultimately capped with inert waste rock. If ARD was to occur, it would be contained within the pit and ultimately seep into the underground workings.

Groundwater studies in the area and on site have demonstrated that groundwater within the bedrock aquifer is generally unsuitable for potable use or irrigation and marginal for stock watering. Baseline groundwater sampling is compared with the descriptive statistics for the waste rock leach testing results and results are shown in Table 4.1.

Table 4.1 Comparison of metalliferous drainage data with ground baseline data

Grouping	Ec (µS/cm ²)	SO ₄ (mg/L)	Cd (mg/L)	Pb (mg/L)	Mn (mg/L)	Zn (mg/L)	Fe (mg/L)
Groundwater baseline	13,900	9,660	6.32	2.25	907	3,330	1.57
DI leach - median	320	37.5	0.0001	0.0015	0.009	0.005	0.1115
DI leach – 90 th percentile	689	37.5	0.0001	0.0015	0.009	0.005	0.115
DI leach - maximum	1,900	432	0.0003	0.02	0.415	0.028	1.57
NAF liquor - median	210	45	0.0015	0.001	0.12	0.005	0.05
NAF liquor – 90 th percentile	277	78	0.035	0.53	0.45	2.88	4.23
NAF liquor - maximum	709	312	0.31	5.93	1.02	87.5	33

Results show that all median leaching values were well below baseline values, except for Fe for NAG liquor data.

ERM (2021) concluded from the results obtained that the waste rock analysed, in comparison with the background groundwater baseline data, that there was potential for metalliferous drainage from the waste rock. However, this would have limited if any material impact on the existing water quality of the basement rock aquifer.

4.5.4 Waste rock mineralised drainage potential

i Constraints

ERM (2021) undertook geochemical analysis of the waste rock material and made the following conclusions for the potential of metalliferous drainage:

- Elemental enrichment, based on the total elemental data for the samples and using the geochemical abundance index (GAI), identified several elements enriched more than twelve (12) times the average crustal abundance.
- The majority of these were identified for psammopelite samples and elements enriched at this level included silver (Ag), arsenic (As), bismuth (Bi), cadmium (Cd), Molybdenum (Mo), Pb, antimony (Sb) and Zn.
- Analysis of a deionised (DI) water leach at a solid to liquid ratio of 1:2 and of the NAG test liquor for the samples indicate the potential for metalliferous drainage when the metal content of the leachate is compared to conservative freshwater aquatic ecology guidelines (specifically the freshwater aquatic guidelines for slightly to moderately disturbed aquatic ecosystems - ANZECC & ARMCANC, 2000).
- Metals leaching at concentrations above the conservative aquatic guidelines for both the DI leachate and NAG liquor included (but were not limited to) aluminium (Al), chromium (Cr), copper (Cu) and Pb. It should be noted that the NAG liquor data presents a conservative estimation for drainage quality in the long term, with NAG testing entailing aggressive oxidation of a pulverised rock sample.
- While most samples have been classified as non-acid generating, the DI leachate and the NAG testing indicate that the most of material sampled has potential to generate metalliferous drainage.
- All median leaching values (for both DI leach and NAG liquor) are well below the baseline values at the Rasp Mine, except for iron (Fe) for the NAG liquor data, all 90th percentile values are also below the baseline values.

ERM concluded that given these results potential metalliferous drainage from the waste rock should have limited if any material impact on the existing water quality of the basement rock aquifer.

ERM also conducted a detailed risk assessment based using a source-pathway-receptor (SPR) evaluation process for surface water runoff and concluded:

The risk assessment for the mine placement domains indicates that potentially complete SPR linkages are limited to on-site receptors. These are related to use of dewatering water and surface water onsite. Risk rankings for these potentially complete SPR linkages were considered to be low.

ii Management and mitigation measures

As discussed in Section 4.5.2, BHOP will segregate and preserve waste rock with low lead (<0.5%) and low sulphur (<0.2%) for rehabilitation capping purposes. Waste rock generated from mining, the construction of the box cut and portal will either be placed in the Kintore Pit (non-inert waste rock) or segregated and preserved for capping of the Kintore Pit (TSF3) or TSF 2.

Any mineralised drainage is expected to seep to the bottom of the Kintore Pit and into the underground workings. Any mineralised drainage from the capping of the TSF2 will be retained by the liner in the TSF2. As detailed in Section 4.5.3ii, ERM 2021 determined that there was potential for metalliferous drainage from the waste rock. However, this would have limited if any material impact on the existing water quality of the basement rock aquifer.

Rehabilitation works undertaken by NML from 1991 through to 1997 included reshaping and drainage control measures such as crest bunding and diversion banks/drains to maximise the diversion of surface runoff to internal evaporative sinks in the mining landform. The proposed conceptual final landform (Appendix C) further improves on these works with crest bunding of all landforms where appropriate to do so to retain surface runoff and shaping works to divert surface runoff away from the external batters to internal evaporation sinks (e.g. the surface of TSF1 will be reshaped to modify the flow conditions from concentrated flow to sheet flow, divert surface flow away from the outer batters and Horwood Dam to dams S22A and S22UG which will then ultimately overflow to the Little Kintore Pit.).

4.5.5 Tailings geochemistry

i Constraints

The tailings contain, on average, zinc (0.4%), lead (0.4%), silver (8 ppm), iron (3.3%) sulphur, (1.2%), arsenic (460 ppm), bismuth (70 ppm), cadmium (trace) and antimony (45 ppm) (BHOP AEMR 2014¹).

Average lead concentration within the tailings is less than that recommended by PEL for waste rock material. Despite formation of crusts on the surface of the tailings, due to the fine particle size, tailings can be eroded by wind and generate dust.

ii Management and mitigation

a Tailings Storage Facility 2

In the final stages of tailings deposition the delivery system would be realigned to also discharge tailings from along the crest of TSF2 Embankment 2 shaping the surface to direct runoff towards the spillway.

The tailings beach surface near the spillway would be shaped by selective tailings placement from Embankment 2 to fill the environment containment freeboard to a point that the remaining depression below the spillway level would contain the 1:100 year 72 hour rainfall runoff event from the TSF2 catchment area.

Following deposition of the tailings to the designed level an application of soil stabilising polymer would be applied through the water spray system to minimise dust entrainment by wind while the tailings are allowed to settle and consolidate.

Ponding water would be allowed to evaporate or be recirculated over the dryer part of the beach to remove the water from the low areas and promote drying of the tailings prior to the placement of cover material. It is expected that the tailings beach may be accessible for construction works within a few months after final placement of tailings.

The surface of the TSF2 would be covered progressively with screened inert waste rock followed by inert run of mine waste rock. Access over the tailing would be by end tipping the waste rock material on previously spread material with vehicles travelling on the previously placed material only. No vehicles would be permitted to travel directly on the tailings surface and disturb the dust control crust on the tailing surface. During these activities dust monitoring would continue from the monitoring station located adjacent to the Pit (and at other monitoring stations across the site).

The proposed design of the cover layer comprises:

- 200 mm thick capillary break layer formed of screened inert waste rock placed over the tailings surface to prevent the capillary rise of contaminants

¹ BHOP AEMR 2014 referenced as this was the last time sampling was undertaken and supported subsequent AEMRs. It is noted reporting units (being % or ppm) are consistent with the AEMR and how results have been reported by the laboratory.

- 300 mm thick cover formed of compacted run of mine inert waste rock. The mine waste rock would contain sufficient fines to create a well graded rockfill after compaction.

The rockfill would be watered and compacted using heavy smooth drum compaction equipment. The cover would be robust and resistant to wind and water erosion. Studies would be conducted to determine if a further in-fill layer is required and the thickness of this additional layer (the current rehabilitation cover thickness allows for 1 m).

The cover layer would be constructed over the entire tailings surface and be integrated into the in-situ rock on the Pit rim and the embankment rockfill. The surface would be shaped to shed water towards the low area near the spillway.

b Tailings Storage Facility 3

TSF3 will be filled to the natural surface level of approximately RL330 at the north-eastern end. As the emplaced tailings surface reaches the crest of the pit, the depression formed by the southern branch of the access ramp would be filled in to promote surface runoff toward Little Kintore Pit. The waste rock perimeter layers around the pit may be stopped at approximately 10 m below the pit rim, or lower if operation considerations and geotechnical assessments of the emplaced compacted tailings confirm it is not required for tailings liquefaction risk management. Tailings would be placed and compacted against the pit wall.

The final surface of TSF3 will be covered with a screened inert waste rock capillary break and then inert waste rock cover as per TSF2.

After allowing a suitable period to allow for any settlement and consolidation of the tailings and waste rock, the final surface will be shaped to drain to the Little Kintore Pit stormwater detention basin.

4.6 Contamination

4.6.1 Constraints

Mining has been undertaken within the earlier leases making up CML7 since 1885 by several companies including Broken Hill Pty Ltd (BHP), British Broken Hill Pty Ltd, Broken Hill South and MMM. Operations have included both open pit mining and underground mining, with the most recent, previous to BHOP, by MMM in Kintore Pit. Historically, appropriate management of potentially contaminated mining wastes including tailings, low grade ores, smelter slag and waste rock was rarely considered resulting in potentially widespread historical contamination. Except for Block 10 Hill, the Line of Lode represents the outcrop of a significant lead-zinc orebody with naturally elevated levels of contamination.

BHOP has operated the site to contemporary standards to minimise further contamination of CML7 including the characterisation and segregation of waste rock, low grade ore and construction of appropriate tailings storage facilities. Hydrocarbons and chemicals are stored and managed in accordance with appropriate standards with documented spill clean-up procedures.

4.6.2 Management and mitigation

Significant remediation works were undertaken by NML as part of their rehabilitation and closure works and these are summarised below.

i Mill

Mill spillage collected in the mill sump, and material remaining in thickeners and the stacking area was removed and taken offsite to Pinnacles Mine for retreatment in 1991–1992. In 1993–1994, 3,000 t of spillage, which had collected in the mill underfloor pits, was removed, and treated. Parts of the interior of the Mill accessible to the public were cleaned of spillage in a major phase of repair work undertaken in 1996–1997.

Underground fuel tanks were excavated and removed, and voids filled with waste rock in 1995–1996.

Areas of contamination around the exterior of the Mill were identified and removed for reprocessing or burial during rehabilitation of the mill infrastructure in 1996–1998.

ii Block 10 Hill

Remediation of Block 10 Hill was undertaken in the following three (3) phases:

a Phase One (1993-1994)

Excavation works were undertaken to remove all tailings and associated contaminated soil and rocky material that was in various small mounds. High grade material was reprocessed at the Pinnacles Mine and low-grade material buried in existing older tailings dumps south of Delprats Mine that were later covered by waste rock and regraded as part of the sites water management plan.

The excavation work was undertaken in close consultation with the then DMR and BHC to ensure preservation of the heritage structures on site, which were subsequently developed for public use by BHC. DMR also undertook a revegetation program on the adjoining area using sewage sludge and imported clay soil. Native species were broadcast sown and irrigated but was only partially successful. The area has since been covered with rock.

b Phase Two (1995-1996)

Tailings and other waste remaining along a water main that crosses the site was removed and the area filled and covered with rock and crusher dust.

c Phase Three (1998–1999)

Following assessments by contamination consultants Otek Australia, civil and hydrological engineer J Miedecke and archaeologist J. McCarthy, a final rehabilitation plan for Block 10 was agreed. The plan involved covering all contaminated areas with rock and constructing rock contour banks and sediment traps either side of the hillslope. The design capacities for the structures were for a 1 in 100 year ARI event (NML 2000).

Heritage structures were stabilised by placement of rock around their foundations.

Contaminated runoff from this area is still being captured in the Ryan Street Dam. BHOP are currently investigating further management options for this location.

iii Blackwoods tailings dump

In 1997, small old free-standing tailings dump north of Blackwoods Pit, regarded as having heritage value, was found to have unacceptably high lead levels (~1%). It was removed by NML at the direction of the then DMR to a nearby area and buried as fill within a drainage control structure, redirecting runoff back from the lease boundary into Blackwoods Pit.

iv Brownes Shaft

From 1997–1999, contaminated material was removed at Brownes Shaft and Mill without damaging the heritage values of the site as it was a publicly access area for tourism managed by Council. Remediation works comprised:

- The base of the stone wall of the Mill was built up with rock to cover contaminated material that could not be removed without damaging the wall and to support it.
- A set of old tanks had been built on a foundation of both tailings and orebody outcrop (that has high scientific and heritage value). Remediation focused on removed contaminated material from the outcrop back to stable rock, protect and present the heritage items, which included the outcrop itself, and leave the tanks on a stable footing. The contaminated material was removed, where possible, by a team using handheld tools and brooms. The bases of the water tanks, which were founded on contaminated material, were meshed and shotcreted and the base of the small hill covered with rock, leaving the outcrop exposed.
- Tailings north-west of the shaft and extending onto Pasmenco's lease was removed and the area recovered with rock and stormwater management bunds.

v All Nations Tailings Dam

Tailings excavated as part of remediation works were initially placed into the existing All Nations Tailings Dam. NML (2000) states the All Nations Dam contains 4.4 Mt of tailings. An additional dam was built onto the side of the All Nations Dam (Horwood's Dam TSF1) (it is assumed that the Mt Hebbard waste dump was constructed on top of part of the All Nations Dam). Some small tailings dumps from earlier mining were removed for reprocessing, or buried beneath waste rock dumps.

BHOP will remediate any contamination created as part of the current mining activities, or any areas of old contamination disturbed as part of BHOP's operations. It is expected that any hydrocarbon contaminated material will be bioremediated on site and then used for rehabilitation works and any material contaminated with heavy metals will either be placed underground or within TSF3.

Phase 1 – Preliminary Site Investigations (PSI) and Phase 2 – Detailed Site Investigations (DSI) contamination assessments will be undertaken as required.

4.7 Subsidence

4.7.1 Constraints

Coffey was engaged to assess the potential for subsidence at surface and the effect, if any, on the Broken Hill railway operations to the north-east of the CML7 from mining beneath these facilities. The assessment looked at the stope geometry, geology and the railway infrastructure. An exclusion area and buffer zone of 150 m was established around the rail infrastructure.

The Coffey (2007) analysis of the potential for caving in the western mineralisation found that the most critical type of failure mode from vertical (piping), diverging (outwards) and converging (inward) was converging. However, this is unlikely to propagate to a great extent before the void can support the span and vertical failure is the most likely critical failure mode.

The analysis shows that a stope failure is not expected to propagate through to the surface and significant surface subsidence is not predicted above the stopes. The analysis estimates some hanging wall failures with the currently estimated rock mass properties and the open stope geometry proposed. However, these failures are expected to be localised and are not expected to result in continuous caving to the surface. The presence of a more competent Potosi Gneiss unit above the stope hanging walls will restrict any failure from propagating upward assuming the unit is always above the stopes.

After extensive analysis Coffey (2007) concluded that any stope failure (no matter how unlikely) would not propagate through to the surface and therefore significant surface subsidence is not predicted above the stopes.

It is important to note that the analysis indicated that there exists some potential for hanging wall failures, however these failures are expected to be localised in extent. The presence of the more competent Potosi Gneiss above the stope hanging walls limits potential of a failure from propagating upward. Furthermore, if there was a failure, rock expansion would fill the void and prevent failure propagation to the surface.

4.7.2 Management and mitigation

Key subsidence risks are managed and mitigated by:

- use of empirical stope design charts in conjunction with detailed geotechnical modelling of extraction sequences to ensure ground stresses do not exceed the capabilities of the rock mass
- regular stope inspections used to ascertain if predicted behaviour matches the actual performance of the void
- installation of modern ground support/reinforcement systems which capitalise on the inherent strength of the rock mass
- placement of mine back fill (eliminating the void) in a timely manner after production has ceased
- use of trained and competent people in critical functional roles such as mine technical services and mining operations.

As part of the mine design process, each stope undergoes an individual risk assessment. The assessment addresses the following:

- stope size and shape
- ground support requirements, including additional support into the hanging wall if required
- ring design and stope firing sequence
- back fill requirements.

This process mitigates the potential for localised failures within the stoping blocks. Additional diamond drilling and geological mapping of the orebody, footwall and hanging wall occurs as underground development progresses. This additional geological and geotechnical information is used for the individual stope assessments and in the larger mine planning process to further mitigate the risk of localised failures.

4.8 Pit wall geotechnical stability

4.8.1 Constraints

Ground Control Engineering (GCE) undertook an assessment of the geotechnical stability of the historic tailings with the Kintore Pit (GCE 2019) and an assessment of geotechnical impacts of the emplacement wet tailings on pit wall stability (GCE 2019a).

The slope stability analyses conducted by GCE highlights the potential for slope scale instability of the historic tailings slope forming the north wall of the Kintore Pit under certain hydrogeological conditions. Circular failure or composite failure with a major circular component was considered by GCE (2019) as the most likely potential failure mechanism.

The progressive placement of fresh tailings against the existing historic tailings slope is expected to increase the stability of the slope.

The assessment of the slope of the waste rock stockpile located in Kintore Pit indicates that the waste rock slope may experience shallow sloughing of the near surface materials and that the placement of engineered fill against the toe would improve the stability of the slope. The slope stability analyses conducted by GCE (2019a) indicates that current, free draining, waste rock dump slope has a factor of safety for overall slope scale stability of greater than 1.3.

The modelling highlights the potential for shallow, circular style failure (sloughing) in all cases. This may materialise as minor rilling, which is typical of waste rock slopes.

4.8.2 Management and mitigation

Works have been proposed by Golder to support the slopes during tailings and waste rock placement and safety bunds have been included in the conceptual placement design to mitigate these risks.

The pit wall geotechnical instability risk be fully mitigated by the complete backfilling of the Kintore Pit with waste rock and tailings.

The Little Kintore Pit and the Box cut will also be backfilled with waste rock mitigating any pit wall geotechnical instability.

4.9 Socio economic

4.9.1 Constraints

Broken Hill is a remote inland mining town in far western NSW. Broken Hill grew rapidly following the discovery of silver, lead and zinc deposits in the 1880's. Heavy industrial mining defined the town and supported a large work force. However, scaling back of the mining industry in the area along with increasing efficiency and automation in mining operations has resulted in reduced mining workforces in the area since the 1990s (SGS 2020).

This has contributed to the population of Broken Hill decreasing from its peak of almost 35,000 to approximately half of that as at the 2021 Census (17,588 persons) (HillPDA, 2022).

At the 2021 Census, the median age of Broken Hill Local Government Area (LGA) was 44 years, slightly older than the median age across the Rest of NSW (the Australian Bureau of Statistics (ABS) defines the 'Rest of NSW' as the entirety of the State of NSW, excluding the Greater Capital City Statistical Area), which was 43 years. The LGA recorded a slightly higher proportion of residents over the age of 65 (23.1%) compared to the Rest of NSW (22.1%) (Hill PDA, 2022).

A similar proportion of LGA (59.7%) were of 'working age' (between 16 and 64 years old) as compared to the Rest of NSW (59.9%). At the 2021 Census, the LGA had a dependency ratio (number of working age persons per non-working age person) of 1.5, meaning that the LGA's working age population supports a large non-working population which is consistent with the Rest of NSW.

The age structure of the LGA is highly similar to the Rest of NSW, though the LGA recorded proportionally fewer residents aged between 34 and 54, and a slightly higher proportion of residents aged between 55 and 69. Interestingly, the LGA was recorded as having a larger share of female residents aged between 75 and 94 (Hill PDA, 2022).

Mining is among the most significant industries on the LGA, employing 10.8% of employed persons in the LGA as of the 2016 Census (the 2021 Census data was unavailable at the time of writing due to the progressive release of Census data). This proportion remained relatively consistent between 2011 and 2016, though the total number of employed persons in the LGA decreased.

Employment in the LGA has transitioned toward population-serving industries such as healthcare (19%) and retail (12%).

In the LGA, mining had the largest output by industry, generation \$450 million in 2020/21. It was also the most productive industry, generating \$175 million in 2020/21 or 24.3% of the total industry value added. Mining is also the largest employer, generating 1,676 direct and indirect jobs and accounting for 22.1% of the total local jobs.

As at 2019, the LGA attracted around 222,000 visitors of which 86% were domestic overnight tourists. Overnight visitors spent around 569,000 nights in the LGA, with an average length of stay of 3 nights. Total expenditure from overnight visitors in 2019 was \$114 million. Average spend per night was \$201. The main reason for visiting the LGA was for holidays (51% of all visits), followed by business (34%) and visiting friends and relatives. As such there are opportunities for future operations at the site to capitalise on leisure tourists and further grow the tourism industry.

Rasp Mine employees more than 180 people directly as well as approximately 30 full time contractors and over 200 casual contractors and consultants. While some personnel will be employed during the rehabilitation and closure phases of the mine, the closure of mine and cessation of employment will have direct and indirect consequences for employees, contractors and other support and service industries.

4.9.2 Management and mitigation

The mine has approval to operate until 31 December 2026. The additional tailings storage provided by MOD6 potentially would allow the mine to operate until 2035. BHOP has commenced discussions with DPE about seeking a modification to extend the mine life which in addition to providing approximately 9 years further employment and associated revenue to the Broken Hill economy. If approved, this will provide BHOP with a reasonable time frame to plan the transition from active mining operations to commercial tourism and/or educational post-mining land uses.

HillPDA Consulting has commenced a preliminary social and economic impact assessment (SEIA) for BHOP to inform a future detailed process. This preliminary SEIA includes:

- demographic profiling
- social infrastructure profiling
- economic profiling
- understanding the social and economic contribution of the mine
- stakeholder engagement
- assessing the social impacts of closure
- assessing the economic impacts from rehabilitation and closure works (if any)
- assessing the economic impacts of proposed alternate post mine land uses.

The outcomes and recommendations from this process will then be used to develop a detailed post mining socio-economic transition plan for the mine.

5 Rehabilitation objectives and completion criteria

5.1 Rehabilitation objectives and rehabilitation completion criteria

The overall rehabilitation objectives for the Rasp Mine have not changed from that proposed in the *Closure Report* prepared by NML in 2000 and agreed by the then MREMP Review meeting stakeholders and then in subsequent MOPs and the RMP submitted by BHOP, which is to rehabilitate the site to a safe, stable and non-polluting landform appropriate to the surrounding land fabric of the Broken Hill region that provides for a mining heritage tourism related final land use.

Indicative rehabilitation objectives and rehabilitation criteria for the mine are provided in Table 5.1, inclusive of considerations required under Condition 34A (c) of 07_0018. It is noted final rehabilitation objectives and rehabilitation criteria as required by Clause 12 in Schedule 8A of the Mining Regulation are currently with the RR for review and approval and will be documented in the revised Rehabilitation Management Plan.

The location of Domains discussed within Table 5.1, are illustrated in Figure 3.2 and Figure 3.3.

It is noted that the 'Free Areas' as identified within PA 07_0018, being non-active mining areas within CML7 that are not disturbed by the BHOP but contribute to the wind-blown dust from the project site are considered within Mining Domain 4 – Overburden Emplacement Area.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
F	Water Management Areas	3	Water Management area	Water management areas are safe, stable and non-polluting and do not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna	Water management areas have been constructed in accordance their design drawings.	Design reports and drawings. As constructed drawings and reports.	Inspection reports. As constructed reports.
					Water management areas are capable of containing/conveying their design storms.	Design reports and drawings. As constructed drawings and reports.	Inspection reports. As constructed reports.
					Water management areas are structurally stable.	Presence/absence active rills, gullies and tunnels. Presence/absence of seeps, slumps and cracking.	Inspection reports. Rehabilitation monitoring reports.
				Surface water runoff water quality from the rehabilitated mine site is similar to background runoff water quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of surface water monitoring data with analogue data.	Surface water monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Groundwater quality is similar to the background groundwater quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of ground water monitoring data with analogue data	Groundwater monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				Structures that take or divert water such as final voids, dams, levees etc. are appropriately licensed (e.g. under the Water Management Act 2000) and where required ensure sufficient licence shares are held in the water source(s) to account for water take.	Necessary approvals/licences.	Water approvals/licences are granted by the NSW Government Agency.	Copies of approvals/licences.
				Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports. Environment Protection Licence relinquished by Environment Protection Authority. Independent hydrological assessment report.
				All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials	Removal of all infrastructure and services, footing and slabs not required for the final land use	Infrastructure removed.	Inspection reports. Surveyed and marked on as-constructed final landform plan.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Decommissioning of groundwater boreholes not used for long term monitoring. is in accordance with the "Minimum Construction Requirements for Water Bores in Australia (2020)	Decommissioning of groundwater boreholes is in accordance with the "Minimum Construction Requirements for Water Bores in Australia (2020)	As outlined in "Minimum Construction Requirements for Water Bores in Australia (2020)"	Statement provided and before/after photos.
				The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.
F	Water Management Areas	4	Overburden emplacement areas	Water management areas are safe, geotechnically and erosionally stable and non-polluting and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	Water management areas have been constructed in accordance their design drawings.	Design reports and drawings. As constructed drawings and reports.	Inspection reports. As constructed reports.
					Water management areas are capable of containing/ conveying their design storms.	Design reports and drawings. As constructed drawings and reports.	Inspection reports. As constructed reports.
					Water management areas are structurally stable.	Presence/absence active rills, gullies and tunnels. Presence/absence of seeps, slumps and cracking.	Inspection reports. Rehabilitation monitoring reports.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Surface water runoff water quality from the rehabilitated mine site is similar to background runoff water quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of surface water monitoring data with analogue data.	Surface water monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				Groundwater quality is similar to the background groundwater quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of ground water monitoring data with analogue data	Groundwater monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				Structures that take or divert water such as final voids, dams, levees etc. are appropriately licensed (e.g. under the Water Management Act 2000) and where required ensure sufficient licence shares are held in the water source(s) to account for water take.	Necessary approvals/licences.	Water approvals/licences are granted by the NSW Government Agency.	Copies of approvals/licences.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Residual waste materials will be appropriately covered so they do not pose any hazards or constrained for the mining heritage related tourism land use	Covering with inert waste rock	Minimum 300 mm thick inert waste rock cover.	Survey data As constructed reports. Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.
				All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials	Removal of infrastructure and services, footing and slabs not required for the final land use	Infrastructure removed.	Inspection reports. Surveyed and marked on as-constructed final landform plan.
				Decommissioning of groundwater boreholes not used for long term monitoring. is in accordance with the “Minimum Construction Requirements for Water Bores in Australia (2020)”	Decommissioning of groundwater boreholes is in accordance with the “Minimum Construction Requirements for Water Bores in Australia (2020)”	As outlined in “Minimum Construction Requirements for Water Bores in Australia (2020)”	Statement provided and before/after photos.
				The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports. Environment Protection Licence relinquished by Environment Protection Authority. Independent hydrological assessment report.
				The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation communities found in the local area.	Native plant species recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community	Native plant species are characteristic of the target vegetation community(s) when compared to analogue sites.	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.
				The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area.	Cover and abundance of plant growth forms recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community, or an ongoing trend toward becoming characteristic is evident from the monitoring data	Cover, abundance and height range of native plant growth forms are characteristic of, or trending towards, the target vegetation community type(s).	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
H	Heritage	8	Other – heritage	There is no residual contamination on site that is incompatible with the heritage final land use or that poses a health threat to the public/stock/native fauna or risk of environmental harm.	<p>Contamination will be appropriately remediated to a condition that does not pose a threat of environmental harm or constrain the final land use.</p> <p>Residual waste materials stored on site (e.g. non-inert rock) will be appropriately contained/encapsulated so it doesn't pose any threat of environmental harm or constrain the intended final land use.</p>	<p>Contamination will be appropriately remediated so that appropriate guidelines for land use are met.</p> <p>The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use and does not pose threat of environmental harm.</p> <p>Dust potential minimised via appropriate containment or encapsulation of contaminants.</p>	<p>Contamination Remediation Report prepared by Land Contamination Consultant.</p> <p>Engineered capping design with specifications.</p> <p>Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.</p>

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				The final landform is geotechnically and erosionally stable and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	<p>There is no active rill, gully or tunnel erosion are within the parameters for safe and stable landform.</p> <p>There is no active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability</p>	<p>Presence/absence active rills, gullies and tunnels within rehabilitation monitoring transects.</p> <p>Inert waste rock or hard stand soil surface cover in rehabilitation transects ≥60%.</p> <p>Presence/absence of active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability.</p> <p>Dust potential minimised via appropriate containment or encapsulation of contaminants.</p>	<p>As constructed reports as constructed report.</p> <p>Erosion monitoring reports.</p> <p>Geotechnical stability assessment reports.</p> <p>Subsidence monitoring reports.</p> <p>Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.</p>
				Heritage items do not pose a safety risk to people, stock, or native animals	Heritage buildings and structures are structurally safe.	Structural assessment against building code and adaptive reuse.	Structural assessment reports. Heritage assessments reports.
					Access is restricted to unsafe heritage items.	Barricades, fencing, shafts and portals capped and sealed.	Safety inspection reports.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Surface water runoff water quality from the rehabilitated mine site is similar to background runoff water quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of surface water monitoring data with analogue data.	Surface water monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				Groundwater quality is similar to the background groundwater quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of ground water monitoring data with analogue data	Groundwater monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports. Environment Protection Licence relinquished by Environment Protection Authority. Independent hydrological assessment report.
J	Final void	5	Active mining area (open cut void)	Void water quality is similar to background runoff water quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of surface water monitoring data with analogue data.	Surface water monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				Groundwater quality is similar to the background groundwater quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of ground water monitoring data with analogue data	Groundwater monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				The final landform is geotechnically and erosionally stable and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	<p>There is no active rill, gully or tunnel erosion are within the parameters for safe and stable landform.</p> <p>There is no active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability</p>	<p>Presence/absence active rills, gullies and tunnels within rehabilitation monitoring transects.</p> <p>Inert waste rock or hard stand soil surface cover in rehabilitation transects ≥60%.</p> <p>Presence/absence of active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability.</p> <p>Dust potential minimised via appropriate containment or encapsulation of contaminants.</p>	<p>As constructed reports as constructed report.</p> <p>Erosion monitoring reports.</p> <p>Geotechnical stability assessment reports.</p> <p>Subsidence monitoring reports.</p> <p>Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.</p>
				Structures that take or divert water such as final voids, dams, levees etc. are appropriately licensed (e.g. under the Water Management Act 2000) and where required ensure sufficient licence shares are held in the water source(s) to account for water take.	Necessary approvals/licences.	Water approvals/licences are granted by the NSW Government Agency.	Copies of approvals/licences.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials	Removal of all processing infrastructure and services, footing and slabs not required for the final land use	Infrastructure removed.	Inspection reports. Surveyed and marked on as-constructed final landform plan.
				All infrastructure that is to remain as part of the final land use is safe, does not pose any hazard to the community All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)	Access tracks that are to remain are in a trafficable condition that is suitable for their intended purposes.	Any required maintenance complete.	Inspection reports.
					Where applicable, necessary approvals are in place (e.g. development consent under the Environmental Planning and Assessment Act 1979) where buildings and infrastructure are to be retained as part of final land use.	Permits and approval documents issued.	Copy of any relevant approvals.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
					The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment verifying modes of failure are adequately addressed to minimise risks to public safety or the environment.
				The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.
				Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports. Environment Protection Licence relinquished by Environment Protection Authority. Independent hydrological assessment report.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
K	Other	1	Infrastructure areas	There is no residual contamination on site that is incompatible with the mining heritage related tourism final land use or that poses a health threat to the public/stock/native fauna or risk of environmental harm.	<p>Contamination will be appropriately remediated to a condition that does not pose a threat of environmental harm or constrain the final land use.</p> <p>Residual waste materials stored on site (e.g. non-inert rock) will be appropriately contained/encapsulated so it doesn't pose any threat of environmental harm or constrain the intended final land use.</p>	<p>Contamination will be appropriately remediated so that appropriate guidelines for land use are met.</p> <p>The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use and does not pose threat of environmental harm.</p> <p>Dust potential minimised via appropriate containment or encapsulation of contaminants.</p>	<p>Contamination Remediation Report prepared by Land Contamination Consultant.</p> <p>Engineered capping design with specifications.</p> <p>Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.</p>

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				The final landform is geotechnically and erosionally stable and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	<p>There is no active rill, gully or tunnel erosion are within the parameters for safe and stable landform.</p> <p>There is no active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability</p>	<p>Presence/absence active rills, gullies and tunnels within rehabilitation monitoring transects.</p> <p>Inert waste rock or hard stand soil surface cover in rehabilitation transects ≥60%.</p> <p>Presence/absence of active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability.</p> <p>Dust potential minimised via appropriate containment or encapsulation of contaminants.</p>	<p>As constructed reports as constructed report.</p> <p>Erosion monitoring reports.</p> <p>Geotechnical stability assessment reports.</p> <p>Subsidence monitoring reports.</p> <p>Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.</p>
				All infrastructure that is to remain as part of the final land use is safe, does not pose any hazard to the community All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)	Access tracks that are to remain are in a trafficable condition that is suitable for their intended purposes.	Any required maintenance complete.	Inspection reports.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
					Where applicable, necessary approvals are in place (e.g. development consent under the Environmental Planning and Assessment Act 1979) where buildings and infrastructure are to be retained as part of final land use.	Permits and approval documents issued.	Copy of any relevant approvals.
					The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment verifying modes of failure are adequately addressed to minimise risks to public safety or the environment.
				Surface water runoff water quality from the rehabilitated mine site is similar to background runoff water quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of surface water monitoring data with analogue data.	Surface water monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Groundwater quality is similar to the background groundwater quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of groundwater monitoring data with analogue data	Groundwater monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.
				Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports. Environment Protection Licence relinquished by Environment Protection Authority. Independent hydrological assessment report.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation communities found in the local area.	Native plant species recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community	Native plant species are characteristic of the target vegetation community(s) when compared to analogue sites.	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.
				The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area.	Cover and abundance of plant growth forms recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community, or an ongoing trend toward becoming characteristic is evident from the monitoring data	Cover, abundance and height range of native plant growth forms are characteristic of, or trending towards, the target vegetation community type(s).	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
K	Other	2	Tailings storage facilities	Tailings will be capped so it does not pose any hazards or constraints for the mining heritage related tourism land use	Tailings will be appropriately encapsulated to not pose any threat of environmental harm or constrain the intended final land use.	The structural integrity of the TSF's has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use and does not pose threat of environmental harm.	Engineered capping design with specifications. Testing confirms capping integrity. Sign off of tailings dams from DPE-RR. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				Surface water runoff water quality from the rehabilitated mine site is similar to background runoff water quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of surface water monitoring data with analogue data.	Surface water monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				Groundwater quality is similar to the background groundwater quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of ground water monitoring data with analogue data	Groundwater monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				The final landform is geotechnically and erosionally stable and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	<p>There is no active rill, gully or tunnel erosion are within the parameters for safe and stable landform.</p> <p>There is no active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability</p>	<p>Presence/absence active rills, gullies and tunnels within rehabilitation monitoring transects.</p> <p>Inert waste rock or hard stand soil surface cover in rehabilitation transects $\geq 60\%$.</p> <p>Presence/absence of active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability.</p> <p>Dust potential minimised via appropriate containment or encapsulation of contaminants.</p>	<p>As constructed reports as constructed report.</p> <p>Erosion monitoring reports.</p> <p>Geotechnical stability assessment reports.</p> <p>Subsidence monitoring reports.</p> <p>Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.</p>

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				There is no residual contamination on site that is incompatible with the mining heritage related tourism final land use or that poses a health threat to the public/stock/native fauna or risk of environmental harm.	Contamination will be appropriately remediated to a condition that does not pose a threat of environmental harm or constrain the final land use. Residual waste materials stored on site (e.g. non-inert rock) will be appropriately contained/encapsulated so it doesn't pose any threat of environmental harm or constrain the intended final land use.	Contamination will be appropriately remediated so that appropriate guidelines for land use are met. The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use and does not pose threat of environmental harm. Dust potential minimised via appropriate containment or encapsulation of contaminants.	Contamination Remediation Report prepared by Land Contamination Consultant. Engineered capping design with specifications. Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.
				All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials	Removal of all infrastructure and services, footing and slabs not required for the final land use	Infrastructure removed.	Inspection reports. Surveyed and marked on as-constructed final landform plan.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Decommissioning of groundwater boreholes not used for long term monitoring. is in accordance with the “Minimum Construction Requirements for Water Bores in Australia (2020)	Decommissioning of groundwater boreholes is in accordance with the “Minimum Construction Requirements for Water Bores in Australia (2020)	As outlined in “Minimum Construction Requirements for Water Bores in Australia (2020)”	Statement provided and before/after photos.
				The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.
				Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports. Environment Protection Licence relinquished by Environment Protection Authority. Independent hydrological assessment report.
K	Other	3	Water management areas	All infrastructure that is to remain as part of the final land use is safe, does not pose any hazard to the community All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)	Access tracks that are to remain are in a trafficable condition that is suitable for their intended purposes.	Any required maintenance complete.	Inspection reports.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
					Where applicable, necessary approvals are in place (e.g. development consent under the Environmental Planning and Assessment Act 1979) where buildings and infrastructure are to be retained as part of final land use.	Permits and approval documents issued.	Copy of any relevant approvals.
					The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment verifying modes of failure are adequately addressed to minimise risks to public safety or the environment.
				Water management areas are safe, geotechnically and erosionally stable and non-polluting and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	Water management areas have been constructed in accordance their design drawings.	Design reports and drawings. As constructed drawings and reports.	Inspection reports. As constructed reports.
					Water management areas are capable of containing/conveying their design storms.	Design reports and drawings. As constructed drawings and reports.	Inspection reports. As constructed reports.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
					Water management areas are structurally stable.	Presence/absence active rills, gullies and tunnels. Presence/absence of seeps, slumps and cracking.	Inspection reports. Rehabilitation monitoring reports.
				Surface water runoff water quality from the rehabilitated mine site is similar to background runoff water quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of surface water monitoring data with analogue data.	Surface water monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				Groundwater quality is similar to the background groundwater quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of ground water monitoring data with analogue data	Groundwater monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				Structures that take or divert water such as final voids, dams, levees etc. are appropriately licensed (e.g. under the Water Management Act 2000) and where required ensure sufficient licence shares are held in the water source(s) to account for water take.	Necessary approvals/licences.	Water approvals/licences are granted by the NSW Government Agency.	Copies of approvals/licences.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				All infrastructure that is to remain as part of the final land use is safe, does not pose any hazard to the community All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)	Access tracks that are to remain are in a trafficable condition that is suitable for their intended purposes.	Any required maintenance complete.	Inspection reports.
					Where applicable, necessary approvals are in place (e.g. development consent under the Environmental Planning and Assessment Act 1979) where buildings and infrastructure are to be retained as part of final land use.	Permits and approval documents issued.	Copy of any relevant approvals.
					The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment verifying modes of failure are adequately addressed to minimise risks to public safety or the environment.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials	Removal of all infrastructure and services, footing and slabs not required for the final land use	Infrastructure removed.	Inspection reports. Surveyed and marked on as-constructed final landform plan.
				Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports. Environment Protection Licence relinquished by Environment Protection Authority. Independent hydrological assessment report.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
K	Other	4	Overburden emplacement areas	The final landform is geotechnically and erosionally stable and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	<p>There is no active rill, gully or tunnel erosion are within the parameters for safe and stable landform.</p> <p>There is no active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability</p>	<p>Presence/absence active rills, gullies and tunnels within rehabilitation monitoring transects.</p> <p>Inert waste rock or hard stand soil surface cover in rehabilitation transects $\geq 60\%$.</p> <p>Presence/absence of active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability.</p> <p>Dust potential minimised via appropriate containment or encapsulation of contaminants.</p>	<p>As constructed reports as constructed report.</p> <p>Erosion monitoring reports.</p> <p>Geotechnical stability assessment reports.</p> <p>Subsidence monitoring reports.</p> <p>Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.</p>

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				There is no residual contamination on site that is incompatible with the mining heritage related tourism final land use or that poses a health threat to the public/stock/native fauna or risk of environmental harm.	Contamination will be appropriately remediated to a condition that does not pose a threat of environmental harm or constrain the final land use. Residual waste materials stored on site (e.g. non-inert rock) will be appropriately contained/encapsulated so it doesn't pose any threat of environmental harm or constrain the intended final land use.	Contamination will be appropriately remediated so that appropriate guidelines for land use are met. The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use and does not pose threat of environmental harm. Dust potential minimised via appropriate containment or encapsulation of contaminants.	Contamination Remediation Report prepared by Land Contamination Consultant. Engineered capping design with specifications. Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.
				Residual waste materials will be appropriately covered so it does not pose any hazards or constraints for the mining heritage related tourism land use	Covering with inert waste rock	Minimum 300 mm thick inert waste rock cover.	Survey data As constructed reports. Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Surface water runoff water quality from the rehabilitated mine site is similar to background runoff water quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of surface water monitoring data with analogue data.	Surface water monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				Groundwater quality is similar to the background groundwater quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of ground water monitoring data with analogue data	Groundwater monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				All infrastructure that is to remain as part of the final land use is safe, does not pose any hazard to the community. All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)	Access tracks that are to remain are in a trafficable condition that is suitable for their intended purposes.	Any required maintenance complete.	Inspection reports.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
					Where applicable, necessary approvals are in place (e.g. development consent under the Environmental Planning and Assessment Act 1979) where buildings and infrastructure are to be retained as part of final land use.	Permits and approval documents issued.	Copy of any relevant approvals.
					The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment verifying modes of failure are adequately addressed to minimise risks to public safety or the environment.
				All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials	Removal of all infrastructure and services, footing and slabs not required for the final land use	Infrastructure removed.	Inspection reports. Surveyed and marked on as-constructed final landform plan.
				The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports. Environment Protection Licence relinquished by Environment Protection Authority. Independent hydrological assessment report.
				The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation communities found in the local area.	Native plant species recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community	Native plant species are characteristic of the target vegetation community(s) when compared to analogue sites.	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.
				The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area.	Cover and abundance of plant growth forms recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community, or an ongoing trend toward becoming characteristic is evident from the monitoring data	Cover, abundance and height range of native plant growth forms are characteristic of, or trending towards, the target vegetation community type(s).	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
K	Other	7	Beneficiation facility	All infrastructure that is to remain as part of the final land use is safe, does not pose any hazard to the community All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)	Access tracks that are to remain are in a trafficable condition that is suitable for their intended purposes.	Any required maintenance complete.	Inspection reports.
					Where applicable, necessary approvals are in place (e.g. development consent under the Environmental Planning and Assessment Act 1979) where buildings and infrastructure are to be retained as part of final land use.	Permits and approval documents issued.	Copy of any relevant approvals.
					The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment verifying modes of failure are adequately addressed to minimise risks to public safety or the environment.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				All processing infrastructure is removed to ensure the site is safe and free of hazardous materials	Removal of all infrastructure and services, footing and slabs not required for the final land use	Infrastructure removed.	Inspection reports. Surveyed and marked on as-constructed final landform plan.
				The final landform is geotechnically and erosionally stable and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	There is no active rill, gully or tunnel erosion are within the parameters for safe and stable landform. There is no active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability	Presence/absence of active rills, gullies and tunnels within rehabilitation monitoring transects. Inert waste rock or hard stand soil surface cover in rehabilitation transects ≥60%. Presence/absence of active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability. Dust potential minimised via appropriate containment or encapsulation of contaminants.	As constructed reports as constructed report. Erosion monitoring reports. Geotechnical stability assessment reports. Subsidence monitoring reports. Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				There is no residual contamination on site that is incompatible with the mining heritage related tourism final land use or that poses a health threat to the public/stock/native fauna or risk of environmental harm.	Contamination will be appropriately remediated to a condition that does not pose a threat of environmental harm or constrain the final land use. Residual waste materials stored on site (e.g. non-inert rock) will be appropriately contained/encapsulated so it doesn't pose any threat of environmental harm or constrain the intended final land use.	Contamination will be appropriately remediated so that appropriate guidelines for land use are met. The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use and does not pose threat of environmental harm. Dust potential minimised via appropriate containment or encapsulation of contaminants.	Contamination Remediation Report prepared by Land Contamination Consultant. Engineered capping design with specifications. Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.
				Surface water runoff water quality from the rehabilitated mine site is similar to background runoff water quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of surface water monitoring data with analogue data.	Surface water monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Groundwater quality is similar to the background groundwater quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of ground water monitoring data with analogue data	Groundwater monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.
				Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports. Environment Protection Licence relinquished by Environment Protection Authority. Independent hydrological assessment report.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation communities found in the local area.	Native plant species recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community	Native plant species are characteristic of the target vegetation community(s) when compared to analogue sites.	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.
				The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area.	Cover and abundance of plant growth forms recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community, or an ongoing trend toward becoming characteristic is evident from the monitoring data	Cover, abundance and height range of native plant growth forms are characteristic of, or trending towards, the target vegetation community type(s).	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
K	Other	8	Other – heritage	There is no residual contamination on site that is incompatible with the mining heritage related tourism final land use or that poses a health threat to the public/stock/native fauna or risk of environmental harm.	<p>Contamination will be appropriately remediated to a condition that does not pose a threat of environmental harm or constrain the final land use.</p> <p>Residual waste materials stored on site (e.g. non-inert rock) will be appropriately contained/encapsulated so it doesn't pose any threat of environmental harm or constrain the intended final land use.</p>	<p>Contamination will be appropriately remediated so that appropriate guidelines for land use are met.</p> <p>The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use and does not pose threat of environmental harm.</p> <p>Dust potential minimised via appropriate containment or encapsulation of contaminants.</p>	<p>Contamination Remediation Report prepared by Land Contamination Consultant.</p> <p>Engineered capping design with specifications.</p> <p>Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.</p>

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				The final landform is geotechnically and erosionally stable and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna.	<p>There is no active rill, gully or tunnel erosion are within the parameters for safe and stable landform.</p> <p>There is no active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability</p>	<p>Presence/absence active rills, gullies and tunnels within rehabilitation monitoring transects.</p> <p>Inert waste rock or hard stand soil surface cover in rehabilitation transects ≥60%.</p> <p>Presence/absence of active slips, slumps, surface cracking, deformation, subsidence or other indicators of geotechnical instability.</p> <p>Dust potential minimised via appropriate containment or encapsulation of contaminants.</p>	<p>As constructed reports as constructed report.</p> <p>Erosion monitoring reports.</p> <p>Geotechnical stability assessment reports.</p> <p>Subsidence monitoring reports.</p> <p>Environmental monitoring data (namely air quality and water) does not exceed limits under PA 07_0018 or EPL 12559.</p>
				All infrastructure that is to remain as part of the final land use is safe, does not pose any hazard to the community All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc)	Access tracks that are to remain are in a trafficable condition that is suitable for their intended purposes.	Any required maintenance complete.	Inspection reports.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
					Where applicable, necessary approvals are in place (e.g. development consent under the Environmental Planning and Assessment Act 1979) where buildings and infrastructure are to be retained as part of final land use.	Permits and approval documents issued.	Copy of any relevant approvals.
					The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment verifying modes of failure are adequately addressed to minimise risks to public safety or the environment.
				Surface water runoff water quality from the rehabilitated mine site is similar to background runoff water quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of surface water monitoring data with analogue data.	Surface water monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				Groundwater quality is similar to the background groundwater quality	Key water quality parameters selected from Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000.	Comparison of groundwater monitoring data with analogue data	Groundwater monitoring reports. Environmental monitoring data does not exceed limits under PA 07_0018 or EPL 12559.
				The risk of bushfire and impacts to the community, environment and infrastructure has been addressed as part of rehabilitation.	Appropriate bushfire hazard controls (where required) have been implemented on the advice from the NSW Rural Fire Service.	Bushfire controls implemented.	Statement provided and before/after photos.
				Impacts to groundwater regime are within range as per the development consent(s) / pre-mining environmental assessment.	Groundwater quality both on and off a mining lease represent an acceptable level of change from a defined reference condition.	Groundwater levels, groundwater flow.	Water quality monitoring reports. Environment Protection Licence relinquished by Environment Protection Authority. Independent hydrological assessment report.

Table 5.1 Rehabilitation objectives and indicative rehabilitation completion criteria

Final land use domain code	Final land use domain	Mining domain code	Mining domain	Rehabilitation objectives	Indicative completion criteria	Performance indices	Justification and validation methods
				The vegetation composition of the rehabilitation contains species that are commensurate with native vegetation communities found in the local area.	Native plant species recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community	Native plant species are characteristic of the target vegetation community(s) when compared to analogue sites.	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.
				The vegetation structure of the rehabilitation is similar to that of native vegetation communities found in the local area.	Cover and abundance of plant growth forms recorded from 0.04 hectare fixed monitoring plots are characteristic of the target vegetation community, or an ongoing trend toward becoming characteristic is evident from the monitoring data	Cover, abundance and height range of native plant growth forms are characteristic of, or trending towards, the target vegetation community type(s).	Before and after photos, rehabilitation monitoring reports, independent ecological reports (where required) that validate rehabilitation completion criteria have been met.

6 Stakeholder consultation

6.1 Stakeholder engagement framework

Consultation will be ongoing throughout the life of the mine. HillPDA (2022) provides a framework for engagement of stakeholders which has been adopted by BHOP.

Stage 1 has generally been completed as detailed above.

Stage 2 of the engagement process will involve the preparation of a detailed engagement plan and undertaking a range of engagement activities with the Broken Hill community, relevant government agencies, community group and mine employees and contractors. Noting that engagement activities undertaken to date, identified in Table 6.1, will inform the detailed engagement plan. The detailed engagement plan will involve:

- undertaking a stakeholder engagement planning workshop
- preparation of an engagement plan that will involve:
 - identifying and mapping potential stakeholders in the local community
 - reviewing previous submissions received about the mine closure
 - development of key messaging
 - determining the engagement methods and activities
 - allocating roles and responsibilities
 - identifying anticipated issues, risks and mitigation
 - reporting and evaluation
- undertaking the engagement as detailed in the plan
- preparing a community consultation report that outlines the activities undertaken, which groups and communities were included in the works, the key findings from these works. It will identify potential additions or modifications to rehabilitation and closure planning (if required) to improve alignment with community expectations
- BHOP will undertake detailed consideration of the matters raised, and (if appropriate), a selection of the desired outcomes from the above to be included in rehabilitation and closure planning for the site.

Stage 3 will involve the established stakeholder and community reference groups continuing to meet with BHOP to monitor the implementation of rehabilitation strategies and socio-economic mitigation strategies.

6.2 Consultation carried out to inform this strategy

This Rehabilitation Strategy has been prepared in consultation with relevant stakeholders including the RR, MEG, EPA, NSW Health (Western NSW Local Health District), DPE Water, Heritage NSW, Council and Perilya Broken Hill Limited as required by Schedule 3, Condition 34A(b) of the consent. Other relevant stakeholders consulted include Foundation Broken Hill. Consultation carried out with these stakeholders between June 2022 and October 2023 to inform the current and earlier versions of this strategy is summarised in Table 6.1 below and is provided in Appendix E.

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
Resources Regulator	Letter and request for consultation via Major Projects Portal	22 September 2023	Request for comment on revised Rehabilitation Strategy	<p>Response dated 18 October 2023</p> <ul style="list-style-type: none"> The Regulator expects that geotechnical assessments are undertaken of high-risk landforms to be retained in the final landform for RASP mine. This includes all steep slopes with slope angles at (or close to) the angle of repose. Risk controls, such as reduction of slope angles (laying back), or placement of buttressing, are required to be considered to ensure the nominated rehabilitation objective for these areas is achieved... <p>The nomination of slope stability risks and risk control must be considered in the rehabilitation risk assessment and included in the Rehabilitation Management Plan as required under Schedule 8A of the Mining Regulation</p> <ul style="list-style-type: none"> The level of detail provided in the rehabilitation strategy exceeds what was requested as part of the Project Approval Condition 34A of PA 07_0018. In particular, the Rehabilitation Strategy provides rehabilitation completion criteria, aligned to rehabilitation objectives. The Regulator will undertake a detailed review of completion criteria when they are formally submitted as part of the approval process for the Rehabilitation Completion Criteria Statement pursuant to Clause 12 in Schedule 8A of the Mining Regulation 2016. It is noted that the Rehabilitation completion criteria can only be submitted for approval once the Rehabilitation Objectives Statement and Final Landform and Rehabilitation Plan are approved. At the time of preparing this response, the Rehabilitation Objectives Statement and Final 	<ul style="list-style-type: none"> BHOP acknowledges the RR comments regarding the requirement for geotechnical assessments for high risk landforms and has included this risk in the Rehabilitation Risk Assessment in Section 4.8. BHOP are in the process of commissioning a geotechnical assessment of the potentially high-risk landforms within the final landform and the outcomes of this assessment including any changes to proposed management during the closure phase will be documented in the Rehabilitation Management Plan and other Rehabilitation Outcome Documents (rehabilitation objectives statement, rehabilitation completion criteria statement, final landform and rehabilitation plan) pursuant to Clause 12 in Schedule 8A of the Mining Regulation 2016 as appropriate. BHOP acknowledges the RR comments with regard to the level of detail in this Strategy which is beyond that required by Condition 34A of the consent. To minimise the potential for inconsistencies between this Strategy and Rehabilitation Outcome Documents required under the Mining Regulation 2016, and the need for multiple reiterations of this strategy as Rehabilitation Objectives and Criteria are revised during the mine life, BHOP has updated Chapter 5 of this Strategy. The updates outline that the rehabilitation criteria presented in this document are indicative and final criteria will be documented in the Rehabilitation Management Plan and approved Rehabilitation Completion Criteria Statement required under Schedule 8A of the Mining Regulation. BHOP has consulted with the relevant government agencies and other relevant stakeholders in regard to

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
				<p>Landform and Rehabilitation Plan for RASP mine have not yet been approved.</p> <ul style="list-style-type: none"> It is the expectation from the Regulator that CBH Resources will consult with the relevant government agencies and other relevant stakeholders in regard to the implication on post mining land use outcomes before approving the Rehabilitation Completion Criteria Statement. Key issues to be addressed before the Regulator can approve the Rehabilitation Completion Criteria statement will be how relevant state and commonwealth legislation (e.g. Heritage conservation, pollution impacts etc.) are addressed in consideration of current and post-mining land use constraints and or opportunities associated with the mining operations. As part of the process of approving the Rehabilitation Outcome Documents (rehabilitation objectives statement, rehabilitation completion criteria statement, final landform and rehabilitation plan) pursuant to Clause 12 in Schedule 8A of the Mining Regulation 2016, it is envisaged that further amendments of the Rehabilitation Strategy will be required to ensure these documents are consistent. 	<p>the implication on post mining land use outcomes during the June 2022 consultation process with these stakeholders having a further opportunity to comment on the proposed post mining use outcomes in this revised Strategy in September/October 2023.</p>
DPE Water	Letter and request for consultation via Major Projects Portal	22 September 2023	Request for comment on revised Rehabilitation Strategy	<p>Response dated 5 October 2023</p> <ul style="list-style-type: none"> The department requests the plan be considered further to ensure relevant water legislation, policy and management requirements are addressed. The department has defined a range of outcomes relevant to assist in the preparation of 	<ul style="list-style-type: none"> Consideration of the outcomes detailed in the DPE Water response, is addressed as appropriate in this strategy. Further details of proposed post closure management will be documented in the revised Rehabilitation Management Plan. The final landform seeks to avoid and/or minimise land degradation, including soil erosion, compaction,

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
				<p>Rehabilitation Management Plans and these are detailed in Attachment A.</p> <ul style="list-style-type: none"> The Rehabilitation Management Plan is recommended to be reviewed to achieve the following outcomes. These are intended to meet the department’s legislative, policy and water management requirements.. Sharing of water must protect the water source, its dependent ecosystems and basic landholder rights Water sources, floodplains and dependent ecosystems are protected and restored Activities within a water source should avoid or minimise land degradation, including soil erosion, compaction, geomorphic instability, contamination, and where possible land should be rehabilitated. The final Rehabilitation Management Plan is made electronically available on a public accessible website. A conceptual model/diagram clearly presents how the groundwater and surface water systems interact with the final landform. This is to be informed by recent environmental assessments/modelling reviews. The final design and location of surface drainage features achieves a stable landform and maintains or improves riparian corridor functioning. This is to be completed with reference to industry guidelines such as: “<i>Rehabilitation Manual for Australian Streams</i> (LWRRDC 2000)”, “<i>Guideline: Works that interfere with water in a watercourse for a resource activity</i> (DNRME 2019)” and “<i>Guidelines for</i> 	<p>geomorphic instability and contamination (refer Section 3.4)</p> <ul style="list-style-type: none"> This strategy will be made available on the CBH Resources website A conceptual diagram showing how the final landform interacts with surface water is contained in Appendix C. There are no waterways within the mining lease that will be reconstructed post closure. Notwithstanding, post closure drainage channels will be constructed to be stable. Where flow paths outlet off site these will be stabilised with a rock level spreader, appropriately sized to withstand velocities of the peak flow from a 1% event. Preliminary post closure surface water assessment indicates, that water leaving site is predicted to result in a minimal change on the annual flow volumes within the receiving environment with no offsite discharge occurring based on a typical average and wet rainfall year. Indicative completion criteria outlined in Chapter 5 has been updated to include as appropriate “Decommissioning of groundwater boreholes is in accordance with the “Minimum Construction Requirements for Water Bores in Australia (2020)” The requirement for post closure water licences is noted and addressed in the indicative completion criteria in Chapter 5. The BHP and Box cut final voids are not predicted to form a pit lake on closure with water expected to evaporate or seep to groundwater.

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
				<p><i>Controlled Activities on Waterfront Land</i> (DPE 2022)” or their latest versions.</p> <ul style="list-style-type: none"> • Dirty runoff catchment areas are rehabilitated and the conveyance of clean surface runoff downstream is maximised. • Decommissioning of groundwater boreholes is in accordance with the “Minimum Construction Requirements for Water Bores in Australia (2020)”. • Ongoing water take by the final landform via interception, storage or diversion is quantified and complies with relevant approvals and licences under the <i>Water Management Act 2000</i> or a relevant exemption. Please note exemptions from the requirement to hold approvals under s.90 and 91 of the <i>Water Management Act 2000</i> for approved SSD/SSI projects will not apply once the project approval ceases. Therefore, any relevant water management works that are to be retained will need to obtain an approval prior to the development consent lapsing. • Final voids do not present a risk to important groundwater ecosystems and assets (groundwater dependent ecosystems, alluvial aquifers, and landholder bores). • Final voids are designed to be sinks or to flow through the local groundwater system and need to be confirmed by a post-mining groundwater model. • Residual risk to water sources is clearly understood and minimised. This is to include relevant assessment documentation and updated risk assessments to meet the requirements of the NSW Aquifer Interference Policy 	<ul style="list-style-type: none"> • Risk to water sources are considered in Chapter 4. Further detail on proposed post closure management will be documented in the revised Rehabilitation Management Plan. • A surface water and groundwater monitoring and review program is outlined indicative completion criteria and performance indicators outlined in Chapter 5

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
				<ul style="list-style-type: none"> A monitoring and review program is included to ensure the rehabilitation outcomes are met. 	
Foundation Broken Hill	Letter	22 September 2023	Request for comment on revised Rehabilitation Strategy	<p>Response dated 5 October 2023</p> <ul style="list-style-type: none"> No specific comments on the Rehabilitation Strategy however welcomed BHOP’s desire to conserve mining heritage pre and post mine closure. Foundation Broken Hill (The Foundation) sees the value whole line of lode as a cohesive project over the near and long term for the benefit of Broken Hill, across heritage, tourism, community and commercial aspects. The Foundation noted that whilst there is a desire expressed by agencies to preserve these assets, there is no entity necessarily stepping up to take an active role alongside BHOP in making it happen and the Foundation The Foundation believes that it can take a pro-active role and work with the mining companies to develop a broad and encompassing strategy for the future of mining heritage in Broken Hill 	<ul style="list-style-type: none"> BHOP to continue consulting with the Foundation to ensure beneficial rehabilitation and closure outcomes for the community and BHOP.
Environment Protection Authority	Letter and request for consultation via Major Projects Portal	22 September 2023	Request for comment on revised Rehabilitation Strategy	<p>Response dated 18 October 2023</p> <ul style="list-style-type: none"> Activities associated with rehabilitation works at the premises will be subject to regulation by the EPA under the licence. As such, we recommend that rehabilitation works are carried out in a manner that minimises the emission of dust from the premises. 	<ul style="list-style-type: none"> This submission is noted and has been considered in the indicative completion criteria (refer Chapter 5).

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
Heritage NSW	Letter and request for consultation via Major Projects Portal	22 September 2023	Request for comment on revised Rehabilitation Strategy	<p>Response dated 13 October 2023</p> <ul style="list-style-type: none"> It is understood that the proposed key updates as noted in your correspondence will not impact the SHR listed items, BHP Chimney Ruin of First Offices (SHR No. 01820) and Broken Hill Railway Station and yard group (SHR No. 01101) located within the Rasp mine boundary. 	<ul style="list-style-type: none"> This submission is noted. The noted SHR listed items are within the CM7 surface exclusion areas.
NSW Health (Western NSW Local Health District)	Letter	22 September 2023	Request for comment on revised Rehabilitation Strategy	<ul style="list-style-type: none"> No response received 	<ul style="list-style-type: none"> While no response has been received from NSW Health, recent feedback from NSW Health, The Lead Health program was received in May 2023 and has been considered in the revision of this Strategy (refer below).
Broken Hill City Council	Letter	22 September 2023	Request for comment on revised Rehabilitation Strategy	<ul style="list-style-type: none"> No response received 	<ul style="list-style-type: none"> While no response has been received from Council, recent feedback from Council received in May 2023 on final land use options has been considered in the revision of this Strategy (refer following row).

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
Broken Hill City Council	Letter	22 May 2023	Final land use options, RMP and RMS preparation	<p>BHCC noted the following consideration in correspondence dated 5 June 2023:</p> <p>Council notes that, in the absence of any specific guidance from the Broken Hill Post Mining Interagency Group, that BHOP’s position is to rehabilitate the site to be safe, stable, and non-polluting, and further to that BHOP consider a combination of mining heritage -related tourism and a safe, stable, non-polluting Land Use for the non-heritage components of the mine is desirable and achievable.</p> <p>Council acknowledges the approach which you have outlined, and also concurs with BHOP’s understanding that it will take some time for all relevant stakeholders to reach consensus, however Council is willing to continue to work with BHOP to achieve beneficial outcomes for the community and the mining company.</p>	BHOP to continue consulting with relevant stakeholders, including BHCC, to ensure beneficial rehabilitation and closure outcomes for the community and BHOP.
Heritage NSW – Tempe Beaven	Email with letter	14 June 2022	Final land use options, RMP and RS preparation	Nil	BHOP will continue to liaise with Heritage NSW as necessary as it implements the actions and recommendations of this RS
Department of Regional NSW, Mining, Exploration and Geoscience – Christine Fawcett	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	<p>The Resources Regulator responded as follows:</p> <ul style="list-style-type: none"> • RR will review, assess, and determine the rehabilitation objectives statement, rehabilitation completion criteria statement and final landform and rehabilitation plan. • Provided advice on circumstances where final land use options assessment is required. • Provided advice on rehabilitation objectives statement process. 	BHOP has completed the Rehabilitation Management Plan and submitted the Rehabilitation Objectives Assessment for review.

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
Department of Planning and Environment (Compliance) – Ben Gazi	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	Site visit to discuss Landform Establishment and Waste Material handling.	Provision of Rehabilitation Risk Assessment and EMM/Landloch Mine Closure Landform report.
Department of Planning and Environment (Compliance) – Katrina O'Reilly	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	Please submit request via the planning portal	Request submitted via email. DPE requested request be issued via the Planning Portal, which BHOP has since completed. No response received to date.
NSW DPIE Water and Natural Resources Access Regulator – Tim Baker	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	DPE Water has considered the request and has no specific comments to provide in terms of land-use options. Please note however that DPE Water has responsibilities under water management legislation and related policies that may need to be considered in the design and selection of land-use options. DPE Water would appreciate further consultation once a draft Rehabilitation Management Plan has been prepared.	Draft RMP provided to DPE Water for review
Dam Safety NSW – Heather Middleton	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	Nil response	BHOP will continue to liaise with DSNSW as necessary in implementing the actions and recommendations of this RS

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
NSW DPIE, Biodiversity and Conservation Division – Michael Todd	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	<p>BCD has previously commented on a Rehabilitation Strategy for the mine that involved stabilising slopes and revegetating areas to open shrubland. This met condition 45 (Schedule 3) of the SSD 7538 development consent. In commenting on the Rehabilitation Strategy, BCD queried the length of time required to successfully rehabilitate and whether vegetation was going to be used for the stabilisation of slopes.</p> <p>BCD is aware that the mine has been in operation since the 1800’s and any rehabilitation is unlikely to be a direct match for pre-existing vegetation that occurred 140 years ago.</p> <p>With this in mind, there may be an opportunity to develop a mining heritage tourism, post-mining land use around Broken Hill that can still provide some habitat for biodiversity while meeting the requirements for safe, stable and non-polluting landforms on the existing mine site. It would be undesirable however to commence rehabilitation in any area that would subsequently be cleared to facilitate tourism development.</p> <p>EMM should give consideration to how both of these goals might be achieved at the Rasp Mine, including which parts of the mine might provide tourism potential and which areas would be rehabilitated. This way the Rehabilitation Strategy at Rasp Mine would remain compatible with any city-wide plan via the Broken Hill Post Mining Interagency Group.</p>	<p>The Rehabilitation Strategy referred to in the response is for the adjacent Perilya Mine that does have suitable growing media that potentially allows vegetative stabilisation of slopes. As detailed Section 4.4, due to historical mining practices at Rasp Mine there is no suitable growing media to allow vegetative stabilisation and the historical slope gradients are too steep to apply the growing media if there was suitable material available.</p> <p>EMM contacted BCD on BHOP’s behalf via email 13 September 2022 to seek clarification of the response in light of the reference to the adjoining Perilya Mine and lack of available growing media at Rasp Mine.</p>

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
BCD – Andrew Fisher	Email	13 September 2022	Use of compostable waste as an alternative to topsoil and subsoil	Ensuring that the rehabilitation remains compatible with the tourism goals and possible revegetation via the manufacture of growing media is important. Continuing research and discussions with Broken Hill City Council and the Broken Hill Post Mining Interagency Group are encouraged.	BHOP will continue to discuss site rehabilitation with BHCC as the strategy and the RMP are implemented. This will include the potential for alternative growth media to be used at the site.
Crown Lands – Shaun Barker	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	Please note that post-closure land use for the Rasp Mine will need to be actioned/considered in the broader context of all mines in Broken Hill to ensure consistency in how this is approached and undertaken. I will take this forward to the Broken Hill Post Mining Interagency Group and will respond in due course.	Noted
Crown Lands – Sharon Hawke	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	I acknowledge the complexities concerning this site not only for the DPE-Crown Lands but for the NSW Government as a whole and these issues were highlighted in the visit in August 2019 that I attended. At this time Crown Lands is unable to provide guidance or requirements to determine final land use options as further consultation will be required with other agencies and stakeholder groups.	BHOP notes Crown Lands position. BHOP will continue to consult Crown Lands as it progresses the Rehabilitation Strategy.

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
Environment Protection Authority – Jason Price	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	<p>The consultation letter about the preparation of a final land use plan for the Rasp mine in Broken Hill took some time to land with the appropriate EPA officers, including the Broken Hill Environmental Lead Program team, and as a result I am requesting a 2-week extension to provide comments on the plan (I understand from BHOP’s letter that comments were required by today).</p> <p>Can you let me know if this is acceptable and that our comments would still be considered during preparation of the plan?</p>	Advised that this is acceptable
Environment Protection Authority – Jessica Creed	Email with letter	15 June 2022	Final land use options, RMP and RMS preparation	<p>We note in the letter dated 3 June 2022 from BHOP. That BHOP’s base case position is to rehabilitate the site to be safe, stable and non-polluting. The EPA supports the goal of safe, stable and non-polluting and recommends that consideration be given to undertaking progressive rehabilitation whilst mining is occurring, particularly for the free areas of the mine, in order to minimise and manage potential lead dust emissions coming from the Line of Load.</p> <p>We also recommend the rehabilitation management plan outline the proposed measures to control, manage and mitigate dust as well as stormwater and sediment run-off from the proposed rehabilitation areas during and post rehabilitation.</p>	<p>Progressive rehabilitation of the mine has and will continue to be undertaken as detailed in Section 8. The Blackwood Pit has been filled with tailings, BHP Pit is being progressively filled with waste rock, Little Kintore Pit will be partially filled with waste rock from construction of the Box Cut, backfilling of Kintore Pit will commence this year and the application of inert waste rock to free areas will continue at a rate of 16,000t/yr. The schedule also includes some reshaping works of waste rock and previously capped TSF1 in preparation to achieving the final landform that the EPA will not have seen previously.</p> <p>BHOP will seek to increase the rate of inert waste rock to free areas during the next planned modification to PA 07_0018 to extend the mine life (potentially being Modification 12).</p>

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
				<p>As you are aware the EPA runs the BHELP program which addresses current and legacy lead contamination in Broken Hill. The main driver for the EPA through BHELP is to protect children aged from 0 to 5 years old from the impacts of legacy lead contamination, as well as fresh sources of dust originating from the Line of Lode.</p> <p>We note BHOP’s desire to achieve a mining-heritage related tourism for the greater mine area and a safe, stable and non-polluting post mining land use for the non-heritage components of the mine.</p> <p>Rehabilitation on any areas of the Line of Load proposed tourism need to have good dust controls assured and no uncapped tailings or other contaminated material accessible. There should also be no playgrounds or other attractions that would encourage children to linger.</p> <p>The EPA through BHELP would be very keen to discuss with Rasp Mine how the rehabilitation of the mine might be accelerated, and how the EPA could assist in facilitating that.</p>	<p>BHOP will engage with BHELP in this regard.</p> <p>The management of stormwater and sediment run-off from the mine is detailed in the Site Water Management Plan (2019). Noting, that the Surface Water Management Plan (2019) will be updated to include the outcomes surface water management and seepage studies being undertaken by Golder and surface water model being prepared by EMM, expected to be completed quarter 4 2023 in consideration of Modification 10 and currently subject of assessment Modification 11.</p> <p>As detailed in Section 8.3.2iii contaminated material will with either be removed or capped to minimise any the generation of lead dust that may pose a risk to potential future land users.</p> <p>BHOP will not be constructing any playgrounds or other structures at the end of mine life in preparation for handover for a heritage tourism post-mine land use that may encourage children to linger on site</p>

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
Transport for NSW – Howard Orr/Andrew McIntyre	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation Deed of Agreement for mining under South Road/ Silver City Highway, provision of safe traffic access for future tourism post mining land-use	I understand EMM are investigating options and preparing for closure of Rasp mine as an operational mine. In your investigations, I ask that the following matters be taken into consideration: In 2015 Broken Hill Operations and Roads and Maritime Services (now TfNSW) entered into a Deed of Agreement to manage mining activity beneath the South Road/Silver City Highway (HW22). In closing the mine and considering potential uses, TfNSW requests that the deed entered into for activities beneath the highway be reviewed and any commitments/requirements relating to this Deed be adhered to. Any future tourist proposals at the sites needs to consider safe vehicular access from public roads as well as any access required to rail corridors. In determining safe road access treatments, TfNSW adopts Austroads Guide to Road Design.	BHOP notes the Transport for NSW response. Any future tourist proposals for the sites will require safe access from public roads. BHOP will take this into consideration at the appropriate time.
NSW Resources Regulator – Matt Newton	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	Online Meeting – Rehabilitation Outcome feedback session and next steps to determine agreed post-closure land use. Discussion of approach to assessment and determination of rehabilitation outcome documents for both RASP and Perilya operations. Heritage items will be classified as other under the Rehabilitation objectives list. Discussion of next steps to confirm post-mining land uses with all stakeholders and BHMIAC.	BHOP to participate in future meetings of the BHMIAC.

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
Perilya	Email with letter	7 September 2022	Final land use options, RMP and RMS preparation	<p>Perilya Environmental Officers Brett Bussell and Jessica Hannigan attended site for a discussion on Rehabilitation and Mine Closure. Perilya provided feedback on revegetation conducted on the North and Potosi Mines.</p> <p>Perilya and BHOP representatives were present at the Mines on the Line of Lode meeting held by Dept of Premier and Cabinet on 27 February 2023 where both Perilya and BHOP provided their perspectives on legacy issues, rehabilitation and mine closure goals.</p>	BHOP will continue to consult as necessary with neighbouring landholders, including Perilya
Maari Ma Health – Kaylene Kemp	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	Nil	Nil
NSW Health, Far West Local Health District – Leanne Hastwell	Email with letter	14 June 2022	Final land use options, RMP and RMS preparation	<p>Response received 23 May 2023 from “The Lead Health Program” requesting additional information including:</p> <ul style="list-style-type: none"> • who will be responsible for the long term management of the sit • who governs the line of lode association 	<p>BHOP will be responsible for the site until the relinquishment of the mining lease following the successful rehabilitation of the site.</p> <p>As outlined in Section 3.1 in September 2011 the LOLA was dissolved and their assets located on CML7 transferred to the then Land and Property Management Authority and now DPE Crown Land (Crown Lands), that established the Line of Lode Reserve Trust (LOLRT) and act as trustee of these assets.</p>
Broken Hill Environmental Lead Program– Kathryn Graham	Email with letter	3 June 2022 15 June 2022	Final land use options, RMP and RMS preparation	See EPA response of 23 August 2023 above	<p>N/A</p> <p>Contact by phone and letter resent by Devon Roberts, BHOP, on 18 May 2023.</p>

Table 6.1 Stakeholder consultation

Stakeholder consultation	Form	Date of outgoing correspondence	Issues	Stakeholder response	How addressed
Broken Hill City Council	Letter	22 May 2023	Final land use options, RMP and RMS preparation	<p>BHCC noted the following consideration in correspondence dated 5 June 2023:</p> <p>Council notes that, in the absence of any specific guidance from the Broken Hill Post Mining Interagency Group, that BHOP’s position is to rehabilitate the site to be safe, stable, and non-polluting, and further to that BHOP consider a combination of mining heritage -related tourism and a safe, stable, non-polluting Land Use for the non-heritage components of the mine is desirable and achievable.</p> <p>Council acknowledges the approach which you have outlined, and also concurs with BHOP’s understanding that it will take some time for all relevant stakeholders to reach consensus, however Council is willing to continue to work with BHOP to achieve beneficial outcomes for the community and the mining company.</p>	BHOP to continue consulting with relevant stakeholders, including BHCC, to ensure beneficial rehabilitation and closure outcomes for the community and BHOP.

7 Final landform and rehabilitation plan

The final landform features proposed under this Strategy are identified within Plan 1 in Appendix C.1. The final landform as proposed has been developed in accordance with previous assessments supporting project approvals and the final land use options assessment discussed in Chapter 3.

Key aspects of the final landform include the appreciation of the heritage values located within CML7 and the ability for the site to provide ongoing benefits to the local community through mining heritage related tourism.

The final landform as presented within Plan 1 in Appendix C.1 has been adopted by BHOP and will be implemented in accordance with the life of mine rehabilitation schedule outlined in Section 2.2. The Plan is consistent with that included within the RMP, issued to the RR.

Plan 2 in Appendix C.1 shows the proposed final landform contours as to provide a greater conceptualisation of the final landform than that provided in Plan 1.

8 Rehabilitation implementation

8.1 Life on mine rehabilitation schedule

Planned progressive rehabilitation works include:

- partial backfilling Little Kintore Pit
- backfilling of Kintore Pit (TSF3)
- partial backfilling of BHP Pit
- continuation of covering 'free' areas with inert waste rock
- commencement of reshaping works to progress the final landform design.

An indicative schedule of proposed life of mine rehabilitation works are detailed in Table 8.1 on the following page.

Table 8.1 **Indicative rehabilitation schedule**

Activity	2022		2023				2024				2025				2026				2027			
	Q1	Q2	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Stockpile waste rock in BHP (use for surface placement and capping)	[Yellow bar]																					
Excavate box cut + commence backfill of Little Kintore Pit	[Yellow bar]																					
Dump inert waste rock on free areas	[Yellow bar]																					
Capping of Little Kintore Pit	[Yellow bar]																					
Seal portal (inc. other old shafts) and preparation of Kintore Pit for receiving tails	[Yellow bar]																					
Backfilling of Kintore Pit (TSF3) ¹	[Yellow bar]																					
Commence landform re-shaping:																						
<i>Mt Hebbard</i>	[Yellow bar]																					
<i>Blackwood's Waste Dump</i>	[Yellow bar]																					
<i>South Hill</i>	[Yellow bar]																					
<i>TSF1</i>	[Yellow bar]																					
<i>Line of Lode slope</i>	[Yellow bar]																					
Remove contaminated material and dispose (deep burial)	[Yellow bar]																					
Capping TSF2 ²	[Yellow bar]																					
Plugging of box cut portal and installation of bund	[Yellow bar]																					
Remove and/or demolish plant and equipment (inc. unsafe heritage, rail load-out) ³	[Yellow bar]																					

Table 8.1 **Indicative rehabilitation schedule**

Activity	2022		2023				2024				2025				2026				2027				
	Q1	Q2	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Capping Kintore Pit (TSF3) (cover w/ inert waste rock) ⁴																							

1. TSF3 predicted to be 1/3rd full as at end of Q4 2026 – complete backfilling contingent on future life-of-mine extension.
2. TSF2 to operate for full life-of-mine – continued use contingent on future life-of-mine extension.
3. Timing of decommissioning and on-site disposal of structural materials contingent on future life-of-mine extension (eg disposal of materials may be to TSF3, prior to TSF3 capping).
4. Timing of capping of TSF3 contingent on future life-of-mine extension.

8.2 Life of mine mining schedule

An indicative life of mine mining schedule is provided in Table 8.2 on the following page.

Table 8.2 **Indicative life of mining schedule**

Mining precinct	2023				2024				2025				2026			
	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026
Western Mineralisation	[Yellow bar covering Q1 2023 to Q4 2025]															
Western Mineralisation - Siberia	[Yellow bar covering Q1 2023 to Q2 2026]															
McBrydes	[Yellow bar covering Q1 2023]															
Boundary Pillar	[Yellow bar covering Q1 2023 to Q4 2023]															
Blackwoods			[Yellow bar covering Q3 2023 to Q4 2026]													
Blackwoods North			[Yellow bar covering Q3 2023 to Q2 2026]													

8.3 Phases of rehabilitation and general methodologies

8.3.1 Active mining phase

PA 07_0018 and CML7 approves mining until 31 December 2026 and thereafter to rehabilitate the site to the satisfaction of the Department of Regional NSW – Resources Regulator. With the MOD6 approval to place dry tailings into Kintore Pit, there is sufficient tailings storage capacity and ore reserves to extend the mine life until 2036 however any such extension will require a modification to PA 07_0018 and renewal of the mining leases.

8.3.2 Decommissioning

i Site security

The site is fenced with security fencing around the active mining areas with several electronically activated gates to ensure only approved personnel and contractors can access the site.

Decommissioning will not commence until mining and process has been completed. It is envisaged that a core workforce and contractors would be retained/engaged to implement the rehabilitation and closure phases of the project.

It is envisaged that key administration buildings, ablution facilities and workshops would remain during the rehabilitation phase of the project for BHOP and contractor personnel.

ii Infrastructure to be removed or demolished

It is envisaged that key administration buildings, ablution facilities and workshops would remain during the rehabilitation phase of the project for BHOP and contractor personnel.

The only infrastructure envisaged to remain will be unsealed access tracks for rehabilitation monitoring and maintenance and access for other infrastructure owners (e.g. Vodaphone).

Following further consultation with relevant agencies, including DPE and the RR, underground mining equipment that is uneconomical to recover may remain underground. Subject of appropriate risk assessment to determine the equipment present no risk to future or neighbouring land uses.

Mine and ventilation shafts will be sealed and capped in accordance with regulatory requirements.

Concrete from slabs and foundations is expected to be broken up and used as inert rock to cover free areas to minimise lead dust emissions.

Infrastructure to be demolished and removed is detailed in Section 3.4.1i.

iii Management of contaminated material

A summary of contaminated land remediation works undertaken by NML prior to BHOP commencing operations is detailed in Section 4.6.

a Regulatory framework

The site has known and potential sources of contamination which may impact the environment or human health receptors for final land use domains. To ensure risk to receptors is understood and mitigated the site will require contaminated site investigations completed in accordance with:

- NSW *Contaminated Land Management Act 1997* ('CLM Act')
- NSW *Protection of the Environment Operations Act 1997* ('POEO Act')

- NSW *Environmental Planning and Assessment Act 1979* ('EP&A Act') and State Environmental Planning Policy (Resilience and Hazards) 2021

Applicable guidelines which should be used to support any contamination assessments include:

- Australian and New Zealand Environment and Conservation Council and the National Health and Medical Research Council (1992) *National Water Quality Management Strategy - Australian Water Quality Guidelines for Fresh and Marine Waters*, as updated in 2018 by the Australian and New Zealand Governments (ANZG 2018)
- National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013, including 20 Schedules and Appendices (B1 to B9), and the NEPM Toolbox, updated April 2014 (the ASC NEPM)
- NSW EPA (2022) *Sampling Design (Parts 1 and 2)*
- NSW EPA (2014) *Waste Classification Guidelines Part 1: Classifying Waste*
- NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme*
- NSW EPA (2020) *Guidelines for Consultants Reporting on Contaminated Sites*.

b Areas of known or likely or potential contamination

Potential sources of contamination at the Site include:

- water management areas containing heavy metal run off and sediments
- storage, handling and dispensing of hydrocarbons and chemicals
- roads and tracks where non-inert rock was used for construction and/or sheeting purposes
- processing and handling areas of ores
- historical processing, waste and tailings storage areas.

c Scope of contamination studies

A Stage 1 PSI will be completed in accordance with the ASC NEPM to assess if potential source-pathway-receptor linkages may be present at the site. Due to the understanding of existing sources of contamination it is likely that a Stage 2 DSI will be required to quantify potential ecological and human health risk. If contamination is present at levels which pose an unacceptable risk a remediation action plan (RAP) will be required. This stage should be integrated into the overall mine closure design where encapsulation, on-site treatment, in situ or bioremediation may form part of the overall closure approach. Where remediation is completed validation sampling will be required in accordance with the ASC NEPM and the NSW EPA guidelines.

All contamination investigations will be completed by an appropriately qualified contamination consultant.

d Potential remediation strategies

Any contaminated sediments and rock will be excavated and either disposed of underground or transported to the TSF3 for capping. Any hydrocarbon contaminated soil will be bioremediated on site.

iv Hazardous materials management

Hazardous and dangerous goods currently used on site are detailed in Table 8.3 and Table 8.4 on the following pages.

Any quantities of these materials that are on site post rehabilitation will be disposed of lawfully.

Table 8.3 Dangerous goods quantities

Common name	Proper shipping name	ID or code no.	Type of storage facility	Max storage capacity (L)	Typical quantity (L)	UN number	ADG class	PG
Reagent shed	Corrosive Liquid, Acidic, Organic, N.O.S (Contains Phosphoric Acid)	BD01	Roofed Store	5,000	5000	Mixed	4.2, 8, 9 Combustible Liquid	II or III
	Caustic Alkali Liquid, N.O.S			2,000	2000			
	Corrosive Liquid, N.O.S.			8,000	8000			
	Xanthates (Marine Pollutant)			34,000 kg	34,000 kg			
Filter shed	Corrosive Liquids, N.O.S. (dithiophosphate salt)	BD02	Enclosed Roof Store	4,000	4,000	1,760	8	II
SEX Mixing Tank	Corrosive Liquid, Toxic, N.O.S.	TK03	Process Mixing	10,000	8,000	2,922	8 (6.1)	III
SEX Head Tank		TK04	Above Ground Tank	1,000	1,000	2,922	8 (6.1)	III
Copper Sulphate Mixing Tank	Environmentally Hazardous Substance, Liquid, N.O.S. - (Contains Copper Sulphate)	TK05	Process Mixing	10,000	8,000	3,082	9	III
Copper Sulphate Storage Tank		TK14	Above Ground Tank	10,000	8,000	3,082	9	III
Copper Sulphate Head Tank		TK06	Above Ground Tank	1,000	1,000	3,082	9	III
SMBS Mixing Tank	Bisulphites, Aqueous Solution, N.O.S.	TK07	Process Mixing	10,000	8,000	2,693	8	III

Table 8.4 Surface dangerous goods manifest

Product name	Location	Maximum quantity	UN number	A.D.G. class	Hazchem code	Packing group
EXPLOSIVE, BLASTING, TYPE B	SURFACE-MAG-01	3,000 KG	0082	1.1D	N/A	N/A
EXPLOSIVE, BLASTING, TYPE E	SURFACE-MAG-01	1,000 KG	0241	1.1D	N/A	N/A
BOOSTERS without detonator	SURFACE-MAG-01	500 KG	0042	1.1D	N/A	N/A

Table 8.4 Surface dangerous goods manifest

Product name	Location	Maximum quantity	UN number	A.D.G. class	Hazchem code	Packing group
CORD, DETONATING, flexible	SURFACE-MAG-01	1,500 M	0065	1.1D	N/A	N/A
CHARGES, SHAPED without detonator	SURFACE-MAG-01	20 Units	0059	1.1D	N/A	N/A
DETONATORS, ELECTRIC for blasting	SURFACE-MAG-02	6,000 Units	0030	1.1B	N/A	N/A
DETONATORS, ELECTRIC for blasting	SURFACE-MAG-02	500 Units	0456	1.4S	N/A	N/A
DETONATORS, NON ELECTRIC for blasting	SURFACE-MAG-02	6000	0360	1.1B	N/A	N/A
SUBTEK CHARGE (Ammonium Nitrate Emulsion)	SURFACE-MAG-03	25,000 KG	0241	1.1D	5.1	N/A
DIESEL	TK-01	61,900 L	00C1	C1	3Z	N/A
DIESEL	TK-02	61,900 L	00C1	C1	3Z	N/A
EXPLOSIVE, BLASTING, TYPE B	UG-MAG-01	22,000 KG	0082	1.1D	N/A	N/A
EXPLOSIVE, BLASTING, TYPE E	UG-MAG-01	5,000 KG	0241	1.1D	N/A	N/A
BOOSTERS without detonator	UG-MAG-01	1,000 KG	0042	1.1D	N/A	N/A
CORD, DETONATING, flexible	UG-MAG-01	5,000 M	0065	1.1D	N/A	N/A
CHARGES, SHAPED without detonator	UG-MAG-01	0 Units	0059	1.1D	N/A	N/A
DETONATORS, ELECTRIC for blasting	UG-MAG-02	6,000 Units	0030	1.1B	N/A	N/A
DETONATORS, ELECTRIC for blasting	UG-MAG-02	500 Units	0456	1.4S	N/A	N/A
DETONATORS, NON ELECTRIC for blasting	UG-MAG-02	6,000 Units	0360	1.1B	N/A	N/A
SUBTEK CHARGE (Ammonium Nitrate Emulsion)	UG-MAG-03	25,000 KG	0241	1.1D	5.1	N/A

v Underground infrastructure

Key underground infrastructure includes:

- a spiral decline that extends from the surface to the bottom of the mine (approximately 700 m)
- ventilation shafts:
 - 1 x exhaust
 - 3 x intake (No.7 Shaft, No.6 Shaft, Delprat's Shaft)
- associated compressors, pump stations, ventilation fans, crib room, toilets and electrical infrastructure.

A detailed shaft and decline sealing design have yet to be prepared for the Rasp Mine. Detailed designs will be prepared prior to mine closure to ensure final land use objectives are achieved.

Prior to decommissioning BHOP will recover equipment from the mine where viable to do so as well as materials that could result in groundwater contamination.

Underground pumps would be turned off and over time and it is expected that groundwater levels would slowly fill back to pre-mining levels. A groundwater model is currently being prepared to determine the rate of inflow, final levels, and water quality.

All the associated above ground infrastructure would be demolished and removed, sold for re-use, or scrapped.

The shafts and decline would be capped to permit a mining heritage final land use.

A detailed capping design will be prepared at an appropriate time closure to schedule closure.

8.3.3 Landform establishment

i Water management infrastructure

All water management infrastructure apart from evaporation ponds/dams and TSF spillways will be rehabilitated. The final landform design will aim to convert many of the diversion bunds constructed by NML in the 1990's from concentrated flows to sheet flows to reduce the erosion potential of runoff.

This will include treating and discharging any stored water in accordance with the EPL and excavating any contaminated sediment for disposal in the TSF3.

The dam walls and drain banks would be pushed back into their excavation and reshaped to approximate pre-mining landforms and re-establish sheet flow conditions.

Rehabilitated water management infrastructure would be capped with inert waste rock to minimise erosion and lead dust emissions.

ii Final landform construction: general requirements

The bulk of the landforms at Rasp Mine are the result of historical mining operations and approved rehabilitation works undertaken by NML as previously detailed. The key changes to the existing landforms at Rasp Mine include:

- backfilling Kintore Pit with waste rock and tailings
- partial backfilling of Little Kintore Pit
- partial backfilling of BHP Pit with waste rock

- backfilling of Blackwoods Pit with tailings
- excavation and then partial backfilling of a Box Cut for new access for underground mining operations to allow Kintore Pit to be used for dry tailings storage.

iii Final landform construction: reject emplacement areas and tailings

a Kintore Pit (TSF 3)

With an anticipated extended mine life, the Kintore Pit will be completely backfilled with tailings and waste rock and then capped with inert waste rock to form a gently sloping domed landform with slopes ranging from 3.28–6.7%. The finished surface will be a rough surface inert waste rock with 1–2% (Figure 3.5).

Surface drainage of the capped landform will be toward a stormwater detention pond in the partially backfilled Little Kintore Pit.

b Little Kintore Pit

Little Kintore Pit will be partially backfilled with waste rock from the excavation of the Box Cut to form a shallow stormwater detention pond designed to capture runoff from the capped Kintore Pit landform Figure 3.5 where it would either evaporate or seep into the floor of the backfilled pit.

The finished surface will be a rough surface inert waste rock with 1–2% fines.

c Box Cut

Following cessation of underground operations, removal of all infrastructure and plugging and capping of the portal, the Box Cut will be partially backfilled with waste rock then capped with inert waste rock to form a stormwater detention pond (Figure 3.7). Surface water contained in the stormwater detention pond would be expected to evaporate or seep to ground water.

The finished surface will be a rough surface of inert waste rock with 1–2% fines.

The sides of the Box Cut above the backfilled surface will be exposed in-situ rock.

d Blackwood Pit (TSF2)

During the final stages of mining and processing, tailings would cease to be excavated from TSF 2, and deposited tailings would be used to fill the cells within TSF2 leaving with finished tailings surface with a 1% gradient from west to east (Figure 3.7).

The surface of the TSF2 would be covered progressively with screened inert waste rock capillary break layer 200 mm thick followed inert run of mine waste rock layer 300 mm thick. The finished surface will be a rough surface of inert waste rock with 1–2% fines with a formal engineered spillway in the south-eastern corner be designed and constructed in accordance ANCOLD 2019 and the ICMM 2020 Global Tailings Standard.

e Horwood Tailings Dam (TSF1)

Rehabilitation of the Horwood Tailings Dam (TSF1) was undertaken by NML and subsequently approved by the then DMR (NML 2000). Minor modification to the surface of TSF1 is proposed to divert overland flow away from the angle of repose batter on the north-eastern side of TSF1 to the north-west to the S22 evaporation ponds and ultimately to Little Kintore Pit (Plan 2). This will significantly reduce the potential for erosion of the angle of repose TSF1 north-eastern wall and the volume of water that flows into Horwood Dam and potentially off-site.

The regraded surface will have a gently graded surface grading from the north-east to north-west and it will be covered with inert waste rock in addition to the existing slag if required (Plan 2).

f Existing waste rock dumps

No new waste rock dumps have been created by BHOP other than for backfilling existing pits. Existing waste rock dumps (free areas) will be capped with inert waste rock to minimise dust emissions and the angle of repose batters will be rock mulched if required for erosional stability.

Reshaping of the Horwood waste dump batters will be undertaken to reduce the potential for erosion and to assist the diversion of flow away from the angle of repose waste rock dumps (Plan 2).

The reshaped dump will be capped with inert waste rock for erosion and lead dust control.

iv Final landform construction: Box Cut and Processing Plant

a Box Cut

Following cessation of underground operations, removal of all infrastructure and the capping of the portal, the Box Cut will be partially backfilled with waste rock then capped with inert waste rock to form a stormwater detention pond (Figure 3.7). Surface water contained in the stormwater detention pond would be expected to evaporate or seep to ground water.

The finished surface will be a rough surface of inert waste rock with 1–2% fines.

The sides of the Box Cut above the backfilled surface will be exposed in-situ rock.

b Processing Plant

Minor reshaping of the internally draining landforms will be required once the processing plant has been removed for safety and erosional stability. The reshaped landforms will be capped with inert waste rock for erosion and lead dust control (Plan 2).

v Final landform construction: BHP Pit

The BHP Pit will be partially backfilled with waste rock. The pit cannot be completely backfilled due to existing heritage items however approval to completely backfill the pit may be sought in a future modification to the Project Approval. A perimeter bund will be constructed around the pit rim for safety.

The pit will be used for evaporation of surface runoff.

8.3.4 Growth medium development

As detailed in Section 4.4, historical mining has buried any topsoil and subsoil resources that could be used for revegetation purposes. An investigation is currently being undertaken to determine if it is viable to manufacture suitable growth mediums from green waste produced in Broken Hill. Until the outcome of that study is known, BHOP's position is to cover rehabilitated landforms with inert waste rock for erosion control and to reduce the generation of lead dust.

8.3.5 Ecosystem and land use establishment

Not applicable as vegetative rehabilitation is not viable or proposed as detailed in Section 4.4.

8.3.6 Ecosystem and land use development

Not applicable as vegetative rehabilitation is not viable or proposed as detailed in Section 4.4.

8.4 Rehabilitation of areas affected by subsidence

Coffey Mining (Coffey 2007) analysis of the potential for caving in the Western Mineralisation found that the most critical type of failure mode from vertical (piping), diverging (outwards) and converging (inward) was converging. However, this is unlikely to propagate to a great extent before the void can support the span and vertical failure is the most likely critical failure mode.

The analysis shows that a stope failure is not expected to propagate through to the surface and significant surface subsidence is not expected above the stopes. The analysis estimates some hanging wall failures with the currently estimated rock mass properties and the open stope geometry proposed. However, these failures are expected to be localised and are not expected to result in continuous caving to the surface. The presence of a more competent Potosi Gneiss unit above the stope hanging walls will restrict any failure from propagating upwards assuming the unit is always above the stopes.

After extensive analysis Coffey Mining concluded that any stope failure (no matter how unlikely) would not propagate through to the surface and therefore significant surface subsidence is not predicted above the stopes.

If subsidence did occur, then appropriate rehabilitation measures would be developed depending on the nature, extent and location of the subsidence.

9 Review and implementation

This strategy will be reviewed and if necessary, amended if required in accordance with Schedule 4, Condition 4 of PA 07_0018 if any of the following arise:

- submission of an annual review under Schedule 4, Condition 3 PA 07_0018
- submission of an incident report under Schedule 4, Condition 5 of PA 07_0018
- submission of an audit report under Schedule 4, Conditions 7-8A of PA 07_0018
- any modifications of the conditions of approval (unless the conditions require otherwise)
- a direction of the Secretary under Schedule 2, Condition 4 of PA 07_0018
- changes to rehabilitation objectives and completion criteria
- changes to the proposed rehabilitation landforms or key rehabilitation methods
- changes to the identified risk or associated control measures.

References

- Allen M,F,. 2007, Mycorrhizal fungi: Highways for water and nutrients in arid soils, In: Vadose Zone Journal, Volume 6, Number 2 May 2007.
- ANCOLD, 2019 *Guidelines on Tailings Dams – Planning, Design, Construction, Operation and Closure Revision 1*
- ANZECC & ARMCANZ, 2000 Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Environment and Conservation Council and Agricultural and Resource
- BHOP, 2011 *Rasp Mine Mining Operations Plan 1 October 2021 – 30 September 2023*
- BHOP, 2019 *Rasp Mine Site Water Management Plan*
- BHOP, 2021 *Modification Report (MOD 6) Kintore Pit TSF3*
- Coffey, 2007 *CBH Resources Ltd Rasp Underground Mine – Subsidence Study*. Prepared for BHOP 2 November 2007
- DMR, 1993 *Review of Mining Rehabilitation and Environmental Management Plan, Consolidated Mining Lease No. 7 Broken Hill MMM South Mine – Poseidon Mining Investments* 25 March 1993
- DMR, 1995 *cml 7 – 1995 MREMP Review Minutes of meeting held on Wednesday 18th of October 1995*
- EMM, 2022 *Rasp Mine Waste Rock Management Strategy*
- ERM 2021, *Long term geochemical degradation assessment of waste rock MOD 6 waste rock management, Rasp Mine*. Prepared for BHOP 16 March 2021
- DPI-Lands, 2016 *Broken Hill, Line of Lode Precinct Master Plan*
- Golder, 2021 *Rasp Mine – Tailings and Waste Rock Management for MOD 6*. Prepared for BHOP June 2021
- GCE, 2019 *Kintore Open Pit, slope stability analysis of existing in-pit waste rock dump, during tailings placement*. Prepared for BHOP 20 August 2019
- GCE, 2019a *Kintore Open Pit, slope stability analysis of pit slope comprising historic tailings*. Prepared for BHOP 20 August 2019
- GCE, 2021 *Geotechnical assessment of the Rasp Mine Box Cut*. Prepared for BHOP 26 July 2021
- HillPDA, 2022 *Rasp Mine Rehabilitation Strategy Preliminary Socio-Economic Impact Assessment* prepared for Broken Hill Operations Pty Ltd
- Howard, E., and Loch, R.J, 2019 *Acceptable erosion rates for mine waste landform rehabilitation modelling in the Pilbara, Western Australia*
- ICMM, 2020 *Global Industry Standards on Tailings Management*
- Kirby, M.J., 1969 *Erosion by water on hillslopes in Water, earth and man* ed. R.J. Chorley
- Mine Earth, 2021 *Rasp Mine Dust Management Options Assessment*. Prepared for BHOP July 2021
- Nichols KA 2008, Indirect contributions of arbuscular mycorrhizae fungi and soil aggregation to plant growth and protection. In *Mycorrhizae: Sustainable Agriculture and Forestry*, edited by Siddiqui, Z.A., Akhtar, S. & Futai, K. Springer: Dordrecht. pp. 177–194.
- NML, 2000 *Closure Report CML7 South Mine, Broken Hill*
- NSW Resource Regulator 2021, *Form and Way: Rehabilitation management plan for large mines, Revision 1, 2 July 2021*. State of New South Wales.

NSW Resource Regulator 2021a, *Form and way: Rehabilitation objectives, rehabilitation completion criteria and final landform and rehabilitation plan for large mines*, Revision 1, 2 July 2021. State of New South Wales.

Pacific Environment Ltd, 2017 *Rasp Mine Waste Rock Classification*. Prepared for BHOP 20 March 2017

Solamain, Z.M., Blackwell P., Abbott L.K., and Storer P., 2010, *Direct and residual effect of biochar application on mycorrhizal root colonisation, growth and nutrition of wheat*. *Soil Research* 48, Pp 546–554.

SGS Economics and Planning, 2020 *Economic inputs into Broken Hill Cultural Study*

Appendix A

Approvals

A.1 Mining tenements

INSTRUMENT OF RENEWAL

LEASE: Consolidated Mining Lease No 7 (Act 1973)

HOLDER: Broken Hill Operations Pty Ltd

DATE OF LEASE: 8 October 1987

EXPIRY DATE OF LEASE: 31 December 2005

PERIOD OF RENEWAL UNTIL: 31 December 2026

AREA: 342.66 hectares
AS SHOWN BY PLAN NO D6199

DEPTH RESTRICTION: Various as shown on Plan No D6199 R

SURFACE EXCEPTION: Various as shown on Plan No D6199 R

MINERALS: Antimony, arsenic, barite, beryllium minerals, bismuth, cadmium, calcite, clay/shale, cobalt, copper, dimension stone, feldspathic materials, fluorite, garnet, germanium, gold, graphite, iron minerals, lead, limestone, manganese, mercury, molybdenite, nickel, selenium, silver, structural clay, sulphur, tin, tourmaline, tungsten and its ores, vanadium, zinc.

And those mining purpose as specified in Schedule 2, attached to this instrument

ROYALTY PAYABLE: at the rate which, from time to time, may be prescribed.

AMENDMENTS TO THE CONDITIONS OF THE LEASE:

- (a) All the Conditions contained in the lease prior to the renewal have been deleted.
- (b) The lease is now subject to the attached Mining Lease Conditions 2004 numbered:

1 to 3 (inclusive), 5 to 34 (inclusive)

Condition Nos. 2, 3, 13 – 22 (inclusive), are identified as conditions relating to environmental management for the purposes of Sections 125(3) and 374A of the Mining Act 1992.

Attachments

Schedule of Lease referred to in the annexes Consolidation Mining Lease No7 under the Mining Act, 1973

Schedule No. 2 - Details of Lands and Purposes

Copy of Plan number D6199 R

Coloured Copy of Plan number D6199 R in reference to Condition 33

We, Broken Hill Operations Pty Ltd (ACN 054 920 893), hereby accept the renewal of this Lease and agree to be bound by the conditions specified.

GREG JONES
GENERAL MANAGER
- GEOLOGY

[Signature]
.....
Broken Hill Operations Pty Ltd (ACN 054 920 893)

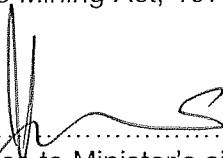
Renewed this *17th* day of *January* 200*7*

[Signature]
.....
by delegation from the Minister.

Schedule of Leases included in Consolidated Mining Lease No 7 (Act 1973)

Schedule 1

This page and the succeeding pages are the schedule of leases and referred to in the annexed Consolidated Mining Lease No. 7 under the Mining Act, 1973, granted eighth day of October 1987.


.....
Witness to Minister's signature

Mineral Lease No 2357 (Act 1874)
Mineral Lease No 2358 (Act 1874)
Mineral Lease No 2361 (Act 1874)
Mineral Lease No 2368 (Act 1874)
Mineral Lease No 2371 (Act 1874)
Mineral Lease No 2630 (Act 1874)
Mineral Lease No 9113 (Act 1874)
Mineral Lease No 9114 (Act 1874)

Mineral Lease No 4807 (Act 1906)
Mineral Lease No 4808 (Act 1906)
Mineral Lease No 4809 (Act 1906)
Mineral Lease No 4810 (Act 1906)
Mineral Lease No 4874 (Act 1906)
Mineral Lease No 4875 (Act 1906)
Mineral Lease No 4933 (Act 1906)
Mineral Lease No 4934 (Act 1906)
Mineral Lease No 4952 (Act 1906)
Mineral Lease No 5456 (Act 1906)
Mineral Lease No 5613 (Act 1906)
Mineral Lease No 5841 (Act 1906)
Mineral Lease No 5597 (Act 1906)
Mineral Lease No 6079 (Act 1906)
Mineral Lease No 6113 (Act 1906)
Mineral Lease No 6115 (Act 1906)
Mineral Lease No 6116 (Act 1906)
Mineral Lease No 6137 (Act 1906)
Mineral Lease No 6160 (Act 1906)
Mineral Lease No 6167 (Act 1906)
Mineral Lease No 6264 (Act 1906)
Mineral Lease No 6284 (Act 1906)
Mineral Lease No 6403 (Act 1906)

Mining Purposes Lease No 597 (Act 1906)
Mining Purposes Lease No 607 (Act 1906)
Mining Purposes Lease No 1238 (Act 1906)

Private Lands Lease No 3711 (Act 1906)
Private Lands Lease No 3712 (Act 1906)
Private Lands Lease No 3787 (Act 1906)
Mining Lease No 41 (Act 1973)

Mining Lease No 47 (Act 1973)
Mining Lease No 70 (Act 1973)
Mining Lease No 443 (Act 1973)
Mining Lease No 535 (Act 1973)
Mining Lease No 610 (Act 1973)
Mining Lease No 687 (Act 1973)
Mining Lease No 946 (Act 1973)

Mining Purposes Lease No 120 (Act 1973)
Mining Purposes Lease No 158 (Act 1973)
Mining Purposes Lease No 177 (Act 1973)
Mining Purposes Lease No 187 (Act 1973)
Mining Purposes Lease No 188 (Act 1973)
Mining Purposes Lease No 189 (Act 1973)
Mining Purposes Lease No 190 (Act 1973)
Mining Purposes Lease No 208 (Act 1973)

Schedule No 2

This page and the succeeding pages is the schedule No. 2 and referred to in the annexed Consolidated Mining Lease No. 7 under the Mining Act, 1973, granted eighth day of October 1987.

.....
Witness to Minister's signature

Details of Lands, Purposes and Depths

Lands	Purposes	Depth Restriction
Shown on plan M18388 previously being Mining Purpose Lease 597 (Act 1906)	<ol style="list-style-type: none">1. Constructing, maintaining or using in connection with mining or mining purposes a building, dam or any machinery.2. The dumping or depositing of any ore, mineral, mine residues or tailings.	The surface and the soil below thereof to a depth of 15.24 metres.
Shown on plan M18466 previously being Mining Purpose Lease 607 (Act 1906)	<ol style="list-style-type: none">1. Constructing, maintaining or using in connection with mining or mining purposes a building or any machinery.2. The treatment of tailings, water or a mineral bearing substance for the extraction or obtaining of any mineral therefrom.	The surface and the soil below thereof to a depth of 15.24 metres.
Shown on plan M22229 previously being Mining Purpose Lease 1238 (Act 1906)	<ol style="list-style-type: none">1. Constructing, maintaining or using in connection with mining or mining purposes a building, electricity transmission line, pipeline, railway, road or any machinery/2. The treatment of tailings, water or a mineral bearing substance for the extraction or obtaining of any mineral therefrom.3. The generation of electricity for use in connection with mining or mining purposes.4. The dumping or depositing of any ore, mineral, mine residues or tailings.5. Erecting dwellings for the use of persons employed on or about the mine or on or about land subject to a lease for mining purposes.	The surface and the soil below thereof to a depth of 76.20 metres.

Lands	Purposes	Depth Restriction
Shown on plan D1731 previously being Mining Purpose Lease 120 (Act 1973)	<ol style="list-style-type: none"> 1. Constructing, maintaining or using in connection with mining or mining purposes a road or any machinery. 2. The dumping or depositing of any ore, mineral, mine residues or tailings. 3. The storing of fuel, machinery or equipment in connection with mining or mining purposes. 	The surface and the soil below thereof to a depth of 10 metres.
Shown on plan D1732 previously being Mining Purpose Lease 158 (Act 1973)	<ol style="list-style-type: none"> 1. Constructing, maintaining or using in connection with mining or mining purposes a drain. 2. The dumping or depositing of any ore, mineral, mine residues or tailings. 3. The storing of fuel, machinery or equipment in connection with mining or mining purposes. 	The surface and the soil below thereof to a depth of 10 metres.
Shown on plan D3815 previously being Mining Purpose Lease 177 (Act 1973)	<ol style="list-style-type: none"> 1. Constructing, maintaining or using in connection with mining or mining purposes a shaft. 	The surface and the soil below thereof to a depth of 20 metres.
Shown on plan D3564 previously being Mining Purpose Lease 187 (Act 1973)	<ol style="list-style-type: none"> 1. The treatment of tailings, water or a mineral bearing substance for the extraction or obtaining of any mineral therefrom. 2. The dumping or depositing of any ore, mineral, mine residues or tailings. 	The surface and the soil below thereof to a depth of 10 metres.
Shown on plan D3565 previously being Mining Purpose Lease 188 (Act 1973)	<ol style="list-style-type: none"> 1. The treatment of tailings, water or a mineral bearing substance for the extraction or obtaining of any mineral therefrom. 2. The dumping or depositing of any ore, mineral, mine residues or tailings. 	The surface and the soil below thereof to a depth of 10 metres.
Shown on plan D3566 previously being Mining Purpose Lease 189 (Act 1973)	<ol style="list-style-type: none"> 1. The treatment of tailings, water or a mineral bearing substance for the extraction or obtaining of any mineral therefrom. 2. The dumping or depositing of any ore, mineral, mine residues or tailings. 	The surface and the soil below thereof to a depth of 10 metres.
Shown on plan D2322 previously being Mining Purpose Lease 190 (Act 1973)	<ol style="list-style-type: none"> 1. The treatment of tailings, water or a mineral bearing substance for the extraction or obtaining of any mineral therefrom. 2. The dumping or depositing of any ore, mineral, mine residues or tailings. 	The surface and the soil below thereof to a depth of 10 metres.
Shown on plan D1730 previously being Mining Purpose Lease 208 (Act 1973)	<ol style="list-style-type: none"> 1. Constructing, maintaining or using in connection with mining or mining purposes a dam and road. 2. The dumping or depositing of any ore, mineral, mine residues or tailings. 3. The treatment of tailings, water or a mineral bearing substance for the extraction or obtaining of any mineral therefrom. 	The surface and the soil below thereof to a depth of 10 metres.

MINING LEASE CONDITIONS 2004 -CML 7 (73)

Notice to Landholders

1. Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.

If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.

Mining, Rehabilitation, Environmental Management Process (MREMP)

2. Mining Operations Plan

- (a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries – Mineral Resources.
- (b) The MOP must:
 - identify areas that will be disturbed by mining operations;
 - detail the staging of specific mining operations;
 - identify how the mine will be managed to allow mine closure;
 - identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;
 - reflect the conditions of approval under:
 - the Environmental Planning and Assessment Act 1979
 - the Protection of the Environment Operations Act 1997
 - and any other approvals relevant to the development including the conditions of this lease; and
 - have regard to any relevant guidelines adopted by the Director-General.
- (c) The titleholder may apply to the Director-General to amend an approved MOP at any time.
- (d) It is a defence to a breach of this condition if:
 - i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the *Mining Act 1992*, the *Environmental Planning and Assessment Act 1979*, *Protection of the Environment Operations Act 1997* or the *Occupational Health and Safety Act 2000*; and

- ii) the Director-General had been notified of the terms of the order or direction prior to the operations constituting the breach being carried out.

Note: The Director-General is deemed to be notified of the terms of an order or direction if the order or Direction was issued by the Department or a copy of the order or direction has been faxed to 02 4931 6790.

- (e) A MOP ceases to have affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition (c) does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.

Annual Environmental Management Report (AEMR)

3. Reporting

- (a) The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.

- (b) The EMR must:

- report against compliance with the MOP;
- report on progress in respect of rehabilitation completion criteria;
- report on the extent of compliance with regulatory requirements; and
- have regard to any relevant guidelines adopted by the Director-General;

Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.

Working Requirement

5. The lease holder must: expend on operations carried out in the course of prospecting or mining the lease area, an amount of not less than \$100,000 per annum whilst the lease is in force.

The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed.

Control of Operations

6. (a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:-
 - (i) cease working the lease; or

- (ii) cease that part of the operation not complying with the Act or conditions;

until in the opinion of the Environmental Officer the situation is rectified.

- (b) The lease holder must comply with any direction given. The Director-General may confirm, vary or revoke any such direction.
- (c) A direction referred to in this condition may be served on the Mine Manager.

Reports

- 7. The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:
 - (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;
 - (b) Details of expenditure incurred in conducting that exploration;
 - (c) A summary of all geological findings acquired through mining or development evaluation activities;
 - (d) A statement of the ore and mineral reserves
 - (e) Particulars of exploration proposed to be conducted in the next twelve months period;
 - (f) All plans, maps, sections and other data necessary to satisfactorily interpret the report.

Licence to Use Reports

- 8. (a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.
- (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.

Confidentiality

- 9. (a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:

- (i) the lease holder has agreed that specified reports may be made non-confidential.
- (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.
- (b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.
- (c) The Director-General may extend the period of confidentiality.

Terms of the non-exclusive licence

10. The terms of the non-exclusive copyright licence granted under condition 8 (a) are:
- (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports.
 - (b) the Minister and any sub-licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.
 - (c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.
 - (d) there is no royalty payable by the Minister for the licence.
 - (e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.

Safety

12. Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.

Rehabilitation

13. Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.

Exploratory Drilling

15. (1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.
- (2) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:-
 - (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;
 - (b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;
 - (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;
 - (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;
 - (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.
 - (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.
 - (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.

Transmission lines, Communication lines and Pipelines

17. Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.

Fences, Gates

18. (a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate.
- (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.

Roads and Tracks

19. (a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate.
- (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.
20. Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Natural Resources.

Use of Mercury or Cyanide

22. The lease holder must not use mercury or cyanide or any solution containing cyanide for the recovery of minerals on the lease area without the prior written approval of the Minister and subject to any conditions he may stipulate.

Resource Recovery

23. (a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.
- (b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.
- (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.
- (d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.
- (e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.
- (f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.

Indemnity

24. The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.

Single Security

25. (a) A security in the sum of \$250,000.00 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under Consolidated Mining Lease No 7 (Act 1973), Mining Purposes Lease Nos 183, 184, 185 and 186 (Act 1973)). If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.
- (b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:
- (i) cash,
 - (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.

SPECIAL CONDITIONS

General

26. In respect of the area shown on Catalogued Plan No M8388 the registered holder shall not conduct any mining operations other than diamond drilling between the depths of 15.24 metres and 76 metres below the surface unless with the consent of the Minister first and subject to such conditions as may be stipulated.
27. In respect of the area shown on Catalogued Plan No M2193 the registered holder shall ensure that mining operations are conducted in such a manner as not to interfere with the stability of any railway line traversing the area and the registered holder shall adhere to any direction to this affect which may be given from time to time by the Minister.
28. The registered holder shall not deposit any refuse or waste rock on the dumps located on the areas indicated by Catalogue Plan Nos D3564, D3565, D3566 and D2322 unless authorised by the Minister and subject to such conditions as may be stipulated.
29. (a) Notwithstanding that the registered holder shall have complied with conditions numbered 30 to 32 (inclusive) the registered holder shall pay to the public authority the cost incurred by such public authority of making good any damage caused by operations carried on by or under the authority of the registered holder or any person claiming through or under the registered holder.

(b) AND THE REGISTERED HOLDER HEREBY COVENANTS with the said public authority that the registered holder will pay to the said public authority the cost incurred by the public authority of making good any such damage caused as aforesaid.

AND IT IS HEREBY AGREED AND DECLARED that the amount to be paid by the registered holder under the provisions of this clause shall include in addition to the cost of all necessary labour and materials all costs and expenses reasonably incurred in and about the making of surveys the preparation of plans and specifications and estimates the supervision and inspection of the works and all administrative and overhead costs and expenses of the public authority as the case may be related or attributable to the works undertaken to make good any damage caused. A certificate under the hand of the public authority as to the amount of the cost of making good any damage shall in all respects and for all purposes be conclusive evidence of the amount of such cost and of the due determination thereof.

Catchment Areas and Reserves

30. (a) If the registered holder is using or about to use any process which in the opinion of the Minister is likely to cause contamination of the waters of Stephen's Creek Catchment Area the registered holder shall refrain from using or cease using as the case may require such process within twenty four hours of the receipt by the registered holder of a notice in writing under the hand of the Minister or the Director General requiring the registered holder so to do.
 - (b) The registered holder shall comply with any regulations now in force or hereafter to be in force for the protection from pollution of the said Catchment Area.
 - (c) The registered holder shall not erect nor permit to be erected any dwellings unless with the consent of the Minister or Country Energy-Water and subject to such conditions as may be stipulated.
 - (d) The registered holder shall make such provisions for sanitation as may be approved by Country Energy-Water and shall at all times observe and perform any requirements of the said Country Energy-Water respecting sanitation.
31. Operations shall be conducted in such a manner as not to interfere with or cause damage to the assets of Country Energy-Water situated on or around the subject area.
 32. The registered holder shall as far as may be practicable so conduct operations as not to interfere in any way with the public use and enjoyment of Reserve No 2421 for Temporary Common; Reserve No 69262 from Sale for future Public Requirements, Reserve No 3073 from Sale for Public Recreation and Reserve No 30905 for Quarry.

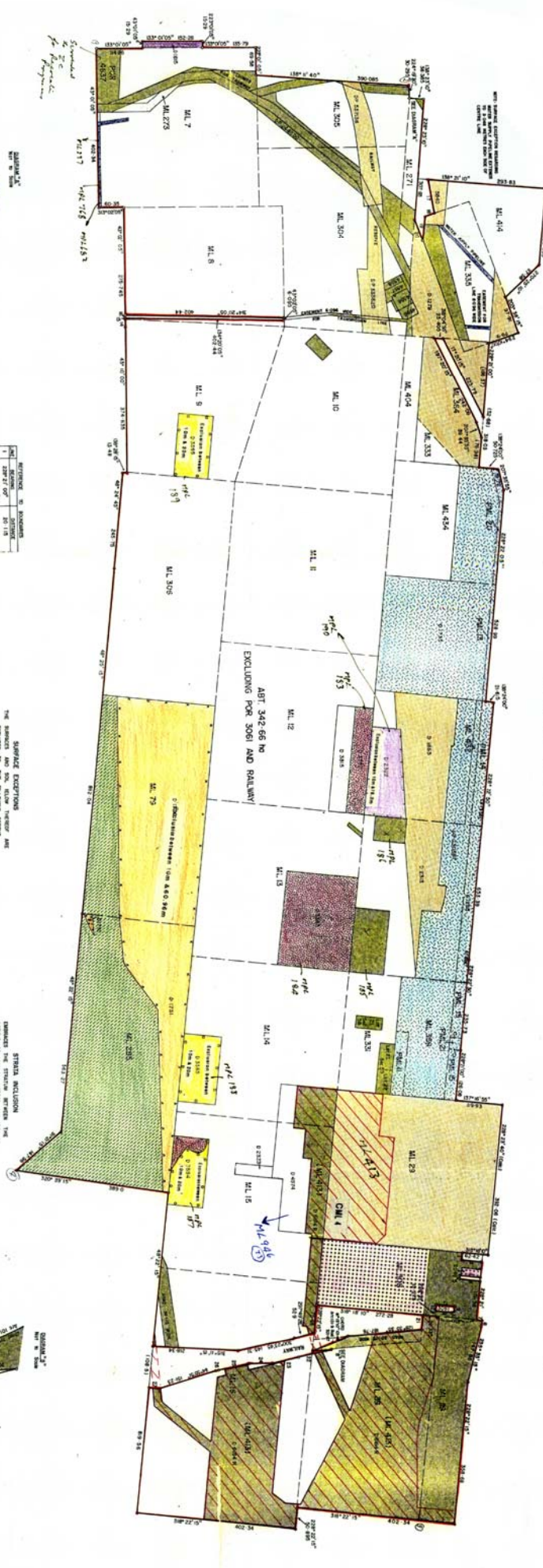
Prospecting/Mining Restriction

33. The registered holder must not prospect or mine any mineral on the surface of the areas shown by:-
 - a) Yellow tint on the plan annexed hereto of below the surface thereof to a depth of 10 meters;
 - b) Blue tint on the plan annexed hereto of below the surface thereof to a depth of 15.24 meters;
 - c) Red tint on the plan annexed hereto of below the surface thereof to a depth of 20 meters;

- d) Green tint on the plan annexed hereto of below the surface thereof to a depth of 76.20 meters;
34. Subject to the requirements of any order issued pursuant to section 75 of the Mining Act (1992):
- (a) the registered holder shall not, unless with the written approval of the Minister and subject to such conditions as he may impose, carry out a mining purpose on the lands described in column 1 of the Schedule numbered 2 annexed hereto other than a mining purpose specified opposite that description in column 2 of that schedule;
 - (b) the registered holder shall not carry out a mining purpose specified in column 2 of Schedule 2 except in accordance with the conditions of this lease including any conditions that may be referred to in Column 3 of that schedule opposite that purpose.

CONSOLIDATED MINING LEASE - CML No. 7 (447 73)

(SUBJECT TO SURVEY)
 REGISTERED HOLDER - MINERALS MINING AND METALLURGY LIMITED
 PARISH OF PICTON COUNTY OF YANCOONIA
 REDUCTION RATIO 1:4 000



ML	AREA (SQ. METERS)	AREA (ACRES)
1	128741.00	31.50
2	128741.00	31.50
3	128741.00	31.50
4	128741.00	31.50
5	128741.00	31.50
6	128741.00	31.50
7	128741.00	31.50
8	128741.00	31.50
9	128741.00	31.50
10	128741.00	31.50
11	128741.00	31.50
12	128741.00	31.50
13	128741.00	31.50
14	128741.00	31.50
15	128741.00	31.50
16	128741.00	31.50
17	128741.00	31.50
18	128741.00	31.50
19	128741.00	31.50
20	128741.00	31.50
21	128741.00	31.50
22	128741.00	31.50
23	128741.00	31.50
24	128741.00	31.50
25	128741.00	31.50
26	128741.00	31.50
27	128741.00	31.50
28	128741.00	31.50
29	128741.00	31.50
30	128741.00	31.50
31	128741.00	31.50
32	128741.00	31.50
33	128741.00	31.50

ROADS EXCLUSIONS
 THE ROAD EXCLUSIONS ARE SHOWN IN THE FOLLOWING COLOURS:
 1. 6.00 METRES SHOWN IN (COLOUR 1)
 2. 12.24 METRES SHOWN IN (COLOUR 2)
 3. 24.48 METRES SHOWN IN (COLOUR 3)
 4. 36.72 METRES SHOWN IN (COLOUR 4)
 5. 48.96 METRES SHOWN IN (COLOUR 5)
 6. 61.20 METRES SHOWN IN (COLOUR 6)
 7. 73.44 METRES SHOWN IN (COLOUR 7)
 8. 85.68 METRES SHOWN IN (COLOUR 8)
 9. 97.92 METRES SHOWN IN (COLOUR 9)
 10. 110.16 METRES SHOWN IN (COLOUR 10)
 11. 122.40 METRES SHOWN IN (COLOUR 11)
 12. 134.64 METRES SHOWN IN (COLOUR 12)
 13. 146.88 METRES SHOWN IN (COLOUR 13)
 14. 159.12 METRES SHOWN IN (COLOUR 14)
 15. 171.36 METRES SHOWN IN (COLOUR 15)
 16. 183.60 METRES SHOWN IN (COLOUR 16)
 17. 195.84 METRES SHOWN IN (COLOUR 17)
 18. 208.08 METRES SHOWN IN (COLOUR 18)
 19. 220.32 METRES SHOWN IN (COLOUR 19)
 20. 232.56 METRES SHOWN IN (COLOUR 20)
 21. 244.80 METRES SHOWN IN (COLOUR 21)
 22. 257.04 METRES SHOWN IN (COLOUR 22)
 23. 269.28 METRES SHOWN IN (COLOUR 23)
 24. 281.52 METRES SHOWN IN (COLOUR 24)
 25. 293.76 METRES SHOWN IN (COLOUR 25)
 26. 306.00 METRES SHOWN IN (COLOUR 26)
 27. 318.24 METRES SHOWN IN (COLOUR 27)
 28. 330.48 METRES SHOWN IN (COLOUR 28)
 29. 342.72 METRES SHOWN IN (COLOUR 29)
 30. 354.96 METRES SHOWN IN (COLOUR 30)
 31. 367.20 METRES SHOWN IN (COLOUR 31)
 32. 379.44 METRES SHOWN IN (COLOUR 32)
 33. 391.68 METRES SHOWN IN (COLOUR 33)

STRAINS INCLUSIONS
 THE STRAIN INCLUSIONS ARE SHOWN IN THE FOLLOWING COLOURS:
 1. 1.00 METRE SHOWN IN (COLOUR 1)
 2. 2.00 METRES SHOWN IN (COLOUR 2)
 3. 3.00 METRES SHOWN IN (COLOUR 3)
 4. 4.00 METRES SHOWN IN (COLOUR 4)
 5. 5.00 METRES SHOWN IN (COLOUR 5)
 6. 6.00 METRES SHOWN IN (COLOUR 6)
 7. 7.00 METRES SHOWN IN (COLOUR 7)
 8. 8.00 METRES SHOWN IN (COLOUR 8)
 9. 9.00 METRES SHOWN IN (COLOUR 9)
 10. 10.00 METRES SHOWN IN (COLOUR 10)
 11. 11.00 METRES SHOWN IN (COLOUR 11)
 12. 12.00 METRES SHOWN IN (COLOUR 12)
 13. 13.00 METRES SHOWN IN (COLOUR 13)
 14. 14.00 METRES SHOWN IN (COLOUR 14)
 15. 15.00 METRES SHOWN IN (COLOUR 15)
 16. 16.00 METRES SHOWN IN (COLOUR 16)
 17. 17.00 METRES SHOWN IN (COLOUR 17)
 18. 18.00 METRES SHOWN IN (COLOUR 18)
 19. 19.00 METRES SHOWN IN (COLOUR 19)
 20. 20.00 METRES SHOWN IN (COLOUR 20)
 21. 21.00 METRES SHOWN IN (COLOUR 21)
 22. 22.00 METRES SHOWN IN (COLOUR 22)
 23. 23.00 METRES SHOWN IN (COLOUR 23)
 24. 24.00 METRES SHOWN IN (COLOUR 24)
 25. 25.00 METRES SHOWN IN (COLOUR 25)
 26. 26.00 METRES SHOWN IN (COLOUR 26)
 27. 27.00 METRES SHOWN IN (COLOUR 27)
 28. 28.00 METRES SHOWN IN (COLOUR 28)
 29. 29.00 METRES SHOWN IN (COLOUR 29)
 30. 30.00 METRES SHOWN IN (COLOUR 30)
 31. 31.00 METRES SHOWN IN (COLOUR 31)
 32. 32.00 METRES SHOWN IN (COLOUR 32)
 33. 33.00 METRES SHOWN IN (COLOUR 33)

CATALOGUE No. D 6199 R



COMPILED FROM VARIOUS SURVEY PLANS
 DRAWN BY: J. J. J. J.
 CHECKED BY: J. J. J. J.
 EXAMINED BY: J. J. J. J.

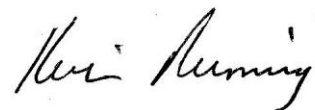
Instrument of Renewal

I, **Kevin Ruming, Director Strategic Resource Assessment and Advice**, pursuant to section 114 of the *Mining Act 1992*, determine to renew Exploration Licence No **5818 (Act 1992)** held by **Broken Hill Operations Pty Ltd, ACN 054 920 893**:

In respect of **Group One (1) minerals**;

- a) For the further term ending on **8 March 2023**; and
- b) Over the exploration area described in Schedule 1; and
- c) Subject to the conditions set out in Schedule 2 and Schedule 3; and
- d) In compliance with any Activity Approvals in Schedule 4; and
- e) In accordance with the approved work program referenced in Schedule 5.

Signed this 23rd day of June 2017



Kevin Ruming

Director Strategic Resource Assessment and Advice

As delegate for the Minister for Resources

Delegation dated: 1 May 2017

EXPLORATION LICENCE

Issued under the Mining Act 1992

EXPLORATION LICENCE NUMBER:	5818 (Act 1992)
RENEWAL DATE:	23 June 2017
DUE EXPIRY DATE:	8 March 2023
LICENCE HOLDER:	Broken Hill Operations Pty Ltd ACN 054 920 893
EXPLORATION AREA:	See Schedule 1
RESOURCE:	Group One (1) minerals

Information about this licence

This exploration licence is issued under the *Mining Act 1992*. The licence holder may:

- Apply for the renewal of this exploration licence; or
- Apply for the transfer of this exploration licence to another person.

Renewal applications are to be submitted within the period of two months prior up to midnight on the expiry date of the licence consistent with the *Mining Act 1992*.

The following fees are payable in connection with this licence:

- An annual rental fee; and
- An annual administrative levy.

Additional rights and responsibilities of licence holders are set out in the *Mining Act 1992* and the *Mining Regulation 2016*.

Please note that licence holders may also be required to obtain approvals and comply with requirements of other legislation when carrying out exploration activities, including (but not limited to):

- The *Environmental Planning and Assessment Act 1979*;
- The *Protection of the Environment Operations Act 1997*; and
- The *Water Act 1912* and the *Water Management Act 2000*.

Rights of the licence holder under this licence

This licence gives the licence holder an exclusive right to prospect for:

- The mineral(s) or group(s) of minerals to which this licence relates; and
- In respect of the land to which this licence relates.

However, in accordance with section 45 of the *Aboriginal Land Rights Act 1983*, if this licence relates to:

- **Group 1 minerals**, then this licence does **not** give the licence holder the right to prospect for any minerals except gold and silver on land vested in the New South Wales Aboriginal Land Council or a Local Aboriginal Land Council at the original date of grant of this licence.

Restrictions on the exercise of rights under this licence

It is the responsibility of the licence holder to apprise themselves of the restrictions on the exercise of rights under this licence that exist under NSW and Commonwealth legislation.

Exploration Area (Schedule 1)

The land to which this licence applies is set out at Schedule 1 of this licence.

Licence Conditions (Schedules 2 and 3)

This licence is subject to the conditions in Schedule 2 and Schedule 3. The licence holder must conduct prospecting operations in accordance with these conditions, as well as any conditions imposed by the *Mining Act 1992* and *Mining Regulation 2016*. In particular:

- The conditions set out in Schedule 2 are general conditions; and
- The conditions (if any) set out in Schedule 3 are additional conditions.

Contravention of licence conditions is an offence under the *Mining Act 1992*.

Further Approvals under this licence (Schedule 4)

The licence holder may need to obtain further approvals or Ministerial consent before carrying out prospecting operations on the land subject to this licence (see in particular the activity approval requirements for assessable prospecting operations section 23A of the *Mining Act 1992*, which requires an activity approval to be obtained prior to commencing any assessable prospecting operation). Approvals or consents which have been granted after commencement of this licence, and after 1 July 2015, are attached at Schedule 4 of this licence.

Work Program (Schedule 5)

Condition 1 of Schedule 2 of this licence requires the licence holder to comply with the Work Program. The Work Program unique identifier is set out at Schedule 5 of this licence. The Work Program may be varied on application of the licence holder, with the approval of the Minister.

Licence History

Identifier	Effective date	Reasons for Update
19	23 June 2017	Renewal of EL 5818 (1992)

DEFINITIONS

In this licence:

- (a) A reference to a Code or Guideline is a reference to that document as amended or replaced from time to time, and
- (b) Words have the meaning given to those terms in the *Mining Act 1992* unless otherwise defined below:

Change in effective control of the licence holder means any occurrence which results in any person, not being a related body corporate of the licence holder, newly being in one or more of the following positions:

- (a) having the capacity to appoint or control more than 50% of the number of directors of the licence-holder's board;
- (b) being entitled to exercise (directly or indirectly) more than 50% of the votes entitled to be cast at any general meeting of the licence-holder; or
- (c) holding more than 50% of the issued share capital (other than shares issued with no rights other than to receive a specified amount in distribution) of the licence-holder.

Environmental incident notifications and reports means any notifications and reports to be provided to relevant authorities under Part 5.7 or Part 5.7A of the *Protection of the Environment Operations Act 1997*.

Foreign acquisition of substantial control in the licence holder means any occurrence which results in a foreign party, not being a related body corporate of the licence holder, newly being in one or more of the following positions:

- (a) having the capacity to appoint or control 15% or more of the number of directors of the licence-holder's board;
- (b) being entitled to exercise (directly or indirectly) 15% or more of the votes entitled to be cast at any general meeting of the licence-holder; or
- (c) holding interests in 15% or more of the issued share capital (other than shares issued with no rights other than to receive a specified amount in distribution) of the licence-holder.

National park, regional park, historic site, nature reserve, karst conservation reserve and Aboriginal area have the meaning given to those terms in the *National Parks and Wildlife Act 1974*.

Related Body Corporate has the same meaning given to that term in the *Corporations Act 2001 (Cth)*.

Relevant authorities has the meaning given to that term in section 148 of the *Protection of the Environment Operations Act 1997*.

Work Program means the approved work program referred to in Schedule 5 of this licence, as amended from time to time with the approval of the Minister.

EXPLORATION AREA

The exploration area comprises of an area of **10 units** as specified in the table below, exclusive of any land:-

- (a) vested in the Commonwealth of Australia; or
- (b) that was not subject to the licence immediately before this renewal.

Note: *This exclusion (b) may include land that, at the date this licence was initially granted, was:*

- *subject to an authority, or an application for an authority;*
- *subject to a residence area or business area referred to in clause 1, Part 1 of Schedule 11 of the Mining Regulation 2003;*
- *subject to any mining reserve constituted under section 367 of the Mining Act 1992 which prohibited the grant of new exploration licences;*
- *vested in the Commonwealth of Australia;*
- *located within a national park, regional park, historic site, nature reserve, karst conservation area or Aboriginal area established under the National Parks & Wildlife Act 1974 or other legislation; or*
- *vested in an Aboriginal Land Council or Local Land Council under the Aboriginal Land Rights Act 1983 at the original date of grant of this licence, unless this licence authorises exploration for gold, silver or uranium.*

1:1,000,000	Blocks	Units
<i>BROKEN HILL</i>	<i>3426</i>	<i>nop rstu</i>
<i>BROKEN HILL</i>	<i>3427</i>	<i>lm q</i>

The boundaries of the exploration area are indicated on the following diagram.

DISCLAIMER

The boundaries of the exploration area in the diagram are indicative only, based on knowledge and understanding at the time this licence was granted. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date. No warranty about the accuracy, currency or completeness of any information in this diagram is inferred (including, without limitation, any information provided by third parties). While all reasonable care has been taken in the compilation of this diagram, to the extent permitted by law, the NSW Department of Planning and Environment excludes all liability for the accuracy or completeness of the information, or for any injury, loss, or damage whatsoever (including without limitation liability for negligence and consequential losses) suffered by any person acting, or purporting to act, in reliance upon anything contained herein. Users should rely upon their own advice, skills, interpretation and experience in applying the information in the diagram.

DIAGRAM of EL No. 5818

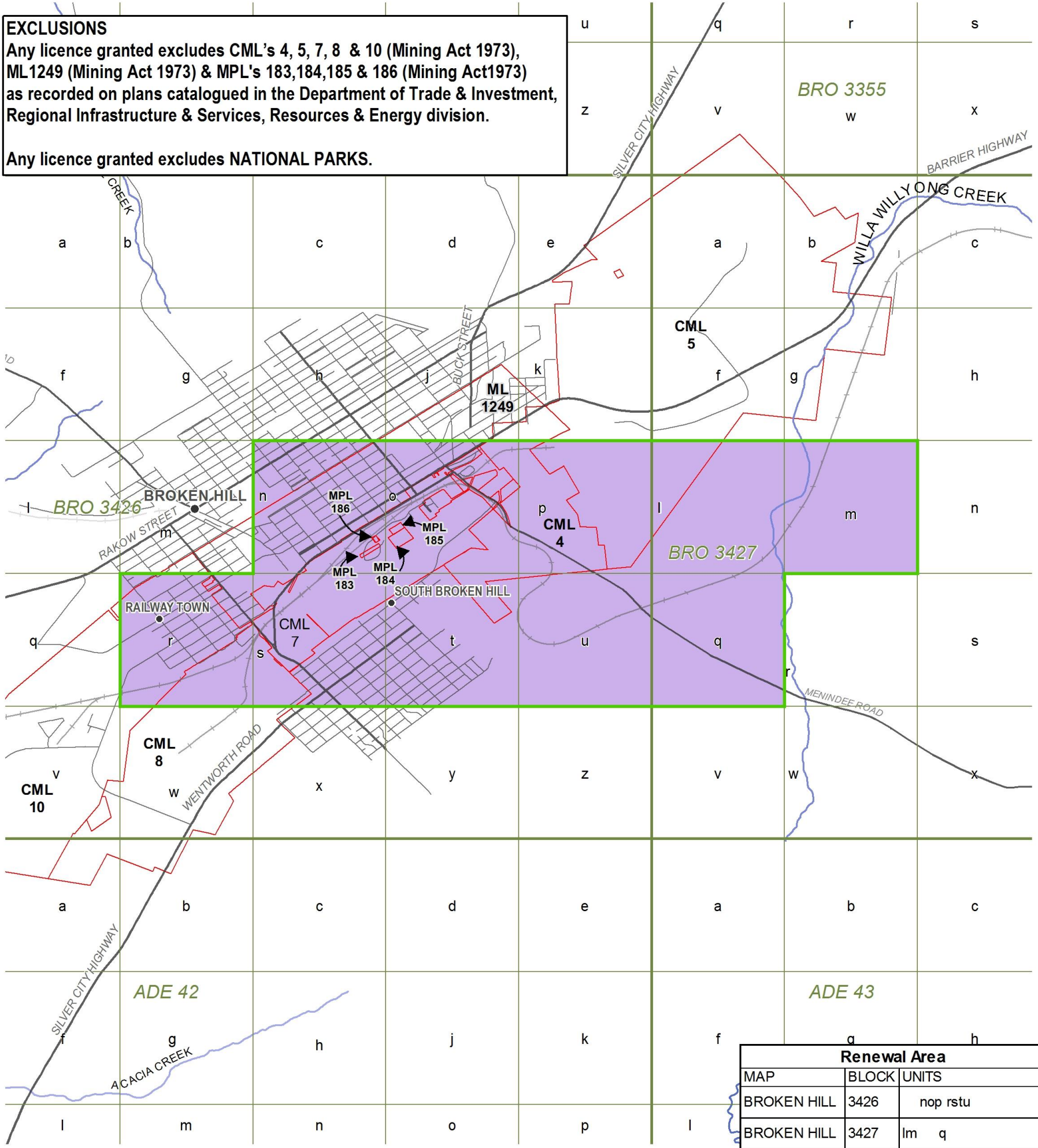
RESOURCES & ENERGY

WAS ELA 1706 (Act 1992)
 MAIN HOLDER: BROKEN HILL OPERATIONS PTY LTD
 GRANT DATE : 08-MAR-2001 MINERAL GROUP(S): 1
 MAP SHEET(S): 7134 & 7234
 COUNTY(IES): YANCOWINNA

"R"

HOLDER'S COPY

EXCLUSIONS
 Any licence granted excludes CML's 4, 5, 7, 8 & 10 (Mining Act 1973),
 ML1249 (Mining Act 1973) & MPL's 183,184,185 & 186 (Mining Act1973)
 as recorded on plans catalogued in the Department of Trade & Investment,
 Regional Infrastructure & Services, Resources & Energy division.
 Any licence granted excludes NATIONAL PARKS.



Renewal Area		
MAP	BLOCK	UNITS
BROKEN HILL	3426	nop rstu
BROKEN HILL	3427	lm q

DRAFTING SERVICES
 OPERATIONS & PROGRAMS



RENEWAL AREA: 10 UNITS (DEALING No.19)



Prepared by: S.Ferguson
 Checked by: F. Schiavo

[Signature]

DISCLAIMER: The compilation of information shown on this diagram is derived from plans and data, some of which has been produced and provided by third parties. Title boundaries have been adjusted to maintain their relationship with the digital cadastral database in some circumstances, thereby creating certain inaccuracies in the data. The Department and the State of New South Wales make no statement, representation or warranty that the titles information shown on this diagram is complete, accurate or free from error. Users rely on the titles information supplied on this diagram at their own risk. The Department and the State of New South Wales accepts no responsibility for any person, acting on, or relying on, or upon any of the titles information shown on this diagram, and disclaim all liability for any loss, damage, cost, expense or injury (including death) incurred or arising by reason of any person using or relying on the titles information contained on this diagram by reason or by any error, omission, defect or misstatement (whether such error, omission or misstatement is caused by or arises from negligence, lack of care or otherwise). Users should always verify historical material by making and relying upon their own separate inquiries prior to making any important decisions or taking any action on the basis of titles information.

GENERAL CONDITIONS

Work Program

1. The licence holder must carry out the operations, and any other activities, described in the Work Program and comply with any commitments in relation to the conduct of operations specified in the Work Program, as for the time being in force, in respect of this licence.

Native Title

2. The licence holder must not prospect on any land or waters within the exploration area on which Native Title has not been extinguished under the *Native Title Act 1993* (Cth) without the prior written consent of the Minister.

Community Consultation

3. The licence holder must carry out community consultation in relation to the planning and conduct of activities under this licence in accordance with the *Exploration Code of Practice: Community Consultation* (NSW Department of Planning and Environment).

Protection of the Environment

4. The licence holder must prevent, or if that is not reasonably practicable, minimise so far as is reasonably practicable, any harm to the environment arising from activities carried out under this licence.

Security

5. The licence holder must provide a security deposit to secure funding for the fulfilment of obligations under this licence (including obligations that may arise in the future) as follows:

- (a) Amount: **\$10,000**
- (b) Licence holder's entitlement to interest: none.

Note: Requests for information about licences covered by a group security deposit can be made via email to securities.titles@industry.nsw.gov.au.

Rehabilitation

6. The licence holder must carry out rehabilitation of all disturbance caused by activities carried out under this licence in accordance with the requirements in Part B of the *Exploration Code of Practice - Rehabilitation* (NSW Department of Planning and Environment) to the satisfaction of the Minister.

Environmental Incident Reporting

7. The licence holder must provide environmental incident notifications and reports to the Secretary no later than 7 days after those notifications and reports are provided to relevant authorities under the *Protection of the Environment Operations Act 1997*.

Annual Activity Reporting

8. Unless otherwise approved by the Secretary, the licence holder must submit annual activity reports prepared in accordance with the *Exploration Guideline: Annual Activity Reporting for Prospecting Titles* (NSW Department of Planning and Environment) at the following times:

- (a) Annually, within one calendar month following the grant anniversary date of this licence;
- (b) On any other date or dates directed by the Secretary in writing; and
- (c) Within one calendar month following the cancellation or expiry of this licence.

Change in Control

9. Subject to condition 10, if the licence holder is a corporation or a trust, the Minister's prior written approval is required before any:

- (a) Change in effective control of the licence holder; or
- (b) Foreign acquisition of substantial control in the licence holder.

10. The Minister's approval is not required where a change in effective control of the licence holder, or a foreign acquisition of substantial control of the licence holder, occurs as a result of the acquisition of shares or other securities on a registered stock exchange.

ADDITIONAL CONDITIONS

Drilling Notification

11. At least 28 days before commencing any drilling operation (for assessable prospecting operations), the licence holder must provide a written notice to DPI Water drilling.mineralsandenergy@dpi.nsw.gov.au which sets out:

- (a) the licence holder's intention to drill the exploratory holes; and
- (b) a description of the nature and location of the proposed exploratory holes.

Drilling Notification Additional

12. If a coal seam is discovered in the exploration area, the licence holder must:

- (a) immediately inform the Secretary of the discovery, and
- (b) as soon as reasonably practicable after the discovery, furnish written particulars of the discovery to the Secretary.

Activity Approvals Issued Prior To 1 March 2016

13. Any prospecting operations the subject of an activity approval granted pursuant to this exploration licence before 1 March 2016 must, in addition to any requirements of that approval, be carried out in accordance with the following Codes of Practice:

- (a) Part B of the Exploration Code of Practice: Environmental Management
- (b) Part B of the Exploration Code of Practice: Produced Water Management, Storage and Transfer

and these codes prevail to the extent of any inconsistency with a requirement of such an activity approval.

Assets of Essential Energy - Water

14. Operations must be conducted in a manner that does not interfere with or cause damage to the assets of Essential Energy Water Division situated on or around the licence area.

Within the exploration area, Essential Energy may have a number of high voltage overhead power lines. These power lines may present a safety hazard to mobile drilling plant and operations and appropriate caution should be exercised by the operators of such equipment. In general a minimum of ten metres horizontal clearance should be maintained from any overhead power line. Should any incident occur, Essential Energy must be contacted immediately on telephone 132080.

FURTHER APPROVALS

This page has intentionally been left blank.

WORK PROGRAM

In accordance with Condition 1 of this licence the approved Work Program is the document identified by the identification number:

WP-EL5818-2017-2023

INSTRUMENT OF RENEWAL

LEASE: Mining Purposes Lease No 183 (Act 1973)

HOLDER: Broken Hill Operations Pty Ltd

DATE OF LEASE: 4 February 1981

EXPIRY DATE OF LEASE: 31 December 2005

PERIOD OF RENEWAL UNTIL: 31 December 2026

AREA: 1.25 hectares
AS SHOWN BY PLAN NO D3562

DEPTH RESTRICTION: 10 metres

SURFACE EXCEPTION: Nil

PURPOSES:

1. Dumping of ore and mine residues.
2. Treatment of tailings.

ROYALTY PAYABLE: At the rate which, from time to time, may be prescribed.

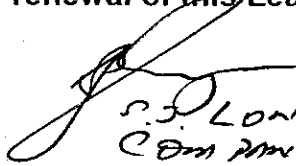
AMENDMENTS TO THE CONDITIONS OF THE LEASE:


- (a) All the Conditions contained in the lease prior to the renewal have been deleted.
- (b) The lease is now subject to the attached Mining Lease Conditions 2004 numbered:

1 to 17 (inclusive), and 25 to 28 (inclusive).

Condition Nos. 2 to 8 (inclusive), 14 and 15 are identified as conditions relating to environmental management for the purposes of Sections 125(3) and 374A of the Mining Act 1992.

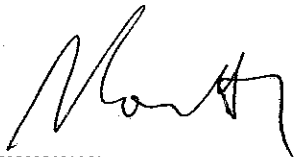
We, Broken Hill Operations Pty Ltd (ACN 054 920 893), hereby accept the renewal of this Lease and agree to be bound by the conditions specified.


S.J. LOWIER (CAN
COMPANY SECRETARY)


Managing Director

.....
Broken Hill Operations Pty Ltd (ACN 054 920 893)

Renewed this 24th day of April 2007


.....
by delegation from the Minister.

MINING LEASE CONDITIONS 2004

1. Notice to Landholders

Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.

If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.

Environmental Management Conditions

2. Mining Operations Plan

- (a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries – Mineral Resources.
- (b) The MOP must:
- identify areas that will be disturbed by mining operations;
 - detail the staging of specific mining operations;
 - identify how the mine will be managed to allow mine closure;
 - identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;
 - reflect the conditions of approval under:
 - the Environmental Planning and Assessment Act 1979
 - the Protection of the Environment Operations Act 1997
 - and any other approvals relevant to the development including the conditions of this lease; and
 - have regard to any relevant guidelines adopted by the Director-General.
- (c) The titleholder may apply to the Director-General to amend an approved MOP at any time.
- (d) It is a defence to a breach of this condition if:

- i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the *Mining Act 1992*, the *Environmental Planning and Assessment Act 1979*, *Protection of the Environment Operations Act 1997* or the *Occupational Health and Safety Act 2000*; and
- ii) the Director-General had been notified of the terms of the order or direction prior to the operations constituting the breach being carried out.

Note: The Director-General is deemed to be notified of the terms of an order or direction if the order or Direction was issued by the Department or a copy of the order or direction has been faxed to 02 4931 6790.

- (e) A MOP ceases to have affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition (c) does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.

Annual Environmental Management Report (AEMR)

3. Reporting

- (a) The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.
- (b) The EMR must:
 - report against compliance with the MOP;
 - report on progress in respect of rehabilitation completion criteria;
 - report on the extent of compliance with regulatory requirements; and
 - have regard to any relevant guidelines adopted by the Director-General;

Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.

4. Rehabilitation

Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.

5. Exploratory Drilling

- (1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.
- (2) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:-
 - (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;
 - b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;
 - (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;
 - (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;
 - (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.
 - (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.
 - (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.

6. Roads and Tracks

- (a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate.
- (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.

7. Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Natural Resources.

8. Use of Mercury or Cyanide

The lease holder must not use mercury or cyanide or any solution containing cyanide for the recovery of minerals on the lease area without the prior written approval of the Minister and subject to any conditions he may stipulate.

9. Reports

The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:

- (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;
- (b) Details of expenditure incurred in conducting that exploration;
- (c) A summary of all geological findings acquired through mining or development evaluation activities;
- (d) A statement of the ore and mineral reserves
- (e) Particulars of exploration proposed to be conducted in the next twelve months period;
- (f) All plans, maps, sections and other data necessary to satisfactorily interpret the report.

10. Licence to Use Reports

- (a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.
- (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.

11. Confidentiality

- (a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:
 - (i) the lease holder has agreed that specified reports may be made non-confidential.
 - (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.
- (b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.
- (c) The Director-General may extend the period of confidentiality.

12. Terms of the non-exclusive licence

The terms of the non-exclusive copyright licence granted under condition 8 (a) are:

- (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports.
- (b) the Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.
- (c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.
- (d) there is no royalty payable by the Minister for the licence.
- (e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.

13. Safety

Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.

14. Transmission lines, Communication lines and Pipelines

Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.

15. Fences, Gates

- (a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate.
- (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.

16. Resource Recovery

- (a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.
- (b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.
- (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.
- (d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.
- (e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.

- (f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.

17. Indemnity

The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.

25. Single Security

- (a) A security in the sum of \$250,000.00 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under Consolidated Mining Lease No 7 (Act 1973), Mining Purposes Lease Nos 183, 184, 185 and 186 (Act 1973)). If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.
- (b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:
 - (i) cash,
 - (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.

SPECIAL CONDITIONS

Catchment Areas and Reserves

26. (a) If the registered holder is using or about to use any process which in the opinion of the Minister is likely to cause contamination of the waters of Stephen's Creek Catchment Area the registered holder shall refrain from using or cease using as the case may require such process within twenty four hours of the receipt by the registered holder of a notice in writing under the hand of the Minister or the Director General requiring the registered holder so to do.
 - (b) The registered holder shall comply with any regulations now in force or hereafter to be in force for the protection from pollution of the said Catchment Area.
 - (c) The registered holder shall not erect nor permit to be erected any dwellings unless with the consent of the Minister or Country Energy-Water and subject to such conditions as may be stipulated.
 - (d) The registered holder shall make such provisions for sanitation as may be approved by Country Energy-Water and shall at all times observe and perform any requirements of the said Country Energy-Water respecting sanitation.
27. Operations shall be conducted in such a manner as not to interfere with or cause damage to the assets of Country Energy-Water situated on or around the subject area.
 28. The registered holder shall as far as may be practicable so conduct operations as not to interfere in any way with the public use and enjoyment of Reserve No 2421 for Temporary Common; Reserve No 69262 from Sale for future Public Requirements, Reserve No 3073 from Sale for Public Recreation and Reserve No 30905 for Quarry.

INSTRUMENT OF RENEWAL

LEASE: Mining Purposes Lease No 184 (Act 1973)

HOLDER: Broken Hill Operations Pty Ltd

DATE OF LEASE: 4 February 1981

EXPIRY DATE OF LEASE: 31 December 2005

PERIOD OF RENEWAL UNTIL: 31 December 2026

AREA: 4.43 hectares
AS SHOWN BY PLAN NO D3563

DEPTH RESTRICTION: 10 metres

SURFACE EXCEPTION: Nil

PURPOSES:

1. Dumping of ore and mine residues.
2. Treatment of tailings.

ROYALTY PAYABLE: At the rate which, from time to time, may be prescribed.

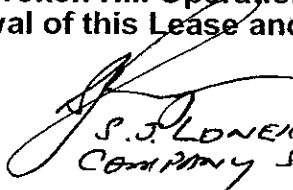
AMENDMENTS TO THE CONDITIONS OF THE LEASE:


- (a) All the Conditions contained in the lease prior to the renewal have been deleted.
- (b) The lease is now subject to the attached Mining Lease Conditions 2004 numbered:

1 to 17 (inclusive), and 25 to 28 (inclusive).

Condition Nos. 2 to 8 (inclusive), 14 and 15 are identified as conditions relating to environmental management for the purposes of Sections 125(3) and 374A of the Mining Act 1992.

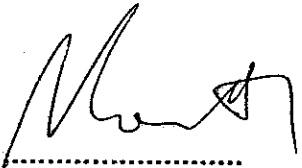
We, Broken Hill Operations Pty Ltd (ACN 054 920 893), hereby accept the renewal of this Lease and agree to be bound by the conditions specified.


S.J. LONERAGAN
COMPANY SECRETARY


Managing Director

.....
Broken Hill Operations Pty Ltd (ACN 054 920 893)

Renewed this 24th day of April 2007


.....
by delegation from the Minister.

MINING LEASE CONDITIONS 2004

1. Notice to Landholders

Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.

If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.

Environmental Management Conditions

2. Mining Operations Plan

- (a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries – Mineral Resources.
- (b) The MOP must:
- identify areas that will be disturbed by mining operations;
 - detail the staging of specific mining operations;
 - identify how the mine will be managed to allow mine closure;
 - identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;
 - reflect the conditions of approval under:
 - the Environmental Planning and Assessment Act 1979
 - the Protection of the Environment Operations Act 1997
 - and any other approvals relevant to the development including the conditions of this lease; and
 - have regard to any relevant guidelines adopted by the Director-General.
- (c) The titleholder may apply to the Director-General to amend an approved MOP at any time.
- (d) It is a defence to a breach of this condition if:

- i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the *Mining Act 1992*, the *Environmental Planning and Assessment Act 1979*, *Protection of the Environment Operations Act 1997* or the *Occupational Health and Safety Act 2000*; and
- ii) the Director-General had been notified of the terms of the order or direction prior to the operations constituting the breach being carried out.

Note: The Director-General is deemed to be notified of the terms of an order or direction if the order or Direction was issued by the Department or a copy of the order or direction has been faxed to 02 4931 6790.

- (e) A MOP ceases to have affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition (c) does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.

Annual Environmental Management Report (AEMR)

3. Reporting

- (a) The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.
- (b) The EMR must:
 - report against compliance with the MOP;
 - report on progress in respect of rehabilitation completion criteria;
 - report on the extent of compliance with regulatory requirements; and
 - have regard to any relevant guidelines adopted by the Director-General;

Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.

4. Rehabilitation

Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.

5. Exploratory Drilling

- (1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.
- (2) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:-
 - (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;
 - (b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;
 - (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;
 - (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;
 - (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.
 - (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.
 - (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.

6. Roads and Tracks

- (a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate.
- (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.

7. Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Natural Resources.

8. Use of Mercury or Cyanide

The lease holder must not use mercury or cyanide or any solution containing cyanide for the recovery of minerals on the lease area without the prior written approval of the Minister and subject to any conditions he may stipulate.

9. Reports

The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:

- (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;
- (b) Details of expenditure incurred in conducting that exploration;
- (c) A summary of all geological findings acquired through mining or development evaluation activities;
- (d) A statement of the ore and mineral reserves
- (e) Particulars of exploration proposed to be conducted in the next twelve months period;
- (f) All plans, maps, sections and other data necessary to satisfactorily interpret the report.

10. Licence to Use Reports

- (a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.
- (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.

11. Confidentiality

- (a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:
 - (i) the lease holder has agreed that specified reports may be made non-confidential.
 - (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.
- (b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.
- (c) The Director-General may extend the period of confidentiality.

12. Terms of the non-exclusive licence

The terms of the non-exclusive copyright licence granted under condition 8 (a) are:

- (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports.
- (b) the Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.
- (c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.
- (d) there is no royalty payable by the Minister for the licence.
- (e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.

13. Safety

Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.

14. Transmission lines, Communication lines and Pipelines

Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.

15. Fences, Gates

- (a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate.
- (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.

16. Resource Recovery

- (a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine, and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.
- (b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.
- (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.
- (d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.
- (e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.

- (f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.

17. Indemnity

The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.

25. Single Security

- (a) A security in the sum of \$250,000.00 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under Consolidated Mining Lease No 7 (Act 1973), Mining Purposes Lease Nos 183, 184, 185 and 186 (Act 1973)). If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.
- (b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:
 - (i) cash,
 - (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.

SPECIAL CONDITIONS

Catchment Areas and Reserves

26. (a) If the registered holder is using or about to use any process which in the opinion of the Minister is likely to cause contamination of the waters of Stephen's Creek Catchment Area the registered holder shall refrain from using or cease using as the case may require such process within twenty four hours of the receipt by the registered holder of a notice in writing under the hand of the Minister or the Director General requiring the registered holder so to do.
 - (b) The registered holder shall comply with any regulations now in force or hereafter to be in force for the protection from pollution of the said Catchment Area.
 - (c) The registered holder shall not erect nor permit to be erected any dwellings unless with the consent of the Minister or Country Energy-Water and subject to such conditions as may be stipulated.
 - (d) The registered holder shall make such provisions for sanitation as may be approved by Country Energy-Water and shall at all times observe and perform any requirements of the said Country Energy-Water respecting sanitation.
27. Operations shall be conducted in such a manner as not to interfere with or cause damage to the assets of Country Energy-Water situated on or around the subject area.
 28. The registered holder shall as far as may be practicable so conduct operations as not to interfere in any way with the public use and enjoyment of Reserve No 2421 for Temporary Common; Reserve No 69262 from Sale for future Public Requirements, Reserve No 3073 from Sale for Public Recreation and Reserve No 30905 for Quarry.

TITLE DEALING ENQUIRY

Title :	MPL : 184 : 1973 (MINERAL)		
Dealing Number :	9	Dealing Code :	REN
Date Received :	21-DEC-2004	Dealing Status :	P
File Number :	T03 1108	Determination Status :	APPROVED
Comments :		Determination Date :	24 APR 2007

Renewed Values

Expiry Date : 31-DEC-2026

Effective Date : 24-APR-2007

Holders : BROKEN HILL OPERATIONS PTY LTD

Main Holder : BROKEN HILL OPERATIONS PTY LTD

Minerals : NIL MINERALS

Shape Change : NO

Area : 4.43 HA

Location :

Map Sheets :

Surface Exception : NIL

Depth Restriction : WHOLE 10 METRES

Methods / Purposes : DUMPING OF ORE AND MINE RESIDUES
TREATMENT OF TAILINGS

Security Required : \$250,000

Expenditure : \$0

Labour : 0

Detailed Comments :

INSTRUMENT OF RENEWAL

LEASE: Mining Purposes Lease No 185 (Act 1973)

HOLDER: Broken Hill Operations Pty Ltd

DATE OF LEASE: 4 February 1981

EXPIRY DATE OF LEASE: 31 December 2005

PERIOD OF RENEWAL UNTIL: 31 December 2026

AREA: 1.39 hectares
AS SHOWN BY PLAN NO D2320

DEPTH RESTRICTION: 10 metres

SURFACE EXCEPTION: Nil

PURPOSES:

1. Dumping of ore and mine residues.
2. Treatment of tailings.

ROYALTY PAYABLE: At the rate which, from time to time, may be prescribed.

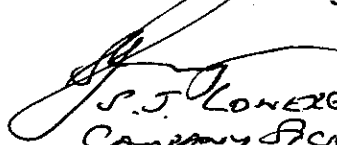
AMENDMENTS TO THE CONDITIONS OF THE LEASE:

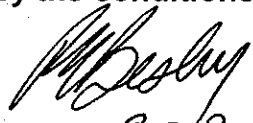
- (a) All the Conditions contained in the lease prior to the renewal have been deleted.
- (b) The lease is now subject to the attached Mining Lease Conditions 2004 numbered:

1 to 17 (inclusive), and 25 to 28 (inclusive).

Condition Nos. 2 to 8 (inclusive), 14 and 15 are identified as conditions relating to environmental management for the purposes of Sections 125(3) and 374A of the Mining Act 1992.

We, Broken Hill Operations Pty Ltd (ACN 054 920 893), hereby accept the renewal of this Lease and agree to be bound by the conditions specified.


S.J. LONEXON
Company Secretary


R.E. BESLEY
Managing Director

.....
Broken Hill Operations Pty Ltd (ACN 054 920 893)


Renewed this

24th

day of

April

2007



.....
by delegation from the Minister.

MINING LEASE CONDITIONS 2004

1. Notice to Landholders

Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.

If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.

Environmental Management Conditions

2. Mining Operations Plan

- (a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries – Mineral Resources.
- (b) The MOP must:
- identify areas that will be disturbed by mining operations;
 - detail the staging of specific mining operations;
 - identify how the mine will be managed to allow mine closure;
 - identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;
 - reflect the conditions of approval under:
 - the Environmental Planning and Assessment Act 1979
 - the Protection of the Environment Operations Act 1997
 - and any other approvals relevant to the development including the conditions of this lease; and
 - have regard to any relevant guidelines adopted by the Director-General.
- (c) The titleholder may apply to the Director-General to amend an approved MOP at any time.
- (d) It is a defence to a breach of this condition if:

- i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the *Mining Act 1992*, the *Environmental Planning and Assessment Act 1979*, *Protection of the Environment Operations Act 1997* or the *Occupational Health and Safety Act 2000*; and
- ii) the Director-General had been notified of the terms of the order or direction prior to the operations constituting the breach being carried out.

Note: The Director-General is deemed to be notified of the terms of an order or direction if the order or Direction was issued by the Department or a copy of the order or direction has been faxed to 02 4931 6790.

- (e) A MOP ceases to have affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition (c) does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.

Annual Environmental Management Report (AEMR)

3. Reporting

- (a) The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.
- (b) The EMR must:
 - report against compliance with the MOP;
 - report on progress in respect of rehabilitation completion criteria;
 - report on the extent of compliance with regulatory requirements; and
 - have regard to any relevant guidelines adopted by the Director-General;

Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.

4. Rehabilitation

Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.

5. Exploratory Drilling

- (1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.
- (2) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:-
 - (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;
 - b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;
 - (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;
 - (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;
 - (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.
 - (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.
 - (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.

6. Roads and Tracks

- (a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate.
- (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.

7. Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Natural Resources.

8. Use of Mercury or Cyanide

The lease holder must not use mercury or cyanide or any solution containing cyanide for the recovery of minerals on the lease area without the prior written approval of the Minister and subject to any conditions he may stipulate.

9. Reports

The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:

- (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;
- (b) Details of expenditure incurred in conducting that exploration;
- (c) A summary of all geological findings acquired through mining or development evaluation activities;
- (d) A statement of the ore and mineral reserves
- (e) Particulars of exploration proposed to be conducted in the next twelve months period;
- (f) All plans, maps, sections and other data necessary to satisfactorily interpret the report.

10. Licence to Use Reports

- (a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.
- (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.

11. Confidentiality

- (a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:
 - (i) the lease holder has agreed that specified reports may be made non-confidential.
 - (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.
- (b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.
- (c) The Director-General may extend the period of confidentiality.

12. Terms of the non-exclusive licence

The terms of the non-exclusive copyright licence granted under condition 8 (a) are:

- (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports.
- (b) the Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.
- (c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.
- (d) there is no royalty payable by the Minister for the licence.
- (e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.

13. Safety

Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.

14. Transmission lines, Communication lines and Pipelines

Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.

15. Fences, Gates

- (a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate.
- (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.

16. Resource Recovery

- (a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.
- (b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.
- (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.
- (d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.
- (e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.

- (f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.

17. Indemnity

The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.

25. Single Security

- (a) A security in the sum of \$250,000.00 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under Consolidated Mining Lease No 7 (Act 1973), Mining Purposes Lease Nos 183, 184, 185 and 186 (Act 1973)). If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.
- (b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:
 - (i) cash,
 - (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.

SPECIAL CONDITIONS

Catchment Areas and Reserves

26. (a) If the registered holder is using or about to use any process which in the opinion of the Minister is likely to cause contamination of the waters of Stephen's Creek Catchment Area the registered holder shall refrain from using or cease using as the case may require such process within twenty four hours of the receipt by the registered holder of a notice in writing under the hand of the Minister or the Director General requiring the registered holder so to do.
 - (b) The registered holder shall comply with any regulations now in force or hereafter to be in force for the protection from pollution of the said Catchment Area.
 - (c) The registered holder shall not erect nor permit to be erected any dwellings unless with the consent of the Minister or Country Energy-Water and subject to such conditions as may be stipulated.
 - (d) The registered holder shall make such provisions for sanitation as may be approved by Country Energy-Water and shall at all times observe and perform any requirements of the said Country Energy-Water respecting sanitation.
27. Operations shall be conducted in such a manner as not to interfere with or cause damage to the assets of Country Energy-Water situated on or around the subject area.
 28. The registered holder shall as far as may be practicable so conduct operations as not to interfere in any way with the public use and enjoyment of Reserve No 2421 for Temporary Common; Reserve No 69262 from Sale for future Public Requirements, Reserve No 3073 from Sale for Public Recreation and Reserve No 30905 for Quarry.

INSTRUMENT OF RENEWAL

LEASE: Mining Purposes Lease No 186 (Act 1973)

HOLDER: Broken Hill Operations Pty Ltd

DATE OF LEASE: 4 February 1981

EXPIRY DATE OF LEASE: 31 December 2005

PERIOD OF RENEWAL UNTIL: 31 December 2026

AREA: 4852 square metres
AS SHOWN BY PLAN NO D2321

DEPTH RESTRICTION: 10 metres

SURFACE EXCEPTION: Nil

PURPOSES:

1. Dumping of ore and mine residues.
2. Treatment of tailings.

ROYALTY PAYABLE: At the rate which, from time to time, may be prescribed.

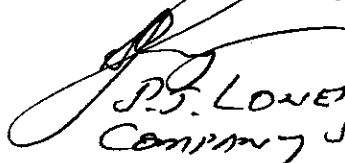
AMENDMENTS TO THE CONDITIONS OF THE LEASE:


- (a) All the Conditions contained in the lease prior to the renewal have been deleted.
- (b) The lease is now subject to the attached Mining Lease Conditions 2004 numbered:

1 to 17 (inclusive), and 25 to 28 (inclusive).

Condition Nos. 2 to 8 (inclusive), 14 and 15 are identified as conditions relating to environmental management for the purposes of Sections 125(3) and 374A of the Mining Act 1992.

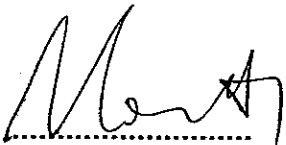
We, Broken Hill Operations Pty Ltd (ACN 054 920 893), hereby accept the renewal of this Lease and agree to be bound by the conditions specified.


P.S. LOWERGAN
COMPANY SECRETARY


R.E. BESLEY
Managing Director

.....
Broken Hill Operations Pty Ltd (ACN 054 920 893)

Renewed this 24th day of April 2007


.....
by delegation from the Minister.

MINING LEASE CONDITIONS 2004

1. Notice to Landholders

Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.

If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.

Environmental Management Conditions

2. Mining Operations Plan

- (a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries – Mineral Resources.
- (b) The MOP must:
- identify areas that will be disturbed by mining operations;
 - detail the staging of specific mining operations;
 - identify how the mine will be managed to allow mine closure;
 - identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;
 - reflect the conditions of approval under:
 - the Environmental Planning and Assessment Act 1979
 - the Protection of the Environment Operations Act 1997
 - and any other approvals relevant to the development including the conditions of this lease; and
 - have regard to any relevant guidelines adopted by the Director-General.
- (c) The titleholder may apply to the Director-General to amend an approved MOP at any time.
- (d) It is a defence to a breach of this condition if:

- i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the *Mining Act 1992*, the *Environmental Planning and Assessment Act 1979*, *Protection of the Environment Operations Act 1997* or the *Occupational Health and Safety Act 2000*; and
- ii) the Director-General had been notified of the terms of the order or direction prior to the operations constituting the breach being carried out.

Note: The Director-General is deemed to be notified of the terms of an order or direction if the order or Direction was issued by the Department or a copy of the order or direction has been faxed to 02 4931 6790.

- (e) A MOP ceases to have affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition (c) does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.

Annual Environmental Management Report (AEMR)

3. Reporting

- (a) The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.
- (b) The EMR must:
 - report against compliance with the MOP;
 - report on progress in respect of rehabilitation completion criteria;
 - report on the extent of compliance with regulatory requirements; and
 - have regard to any relevant guidelines adopted by the Director-General;

Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.

4. Rehabilitation

Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.

5. Exploratory Drilling

- (1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.
- (2) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:-
 - (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;
 - (b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;
 - (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;
 - (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;
 - (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.
 - (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.
 - (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.

6. Roads and Tracks

- (a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate.
- (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.

7. Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Natural Resources.

8. Use of Mercury or Cyanide

The lease holder must not use mercury or cyanide or any solution containing cyanide for the recovery of minerals on the lease area without the prior written approval of the Minister and subject to any conditions he may stipulate.

9. Reports

The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:

- (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;
- (b) Details of expenditure incurred in conducting that exploration;
- (c) A summary of all geological findings acquired through mining or development evaluation activities;
- (d) A statement of the ore and mineral reserves
- (e) Particulars of exploration proposed to be conducted in the next twelve months period;
- (f) All plans, maps, sections and other data necessary to satisfactorily interpret the report.

10. Licence to Use Reports

- (a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.
- (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.

11. Confidentiality

- (a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:
 - (i) the lease holder has agreed that specified reports may be made non-confidential.
 - (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.
- (b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.
- (c) The Director-General may extend the period of confidentiality.

12. Terms of the non-exclusive licence

The terms of the non-exclusive copyright licence granted under condition 8 (a) are:

- (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports.
- (b) the Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.
- (c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.
- (d) there is no royalty payable by the Minister for the licence.
- (e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.

13. Safety

Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.

14. Transmission lines, Communication lines and Pipelines

Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.

15. Fences, Gates

- (a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate.
- (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.

16. Resource Recovery

- (a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.
- (b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.
- (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.
- (d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.
- (e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.

- (f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.

17. Indemnity

The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.

25. Single Security

- (a) A security in the sum of \$250,000.00 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under Consolidated Mining Lease No 7 (Act 1973), Mining Purposes Lease Nos 183, 184, 185 and 186 (Act 1973)). If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.
- (b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:
 - (i) cash,
 - (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.

SPECIAL CONDITIONS

Catchment Areas and Reserves

26. (a) If the registered holder is using or about to use any process which in the opinion of the Minister is likely to cause contamination of the waters of Stephen's Creek Catchment Area the registered holder shall refrain from using or cease using as the case may require such process within twenty four hours of the receipt by the registered holder of a notice in writing under the hand of the Minister or the Director General requiring the registered holder so to do.
 - (b) The registered holder shall comply with any regulations now in force or hereafter to be in force for the protection from pollution of the said Catchment Area.
 - (c) The registered holder shall not erect nor permit to be erected any dwellings unless with the consent of the Minister or Country Energy-Water and subject to such conditions as may be stipulated.
 - (d) The registered holder shall make such provisions for sanitation as may be approved by Country Energy-Water and shall at all times observe and perform any requirements of the said Country Energy-Water respecting sanitation.
27. Operations shall be conducted in such a manner as not to interfere with or cause damage to the assets of Country Energy-Water situated on or around the subject area.
 28. The registered holder shall as far as may be practicable so conduct operations as not to interfere in any way with the public use and enjoyment of Reserve No 2421 for Temporary Common; Reserve No 69262 from Sale for future Public Requirements, Reserve No 3073 from Sale for Public Recreation and Reserve No 30905 for Quarry.

A.2 Project approval

Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I, as delegate for the Minister for Planning, approve the project application referred to in Schedule 1, subject to the conditions in Schedules 2 to 4.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Sam Haddad
Director-General

Sydney

SCHEDULE 1

Application Numbers:	07_0018
Proponent:	Broken Hill Operations Pty Ltd
Approval Authority:	Minister for Planning
Land:	See Appendix 1
Project:	Rasp Project

The Department has prepared a consolidated version of the approval which is intended to include all modifications to the original determination instrument.

The consolidated version of the consent has been prepared by the Department with all due care. This consolidated version is intended to aid the consent holder by combining all consents relating to the original determination instrument but it does not relieve a consent holder of its obligation to be aware of and fully comply with all consent obligations as they are set out in the legal instruments, including the original determination instrument and all subsequent modification instruments.

TABLE OF CONTENTS

DEFINITIONS	3
ADMINISTRATIVE CONDITIONS	5
Obligation to Minimise Harm to the Environment	5
Terms of Approval	5
Limits on Approval	5
Structural Adequacy	5
Demolition	6
Operation of Plant & Equipment	6
Staged Submission of Any Strategy, Plan and Program	6
Surrender of Development Consents	6
ENVIRONMENTAL PERFORMANCE CONDITIONS	7
Air Quality and Greenhouse Gas	7
Lead Awareness and Public Health	9
Noise and Vibration	10
Underground Mining	13
Soil and Water	13
Transport	14
Heritage	15
Visual Amenity	15
Waste	15
Rehabilitation	15
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING	17
Environmental Management	17
Reporting	18
Independent Environmental Audit	18
Monitoring and Environmental Audits	19
Access to Information	19
Independent Review	19
Updating and Staging of Studies, Strategies and Plans	19
APPENDIX 1: SCHEDULE OF LAND	21
APPENDIX 2: PROJECT AREA	22
APPENDIX 3: PROJECT LAYOUT PLANS	24
APPENDIX 4: PLAN OF FREE AREAS	27
APPENDIX 5: INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS	28

Red type represents the March 2012 Modification (Mod 1 - Ventilation Shaft)

Blue type represents the August 2014 Modification (Mod 2 – 24 Hour Primary Crusher)

Green type represents the March 2015 Modification (Mod 3 – Block 7 Extension)

Purple type represents the September 2017 Modification (Mod 4 – Tailings Storage Facility)

Dark blue type represents the October 2018 Modification (Mod 5 – Cement Silo and Warehouse Extension)

Orange type represents the July 2019 Modification (Mod 7 – Additional Crushing and Screening)

Brown type represents the April 2021 Modification (Mod 8 – Underground Mining Extension)

Pink type represents the December 2021 Modification (Mod 9 – Extension of Underground Exploration)

Mustard type represents the March 2022 Modification (Mod 6 – Tailings Management and Underground Access)

Lime Green type represents the December 2022 Modification (Mod 10 – Temporary Tailings Stockpile)

CONSOLIDATED APPROVAL

DEFINITIONS

Annual review	The review required by Condition 3 of Schedule 4
BCA	Building Code of Australia
Boxcut	The boxcut identified in the Figure in Appendix 2
Broken Hill Lead Reference Group	A group of government agency and industry stakeholders aiming to minimise the impact of lead exposure in Broken Hill while maintaining a viable mining industry, chaired and co-ordinated by Council
Conditions of this approval	Conditions contained in Schedules 2 to 4 inclusive
Council	Broken Hill City Council
Department	Department of Planning and Environment (DPE)
DPE Water	Water Group within the Department
EA	<i>Rasp Mine Zinc-Lead-Silver Project: Environmental Assessment Report</i> , prepared by Broken Hill Operations Pty Ltd and dated July 2010, as amended by: <ul style="list-style-type: none">• <i>Rasp Mine Zinc-Lead-Silver Project: Response to Submissions Report</i>, prepared by Broken Hill Operations Pty Ltd and dated July 2010;• <i>Rasp Mine Zinc-Lead-Silver Project: Preferred Project Report (PPR)</i>, prepared by Broken Hill Operations Pty Ltd and dated September 2010;• Modification application 07_0018 Mod 1 and accompanying Environmental Assessment titled: <i>Rasp Mine, Zinc-Lead-Silver Project, Variation to Project, Relocation of Ventilation Shaft</i>, dated November 2011;• Modification application 07_0018 Mod 2 and accompanying Environmental Assessment titled: <i>Rasp Mine Zinc-Lead-Silver Project Modification 2 and Response to Submissions letter from the Proponent dated May 2014</i>;• Modification application 07_0018 Mod 3 and accompanying Environmental Assessment titled: <i>Rasp Mine Zinc-Lead-Silver Project Environmental Assessment Modification 3 Mining Extension and Response to Submissions dated January 2015</i>;• Modification application 07_0018 Mod 4 and accompanying Environmental Assessment titled: <i>Rasp Mine Environmental Assessment Modification 4, Concrete Batching Plant Blackwood Pit TSF2 Extension</i> dated April 2017 and Response to Submissions dated June 2017;• Modification application 07_0018 Mod 5 and accompanying Statement of Environmental Effects titled: <i>Rasp Mine Statement of Environmental Effects Modification 4, Warehouse Extension, Cement Silo & Adjustment of Air Quality Monitoring</i> dated August 2018;• Modification application 07_0018 Mod 7 and accompanying Statement of Environmental Effects titled: <i>Rasp Mine Statement of Environmental Effects Modification 7, Utilising Rock Fill Material in BHP Pit for TSF2 Embankment Construction</i> dated June 2019;• Modification application 07_0018 Mod 8 and accompanying Modification Report titled: <i>Rasp Mine PA07_008 Modification Report (MOD8) – Mining Under a Perilya Sublease</i> dated March 2021;• Modification application 07_0018 Mod 9 and accompanying Modification Report titled: <i>Rasp Mine Modification 9 Modification Report</i> dated 4 August 2021, and additional information provided by the Proponent to support the modification application; and• Modification application 07_0018 Mod 6 and accompanying Modification Report titled: <i>Rasp Mine Modification Report (MOD6) Kintore Pit TSF3</i> dated August 2021, associated Submissions Report titled: <i>Rasp Mine Submissions Report (MOD6) Kintore Pit TSF3</i> dated December 2021 and additional information provided by the Proponent to support the modification application and included in Appendix A of the Department's assessment report on Modification 6.• Modification application 07_0018 Mod 10 and accompanying Modification Report titled: <i>Rasp Mine Modification 10 Modification Report</i>, dated November 2022, and additional information provided by the Proponent to support the modification application.
EEL	Emergency Egress Ladder
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	Environment Protection Authority
EPL	Environment Protection Licence issued under the POEO Act
Feasible	Feasible relates to engineering considerations and what is practical to build or implement
Free Areas	Non-active mining areas within CML7 that are not disturbed by the project but contribute to the wind-blown dust from the project site, as identified in Appendix 4

CONSOLIDATED APPROVAL

Heritage NSW Incident	Heritage NSW, as delegate of the NSW Heritage Council A set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in this approval
Material harm	Is harm that: <ul style="list-style-type: none">involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; orresults in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
MEG Minimise	Mining, Exploration and Geoscience within the Department of Regional NSW Implement all reasonable and feasible mitigation measures to reduce the impacts of the project
Minister Mitigation	Minister for Planning, or delegate Activities associated with reducing the impacts of the project, prior to or during those impacts occurring
Non-compliance	An occurrence, set of circumstances or development that is a breach of this approval but is not an incident
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or a mining company (or its subsidiary)
Project	The development to which this approval applies
Proponent	Broken Hill Operations Pty Ltd, or any person who carries out the project under this approval
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The treatment or management of land disturbed by the project for the purpose of establishing a safe, stable and non-polluting environment, and includes remediation
RR Secretary	Resources Regulator within the Department of Regional NSW Planning Secretary under the EP&A Act, or nominee
Site	The land listed in Appendix 1
Temporary Tailings Stockpile	The temporary tailings stockpile as approved under Modification 10 and conceptually depicted in Figure 4 of Appendix 3
TfNSW	Transport for NSW
TSF2	Tailings storage facility 2, identified as Blackwood Pit in the Figure in Appendix 2
TSF3	Tailings storage facility 3, identified as Kintore Pit in the Figure in Appendix 2

CONSOLIDATED APPROVAL

SCHEDULE 2

ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.

TERMS OF APPROVAL

2. The Proponent must carry out the project:
 - (a) generally in accordance with the EA;
 - (b) in accordance with the conditions of this approval; and
 - (c) in accordance with any written directions of the Secretary.

Note: The general layout of the project is shown in Appendix 2.

3. If there is any inconsistency between the documents listed in condition 2 above, the most recent document in the relevant condition shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.
4. Consistent with the requirements of this approval, the Secretary may make written directions to the Proponent in relation to:
 - (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this approval, including those that are required to be, and have been, approved by the Secretary; and
 - (b) the implementation of any actions or measures contained in any such document referred to in condition 4(a).

LIMITS ON APPROVAL

Mining Operations

5. The Proponent may carry out mining operations on site until 31 December 2026.

Note to Condition 5: Under this approval, the Proponent is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this approval will continue to apply in all respects - other than the right to conduct mining operations - until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.

Production

6. The Proponent shall not extract more than 500,000 tonnes of ore per annum on-site, or more than 8,450,000 tonnes of ore over the life of the project.
- 6A. The annual extraction limit set in Schedule 2 condition 6 can be increased up to no more than 750,000 tonnes of ore per annum subject to further air quality impact assessment undertaken to the satisfaction of the EPA and a revised limit approved in writing by the Secretary.

Transport

7. Until ore processing facilities have been constructed and commissioned on the site, the Proponent is permitted to transport crushed ore by road to the Endeavour Mine, or such other location approved by the Secretary, for processing. Following commissioning of the ore processing facilities, the Proponent shall only transport zinc and lead concentrates from the site by rail, except in an emergency situation and with the prior written approval of the Secretary.

STRUCTURAL ADEQUACY

8. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes to Condition 8:

- Under Part 6 of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and
- Parts 1-9 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 sets out the requirements for the certification of the project.

DEMOLITION

9. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

OPERATION OF PLANT AND EQUIPMENT

10. The Proponent shall ensure that all the plant and equipment used on site, or to transport materials to and from the site, is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF ANY STRATEGY, PLAN AND PROGRAM

11. With the approval of the [Secretary](#), the Proponent may submit any strategy, plan or program required by this approval on a progressive basis.

SURRENDER OF DEVELOPMENT CONSENTS

12. Within six months of the commencement of works the subject of this approval, the Proponent shall surrender all existing development consents applying to the site in accordance with [section 4.63](#) of the EP&A Act.
-

CONSOLIDATED APPROVAL

SCHEDULE 3

ENVIRONMENTAL PERFORMANCE CONDITIONS

AIR QUALITY AND GREENHOUSE GAS

Odour

1. The Proponent shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.

Greenhouse Gas Emissions

2. The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the [Secretary](#).

Air Quality Criteria

3. The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not cause an exceedance of the criteria listed in Tables 1, 2 or 3 at any residence on privately-owned land.

Table 1: Long Term Criteria for Particulate Matter

Pollutant	Averaging Period	^d Criterion
Total solid particles (TSP)	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 25 µg/m ³
Particulate matter < 2.5 µm (PM _{2.5})	Annual	^a 8 µg/m ³

Table 2: Short Term Criterion for Particulate Matter

Pollutant	Averaging Period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³
Particulate matter < 2.5 µm (PM _{2.5})	24 hour	^a 25 µg/m ³

Table 3: Long Term Criteria for Deposited Dust

Pollutant	Averaging Period	Maximum Project Contribution	Maximum Total Deposited Dust Level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Notes to Tables 1–3:

- ^a Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);
- ^b Incremental impact (i.e. incremental increase in concentrations due to the project on its own);
- ^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method;
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents, illegal activities or any other activity agreed by the [Secretary](#) in consultation with EPA.

4. The Proponent shall ensure that the project is operated in a manner that does not exceed the criteria listed in Tables 4 and 5.

Table 4: Discharge Criteria for Point 1 – Ventilation Shaft

Pollutant	Units of Measure	Concentration Limit
Oxides of nitrogen (as NO ₂)	Milligrams per cubic metre	350

CONSOLIDATED APPROVAL

Total solid particles (TSP)	Milligrams per cubic metre	20
^a Type 1 and Type 2 substances	Milligrams per cubic metre	1
Volatile organic compounds (as n-propane)	Milligrams per cubic metre	40

Table 5: Discharge Criteria for Point 2 – Process Enclosure/ Baghouse Stack

Pollutant	Units of Measure	Concentration Limit
Total solid particles (TSP)	Milligrams per cubic metre	20
^a Type 1 and Type 2 substances	Milligrams per cubic metre	1

Notes to Tables 4–5:

- ^a Total of Sb, As, Cd, Pb, Hg, Be, Cr, Co, Mn, Ni, Se, Sn and V; and
- reference conditions for the limits in Tables 4 and 5 are: dry, 273K and 101.3 kPa.

Operating Conditions

- The Proponent shall:
 - implement best practice dust management, including all reasonable and feasible measures to minimise dust emissions, including point source and fugitive emissions;
 - minimise any visible off-site dust generated by the project or the site; and
 - regularly assess real-time air quality monitoring and meteorological forecasting data and relocate, modify and/ or suspend operations to ensure compliance with the relevant conditions of this approval, to the satisfaction of the [Secretary](#).
- The Proponent shall seal and maintain the roads listed in Table 6 to the satisfaction of the [Secretary](#). The roads shall be sealed prior to the commencement of ore extraction **or their use**, unless otherwise agreed by the [Secretary](#).

Table 6: Roads to be Sealed and Maintained

Road Status	Road	Approximate Length (m)
Existing	Front gate to truck wash	292
	'Diamond' intersection to core shed	360
	Front gate road to car park	132
New	Truck wash to haul road connection from Kintore Pit	690
	Kintore Pit intersection (truck wash and haul roads) to ROM pad (haul road for ore mine trucks)	1,186
	Altered ROM pad to and through mill	384
	Mill to rail load out (concentrate trucks)	910
	Truck wash road to workshop	190
	Haul road to backfill plant	400
Modification 6	Haul road for transportation of harvested tailings from TSF2 to TSF3	2,283
	Ore haul road from the new portal (Modification 6) to the Run of Mine Pad	325

- Ore crushing shall only be undertaken in a fully-enclosed structure that is designed, operated and maintained to ensure internal negative internal air pressure relative to ambient (external) conditions. The enclosure and associated emissions controls must be designed, constructed, operated and maintained to ensure that visible fugitive emissions from the enclosure are minimised.
- A chemical dust suppressant shall be applied as per the manufacturer's specification, or more often as required, to all 'free areas' identified in the figure in Appendix 4.

CONSOLIDATED APPROVAL

9. All aboveground conveyors and transfer points prior to the grinding circuit (SAG and ball mills) shall be enclosed.
10. Video recording equipment shall be installed to assist in the active management of emissions from the tailings storage facility.

Air Quality Management Plan

11. The Proponent **must prepare** an Air Quality Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
 - (a) be prepared **by a suitably qualified and experienced person/s**, in consultation with **EPA** and submitted to the **Secretary** for approval prior to the commencement of construction on the site;
 - (b) identify all major sources of particulates and other air pollutants that may be emitted from the project, being both point source and diffuse emissions, including identification of the potential for lead contamination to be carried by these particulates;
 - (c) include an air quality monitoring program that:
 - **provides a real-time monitoring system of dust emissions around the perimeter of TSF2 that triggers an automated water spray system prior to adverse meteorological conditions occurring;**
 - **is capable of measuring lead concentrations located in the prevailing down wind direction near the perimeter of TSF2;**
 - provides for periodic point source monitoring at Point 1 (Ventilation Shaft) and Point 2 (Process Enclosure/ Baghouse Stack);
 - provides for continuous ambient monitoring across an ambient air quality and dust monitoring network comprising no fewer than ten monitoring locations (Points 3 to 12) for total suspended particulates, PM₁₀, lead and dust deposition. Monitoring locations shall be informed by the outcomes of the air quality assessments presented in the EA and PPR and identified in consultation with **EPA**;
 - provides for continuous meteorological monitoring using a meteorological monitoring station located on the site;
 - is consistent with the requirements of *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (NSW EPA, 2022)*, or the latest version, the *Protection of the Environment Operations Act 1997* and the *Protection of the Environment (Clean Air) Regulation 2010*; and
 - **details trigger response management protocols in combination with continuous particulate matter monitors and a meteorological monitoring station on-site, with clear and specific reactive mitigation measures to be implemented in accordance with the trigger response management protocol; and;**
 - (d) pro-active and reactive management and response mechanisms for particulates with specific reference to measures to be implemented and actions to be taken to minimise and prevent potential elevated air quality impacts (including ambient air and deposited dust impacts) on surrounding land uses as a consequence of meteorological conditions, upsets within the project, or the mode of operation of the project at any time;
 - (e) **procedures to review and refine the reactive management triggers for wind speed and dust concentrations;**
 - (f) procedures and processes for monitoring ambient dust and deposited dust impacts;
 - (g) provision for regular review of dust monitoring data, with comparison of monitoring data with that assumed and predicted in the documents referred to under Condition 2 of Schedule 2;
 - (h) details of measures to be implemented to address any situation in which monitored dust impacts exceed those assumed and predicted in the documents referred to under Condition 2 of Schedule 2;
 - (i) specific complaints management procedures in the event that dust monitoring indicates elevated off-site impacts;
 - (j) procedures for the minimisation of dust generation on the site **and measures to be implemented to ensure compliance with the air quality criteria and operating conditions in this approval;**
 - (k) protocols for regular maintenance of plant and equipment to minimise the potential for elevated dust generation, leaks and fugitive emissions; and
 - (l) a contingency plan should an incident, upset or other initiating factor lead to elevated dust impacts, whether above normal operating conditions or above environmental performance goals/ limits.

11A. **The Proponent must implement the Air Quality Management Plan as approved by the Secretary.**

LEAD AWARENESS AND PUBLIC HEALTH

Contribution to Public Blood lead Monitoring & Public Education

12. During the implementation of the project, the Proponent shall make a reasonable contribution towards the cost of:
 - (a) public health monitoring, particularly in relation to child blood lead levels; and
 - (b) public education campaigns about the health risks associated with lead,

to the satisfaction of the [Secretary](#).

Note: The [Secretary](#) will consult with [NSW Health \(Western NSW Local Health District\)](#) on the reasonableness of the proposed contribution prior to making any decisions under this condition, and determine the date upon which the contributions shall commence.

Lead Management Plan

13. The Proponent shall prepare and implement a Lead Management Plan for the project to the satisfaction of the [Secretary](#). This plan must:
- (a) be prepared in consultation with the [Broken Hill Lead Reference Group](#), including the [EPA, NSW Health \(Western NSW Local Health District\)](#) and Council;
 - (b) be submitted to the [Secretary](#) for approval by 30 June 2011;
 - (c) outline the proposed commitment towards the cost of:
 - public health monitoring, particularly in relation to child blood lead levels, and tracking of this data over time; and
 - public education campaigns about the health risks associated with lead, including lead hygiene, lead and children, tank water lead risks and soil lead contamination risks.
 - (d) identify additional reasonable and feasible measures that could be implemented either on site or in the areas adjoining the site to minimise the potential lead impacts of the project and "free areas";
 - (e) include a program for the staged implementation of the measures identified in (d) above in the event that dust emissions are higher than predicted or the public health monitoring suggests further action is required to reduce blood lead levels in the environment surrounding the site; and
 - (f) include a detailed communication strategy, that outlines how the relevant dust and blood level monitoring data would be reported on the Proponent's website along with any relevant public education material.

Updated Human Health Risk Assessment

14. Within one year of the commencement of operation of the project, and every five years thereafter, unless otherwise agreed by the [Secretary](#), the Proponent shall update the human health risk assessment prepared for the project and presented in the EA to the satisfaction of the [Secretary](#). The updated risk assessment shall:
- (a) be prepared by a suitably-qualified expert whose appointment has been endorsed by the [Secretary](#);
 - (b) take into account monitoring data collected under this approval, and such other information as may be relevant to the assessment; and
 - (c) be prepared in consultation with the [EPA](#) and the [NSW Health \(Western NSW Local Health District\)](#).
- 14A. The updated Health Risk Assessment must inform the revision of the Air Quality Management Plan and the Lead Management Plan required under this approval, if monitoring data shows that the project is contributing to increased blood lead levels.

Temporary Tailings Stockpile

- 14B. Following completion of construction of TSF3, the Proponent must prioritise the re-employment of tailings from the Temporary Tailings Stockpile to TSF3.

NOISE AND VIBRATION

Hours of Operation

15. Unless the [Secretary](#) agrees otherwise, the Proponent must comply with the operating hours in Table 6.1.

Table 6.1: Operating Hours

Activity	Hours
Mod 6 construction activities excluding new decline underground activities, and TSF3 tailings preparation works	7 am to 6 pm, Monday to Saturday No activities on Sundays or public holidays
Construction, excluding construction of the EEL and Mod 6 construction activities	7 am to 6 pm, Monday to Friday 8 am to 1 pm, Saturday No activities on Sundays or public holidays
Capping and rehabilitation of TSF2	
Shunting of concentrate wagons	7 am and 6 pm on any day
Production rock blasting	6:45 am and 7:15 pm on any day
Transporting cement to the cement silo	
Loading the cement silo	7 am to 7 pm on any day

CONSOLIDATED APPROVAL

Activity	Hours
Tailings harvesting in TSF2, including emplacement in the Temporary Tailings Stockpile	7am to 7 pm on any day
All other activities, including construction of the EEL, construction of the new decline (underground activities) and TSF3 tailings preparation works	24 hours a day, 7 days a week

16. Deleted.

Noise Limits

17. The Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 7 except as otherwise permitted under conditions 17B and 17D below.

Table 7: Operational Noise Criteria

Location	^a Day (dB(A))	^b Evening (dB(A))	^c Night (dB(A))
A1 – Piper Street North	40	37	35
A2 – Piper Street Central	40	37	35
A3 – Eyre Street North	44	41	39
A4 – Eyre Street Central	44	41	39
A5 – Eyre Street South	44	41	39
A6 – Bonanza and Gypsum Streets	48	41	39
A7 – Carbon Street	45	42	36
A8 – South Road	48	39	39
A9 – Crystal Street	46	39	39
A10 – Barnet and Blende Streets	42	41	35
A11 – Crystal Street	46	39	39
A12 – Crystal Street	46	39	39
A13 – Eyre Street North 2	40	35	35
A14 – Piper Street North	40	35	35

Notes to Condition 17:

- Receiver locations are as identified in the noise assessments presented in the EA and PPR;
- Noise limits are to be measured in accordance with the *Noise Policy for Industry (NSW EPA, 2017)*, or its latest version;
- ^a Day is defined as 7 am to 6 pm Mondays to Saturdays and 8 am to 6 pm on Sundays and public holidays;
- ^b Evening is defined as 6 pm to 10 pm on any day; and
- ^c Night is defined as 10 pm to 7 am Mondays to Saturdays and 10 pm to 8 am on Sundays and public holidays.

17A. The daytime criteria in Table 7 of this approval do not apply when the following activities are being carried out:

- (a) construction of the concrete batching plant and associated noise bund;
- (b) construction of TSF2, including:
 - embankment 2;
 - the spillway;
 - embankment 3;
 - embankment 1;
- (c) capping and rehabilitation of TSF2;
- (d) construction of the cement silo and warehouse extension; and
- (e) crushing and screening activities associated with construction of TSF2 embankments.

17B. With regard to the activities specified in condition 17A(a)-(e) of this approval, the Proponent must:

- (a) notify the Department prior to commencement and upon completion of each activity;
- (b) minimise the noise generated by these activities in accordance with the best practice requirements outlined in the *Interim Construction Noise Guideline* (DECC, 2009), or its latest version; and
- (c) ensure that the noise generated by the project does not cause exceedances of the amenity criteria of 65 dB $L_{Aeq,day}$ specified for an urban/industrial interface area under the *NSW Industrial Noise Policy*.

17C. The Proponent must not carry out any of the activities specified in condition 17A(a)-(c) concurrently.

CONSOLIDATED APPROVAL

- 17D. The noise criteria in Table 7 of this approval apply for construction of Stages 1 and 2 of the boxcut, excluding daytime criteria for receivers described in Table 7a. The proponent must ensure that the noise generated by the project does not exceed the criteria in Table 7a during standard construction hours – defined as Monday to Friday 7 am to 6 pm and Saturday 8 am to 1 pm and no time on Sundays and public holidays.

Table 7a: Additional Construction Noise Criteria for the Boxcut Construction

Location	Day (dB(A))
A1 – Piper Street North	43
A2 – Piper Street Central	45
A3 – Eyre Street North	47
A13 – Eyre Street North 2	48
A14 – Piper Street North	47

Notes to Condition 17D:

- Receiver locations are as identified in the noise assessments presented in the Appendix 3; and
- Noise limits are to be measured in accordance with the Noise Policy for Industry (NSW EPA, 2017), or its latest version.

Blasting Limits

18. The Proponent shall ensure that blasting on the site does not cause exceedances of the criteria in Tables 8 and 9.

Table 8: Blasting Criteria (excluding Block 7)

Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	^a Allowable Exceedance
Residence on privately owned land	115	5	^b 5% of the total number of blasts over a 12-month period
	120	10	0%
Public Infrastructure	-	100	0%

Table 9: Blasting Criteria (Block 7)

Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	^a Allowable Exceedance
Residence on privately owned land	115	^c 3 (interim)	5% of the total number of blasts over a 12-month period
	120	10	0%
Broken Hill Bowling Club, Italio (Bocce) Club, Heritage Items within CML7	-	50	0%
Perilya Southern Operations	-	100	0%
^d Public Infrastructure	-	100	0%

These criteria do not apply if the Proponent has a written agreement with the relevant owner to exceed these criteria, and has advised the Department in writing of the terms of this agreement.

Notes to Tables 8 and 9:

- ^a The allowable exceedance must be calculated separately for development blasts and production blasts;
- ^b The 5% allowable exceedance does not apply to production blasts until the Proponent has successfully completed a Pollution Reduction Program aimed at achieving this goal, as required by the EPA under the Proponent's EPL (No. 12559), or as otherwise agreed with the EPA;
- ^c The interim criteria applies unless and until such time that the Proponent has written consent from the Secretary to apply site specific criteria in accordance with condition 19 of this approval; and
- ^d The Proponent must close South Road to pedestrians if blasts are expected to exceed a peak particle velocity ground vibration of 65 mm/s at the road reserve surface, while the blast firing occurs.

19. The Proponent may establish site specific ground vibration criteria for residential receivers that may be affected by blasting operations in Block 7, to the satisfaction of the Secretary. These criteria must:
- be prepared by a suitably qualified mining engineer;
 - be prepared in consultation with the EPA;

CONSOLIDATED APPROVAL

- (c) protect the amenity of all residences on privately owned land; and
- (d) be based on blast monitoring data for the Block 7 mining area.

Blast Frequency

- 19A. The Proponent may carry out a maximum of:
- (a) 1 production blast a day and 6 production blasts a week, averaged over a calendar year; and
 - (b) 6 development blasts a day and 42 development blasts a week, averaged over a calendar year.

Operating Conditions

- 19B. The Proponent must:
- (a) implement best management practice to:
 - protect the safety of people in the surrounding area; and
 - protect public or private infrastructure/property in the surrounding area from any damage;
 - (b) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on site;
 - (c) use reasonable endeavours to co-ordinate blasting at the site:
 - to minimise cumulative blasting impacts associated with the operation of nearby mines; and
 - to avoid disturbing users of nearby recreational facilities, including the Broken Hill Bowling Club and the Italo (Bocce) Club;
 - (d) minimise the noise impacts of the project during adverse meteorological conditions (stability category F temperature inversion conditions and wind speeds greater than 2 m/s at 10 m above ground level);
 - (e) carry out regular monitoring to determine whether the project is complying with the relevant conditions of this approval; and
 - (f) regularly assess noise monitoring data and modify and/or stop operations on site to ensure compliance with the relevant conditions of this approval; to the satisfaction of the Secretary.

Noise and Blast Management Plan

20. The Proponent shall prepare and implement a Noise and Blast Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with EPA, and submitted to the Secretary for approval by the end of June 2011;
 - (b) describe the noise mitigation measures that would be implemented to:
 - ensure compliance with the relevant conditions of this approval, including a real-time noise management system that employs both reactive and proactive mitigation measures;
 - address activities associated with the construction of the concrete batching plant and TSF2, and the capping and rehabilitation of TSF2; and
 - address activities associated with the construction of the boxcut, TSF3 and tailings harvesting routes as described in Modification 6;
 - (c) include a noise monitoring program that:
 - uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the project; and
 - includes a protocol for determining exceedances of the relevant conditions of this approval;
 - (d) describe the blast management measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this approval;
 - (e) include a blast monitoring program that:
 - evaluates the performance of the project, including compliance with the applicable criteria;
 - uses a combination of roving blast monitors (at least 1) and fixed blast monitors (at least 6); and
 - includes a protocol for determining and responding to exceedances of the relevant conditions of this approval; and
 - (f) detail notification requirements to relevant government agencies.

UNDERGROUND MINING

Performance Measures

- 20A. The Proponent shall ensure that there are no measurable subsidence impacts caused by underground mining beneath South Road and other public infrastructure.

SOIL AND WATER

21. Except as may be expressly provided by an Environment Protection Licence issued under the *Protection of the Environment Operations Act 1997*, the Proponent shall comply with section 120 of that Act, which prohibits the pollution of waters.

Water Supply

22. The Proponent shall ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of mining operations to match its water supply.

Note: The Proponent is required to obtain the necessary water licences for the project under the Water Act 1912 and/or Water Management Act 2000.

Water Management Plan

23. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the **Secretary**. This plan must be consistent with the Stormwater Management Plan presented as Annexure K to the EA, incorporate any changes to reflect the final detailed design of the project, and be prepared in consultation with **EPA**, **DPE Water** and **RR**. The plan must: be submitted to the **Secretary** for approval by the end of June 2011, and must include:

- (a) a Site Water Balance, which must:
- include details of:
 - sources and security of water supply;
 - **methods to monitor, measure and manage reporting on water take (exempt and licensable);**
 - water use on site;
 - water management on site;
 - any off-site water transfers; and
 - investigate and implement all reasonable and feasible measures to minimise water use by the project;
- (b) an Erosion and Sediment Control Plan, which must:
- identify activities that could cause soil erosion, generate sediment or affect flooding;
 - describe measures to minimise soil erosion and the potential for transport of sediment to downstream waters, and manage flood risk;
 - describe the location, function and capacity of erosion and sediment control structures and flood management structures; and
 - describe what measures would be implemented to maintain the structures over time;
- (c) a Surface Water Management Plan, which must include:
- detailed baseline data on surface water flows and quality in creeks and other waterbodies that could potentially be affected by the project;
 - surface water and stream health impact assessment criteria including trigger levels for investigating any potentially adverse surface water impacts;
 - a program to monitor and assess:
 - surface water flows and quality;
 - impacts on water users;
 - stream health;
 - channel stability; and
 - **detail relocated and additional water management infrastructure required by Modification 6 including the boxcut, water storage S37, the TSF3 and "free areas".**
- (d) a Groundwater Monitoring Program, which must:
- provide a program to monitor seepage movement within and adjacent to **all tailings storage facilities (the TSF1, TSF2 and TSF3);**
 - include details of parameters and pollutants to be monitored for:
 - water from mine dewatering;
 - groundwater locations to the east of TSF1;
 - surface water represented by Horwood Dam;
 - water captured by the toe drains of the tailings storage facility;
 - water seepage from the tailings storage facility; and
 - the background local groundwater system.
 - outline performance parameters against monitoring data will be compared to determine whether seepage is occurring, and whether an unacceptable impact on local groundwater may be occurring;
 - include details of contingency measures to be implemented in the event that an unacceptable impact is identified.

TRANSPORT

24. The Proponent shall maintain the existing 66 carparking spaces, or an equivalent number elsewhere on the site, for the duration of the project.
25. The Proponent shall consult with the **TfNSW** and **Council** in relation to the footpath modifications required at the Eyre Street site access and shall address the design requirements of those agencies in relation to

CONSOLIDATED APPROVAL

those works. All footpath works shall be completed prior to the commencement of operation of the project, and shall be undertaken at no cost to the TfNSW or Council.

26. A truck waiting area with capacity to accommodate at least two B-Double vehicles at any time shall be provided inside the Eyre Street site access to avoid trucks queuing into Eyre Street.
27. If the Holten Road site access is required during construction of the project, the Proponent shall, prior to using this access, consult with and address the requirements of the TfNSW and Council with respect to traffic access at this location.
28. The Proponent shall commission dilapidation reports for roads likely to be affected by the construction of the project, prior to the commencement of construction and immediately prior to completion of construction. The Proponent shall fund rectification of any deterioration of road pavement quality as a result of construction-related traffic.
- 28A. The Proponent must enter into a Deed of Agreement with the TfNSW for the protection and management of South Road, to the satisfaction of the TfNSW, prior to the commencement of production blasting in Block 7.

Traffic Management Plan

29. The Proponent shall prepare and implement a traffic management plan to the satisfaction of the Secretary. The plan shall focus on traffic management during construction of the project, and must be developed in consultation with the TfNSW and Council. The plan must be submitted for the approval of the Secretary prior to the commencement of construction.

HERITAGE

30. The Proponent shall prepare and implement a Conservation Management Plan for the site to the satisfaction of the Secretary. This plan must provide a strategic framework for all heritage items located on the Lease, based on the principles of the Burra Charter, and developed in consultation with the Heritage NSW and Council. The plan must be submitted for the approval of the Secretary by December 2011.
- 30A. If any unexpected heritage items are identified over the life of the project, the Proponent must cease works and contact the Heritage NSW in writing prior to works continuing in the affected areas.

VISUAL AMENITY

31. The Proponent shall:
 - (a) minimise the visual impacts, and particularly the off-site lighting impacts, of the project;
 - (b) take all practicable measures to further mitigate off-site lighting impacts from the project; and
 - (c) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting*, or its latest version, to the satisfaction of the Secretary.

WASTE

32. The Proponent shall:
 - (a) minimise the waste generated by the project; and
 - (b) ensure that the waste generated by the project is appropriately stored, handled, and disposed of, to the satisfaction of the Secretary.
33. The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with RR, and submitted the Secretary for approval by the end of March 2011;
 - (b) identify the various waste streams of the project;
 - (c) estimate the volumes of tailings and other waste material that would be generated by the project;
 - (d) describe and justify the proposed strategy for disposing of this waste material;
 - (e) describe what measures would be implemented to meet the requirements set out above in condition 32; and
 - (f) include a program to monitor the effectiveness of these measures.
- 33A. The Proponent must update the Waste Management Plan required by condition 33 of this approval by December 2017, unless the Secretary agrees otherwise. The updated plan must include:
 - (a) a long-term waste management strategy; and
 - (b) an action plan for the implementation of the key measures proposed to achieve the strategy.Following approval, the Proponent must implement the plan.

REHABILITATION

Progressive Rehabilitation

34. The Proponent must rehabilitate the site progressively, that is, as soon as is practicable following disturbance, to the satisfaction of the Secretary.

Rehabilitation Strategy

- 34A. Within 6 months from approval of Modification 6, the Proponent must prepare a Rehabilitation Strategy for the site to the satisfaction of the Secretary. This strategy must:
- (a) be prepared by a team of suitably qualified and experienced experts whose appointment has been endorsed by the Secretary;
 - (b) be prepared in consultation with relevant stakeholders including the RR, MEG, EPA, NSW Health (Western NSW Local Health District), DPE Water, Heritage NSW, Council and Perilya Broken Hill Limited;
 - (c) define the rehabilitation objectives for and schedule of the mine site and “free areas”, with consideration of heritage values, dust management, water and leachate management, subsidence, visual impacts and public safety;
 - (d) includes a conceptual final landform and rehabilitation plan;
 - (e) include a life of mine rehabilitation and mining schedule which outlines key progressive rehabilitation milestones from the commencement of operations through to decommissioning and mine closure; and
 - (f) managing and minimising any adverse socio-economic effects associated with mine closure.

The Proponent must implement the approved Rehabilitation Strategy for the project.

Rehabilitation Management Plan

35. The Proponent must prepare and implement a Rehabilitation Management Plan for the project in accordance with the conditions imposed on the mining lease(s) associated with the project under the *Mining Act 1992*.

SCHEDULE 4

ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the **Secretary**. This strategy must:
 - (a) be submitted to the **Secretary** for approval by the end of June 2011;
 - (b) provide the strategic framework for the environmental management of the project;
 - (c) identify the statutory approvals that apply to the project;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the project;
 - respond to any non-compliance; and
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this approval; and
 - a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.

Management Plan Requirements

2. The Proponent shall ensure that the management plans required under this approval are prepared in accordance with relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria; and
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - impacts and environmental performance of the project; and
 - effectiveness of any management measures (see (c) above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences;
 - (f) a program to investigate and implement ways to improve the environmental performance of the project over time;
 - (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with the conditions of this approval and statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
 - (h) a protocol for periodic review of the plan.

*Note: The **Secretary** may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*

Annual Review

3. By the end of **31 March 2023**, and annually thereafter, the Proponent **must submit a report reviewing** the environmental performance of the project to the satisfaction of the **Secretary**. This review must:
 - (a) describe the **project** (including any rehabilitation) that was carried out in the past **calendar** year, and the **project** that is proposed to be carried out over the next year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the project over the past year, which includes a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures/criteria;
 - monitoring results of previous years;
 - relevant predictions in the documents referred to in Conditions 2 of Schedule 2; **and**

CONSOLIDATED APPROVAL

- requirements of any plan or program required under this approval;
- (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;
- (d) identify any trends in the monitoring data over the life of the project;
- (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies;
- (f) describe what measure will be implemented over the next year to improve the environmental performance of the project; and
- (g) evaluate and report on compliance with the performance measures, criteria and operating conditions of this approval.

Revision of Strategies, Plans & Programs

4. Within three months of:
 - (a) the submission of an annual review under Condition 3 above;
 - (b) the submission of an incident report under Condition 5 below;
 - (c) the submission of an audit report under Conditions 7 – 8A below;
 - (d) any modification of the conditions of this approval (unless the conditions require otherwise), or
 - (e) a direction of the Secretary under Condition 2 of Schedule 2.

the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary.

Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Secretary for approval, unless otherwise agreed with the Secretary.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.

REPORTING

Incident Notification, Reporting and Response

5. The Secretary must be notified in writing via the Major Projects website immediately after the Proponent becomes aware of an incident. The notification must identify the project (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 5.

Non-Compliance Notification

- 5A. The Secretary must be notified in writing via the Major Projects website within seven days after the Proponent becomes aware of any non-compliance. A non-compliance notification must identify the project and the application number for it, set out the condition of approval that the project is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

Note: A non-compliance which has been notified as an incident does not need to also be notified as a noncompliance.

Regular Reporting

6. The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any approved plans or programs of the conditions of this approval.

INDEPENDENT ENVIRONMENTAL AUDIT

7. Within one year of the date of physical commencement of development under Modification 6, and every three years after, unless the Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the project. The audit must:
 - (a) be prepared in accordance with the *Independent Audit Post Approval Requirements (NSW Government 2020)*; and
 - (b) be submitted, to the satisfaction of the Secretary, within two months of undertaking the independent audit site inspection, unless otherwise agreed by the Secretary.
8. In accordance with the specific requirements of the *Independent Audit Post Approval Requirements (NSW Government 2020)*, the Proponent must:
 - (a) review and respond to each Independent Audit Report prepared under Condition 7 above;

CONSOLIDATED APPROVAL

- (b) submit a response to the Secretary and any other NSW agency that requests it, together with a timetable for the implementation of the recommendations of the Independent Audit Report;
- (c) implement the recommendations to the satisfaction of the Secretary; and
- (d) make each Independent Audit Report and response to it publicly available no later than 60 days after submission to the Secretary.

MONITORING AND ENVIRONMENTAL AUDITS

- 8A. Any condition of this approval that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit.

For the purposes of this condition, as set out in the EP&A Act, “monitoring” means monitoring of the project to provide data on compliance with the approval or on the environmental impact of the project, and an “environmental audit” means a periodic or particular documented evaluation of the project to provide information on compliance with the approval or the environmental management or impact of the project.

ACCESS TO INFORMATION

9. From the end of March 2011 until the completion of all rehabilitation required under this approval, the Proponent shall:
- (a) make copies of the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this approval) publicly available on its website:
 - the documents referred to in Condition 2 of Schedule 2;
 - all current statutory approvals for the project;
 - all approved strategies, plans and programs required under the conditions of this approval;
 - the proposed staging plans for the project if the construction, operation or decommissioning of the project is to be staged;
 - regular reporting on the environmental performance of the project in accordance with the reporting requirements in any plans or programs approved under the conditions of this approval;
 - the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans or programs;
 - a summary of the current phase and progress of the project;
 - contact details to enquire about the project or to make a complaint;
 - a complaints register, updated on a monthly basis;
 - the annual reviews of the project;
 - any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit; and
 - any other matter required by the Secretary;
 - (b) keep this information up-to-date, to the satisfaction of the Secretary.

INDEPENDENT REVIEW

10. If an owner of privately-owned land considers the project to be exceeding the criteria in schedule 3 at his/her land, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land.

If the Secretary is satisfied that an independent review is warranted, then the Proponent shall:

- (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Secretary, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and
 - if the project is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Secretary and landowner a copy of the independent review within 2 months of the Secretary's decision, unless the Secretary agrees otherwise.

UPDATING AND STAGING OF STUDIES, STRATEGIES AND PLANS

11. To ensure the studies, strategies and plans for the project are updated on a regular basis and incorporate any required measures to improve the environmental performance of the project, the Proponent may submit revised studies, strategies or plans required for the project under the conditions of approval at any time.

CONSOLIDATED APPROVAL

With the agreement of the Secretary, the Proponent may also submit any study, strategy or plan required under the conditions of this approval on a staged basis.

12. The Secretary may approve a revised strategy or plan required under the conditions of approval, or the stage submission of these documents, at any time. With the approval of the Secretary, the Proponent may prepare the revised or staged strategy or plan without undertaking consultation with all parties nominated under the applicable condition in this approval.

Notes:

- *While any study, strategy or plan may be submitted on a progressive basis, the Proponent must ensure that the existing operations on site are covered by suitable studies, strategies or plans at all times.*
 - *If the submission of any study, strategy or plan is to be staged, then the relevant study, strategy or plan must clearly describe the specific stage to which the study, strategy or plan applies, the relationship of this stage to any future stages, and the trigger for updating the study, strategy or plan.*
-

FOR INFORMATION

CONSOLIDATED APPROVAL

APPENDIX 1: SCHEDULE OF LAND

Mineral Authorities/ Lot Number	Deposited Plan Number
CML 7	-
MPL 183	-
MPL 184	-
MPL 185	-
MPL 186	-
EL 5818	-
1	26/ 758018
2	26/ 758018
3	26/ 758018
4	26/ 758018
5	26/ 758018
6	26/ 758018
7	26/ 758018
8	26/ 758018
9	26/ 758018
10	26/ 758018
17	26/ 758018
1	809279
2	809279
1	134676
2	134676
3	134676
11	725393
675	761716
1790	757298
Sublease area within ML1249 depicted in Figure 1 below	-

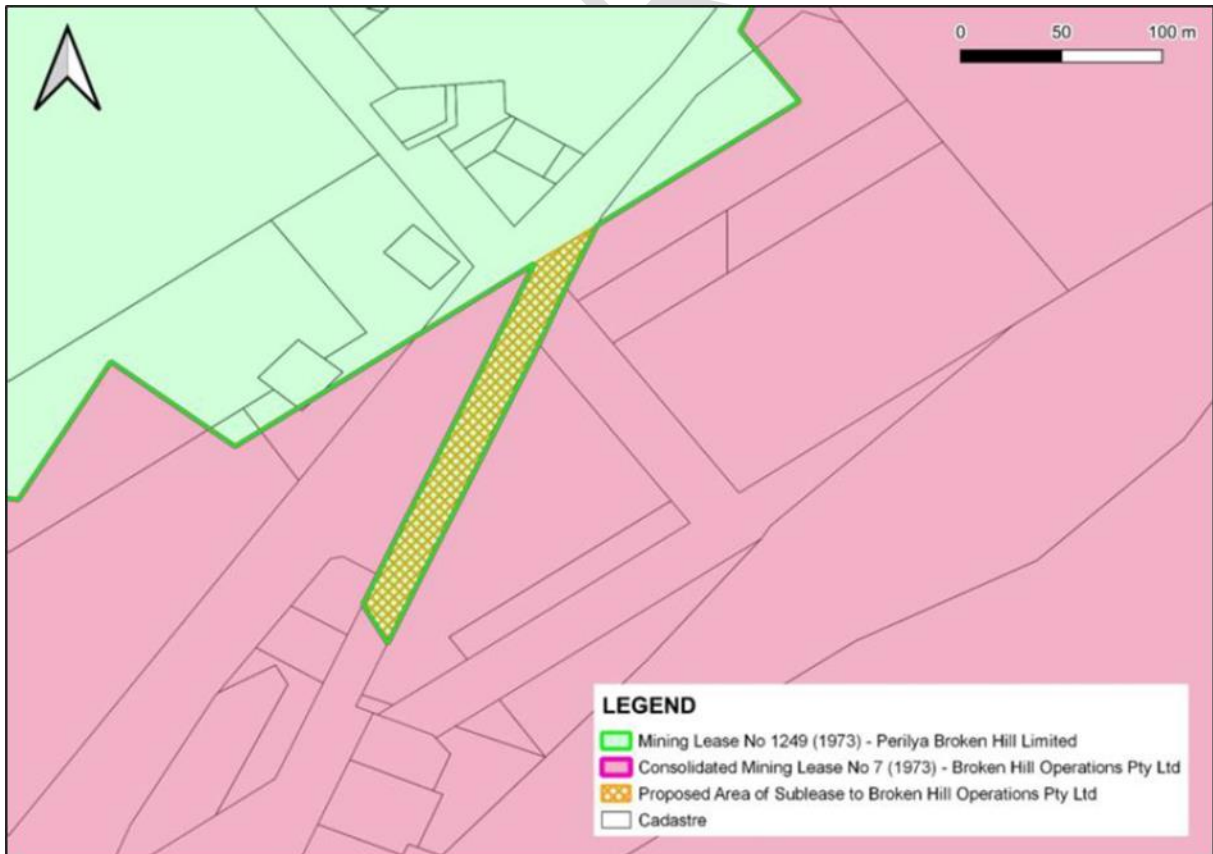
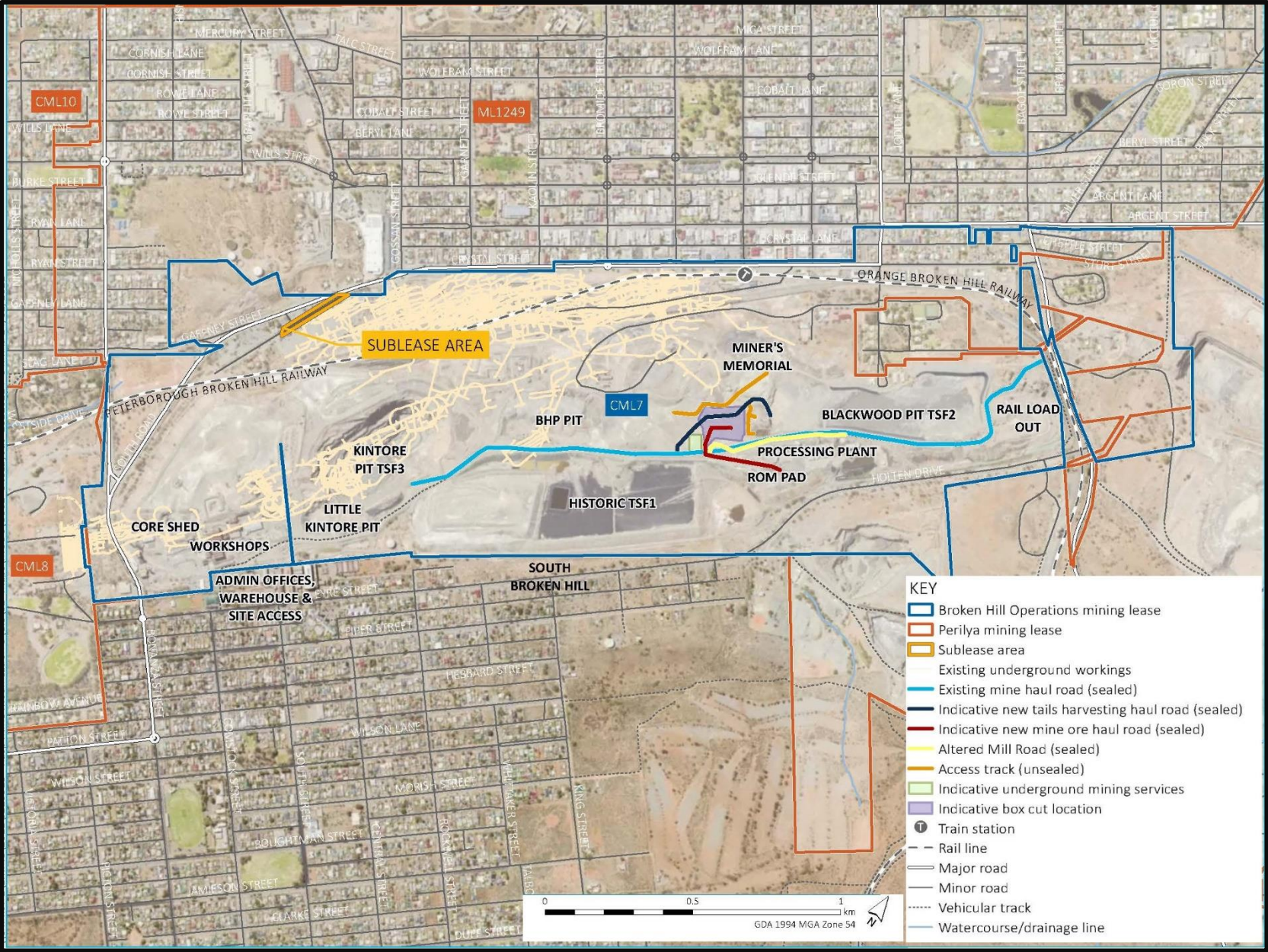
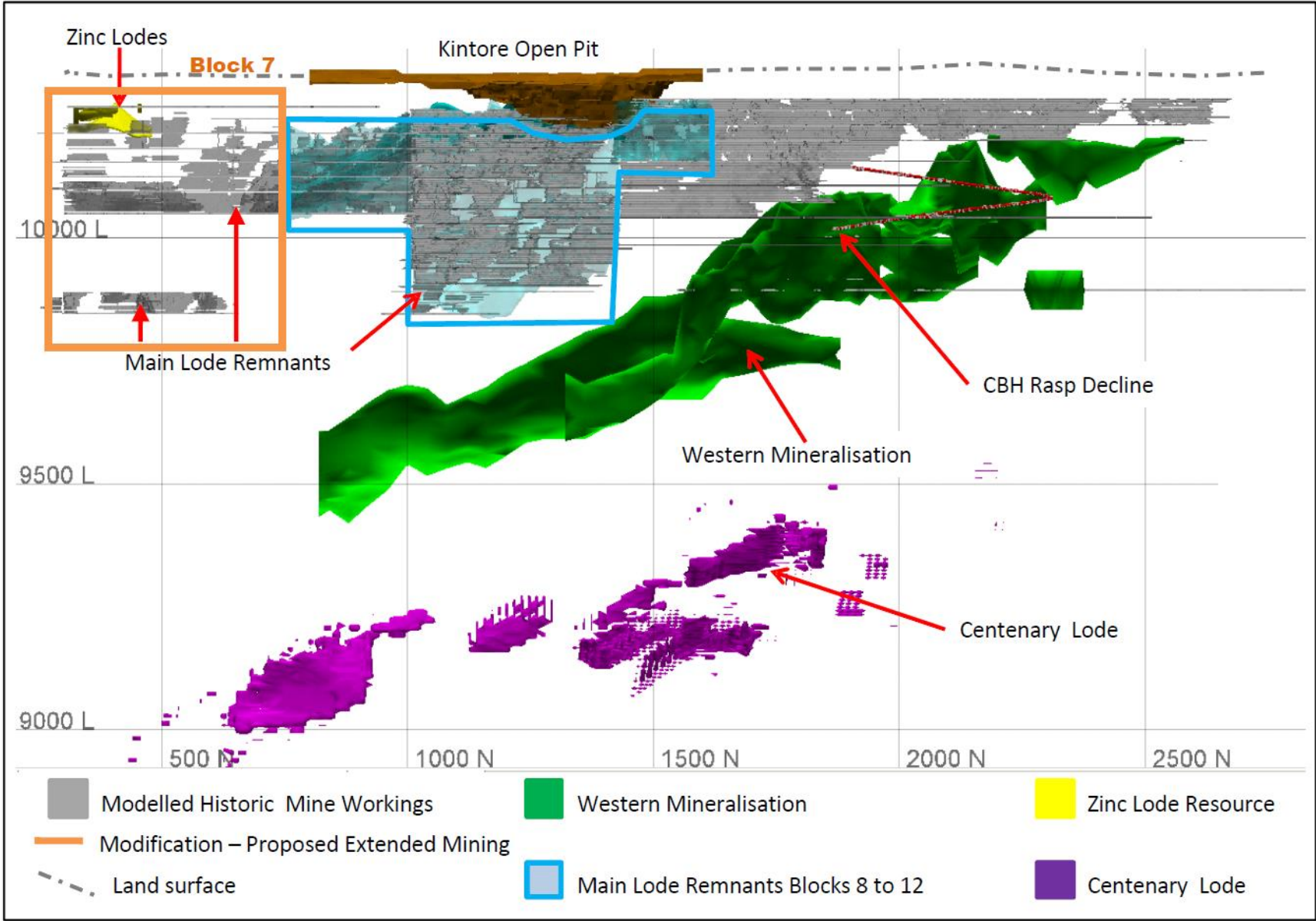


Figure 1 - Sublease area within ML1249

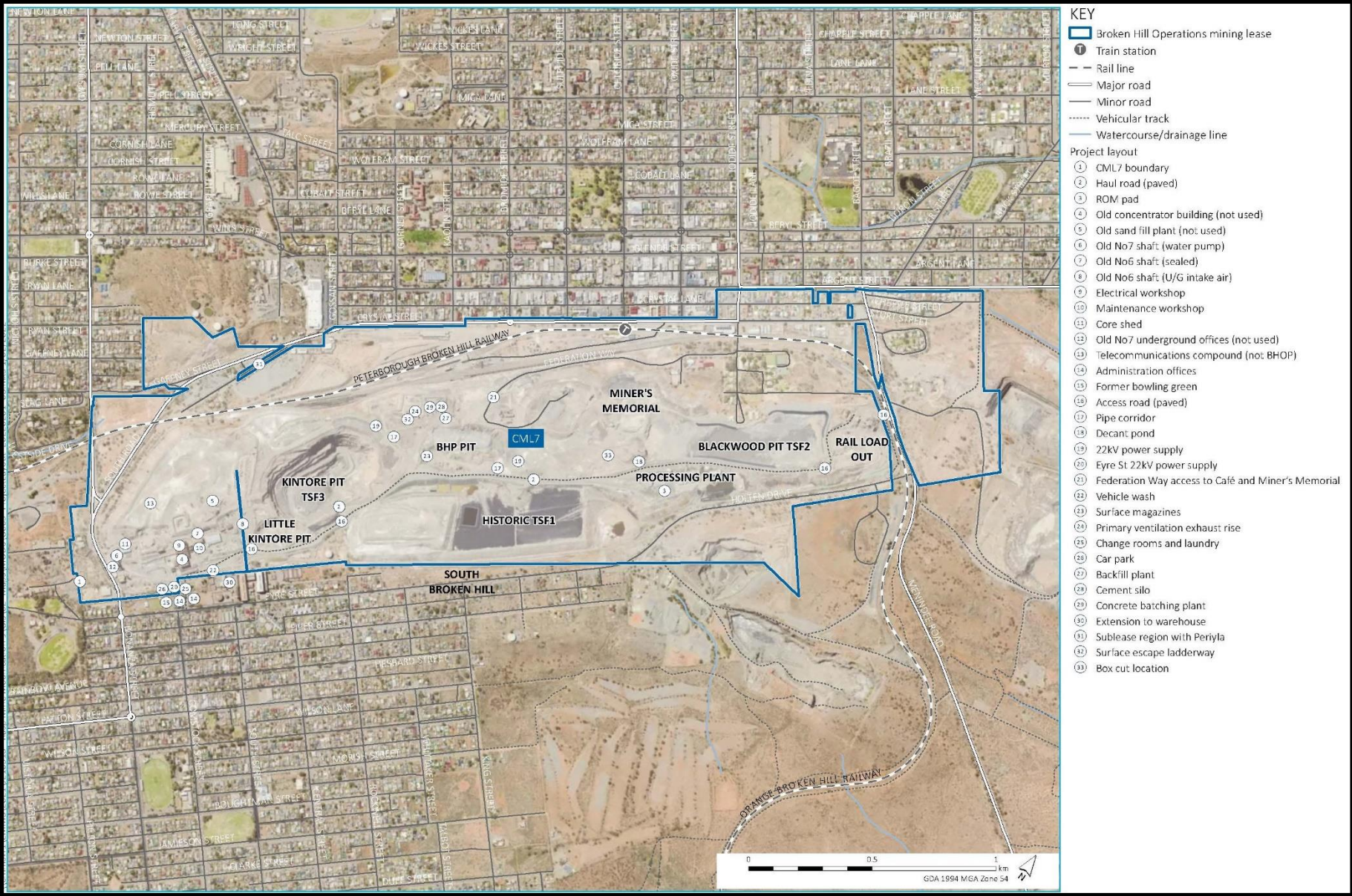
APPENDIX 2: PROJECT AREA



CONSOLIDATED APPROVAL

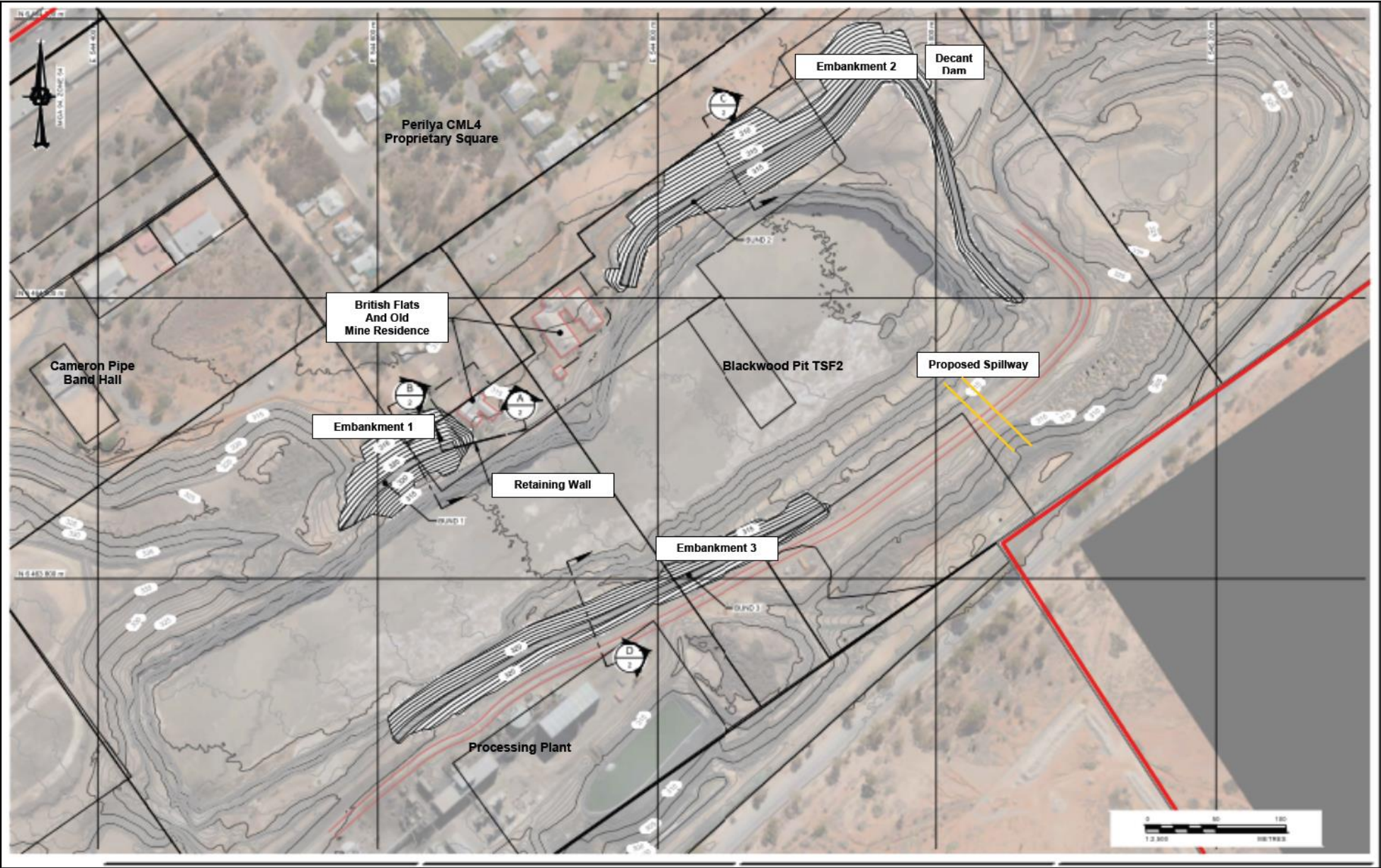


APPENDIX 3: PROJECT LAYOUT PLANS

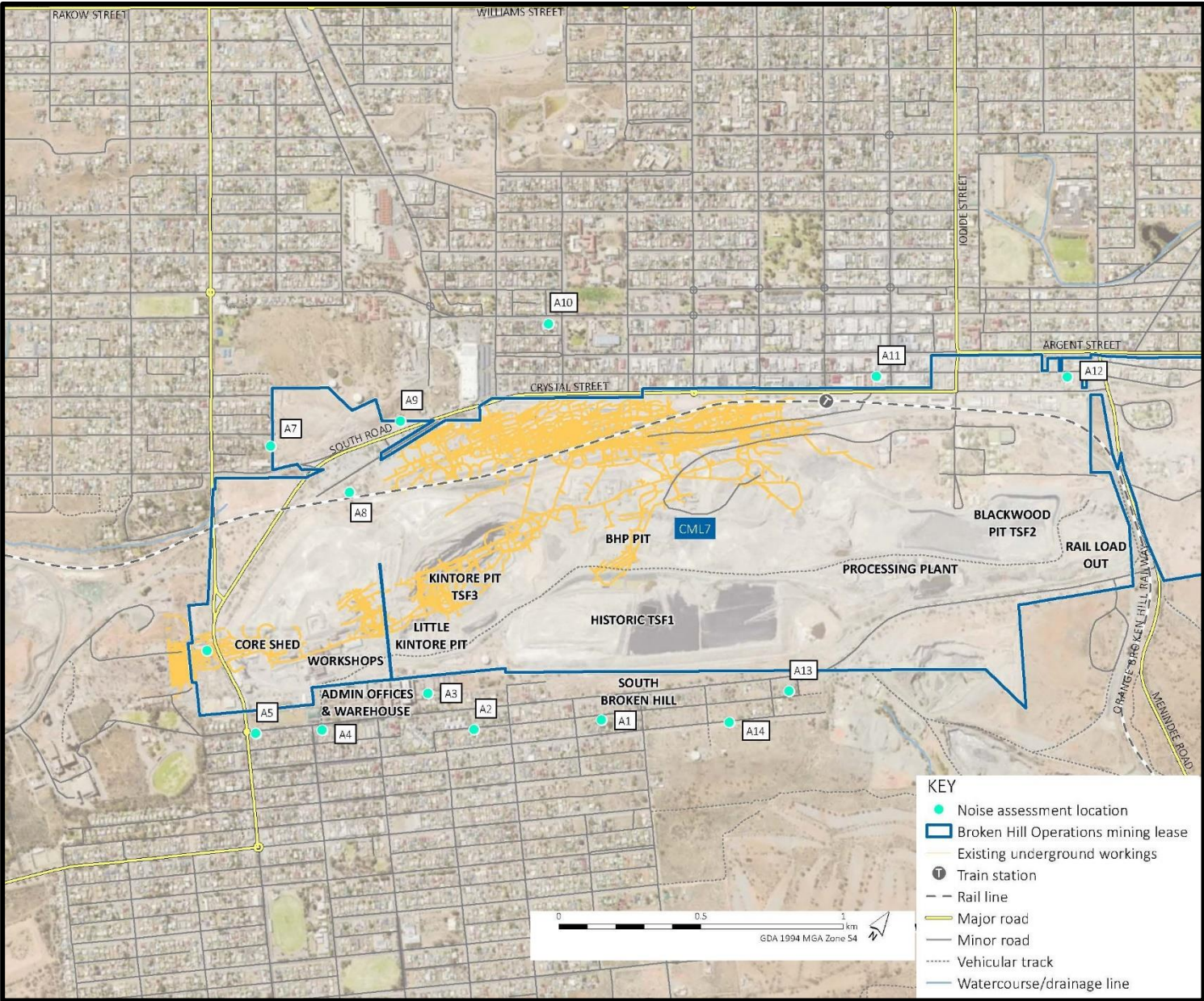


- KEY**
- Broken Hill Operations mining lease
 - Train station
 - Rail line
 - Major road
 - Minor road
 - Vehicular track
 - Watercourse/drainage line
- Project layout**
- ① CML7 boundary
 - ② Haul road (paved)
 - ③ ROM pad
 - ④ Old concentrator building (not used)
 - ⑤ Old sand fill plant (not used)
 - ⑥ Old No7 shaft (water pump)
 - ⑦ Old No6 shaft (sealed)
 - ⑧ Old No6 shaft (U/G intake air)
 - ⑨ Electrical workshop
 - ⑩ Maintenance workshop
 - ⑪ Core shed
 - ⑫ Old No7 underground offices (not used)
 - ⑬ Telecommunications compound (no: BHOP)
 - ⑭ Administration offices
 - ⑮ Former bowling green
 - ⑯ Access road (paved)
 - ⑰ Pipe corridor
 - ⑱ Decant pond
 - ⑲ 22kV power supply
 - ⑳ Eyre St 22kV power supply
 - ㉑ Federation Way access to Café and Miner's Memorial
 - ㉒ Vehicle wash
 - ㉓ Surface magazines
 - ㉔ Primary ventilation exhaust rise
 - ㉕ Change rooms and laundry
 - ㉖ Car park
 - ㉗ Backfill plant
 - ㉘ Cement silo
 - ㉙ Concrete batching plant
 - ㉚ Extension to warehouse
 - ㉛ Sublease region with Perilya
 - ㉜ Surface escape ladderway
 - ㉝ Box cut location

CONSOLIDATED APPROVAL



CONSOLIDATED APPROVAL



CONSOLIDATED APPROVAL

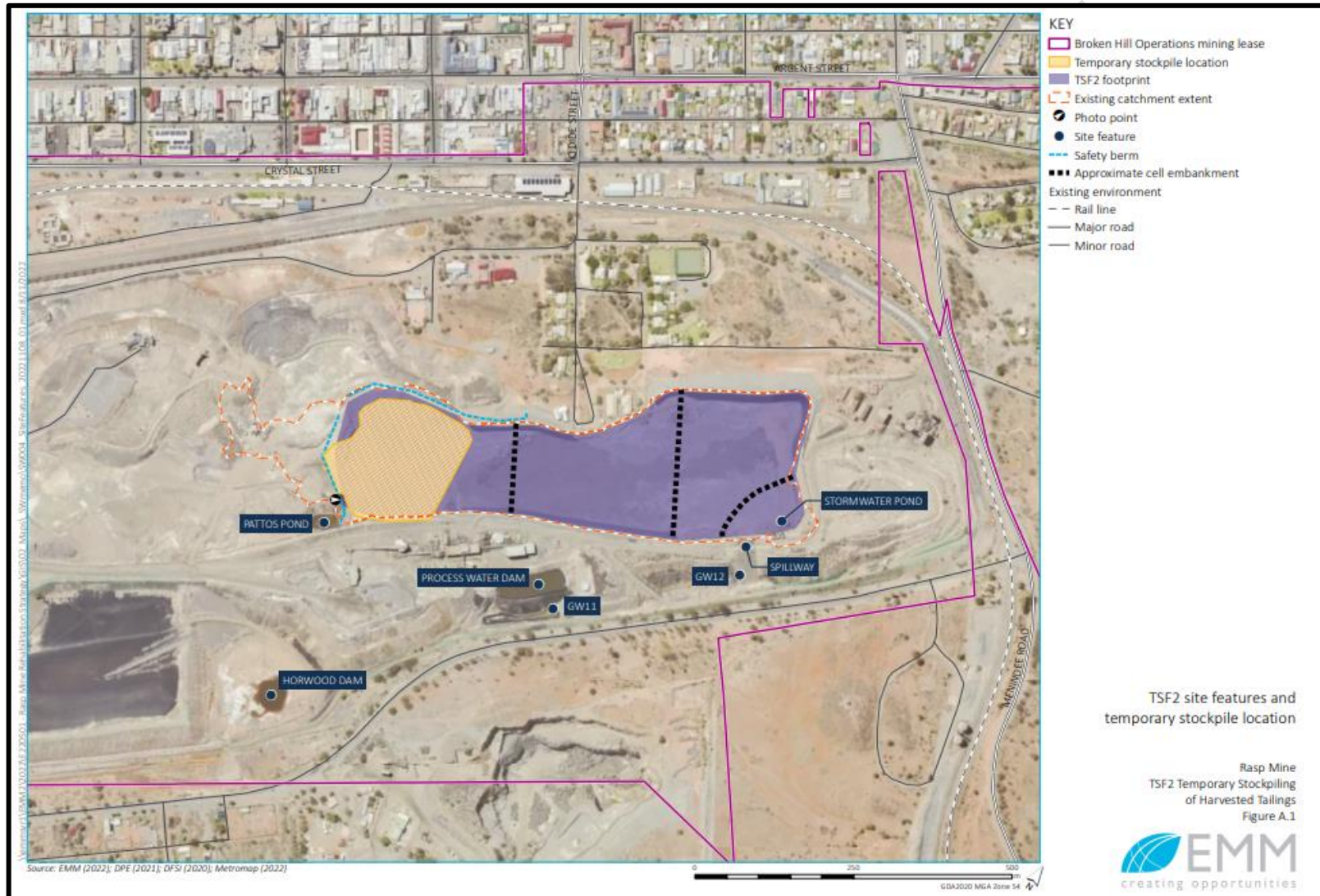
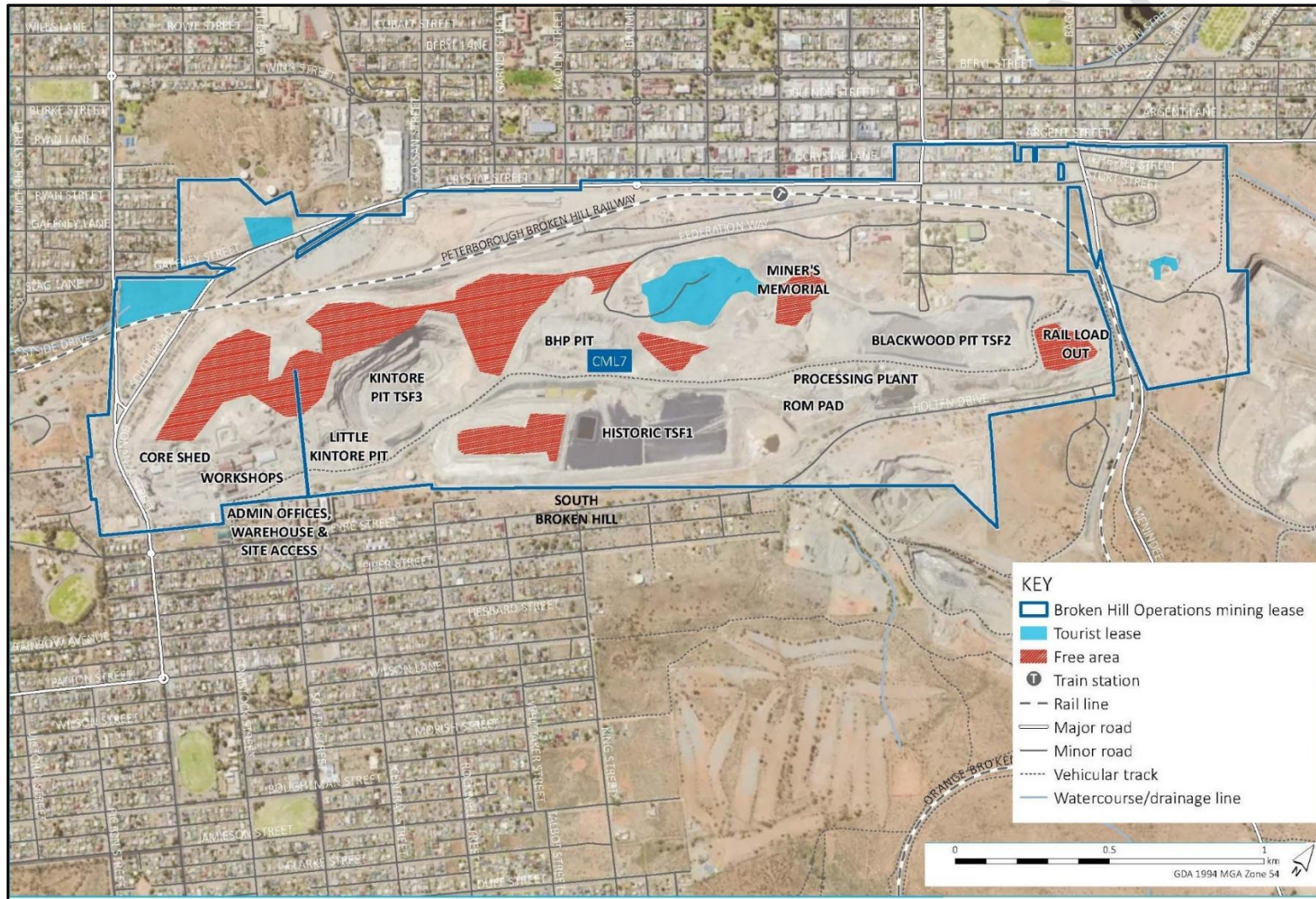


Figure 4 – Temporary tailings Stockpile

CONSOLIDATED APPROVAL

APPENDIX 4: PLAN OF FREE AREAS



CONSOLIDATED APPROVAL

APPENDIX 5: INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

WRITTEN INCIDENT NOTIFICATION REQUIREMENTS

1. A written incident notification addressing the requirements set out below must be submitted to the Secretary via the Major Projects website within seven days after the Proponent becomes aware of an incident.
2. Written notification of an incident must:
 - a) identify the project and application number;
 - b) provide details of the incident (date, time, location, a brief description of what occurred
 - c) and why it is classified as an incident;
 - d) identify how the incident was detected;
 - e) identify when the Proponent became aware of the incident;
 - f) identify any actual or potential non-compliance with conditions of approval;
 - g) describe what immediate steps were taken in relation to the incident;
 - h) identify further action(s) that will be taken in relation to the incident; and
 - i) identify a project contact for further communication regarding the incident.
3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Secretary, the Proponent must provide the Secretary and any relevant public authorities (as determined by the Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
 - a) a summary of the incident;
 - b) outcomes of an incident investigation, including identification of the cause of the
 - c) incident;
 - d) details of the corrective and preventative actions that have been, or will be, implemented
 - e) to address the incident and prevent recurrence; and
 - f) details of any communication with other stakeholders regarding the incident.

A.3 Environmental Protection Licence

Environment Protection Licence

Licence - 12559

Licence Details

Number:	12559
Anniversary Date:	02-November

Licensee

BROKEN HILL OPERATIONS PTY LTD
 PO BOX 5073
 BROKEN HILL NSW 2880

Premises

CONSOLIDATED MINING LEASE 7
 EYRE STREET
 BROKEN HILL NSW 2880

Scheduled Activity

Crushing, grinding or separating
 Mining for minerals

Fee Based Activity

Scale

Crushing, grinding or separating	> 100000-500000 T annual processing capacity
Mining for minerals	> 100000-500000 T annual production capacity

Contact Us

NSW EPA
 6 Parramatta Square
 10 Darcy Street
 PARRAMATTA NSW 2150
 Phone: 131 555
 Email: info@epa.nsw.gov.au

Locked Bag 5022
 PARRAMATTA NSW 2124



Environment Protection Licence

Licence - 12559

INFORMATION ABOUT THIS LICENCE	4
Dictionary	4
Responsibilities of licensee	4
Variation of licence conditions	4
Duration of licence	4
Licence review	4
Fees and annual return to be sent to the EPA	4
Transfer of licence	5
Public register and access to monitoring data	5
1 ADMINISTRATIVE CONDITIONS	6
A1 What the licence authorises and regulates	6
A2 Premises or plant to which this licence applies	6
A3 Other activities	6
A4 Information supplied to the EPA	7
2 DISCHARGES TO AIR AND WATER AND APPLICATIONS TO LAND	7
P1 Location of monitoring/discharge points and areas	7
3 LIMIT CONDITIONS	13
L1 Pollution of waters	13
L2 Concentration limits	13
L3 Waste	14
L4 Noise limits	14
L5 Blasting	16
L6 Hours of operation	17
L7 Potentially offensive odour	18
L8 Other limit conditions	18
4 OPERATING CONDITIONS	19
O1 Activities must be carried out in a competent manner	19
O2 Maintenance of plant and equipment	19
O3 Dust	19
O4 Processes and management	19
5 MONITORING AND RECORDING CONDITIONS	20
M1 Monitoring records	20
M2 Requirement to monitor concentration of pollutants discharged	20
M3 Testing methods - concentration limits	23
M4 Weather monitoring	23



Environment Protection Licence

Licence - 12559

M5	Recording of pollution complaints	24
M6	Telephone complaints line	24
M7	Blasting	25
6	REPORTING CONDITIONS	25
R1	Annual return documents	25
R2	Notification of environmental harm	27
R3	Written report	27
7	GENERAL CONDITIONS	28
G1	Copy of licence kept at the premises or plant	28
8	POLLUTION STUDIES AND REDUCTION PROGRAMS	28
U1	Water Management Review and Remediation Works	28
DICTIONARY		30
	General Dictionary	30

Environment Protection Licence

Licence - 12559

Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).



Environment Protection Licence

Licence - 12559

The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

BROKEN HILL OPERATIONS PTY LTD
PO BOX 5073
BROKEN HILL NSW 2880

subject to the conditions which follow.

Environment Protection Licence

Licence - 12559

1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Crushing, grinding or separating	Crushing, grinding or separating	> 100000 - 500000 T annual processing capacity
Mining for minerals	Mining for minerals	> 100000 - 500000 T annual production capacity

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
CONSOLIDATED MINING LEASE 7
EYRE STREET
BROKEN HILL
NSW 2880
WILLYAMA COMMON, RESERVE 2421

A3 Other activities

A3.1 This licence applies to all other activities carried on at the premises, including:

Ancillary Activity
Chemical storage
Concrete batching
Metallurgical activities
Railway system activities

Environment Protection Licence

Licence - 12559

A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

A4.2 For the purposes of condition A3.1 the licence application includes:

- 1) The Project Approval issued by the Department of Planning and Infrastructure on 31 January 2011;
- 2) The Project Approval modification titled "Rasp Mine Mod 1" issued by the Department of Planning and Infrastructure issued on 16 March 2012;
- 3) The Environmental Assessment titled "Final Report - Rasp Mine" dated July 2010;
- 4) The Environmental Assessment titled "Rasp Mine - Preferred Project Report" dated September 2010;
- 5) The Broken Hill Operations Pty Ltd Rasp Mine "Noise and Blast Management Plan" submitted to the EPA on the 14 October 2011.
- 6) The Environmental Assessment titled "Rasp Mine - Relocation of Ventilation Shaft" dated November 2011;
- 7) The Broken Hill Operations Pty Ltd Rasp Mine "Air Quality Management Plan" submitted to the EPA in March 2011;
- 8) The Broken Hill Operations Pty Ltd Rasp Mine "Site Water Management Plan" dated 20 March 2012 and;
- 9) The Broken Hill Operations Pty Ltd Rasp Mine "Construction and Operations Manual for Tailing Storage in Blackwood Pit" submitted to the EPA in April 2012.
- 10) The "Blackwoods Pit TSF Operations and Maintenance Plan" submitted to the EPA on 22 July 2022 as part of licence variation application no.1620908.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Air

EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
------------------------	--------------------------	-------------------------	----------------------

Environment Protection Licence

Licence - 12559

1	Dust and blast monitoring	Ventilation shaft labelled 'Proposed exhaust shaft location' in Figure 2 titled "Ventilation rise alternate location" in the environmental assessment titled "Rasp Mine Variation to Project - Relocation of Ventilation Shaft" dated November 2011
2	Dust process plant monitoring	Process enclosure/Baghouse stack labelled 'Primary crusher & Dust extraction unit' in Figure 2-4 titled "Plant Layout" in the environmental assessment titled "Rasp Mine - Preferred Project Report" dated September 2010.
3	Dust monitoring	Dust deposition gauge labelled D1 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
4	Dust monitoring	Dust deposition gauge labelled D2 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
5	Dust Monitoring	Dust deposition gauge labelled D3 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
6	Dust Monitoring	Dust deposition gauge labelled D4 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
7	Dust monitoring	Dust deposition gauge labelled D5 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
8	Dust monitoring	Dust deposition gauge labelled D6 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
9	Dust monitoring	Dust deposition gauge labelled D7 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
10	Dust monitoring	High volume dust sampler labelled TSP-HVAS on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
11	Dust monitoring	High volume dust sampler labelled PM10-HVAS1 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
12	Dust monitoring	High volume dust sampler labelled PM10-HVAS2 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
13	Dust monitoring	Tapered element oscillating microbalance sampler labelled TEOM1 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06

Environment Protection Licence

Licence - 12559

14	Dust monitoring	Tapered element oscillating microbalance sampler labelled TEOM2 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
57	Dust monitoring	High volume dust sampler labelled HVAS3 on Map of CML 7 Environmental Monitoring Locations May 2022 within NSW EPA Permit and Licence Management System Record No. 143544.

P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.3 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
29	Surface water monitoring		Storm water pond labelled "S31-1" as shown in Figure 3 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
31	Surface water monitoring		Storm water pond labelled "S49" as shown in Figure 2 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
32	Surface water monitoring		Storm water pond labelled "S1-A" as shown in Figure 2 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
33	Surface water monitoring		Storm water pond labelled "S9B-2" as shown in Figure 5 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
34	Surface water monitoring		Storm water pond labelled "Horwood Dam" as shown in Figure 6 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
35	Off site receiving waters		Ephemeral drainage line upstream of the Rasp Mine shown as "Monitoring location 1 upstream" on Map 1 in the email to the EPA on 3 April 2012 and kept on EPA file LIC07/2213-06

Environment Protection Licence

Licence - 12559

36	Off site receiving waters	Ephemeral drainage line downstream of the Rasp Mine shown as "Monitoring location 2 downstream" on Map 1 in the email to the EPA on 3 April 2012 and kept on EPA file LIC07/2213-06
37	Groundwater monitoring	Groundwater monitoring bore labelled "GW01" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
38	Groundwater monitoring	Groundwater monitoring bore labelled "GW02" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
39	Groundwater monitoring	Groundwater monitoring bore labelled "GW03" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
40	Groundwater monitoring	Groundwater monitoring bore labelled "GW04" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
41	Groundwater monitoring	Groundwater monitoring bore labelled "GW05" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
42	Groundwater monitoring	Groundwater monitoring bore labelled "GW06" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
43	Groundwater monitoring	Groundwater monitoring bore labelled "GW07" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
44	Groundwater monitoring	Groundwater monitoring bore labelled "GW08" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
45	Groundwater monitoring	Groundwater monitoring bore labelled "GW09" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
46	Groundwater monitoring	Groundwater monitoring bore labelled "GW10" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06

Environment Protection Licence

Licence - 12559

47	Groundwater monitoring	Groundwater monitoring bore labelled "GW11" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
48	Groundwater monitoring	Groundwater monitoring bore labelled "GW12" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
49	Groundwater monitoring	Groundwater monitoring bore labelled "GW13" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
50	Groundwater monitoring	Groundwater monitoring bore labelled "GW14" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
51	Groundwater monitoring	Groundwater monitoring bore labelled "GW15" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
52	Groundwater monitoring	Groundwater monitoring bore labelled "GW16" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
53	Groundwater monitoring	Surface water pond for Shaft 7 mine water labelled "Mine Settlement Ponds" as shown in Figure 3 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
54	Groundwater monitoring	Surface water pond for Kintore Pit mine water labelled "Mine Settlement Ponds" as shown in Figure 3 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06

P1.4 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

Noise/Weather

EPA identification no.	Type of monitoring point	Location description
------------------------	--------------------------	----------------------

Environment Protection Licence

Licence - 12559

15	Noise monitoring	Point labelled "A1" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
16	Noise monitoring	Point labelled "A2" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
17	Noise monitoring	Point labelled "A3" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
18	Noise monitoring	Point labelled "A4" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
19	Noise monitoring	Point labelled "A5" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
20	Noise monitoring	Point labelled "A6" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
21	Noise monitoring	Point labelled "A7" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
22	Noise monitoring	Point labelled "A8" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
23	Noise monitoring	Point labelled "A9" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.

Environment Protection Licence

Licence - 12559

24	Noise monitoring	Point labelled "A10" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
25	Noise monitoring	Point labelled "A11" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
26	Noise monitoring	Point labelled "A12" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
27	Noise monitoring	Point labelled "A13" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
28	Noise monitoring	Point labelled "A14" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
55	Meteorological Station – to determine meteorological conditions for noise monitoring	Meteorological Station as marked on Map of CML 7 Environmental Monitoring Locations May 2022 at NSW EPA Permit and Licence Management System Record No. 143544

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Concentration limits

L2.1 For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L2.2 Air Concentration Limits

Environment Protection Licence

Licence - 12559

POINT 1

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Nitrogen Oxides	milligrams per cubic metre	350	dry, 273 K, 101.3 kPa		

POINT 1,2

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Total Solid Particles	milligrams per cubic metre	20	dry, 273 K, 101.3 kPa		

POINT 1

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
volatile organic compounds as n-propane equivalent	milligrams per cubic metre	40	dry, 273 K, 101.3 kPa		

POINT 1,2

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	1	dry, 273 K, 101.3 kPa		

L3 Waste

L3.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.

L4 Noise limits

L4.1 Operational activities associated with the project are permitted to occur at any time, subject to compliance with the noise limits specified at condition L4.2 and subject to the following restrictions:

- a) Shunting of the concentrate wagons must only occur between 7.00am and 6.00pm on any day; and
- b) Production rock blasting must only occur between 6.45am and 7.15pm on any day.

L4.2 Noise from the Rasp Mine premises must not exceed the limits presented in the table below at the monitoring

Environment Protection Licence

Licence - 12559

locations listed in column 1.

Location	Day [dB LAeq 15 minute]	Evening [dB LAeq 15 minute]	Night [dB LAeq 15 minute]
Point 15 - A1 Piper Street North	40	37	35
Point 16 - A2 Piper Street Central	40	37	35
Point 17 - A3 Eyre Street North	44	41	39
Point 18 - A4 Eyre Street Central	44	41	39
Point 19 - A5 Eyre Street South	44	41	39
Point 20 - A6 Bonanza & Gypsum Streets	48	41	39
Point 21 - A7 Carbon Street	45	42	36
Point 22 - A8 South Road	48	39	39
Point 23 - A9 Crystal Street	46	39	39
Point 24 - A10 Barnet & Blende Streets	42	41	35
Point 25 - A11 Crystal Street	46	39	39
Point 26 - A12 Crystal Street	46	39	39
Point 27 - A13 Eyre Street North 2	40	35	35
Point 28 - A14 Piper Street North	40	35	35

L4.3 Noise from the premises is to be measured at the most affected point within the boundary of the nominated premises, or at the most affected point within 30 metres of a dwelling where the dwelling is more than 30 metres from the boundary, to determine compliance with the noise level limits in Condition L4.2 unless otherwise stated.

Where it can be demonstrated that direct measurement of noise from the premises is impractical, the EPA may accept alternative means of determining compliance. See Chapter 11 of the NSW Industrial Noise Policy.

The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.

L4.4 The noise limits set out in the Noise Limits table apply under all meteorological conditions except for the following:

- Wind speeds greater than 3 metres/second at 10 metres above ground level; or
- Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- Stability category G temperature inversion conditions.

Environment Protection Licence

Licence - 12559

For the purposes of this condition:

- Data recorded by the meteorological station identified as EPA Identification Point(s) 55 must be used to determine meteorological conditions; and
- Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.

L5 Blasting

L5.1 The overpressure sound level and ground vibration peak particle velocity from blasting operations carried out in or on the premises, excluding Block 7, for the period 7am to 7pm must not exceed the limits in the table below unless expressly provided by a condition of this licence.

Location	Airblast Overpressure (dB - Lin Peak)	Ground Vibration (mm/s)	Allowable Exceedence
Residence on privately owned land	115	5	5% of the total number of blasts in any 12 month annual return reporting period
Residence on privately owned land	120	10	0%

Note:

- The allowable exceedence must be calculated separately for development blasts and production blasts;
- The 5% allowable exceedence does not apply to the production blasts until the licensee has completed a Pollution Studies and Reduction Program at condition U5.1 aimed at achieving the limit or as otherwise agreed with the EPA; and
- Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L5.2 The overpressure sound level and ground vibration peak particle velocity from blasting operations carried out in or on the premises at Block 7 for the period 7am to 7pm must not exceed the limits in the table below unless expressly provided by a condition of this licence.

Location	Airblast Overpressure - dB Lin Peak	Ground Vibration - mm/s	Allowable Exceedence
Residence of privately owned land	115	3 (interim)	5% of the total number of blasts over the 12 month annual return reporting period
Residence of privately owned land	120	10	0%

Note:

- The allowable exceedence must be calculated separately for development and production blasts;
- The interim limit applies unless the licensee has written consent from the Department of Planning and Environment to apply an alternative site specific criteria for Block 7; and

Environment Protection Licence

Licence - 12559

- Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L5.3 The licensee may carry out a maximum of:

- 1 production blast each day and 6 production blasts each week, averaged over a calendar year; and
- 6 development blasts each day and 42 development blasts each week, averaged over a calendar year.

L5.4 The overpressure level from blasting operations at the premises must not exceed 105dB (Lin Peak) for the period 7pm to 10pm at any noise sensitive location:

Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L5.5 The overpressure level from blasting operations at the premises must not exceed 95dB (Lin Peak) for the period 10pm to 7am at any noise sensitive locations.

Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L5.6 Conditions L5.1, L5.2, L5.3, L5.4 and L5.5 apply at any point within 1 metre of any noise sensitive location including residential premises, school, hospital or any blasting monitoring location specified in this licence.

L6 Hours of operation

L6.1 Unless otherwise specified by any other condition of this licence operating hours are:

A) Modification '6' construction activities excluding new decline underground activities, and Tailings Storage Facility '3' (TSF3) preparation works:

- Restricted to between the hours of 7am and 6pm, Monday to Saturday; and
- Not to be undertaken on Sundays or Public Holidays.

B) Construction, excluding construction of Emergency Egress Ladder (EEL) and Modification '6' construction activities:

- restricted to between the hours of 7am and 6pm, Monday to Friday;
- restricted to between the hours of 8am and 1pm Saturday; and
- not to be undertaken on Sundays or Public Holidays.

C) Capping and rehabilitation of Tailings Storage Facility '2' or shunting of concentrate wagons:

- restricted to between the hours of 7am and 6pm on any day.

D) Production rock blasting:

- restricted to between the hours of 6:45am and 7:15pm on any day.

E) Transporting cement to the cement silo or loading the cement silo

- restricted to between the hours of 7am and 7pm on any day.

Environment Protection Licence

Licence - 12559

F) All other activities, including construction of the EEL, construction of the new decline (Underground activities) and TSF3 tailing preparation works:

i) Can occur 24 hours a day, 7 days a week.

L7 Potentially offensive odour

L7.1 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

L8 Other limit conditions

L8.1 All storm water and other surface water holding ponds identified in the Site Water Management Plan must be designed, constructed and maintained to accommodate the stormwater runoff generated in a 100 year (24 hour) Average Recurrence Interval rain event.

L8.2 The water storage ponds listed below must have the base and wall artificially lined with an impermeable high density polyethylene liner:

1) "Mine Settlement Ponds" and "Backfill Plant Sediment Pond" identified in Figure 3 of the Rasp Mine Site Water Management Plan.

2) "Plant Event Pond" and the "Overflow Event Pond" identified in Figure 4 of the Rasp Mine Site Water Management Plan.

L8.3 The licensee must ensure waste rock used for the construction of the amenity bund around the Concrete Batching Plant and other surface area works is tested in accordance with Appendix D of the Construction Environment Management Plan (BHO-PLN-ENV-011) dated December 2017 and ensure that waste rock used does not average a lead (Pb) fraction of more than 0.5%.

L8.4 During construction works the licensee must:

1. Have a traffic light system for wind speeds; and
2. introduce additional dust mitigation measures when wind speeds are averaging greater than 40 kilometres per hour; and
3. when wind speeds exceed 50 kilometres per hour, any dust generating construction activities must cease.

4 Operating Conditions

Environment Protection Licence

Licence - 12559

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.

O3.2 Ore trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.

O3.3 Visible dust emissions from any tailings storage facility must be immediately suppressed by water or chemical application.

O3.4 Crushing of extracted material must only occur inside the crusher enclosure however some crushing and screening of waste rock can occur within BHP Pit in accordance with the conditions of Consent Modification '7' approval.

O3.5 The crusher enclosure must be designed to operate under negative pressure at all times.

O3.6 The crusher enclosure and associated emission controls must be constructed and operated in such a manner, as to ensure visible fugitive emissions from the enclosure are minimised.

O3.7 The Air Quality Management Plan must include dust management practices that effectively minimise dust emissions at all times, including all mitigation measures discussed in the Environmental Assessment titled "RASP Mine Zinc-Lead-Silver Project Environmental Assessment Report, July 2010" and additional measures proposed in the document titled "RASP Mine Zinc-Lead-Silver Project Preferred Project Report Report September 2010".

O4 Processes and management

O4.1 All surface water storage ponds must be maintained to ensure that sedimentation does not reduce their capacity by more than 10% of the design capacity.

Environment Protection Licence

Licence - 12559

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- in a legible form, or in a form that can readily be reduced to a legible form;
- kept for at least 4 years after the monitoring or event to which they relate took place; and
- produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- the date(s) on which the sample was taken;
- the time(s) at which the sample was collected;
- the point at which the sample was taken; and
- the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Water and/ or Land Monitoring Requirements

POINT 29,31,32,33,34,35,36

Pollutant	Units of measure	Frequency	Sampling Method
Cadmium	milligrams per litre	Special Frequency 2	Representative sample
Chloride	milligrams per litre	Special Frequency 2	Representative sample
Electrical conductivity	microsiemens per centimetre	Special Frequency 2	Representative sample
Lead	milligrams per litre	Special Frequency 2	Representative sample
Manganese	milligrams per litre	Special Frequency 2	Representative sample
pH	pH	Special Frequency 2	In situ
Sodium	milligrams per litre	Special Frequency 2	Representative sample
Sulfate	milligrams per litre	Special Frequency 2	Representative sample
Total dissolved solids	milligrams per litre	Special Frequency 2	Representative sample
Zinc	milligrams per litre	Special Frequency 2	Representative sample

POINT 37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52

Pollutant	Units of measure	Frequency	Sampling Method
-----------	------------------	-----------	-----------------

Environment Protection Licence

Licence - 12559

Alkalinity (as calcium carbonate)	milligrams per litre	Quarterly	Representative sample
Cadmium	milligrams per litre	Quarterly	Representative sample
Calcium	milligrams per litre	Quarterly	Representative sample
Chloride	milligrams per litre	Quarterly	Representative sample
Electrical conductivity	microsiemens per centimetre	Quarterly	Representative sample
Iron	milligrams per litre	Quarterly	Representative sample
Lead	milligrams per litre	Quarterly	Representative sample
Magnesium	milligrams per litre	Quarterly	Representative sample
Manganese	milligrams per litre	Quarterly	Representative sample
pH	pH	Quarterly	In situ
Sodium	milligrams per litre	Quarterly	Representative sample
Sulfate	milligrams per litre	Quarterly	Representative sample
Total dissolved solids	milligrams per litre	Quarterly	Representative sample
Zinc	milligrams per litre	Quarterly	Representative sample

POINT 53,54

Pollutant	Units of measure	Frequency	Sampling Method
Alkalinity (as calcium carbonate)	milligrams per litre	Special Frequency 3	Representative sample
Cadmium	milligrams per litre	Special Frequency 3	Representative sample
Calcium	milligrams per litre	Special Frequency 3	Representative sample
Chloride	milligrams per litre	Special Frequency 3	Representative sample
Electrical conductivity	microsiemens per centimetre	Monthly	Representative sample
Iron	milligrams per litre	Special Frequency 3	Representative sample
Lead	milligrams per litre	Monthly	Representative sample
Magnesium	milligrams per litre	Special Frequency 3	Representative sample
Manganese	micrograms per litre	Special Frequency 3	Representative sample
pH	pH	Monthly	In situ
Sodium	milligrams per litre	Special Frequency 3	Representative sample
Sulfate	milligrams per litre	Special Frequency 3	Representative sample
Total dissolved solids	milligrams per litre	Special Frequency 3	Representative sample
Zinc	Measure 1	Special Frequency 3	Representative sample

M2.3 Air Monitoring Requirements

POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Dry gas density	kilograms per cubic metre	Every 6 months	TM-23
Moisture	percent	Every 6 months	TM-22

Environment Protection Licence

Licence - 12559

Molecular weight of stack gases	grams per cubic metre	Every 6 months	TM-23
Nitrogen Oxides	milligrams per cubic metre	Every 6 months	TM-11
Temperature	degrees Celsius	Every 6 months	TM-2
Total Solid Particles	milligrams per cubic metre	Every 6 months	TM-15
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Every 6 months	TM-12, TM-13 & TM-14
Velocity	metres per second	Every 6 months	TM-2
volatile organic compounds as n-propane equivalent	milligrams per cubic metre	Every 6 months	TM-34
Volumetric flowrate	cubic metres per second	Every 6 months	TM-2

POINT 2

Pollutant	Units of measure	Frequency	Sampling Method
Dry gas density	kilograms per cubic metre	Quarterly	TM-23
Moisture	percent	Quarterly	TM-22
Molecular weight of stack gases	grams per cubic metre	Quarterly	TM-23
Temperature	degrees Celsius	Quarterly	TM-2
Total Solid Particles	milligrams per cubic metre	Quarterly	TM-15
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Quarterly	TM-12, TM-13 & TM-14
Velocity	metres per second	Quarterly	TM-2
Volumetric flowrate	cubic metres per second	Quarterly	TM-2

POINT 7,6,5,3,4,8,9

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19
Total lead	grams per square metre per month	Monthly	AM-19

POINT 10,57

Pollutant	Units of measure	Frequency	Sampling Method
Lead	micrograms per cubic metre	Every 6 days	AM-11
Total suspended particles	micrograms per cubic metre	Every 6 days	AM-15

Environment Protection Licence

Licence - 12559

POINT 11,12

Pollutant	Units of measure	Frequency	Sampling Method
PM10	milligrams per cubic metre	Every 6 days	AM-18

POINT 13,14

Pollutant	Units of measure	Frequency	Sampling Method
PM10	micrograms per cubic metre	Daily	AM-22

M2.4 For the purposes of the table(s) above Special Frequency 2 means the collection of a minimum of 2 samples at least 6 months apart if sufficient rainfall has occurred to obtain a sample/s.

M2.5 For the purposes of the table(s) above Special Frequency 3 means the collection of a sample on a monthly basis if pumping occurs at Shaft 7 or Kintore Pit.

M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:

- any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
- if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
- if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2022* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Weather monitoring

M4.1 At the point(s) identified below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of the table below, using the corresponding sampling method, units of measure, averaging period and sampling frequency, specified opposite in the Columns 2, 3, 4 and 5 respectively.

Environment Protection Licence

Licence - 12559

POINT 55

Parameter	Sampling method	Units of measure	Averaging period	Frequency
Temperature at 10 metres	AM-4	degrees Celsius	15 minutes	Continuous
Wind Direction at 10 metres	AM-4	Degrees in a clockwise direction from True North	15 minutes	Continuous
Wind Speed at 10 metres	AM-4	metres per second	15 minutes	Continuous
Rainfall	AM-4	millimetres	1 hour	Continuous
Sigma theta	AM-2 & AM-4	Degrees	15 minutes	Continuous

M5 Recording of pollution complaints

M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M5.2 The record must include details of the following:

- a) the date and time of the complaint;
- b) the method by which the complaint was made;
- c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- d) the nature of the complaint;
- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M6 Telephone complaints line

M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M6.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

Environment Protection Licence

Licence - 12559

M7 Blasting

M7.1 To determine compliance with conditions L5.1, L5.2, L5.3, L5.4 and L5.4:

(a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for all blasts carried out in or on the premise at the following locations;

The blast monitor labelled "V1" in Figure 1 titled "Blast Monitoring Locations" of Broken Hill Operations Pty Ltd - Rasp Mine - "Blasting Monitoring Program Management Plan" received by the EPA 29 June 2015 DOC15/238188.

The blast monitor labelled "V2" in Figure 1 titled "Blast Monitoring Locations" of Broken Hill Operations Pty Ltd - Rasp Mine - "Blasting Monitoring Program Management Plan" received by the EPA 29 June 2015 DOC15/238188.

The blast monitor labelled "V3" in Figure 1 titled "Blast Monitoring Locations" of Broken Hill Operations Pty Ltd - Rasp Mine - "Blasting Monitoring Program Management Plan" received by the EPA 29 June 2015 DOC15/238188.

The blast monitor labelled "V4 New location" in Attachment B of the document titled "Report to support EPL 12559 variation" dated August 2018 and kept on EPA file DOC18/228266-03.

The blast monitor labelled "V5" in Figure 1 titled "Blast Monitoring Locations" of Broken Hill Operations Pty Ltd - Rasp Mine - "Blasting Monitoring Program Management Plan" received by the EPA 29 June 2015 DOC15/238188.

The specific monitoring locations are subject to the actual blasting locations as described in Table 4 - "Airblast Overpressure and Ground Vibration Monitoring Locations" of Broken Hill Operations Pty Ltd - Rasp Mine - "Blasting Monitoring Program Management Plan" received by the EPA 29 June 2015 DOC15/238188; and

(b) Instrumentation used to measure the airblast overpressure and ground vibration levels must meet the requirements of Australian Standards AS 2187.2-2006.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

Environment Protection Licence

Licence - 12559

- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.
- R1.3 Where this licence is transferred from the licensee to a new licensee:
- the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
 - the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.
- R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
- in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
 - in relation to the revocation of the licence - the date from which notice revoking the licence operates.
- R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').
- R1.6 **Monitoring report**
The licensee must supply with the Annual Return an Environmental Monitoring Report which is to be completed and attached to each Annual Return.
The Environmental Monitoring Report must include:
- a summary of all monitoring results including Air, Water and Noise;
 - an analysis and interpretation of all monitoring results;
 - identification of any adverse trend or non-compliance; and
 - actions to correct any adverse trends and/or non-compliances.
- R1.7 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.
- R1.8 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
- the licence holder; or
 - by a person approved in writing by the EPA to sign on behalf of the licence holder.
- Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.
- Note: An application to transfer a licence must be made in the approved form for this purpose.
- R1.9 **Blast monitoring reporting**
The licensee must supply a Blast Management Report with the Annual Return and must include:
- a summary of production blast levels (which excludes block 7 production blasts);
 - the percentage of production blasts < 5 mm/s and the percentage of blasts > 5 mm/s;

Environment Protection Licence

Licence - 12559

- c) an analysis and interpretation of all blast results from the licensed monitors and from the network of roving monitors used to assess potential impacts on the amenity of receptors;
- d) identification of any adverse trend or non-compliance;
- e) actions to correct any adverse trends or non-compliance; and
- f) any proposed future corrective actions that will be implemented to meet ongoing compliance with production blast limits at condition L5.1.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

- a) where this licence applies to premises, an event has occurred at the premises; or
- b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

- a) the cause, time and duration of the event;
- b) the type, volume and concentration of every pollutant discharged as a result of the event;
- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

Environment Protection Licence

Licence - 12559

7 General Conditions

G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

8 Pollution Studies and Reduction Programs

U1 Water Management Review and Remediation Works

- U1.1 A permanent electric pump will be installed at the Ryan Street Dam (S49) to enable water management via the ability to transfer waters to other water storage facilities.

COMPLETION DATE: 30 September 2023.

- U1.2 The licensee must engage a suitability qualified expert and develop a program to improve the retention capabilities of the Ryan Street (S49) Dam. This program must be provided to the EPA and all works identified by the program, as necessary to improve the retention capabilities of the Ryan Street (S49) Dam, to negate the possibility of off-site discharge, must be complete.

COMPLETION DATE: 31 July 2024.

- U1.3 The licensee must engage a suitability qualified expert to investigate the potential for treatment of the Ryan Street (S49) Dam stormwater and the ability to lawfully discharge this stormwater.

This investigation report is to be provided to info@epa.nsw.gov.au

COMPLETION DATE: 31 March 2023.

- U1.4 The licensee must engage a suitability qualified expert to assess all onsite water management practices and determine the appropriateness of all water storage facilities.
This includes but is not limited to the assessment of:

- All monitoring systems, alerts and associated action plans;
- The integrity of all water storage facilities including permeability and their ability to prohibit discharge;
- The capacity of all water storage facilities and determining if there is sufficient storage capacity to meet a 1 in 100 year rainfall event including freeboard requirements;
- Water storage facility maintenance programs and adherence there to; and
- All permanent and temporary pumping systems.

An Assessment Report is to be prepared and recommendations made to improve environmental



Environment Protection Licence

Licence - 12559

performance, onsite water storage capabilities and to limit the likelihood of an offsite discharge.

The Assessment Report must be provided to info@epa.nsw.gov.au

COMPLETION DATE: 31 March 2023.

U1.5 All of the recommendations set out in the Assessment Report required by condition U1.4 are to be implemented by the completion date.

COMPLETION DATE: 31 July 2024.

Environment Protection Licence

Licence - 12559

Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 12559

flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

Environment Protection Licence

Licence - 12559

TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste
Wellhead	Has the same meaning as in Schedule 1 to the Protection of the Environment Operations (General) Regulation 2021.

Mr Craig Bretherton

Environment Protection Authority

(By Delegation)

Date of this edition: 02-November-2006

Environment Protection Licence

Licence - 12559

End Notes

- 1 Licence varied by notice 1073249, issued on 14-May-2007, which came into effect on 14-May-2007.
- 2 Licence varied by notice 1078521, issued on 11-Oct-2007, which came into effect on 11-Oct-2007.
- 3 Licence varied by format and/or typographical corrections, issued on 22-Oct-2007, which came into effect on 22-Oct-2007.
- 4 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 5 Licence varied by notice 1105830, issued on 12-May-2010, which came into effect on 12-May-2010.
- 6 Licence varied by notice 1117212, issued on 19-Aug-2010, which came into effect on 19-Aug-2010.
- 7 Licence varied by notice 1126030, issued on 30-Mar-2011, which came into effect on 30-Mar-2011.
- 8 Licence varied by notice 1126952, issued on 13-Jul-2011, which came into effect on 13-Jul-2011.
- 9 Licence varied by notice 1501373 issued on 09-Sep-2011
- 10 Licence varied by notice 1502363 issued on 07-Nov-2011
- 11 Licence varied by notice 1503474 issued on 23-Dec-2011
- 12 Licence varied by notice 1504518 issued on 23-Feb-2012
- 13 Licence varied by notice 1504790 issued on 20-Apr-2012
- 14 Licence varied by notice 1506738 issued on 20-Jun-2012
- 15 Licence varied by notice 1507657 issued on 09-Aug-2012
- 16 Licence varied by notice 1515835 issued on 01-Aug-2013
- 17 Licence varied by notice 1516037 issued on 08-Aug-2013
- 18 Licence varied by notice 1519905 issued on 20-Mar-2014
- 19 Licence varied by notice 1524545 issued on 28-Aug-2014
- 20 Licence varied by notice 1524732 issued on 10-Sep-2014
- 21 Licence varied by notice 1528988 issued on 20-Mar-2015
- 22 Licence varied by notice 1529466 issued on 13-Apr-2015
- 23 Licence varied by notice 1532070 issued on 16-Jul-2015
- 24 Licence varied by notice 1537327 issued on 10-Mar-2016



Environment Protection Licence

Licence - 12559

25	Licence varied by notice	1543368 issued on 31-Aug-2016
26	Licence varied by notice	1559865 issued on 21-Dec-2017
27	Licence varied by notice	1571969 issued on 14-Mar-2019
28	Licence varied by notice	1582736 issued on 26-Aug-2019
29	Licence varied by notice	1585837 issued on 04-Oct-2019
30	Licence varied by notice	1620908 issued on 10-Aug-2022
31	Licence varied by notice	1625065 issued on 15-Dec-2022
32	Licence varied by notice	1627161 issued on 28-Mar-2023
33	Licence varied by notice	1630597 issued on 15-Aug-2023

A.4 Water access licences

BOX 1W
(AH617451)



NEW SOUTH WALES
CERTIFICATE OF TITLE

WATER MANAGEMENT ACT, 2000



WAL TITLE REFERENCE WAL31065	
EDITION 1	DATE OF ISSUE 21/3/2013
CERTIFICATE AUTHENTICATION CODE XS6V-DL-ZW5L	



This certificate is issued under s87B of the Water Management Act, 2000.

WARNING NOTE: INFORMATION ON THIS REGISTER IS NOT GUARANTEED

TENURE TYPE: CONTINUING

HOLDER(S)

BROKEN HILL OPERATIONS PTY LTD

(WB AH617451)

ENCUMBRANCES

-
1. SECURITY INTERESTS IN THE WATER ENTITLEMENT REPLACED BY THIS ACCESS LICENCE THAT WERE REGISTERED OR CAPABLE OF BEING REGISTERED WITH LPI OR ASIC BEFORE THE COMMENCEMENT DATE OF THIS LICENCE 30/3/2012 MAY BE RECORDED ON THIS LICENCE WITHIN THREE YEARS FROM THE COMMENCEMENT DATE. SEE NOTES.
 2. TERM TRANSFER: NIL

ACCESS LICENCE DETAILS

CATEGORY: AQUIFER

SHARE COMPONENT:

SHARE - 370 UNITS
WATER SOURCE - ADELAIDE FOLD BELT MDB GROUNDWATER SOURCE
WATER SHARING PLAN - NSW MURRAY DARLING BASIN FRACTURED ROCK
GROUNDWATER SOURCES

EXTRACTION COMPONENT:

TIMES/RATES/CIRCUMSTANCES - SUBJECT TO THE CONDITIONS OF THE WATER
ACCESS LICENCE
EXTRACTION FROM - AQUIFER
EXTRACTION ZONE - WHOLE WATER SOURCE

NOMINATED WORKS:

WORK APPROVAL NUMBER(S) - 85WA752823
INTERSTATE TAGGING ZONE - NIL

CONDITIONS

LICENCE CONDITIONS FORM A PART OF THIS LICENCE AND AFFECT THE SHARE AND EXTRACTION COMPONENTS. CONDITION STATEMENTS ARE AVAILABLE FROM THE NSW OFFICE OF WATER (NOW).

NOTES

A WATER LICENCE INFORMATION SHEET IS AVAILABLE FROM THE NSW OFFICE OF WATER (NOW) AND SHOULD BE REFERRED TO IN INTERPRETING THIS LICENCE. NOW WEBSITE WWW.WATER.NSW.GOV.AU, PHONE 1800 353 104, EMAIL INFORMATION@WATER.NSW.GOV.AU

END OF PAGE 1 CONTINUED OVER

ANY ATTEMPT TO ALTER THIS CERTIFICATE COULD RESULT IN HEAVY FINES OR IMPRISONMENT (S.141 REAL PROPERTY ACT).

BOX 1W
(AH617451)

PAGE 2



NEW SOUTH WALES

CERTIFICATE OF TITLE

WATER MANAGEMENT ACT, 2000



WAL TITLE REFERENCE WAL31065	
EDITION 1	DATE OF ISSUE 21/3/2013
CERTIFICATE AUTHENTICATION CODE XS6V-DL-ZW5L	

This certificate is issued under s87B of the Water Management Act, 2000.



NOTES (CONTINUED)

NOW REFERENCE NUMBER: 85AL752822

PREVIOUS WATER ACT LICENCE NUMBER(S): 85PT990026, 85BL256102.

**** END OF CERTIFICATE ****

Water Access Licence Certificate
WARNING: IF YOU OBTAIN THIS CERTIFICATE WITHOUT CHECKING THE CURRENT REGISTER, YOU MAY BE SUBJECT TO HEAVY FINES OR IMPRISONMENT (S. 44 REAL PROPERTY ACT)

Appendix B

Rehabilitation risk assessment



CLOSURE RISK DESCRIPTION (Unwanted Event)	POTENTIAL IMPACTS (Consequence)	POTENTIAL CAUSES (Risk Pathway - Root Causes)	RISK #	RELEVANT? (Yes / No)	Existing Proposed Controls (per Rasp Mine RMP, October 2021 - September 2023)	REHABILITATION RISK BASED ON CURRENT & PROPOSED CONTROLS							Inherent Risk Level (RIL)	Additional Identified Risks/Issues (from EMM studies and site assessment)	Additional Recommended Controls (from EMM studies and site assessment)	REHABILITATION RISK BASED ON ADDITIONAL OR REVISED CONTROLS							Closure knowledge gaps	Uncertainties	Path Forward (Agreed way forward for RMP)			
						Likelihood (L)	Financial	Health & Safety	Environmental	Community Rights	Company Reputation	Security				Legal Compliance	Likelihood (L)	Financial	Health & Safety	Environmental	Community Rights	Company Reputation				Security	Legal Compliance	Residual Risk Level (RRL)
LANDFORM STABILITY Instability/failure of waste rock emplacements	* Major costs for landform re-design/re-work; * Inability to achieve relinquishment; * Adverse impacts on downstream receptors (eg sediment runoff and surface water impacts); * Failure of WRE capping through ground disturbance and erosion resulting in exposure of materials with elevated lead levels; * Lead dust emissions	* Unacceptable rates of erosion results in landform/rehab failure; * Landform design not sympathetic to the base material characteristics and local climatic conditions; * Modelling of landform morphology and failure risk not undertaken (eg WEPP, RUSLE, SIBERIA); * Grazing impacts/disturbance (eg stock over-grazing, feral fauna activity) * Not constructed to design; * Lack of suitable inert waste rock or rock mulch (material balance)	001	Yes	* For slopes created by BHP, completion of geotechnical stability assessment; slopes >20 degrees to be assessed, cut and re-shaped for long-term stability; * Angle of repose slopes previously rock mulched by NMI	B - Likely	4 - Major	1 - Insignificant	3 - Moderate	N/A	N/A	N/A	4 - Major	High	1/ Rill/gully erosion and slumping of angle of repose slopes Erosion and landform design assessment, to include: * erosion material characterisation * erosion modelling (WEPP) * generation of landform design 'rules' and 3D final landform designs based on modelling * Lidar erosion monitoring of angle of repose slopes and rock mulching if required * geotechnical assessment and buttressing or slope reduction if required and if possible due to boundary/infrastructure constraints	E - Rare	2 - Minor	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	N/A	1 - Insignificant	Low	1/ Erosional stability of final landforms based on the materials proposed for use as final cover (waste rock mulch) 2/ Have geotechnical stability assessments already been done for legacy landforms (or will they be done) and who is responsible for managing this closure risk?	NSW RR may require evidence of geotechnical stability (safety) of legacy landforms	Erosion and landform design assessment, to include: * erosion material characterisation * erosion modelling (WEPP) * generation of landform design 'rules' and 3D final landform designs based on modelling. RMP will describe fate of WRE	
Instability/failure of tailings storage facilities	* Major costs for landform re-design/re-work; * Inability to achieve relinquishment; * Adverse impacts on downstream receptors (eg sediment runoff and surface water impacts); * Failure of TSF capping through ground disturbance and erosion resulting in exposure of capped tailings materials	* Unacceptable rates of erosion results in landform/rehab failure; * Landform design not sympathetic to the base material characteristics and local climatic conditions; * Modelling of landform morphology and failure risk not undertaken (eg WEPP, RUSLE, SIBERIA); * Footprint limitations require steeper slopes * Not constructed to design; * Lack of inert waste rock or rock mulch(material balance)	002	Yes	* TSF1 capped will slag, TSF2 and TSF3 will be covered with inert waste rock to enhance stability and contain any potentially hazardous material.	D - Unlikely	3 - Moderate	N/A	3 - Moderate	2 - Minor	3 - Moderate	N/A	3 - Moderate	Moderate	1/ Lack of assessment/modelling to demonstrate how rock/soil final cover will perform in terms of erosion over the long-term 2/ No geotechnical reports undertaken for long term closure plan only for TSF operational use. 3/ Surface flow diversion over north-eastern batter of TSF1 actively eroding Erosion and landform design assessment, to include: * erosion material characterisation * erosion modelling (WEPP) * generation of landform design 'rules' and 3D final landform designs based on modelling Geotechnical stability assessment of TSF1 and the final landform design for TSF2 * Final landform will divert surface water away from TSF1 batter (may be able to be done via tailings beaching or waste emplacement instead of earthworks) * Lidar erosion monitoring of batters	E - Rare	2 - Minor	N/A	2 - Minor	N/A	2 - Minor	N/A	2 - Minor	Low	1/ Erosional stability of final landforms based on the materials proposed for use as final cover (waste rock mulch)	Not applicable	Erosion and landform design assessment, to include: * erosion material characterisation * erosion modelling (WEPP) * generation of landform design 'rules' and 3D final landform designs to refined modelling. RMP will describe fate of TSF's * Lidar monitoring of TSF1 batter to determine if long term stable and if rock mulching is required	
LANDFORM DESIGN & CONSTRUCTION The reconstructed landform is not capable of supporting the nominated PMLU	* Inability to satisfy approval conditions; * Inability to achieve relinquishment; * Subsidence, tunnel erosion and/or differential settlement of rehabilitated landforms; * Re-design of existing rehabilitated landforms; unacceptable rates of erosion - landform design not sympathetic to the base material characteristics and local climatic conditions; * Modelling of landform morphology and failure risk not undertaken (eg WEPP, SIBERIA); * Failure of tailings capping and exposure of hostile material. * Landform do not the historic mining landscape fabric required for tourism use	* Landform design does not adequately consider the end land use(s); * Final landform design (eg slope and shape) does not adequately consider the intended PMLUs; * Modelling of landform morphology and failure risk not undertaken (eg WEPP, SIBERIA); Development of rehabilitation strategy, and rehabilitation management plan (RMP) including final landform designs considerate of generic stable landforms and tourism-related PMLUs.	003	Yes	Landform features such as final voids and slopes are to be retained as these are consistent with the mining character of the site and are a definitive feature of the visual character of Broken Hill. As per final land use proposed within Plan 1, Appendix C of the RS. Development of rehabilitation strategy, and rehabilitation management plan (RMP) including final landform designs considerate of generic stable landforms and tourism-related PMLUs.	E - Rare	3 - Moderate	N/A	3 - Moderate	3 - Moderate	3 - Moderate	N/A	2 - Minor	Moderate	Not applicable	Not applicable	E - Rare	3 - Moderate	N/A	3 - Moderate	3 - Moderate	3 - Moderate	N/A	2 - Minor	Moderate	Not applicable	Not applicable	Not applicable
Acid Mine Drainage (AMD) capillary rise (upward migration of acidity and salinity) into rehabilitation profile - TSF2, TSF3	* Contamination and sterilisation of clean upper sub- and topsoil material; * Medium- and long-term failure of surface vegetation, crops or pasture (eg acidification of root zone). * Long-term contamination liability	* Disposal of PAF waste rock and tailings into TSF2 * Geochemical processes (eg ARD capillary rise); * Inadequate capping design (does not prevent capillary rise) * No or inadequate modelling of capillary process and associated risks. * No modelling to test performance of proposed capping options to mitigate risk	004	Yes	Extensive geochemical assessments (waste rock characterisation by ERM and EMM) indicate negligible quantities of PAF material exist at surface across the site	E - Rare	N/A	N/A	2 - Minor	3 - Moderate	2 - Minor	2 - Minor	N/A	Moderate	Not applicable	Nil	E - Rare	N/A	2 - Minor	2 - Minor	2 - Minor	2 - Minor	N/A	2 - Minor	Low	Not applicable	Not applicable	Not applicable
Acid Mine Drainage (AMD) - impacts on groundwater and surface water receptors	* Adverse impacts on sensitive receptors * Ongoing exceedance of water quality objectives post-closure * Ongoing legacy and compliance issues (financial and reputational impact)	* Disposal of PAF waste rock and tailings into TSF2 * Inadequate capping design (does not prevent seepage and AMD) * No modelling to test performance of proposed capping options to mitigate risk	005	Yes	Extensive geochemical assessments (waste rock characterisation by ERM and EMM) indicate negligible quantities of PAF material exist at surface across the site	E - Rare	N/A	N/A	2 - Minor	3 - Moderate	2 - Minor	2 - Minor	N/A	Moderate	As per Risk # 004	As per Risk # 004	E - Rare	N/A	2 - Minor	2 - Minor	2 - Minor	2 - Minor	N/A	2 - Minor	Low	Not applicable	Not applicable	Not applicable
Neutral Mine Drainage (NMD) capillary rise (upward migration of heavy metals) into rehabilitation profile - TSF2, TSF3	* Contamination and sterilisation of clean inert waste rock; * Long-term contamination liability	* NMD containing metals generated from in-situ orebody and ores altered by processing (grinding and refining) when in contact with water. * Disposal of NMD waste rock and tailings into TSF2, TSF3 * Geochemical processes (capillary rise); * No or inadequate modelling of capillary process and associated risks. * Inadequate capping layer(s) or layers do not prevent capillary rise * No modelling to test performance of proposed capping options in terms of capillary rise and seepage	006	Yes	* capillary break including in capping design * store/release cover design * non-vegetative capping design due to climate and growing media constraints	C - Possible	N/A	N/A	3 - Moderate	2 - Minor	3 - Moderate	N/A	3 - Moderate	High	Extent of NMD material (location, quantity) and risk is unknown. Risk of metalliferous NMD drainage to surface and groundwater receptors post-closure is unknown	Geochemical mine waste characterisation to quantify the volume and extent of NMD material on site and risks Modelling of proposed TSF capping scenarios to demonstrate performance (mitigation of AMD capillary rise and deleterious seepage)	E - Rare	N/A	N/A	1 - Insignificant	1 - Insignificant	1 - Insignificant	N/A	1 - Insignificant	Low	Extent of NMD material (location, quantity) and is unknown. Risk of metalliferous NMD drainage to surface and groundwater receptors post-closure is unknown	Not applicable	Complete updated geochemical characterisation to quantify location and quantity of NMD material and ability to generate metalliferous drainage. Groundwater assessment and modelling (including solute transport modelling and seepage modelling of TSF capping scenarios) Surface water assessment and modelling
Neutral Mine Drainage (NMD) and impacts on groundwater and surface water receptors - TSF2, TSF3	* Adverse impacts on sensitive receptors * Ongoing exceedance of water quality objectives post-closure * Ongoing legacy and compliance issues (financial and reputational impact)	* NMD containing metals generated from in-situ orebody and ores altered by processing (grinding and refining) when in contact with water. * Disposal of NMD waste rock and tailings into TSF2, TSF3 * Geochemical processes (eg ARD capillary rise); * No or inadequate modelling of capillary process and associated risks. * Inadequate capping layer(s) or layers do not prevent capillary rise * No modelling to test performance of proposed capping options in terms of capillary rise and seepage	007	Yes	* capillary break including in capping design * store/release cover design * non-vegetative capping design due to climate and growing media constraints * groundwater poor quality due to mineralisation	C - Possible	N/A	N/A	2 - Minor	3 - Moderate	2 - Minor	3 - Moderate	N/A	High	Risk of metalliferous NMD drainage to surface and groundwater receptors post-closure is unknown	Groundwater modelling (inc solute transport modelling) to assess closure risk to surface- and groundwater receptors Surface water assessment and modelling to assess closure risks to surface- and groundwater receptors	C - Possible	N/A	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	N/A	1 - Insignificant	Low	As per Risk # 006	Not applicable	As per Risk # 006
Visual amenity - final landform design does not visually integrate with the surrounding landscape and/or does meet community expectations	* Inability to satisfy approval conditions; * Community does not accept final landform design; * Inability to achieve relinquishment. * Reputational impacts	* Lack of landform character / visual impact assessment as part of landform design. * Lack of consultation with community and other stakeholders on PMLU and proposed final landform	008	Yes	Landform features such as final voids and slopes are to be retained as these are consistent with the mining character of the site and are a definitive feature of the visual character of Broken Hill. As per final land use proposed within Plan 1, Appendix C	E - Rare	N/A	N/A	3 - Moderate	1 - Insignificant	N/A	N/A	Low	Not applicable	Not applicable	E - Rare	N/A	N/A	N/A	3 - Moderate	1 - Insignificant	N/A	N/A	Low	Not applicable	Not applicable	Not applicable	
GEOTECHNICAL STABILITY Slumping and failure of TSF2 embankment/retaining wall failure	* Major costs for landform re-design/re-work; * Inability to achieve relinquishment; * Tailings release (mass discharge) - harm to/loss of persons and property downstream; * Reputational impacts	* No geotechnical stability assessments (ANCOLD) to confirm long-term stability and hazard classification * Erosion of embankment slope gradient not sympathetic to the erosion and geotechnical constraints of the soil material. * Insufficient or inappropriate final surface cover provide long-term erosion stability * Seismic event * Inappropriate or inadequate surface water runoff drainage system causing undesired impoundment of water and/or filling and gully. * Inappropriate or inadequate sub-surface drainage system resulting in saturation of impounded tailings and potential for liquefaction.	009	Yes	Quality assurance during construction, water drainage system to prevent water pooling, geomembrane and filter curtain to cater for any differential settlement preventing erosion and slumping. Certified engineer has inspected and confirmed embankments constructed to design. Ongoing embankment monitoring in place. Closure design provided by Golder in MOD4 and updated for MOD6. Flood management - spillway design for a probable maximum flood (generally considered to be 1 in a million probability); Environmental containment Freeboard - designed to a 1:10,000 annual exceedance probability AEP; 72 hour event; Earthquake loading - seismic parameters OBE: 0.12 g, MDE/MCE: 0.2 g. Stormwater management on Embankments tied into the stormwater management system. Inspections and seismic monitoring.	E - Rare	4 - Major	5 - Critical	4 - Major	4 - Major	N/A	N/A	5 - Critical	High	Not applicable	Not applicable.	D - Unlikely	3 - Moderate	1 - Insignificant	3 - Moderate	1 - Insignificant	1 - Insignificant	1 - Insignificant	3 - Moderate	Moderate	1/ Who is providing the final landform design for TSF2?	Not applicable	Final technical design of TSF2 capping to be developed and confirmed on construction. None

CLOSURE RISK DESCRIPTION (Unwanted Event)	POTENTIAL IMPACTS (Consequence)	POTENTIAL CAUSES (Risk Pathway - Root Causes)	RISK #	RELEVANT? (Yes / No)	Existing Proposed Controls (per Rasp Mine RMP, October 2021 - September 2023)	REHABILITATION RISK BASED ON CURRENT & PROPOSED CONTROLS							Additional Identified Risks/Issues (from EMM studies and site assessment)	Additional Recommended Controls (from EMM studies and site assessment)	REHABILITATION RISK BASED ON ADDITIONAL OR REVISED CONTROLS							Closure knowledge gaps	Uncertainties	Path Forward (Agreed way forward for RMP)													
						Likelihood (L)	Financial	Health & Safety	Environmental	Community Relations	Company Reputation	Security			Legal Compliance	Inherent Risk Level (IRL)	Likelihood (L)	Financial	Health & Safety	Environmental	Community Relations				Company Reputation	Security	Legal Compliance	Residual Risk Level (RRL)									
The pre-project catchment hydrology cannot be reinstated	* Catchment and sub-catchment flows are permanently altered as a result of final landform changes; affecting downstream users and sensitive receptors; * inability to satisfy approval conditions; * inability to achieve relinquishment; * Final landforms permanently alter catchment and sub-catchment flows (ie. final landform designs do not consider pre-mining catchment hydrology); * Final landforms deliberately alter original catchments in order to manage other risks (eg final voids, permanent flood levees etc); * Adjoining land use changes not considered (cumulative impacts); * Inadequate staging plans - final hydrology not realised.	* Final landform design(s) do not integrate with, or do not adequately integrate with, site- and/or local hydrology (eg drainage lines, creeks etc)	022	Yes	Determine stormwater management requirements. Review current water storage structures and water flows and determine how water is to be redirected to pits and final water structures. Final land use design as proposed within Plan 1, Appendix C of the RS.	E - Rare	2 - Minor	N/A	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	Low	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options. Site is highly modified and spatially constrained which limits ability for significant re-shaping to tie final landform into surrounding drainage lines. Likewise, site to be rehabilitated to a historical heritage PMLU which means most existing mining landforms will remain as they currently exist. Site generated runoff will have to be retained on-site and disposed underground.	Closure surface water assessment to cover: * flooding/hydrology risks of final landforms * applicable surface water WQOs * integrated SW/GW assessment to address options for long-term SW disposal to underground workings	E - Rare	1 - Insignificant	N/A	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	Low	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Not applicable	SW assessment to be undertaken	
Ongoing impact on water quality in creeks and drainage lines downstream of rehabilitated areas	* Erosion and sediment runoff from rehabilitated areas; * Adverse impacts to downstream users and sensitive receptors (cumulative impacts); * inability to satisfy approval conditions; * inability to achieve relinquishment; * Site is space constrained.	* Instability and erosion of rehabilitated landforms. * Major storm event. * Water management measures do not perform to plan. * Implemented solutions do not eliminate pollution. * Lack of knowledge of seepage issues. * Site is space constrained.	023	Yes	Removal of dirty water storages and associated contaminated material and dispose in underground voids and / or TSF2/TSF3 is completed. TSF2/TSF3 surface and shape, installation of control runoff areas where required (eg rock lined drains) to reduce likelihood of potential erosion. Structures to be non-eroding. Rain water runoff quality meets agreed guidelines. Development of water management plan for closure. Engage water specialist to design post mine water management - Water Closure Management Plan. Determine appropriate slopes to achieve required drainage (direction). Appropriate consideration to rainfall runoff in slope design. Determination if required of agreed (EPA) locally derived water quality objectives.	D - Unlikely	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	Moderate	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Closure surface water assessment to cover: * flooding/hydrology risks of final landforms * applicable surface water WQOs * integrated SW/GW assessment to address options for long-term SW disposal to underground workings * final landform design to maximise internal diversion of surface flows to evaporation ponds where possible	E - Rare	1 - Insignificant	N/A	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	Low	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Not applicable	SW assessment to be undertaken			
Flood events result in damage to or loss of rehabilitated ground	* Unplanned rehabilitation/closure liability; * inability to achieve relinquishment, or delays to relinquishment.	* Inadequate or no flood modelling;	024	Yes	Determine stormwater management requirements. Review current water storage structures and water flows and determine how water is to be redirected to pits and final water structures. Design final shape and drainage. Rock mulch armouring of final landforms and surfaces	E - Rare	2 - Minor	N/A	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	Low	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Closure surface water assessment to cover: * flooding/hydrology risks of final landforms * applicable surface water WQOs * integrated SW/GW assessment to address options for long-term SW disposal to underground workings	E - Rare	1 - Insignificant	N/A	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	Low	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Not applicable	SW assessment to be undertaken				
Water quality in retained water management structures not suitable to support PMLUs	* Unplanned rehabilitation/closure liability;	* Residual contaminated material in ponds and drains - not identified and removed during rehabilitation phase; * Ongoing sediment / contaminant inflows - inadequate erosion and sediment control system.	025	Yes	Determine stormwater management requirements. Review current water storage structures and water flows and determine how water is to be redirected to pits and final water structures. Design final shape and drainage. Removal of dirty water storages and associated contaminated material and dispose in underground voids and / or TSF2, TSF3 is completed.	E - Rare	3 - Moderate	2 - Minor	3 - Moderate	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	Moderate	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Closure surface water assessment to cover: * flooding/hydrology risks of final landforms * applicable surface water WQOs * integrated SW/GW assessment to address options for long-term SW disposal to underground workings	E - Rare	1 - Insignificant	N/A	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	Low	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Not applicable	SW assessment to be undertaken				
GROUNDWATER - LEVEL LAND QUALITY																																					
Groundwater levels do not return to regional levels (due to mounding) and adversely impacts future beneficial uses	* Altered groundwater flow regimes; * Undesired GW expression at surface down-gradient of site	* Tails water seepage causing groundwater mounding * Evaporation exceeds rainfall * groundwater data available * existing quality is low (saline, metals)	026	Yes	* GW generally very deep (>100m depth) * Evaporation exceeds rainfall * groundwater data available * existing quality is low (saline, metals)	E - Rare	N/A	N/A	1 - Insignificant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Low	No numerical (predictive) groundwater model exists for the site that can be used to assess long-term risks to groundwater receptors post-closure	Groundwater assessment and modelling to address: * predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) * predicted groundwater quality post-mining * seepage modelling of final landform capping options (eg final cover on TSF2 and capacity to mitigate metalliferous drainage risks)	E - Rare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Low	Lack of detailed mine closure GW assessment addressing groundwater levels and quality post-mining, and long-term seepage risks and performance of final covers on relevant landforms (eg TSF2)	Mine closure groundwater assessment and modelling for Rasp will need to consider groundwater affecting activities for the adjoining Perilya mine (ie take, plans for deep disposal etc). EMM scope and budget does not consider this.	Groundwater assessment and modelling to address: * predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) * predicted groundwater quality post-mining * seepage modelling of final landform capping options (eg final cover on TSF2)			
Groundwater levels do not return to regional levels (due to drawdown during mining) and adversely impacts future beneficial uses	* Groundwater accessibility by third-party users is adversely affected as a result of groundwater drawdown - additional licensing and cost impacts;	* Lack of groundwater drawdown modelling/prediction - over-extraction of groundwater during mining phase; * Unintentional exceedance of abstraction limits in water licences or permits;	027	Yes	* GW generally very deep (>100m depth) * Evaporation exceeds rainfall * groundwater data available * existing quality is low (saline, metals)	E - Rare	N/A	N/A	1 - Insignificant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Low	No numerical (predictive) groundwater model exists for the site that can be used to assess long-term risks to groundwater receptors post-closure	Groundwater assessment and modelling to address: * predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) * predicted groundwater quality post-mining * seepage modelling of final landform capping options (eg final cover on TSF2 and capacity to mitigate metalliferous drainage risks)	E - Rare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Low	Lack of detailed mine closure GW assessment addressing groundwater levels and quality post-mining, and long-term seepage risks and performance of final covers on relevant landforms (eg TSF2)	Mine closure groundwater assessment and modelling for Rasp will need to consider groundwater affecting activities for the adjoining Perilya mine (ie take, plans for deep disposal etc). EMM scope and budget does not consider this.	Groundwater assessment and modelling to address: * predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) * predicted groundwater quality post-mining * seepage modelling of final landform capping options (eg final cover on TSF2)				
Deleterious mine seepage/drainage into local aquifer and migration to groundwater and surface water receptors	* Adverse impacts to groundwater beneficial uses / GDEs or post-closure; * Groundwater contamination prevents future potential beneficial use(s).	* No or inadequate geochemical characterisation of mining wastes (eg waste rock, overburden, tailings etc) * Inadequate placement and/or encapsulation of deleterious material within the final landform; * No or inadequate final cover/capping of deleterious material * No hydrogeological or geochemical investigations and modelling; * Leakage from existing storages eg S22;	028	Yes	Extensive geochemical assessments (waste rock characterisation by ERM and EMM) indicate negligible quantities of PAF material exist at surface across the site. Limited understanding of location, quantity and risk associated with NMD material and metalliferous mine drainage No controls currently proposed re: long-term management of material generating metalliferous drainage. Existing studs indicate GW migration is into the mine due to long-term extraction/draw-down	D - Unlikely	2 - Minor	N/A	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	Low	Extent of NMD material (location, quantity) and risk is unknown. Risk of metalliferous NMD drainage to surface and groundwater receptors post-closure is unknown	Geochemical mine waste characterisation to quantify the volume and extent of NMD material on site and risks Development of capping scenarios for long-term encapsulation of deleterious materials and validation of capping performance through seepage modelling	E - Rare	2 - Minor	N/A	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	Low	Lack of detailed mine closure GW assessment addressing groundwater levels and quality post-mining, and long-term seepage risks and performance of final covers on relevant landforms (eg TSF2) Extent of NMD material (location, quantity) and associated metalliferous drainage risk is unknown. No or incomplete rehabilitation material balance for underground and aboveground rehabilitation	Mine closure groundwater assessment and modelling for Rasp will need to consider groundwater affecting activities for the adjoining Perilya mine (ie take, plans for deep disposal etc). EMM scope and budget does not consider this.	Complete updated geochemical characterisation to quantify location and quantity of NMD material and ability to generate metalliferous drainage. Groundwater assessment and modelling (including solute transport modelling and seepage modelling of TSF capping scenarios) Surface water assessment and modelling				
Seepage from the tailings facilities or other storages to groundwater resulting in contamination (eg salinity, heavy metals)	* Adverse impacts to groundwater beneficial uses post-closure; * Groundwater contamination prevents future potential beneficial use(s).	* No hydrogeological or geochemical investigations and modelling; * Impacts on beneficial uses not assessed; * surface expression of groundwater associated with the tailings dams or other water storages eg S22 has previously occurred	029	Yes	* GW generally very deep (>100m depth) * Evaporation exceeds rainfall * groundwater data available * existing quality is low (saline, metals)	D - Unlikely	2 - Minor	N/A	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	Low	No numerical (predictive) groundwater model exists for the site that can be used to assess long-term risks to groundwater receptors post-closure	Groundwater assessment and modelling to address: * predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) * predicted groundwater quality post-mining * seepage modelling of final landform capping options (eg final cover on TSF2, TSF3 and capacity to mitigate metalliferous drainage risks)	D - Unlikely	3 - Moderate	N/A	3 - Moderate	2 - Minor	2 - Minor	N/A	3 - Moderate	Moderate	Lack of detailed mine closure GW assessment addressing groundwater levels and quality post-mining, and long-term seepage risks and performance of final covers on relevant landforms (eg TSF2, TSF3)	Mine closure groundwater assessment and modelling for Rasp will need to consider groundwater affecting activities for the adjoining Perilya mine (ie take, plans for deep disposal etc). EMM scope and budget does not consider this.	Groundwater assessment and modelling to address: * predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) * predicted groundwater quality post-mining * seepage modelling of final landform capping options (eg final cover on TSF2, TSF3)				
HERITAGE																																					
Heritage items not reinstated and protected at closure	* Non-compliance with statutory obligations; * Reputational impact.	* Inadequate record keeping * Inadequate maintenance * Accidental damage to heritage items	031	No	* Protection works undertaken by former operators * Items donated to LOLA and museums by former operators * Conservation management plans and conservation management strategies prepared and implemented	C - Possible	2 - Minor	2 - Minor	N/A	3 - Moderate	3 - Moderate	N/A	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	2 - Minor	High	1/ Existing CMP (circa 2013) is outdated. 2/ Ongoing lack of direction from regulatory agency panel on site rehabilitation and heritage-related PMLUs 3/ Unclear who is proposed to 'take on' retained heritage structures post-mining	1/ Updated CMP (inc. heritage register) required - needs to identify what structures will be retained, to inform rehabilitation strategy (tourism PMLU) 2/ Consult with government agency panel and propose a 'base case' to include in RMP, and seek their feedback	D - Unlikely	2 - Minor	2 - Minor	N/A	3 - Moderate	3 - Moderate	2 - Minor	2 - Minor	Moderate	Who will take on retained heritage items/structures post-closure (as part of relinquishment)?	Not applicable	Ongoing dialogue with stakeholders, CMP is being updated				

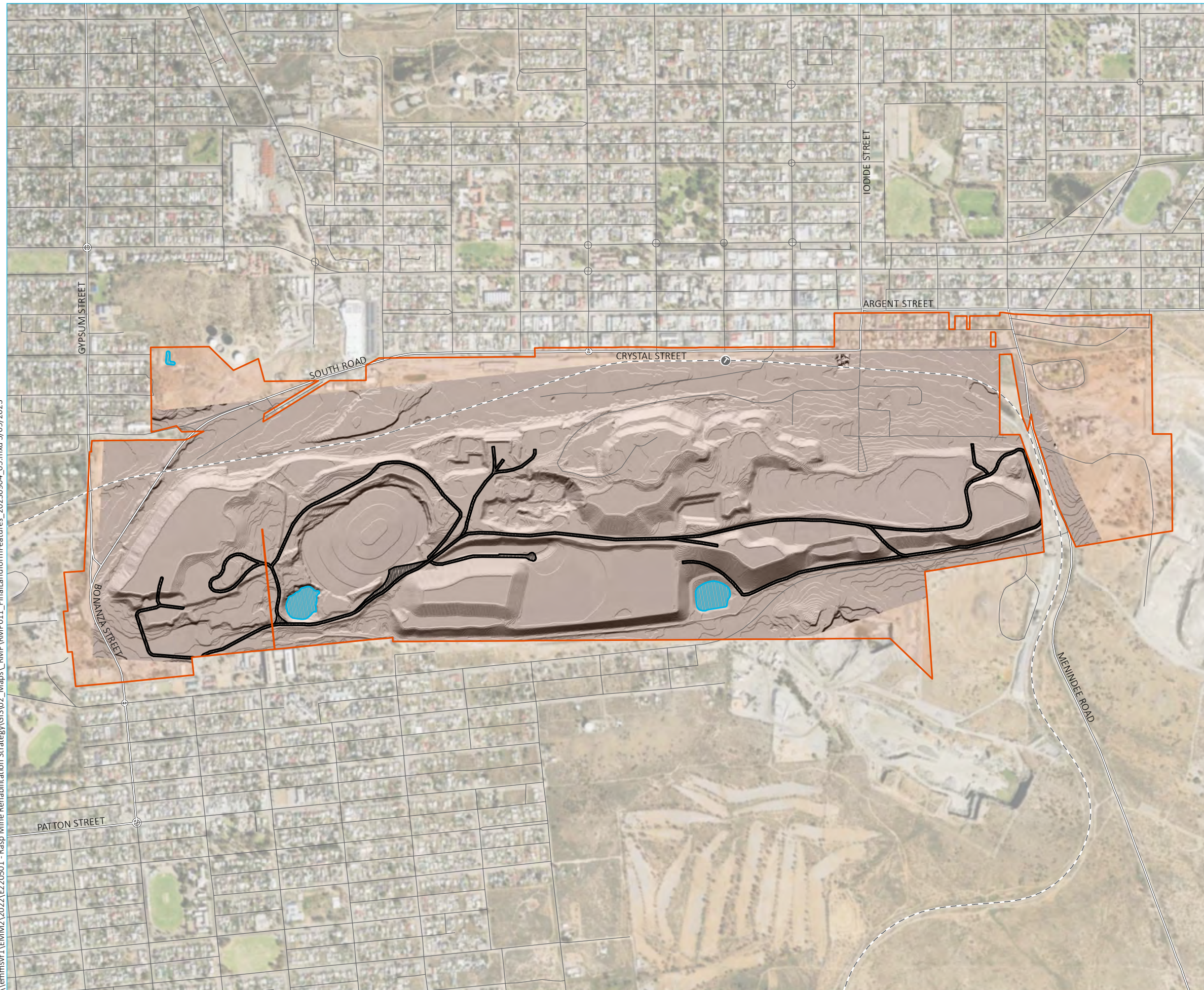
CLOSURE RISK DESCRIPTION (Unwanted Event)	POTENTIAL IMPACTS (Consequence)	POTENTIAL CAUSES (Risk Pathway - Root Causes)	RISK #	RELEVANT? (Yes / No)	Existing Proposed Controls (per Rasp Mine RMP, October 2021 - September 2023)	REHABILITATION RISK BASED ON CURRENT & PROPOSED CONTROLS							Additional Identified Risks/Issues (from EMM studies and site assessment)	Additional Recommended Controls (from EMM studies and site assessment)	REHABILITATION RISK BASED ON ADDITIONAL OR REVISED CONTROLS							Closure knowledge gaps	Uncertainties	Path Forward (Agreed way forward for RMP)				
						Likelihood (L)	Impacted Area								Inherent Risk Level (IRL)	Likelihood (L)	Impacted Area								Residual Risk Level (RRL)			
							Financial	Health & Safety	Environmental	Community Relations	Company Reputation	Security					Legal Compliance	Financial	Health & Safety	Environmental	Community Relations					Company Reputation	Security	Legal Compliance
Heritage structures removed/destroyed, or retained heritage structures not maintained	<ul style="list-style-type: none"> * Non-compliance with historical heritage legislation * Reputational impact * Inability to achieve/support heritage-related PMLU 	<ul style="list-style-type: none"> * No entity willing to take on the site assets/liability in particular due to maintenance costs * No legal mechanism for handing over responsibility * Unknown management requirements for heritage sites – demolition, dismantling, diapidation surveys, retention. * Lack of knowledge of heritage obligations for the site 	032	Yes	<ul style="list-style-type: none"> * Conservation Management Plan, including heritage sites register 	C - Possible	2 - Minor	2 - Minor	N/A	3 - Moderate	3 - Moderate	N/A	2 - Minor	High	<ul style="list-style-type: none"> 1/ Existing CMP (circa 2013) is outdated. 2/ Ongoing lack of direction from regulatory agency panel on site rehabilitation and heritage-related PMLUs 3/ Unclear who is proposed to 'take on' retained heritage structures post-mining 	<ul style="list-style-type: none"> 1/ Updated CMP (inc. heritage register) required - needs to identify what structures will be retained, to inform rehabilitation strategy (tourism PMLU) 2/ Consult with government agency panel and propose a 'base case' to include in RMP, and seek their feedback 	D - Unlikely	2 - Minor	2 - Minor	N/A	3 - Moderate	3 - Moderate	N/A	2 - Minor	Moderate	Who will take on retained heritage structures post-closure (as part of relinquishment)?	Not applicable	Ongoing dialogue with stakeholders, CMP is being updated
INFRASTRUCTURE Retained infrastructure is inconsistent/incompatible with the intended final land use	<ul style="list-style-type: none"> * Unplanned cost to remove; * Unplanned rehabilitation/closure liability; * Inability to achieve relinquishment. 	<ul style="list-style-type: none"> * Landform designs do not consider retained infrastructure; * Mine plans and closure plans do not consider retained infrastructure and land use compatibility; * Landowner/land manager/R&R agreement not obtained on infrastructure to be retained; * Formal landowner agreement not obtained regarding infrastructure to be retained; * Landowner does not accept the final condition of retained infrastructure at point of closure. 	033	Yes	<ul style="list-style-type: none"> * Conservation Management Plan, including heritage sites register Relevant heritage structures to be retained post-mining to support proposed mine heritage related PMLU 	D - Unlikely	4 - Major	N/A	N/A	3 - Moderate	3 - Moderate	N/A	N/A	High	<ul style="list-style-type: none"> 1/ Existing CMP (circa 2013) is outdated. 2/ Ongoing lack of direction from regulatory agency panel on site rehabilitation and heritage-related PMLUs 3/ Unclear who is proposed to 'take on' retained heritage structures post-mining 	<ul style="list-style-type: none"> 1/ Updated CMP (inc. heritage register) required - needs to identify what structures will be retained, to inform rehabilitation strategy (tourism PMLU) 2/ Consult with government agency panel and propose a 'base case' to include in RMP, and seek their feedback 	E - Rare	2 - Minor	N/A	N/A	3 - Moderate	2 - Minor	N/A	Moderate	Ownership and management of heritage items post closure.	Who will take on retained heritage structures post-closure (as part of relinquishment)? Which structures will remain to support heritage PMLU?	Ongoing dialogue with stakeholders, CMP is being updated	
SITE CONTAMINATION Residual site contamination not removed/remediated prior to mine closure	<ul style="list-style-type: none"> * Contamination prevents or limits the intended final land use; * Non-compliance with environmental protection legislation, policies and NEPM for site contamination; * Residual contamination results in surface water or groundwater contamination; * Unexpected cost to manage/treat contaminated material; * Delays to closure and relinquishment; * Unplanned rehabilitation/closure liability. 	<ul style="list-style-type: none"> * Types and locations of known and potential site contamination not identified, tested and removed/remediated prior to mine closure; * Hostile tailings material, PAF, rejects material etc not appropriately disposed at depth/capped as part of mine planning and landform construction/reinstatement; * No or inadequate remediation; 	034	Yes	RMP - Inspection and removal of contamination associated with BHOP mining activities	D - Unlikely	4 - Major	2 - Minor	3 - Moderate	3 - Moderate	N/A	3 - Moderate	High	Not applicable	Post-excavation validation sampling program to confirm all validated material has been removed	D - Unlikely	3 - Moderate	2 - Minor	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	Moderate	Not applicable	Not applicable	Not applicable		
CLIMATE CHANGE Droughts and climate change	<ul style="list-style-type: none"> * Delays to rehabilitation establishment; * Loss of establishing rehabilitation (native vegetation, crops and pasture); * Unplanned rehabilitation/closure liability; * Inability to achieve, or delays to, mine relinquishment. 	<ul style="list-style-type: none"> * Revegetation is not mature / resilient to extended dry conditions; * Lack of watering/irrigation programs (rehabilitation maintenance) during establishment phase resulting; * over watering impedes hardening of reveg; * Inadequate soil/growth media preparation. 	035	No	RMP identifies lack of soil resource (resource does not exist) - rehabilitation of native vegetation is not possible or proposed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not applicable	Not applicable	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not applicable	Not applicable	Not applicable		

Appendix C

Landforms and rehabilitation plans

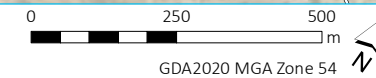
C.1 Final landform features

\\emmsvr1\EMM2\2022\E220501 - Rasp Mine Rehabilitation Strategy\GIS\02_Maps\RMPI\RMPO11_FinalLandformFeatures_20230904_05.mxd 5/09/2023



- KEY**
- MINERALS - CURRENT TITLES
 - Train station
 - Rail line
 - Major road
 - Minor road
 - Final landform feature**
 - Internal road
 - Permanent water body

Source: EMM (2023); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011)



Final landform features (Plan 1)

Rasp Mine
Rehabilitation Strategy
Appendix C.1



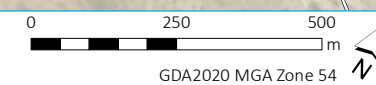
C.2 Final landform contours

\\emmsvr1\EMM2\2022\E220501 - Rasp Mine Rehabilitation Strategy\GIS\02_Maps\RMP\RMP012_FinalLandformContours_20230904_04.mxd 5/09/2023



- KEY**
- MINERALS - CURRENT TITLES
 - Train station
 - Rail line
 - Major road
 - Minor road
 - 1 m contour interval
 - Final land use domain**
 - Final void
 - Heritage area
 - Industrial
 - Infrastructure
 - Other
 - Water management area

Source: EMM (2022); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011)



Final landform contours (Plan 2)

Rasp Mine
Rehabilitation Strategy
Appendix C.2



Appendix D

DPE approval of expert team

Giorgio Dall'Armi
General Manger – Rasp Mine

7 August 2023

Subject: Appointment of additional Rehabilitation Strategy experts

Dear Mr Dall'Armi

I refer to your request for the Planning Secretary's endorsement of the following additional personnel at EMM Consulting Pty Limited (EMM), as suitably qualified and experienced experts, to continue with preparation of the Rehabilitation Strategy for the Rasp Project (the project), as required under condition 34A(a) of Schedule 3 of the project approval (MP07_0018):

- Mr Bret Jenkins – Associate Director and Asset Transition Lead
- Tom Frankham – Associate Environmental Scientist, Coal Sector Lead
- Paul Freeman – Associate Director, Energy Sector Lead

The Department has reviewed the nominations and information you have provided, including that the following three members of the team of experts that were previously endorsed (MP07_0018-PA-33), are no longer available:

- Mr Michael Frankham - Associate Director/National Technical Leader – Land, Water and Rehabilitation
- Mr Nick Travers - Associate Environmental Specialist – Land and Rehabilitation
- Dr Vidhu Gandhi - National Technical Leader – Built Heritage

Accordingly, the Planning Secretary endorses their appointments to continue and complete the development of the Rehabilitation Strategy.

If you wish to discuss the matter further, please contact Mandana Mazaheri on 02 9995 5093.

Yours sincerely



Stephen O'Donoghue
Director
Resource Assessments
as nominee of the Planning Secretary

Appendix E

Stakeholder consultation correspondence

MINING LEASE CONDITIONS 2004

1. Notice to Landholders

Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.

If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.

Environmental Management Conditions

2. Mining Operations Plan

- (a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries – Mineral Resources.
- (b) The MOP must:
- identify areas that will be disturbed by mining operations;
 - detail the staging of specific mining operations;
 - identify how the mine will be managed to allow mine closure;
 - identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;
 - reflect the conditions of approval under:
 - the Environmental Planning and Assessment Act 1979
 - the Protection of the Environment Operations Act 1997
 - and any other approvals relevant to the development including the conditions of this lease; and
 - have regard to any relevant guidelines adopted by the Director-General.
- (c) The titleholder may apply to the Director-General to amend an approved MOP at any time.
- (d) It is a defence to a breach of this condition if:

- i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the *Mining Act 1992*, the *Environmental Planning and Assessment Act 1979*, *Protection of the Environment Operations Act 1997* or the *Occupational Health and Safety Act 2000*; and
- ii) the Director-General had been notified of the terms of the order or direction prior to the operations constituting the breach being carried out.

Note: The Director-General is deemed to be notified of the terms of an order or direction if the order or Direction was issued by the Department or a copy of the order or direction has been faxed to 02 4931 6790.

- (e) A MOP ceases to have effect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition (c) does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.

Annual Environmental Management Report (AEMR)

3. Reporting

- (a) The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.
- (b) The EMR must:
 - report against compliance with the MOP;
 - report on progress in respect of rehabilitation completion criteria;
 - report on the extent of compliance with regulatory requirements; and
 - have regard to any relevant guidelines adopted by the Director-General;

Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.

4. Rehabilitation

Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.

5. Exploratory Drilling

- (1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.
- (2) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:-
 - (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;
 - b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;
 - (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;
 - (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;
 - (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.
 - (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.
 - (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.

6. Roads and Tracks

- (a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate.
- (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.

7. Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Natural Resources.

8. Use of Mercury or Cyanide

The lease holder must not use mercury or cyanide or any solution containing cyanide for the recovery of minerals on the lease area without the prior written approval of the Minister and subject to any conditions he may stipulate.

9. Reports

The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:

- (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;
- (b) Details of expenditure incurred in conducting that exploration;
- (c) A summary of all geological findings acquired through mining or development evaluation activities;
- (d) A statement of the ore and mineral reserves
- (e) Particulars of exploration proposed to be conducted in the next twelve months period;
- (f) All plans, maps, sections and other data necessary to satisfactorily interpret the report.

10. Licence to Use Reports

- (a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.
- (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.

11. Confidentiality

- (a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:
 - (i) the lease holder has agreed that specified reports may be made non-confidential.
 - (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.
- (b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.
- (c) The Director-General may extend the period of confidentiality.

12. Terms of the non-exclusive licence

The terms of the non-exclusive copyright licence granted under condition 8 (a) are:

- (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports.
- (b) the Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.
- (c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.
- (d) there is no royalty payable by the Minister for the licence.
- (e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.

13. Safety

Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.

14. Transmission lines, Communication lines and Pipelines

Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.

15. Fences, Gates

- (a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate.
- (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.

16. Resource Recovery

- (a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.
- (b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.
- (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.
- (d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.
- (e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.

- (f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.

17. Indemnity

The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.

25. Single Security

- (a) A security in the sum of \$250,000.00 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under Consolidated Mining Lease No 7 (Act 1973), Mining Purposes Lease Nos 183, 184, 185 and 186 (Act 1973)). If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.
- (b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:
 - (i) cash,
 - (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.

SPECIAL CONDITIONS

Catchment Areas and Reserves

26. (a) If the registered holder is using or about to use any process which in the opinion of the Minister is likely to cause contamination of the waters of Stephen's Creek Catchment Area the registered holder shall refrain from using or cease using as the case may require such process within twenty four hours of the receipt by the registered holder of a notice in writing under the hand of the Minister or the Director General requiring the registered holder so to do.
 - (b) The registered holder shall comply with any regulations now in force or hereafter to be in force for the protection from pollution of the said Catchment Area.
 - (c) The registered holder shall not erect nor permit to be erected any dwellings unless with the consent of the Minister or Country Energy-Water and subject to such conditions as may be stipulated.
 - (d) The registered holder shall make such provisions for sanitation as may be approved by Country Energy-Water and shall at all times observe and perform any requirements of the said Country Energy-Water respecting sanitation.
27. Operations shall be conducted in such a manner as not to interfere with or cause damage to the assets of Country Energy-Water situated on or around the subject area.
 28. The registered holder shall as far as may be practicable so conduct operations as not to interfere in any way with the public use and enjoyment of Reserve No 2421 for Temporary Common; Reserve No 69262 from Sale for future Public Requirements, Reserve No 3073 from Sale for Public Recreation and Reserve No 30905 for Quarry.

INSTRUMENT OF RENEWAL

LEASE: Mining Purposes Lease No 186 (Act 1973)

HOLDER: Broken Hill Operations Pty Ltd

DATE OF LEASE: 4 February 1981

EXPIRY DATE OF LEASE: 31 December 2005

PERIOD OF RENEWAL UNTIL: 31 December 2026

AREA: 4852 square metres
AS SHOWN BY PLAN NO D2321

DEPTH RESTRICTION: 10 metres

SURFACE EXCEPTION: Nil

PURPOSES:

1. Dumping of ore and mine residues.
2. Treatment of tailings.

ROYALTY PAYABLE: At the rate which, from time to time, may be prescribed.


AMENDMENTS TO THE CONDITIONS OF THE LEASE:


- (a) All the Conditions contained in the lease prior to the renewal have been deleted.
- (b) The lease is now subject to the attached Mining Lease Conditions 2004 numbered:

1 to 17 (inclusive), and 25 to 28 (inclusive).

Condition Nos. 2 to 8 (inclusive), 14 and 15 are identified as conditions relating to environmental management for the purposes of Sections 125(3) and 374A of the Mining Act 1992.

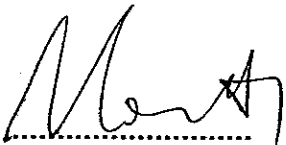
We, Broken Hill Operations Pty Ltd (ACN 054 920 893), hereby accept the renewal of this Lease and agree to be bound by the conditions specified.


P.S. LOWERGAN
Company Secretary


R.E. BESLEY
Managing Director

.....
Broken Hill Operations Pty Ltd (ACN 054 920 893)

Renewed this 24th day of April 2007


.....
by delegation from the Minister.

MINING LEASE CONDITIONS 2004

1. Notice to Landholders

Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.

If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.

Environmental Management Conditions

2. Mining Operations Plan

- (a) Mining operations must not be carried out otherwise than in accordance with a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries – Mineral Resources.
- (b) The MOP must:
- identify areas that will be disturbed by mining operations;
 - detail the staging of specific mining operations;
 - identify how the mine will be managed to allow mine closure;
 - identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;
 - reflect the conditions of approval under:
 - the Environmental Planning and Assessment Act 1979
 - the Protection of the Environment Operations Act 1997
 - and any other approvals relevant to the development including the conditions of this lease; and
 - have regard to any relevant guidelines adopted by the Director-General.
- (c) The titleholder may apply to the Director-General to amend an approved MOP at any time.
- (d) It is a defence to a breach of this condition if:

- i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the *Mining Act 1992*, the *Environmental Planning and Assessment Act 1979*, *Protection of the Environment Operations Act 1997* or the *Occupational Health and Safety Act 2000*; and
- ii) the Director-General had been notified of the terms of the order or direction prior to the operations constituting the breach being carried out.

Note: The Director-General is deemed to be notified of the terms of an order or direction if the order or Direction was issued by the Department or a copy of the order or direction has been faxed to 02 4931 6790.

- (e) A MOP ceases to have affect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition (c) does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.

Annual Environmental Management Report (AEMR)

3. Reporting

- (a) The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.
- (b) The EMR must:
 - report against compliance with the MOP;
 - report on progress in respect of rehabilitation completion criteria;
 - report on the extent of compliance with regulatory requirements; and
 - have regard to any relevant guidelines adopted by the Director-General;

Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.

4. Rehabilitation

Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.

5. Exploratory Drilling

- (1) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Natural Resources regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.
- (2) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:-
 - (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;
 - (b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;
 - (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;
 - (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;
 - (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.
 - (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.
 - (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.

6. Roads and Tracks

- (a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate.
- (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.

7. Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Natural Resources.

8. Use of Mercury or Cyanide

The lease holder must not use mercury or cyanide or any solution containing cyanide for the recovery of minerals on the lease area without the prior written approval of the Minister and subject to any conditions he may stipulate.

9. Reports

The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:

- (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;
- (b) Details of expenditure incurred in conducting that exploration;
- (c) A summary of all geological findings acquired through mining or development evaluation activities;
- (d) A statement of the ore and mineral reserves
- (e) Particulars of exploration proposed to be conducted in the next twelve months period;
- (f) All plans, maps, sections and other data necessary to satisfactorily interpret the report.

10. Licence to Use Reports

- (a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.
- (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.

11. Confidentiality

- (a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:
 - (i) the lease holder has agreed that specified reports may be made non-confidential.
 - (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.
- (b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.
- (c) The Director-General may extend the period of confidentiality.

12. Terms of the non-exclusive licence

The terms of the non-exclusive copyright licence granted under condition 8 (a) are:

- (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports.
- (b) the Minister and any sub- licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.
- (c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.
- (d) there is no royalty payable by the Minister for the licence.
- (e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.

13. Safety

Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.

14. Transmission lines, Communication lines and Pipelines

Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.

15. Fences, Gates

- (a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate.
- (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.

16. Resource Recovery

- (a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.
- (b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.
- (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.
- (d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.
- (e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the Mining Act, 1992.

- (f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.

17. Indemnity

The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.

25. Single Security

- (a) A security in the sum of \$250,000.00 must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under Consolidated Mining Lease No 7 (Act 1973), Mining Purposes Lease Nos 183, 184, 185 and 186 (Act 1973)). If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.
- (b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:
 - (i) cash,
 - (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.

SPECIAL CONDITIONS

Catchment Areas and Reserves

26. (a) If the registered holder is using or about to use any process which in the opinion of the Minister is likely to cause contamination of the waters of Stephen's Creek Catchment Area the registered holder shall refrain from using or cease using as the case may require such process within twenty four hours of the receipt by the registered holder of a notice in writing under the hand of the Minister or the Director General requiring the registered holder so to do.
 - (b) The registered holder shall comply with any regulations now in force or hereafter to be in force for the protection from pollution of the said Catchment Area.
 - (c) The registered holder shall not erect nor permit to be erected any dwellings unless with the consent of the Minister or Country Energy-Water and subject to such conditions as may be stipulated.
 - (d) The registered holder shall make such provisions for sanitation as may be approved by Country Energy-Water and shall at all times observe and perform any requirements of the said Country Energy-Water respecting sanitation.
27. Operations shall be conducted in such a manner as not to interfere with or cause damage to the assets of Country Energy-Water situated on or around the subject area.
 28. The registered holder shall as far as may be practicable so conduct operations as not to interfere in any way with the public use and enjoyment of Reserve No 2421 for Temporary Common; Reserve No 69262 from Sale for future Public Requirements, Reserve No 3073 from Sale for Public Recreation and Reserve No 30905 for Quarry.

A.2 Project approval

Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I, as delegate for the Minister for Planning, approve the project application referred to in Schedule 1, subject to the conditions in Schedules 2 to 4.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Sam Haddad
Director-General

Sydney

SCHEDULE 1

Application Numbers:	07_0018
Proponent:	Broken Hill Operations Pty Ltd
Approval Authority:	Minister for Planning
Land:	See Appendix 1
Project:	Rasp Project

The Department has prepared a consolidated version of the approval which is intended to include all modifications to the original determination instrument.

The consolidated version of the consent has been prepared by the Department with all due care. This consolidated version is intended to aid the consent holder by combining all consents relating to the original determination instrument but it does not relieve a consent holder of its obligation to be aware of and fully comply with all consent obligations as they are set out in the legal instruments, including the original determination instrument and all subsequent modification instruments.

TABLE OF CONTENTS

DEFINITIONS	3
ADMINISTRATIVE CONDITIONS	5
Obligation to Minimise Harm to the Environment	5
Terms of Approval	5
Limits on Approval	5
Structural Adequacy	5
Demolition	6
Operation of Plant & Equipment	6
Staged Submission of Any Strategy, Plan and Program	6
Surrender of Development Consents	6
ENVIRONMENTAL PERFORMANCE CONDITIONS	7
Air Quality and Greenhouse Gas	7
Lead Awareness and Public Health	9
Noise and Vibration	10
Underground Mining	13
Soil and Water	13
Transport	14
Heritage	15
Visual Amenity	15
Waste	15
Rehabilitation	15
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING	17
Environmental Management	17
Reporting	18
Independent Environmental Audit	18
Monitoring and Environmental Audits	19
Access to Information	19
Independent Review	19
Updating and Staging of Studies, Strategies and Plans	19
APPENDIX 1: SCHEDULE OF LAND	21
APPENDIX 2: PROJECT AREA	22
APPENDIX 3: PROJECT LAYOUT PLANS	24
APPENDIX 4: PLAN OF FREE AREAS	27
APPENDIX 5: INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS	28

Red type represents the March 2012 Modification (Mod 1 - Ventilation Shaft)

Blue type represents the August 2014 Modification (Mod 2 – 24 Hour Primary Crusher)

Green type represents the March 2015 Modification (Mod 3 – Block 7 Extension)

Purple type represents the September 2017 Modification (Mod 4 – Tailings Storage Facility)

Dark blue type represents the October 2018 Modification (Mod 5 – Cement Silo and Warehouse Extension)

Orange type represents the July 2019 Modification (Mod 7 – Additional Crushing and Screening)

Brown type represents the April 2021 Modification (Mod 8 – Underground Mining Extension)

Pink type represents the December 2021 Modification (Mod 9 – Extension of Underground Exploration)

Mustard type represents the March 2022 Modification (Mod 6 – Tailings Management and Underground Access)

Lime Green type represents the December 2022 Modification (Mod 10 – Temporary Tailings Stockpile)

CONSOLIDATED APPROVAL

DEFINITIONS

Annual review	The review required by Condition 3 of Schedule 4
BCA	Building Code of Australia
Boxcut	The boxcut identified in the Figure in Appendix 2
Broken Hill Lead Reference Group	A group of government agency and industry stakeholders aiming to minimise the impact of lead exposure in Broken Hill while maintaining a viable mining industry, chaired and co-ordinated by Council
Conditions of this approval	Conditions contained in Schedules 2 to 4 inclusive
Council	Broken Hill City Council
Department	Department of Planning and Environment (DPE)
DPE Water	Water Group within the Department
EA	<i>Rasp Mine Zinc-Lead-Silver Project: Environmental Assessment Report</i> , prepared by Broken Hill Operations Pty Ltd and dated July 2010, as amended by: <ul style="list-style-type: none">• <i>Rasp Mine Zinc-Lead-Silver Project: Response to Submissions Report</i>, prepared by Broken Hill Operations Pty Ltd and dated July 2010;• <i>Rasp Mine Zinc-Lead-Silver Project: Preferred Project Report (PPR)</i>, prepared by Broken Hill Operations Pty Ltd and dated September 2010;• Modification application 07_0018 Mod 1 and accompanying Environmental Assessment titled: <i>Rasp Mine, Zinc-Lead-Silver Project, Variation to Project, Relocation of Ventilation Shaft</i>, dated November 2011;• Modification application 07_0018 Mod 2 and accompanying Environmental Assessment titled: <i>Rasp Mine Zinc-Lead-Silver Project Modification 2 and Response to Submissions letter from the Proponent dated May 2014</i>;• Modification application 07_0018 Mod 3 and accompanying Environmental Assessment titled: <i>Rasp Mine Zinc-Lead-Silver Project Environmental Assessment Modification 3 Mining Extension and Response to Submissions dated January 2015</i>;• Modification application 07_0018 Mod 4 and accompanying Environmental Assessment titled: <i>Rasp Mine Environmental Assessment Modification 4, Concrete Batching Plant Blackwood Pit TSF2 Extension</i> dated April 2017 and Response to Submissions dated June 2017;• Modification application 07_0018 Mod 5 and accompanying Statement of Environmental Effects titled: <i>Rasp Mine Statement of Environmental Effects Modification 4, Warehouse Extension, Cement Silo & Adjustment of Air Quality Monitoring</i> dated August 2018;• Modification application 07_0018 Mod 7 and accompanying Statement of Environmental Effects titled: <i>Rasp Mine Statement of Environmental Effects Modification 7, Utilising Rock Fill Material in BHP Pit for TSF2 Embankment Construction</i> dated June 2019;• Modification application 07_0018 Mod 8 and accompanying Modification Report titled: <i>Rasp Mine PA07_008 Modification Report (MOD8) – Mining Under a Perilya Sublease</i> dated March 2021;• Modification application 07_0018 Mod 9 and accompanying Modification Report titled: <i>Rasp Mine Modification 9 Modification Report</i> dated 4 August 2021, and additional information provided by the Proponent to support the modification application; and• Modification application 07_0018 Mod 6 and accompanying Modification Report titled: <i>Rasp Mine Modification Report (MOD6) Kintore Pit TSF3</i> dated August 2021, associated Submissions Report titled: <i>Rasp Mine Submissions Report (MOD6) Kintore Pit TSF3</i> dated December 2021 and additional information provided by the Proponent to support the modification application and included in Appendix A of the Department's assessment report on Modification 6.• Modification application 07_0018 Mod 10 and accompanying Modification Report titled: <i>Rasp Mine Modification 10 Modification Report</i>, dated November 2022, and additional information provided by the Proponent to support the modification application.
EEL	Emergency Egress Ladder
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	Environment Protection Authority
EPL	Environment Protection Licence issued under the POEO Act
Feasible	Feasible relates to engineering considerations and what is practical to build or implement
Free Areas	Non-active mining areas within CML7 that are not disturbed by the project but contribute to the wind-blown dust from the project site, as identified in Appendix 4

CONSOLIDATED APPROVAL

Heritage NSW Incident	Heritage NSW, as delegate of the NSW Heritage Council A set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in this approval
Material harm	Is harm that: <ul style="list-style-type: none">involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; orresults in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
MEG Minimise	Mining, Exploration and Geoscience within the Department of Regional NSW Implement all reasonable and feasible mitigation measures to reduce the impacts of the project
Minister Mitigation	Minister for Planning, or delegate Activities associated with reducing the impacts of the project, prior to or during those impacts occurring
Non-compliance	An occurrence, set of circumstances or development that is a breach of this approval but is not an incident
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or a mining company (or its subsidiary)
Project	The development to which this approval applies
Proponent	Broken Hill Operations Pty Ltd, or any person who carries out the project under this approval
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The treatment or management of land disturbed by the project for the purpose of establishing a safe, stable and non-polluting environment, and includes remediation
RR Secretary	Resources Regulator within the Department of Regional NSW Planning Secretary under the EP&A Act, or nominee
Site	The land listed in Appendix 1
Temporary Tailings Stockpile	The temporary tailings stockpile as approved under Modification 10 and conceptually depicted in Figure 4 of Appendix 3
TfNSW	Transport for NSW
TSF2	Tailings storage facility 2, identified as Blackwood Pit in the Figure in Appendix 2
TSF3	Tailings storage facility 3, identified as Kintore Pit in the Figure in Appendix 2

CONSOLIDATED APPROVAL

SCHEDULE 2

ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.

TERMS OF APPROVAL

2. The Proponent must carry out the project:
 - (a) generally in accordance with the EA;
 - (b) in accordance with the conditions of this approval; and
 - (c) in accordance with any written directions of the Secretary.

Note: The general layout of the project is shown in Appendix 2.

3. If there is any inconsistency between the documents listed in condition 2 above, the most recent document in the relevant condition shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.
4. Consistent with the requirements of this approval, the Secretary may make written directions to the Proponent in relation to:
 - (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this approval, including those that are required to be, and have been, approved by the Secretary; and
 - (b) the implementation of any actions or measures contained in any such document referred to in condition 4(a).

LIMITS ON APPROVAL

Mining Operations

5. The Proponent may carry out mining operations on site until 31 December 2026.

Note to Condition 5: Under this approval, the Proponent is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this approval will continue to apply in all respects - other than the right to conduct mining operations - until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.

Production

6. The Proponent shall not extract more than 500,000 tonnes of ore per annum on-site, or more than 8,450,000 tonnes of ore over the life of the project.
- 6A. The annual extraction limit set in Schedule 2 condition 6 can be increased up to no more than 750,000 tonnes of ore per annum subject to further air quality impact assessment undertaken to the satisfaction of the EPA and a revised limit approved in writing by the Secretary.

Transport

7. Until ore processing facilities have been constructed and commissioned on the site, the Proponent is permitted to transport crushed ore by road to the Endeavour Mine, or such other location approved by the Secretary, for processing. Following commissioning of the ore processing facilities, the Proponent shall only transport zinc and lead concentrates from the site by rail, except in an emergency situation and with the prior written approval of the Secretary.

STRUCTURAL ADEQUACY

8. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes to Condition 8:

- Under Part 6 of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and
- Parts 1-9 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 sets out the requirements for the certification of the project.

DEMOLITION

9. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

OPERATION OF PLANT AND EQUIPMENT

10. The Proponent shall ensure that all the plant and equipment used on site, or to transport materials to and from the site, is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF ANY STRATEGY, PLAN AND PROGRAM

11. With the approval of the [Secretary](#), the Proponent may submit any strategy, plan or program required by this approval on a progressive basis.

SURRENDER OF DEVELOPMENT CONSENTS

12. Within six months of the commencement of works the subject of this approval, the Proponent shall surrender all existing development consents applying to the site in accordance with [section 4.63](#) of the EP&A Act.
-

CONSOLIDATED APPROVAL

SCHEDULE 3

ENVIRONMENTAL PERFORMANCE CONDITIONS

AIR QUALITY AND GREENHOUSE GAS

Odour

1. The Proponent shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.

Greenhouse Gas Emissions

2. The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the [Secretary](#).

Air Quality Criteria

3. The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not cause an exceedance of the criteria listed in Tables 1, 2 or 3 at any residence on privately-owned land.

Table 1: Long Term Criteria for Particulate Matter

Pollutant	Averaging Period	^d Criterion
Total solid particles (TSP)	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 25 µg/m ³
Particulate matter < 2.5 µm (PM _{2.5})	Annual	^a 8 µg/m ³

Table 2: Short Term Criterion for Particulate Matter

Pollutant	Averaging Period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³
Particulate matter < 2.5 µm (PM _{2.5})	24 hour	^a 25 µg/m ³

Table 3: Long Term Criteria for Deposited Dust

Pollutant	Averaging Period	Maximum Project Contribution	Maximum Total Deposited Dust Level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Notes to Tables 1–3:

- ^a Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to all other sources);
- ^b Incremental impact (i.e. incremental increase in concentrations due to the project on its own);
- ^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method;
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents, illegal activities or any other activity agreed by the [Secretary](#) in consultation with EPA.

4. The Proponent shall ensure that the project is operated in a manner that does not exceed the criteria listed in Tables 4 and 5.

Table 4: Discharge Criteria for Point 1 – Ventilation Shaft

Pollutant	Units of Measure	Concentration Limit
Oxides of nitrogen (as NO ₂)	Milligrams per cubic metre	350

CONSOLIDATED APPROVAL

Total solid particles (TSP)	Milligrams per cubic metre	20
^a Type 1 and Type 2 substances	Milligrams per cubic metre	1
Volatile organic compounds (as n-propane)	Milligrams per cubic metre	40

Table 5: Discharge Criteria for Point 2 – Process Enclosure/ Baghouse Stack

Pollutant	Units of Measure	Concentration Limit
Total solid particles (TSP)	Milligrams per cubic metre	20
^a Type 1 and Type 2 substances	Milligrams per cubic metre	1

Notes to Tables 4–5:

- ^a Total of Sb, As, Cd, Pb, Hg, Be, Cr, Co, Mn, Ni, Se, Sn and V; and
- reference conditions for the limits in Tables 4 and 5 are: dry, 273K and 101.3 kPa.

Operating Conditions

- The Proponent shall:
 - implement best practice dust management, including all reasonable and feasible measures to minimise dust emissions, including point source and fugitive emissions;
 - minimise any visible off-site dust generated by the project or the site; and
 - regularly assess real-time air quality monitoring and meteorological forecasting data and relocate, modify and/ or suspend operations to ensure compliance with the relevant conditions of this approval, to the satisfaction of the [Secretary](#).
- The Proponent shall seal and maintain the roads listed in Table 6 to the satisfaction of the [Secretary](#). The roads shall be sealed prior to the commencement of ore extraction **or their use**, unless otherwise agreed by the [Secretary](#).

Table 6: Roads to be Sealed and Maintained

Road Status	Road	Approximate Length (m)
Existing	Front gate to truck wash	292
	'Diamond' intersection to core shed	360
	Front gate road to car park	132
New	Truck wash to haul road connection from Kintore Pit	690
	Kintore Pit intersection (truck wash and haul roads) to ROM pad (haul road for ore mine trucks)	1,186
	Altered ROM pad to and through mill	384
	Mill to rail load out (concentrate trucks)	910
	Truck wash road to workshop	190
	Haul road to backfill plant	400
Modification 6	Haul road for transportation of harvested tailings from TSF2 to TSF3	2,283
	Ore haul road from the new portal (Modification 6) to the Run of Mine Pad	325

- Ore crushing shall only be undertaken in a fully-enclosed structure that is designed, operated and maintained to ensure internal negative internal air pressure relative to ambient (external) conditions. The enclosure and associated emissions controls must be designed, constructed, operated and maintained to ensure that visible fugitive emissions from the enclosure are minimised.
- A chemical dust suppressant shall be applied as per the manufacturer's specification, or more often as required, to all 'free areas' identified in the figure in Appendix 4.

CONSOLIDATED APPROVAL

9. All aboveground conveyors and transfer points prior to the grinding circuit (SAG and ball mills) shall be enclosed.
10. Video recording equipment shall be installed to assist in the active management of emissions from the tailings storage facility.

Air Quality Management Plan

11. The Proponent **must prepare** an Air Quality Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
 - (a) be prepared **by a suitably qualified and experienced person/s**, in consultation with **EPA** and submitted to the **Secretary** for approval prior to the commencement of construction on the site;
 - (b) identify all major sources of particulates and other air pollutants that may be emitted from the project, being both point source and diffuse emissions, including identification of the potential for lead contamination to be carried by these particulates;
 - (c) include an air quality monitoring program that:
 - **provides a real-time monitoring system of dust emissions around the perimeter of TSF2 that triggers an automated water spray system prior to adverse meteorological conditions occurring;**
 - **is capable of measuring lead concentrations located in the prevailing down wind direction near the perimeter of TSF2;**
 - provides for periodic point source monitoring at Point 1 (Ventilation Shaft) and Point 2 (Process Enclosure/ Baghouse Stack);
 - provides for continuous ambient monitoring across an ambient air quality and dust monitoring network comprising no fewer than ten monitoring locations (Points 3 to 12) for total suspended particulates, PM₁₀, lead and dust deposition. Monitoring locations shall be informed by the outcomes of the air quality assessments presented in the EA and PPR and identified in consultation with **EPA**;
 - provides for continuous meteorological monitoring using a meteorological monitoring station located on the site;
 - is consistent with the requirements of *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (NSW EPA, 2022)*, or the latest version, the *Protection of the Environment Operations Act 1997* and the *Protection of the Environment (Clean Air) Regulation 2010*; and
 - **details trigger response management protocols in combination with continuous particulate matter monitors and a meteorological monitoring station on-site, with clear and specific reactive mitigation measures to be implemented in accordance with the trigger response management protocol; and;**
 - (d) pro-active and reactive management and response mechanisms for particulates with specific reference to measures to be implemented and actions to be taken to minimise and prevent potential elevated air quality impacts (including ambient air and deposited dust impacts) on surrounding land uses as a consequence of meteorological conditions, upsets within the project, or the mode of operation of the project at any time;
 - (e) **procedures to review and refine the reactive management triggers for wind speed and dust concentrations;**
 - (f) procedures and processes for monitoring ambient dust and deposited dust impacts;
 - (g) provision for regular review of dust monitoring data, with comparison of monitoring data with that assumed and predicted in the documents referred to under Condition 2 of Schedule 2;
 - (h) details of measures to be implemented to address any situation in which monitored dust impacts exceed those assumed and predicted in the documents referred to under Condition 2 of Schedule 2;
 - (i) specific complaints management procedures in the event that dust monitoring indicates elevated off-site impacts;
 - (j) procedures for the minimisation of dust generation on the site **and measures to be implemented to ensure compliance with the air quality criteria and operating conditions in this approval;**
 - (k) protocols for regular maintenance of plant and equipment to minimise the potential for elevated dust generation, leaks and fugitive emissions; and
 - (l) a contingency plan should an incident, upset or other initiating factor lead to elevated dust impacts, whether above normal operating conditions or above environmental performance goals/ limits.

11A. **The Proponent must implement the Air Quality Management Plan as approved by the Secretary.**

LEAD AWARENESS AND PUBLIC HEALTH

Contribution to Public Blood lead Monitoring & Public Education

12. During the implementation of the project, the Proponent shall make a reasonable contribution towards the cost of:
 - (a) public health monitoring, particularly in relation to child blood lead levels; and
 - (b) public education campaigns about the health risks associated with lead,

to the satisfaction of the [Secretary](#).

Note: The [Secretary](#) will consult with [NSW Health \(Western NSW Local Health District\)](#) on the reasonableness of the proposed contribution prior to making any decisions under this condition, and determine the date upon which the contributions shall commence.

Lead Management Plan

13. The Proponent shall prepare and implement a Lead Management Plan for the project to the satisfaction of the [Secretary](#). This plan must:
- (a) be prepared in consultation with the [Broken Hill Lead Reference Group](#), including the [EPA, NSW Health \(Western NSW Local Health District\)](#) and Council;
 - (b) be submitted to the [Secretary](#) for approval by 30 June 2011;
 - (c) outline the proposed commitment towards the cost of:
 - public health monitoring, particularly in relation to child blood lead levels, and tracking of this data over time; and
 - public education campaigns about the health risks associated with lead, including lead hygiene, lead and children, tank water lead risks and soil lead contamination risks.
 - (d) identify additional reasonable and feasible measures that could be implemented either on site or in the areas adjoining the site to minimise the potential lead impacts of the project and "free areas";
 - (e) include a program for the staged implementation of the measures identified in (d) above in the event that dust emissions are higher than predicted or the public health monitoring suggests further action is required to reduce blood lead levels in the environment surrounding the site; and
 - (f) include a detailed communication strategy, that outlines how the relevant dust and blood level monitoring data would be reported on the Proponent's website along with any relevant public education material.

Updated Human Health Risk Assessment

14. Within one year of the commencement of operation of the project, and every five years thereafter, unless otherwise agreed by the [Secretary](#), the Proponent shall update the human health risk assessment prepared for the project and presented in the EA to the satisfaction of the [Secretary](#). The updated risk assessment shall:
- (a) be prepared by a suitably-qualified expert whose appointment has been endorsed by the [Secretary](#);
 - (b) take into account monitoring data collected under this approval, and such other information as may be relevant to the assessment; and
 - (c) be prepared in consultation with the [EPA](#) and the [NSW Health \(Western NSW Local Health District\)](#).
- 14A. The updated Health Risk Assessment must inform the revision of the Air Quality Management Plan and the Lead Management Plan required under this approval, if monitoring data shows that the project is contributing to increased blood lead levels.

Temporary Tailings Stockpile

- 14B. Following completion of construction of TSF3, the Proponent must prioritise the re-employment of tailings from the Temporary Tailings Stockpile to TSF3.

NOISE AND VIBRATION

Hours of Operation

15. Unless the [Secretary](#) agrees otherwise, the Proponent must comply with the operating hours in Table 6.1.

Table 6.1: Operating Hours

Activity	Hours
Mod 6 construction activities excluding new decline underground activities, and TSF3 tailings preparation works	7 am to 6 pm, Monday to Saturday No activities on Sundays or public holidays
Construction, excluding construction of the EEL and Mod 6 construction activities	7 am to 6 pm, Monday to Friday 8 am to 1 pm, Saturday No activities on Sundays or public holidays
Capping and rehabilitation of TSF2	
Shunting of concentrate wagons	7 am and 6 pm on any day
Production rock blasting	6:45 am and 7:15 pm on any day
Transporting cement to the cement silo	
Loading the cement silo	7 am to 7 pm on any day

CONSOLIDATED APPROVAL

Activity	Hours
Tailings harvesting in TSF2, including emplacement in the Temporary Tailings Stockpile	7am to 7 pm on any day
All other activities, including construction of the EEL, construction of the new decline (underground activities) and TSF3 tailings preparation works	24 hours a day, 7 days a week

16. Deleted.

Noise Limits

17. The Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 7 except as otherwise permitted under conditions 17B and 17D below.

Table 7: Operational Noise Criteria

Location	^a Day (dB(A))	^b Evening (dB(A))	^c Night (dB(A))
A1 – Piper Street North	40	37	35
A2 – Piper Street Central	40	37	35
A3 – Eyre Street North	44	41	39
A4 – Eyre Street Central	44	41	39
A5 – Eyre Street South	44	41	39
A6 – Bonanza and Gypsum Streets	48	41	39
A7 – Carbon Street	45	42	36
A8 – South Road	48	39	39
A9 – Crystal Street	46	39	39
A10 – Barnet and Blende Streets	42	41	35
A11 – Crystal Street	46	39	39
A12 – Crystal Street	46	39	39
A13 – Eyre Street North 2	40	35	35
A14 – Piper Street North	40	35	35

Notes to Condition 17:

- Receiver locations are as identified in the noise assessments presented in the EA and PPR;
- Noise limits are to be measured in accordance with the *Noise Policy for Industry (NSW EPA, 2017)*, or its latest version;
- ^a Day is defined as 7 am to 6 pm Mondays to Saturdays and 8 am to 6 pm on Sundays and public holidays;
- ^b Evening is defined as 6 pm to 10 pm on any day; and
- ^c Night is defined as 10 pm to 7 am Mondays to Saturdays and 10 pm to 8 am on Sundays and public holidays.

17A. The daytime criteria in Table 7 of this approval do not apply when the following activities are being carried out:

- (a) construction of the concrete batching plant and associated noise bund;
- (b) construction of TSF2, including:
 - embankment 2;
 - the spillway;
 - embankment 3;
 - embankment 1;
- (c) capping and rehabilitation of TSF2;
- (d) construction of the cement silo and warehouse extension; and
- (e) crushing and screening activities associated with construction of TSF2 embankments.

17B. With regard to the activities specified in condition 17A(a)-(e) of this approval, the Proponent must:

- (a) notify the Department prior to commencement and upon completion of each activity;
- (b) minimise the noise generated by these activities in accordance with the best practice requirements outlined in the *Interim Construction Noise Guideline* (DECC, 2009), or its latest version; and
- (c) ensure that the noise generated by the project does not cause exceedances of the amenity criteria of 65 dB $L_{Aeq,day}$ specified for an urban/industrial interface area under the *NSW Industrial Noise Policy*.

17C. The Proponent must not carry out any of the activities specified in condition 17A(a)-(c) concurrently.

CONSOLIDATED APPROVAL

- 17D. The noise criteria in Table 7 of this approval apply for construction of Stages 1 and 2 of the boxcut, excluding daytime criteria for receivers described in Table 7a. The proponent must ensure that the noise generated by the project does not exceed the criteria in Table 7a during standard construction hours – defined as Monday to Friday 7 am to 6 pm and Saturday 8 am to 1 pm and no time on Sundays and public holidays.

Table 7a: Additional Construction Noise Criteria for the Boxcut Construction

Location	Day (dB(A))
A1 – Piper Street North	43
A2 – Piper Street Central	45
A3 – Eyre Street North	47
A13 – Eyre Street North 2	48
A14 – Piper Street North	47

Notes to Condition 17D:

- Receiver locations are as identified in the noise assessments presented in the Appendix 3; and
- Noise limits are to be measured in accordance with the Noise Policy for Industry (NSW EPA, 2017), or its latest version.

Blasting Limits

18. The Proponent shall ensure that blasting on the site does not cause exceedances of the criteria in Tables 8 and 9.

Table 8: Blasting Criteria (excluding Block 7)

Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	^a Allowable Exceedance
Residence on privately owned land	115	5	^b 5% of the total number of blasts over a 12-month period
	120	10	0%
Public Infrastructure	-	100	0%

Table 9: Blasting Criteria (Block 7)

Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	^a Allowable Exceedance
Residence on privately owned land	115	^c 3 (interim)	5% of the total number of blasts over a 12-month period
	120	10	0%
Broken Hill Bowling Club, Italio (Bocce) Club, Heritage Items within CML7	-	50	0%
Perilya Southern Operations	-	100	0%
^d Public Infrastructure	-	100	0%

These criteria do not apply if the Proponent has a written agreement with the relevant owner to exceed these criteria, and has advised the Department in writing of the terms of this agreement.

Notes to Tables 8 and 9:

- ^a The allowable exceedance must be calculated separately for development blasts and production blasts;
- ^b The 5% allowable exceedance does not apply to production blasts until the Proponent has successfully completed a Pollution Reduction Program aimed at achieving this goal, as required by the EPA under the Proponent's EPL (No. 12559), or as otherwise agreed with the EPA;
- ^c The interim criteria applies unless and until such time that the Proponent has written consent from the Secretary to apply site specific criteria in accordance with condition 19 of this approval; and
- ^d The Proponent must close South Road to pedestrians if blasts are expected to exceed a peak particle velocity ground vibration of 65 mm/s at the road reserve surface, while the blast firing occurs.

19. The Proponent may establish site specific ground vibration criteria for residential receivers that may be affected by blasting operations in Block 7, to the satisfaction of the Secretary. These criteria must:
- be prepared by a suitably qualified mining engineer;
 - be prepared in consultation with the EPA;

CONSOLIDATED APPROVAL

- (c) protect the amenity of all residences on privately owned land; and
- (d) be based on blast monitoring data for the Block 7 mining area.

Blast Frequency

- 19A. The Proponent may carry out a maximum of:
- (a) 1 production blast a day and 6 production blasts a week, averaged over a calendar year; and
 - (b) 6 development blasts a day and 42 development blasts a week, averaged over a calendar year.

Operating Conditions

- 19B. The Proponent must:
- (a) implement best management practice to:
 - protect the safety of people in the surrounding area; and
 - protect public or private infrastructure/property in the surrounding area from any damage;
 - (b) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on site;
 - (c) use reasonable endeavours to co-ordinate blasting at the site:
 - to minimise cumulative blasting impacts associated with the operation of nearby mines; and
 - to avoid disturbing users of nearby recreational facilities, including the Broken Hill Bowling Club and the Italo (Bocce) Club;
 - (d) minimise the noise impacts of the project during adverse meteorological conditions (stability category F temperature inversion conditions and wind speeds greater than 2 m/s at 10 m above ground level);
 - (e) carry out regular monitoring to determine whether the project is complying with the relevant conditions of this approval; and
 - (f) regularly assess noise monitoring data and modify and/or stop operations on site to ensure compliance with the relevant conditions of this approval; to the satisfaction of the Secretary.

Noise and Blast Management Plan

20. The Proponent shall prepare and implement a Noise and Blast Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with EPA, and submitted to the Secretary for approval by the end of June 2011;
 - (b) describe the noise mitigation measures that would be implemented to:
 - ensure compliance with the relevant conditions of this approval, including a real-time noise management system that employs both reactive and proactive mitigation measures;
 - address activities associated with the construction of the concrete batching plant and TSF2, and the capping and rehabilitation of TSF2; and
 - address activities associated with the construction of the boxcut, TSF3 and tailings harvesting routes as described in Modification 6;
 - (c) include a noise monitoring program that:
 - uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the project; and
 - includes a protocol for determining exceedances of the relevant conditions of this approval;
 - (d) describe the blast management measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this approval;
 - (e) include a blast monitoring program that:
 - evaluates the performance of the project, including compliance with the applicable criteria;
 - uses a combination of roving blast monitors (at least 1) and fixed blast monitors (at least 6); and
 - includes a protocol for determining and responding to exceedances of the relevant conditions of this approval; and
 - (f) detail notification requirements to relevant government agencies.

UNDERGROUND MINING

Performance Measures

- 20A. The Proponent shall ensure that there are no measurable subsidence impacts caused by underground mining beneath South Road and other public infrastructure.

SOIL AND WATER

21. Except as may be expressly provided by an Environment Protection Licence issued under the *Protection of the Environment Operations Act 1997*, the Proponent shall comply with section 120 of that Act, which prohibits the pollution of waters.

Water Supply

22. The Proponent shall ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of mining operations to match its water supply.

Note: The Proponent is required to obtain the necessary water licences for the project under the Water Act 1912 and/or Water Management Act 2000.

Water Management Plan

23. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Secretary. This plan must be consistent with the Stormwater Management Plan presented as Annexure K to the EA, incorporate any changes to reflect the final detailed design of the project, and be prepared in consultation with EPA, DPE Water and RR. The plan must: be submitted to the Secretary for approval by the end of June 2011, and must include:

- (a) a Site Water Balance, which must:
- include details of:
 - sources and security of water supply;
 - methods to monitor, measure and manage reporting on water take (exempt and licensable);
 - water use on site;
 - water management on site;
 - any off-site water transfers; and
 - investigate and implement all reasonable and feasible measures to minimise water use by the project;
- (b) an Erosion and Sediment Control Plan, which must:
- identify activities that could cause soil erosion, generate sediment or affect flooding;
 - describe measures to minimise soil erosion and the potential for transport of sediment to downstream waters, and manage flood risk;
 - describe the location, function and capacity of erosion and sediment control structures and flood management structures; and
 - describe what measures would be implemented to maintain the structures over time;
- (c) a Surface Water Management Plan, which must include:
- detailed baseline data on surface water flows and quality in creeks and other waterbodies that could potentially be affected by the project;
 - surface water and stream health impact assessment criteria including trigger levels for investigating any potentially adverse surface water impacts;
 - a program to monitor and assess:
 - surface water flows and quality;
 - impacts on water users;
 - stream health;
 - channel stability; and
 - detail relocated and additional water management infrastructure required by Modification 6 including the boxcut, water storage S37, the TSF3 and "free areas".
- (d) a Groundwater Monitoring Program, which must:
- provide a program to monitor seepage movement within and adjacent to all tailings storage facilities (the TSF1, TSF2 and TSF3);
 - include details of parameters and pollutants to be monitored for:
 - water from mine dewatering;
 - groundwater locations to the east of TSF1;
 - surface water represented by Horwood Dam;
 - water captured by the toe drains of the tailings storage facility;
 - water seepage from the tailings storage facility; and
 - the background local groundwater system.
 - outline performance parameters against monitoring data will be compared to determine whether seepage is occurring, and whether an unacceptable impact on local groundwater may be occurring;
 - include details of contingency measures to be implemented in the event that an unacceptable impact is identified.

TRANSPORT

24. The Proponent shall maintain the existing 66 carparking spaces, or an equivalent number elsewhere on the site, for the duration of the project.
25. The Proponent shall consult with the TfNSW and Council in relation to the footpath modifications required at the Eyre Street site access and shall address the design requirements of those agencies in relation to

CONSOLIDATED APPROVAL

those works. All footpath works shall be completed prior to the commencement of operation of the project, and shall be undertaken at no cost to the TfNSW or Council.

26. A truck waiting area with capacity to accommodate at least two B-Double vehicles at any time shall be provided inside the Eyre Street site access to avoid trucks queuing into Eyre Street.
27. If the Holten Road site access is required during construction of the project, the Proponent shall, prior to using this access, consult with and address the requirements of the TfNSW and Council with respect to traffic access at this location.
28. The Proponent shall commission dilapidation reports for roads likely to be affected by the construction of the project, prior to the commencement of construction and immediately prior to completion of construction. The Proponent shall fund rectification of any deterioration of road pavement quality as a result of construction-related traffic.
- 28A. The Proponent must enter into a Deed of Agreement with the TfNSW for the protection and management of South Road, to the satisfaction of the TfNSW, prior to the commencement of production blasting in Block 7.

Traffic Management Plan

29. The Proponent shall prepare and implement a traffic management plan to the satisfaction of the Secretary. The plan shall focus on traffic management during construction of the project, and must be developed in consultation with the TfNSW and Council. The plan must be submitted for the approval of the Secretary prior to the commencement of construction.

HERITAGE

30. The Proponent shall prepare and implement a Conservation Management Plan for the site to the satisfaction of the Secretary. This plan must provide a strategic framework for all heritage items located on the Lease, based on the principles of the Burra Charter, and developed in consultation with the Heritage NSW and Council. The plan must be submitted for the approval of the Secretary by December 2011.
- 30A. If any unexpected heritage items are identified over the life of the project, the Proponent must cease works and contact the Heritage NSW in writing prior to works continuing in the affected areas.

VISUAL AMENITY

31. The Proponent shall:
 - (a) minimise the visual impacts, and particularly the off-site lighting impacts, of the project;
 - (b) take all practicable measures to further mitigate off-site lighting impacts from the project; and
 - (c) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting*, or its latest version, to the satisfaction of the Secretary.

WASTE

32. The Proponent shall:
 - (a) minimise the waste generated by the project; and
 - (b) ensure that the waste generated by the project is appropriately stored, handled, and disposed of, to the satisfaction of the Secretary.
33. The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with RR, and submitted the Secretary for approval by the end of March 2011;
 - (b) identify the various waste streams of the project;
 - (c) estimate the volumes of tailings and other waste material that would be generated by the project;
 - (d) describe and justify the proposed strategy for disposing of this waste material;
 - (e) describe what measures would be implemented to meet the requirements set out above in condition 32; and
 - (f) include a program to monitor the effectiveness of these measures.
- 33A. The Proponent must update the Waste Management Plan required by condition 33 of this approval by December 2017, unless the Secretary agrees otherwise. The updated plan must include:
 - (a) a long-term waste management strategy; and
 - (b) an action plan for the implementation of the key measures proposed to achieve the strategy.Following approval, the Proponent must implement the plan.

REHABILITATION

Progressive Rehabilitation

34. The Proponent must rehabilitate the site progressively, that is, as soon as is practicable following disturbance, to the satisfaction of the Secretary.

Rehabilitation Strategy

- 34A. Within 6 months from approval of Modification 6, the Proponent must prepare a Rehabilitation Strategy for the site to the satisfaction of the Secretary. This strategy must:
- (a) be prepared by a team of suitably qualified and experienced experts whose appointment has been endorsed by the Secretary;
 - (b) be prepared in consultation with relevant stakeholders including the RR, MEG, EPA, NSW Health (Western NSW Local Health District), DPE Water, Heritage NSW, Council and Perilya Broken Hill Limited;
 - (c) define the rehabilitation objectives for and schedule of the mine site and “free areas”, with consideration of heritage values, dust management, water and leachate management, subsidence, visual impacts and public safety;
 - (d) includes a conceptual final landform and rehabilitation plan;
 - (e) include a life of mine rehabilitation and mining schedule which outlines key progressive rehabilitation milestones from the commencement of operations through to decommissioning and mine closure; and
 - (f) managing and minimising any adverse socio-economic effects associated with mine closure.

The Proponent must implement the approved Rehabilitation Strategy for the project.

Rehabilitation Management Plan

35. The Proponent must prepare and implement a Rehabilitation Management Plan for the project in accordance with the conditions imposed on the mining lease(s) associated with the project under the *Mining Act 1992*.

SCHEDULE 4

ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the **Secretary**. This strategy must:
 - (a) be submitted to the **Secretary** for approval by the end of June 2011;
 - (b) provide the strategic framework for the environmental management of the project;
 - (c) identify the statutory approvals that apply to the project;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the project;
 - respond to any non-compliance; and
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this approval; and
 - a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.

Management Plan Requirements

2. The Proponent shall ensure that the management plans required under this approval are prepared in accordance with relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria; and
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - impacts and environmental performance of the project; and
 - effectiveness of any management measures (see (c) above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences;
 - (f) a program to investigate and implement ways to improve the environmental performance of the project over time;
 - (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with the conditions of this approval and statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
 - (h) a protocol for periodic review of the plan.

*Note: The **Secretary** may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*

Annual Review

3. By the end of **31 March 2023**, and annually thereafter, the Proponent **must submit a report reviewing** the environmental performance of the project to the satisfaction of the **Secretary**. This review must:
 - (a) describe the **project** (including any rehabilitation) that was carried out in the past **calendar** year, and the **project** that is proposed to be carried out over the next year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the project over the past year, which includes a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures/criteria;
 - monitoring results of previous years;
 - relevant predictions in the documents referred to in Conditions 2 of Schedule 2; **and**

CONSOLIDATED APPROVAL

- requirements of any plan or program required under this approval;
- (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;
- (d) identify any trends in the monitoring data over the life of the project;
- (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies;
- (f) describe what measure will be implemented over the next year to improve the environmental performance of the project; and
- (g) evaluate and report on compliance with the performance measures, criteria and operating conditions of this approval.

Revision of Strategies, Plans & Programs

4. Within three months of:
 - (a) the submission of an annual review under Condition 3 above;
 - (b) the submission of an incident report under Condition 5 below;
 - (c) the submission of an audit report under Conditions 7 – 8A below;
 - (d) any modification of the conditions of this approval (unless the conditions require otherwise), or
 - (e) a direction of the Secretary under Condition 2 of Schedule 2.

the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Secretary.

Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted to the Secretary for approval, unless otherwise agreed with the Secretary.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.

REPORTING

Incident Notification, Reporting and Response

5. The Secretary must be notified in writing via the Major Projects website immediately after the Proponent becomes aware of an incident. The notification must identify the project (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 5.

Non-Compliance Notification

- 5A. The Secretary must be notified in writing via the Major Projects website within seven days after the Proponent becomes aware of any non-compliance. A non-compliance notification must identify the project and the application number for it, set out the condition of approval that the project is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

Note: A non-compliance which has been notified as an incident does not need to also be notified as a noncompliance.

Regular Reporting

6. The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any approved plans or programs of the conditions of this approval.

INDEPENDENT ENVIRONMENTAL AUDIT

7. Within one year of the date of physical commencement of development under Modification 6, and every three years after, unless the Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the project. The audit must:
 - (a) be prepared in accordance with the *Independent Audit Post Approval Requirements (NSW Government 2020)*; and
 - (b) be submitted, to the satisfaction of the Secretary, within two months of undertaking the independent audit site inspection, unless otherwise agreed by the Secretary.
8. In accordance with the specific requirements of the *Independent Audit Post Approval Requirements (NSW Government 2020)*, the Proponent must:
 - (a) review and respond to each Independent Audit Report prepared under Condition 7 above;

CONSOLIDATED APPROVAL

- (b) submit a response to the Secretary and any other NSW agency that requests it, together with a timetable for the implementation of the recommendations of the Independent Audit Report;
- (c) implement the recommendations to the satisfaction of the Secretary; and
- (d) make each Independent Audit Report and response to it publicly available no later than 60 days after submission to the Secretary.

MONITORING AND ENVIRONMENTAL AUDITS

- 8A. Any condition of this approval that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit.

For the purposes of this condition, as set out in the EP&A Act, “monitoring” means monitoring of the project to provide data on compliance with the approval or on the environmental impact of the project, and an “environmental audit” means a periodic or particular documented evaluation of the project to provide information on compliance with the approval or the environmental management or impact of the project.

ACCESS TO INFORMATION

9. From the end of March 2011 until the completion of all rehabilitation required under this approval, the Proponent shall:
- (a) make copies of the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this approval) publicly available on its website:
 - the documents referred to in Condition 2 of Schedule 2;
 - all current statutory approvals for the project;
 - all approved strategies, plans and programs required under the conditions of this approval;
 - the proposed staging plans for the project if the construction, operation or decommissioning of the project is to be staged;
 - regular reporting on the environmental performance of the project in accordance with the reporting requirements in any plans or programs approved under the conditions of this approval;
 - the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans or programs;
 - a summary of the current phase and progress of the project;
 - contact details to enquire about the project or to make a complaint;
 - a complaints register, updated on a monthly basis;
 - the annual reviews of the project;
 - any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit; and
 - any other matter required by the Secretary;
 - (b) keep this information up-to-date, to the satisfaction of the Secretary.

INDEPENDENT REVIEW

10. If an owner of privately-owned land considers the project to be exceeding the criteria in schedule 3 at his/her land, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land.

If the Secretary is satisfied that an independent review is warranted, then the Proponent shall:

- (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Secretary, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and
 - if the project is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Secretary and landowner a copy of the independent review within 2 months of the Secretary's decision, unless the Secretary agrees otherwise.

UPDATING AND STAGING OF STUDIES, STRATEGIES AND PLANS

11. To ensure the studies, strategies and plans for the project are updated on a regular basis and incorporate any required measures to improve the environmental performance of the project, the Proponent may submit revised studies, strategies or plans required for the project under the conditions of approval at any time.

CONSOLIDATED APPROVAL

With the agreement of the Secretary, the Proponent may also submit any study, strategy or plan required under the conditions of this approval on a staged basis.

12. The Secretary may approve a revised strategy or plan required under the conditions of approval, or the stage submission of these documents, at any time. With the approval of the Secretary, the Proponent may prepare the revised or staged strategy or plan without undertaking consultation with all parties nominated under the applicable condition in this approval.

Notes:

- *While any study, strategy or plan may be submitted on a progressive basis, the Proponent must ensure that the existing operations on site are covered by suitable studies, strategies or plans at all times.*
 - *If the submission of any study, strategy or plan is to be staged, then the relevant study, strategy or plan must clearly describe the specific stage to which the study, strategy or plan applies, the relationship of this stage to any future stages, and the trigger for updating the study, strategy or plan.*
-

FOR INFORMATION

CONSOLIDATED APPROVAL

APPENDIX 1: SCHEDULE OF LAND

Mineral Authorities/ Lot Number	Deposited Plan Number
CML 7	-
MPL 183	-
MPL 184	-
MPL 185	-
MPL 186	-
EL 5818	-
1	26/ 758018
2	26/ 758018
3	26/ 758018
4	26/ 758018
5	26/ 758018
6	26/ 758018
7	26/ 758018
8	26/ 758018
9	26/ 758018
10	26/ 758018
17	26/ 758018
1	809279
2	809279
1	134676
2	134676
3	134676
11	725393
675	761716
1790	757298
Sublease area within ML1249 depicted in Figure 1 below	-

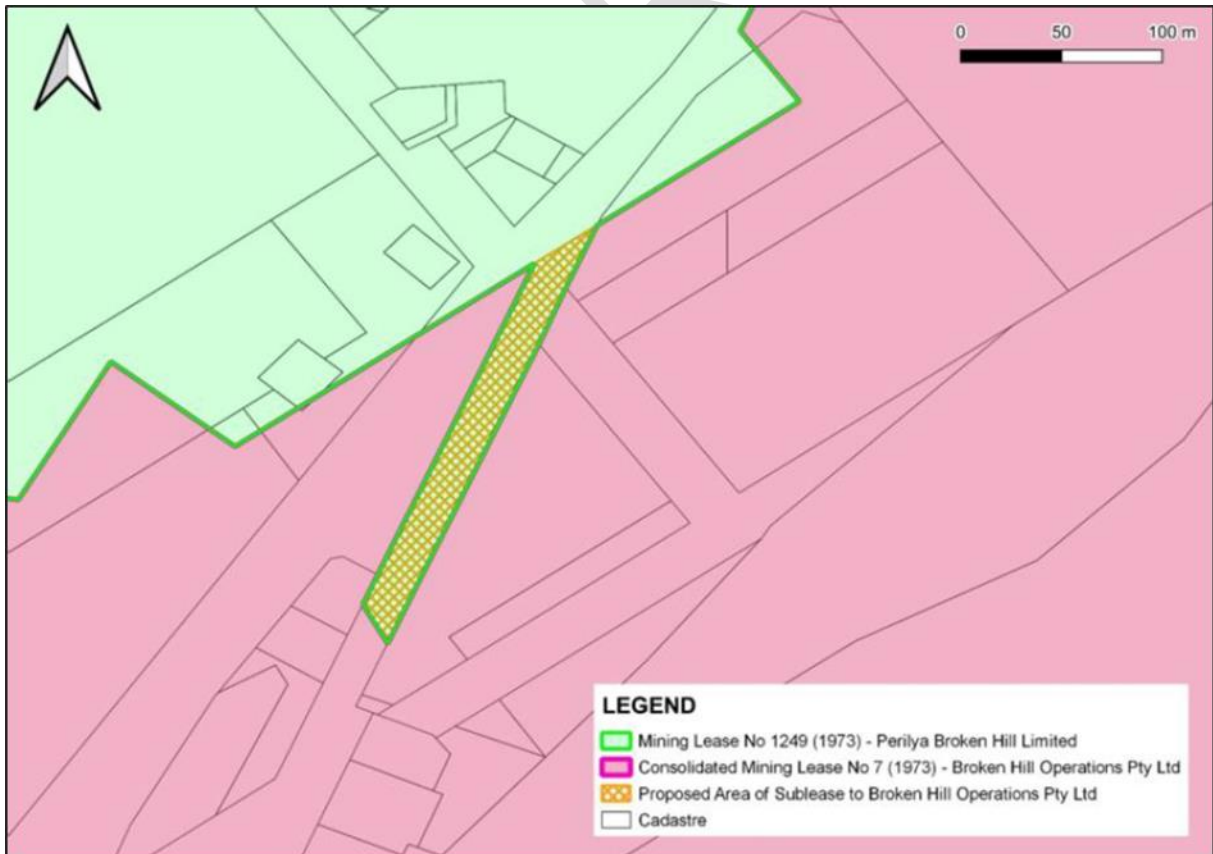
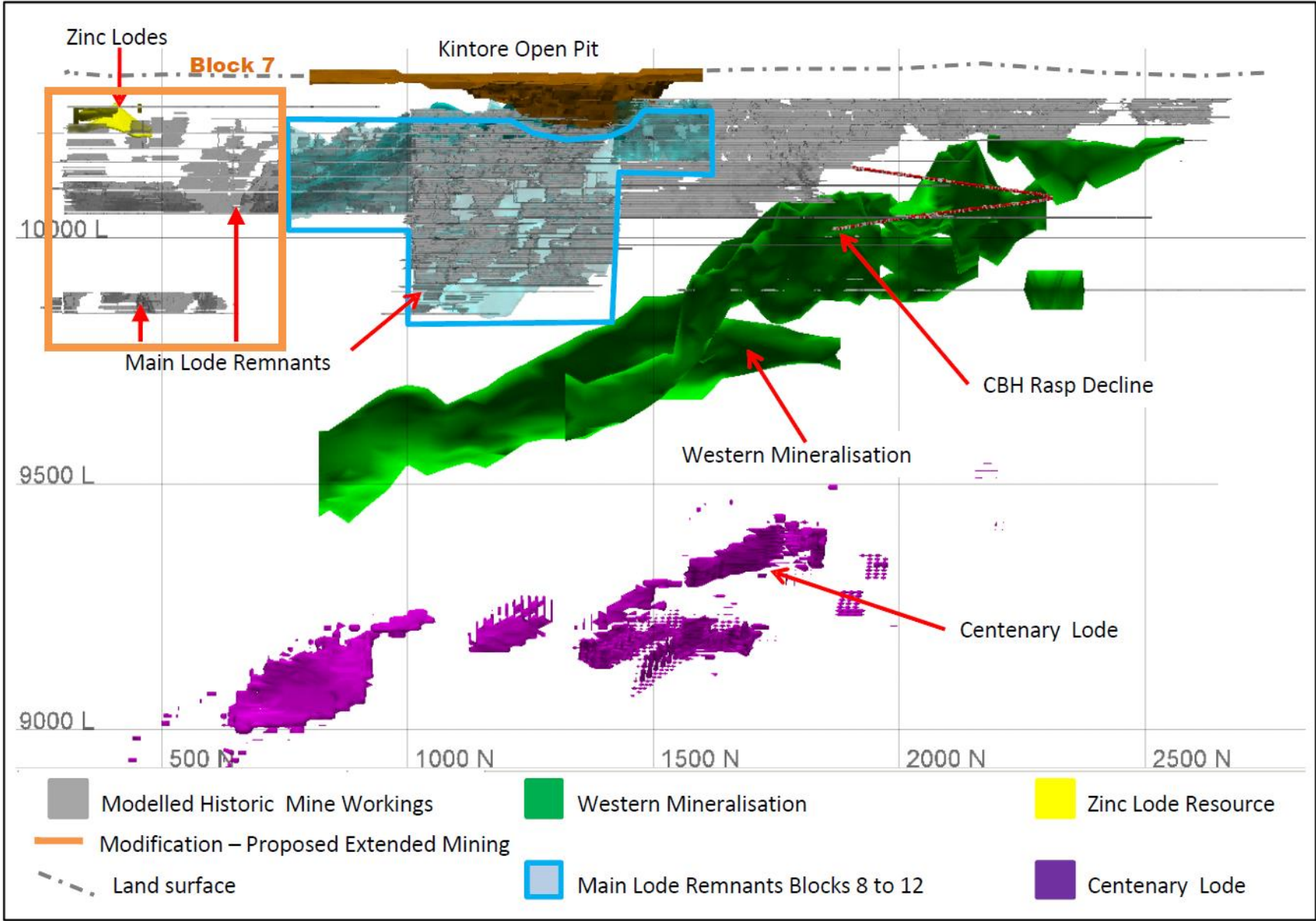


Figure 1 - Sublease area within ML1249

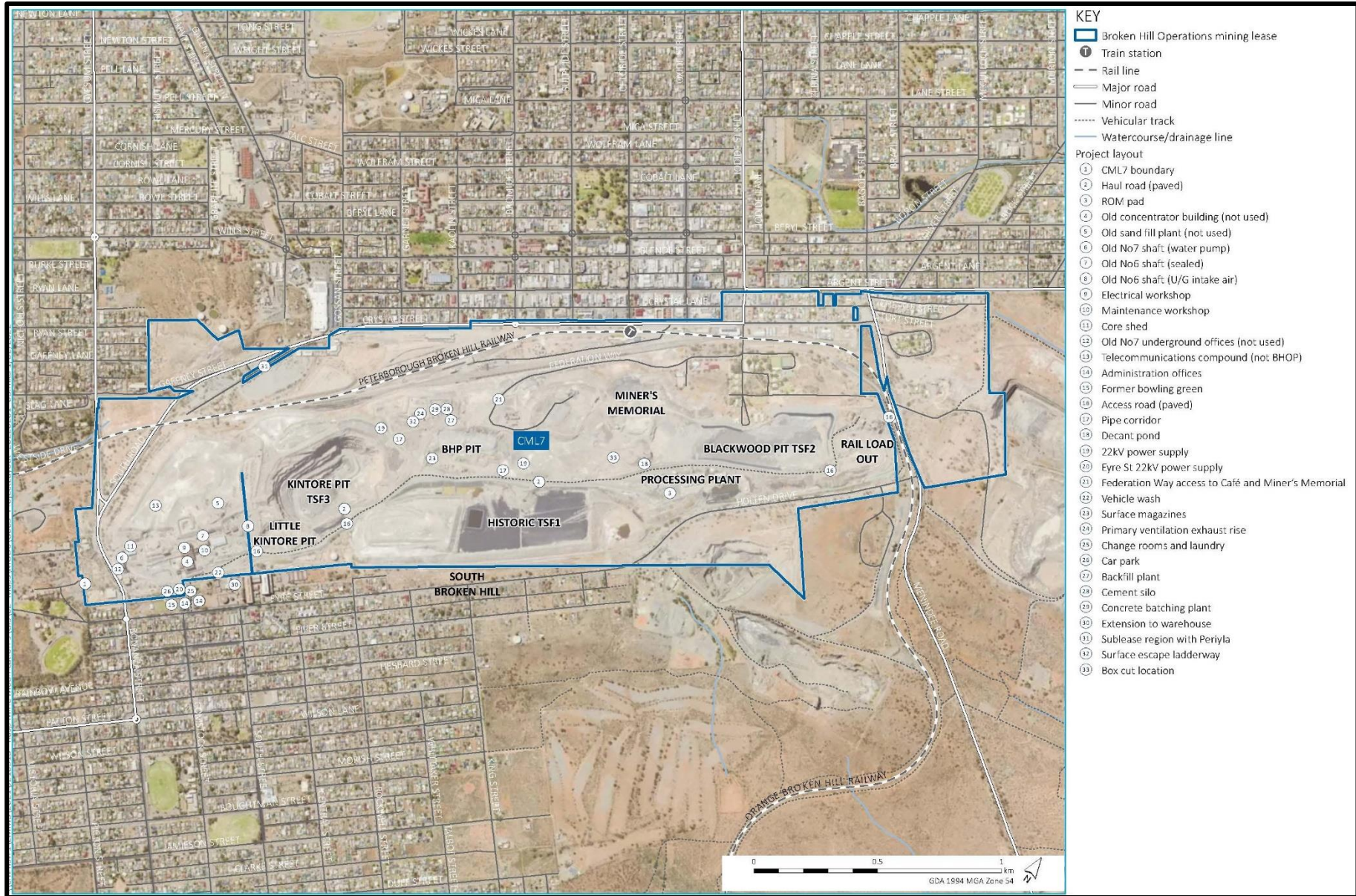
APPENDIX 2: PROJECT AREA



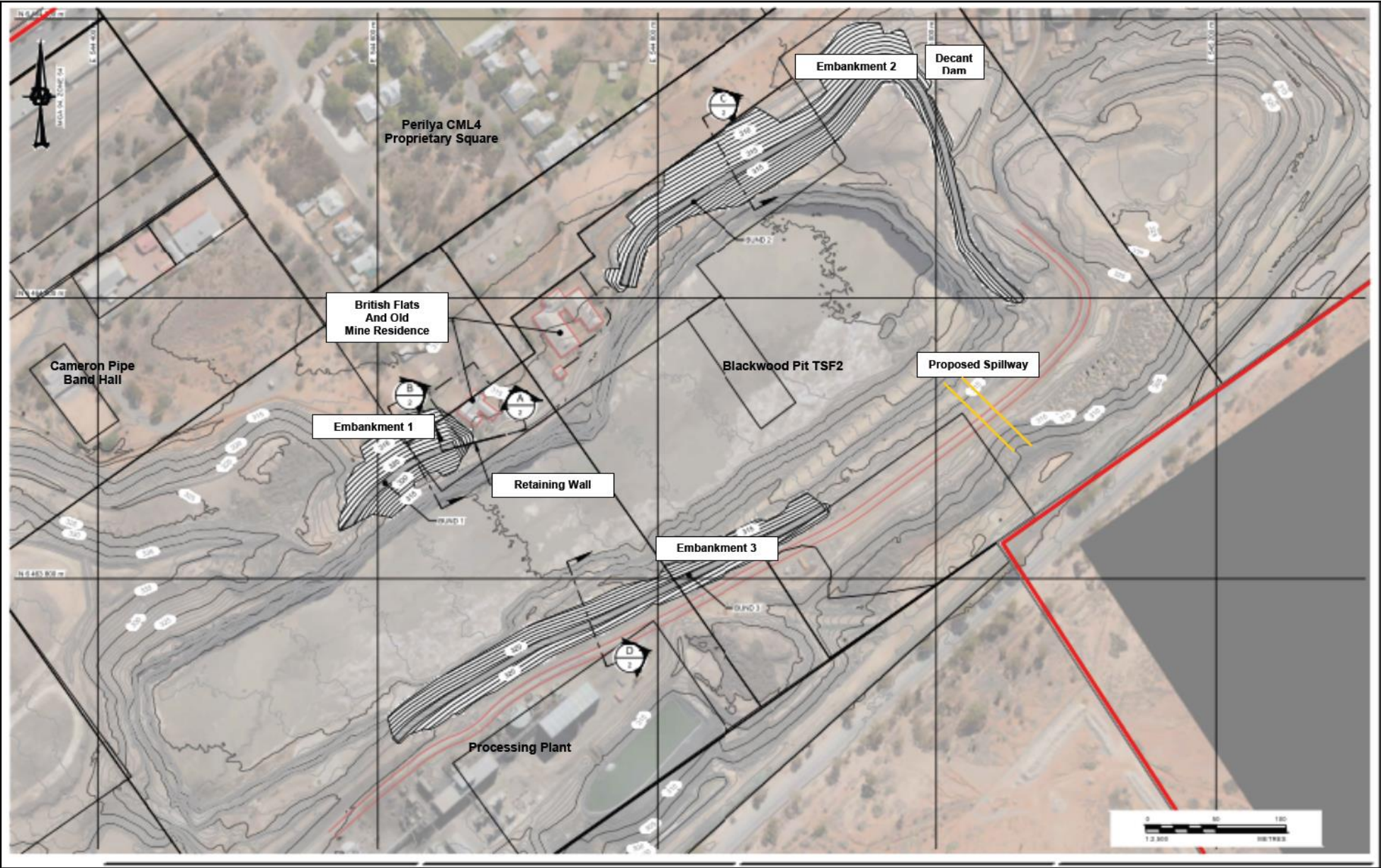
CONSOLIDATED APPROVAL



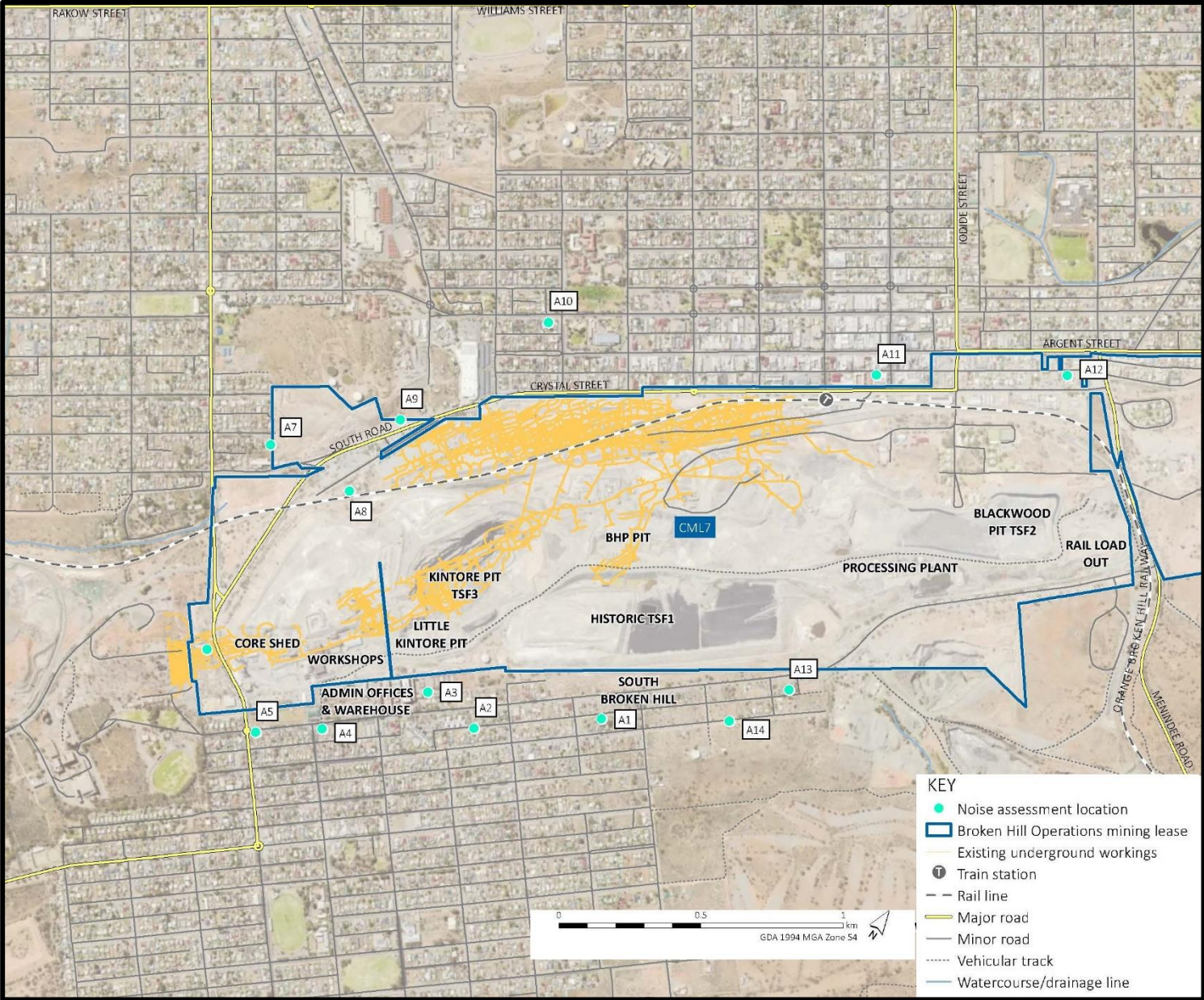
APPENDIX 3: PROJECT LAYOUT PLANS



CONSOLIDATED APPROVAL



CONSOLIDATED APPROVAL



CONSOLIDATED APPROVAL

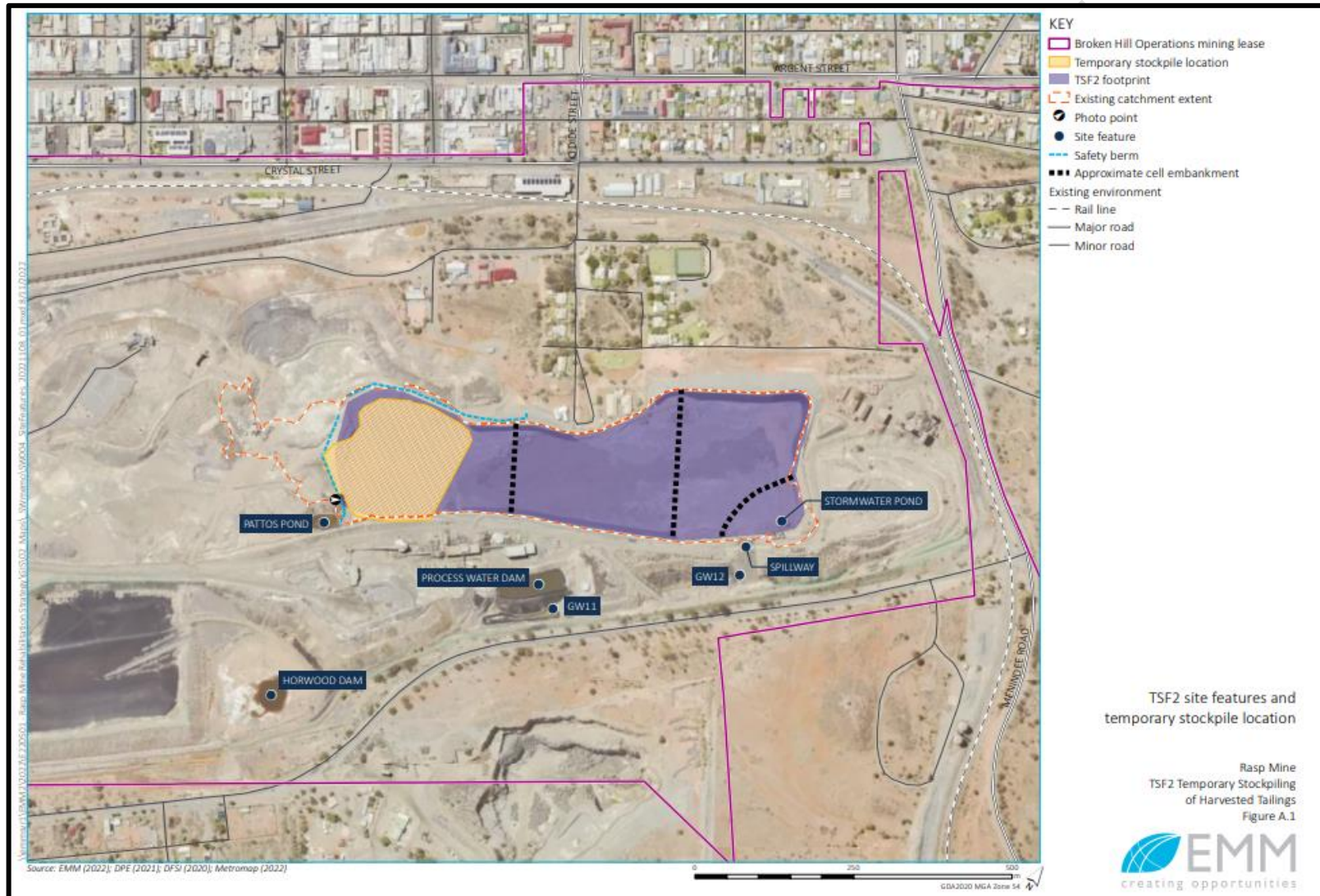
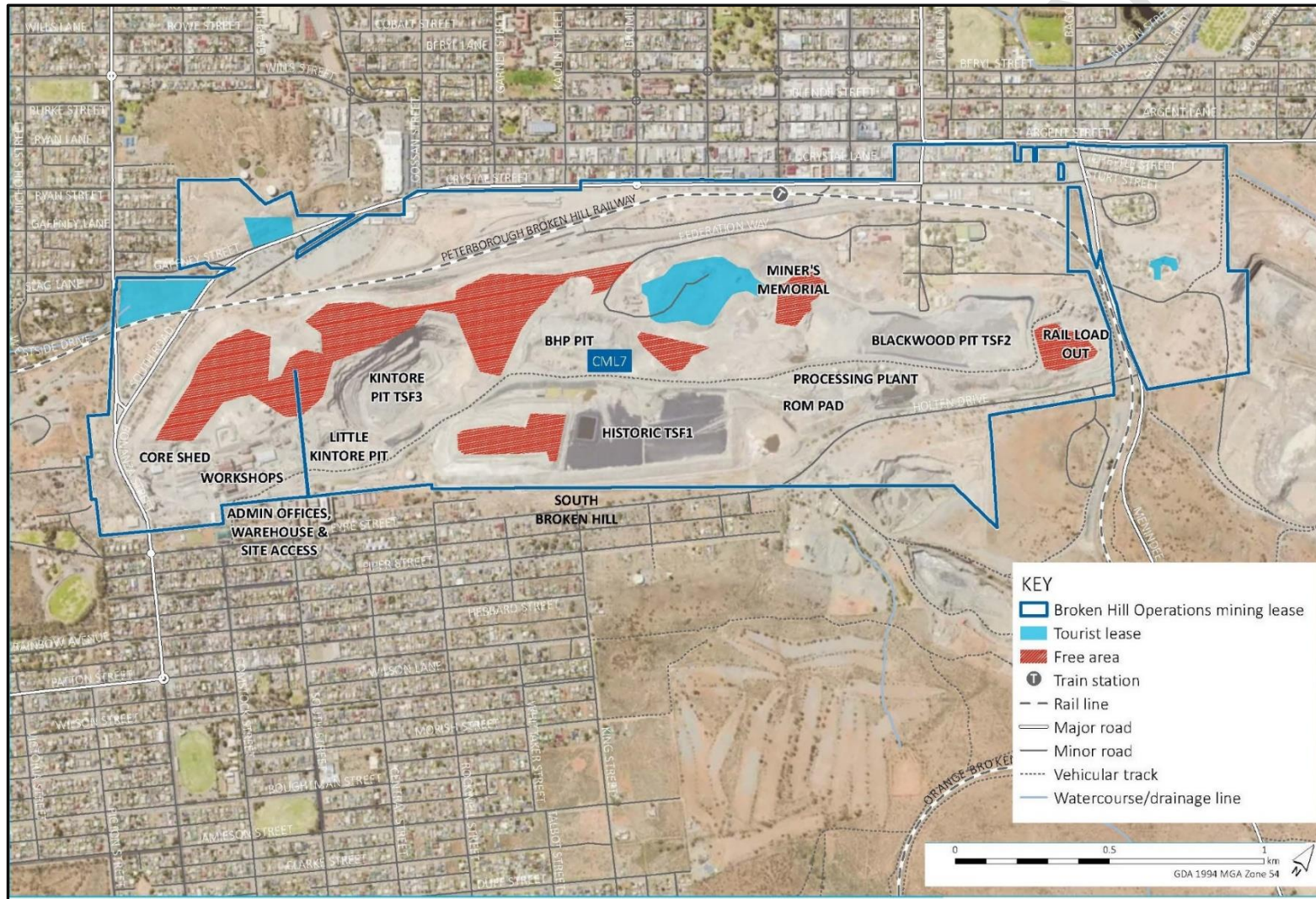


Figure 4 – Temporary tailings Stockpile

CONSOLIDATED APPROVAL

APPENDIX 4: PLAN OF FREE AREAS



CONSOLIDATED APPROVAL

APPENDIX 5: INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

WRITTEN INCIDENT NOTIFICATION REQUIREMENTS

1. A written incident notification addressing the requirements set out below must be submitted to the Secretary via the Major Projects website within seven days after the Proponent becomes aware of an incident.
2. Written notification of an incident must:
 - a) identify the project and application number;
 - b) provide details of the incident (date, time, location, a brief description of what occurred
 - c) and why it is classified as an incident;
 - d) identify how the incident was detected;
 - e) identify when the Proponent became aware of the incident;
 - f) identify any actual or potential non-compliance with conditions of approval;
 - g) describe what immediate steps were taken in relation to the incident;
 - h) identify further action(s) that will be taken in relation to the incident; and
 - i) identify a project contact for further communication regarding the incident.
3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Secretary, the Proponent must provide the Secretary and any relevant public authorities (as determined by the Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
 - a) a summary of the incident;
 - b) outcomes of an incident investigation, including identification of the cause of the
 - c) incident;
 - d) details of the corrective and preventative actions that have been, or will be, implemented
 - e) to address the incident and prevent recurrence; and
 - f) details of any communication with other stakeholders regarding the incident.

A.3 Environmental Protection Licence

Environment Protection Licence

Licence - 12559

Licence Details

Number:	12559
Anniversary Date:	02-November

Licensee

BROKEN HILL OPERATIONS PTY LTD
 PO BOX 5073
 BROKEN HILL NSW 2880

Premises

CONSOLIDATED MINING LEASE 7
 EYRE STREET
 BROKEN HILL NSW 2880

Scheduled Activity

Crushing, grinding or separating
 Mining for minerals

Fee Based Activity

Scale

Crushing, grinding or separating	> 100000-500000 T annual processing capacity
Mining for minerals	> 100000-500000 T annual production capacity

Contact Us

NSW EPA
 6 Parramatta Square
 10 Darcy Street
 PARRAMATTA NSW 2150
 Phone: 131 555
 Email: info@epa.nsw.gov.au

Locked Bag 5022
 PARRAMATTA NSW 2124



Environment Protection Licence

Licence - 12559

INFORMATION ABOUT THIS LICENCE	4
Dictionary	4
Responsibilities of licensee	4
Variation of licence conditions	4
Duration of licence	4
Licence review	4
Fees and annual return to be sent to the EPA	4
Transfer of licence	5
Public register and access to monitoring data	5
1 ADMINISTRATIVE CONDITIONS	6
A1 What the licence authorises and regulates	6
A2 Premises or plant to which this licence applies	6
A3 Other activities	6
A4 Information supplied to the EPA	7
2 DISCHARGES TO AIR AND WATER AND APPLICATIONS TO LAND	7
P1 Location of monitoring/discharge points and areas	7
3 LIMIT CONDITIONS	13
L1 Pollution of waters	13
L2 Concentration limits	13
L3 Waste	14
L4 Noise limits	14
L5 Blasting	16
L6 Hours of operation	17
L7 Potentially offensive odour	18
L8 Other limit conditions	18
4 OPERATING CONDITIONS	19
O1 Activities must be carried out in a competent manner	19
O2 Maintenance of plant and equipment	19
O3 Dust	19
O4 Processes and management	19
5 MONITORING AND RECORDING CONDITIONS	20
M1 Monitoring records	20
M2 Requirement to monitor concentration of pollutants discharged	20
M3 Testing methods - concentration limits	23
M4 Weather monitoring	23



Environment Protection Licence

Licence - 12559

M5	Recording of pollution complaints	24
M6	Telephone complaints line	24
M7	Blasting	25
6	REPORTING CONDITIONS	25
R1	Annual return documents	25
R2	Notification of environmental harm	27
R3	Written report	27
7	GENERAL CONDITIONS	28
G1	Copy of licence kept at the premises or plant	28
8	POLLUTION STUDIES AND REDUCTION PROGRAMS	28
U1	Water Management Review and Remediation Works	28
DICTIONARY		30
	General Dictionary	30

Environment Protection Licence

Licence - 12559

Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).



Environment Protection Licence

Licence - 12559

The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

BROKEN HILL OPERATIONS PTY LTD
PO BOX 5073
BROKEN HILL NSW 2880

subject to the conditions which follow.

Environment Protection Licence

Licence - 12559

1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Crushing, grinding or separating	Crushing, grinding or separating	> 100000 - 500000 T annual processing capacity
Mining for minerals	Mining for minerals	> 100000 - 500000 T annual production capacity

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
CONSOLIDATED MINING LEASE 7
EYRE STREET
BROKEN HILL
NSW 2880
WILLYAMA COMMON, RESERVE 2421

A3 Other activities

A3.1 This licence applies to all other activities carried on at the premises, including:

Ancillary Activity
Chemical storage
Concrete batching
Metallurgical activities
Railway system activities

Environment Protection Licence

Licence - 12559

A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

A4.2 For the purposes of condition A3.1 the licence application includes:

- 1) The Project Approval issued by the Department of Planning and Infrastructure on 31 January 2011;
- 2) The Project Approval modification titled "Rasp Mine Mod 1" issued by the Department of Planning and Infrastructure issued on 16 March 2012;
- 3) The Environmental Assessment titled "Final Report - Rasp Mine" dated July 2010;
- 4) The Environmental Assessment titled "Rasp Mine - Preferred Project Report" dated September 2010;
- 5) The Broken Hill Operations Pty Ltd Rasp Mine "Noise and Blast Management Plan" submitted to the EPA on the 14 October 2011.
- 6) The Environmental Assessment titled "Rasp Mine - Relocation of Ventilation Shaft" dated November 2011;
- 7) The Broken Hill Operations Pty Ltd Rasp Mine "Air Quality Management Plan" submitted to the EPA in March 2011;
- 8) The Broken Hill Operations Pty Ltd Rasp Mine "Site Water Management Plan" dated 20 March 2012 and;
- 9) The Broken Hill Operations Pty Ltd Rasp Mine "Construction and Operations Manual for Tailing Storage in Blackwood Pit" submitted to the EPA in April 2012.
- 10) The "Blackwoods Pit TSF Operations and Maintenance Plan" submitted to the EPA on 22 July 2022 as part of licence variation application no.1620908.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

<i>Air</i>			
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description

Environment Protection Licence

Licence - 12559

1	Dust and blast monitoring	Ventilation shaft labelled 'Proposed exhaust shaft location' in Figure 2 titled "Ventilation rise alternate location" in the environmental assessment titled "Rasp Mine Variation to Project - Relocation of Ventilation Shaft" dated November 2011
2	Dust process plant monitoring	Process enclosure/Baghouse stack labelled 'Primary crusher & Dust extraction unit' in Figure 2-4 titled "Plant Layout" in the environmental assessment titled "Rasp Mine - Preferred Project Report" dated September 2010.
3	Dust monitoring	Dust deposition gauge labelled D1 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
4	Dust monitoring	Dust deposition gauge labelled D2 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
5	Dust Monitoring	Dust deposition gauge labelled D3 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
6	Dust Monitoring	Dust deposition gauge labelled D4 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
7	Dust monitoring	Dust deposition gauge labelled D5 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
8	Dust monitoring	Dust deposition gauge labelled D6 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
9	Dust monitoring	Dust deposition gauge labelled D7 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
10	Dust monitoring	High volume dust sampler labelled TSP-HVAS on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
11	Dust monitoring	High volume dust sampler labelled PM10-HVAS1 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
12	Dust monitoring	High volume dust sampler labelled PM10-HVAS2 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
13	Dust monitoring	Tapered element oscillating microbalance sampler labelled TEOM1 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06

Environment Protection Licence

Licence - 12559

14	Dust monitoring	Tapered element oscillating microbalance sampler labelled TEOM2 on map "Figure 1" submitted to the EPA on 02/03/12 and kept on EPA file LIC07/2213-06
57	Dust monitoring	High volume dust sampler labelled HVAS3 on Map of CML 7 Environmental Monitoring Locations May 2022 within NSW EPA Permit and Licence Management System Record No. 143544.

P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.3 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
29	Surface water monitoring		Storm water pond labelled "S31-1" as shown in Figure 3 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
31	Surface water monitoring		Storm water pond labelled "S49" as shown in Figure 2 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
32	Surface water monitoring		Storm water pond labelled "S1-A" as shown in Figure 2 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
33	Surface water monitoring		Storm water pond labelled "S9B-2" as shown in Figure 5 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
34	Surface water monitoring		Storm water pond labelled "Horwood Dam" as shown in Figure 6 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
35	Off site receiving waters		Ephemeral drainage line upstream of the Rasp Mine shown as "Monitoring location 1 upstream" on Map 1 in the email to the EPA on 3 April 2012 and kept on EPA file LIC07/2213-06

Environment Protection Licence

Licence - 12559

36	Off site receiving waters	Ephemeral drainage line downstream of the Rasp Mine shown as "Monitoring location 2 downstream" on Map 1 in the email to the EPA on 3 April 2012 and kept on EPA file LIC07/2213-06
37	Groundwater monitoring	Groundwater monitoring bore labelled "GW01" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
38	Groundwater monitoring	Groundwater monitoring bore labelled "GW02" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
39	Groundwater monitoring	Groundwater monitoring bore labelled "GW03" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
40	Groundwater monitoring	Groundwater monitoring bore labelled "GW04" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
41	Groundwater monitoring	Groundwater monitoring bore labelled "GW05" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
42	Groundwater monitoring	Groundwater monitoring bore labelled "GW06" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
43	Groundwater monitoring	Groundwater monitoring bore labelled "GW07" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
44	Groundwater monitoring	Groundwater monitoring bore labelled "GW08" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
45	Groundwater monitoring	Groundwater monitoring bore labelled "GW09" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
46	Groundwater monitoring	Groundwater monitoring bore labelled "GW10" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06

Environment Protection Licence

Licence - 12559

47	Groundwater monitoring	Groundwater monitoring bore labelled "GW11" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
48	Groundwater monitoring	Groundwater monitoring bore labelled "GW12" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
49	Groundwater monitoring	Groundwater monitoring bore labelled "GW13" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
50	Groundwater monitoring	Groundwater monitoring bore labelled "GW14" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
51	Groundwater monitoring	Groundwater monitoring bore labelled "GW15" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
52	Groundwater monitoring	Groundwater monitoring bore labelled "GW16" in Figure 8 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
53	Groundwater monitoring	Surface water pond for Shaft 7 mine water labelled "Mine Settlement Ponds" as shown in Figure 3 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06
54	Groundwater monitoring	Surface water pond for Kintore Pit mine water labelled "Mine Settlement Ponds" as shown in Figure 3 of the Site Water Management Plan dated 20 March 2012 and kept on EPA file LIC07/2213-06

P1.4 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

Noise/Weather

EPA identification no.	Type of monitoring point	Location description
------------------------	--------------------------	----------------------

Environment Protection Licence

Licence - 12559

15	Noise monitoring	Point labelled "A1" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
16	Noise monitoring	Point labelled "A2" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
17	Noise monitoring	Point labelled "A3" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
18	Noise monitoring	Point labelled "A4" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
19	Noise monitoring	Point labelled "A5" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
20	Noise monitoring	Point labelled "A6" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
21	Noise monitoring	Point labelled "A7" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
22	Noise monitoring	Point labelled "A8" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
23	Noise monitoring	Point labelled "A9" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.

Environment Protection Licence

Licence - 12559

24	Noise monitoring	Point labelled "A10" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
25	Noise monitoring	Point labelled "A11" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
26	Noise monitoring	Point labelled "A12" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
27	Noise monitoring	Point labelled "A13" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
28	Noise monitoring	Point labelled "A14" in Figure 1 of the report at Appendix C of the Rasp Mine Environmental Assessment titled "Modification 3 Mining Extension" dated November 2014 kept at DOC14/279713-01 on EPA file EF13/4102.
55	Meteorological Station – to determine meteorological conditions for noise monitoring	Meteorological Station as marked on Map of CML 7 Environmental Monitoring Locations May 2022 at NSW EPA Permit and Licence Management System Record No. 143544

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Concentration limits

L2.1 For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L2.2 Air Concentration Limits

Environment Protection Licence

Licence - 12559

POINT 1

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Nitrogen Oxides	milligrams per cubic metre	350	dry, 273 K, 101.3 kPa		

POINT 1,2

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Total Solid Particles	milligrams per cubic metre	20	dry, 273 K, 101.3 kPa		

POINT 1

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
volatile organic compounds as n-propane equivalent	milligrams per cubic metre	40	dry, 273 K, 101.3 kPa		

POINT 1,2

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	1	dry, 273 K, 101.3 kPa		

L3 Waste

L3.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.

L4 Noise limits

L4.1 Operational activities associated with the project are permitted to occur at any time, subject to compliance with the noise limits specified at condition L4.2 and subject to the following restrictions:

- a) Shunting of the concentrate wagons must only occur between 7.00am and 6.00pm on any day; and
- b) Production rock blasting must only occur between 6.45am and 7.15pm on any day.

L4.2 Noise from the Rasp Mine premises must not exceed the limits presented in the table below at the monitoring

Environment Protection Licence

Licence - 12559

locations listed in column 1.

Location	Day [dB LAeq 15 minute]	Evening [dB LAeq 15 minute]	Night [dB LAeq 15 minute]
Point 15 - A1 Piper Street North	40	37	35
Point 16 - A2 Piper Street Central	40	37	35
Point 17 - A3 Eyre Street North	44	41	39
Point 18 - A4 Eyre Street Central	44	41	39
Point 19 - A5 Eyre Street South	44	41	39
Point 20 - A6 Bonanza & Gypsum Streets	48	41	39
Point 21 - A7 Carbon Street	45	42	36
Point 22 - A8 South Road	48	39	39
Point 23 - A9 Crystal Street	46	39	39
Point 24 - A10 Barnet & Blende Streets	42	41	35
Point 25 - A11 Crystal Street	46	39	39
Point 26 - A12 Crystal Street	46	39	39
Point 27 - A13 Eyre Street North 2	40	35	35
Point 28 - A14 Piper Street North	40	35	35

L4.3 Noise from the premises is to be measured at the most affected point within the boundary of the nominated premises, or at the most affected point within 30 metres of a dwelling where the dwelling is more than 30 metres from the boundary, to determine compliance with the noise level limits in Condition L4.2 unless otherwise stated.

Where it can be demonstrated that direct measurement of noise from the premises is impractical, the EPA may accept alternative means of determining compliance. See Chapter 11 of the NSW Industrial Noise Policy.

The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.

L4.4 The noise limits set out in the Noise Limits table apply under all meteorological conditions except for the following:

- Wind speeds greater than 3 metres/second at 10 metres above ground level; or
- Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- Stability category G temperature inversion conditions.

Environment Protection Licence

Licence - 12559

For the purposes of this condition:

- Data recorded by the meteorological station identified as EPA Identification Point(s) 55 must be used to determine meteorological conditions; and
- Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.

L5 Blasting

L5.1 The overpressure sound level and ground vibration peak particle velocity from blasting operations carried out in or on the premises, excluding Block 7, for the period 7am to 7pm must not exceed the limits in the table below unless expressly provided by a condition of this licence.

Location	Airblast Overpressure (dB - Lin Peak)	Ground Vibration (mm/s)	Allowable Exceedence
Residence on privately owned land	115	5	5% of the total number of blasts in any 12 month annual return reporting period
Residence on privately owned land	120	10	0%

Note:

- The allowable exceedence must be calculated separately for development blasts and production blasts;
- The 5% allowable exceedence does not apply to the production blasts until the licensee has completed a Pollution Studies and Reduction Program at condition U5.1 aimed at achieving the limit or as otherwise agreed with the EPA; and
- Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L5.2 The overpressure sound level and ground vibration peak particle velocity from blasting operations carried out in or on the premises at Block 7 for the period 7am to 7pm must not exceed the limits in the table below unless expressly provided by a condition of this licence.

Location	Airblast Overpressure - dB Lin Peak	Ground Vibration - mm/s	Allowable Exceedence
Residence of privately owned land	115	3 (interim)	5% of the total number of blasts over the 12 month annual return reporting period
Residence of privately owned land	120	10	0%

Note:

- The allowable exceedence must be calculated separately for development and production blasts;
- The interim limit applies unless the licensee has written consent from the Department of Planning and Environment to apply an alternative site specific criteria for Block 7; and

Environment Protection Licence

Licence - 12559

- Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L5.3 The licensee may carry out a maximum of:

- 1 production blast each day and 6 production blasts each week, averaged over a calendar year; and
- 6 development blasts each day and 42 development blasts each week, averaged over a calendar year.

L5.4 The overpressure level from blasting operations at the premises must not exceed 105dB (Lin Peak) for the period 7pm to 10pm at any noise sensitive location:

Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L5.5 The overpressure level from blasting operations at the premises must not exceed 95dB (Lin Peak) for the period 10pm to 7am at any noise sensitive locations.

Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L5.6 Conditions L5.1, L5.2, L5.3, L5.4 and L5.5 apply at any point within 1 metre of any noise sensitive location including residential premises, school, hospital or any blasting monitoring location specified in this licence.

L6 Hours of operation

L6.1 Unless otherwise specified by any other condition of this licence operating hours are:

A) Modification '6' construction activities excluding new decline underground activities, and Tailings Storage Facility '3' (TSF3) preparation works:

- Restricted to between the hours of 7am and 6pm, Monday to Saturday; and
- Not to be undertaken on Sundays or Public Holidays.

B) Construction, excluding construction of Emergency Egress Ladder (EEL) and Modification '6' construction activities:

- restricted to between the hours of 7am and 6pm, Monday to Friday;
- restricted to between the hours of 8am and 1pm Saturday; and
- not to be undertaken on Sundays or Public Holidays.

C) Capping and rehabilitation of Tailings Storage Facility '2' or shunting of concentrate wagons:

- restricted to between the hours of 7am and 6pm on any day.

D) Production rock blasting:

- restricted to between the hours of 6:45am and 7:15pm on any day.

E) Transporting cement to the cement silo or loading the cement silo

- restricted to between the hours of 7am and 7pm on any day.

Environment Protection Licence

Licence - 12559

- F) All other activities, including construction of the EEL, construction of the new decline (Underground activities) and TSF3 tailing preparation works:
- i) Can occur 24 hours a day, 7 days a week.

L7 Potentially offensive odour

- L7.1 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

L8 Other limit conditions

- L8.1 All storm water and other surface water holding ponds identified in the Site Water Management Plan must be designed, constructed and maintained to accommodate the stormwater runoff generated in a 100 year (24 hour) Average Recurrence Interval rain event.
- L8.2 The water storage ponds listed below must have the base and wall artificially lined with an impermeable high density polyethylene liner:
- 1) "Mine Settlement Ponds" and "Backfill Plant Sediment Pond" identified in Figure 3 of the Rasp Mine Site Water Management Plan.
 - 2) "Plant Event Pond" and the "Overflow Event Pond" identified in Figure 4 of the Rasp Mine Site Water Management Plan.
- L8.3 The licensee must ensure waste rock used for the construction of the amenity bund around the Concrete Batching Plant and other surface area works is tested in accordance with Appendix D of the Construction Environment Management Plan (BHO-PLN-ENV-011) dated December 2017 and ensure that waste rock used does not average a lead (Pb) fraction of more than 0.5%.
- L8.4 During construction works the licensee must:
1. Have a traffic light system for wind speeds; and
 2. introduce additional dust mitigation measures when wind speeds are averaging greater than 40 kilometres per hour; and
 3. when wind speeds exceed 50 kilometres per hour, any dust generating construction activities must cease.

4 Operating Conditions

Environment Protection Licence

Licence - 12559

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.

O3.2 Ore trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.

O3.3 Visible dust emissions from any tailings storage facility must be immediately suppressed by water or chemical application.

O3.4 Crushing of extracted material must only occur inside the crusher enclosure however some crushing and screening of waste rock can occur within BHP Pit in accordance with the conditions of Consent Modification '7' approval.

O3.5 The crusher enclosure must be designed to operate under negative pressure at all times.

O3.6 The crusher enclosure and associated emission controls must be constructed and operated in such a manner, as to ensure visible fugitive emissions from the enclosure are minimised.

O3.7 The Air Quality Management Plan must include dust management practices that effectively minimise dust emissions at all times, including all mitigation measures discussed in the Environmental Assessment titled "RASP Mine Zinc-Lead-Silver Project Environmental Assessment Report, July 2010" and additional measures proposed in the document titled "RASP Mine Zinc-Lead-Silver Project Preferred Project Report Report September 2010".

O4 Processes and management

O4.1 All surface water storage ponds must be maintained to ensure that sedimentation does not reduce their capacity by more than 10% of the design capacity.

Environment Protection Licence

Licence - 12559

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- in a legible form, or in a form that can readily be reduced to a legible form;
- kept for at least 4 years after the monitoring or event to which they relate took place; and
- produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- the date(s) on which the sample was taken;
- the time(s) at which the sample was collected;
- the point at which the sample was taken; and
- the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Water and/ or Land Monitoring Requirements

POINT 29,31,32,33,34,35,36

Pollutant	Units of measure	Frequency	Sampling Method
Cadmium	milligrams per litre	Special Frequency 2	Representative sample
Chloride	milligrams per litre	Special Frequency 2	Representative sample
Electrical conductivity	microsiemens per centimetre	Special Frequency 2	Representative sample
Lead	milligrams per litre	Special Frequency 2	Representative sample
Manganese	milligrams per litre	Special Frequency 2	Representative sample
pH	pH	Special Frequency 2	In situ
Sodium	milligrams per litre	Special Frequency 2	Representative sample
Sulfate	milligrams per litre	Special Frequency 2	Representative sample
Total dissolved solids	milligrams per litre	Special Frequency 2	Representative sample
Zinc	milligrams per litre	Special Frequency 2	Representative sample

POINT 37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52

Pollutant	Units of measure	Frequency	Sampling Method
-----------	------------------	-----------	-----------------

Environment Protection Licence

Licence - 12559

Alkalinity (as calcium carbonate)	milligrams per litre	Quarterly	Representative sample
Cadmium	milligrams per litre	Quarterly	Representative sample
Calcium	milligrams per litre	Quarterly	Representative sample
Chloride	milligrams per litre	Quarterly	Representative sample
Electrical conductivity	microsiemens per centimetre	Quarterly	Representative sample
Iron	milligrams per litre	Quarterly	Representative sample
Lead	milligrams per litre	Quarterly	Representative sample
Magnesium	milligrams per litre	Quarterly	Representative sample
Manganese	milligrams per litre	Quarterly	Representative sample
pH	pH	Quarterly	In situ
Sodium	milligrams per litre	Quarterly	Representative sample
Sulfate	milligrams per litre	Quarterly	Representative sample
Total dissolved solids	milligrams per litre	Quarterly	Representative sample
Zinc	milligrams per litre	Quarterly	Representative sample

POINT 53,54

Pollutant	Units of measure	Frequency	Sampling Method
Alkalinity (as calcium carbonate)	milligrams per litre	Special Frequency 3	Representative sample
Cadmium	milligrams per litre	Special Frequency 3	Representative sample
Calcium	milligrams per litre	Special Frequency 3	Representative sample
Chloride	milligrams per litre	Special Frequency 3	Representative sample
Electrical conductivity	microsiemens per centimetre	Monthly	Representative sample
Iron	milligrams per litre	Special Frequency 3	Representative sample
Lead	milligrams per litre	Monthly	Representative sample
Magnesium	milligrams per litre	Special Frequency 3	Representative sample
Manganese	micrograms per litre	Special Frequency 3	Representative sample
pH	pH	Monthly	In situ
Sodium	milligrams per litre	Special Frequency 3	Representative sample
Sulfate	milligrams per litre	Special Frequency 3	Representative sample
Total dissolved solids	milligrams per litre	Special Frequency 3	Representative sample
Zinc	Measure 1	Special Frequency 3	Representative sample

M2.3 Air Monitoring Requirements

POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Dry gas density	kilograms per cubic metre	Every 6 months	TM-23
Moisture	percent	Every 6 months	TM-22

Environment Protection Licence

Licence - 12559

Molecular weight of stack gases	grams per cubic metre	Every 6 months	TM-23
Nitrogen Oxides	milligrams per cubic metre	Every 6 months	TM-11
Temperature	degrees Celsius	Every 6 months	TM-2
Total Solid Particles	milligrams per cubic metre	Every 6 months	TM-15
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Every 6 months	TM-12, TM-13 & TM-14
Velocity	metres per second	Every 6 months	TM-2
volatile organic compounds as n-propane equivalent	milligrams per cubic metre	Every 6 months	TM-34
Volumetric flowrate	cubic metres per second	Every 6 months	TM-2

POINT 2

Pollutant	Units of measure	Frequency	Sampling Method
Dry gas density	kilograms per cubic metre	Quarterly	TM-23
Moisture	percent	Quarterly	TM-22
Molecular weight of stack gases	grams per cubic metre	Quarterly	TM-23
Temperature	degrees Celsius	Quarterly	TM-2
Total Solid Particles	milligrams per cubic metre	Quarterly	TM-15
Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Quarterly	TM-12, TM-13 & TM-14
Velocity	metres per second	Quarterly	TM-2
Volumetric flowrate	cubic metres per second	Quarterly	TM-2

POINT 7,6,5,3,4,8,9

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19
Total lead	grams per square metre per month	Monthly	AM-19

POINT 10,57

Pollutant	Units of measure	Frequency	Sampling Method
Lead	micrograms per cubic metre	Every 6 days	AM-11
Total suspended particles	micrograms per cubic metre	Every 6 days	AM-15

Environment Protection Licence

Licence - 12559

POINT 11,12

Pollutant	Units of measure	Frequency	Sampling Method
PM10	milligrams per cubic metre	Every 6 days	AM-18

POINT 13,14

Pollutant	Units of measure	Frequency	Sampling Method
PM10	micrograms per cubic metre	Daily	AM-22

M2.4 For the purposes of the table(s) above Special Frequency 2 means the collection of a minimum of 2 samples at least 6 months apart if sufficient rainfall has occurred to obtain a sample/s.

M2.5 For the purposes of the table(s) above Special Frequency 3 means the collection of a sample on a monthly basis if pumping occurs at Shaft 7 or Kintore Pit.

M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:

- any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
- if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
- if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2022* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Weather monitoring

M4.1 At the point(s) identified below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of the table below, using the corresponding sampling method, units of measure, averaging period and sampling frequency, specified opposite in the Columns 2, 3, 4 and 5 respectively.

Environment Protection Licence

Licence - 12559

POINT 55

Parameter	Sampling method	Units of measure	Averaging period	Frequency
Temperature at 10 metres	AM-4	degrees Celsius	15 minutes	Continuous
Wind Direction at 10 metres	AM-4	Degrees in a clockwise direction from True North	15 minutes	Continuous
Wind Speed at 10 metres	AM-4	metres per second	15 minutes	Continuous
Rainfall	AM-4	millimetres	1 hour	Continuous
Sigma theta	AM-2 & AM-4	Degrees	15 minutes	Continuous

M5 Recording of pollution complaints

M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M5.2 The record must include details of the following:

- a) the date and time of the complaint;
- b) the method by which the complaint was made;
- c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- d) the nature of the complaint;
- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M6 Telephone complaints line

M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M6.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

Environment Protection Licence

Licence - 12559

M7 Blasting

M7.1 To determine compliance with conditions L5.1, L5.2, L5.3, L5.4 and L5.4:

(a) Airblast overpressure and ground vibration levels must be measured and electronically recorded for all blasts carried out in or on the premise at the following locations;

The blast monitor labelled "V1" in Figure 1 titled "Blast Monitoring Locations" of Broken Hill Operations Pty Ltd - Rasp Mine - "Blasting Monitoring Program Management Plan" received by the EPA 29 June 2015 DOC15/238188.

The blast monitor labelled "V2" in Figure 1 titled "Blast Monitoring Locations" of Broken Hill Operations Pty Ltd - Rasp Mine - "Blasting Monitoring Program Management Plan" received by the EPA 29 June 2015 DOC15/238188.

The blast monitor labelled "V3" in Figure 1 titled "Blast Monitoring Locations" of Broken Hill Operations Pty Ltd - Rasp Mine - "Blasting Monitoring Program Management Plan" received by the EPA 29 June 2015 DOC15/238188.

The blast monitor labelled "V4 New location" in Attachment B of the document titled "Report to support EPL 12559 variation" dated August 2018 and kept on EPA file DOC18/228266-03.

The blast monitor labelled "V5" in Figure 1 titled "Blast Monitoring Locations" of Broken Hill Operations Pty Ltd - Rasp Mine - "Blasting Monitoring Program Management Plan" received by the EPA 29 June 2015 DOC15/238188.

The specific monitoring locations are subject to the actual blasting locations as described in Table 4 - "Airblast Overpressure and Ground Vibration Monitoring Locations" of Broken Hill Operations Pty Ltd - Rasp Mine - "Blasting Monitoring Program Management Plan" received by the EPA 29 June 2015 DOC15/238188; and

(b) Instrumentation used to measure the airblast overpressure and ground vibration levels must meet the requirements of Australian Standards AS 2187.2-2006.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

Environment Protection Licence

Licence - 12559

- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.
- R1.3 Where this licence is transferred from the licensee to a new licensee:
- the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
 - the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.
- R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
- in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
 - in relation to the revocation of the licence - the date from which notice revoking the licence operates.
- R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').
- R1.6 **Monitoring report**
- The licensee must supply with the Annual Return an Environmental Monitoring Report which is to be completed and attached to each Annual Return.
- The Environmental Monitoring Report must include:
- a summary of all monitoring results including Air, Water and Noise;
 - an analysis and interpretation of all monitoring results;
 - identification of any adverse trend or non-compliance; and
 - actions to correct any adverse trends and/or non-compliances.
- R1.7 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.
- R1.8 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
- the licence holder; or
 - by a person approved in writing by the EPA to sign on behalf of the licence holder.
- Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.
- Note: An application to transfer a licence must be made in the approved form for this purpose.
- R1.9 **Blast monitoring reporting**
- The licensee must supply a Blast Management Report with the Annual Return and must include:
- a summary of production blast levels (which excludes block 7 production blasts);
 - the percentage of production blasts < 5 mm/s and the percentage of blasts > 5 mm/s;

Environment Protection Licence

Licence - 12559

- c) an analysis and interpretation of all blast results from the licensed monitors and from the network of roving monitors used to assess potential impacts on the amenity of receptors;
- d) identification of any adverse trend or non-compliance;
- e) actions to correct any adverse trends or non-compliance; and
- f) any proposed future corrective actions that will be implemented to meet ongoing compliance with production blast limits at condition L5.1.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

- a) where this licence applies to premises, an event has occurred at the premises; or
- b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

- a) the cause, time and duration of the event;
- b) the type, volume and concentration of every pollutant discharged as a result of the event;
- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

Environment Protection Licence

Licence - 12559

7 General Conditions

G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

8 Pollution Studies and Reduction Programs

U1 Water Management Review and Remediation Works

- U1.1 A permanent electric pump will be installed at the Ryan Street Dam (S49) to enable water management via the ability to transfer waters to other water storage facilities.

COMPLETION DATE: 30 September 2023.

- U1.2 The licensee must engage a suitability qualified expert and develop a program to improve the retention capabilities of the Ryan Street (S49) Dam. This program must be provided to the EPA and all works identified by the program, as necessary to improve the retention capabilities of the Ryan Street (S49) Dam, to negate the possibility of off-site discharge, must be complete.

COMPLETION DATE: 31 July 2024.

- U1.3 The licensee must engage a suitability qualified expert to investigate the potential for treatment of the Ryan Street (S49) Dam stormwater and the ability to lawfully discharge this stormwater.

This investigation report is to be provided to info@epa.nsw.gov.au

COMPLETION DATE: 31 March 2023.

- U1.4 The licensee must engage a suitability qualified expert to assess all onsite water management practices and determine the appropriateness of all water storage facilities.
This includes but is not limited to the assessment of:

- All monitoring systems, alerts and associated action plans;
- The integrity of all water storage facilities including permeability and their ability to prohibit discharge;
- The capacity of all water storage facilities and determining if there is sufficient storage capacity to meet a 1 in 100 year rainfall event including freeboard requirements;
- Water storage facility maintenance programs and adherence there to; and
- All permanent and temporary pumping systems.

An Assessment Report is to be prepared and recommendations made to improve environmental



Environment Protection Licence

Licence - 12559

performance, onsite water storage capabilities and to limit the likelihood of an offsite discharge.

The Assessment Report must be provided to info@epa.nsw.gov.au

COMPLETION DATE: 31 March 2023.

U1.5 All of the recommendations set out in the Assessment Report required by condition U1.4 are to be implemented by the completion date.

COMPLETION DATE: 31 July 2024.

Environment Protection Licence

Licence - 12559

Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 12559

flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

Environment Protection Licence

Licence - 12559

TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste
Wellhead	Has the same meaning as in Schedule 1 to the Protection of the Environment Operations (General) Regulation 2021.

Mr Craig Bretherton

Environment Protection Authority

(By Delegation)

Date of this edition: 02-November-2006

Environment Protection Licence

Licence - 12559

End Notes

- 1 Licence varied by notice 1073249, issued on 14-May-2007, which came into effect on 14-May-2007.
- 2 Licence varied by notice 1078521, issued on 11-Oct-2007, which came into effect on 11-Oct-2007.
- 3 Licence varied by format and/or typographical corrections, issued on 22-Oct-2007, which came into effect on 22-Oct-2007.
- 4 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 5 Licence varied by notice 1105830, issued on 12-May-2010, which came into effect on 12-May-2010.
- 6 Licence varied by notice 1117212, issued on 19-Aug-2010, which came into effect on 19-Aug-2010.
- 7 Licence varied by notice 1126030, issued on 30-Mar-2011, which came into effect on 30-Mar-2011.
- 8 Licence varied by notice 1126952, issued on 13-Jul-2011, which came into effect on 13-Jul-2011.
- 9 Licence varied by notice 1501373 issued on 09-Sep-2011
- 10 Licence varied by notice 1502363 issued on 07-Nov-2011
- 11 Licence varied by notice 1503474 issued on 23-Dec-2011
- 12 Licence varied by notice 1504518 issued on 23-Feb-2012
- 13 Licence varied by notice 1504790 issued on 20-Apr-2012
- 14 Licence varied by notice 1506738 issued on 20-Jun-2012
- 15 Licence varied by notice 1507657 issued on 09-Aug-2012
- 16 Licence varied by notice 1515835 issued on 01-Aug-2013
- 17 Licence varied by notice 1516037 issued on 08-Aug-2013
- 18 Licence varied by notice 1519905 issued on 20-Mar-2014
- 19 Licence varied by notice 1524545 issued on 28-Aug-2014
- 20 Licence varied by notice 1524732 issued on 10-Sep-2014
- 21 Licence varied by notice 1528988 issued on 20-Mar-2015
- 22 Licence varied by notice 1529466 issued on 13-Apr-2015
- 23 Licence varied by notice 1532070 issued on 16-Jul-2015
- 24 Licence varied by notice 1537327 issued on 10-Mar-2016



Environment Protection Licence

Licence - 12559

25	Licence varied by notice	1543368 issued on 31-Aug-2016
26	Licence varied by notice	1559865 issued on 21-Dec-2017
27	Licence varied by notice	1571969 issued on 14-Mar-2019
28	Licence varied by notice	1582736 issued on 26-Aug-2019
29	Licence varied by notice	1585837 issued on 04-Oct-2019
30	Licence varied by notice	1620908 issued on 10-Aug-2022
31	Licence varied by notice	1625065 issued on 15-Dec-2022
32	Licence varied by notice	1627161 issued on 28-Mar-2023
33	Licence varied by notice	1630597 issued on 15-Aug-2023

A.4 Water access licences

BOX 1W
(AH617451)



NEW SOUTH WALES
CERTIFICATE OF TITLE

WATER MANAGEMENT ACT, 2000



WAL TITLE REFERENCE WAL31065	
EDITION 1	DATE OF ISSUE 21/3/2013
CERTIFICATE AUTHENTICATION CODE XS6V-DL-ZW5L	



This certificate is issued under s87B of the Water Management Act, 2000.

WARNING NOTE: INFORMATION ON THIS REGISTER IS NOT GUARANTEED

TENURE TYPE: CONTINUING

HOLDER(S)

BROKEN HILL OPERATIONS PTY LTD

(WB AH617451)

ENCUMBRANCES

-
1. SECURITY INTERESTS IN THE WATER ENTITLEMENT REPLACED BY THIS ACCESS LICENCE THAT WERE REGISTERED OR CAPABLE OF BEING REGISTERED WITH LPI OR ASIC BEFORE THE COMMENCEMENT DATE OF THIS LICENCE 30/3/2012 MAY BE RECORDED ON THIS LICENCE WITHIN THREE YEARS FROM THE COMMENCEMENT DATE. SEE NOTES.
 2. TERM TRANSFER: NIL

ACCESS LICENCE DETAILS

CATEGORY: AQUIFER

SHARE COMPONENT:

SHARE - 370 UNITS
WATER SOURCE - ADELAIDE FOLD BELT MDB GROUNDWATER SOURCE
WATER SHARING PLAN - NSW MURRAY DARLING BASIN FRACTURED ROCK
GROUNDWATER SOURCES

EXTRACTION COMPONENT:

TIMES/RATES/CIRCUMSTANCES - SUBJECT TO THE CONDITIONS OF THE WATER
ACCESS LICENCE
EXTRACTION FROM - AQUIFER
EXTRACTION ZONE - WHOLE WATER SOURCE

NOMINATED WORKS:

WORK APPROVAL NUMBER(S) - 85WA752823
INTERSTATE TAGGING ZONE - NIL

CONDITIONS

LICENCE CONDITIONS FORM A PART OF THIS LICENCE AND AFFECT THE SHARE AND EXTRACTION COMPONENTS. CONDITION STATEMENTS ARE AVAILABLE FROM THE NSW OFFICE OF WATER (NOW).

NOTES

A WATER LICENCE INFORMATION SHEET IS AVAILABLE FROM THE NSW OFFICE OF WATER (NOW) AND SHOULD BE REFERRED TO IN INTERPRETING THIS LICENCE. NOW WEBSITE WWW.WATER.NSW.GOV.AU, PHONE 1800 353 104, EMAIL INFORMATION@WATER.NSW.GOV.AU

END OF PAGE 1 CONTINUED OVER

ANY ATTEMPT TO ALTER THIS CERTIFICATE COULD RESULT IN HEAVY FINES OR IMPRISONMENT (S.141 REAL PROPERTY ACT)

BOX 1W
(AH617451)

PAGE 2



NEW SOUTH WALES

CERTIFICATE OF TITLE

WATER MANAGEMENT ACT, 2000



WAL TITLE REFERENCE WAL31065	
EDITION 1	DATE OF ISSUE 21/3/2013
CERTIFICATE AUTHENTICATION CODE XS6V-DL-ZW5L	

This certificate is issued under s87B of the Water Management Act, 2000.



NOTES (CONTINUED)

NOW REFERENCE NUMBER: 85AL752822

PREVIOUS WATER ACT LICENCE NUMBER(S): 85PT990026, 85BL256102.

**** END OF CERTIFICATE ****

Water Access Licence Certificate
WARNING: IF YOU OBTAIN THIS CERTIFICATE YOU MAY BE SUBJECT TO HEAVY FINES OR IMPRISONMENT (S. 44 REAL PROPERTY ACT)

Appendix B

Rehabilitation risk assessment



Table with columns: CLOSURE RISK DESCRIPTION, POTENTIAL IMPACTS, POTENTIAL CAUSES, RISK #, RELEVANT?, Existing Proposed Controls, Likelihood, Impacted Area, Inherent Risk Level, Additional Identified Risks/Issues, Additional Recommended Controls, Residual Risk Level, Closure knowledge gaps, Uncertainties, Path Forward. Rows include categories like LANDFORM STABILITY, LANDFORM DESIGN & CONSTRUCTION, Acid Mine Drainage, and GEOTECHNICAL STABILITY.

CLOSURE RISK DESCRIPTION (Unwanted Event)	POTENTIAL IMPACTS (Consequence)	POTENTIAL CAUSES (Risk Pathway - Root Causes)	RISK #	RELEVANT? (Yes / No)	Existing Proposed Controls (per Rasp Mine RMP, October 2021 - September 2023)	REHABILITATION RISK BASED ON CURRENT & PROPOSED CONTROLS							Additional Identified Risks/Issues (from EMM studies and site assessment)	Additional Recommended Controls (from EMM studies and site assessment)	REHABILITATION RISK BASED ON ADDITIONAL OR REVISED CONTROLS							Closure knowledge gaps	Uncertainties	Path Forward (Agreed way forward for RMP)			
						Likelihood (L)	Financial	Health & Safety	Environmental	Community Relations	Company Reputation	Security			Legal Compliance	Inherent Risk Level (IRL)	Likelihood (L)	Financial	Health & Safety	Environmental	Community Relations				Company Reputation	Security	Legal Compliance
The pre-project catchment hydrology cannot be reinstated	<ul style="list-style-type: none"> Catchment and sub-catchment flows are permanently altered as a result of final landform changes; affecting downstream users and sensitive receptors; Inability to satisfy approval conditions; Inability to achieve relinquishment; Final landforms permanently alter catchment and sub-catchment flows (ie. final landform designs do not consider pre-mining catchment hydrology); Final landforms deliberately alter original catchments in order to manage other risks (eg final voids, permanent flood levees etc); Adjoining land use changes not considered (cumulative impacts); Inadequate staging plans - final hydrology not realised. 	<ul style="list-style-type: none"> Final landform design(s) do not integrate with, or do not adequately integrate with, site- and/or local hydrology (eg drainage lines, creeks etc) 	022	Yes	<ul style="list-style-type: none"> Determine stormwater management requirements. Review current water storage structures and water flows and determine how water is to be redirected to pits and final water structures. Final land use design as proposed within Plan 1, Appendix C of the RS. 	E - Rare	2 - Minor	N/A	2 - Minor	1 - Insignificant	N/A	1 - Insignificant	Low	<ul style="list-style-type: none"> Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options. Site is highly modified and spatially constrained which limits ability for significant re-shaping to tie final landform into surrounding drainage lines. Likewise, site to be rehabilitated to a historical heritage PMLU which means most existing mining landforms will remain as they currently exist. Site generated runoff will have to be retained on-site and disposed underground. 	<ul style="list-style-type: none"> Closure surface water assessment to cover: <ul style="list-style-type: none"> Flooding/hydrology risks of final landforms Applicable surface water WQOs Integrated SW/GW assessment to address options for long-term SW disposal to underground workings 	E - Rare	1 - Insignificant	N/A	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	Low	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Not applicable	SW assessment to be undertaken
Ongoing impact on water quality in creeks and drainage lines downstream of rehabilitated areas	<ul style="list-style-type: none"> Erosion and sediment runoff from rehabilitated areas; Adverse impacts to downstream users and sensitive receptors (cumulative impacts); Inability to satisfy approval conditions; Inability to achieve relinquishment; Site is space constrained. 	<ul style="list-style-type: none"> Instability and erosion of rehabilitated landforms. Major storm event. Water management measures do not perform to plan. Implemented solutions do not eliminate pollution. Lack of knowledge of seepage issues. Site is space constrained. 	023	Yes	<ul style="list-style-type: none"> Removal of dirty water storages and associated contaminated material and dispose in underground voids and / or TSF2/TSF3 is completed. TSF2/TSF3 surface and shape, installation of control runoff areas where required (eg rock lined drains) to reduce likelihood of potential erosion. Structures to be non-eroding. Rain water runoff quality meets agreed guidelines. Development of water management plan for closure. Engage water specialist to design post mine water management - Water Closure Management Plan. Determine appropriate slopes to achieve required drainage (direction). Appropriate consideration to rainfall runoff in slope design. Determination if required of agreed (EPA) locally derived water quality objectives. 	D - Unlikely	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	N/A	Moderate	<ul style="list-style-type: none"> Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options. 	<ul style="list-style-type: none"> Closure surface water assessment to cover: <ul style="list-style-type: none"> Flooding/hydrology risks of final landforms Applicable surface water WQOs Integrated SW/GW assessment to address options for long-term SW disposal to underground workings Final landform design to maximise internal diversion of surface flows to evaporation ponds where possible 	E - Rare	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	Low	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Not applicable	SW assessment to be undertaken	
Flood events result in damage to or loss of rehabilitated ground	<ul style="list-style-type: none"> Unplanned rehabilitation/closure liability; Inability to achieve relinquishment, or delays to relinquishment. 	<ul style="list-style-type: none"> Inadequate or no flood modelling; 	024	Yes	<ul style="list-style-type: none"> Determine stormwater management requirements. Review current water storage structures and water flows and determine how water is to be redirected to pits and final water structures. Design final shape and drainage. Rock mulch armouring of final landforms and surfaces 	E - Rare	2 - Minor	N/A	2 - Minor	1 - Insignificant	N/A	1 - Insignificant	Low	<ul style="list-style-type: none"> Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options. 	<ul style="list-style-type: none"> Closure surface water assessment to cover: <ul style="list-style-type: none"> Flooding/hydrology risks of final landforms Applicable surface water WQOs Integrated SW/GW assessment to address options for long-term SW disposal to underground workings 	E - Rare	1 - Insignificant	N/A	1 - Insignificant	1 - Insignificant	1 - Insignificant	1 - Insignificant	Low	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Not applicable	SW assessment to be undertaken	
Water quality in retained water management structures not suitable to support PMLUs	<ul style="list-style-type: none"> Unplanned rehabilitation/closure liability; 	<ul style="list-style-type: none"> Residual contaminated material in ponds and drains - not identified and removed during rehabilitation phase; Ongoing sediment / contaminant inflows - inadequate erosion and sediment control system. 	025	Yes	<ul style="list-style-type: none"> Determine stormwater management requirements. Review current water storage structures and water flows and determine how water is to be redirected to pits and final water structures. Design final shape and drainage. Removal of dirty water storages and associated contaminated material and dispose in underground voids and / or TSF2, TSF3 is completed. 	E - Rare	3 - Moderate	2 - Minor	3 - Moderate	2 - Minor	2 - Minor	3 - Moderate	Moderate	<ul style="list-style-type: none"> Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options. 	<ul style="list-style-type: none"> Closure surface water assessment to cover: <ul style="list-style-type: none"> Flooding/hydrology risks of final landforms Applicable surface water WQOs Integrated SW/GW assessment to address options for long-term SW disposal to underground workings 	E - Rare	1 - Insignificant	N/A	1 - Insignificant	1 - Insignificant	1 - Insignificant	Low	Lack of detailed mine closure SW assessment addressing flooding, water quality objectives (WQOs) and long-term water management disposal options.	Not applicable	SW assessment to be undertaken		
GROUNDWATER - LEVEL AND QUALITY																											
Groundwater levels do not return to regional levels (due to mounding) and adversely impacts future beneficial uses	<ul style="list-style-type: none"> Altered groundwater flow regimes; Undesired GW expression at surface down-gradient of site 	<ul style="list-style-type: none"> Tails water seepage causing groundwater mounding Evaporation exceeds rainfall Underground disposal (pump back) of surface water to manage SW risks groundwater data available existing quality is low (saline, metals) 	026	Yes	<ul style="list-style-type: none"> GW generally very deep (>100m depth) Evaporation exceeds rainfall groundwater data available existing quality is low (saline, metals) 	E - Rare	N/A	N/A	1 - Insignificant	N/A	N/A	1 - Insignificant	Low	<ul style="list-style-type: none"> No numerical (predictive) groundwater model exists for the site that can be used to assess long-term risks to groundwater receptors post-closure 	<ul style="list-style-type: none"> Groundwater assessment and modelling to address: <ul style="list-style-type: none"> predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) predicted groundwater quality post-mining seepage modelling of final landform capping options (eg final cover on TSF2 and capacity to mitigate metalliferous drainage risks) 	E - Rare	N/A	N/A	1 - Insignificant	N/A	1 - Insignificant	Low	Lack of detailed mine closure GW assessment addressing groundwater levels and quality post-mining, and long-term seepage risks and performance of final covers on relevant landforms (eg TSF2)	Mine closure groundwater assessment and modelling for Rasp will need to consider groundwater affecting activities for the adjoining Perilya mine (ie take, plans for deep disposal etc). EMM scope and budget does not consider this.	Groundwater assessment and modelling to address: <ul style="list-style-type: none"> predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) predicted groundwater quality post-mining (eg final cover on TSF2) 		
Groundwater levels do not return to regional levels (due to drawdown during mining) and adversely impacts future beneficial uses	<ul style="list-style-type: none"> Groundwater accessibility by third-party users is adversely affected as a result of groundwater drawdown - additional licensing and cost impacts; 	<ul style="list-style-type: none"> Lack of groundwater drawdown modelling/prediction - over-extraction of groundwater during mining phase; Unintentional exceedance of abstraction limits in water licences or permits; 	027	Yes	<ul style="list-style-type: none"> GW generally very deep (>100m depth) Evaporation exceeds rainfall groundwater data available existing quality is low (saline, metals) 	E - Rare	N/A	N/A	1 - Insignificant	N/A	N/A	1 - Insignificant	Low	<ul style="list-style-type: none"> No numerical (predictive) groundwater model exists for the site that can be used to assess long-term risks to groundwater receptors post-closure 	<ul style="list-style-type: none"> Groundwater assessment and modelling to address: <ul style="list-style-type: none"> predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) predicted groundwater quality post-mining seepage modelling of final landform capping options (eg final cover on TSF2 and capacity to mitigate metalliferous drainage risks) 	E - Rare	N/A	N/A	1 - Insignificant	N/A	1 - Insignificant	Low	Lack of detailed mine closure GW assessment addressing groundwater levels and quality post-mining, and long-term seepage risks and performance of final covers on relevant landforms (eg TSF2)	Mine closure groundwater assessment and modelling for Rasp will need to consider groundwater affecting activities for the adjoining Perilya mine (ie take, plans for deep disposal etc). EMM scope and budget does not consider this.	Groundwater assessment and modelling to address: <ul style="list-style-type: none"> predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) predicted groundwater quality post-mining (eg final cover on TSF2) 		
Deleterious mine seepage/drainage into local aquifer and migration to groundwater and surface water receptors	<ul style="list-style-type: none"> Adverse impacts to groundwater beneficial uses / GDEs or post-closure; Groundwater contamination prevents future potential beneficial use(s). 	<ul style="list-style-type: none"> No or inadequate geochemical characterisation of mining wastes (eg waste rock, overburden, tailings etc) Inadequate placement and/or encapsulation of deleterious material within the final landform; No or inadequate final cover/capping of deleterious material No hydrogeological or geochemical investigations and modelling; Leakage from existing storages eg S22; 	028	Yes	<ul style="list-style-type: none"> Extensive geochemical assessments (waste rock characterisation by ERM and EMM) indicate negligible quantities of PAF material exist at surface across the site. Limited understanding of location, quantity and risk associated with NMD material and metalliferous mine drainage No controls currently proposed re: long-term management of material generating metalliferous drainage. Existing studs indicate GW migration is into the mine due to long-term extraction/draw-down 	D - Unlikely	2 - Minor	N/A	2 - Minor	2 - Minor	2 - Minor	2 - Minor	Low	<ul style="list-style-type: none"> Extent of NMD material (location, quantity) and risk is unknown. Risk of metalliferous NMD drainage to surface and groundwater receptors post-closure is unknown 	<ul style="list-style-type: none"> Geochemical mine waste characterisation to quantify the volume and extent of NMD material on site and risks Development of capping scenarios for long-term encapsulation of deleterious materials and validation of capping performance through seepage modelling 	E - Rare	2 - Minor	2 - Minor	1 - Insignificant	1 - Insignificant	2 - Minor	Low	Lack of detailed mine closure GW assessment addressing groundwater levels and quality post-mining, and long-term seepage risks and performance of final covers on relevant landforms (eg TSF2)	Mine closure groundwater assessment and modelling for Rasp will need to consider groundwater affecting activities for the adjoining Perilya mine (ie take, plans for deep disposal etc). EMM scope and budget does not consider this.	Complete updated geochemical characterisation to quantify location and quantity of NMD material and ability to generate metalliferous drainage. Groundwater assessment and modelling (including solute transport modelling and seepage modelling of TSF capping scenarios) Surface water assessment and modelling		
Seepage from the tailings facilities or other storages to groundwater resulting in contamination (eg salinity, heavy metals)	<ul style="list-style-type: none"> Adverse impacts to groundwater beneficial uses post-closure; Impacts on beneficial uses not assessed; Groundwater contamination prevents future potential beneficial use(s). 	<ul style="list-style-type: none"> No hydrogeological or geochemical investigations and modelling; Impacts on beneficial uses not assessed; Surface expression of groundwater associated with the tailings dams or other water storages eg S22 has previously occurred 	029	Yes	<ul style="list-style-type: none"> GW generally very deep (>100m depth) Evaporation exceeds rainfall groundwater data available existing quality is low (saline, metals) 	D - Unlikely	2 - Minor	N/A	2 - Minor	2 - Minor	2 - Minor	2 - Minor	Low	<ul style="list-style-type: none"> No numerical (predictive) groundwater model exists for the site that can be used to assess long-term risks to groundwater receptors post-closure 	<ul style="list-style-type: none"> Groundwater assessment and modelling to address: <ul style="list-style-type: none"> predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) predicted groundwater quality post-mining seepage modelling of final landform capping options (eg final cover on TSF2, TSF3 and capacity to mitigate metalliferous drainage risks) 	D - Unlikely	3 - Moderate	N/A	3 - Moderate	2 - Minor	2 - Minor	3 - Moderate	Moderate	Lack of detailed mine closure GW assessment addressing groundwater levels and quality post-mining, and long-term seepage risks and performance of final covers on relevant landforms (eg TSF2, TSF3)	Mine closure groundwater assessment and modelling for Rasp will need to consider groundwater affecting activities for the adjoining Perilya mine (ie take, plans for deep disposal etc). EMM scope and budget does not consider this.	Groundwater assessment and modelling to address: <ul style="list-style-type: none"> predicted groundwater recovery post-mining (inc. Consideration of water disposal in underground workings) predicted groundwater quality post-mining (eg final cover on TSF2, TSF3) 	
HERITAGE																											
Heritage items not reinstated and protected at closure	<ul style="list-style-type: none"> Non-compliance with statutory obligations; Reputational impact. 	<ul style="list-style-type: none"> Inadequate record keeping Inadequate maintenance Accidental damage to heritage items 	031	No	<ul style="list-style-type: none"> Protection works undertaken by former operators Items donated to LOLA and museums by former operators Conservation management plans and conservation management strategies prepared and implemented 	C - Possible	2 - Minor	2 - Minor	N/A	3 - Moderate	3 - Moderate	2 - Minor	High	<ul style="list-style-type: none"> 1/ Existing CMP (circa 2013) is outdated. 2/ Ongoing lack of direction from regulatory agency panel on site rehabilitation and heritage-related PMLUs 3/ Unclear who is proposed to 'take on' retained heritage structures post-mining 	<ul style="list-style-type: none"> 1/ Updated CMP (inc. heritage register) required - needs to identify what structures will be retained, to inform rehabilitation strategy (tourism PMLU) 2/ Consult with government agency panel and propose a 'base case' to include in RMP, and seek their feedback 	D - Unlikely	2 - Minor	2 - Minor	N/A	3 - Moderate	3 - Moderate	2 - Minor	Moderate	Who will take on retained heritage items/structures post-closure (as part of relinquishment)?	Not applicable	Ongoing dialogue with stakeholders, CMP is being updated	

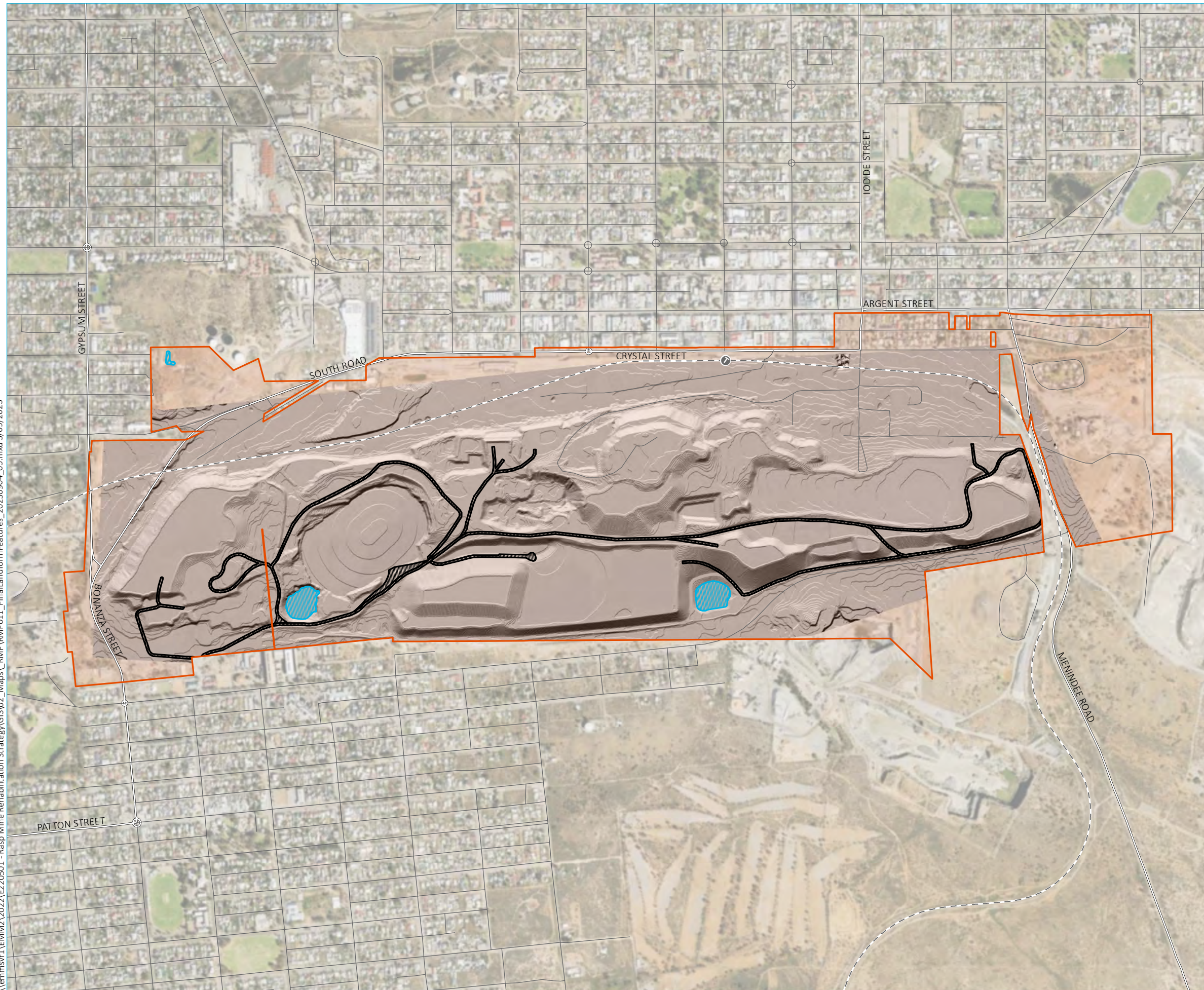
CLOSURE RISK DESCRIPTION (Unwanted Event)	POTENTIAL IMPACTS (Consequence)	POTENTIAL CAUSES (Risk Pathway - Root Causes)	RISK #	RELEVANT? (Yes / No)	Existing Proposed Controls (per Rasp Mine RMP, October 2021 - September 2023)	REHABILITATION RISK BASED ON CURRENT & PROPOSED CONTROLS							Additional Identified Risks/Issues (from EMM studies and site assessment)	Additional Recommended Controls (from EMM studies and site assessment)	REHABILITATION RISK BASED ON ADDITIONAL OR REVISED CONTROLS							Closure knowledge gaps	Uncertainties	Path Forward (Agreed way forward for RMP)				
						Likelihood (L)	Impacted Area								Inherent Risk Level (IRL)	Likelihood (L)	Impacted Area								Residual Risk Level (RRL)			
							Financial	Health & Safety	Environmental	Community Relations	Company Reputation	Security					Legal Compliance	Financial	Health & Safety	Environmental	Community Relations					Company Reputation	Security	Legal Compliance
Heritage structures removed/destroyed, or retained heritage structures not maintained	<ul style="list-style-type: none"> * Non-compliance with historical heritage legislation * Reputational impact * Inability to achieve/support heritage-related PMLU 	<ul style="list-style-type: none"> * No entity willing to take on the site assets/liability in particular due to maintenance costs * No legal mechanism for handing over responsibility * Unknown management requirements for heritage sites – demolition, dismantling, diapidation surveys, retention. * Lack of knowledge of heritage obligations for the site 	032	Yes	<ul style="list-style-type: none"> * Conservation Management Plan, including heritage sites register 	C - Possible	2 - Minor	2 - Minor	N/A	3 - Moderate	3 - Moderate	N/A	2 - Minor	High	<ul style="list-style-type: none"> 1/ Existing CMP (circa 2013) is outdated. 2/ Ongoing lack of direction from regulatory agency panel on site rehabilitation and heritage-related PMLUs 3/ Unclear who is proposed to 'take on' retained heritage structures post-mining 	<ul style="list-style-type: none"> 1/ Updated CMP (inc. heritage register) required - needs to identify what structures will be retained, to inform rehabilitation strategy (tourism PMLU) 2/ Consult with government agency panel and propose a 'base case' to include in RMP, and seek their feedback 	D - Unlikely	2 - Minor	2 - Minor	N/A	3 - Moderate	3 - Moderate	N/A	2 - Minor	Moderate	Who will take on retained heritage structures post-closure (as part of relinquishment)?	Not applicable	Ongoing dialogue with stakeholders, CMP is being updated
INFRASTRUCTURE Retained infrastructure is inconsistent/incompatible with the intended final land use	<ul style="list-style-type: none"> * Unplanned cost to remove; * Unplanned rehabilitation/closure liability; * Inability to achieve relinquishment. 	<ul style="list-style-type: none"> * Landform designs do not consider retained infrastructure; * Mine plans and closure plans do not consider retained infrastructure and land use compatibility; * Landowner/land manager/R&R agreement not obtained on infrastructure to be retained; * Formal landowner agreement not obtained regarding infrastructure to be retained; * Landowner does not accept the final condition of retained infrastructure at point of closure. 	033	Yes	<ul style="list-style-type: none"> * Conservation Management Plan, including heritage sites register Relevant heritage structures to be retained post-mining to support proposed mine heritage related PMLU 	D - Unlikely	4 - Major	N/A	N/A	3 - Moderate	3 - Moderate	N/A	N/A	High	<ul style="list-style-type: none"> 1/ Existing CMP (circa 2013) is outdated. 2/ Ongoing lack of direction from regulatory agency panel on site rehabilitation and heritage-related PMLUs 3/ Unclear who is proposed to 'take on' retained heritage structures post-mining 	<ul style="list-style-type: none"> 1/ Updated CMP (inc. heritage register) required - needs to identify what structures will be retained, to inform rehabilitation strategy (tourism PMLU) 2/ Consult with government agency panel and propose a 'base case' to include in RMP, and seek their feedback 	E - Rare	2 - Minor	N/A	N/A	3 - Moderate	2 - Minor	N/A	Moderate	Ownership and management of heritage items post closure.	Who will take on retained heritage structures post-closure (as part of relinquishment)? Which structures will remain to support heritage PMLU?	Ongoing dialogue with stakeholders, CMP is being updated	
SITE CONTAMINATION Residual site contamination not removed/remediated prior to mine closure	<ul style="list-style-type: none"> * Contamination prevents or limits the intended final land use; * Non-compliance with environmental protection legislation, policies and NEMP for site contamination; * Residual contamination results in surface water or groundwater contamination; * Unexpected cost to manage/treat contaminated material; * Delays to closure and relinquishment; * Unplanned rehabilitation/closure liability. 	<ul style="list-style-type: none"> * Types and locations of known and potential site contamination not identified, tested and removed/remediated prior to mine closure; * Hostile tailings material, PAF, rejects material etc not appropriately disposed at depth/capped as part of mine planning and landform construction/reinstatement; * No or inadequate remediation; 	034	Yes	RMP - Inspection and removal of contamination associated with BHOP mining activities	D - Unlikely	4 - Major	2 - Minor	3 - Moderate	3 - Moderate	N/A	3 - Moderate	High	Not applicable	Post-excavation validation sampling program to confirm all validated material has been removed	D - Unlikely	3 - Moderate	2 - Minor	3 - Moderate	3 - Moderate	3 - Moderate	3 - Moderate	Moderate	Not applicable	Not applicable	Not applicable		
CLIMATE CHANGE Droughts and climate change	<ul style="list-style-type: none"> * Delays to rehabilitation establishment; * Loss of establishing rehabilitation (native vegetation, crops and pasture); * Unplanned rehabilitation/closure liability; * Inability to achieve, or delays to, mine relinquishment. 	<ul style="list-style-type: none"> * Revegetation is not mature / resilient to extended dry conditions; * Lack of watering/irrigation programs (rehabilitation maintenance) during establishment phase resulting; * over watering impedes hardening of reveg; * Inadequate soil/growth media preparation. 	035	No	RMP identifies lack of soil resource (resource does not exist) - rehabilitation of native vegetation is not possible or proposed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not applicable	Not applicable	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not applicable	Not applicable	Not applicable		

Appendix C

Landforms and rehabilitation plans

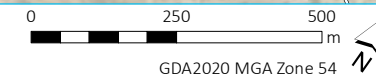
C.1 Final landform features

\\emmsvr1\EMM2\2022\E220501 - Rasp Mine Rehabilitation Strategy\GIS\02_Maps\RMP\RMP011_FinalLandformFeatures_20230904_05.mxd 5/09/2023



- KEY**
- MINERALS - CURRENT TITLES
 - Train station
 - Rail line
 - Major road
 - Minor road
 - Final landform feature**
 - Internal road
 - Permanent water body

Source: EMM (2023); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011)



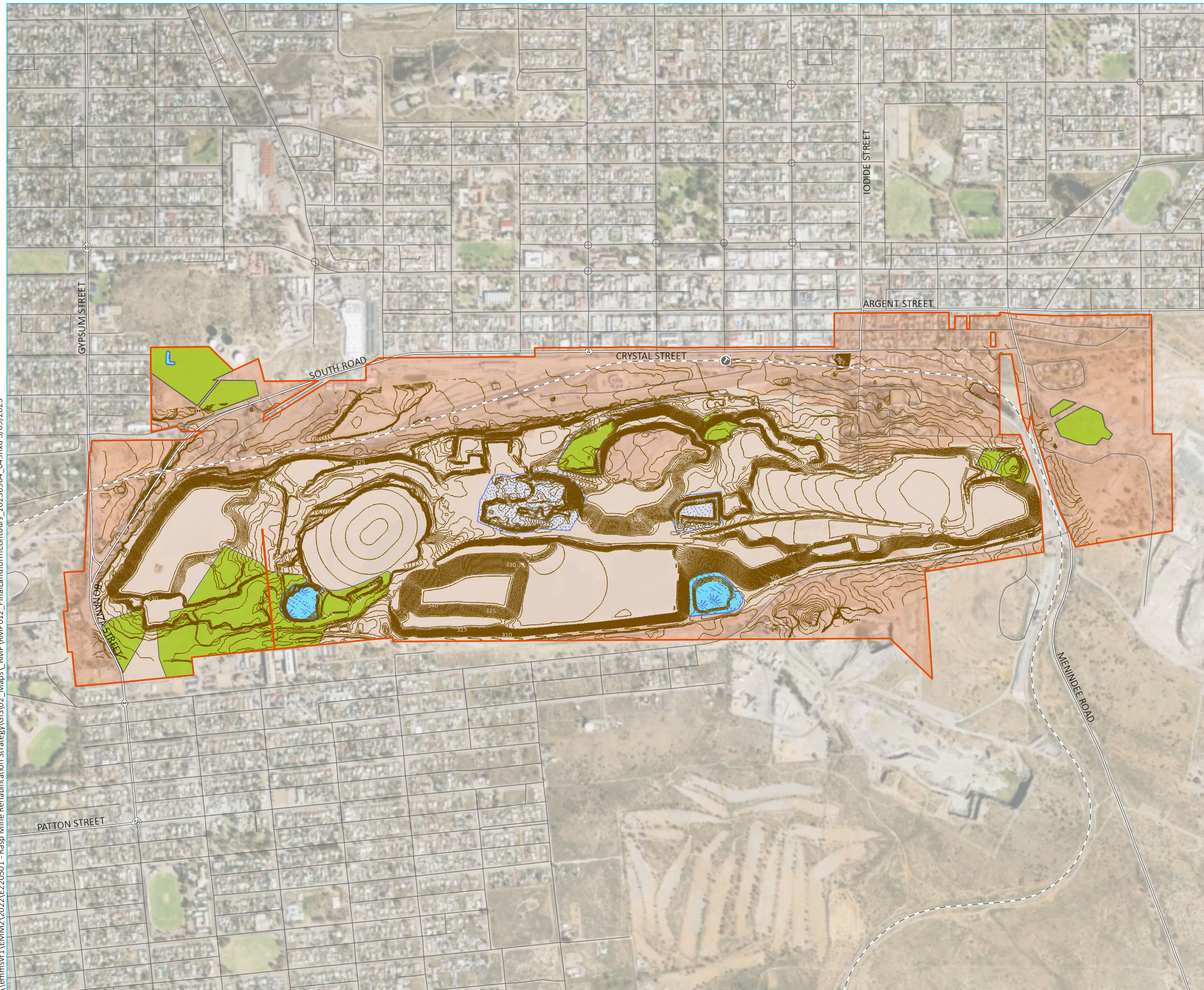
Final landform features (Plan 1)

Rasp Mine
Rehabilitation Strategy
Appendix C.1



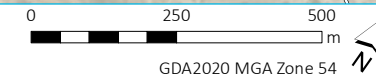
C.2 Final landform contours

\\emmsvr1\EMM2\2022\E220501 - Rasp Mine Rehabilitation Strategy\GIS\02_Maps\RMP\RMP012_FinalLandformContours_20230904_04.mxd 5/09/2023



- KEY**
- MINERALS - CURRENT TITLES
 - Train station
 - Rail line
 - Major road
 - Minor road
 - 1 m contour interval
 - Final land use domain**
 - Final void
 - Heritage area
 - Industrial
 - Infrastructure
 - Other
 - Water management area

Source: EMM (2022); CBH (2021); DPE (2021); DFSI (2020, 2021); Metromap (2022); GA (2011)



Final landform contours (Plan 2)

Rasp Mine
Rehabilitation Strategy
Appendix C.2



Appendix D

DPE approval of expert team

Giorgio Dall'Armi
General Manger – Rasp Mine

7 August 2023

Subject: Appointment of additional Rehabilitation Strategy experts

Dear Mr Dall'Armi

I refer to your request for the Planning Secretary's endorsement of the following additional personnel at EMM Consulting Pty Limited (EMM), as suitably qualified and experienced experts, to continue with preparation of the Rehabilitation Strategy for the Rasp Project (the project), as required under condition 34A(a) of Schedule 3 of the project approval (MP07_0018):

- Mr Bret Jenkins – Associate Director and Asset Transition Lead
- Tom Frankham – Associate Environmental Scientist, Coal Sector Lead
- Paul Freeman – Associate Director, Energy Sector Lead

The Department has reviewed the nominations and information you have provided, including that the following three members of the team of experts that were previously endorsed (MP07_0018-PA-33), are no longer available:

- Mr Michael Frankham - Associate Director/National Technical Leader – Land, Water and Rehabilitation
- Mr Nick Travers - Associate Environmental Specialist – Land and Rehabilitation
- Dr Vidhu Gandhi - National Technical Leader – Built Heritage

Accordingly, the Planning Secretary endorses their appointments to continue and complete the development of the Rehabilitation Strategy.

If you wish to discuss the matter further, please contact Mandana Mazaheri on 02 9995 5093.

Yours sincerely



Stephen O'Donoghue
Director
Resource Assessments
as nominee of the Planning Secretary

Appendix E

Stakeholder consultation correspondence



Rasp Mine
130 Eyre Street, Broken Hill, NSW 2880
PO Box 5073, Broken Hill, NSW 2880, Australia
Tel: +61 8 8088 9111 Fax: +61 8 8088 3392

Registered Office:
Level 4, 100 Mount Street, North Sydney, NSW 2060
PO Box 1967, North Sydney, NSW 2059, Australia
Tel: +61 2 9925 8100 Fax: +61 2 9925 8111
www.cbhresources.com.au

22 September 2023

Re: Rasp Mine – Rehabilitation Management Plan and Rehabilitation Strategy Updates

To Whom it May Concern,

Broken Hill Operations Pty Ltd (BHOP), a wholly owned subsidiary of CBH Resources Limited, owns and operates the Rasp Mine (the mine), located centrally within Broken Hill on Consolidated Mine Lease 7 (CML7). The mine produces zinc and lead concentrates that it transports via rail to Port Pirie in South Australia and Newcastle in New South Wales for export. The mine is currently approved by Project Approval PA 07_0018 to operate until 31 December 2026.

Following consultation with the NSW Department of Planning and Environment (DPE) and NSW Resources Regulator (RR), BHOP is currently updating the Rehabilitation Management Plan (RMP) and Rehabilitation Strategy (RS). The RMP has been prepared to meet the requirements of the Mining Amendment Regulation and the RS has been prepared in accordance with Schedule 2, condition 34A of PA 07_0018. BHOP has engaged EMM Consulting (EMM) to assist BHOP with the required updates to the RMP and RMS.

The purpose of this letter is to advise stakeholders of key updates to the RMP and RS and provide stakeholders with the opportunity for comment on the revised documents. The updated RS is contained as Attachment A of this letter. The following key updates have been made consistently across both the RMP and RS:

- Revision of final land use and mining domains in consultation with the RR and DPE including:
 - Re-classification to a final land use domain of “Other” in accordance with the Resources Regulator Mine Rehabilitation Portal Guideline (RR 2021) for the greater mine area which is intended to have a post mining heritage-related tourism land use
 - Retention of a “Heritage” final landform domain only for listed heritage items
 - Reclassification of the rail load out facility and spur line from a final land use domain of “Infrastructure” to “Other” due to uncertainty regarding whether the rail infrastructure will be transferred to ARTC and retained post closure
 - Removal of Non-BHOP owned land from the mining and final land use domains identified in the RMP and RS to clarify there will be no mining related disturbance in this land and BHOP are not responsible for current management or future rehabilitation of these areas
- Update of Rehabilitation Objectives Statement, rehabilitation objectives and rehabilitation completion criteria detailed in the RMP and RS in consultation with DPE and RR to align with the updates to final land use domains outlined above.



Rasp Mine
130 Eyre Street, Broken Hill, NSW 2880
PO Box 5073, Broken Hill, NSW 2880, Australia
Tel: +61 8 8088 9111 Fax: +61 8 8088 3392

Registered Office:
Level 4, 100 Mount Street, North Sydney, NSW 2060
PO Box 1967, North Sydney, NSW 2059, Australia
Tel: +61 2 9925 8100 Fax: +61 2 9925 8111
www.cbhresources.com.au

BHOP welcome feedback on the above updates. Comments are requested by Monday 9 October 2023 to Janet Krick, Associate at EMM, at jkrick@emmconsulting.com.au

Yours sincerely

Giorgio Dall'Armi
General Manager
CBH Resources – Rasp Mine
Broken Hill Operations Pty Ltd



Rasp Mine
130 Eyre Street, Broken Hill, NSW 2880
PO Box 5073, Broken Hill, NSW 2880, Australia
Tel: +61 8 8088 9111 Fax: +61 8 8088 3392

Registered Office:
Level 4, 100 Mount Street, North Sydney, NSW 2060
PO Box 1967, North Sydney, NSW 2059, Australia
Tel: +61 2 9925 8100 Fax: +61 2 9925 8111
www.cbhresources.com.au

ATTACHMENT A REVISED REHABILITATION STRATEGY

Quote No L23/1317 – 11/193
TS

Telephone / Personal Enquiries
Ask for Mrs T Stephens

Please address all communications to:
The General Manager
240 Blende Street
PO Box 448
Broken Hill NSW 2880
Phone 08 8080 3300
Fax 08 8080 3424
council@brokenhill.nsw.gov.au
www.brokenhill.nsw.gov.au

5 June 2023

ABN 84 873 116 132

Mr G Dall'Armi
General Manager
CBH Resources - Rasp Mine
Broken Hill Operations Pty Ltd
PO Box 5073
BROKEN HILL NSW 2880

Dear Sir

LAND USE OPTIONS - RASP MINE

Reference is made to the abovementioned matter and specifically your correspondence to Council dated 22 May 2023.

Council acknowledges advice that BHOP are preparing a Rehabilitation Management Plan (RMP) and Strategy (RMS).

Council notes that, in the absence of any specific guidance from the Broken Hill Post Mining Interagency Group, that BHOP's position is to rehabilitate the site to be safe, stable, and non-polluting, and further to that BHOP consider a combination of mining heritage - related tourism and a safe, stable, non-polluting Land Use for the non-heritage components of the mine is desirable and achievable.

Council acknowledges the approach which you have outlined, and also concurs with BHOP's understanding that it will take some time for all relevant stakeholders to reach consensus, however Council is willing to continue to work with BHOP to achieve beneficial outcomes for the community and the mining company.

For any further enquiries in relation to this matter, please feel free to contact Council's Planning Coordinator, Mrs Tracey Stephens on telephone 08 8080 3300.

Yours faithfully



JAY NANKIVELL
GENERAL MANAGER

Our ref: OUT23/16425

Devon Roberts
devonroberts@cbhresources.com.au

05 October 2023

Subject: **Rasp Mine (MP07_0018-PA-34) - Rehabilitation Strategy**

Dear Devon,

I refer to your request seeking advice from the Department of Planning and Environment – Water (the department) on preparation of a Rehabilitation Management Plan for the above matter. It is understood this consultation is in accordance with conditions of approval for the project.

The department requests the plan be considered further to ensure relevant water legislation, policy and management requirements are addressed. The department has defined a range of outcomes relevant to assist in the preparation of Rehabilitation Management Plans and these are detailed in **Attachment A**.

Should you have any further queries in relation to this submission please do not hesitate to contact DPE Water Assessments at water.assessments@dpie.nsw.gov.au

Yours sincerely,



Panayiotis Panaretos
Project Officer, Assessments, Knowledge Division
Department of Planning and Environment: Water

Attachment A

Detailed advice regarding the Rasp Mine – Rehabilitation Management Plan

1.0 Rehabilitation Management Plan Outcomes

The Rehabilitation Management Plan is recommended to be reviewed to achieve the following outcomes. These are intended to meet the department’s legislative, policy and water management requirements.

- Sharing of water must protect the water source, its dependent ecosystems and basic landholder rights.
 - Water sources, floodplains and dependent ecosystems are protected and restored.
 - Activities within a water source should avoid or minimise land degradation, including soil erosion, compaction, geomorphic instability, contamination, and where possible land should be rehabilitated.
 - The final Rehabilitation Management Plan is made electronically available on a public accessible website.
 - A conceptual model/diagram clearly presents how the groundwater and surface water systems interact with the final landform. This is to be informed by recent environmental assessments/modelling reviews.
 - The final design and location of surface drainage features achieves a stable landform and maintains or improves riparian corridor functioning. This is to be completed with reference to industry guidelines such as: “*Rehabilitation Manual for Australian Streams* (LWRRDC 2000)”, “*Guideline: Works that interfere with water in a watercourse for a resource activity* (DNRME 2019)” and “*Guidelines for Controlled Activities on Waterfront Land* (DPE 2022)” or their latest versions.
 - Dirty runoff catchment areas are rehabilitated and the conveyance of clean surface runoff downstream is maximised.
 - Decommissioning of groundwater boreholes is in accordance with the “Minimum Construction Requirements for Water Bores in Australia (2020)”.
 - Ongoing water take by the final landform via interception, storage or diversion is quantified and complies with relevant approvals and licences under the *Water Management Act 2000* or a relevant exemption. Please note exemptions from the requirement to hold approvals under s.90 and 91 of the *Water Management Act 2000* for approved SSD/SSI projects will not apply once the project approval ceases. Therefore, any relevant water management works that are to be retained will need to obtain an approval prior to the development consent lapsing.
 - Aquifer interference activities are designed to minimise ongoing water take and water quality impacts and meet the requirements of the NSW Aquifer Interference Policy.
 - Final voids do not present a risk to important groundwater ecosystems and assets (groundwater dependent ecosystems, alluvial aquifers, and landholder bores).
 - Final voids are designed to be sinks or to flow through the local groundwater system and need to be confirmed by a post-mining groundwater model.
 - Residual risk to water sources is clearly understood and minimised. This is to include relevant assessment documentation and updated risk assessments to meet the requirements of the NSW Aquifer Interference Policy. Further detail can be found in
-

Department of Planning and Environment

Fact Sheet 5 in Appendix C of the “*Guidelines for Groundwater Documentation for SSD/SSI Projects. Technical guideline (DPE 2022)*”.

- A monitoring and review program is included to ensure the rehabilitation outcomes are met.

End of Attachment



DOC23/891553-3
18 October 2023

The General Manager
Broken Hill Operations Pty Ltd
CBH Resources – Rasp Mine
BROKEN HILL NSW 2880

Via Major Projects Planning Portal

Attention: Devon Roberts

Dear Mr Dall'Armi

Thank you for the request for advice from Public Authority Consultation (PAE-63021209), seeking comment from the NSW Environment Protection Authority (EPA) on the Broken Hill Operations Pty Ltd (BHOP) Rasp Mine Rehabilitation Management Plan and Rehabilitation Strategy updates.

The EPA has reviewed the following document:

- Rehabilitation Strategy Rasp Mine prepared for Broken Hill Operations Pty Ltd – EMM Consulting – September 2023 (document reference: E220501 RP3).

The EPA has responsibilities for pollution control and environmental management under the *Protection of the Environment Operations Act 1997* (the Act). BHOP hold Environment Protection Licence No. 12559 (the licence) issued pursuant to the Act for scheduled activities occurring at the premises.

Please note, that activities associated with rehabilitation works at the premises will be subject to regulation by the EPA under the licence. As such, we recommend that rehabilitation works are carried out in a manner that minimises the emission of dust from the premises.

The EPA has no further comment to provide and do not require any follow up consultation.

If you have any further enquiries about this matter, please contact me by telephoning (02) 6969 0704 or via email at info@epa.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink that reads 'Nvanlijf'.

NICK VAN LIJF
A/Unit Head – Operations
NSW Environment Protection Authority

Phone 131 555
Phone +61 2 9995 5555
(from outside NSW)

TTY 133 677
ABN 43 692 285 758

Locked Bag 5022
Parramatta
NSW 2124 Australia

4 Parramatta Square
12 Darcy St, Parramatta
NSW 2150 Australia

info@epa.nsw.gov.au
www.epa.nsw.gov.au

Wednesday 18th October 2023

Giorgio Dall'Armi
CBH Resources – Rasp Mine
giorgiodallarmi@cbhresources.com.au

Via: Major Projects Portal

Dear Giorgio,

I refer to the Rasp Mine Rehabilitation Strategy submitted to the Resources Regulator (Regulator) on 5th October 2023 (MP07_0018-PA-34).

The Regulator has reviewed the Rehabilitation Strategy and provides the following comments:

1. The Rehabilitation Strategy makes several references to retaining "outer facing batters at angle of repose" as part of the final landform, and that these landforms "have been agreed to by the then DMR" (Section 3.2.3, pg 18). However, no information is provided on geotechnical assessments undertaken to verify that these slopes will be stable in the long term. This includes the 'slag dump' overlooking Crystal Street. The geotechnical stability assessment nominated in the strategy is limited to an assessment of historical tailings in the Kintore pit by Ground Control Engineering.

Additionally, no information is provided that geotechnical stability of these slopes is a consideration in the rehabilitation risk assessment. Geotechnical stability (or slope stability) is related to, but different to erosional stability.

The Regulator expects that geotechnical assessments are undertaken of high-risk landforms to be retained in the final landform for RASP mine. This includes all steep slopes with slope angles at (or close to) the angle of repose. Risk controls, such as reduction of slope angles (laying back), or placement of buttressing, are required to be considered to ensure the nominated rehabilitation objective for these areas is achieved i.e. "the final landform is geotechnically and erosion stable and does not present a risk of environmental harm downstream/downslope of the site or a safety risk to the public/stock/native fauna."

As such, the nomination of slope stability risks and risk control must be considered in the rehabilitation risk assessment and included in the Rehabilitation Management Plan as required under Schedule 8A of the Mining Regulation.

2. It is noted that the level of detail provided in the rehabilitation strategy exceeds what was requested as part of the Project Approval Condition 34A of PA 07_0018. In particular, the Rehabilitation Strategy provides rehabilitation completion criteria, aligned to rehabilitation objectives. The Regulator will undertake a detailed review of completion criteria when they are formally submitted as part of the approval process for the Rehabilitation Completion Criteria Statement pursuant to Clause 12 in Schedule 8A of the Mining Regulation 2016. It is noted that the Rehabilitation completion criteria can only be submitted for approval once the Rehabilitation Objectives Statement and Final Landform and Rehabilitation Plan are approved. At the time of preparing this response, the Rehabilitation Objectives Statement and Final Landform and Rehabilitation Plan for RASP mine have not yet been approved.

It is the expectation from the Regulator that CBH Resources will consult with the relevant government agencies and other relevant stakeholders in regard to the implication on post mining land use outcomes before approving the Rehabilitation Completion Criteria Statement. Key issues to be addressed before the Regulator can approve the Rehabilitation Completion Criteria statement will be how relevant state and commonwealth legislation (e.g. Heritage conservation, pollution impacts etc.) are addressed in consideration of current and post-mining land use constraints and or opportunities associated with the mining operations.

To this end, the Regulator and Mining Exploration and Geoscience will be available to assist in the facilitation of consultation with the various government agencies, particularly where there may be inconsistency with expectations in relation to agreed post mining land use outcomes.

As part of the process of approving the Rehabilitation Outcome Documents (rehabilitation objectives statement, rehabilitation completion criteria statement, final landform and rehabilitation plan) pursuant to Clause 12 in Schedule 8A of the Mining Regulation 2016, it is envisaged that further amendments of the Rehabilitation Strategy will be required to ensure these documents are consistent.

LIMITATIONS

It should be noted that the Resources Regulator does not provide any endorsement of the proposed rehabilitation methodologies presented in the plans provided. Under the conditions of a mining authorisation granted under the *Mining Act 1992*, the Resources Regulator requires the holder to adopt a risk-based approach to achieving the required rehabilitation outcomes.

The applicability of the controls to achieve effective and sustainable rehabilitation is to be determined based on site-specific risk assessments conducted by the authorisation holder. An authorisation holder may also be directed by the Resources Regulator to implement further risk control measures required to achieve effective rehabilitation outcomes during the life of the mine.

REGULATORY REQUIREMENTS IF APPROVED

The proponent will be required to comply with rehabilitation requirements under the mining authorisations prior to the commencement of the works associated with the proposal.

The Resources Regulator may undertake assessments of the mine operators' proposed mining activities under the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and Regulation as well as other WHS regulatory obligations.

BACKGROUND

The Mining Act Inspectorate within the Resources Regulator undertake risk-based compliance and enforcement activities in relation to obligations under the *Mining Act 1992*. This includes undertaking assessment and compliance activities in relation to mine rehabilitation activities and determination of security deposits. To ensure consistency, the Regulator requests the opportunity to review a copy of the draft development consent prior to any approval of the project.

The Mine Safety Inspectorate within the Resources Regulator is responsible for ensuring the mine operators' compliance with the Work Health and Safety (WHS) legislation, in particular the effective management of risks associated with the principal hazards as specified in the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014*.

CONTACT

Should you require any further information or clarification, please contact the Regulator on 1300 814 609 (Press Option 2 Press Option 5) or email nswresourcesregulator@service-now.com.

Yours sincerely,



Matthew Newton

Principal Inspector Environment and Rehabilitation Operations
Resources Regulator

Devon Roberts
Broken Hill Operations Pty Ltd
130 Eyre Street Broken Hill
NSW 2880
By email: devonroberts@cbhresources.com.au

Consultation on the updated Rehabilitation Strategy and Rehabilitation Management Plan (MP07_0018-PA-34)

Dear Mr Roberts,

Thank you for your correspondence dated 22 September 2023 inviting comments from the Heritage Council of NSW on the updated Rehabilitation Strategy and Rehabilitation Management Plan (MP07_0018-PA-34).

It is understood that the proposed key updates as noted in your correspondence will not impact the SHR listed items, BHP Chimney Ruin of First Offices (SHR No. 01820) and Broken Hill Railway Station and yard group (SHR No. 01101) located within the Rasp mine boundary.

If you have any questions about this correspondence, please contact Vibha Upadhyay, Senior Assessments Officer at Heritage NSW on (02) 9873 8500 or heritagemailbox@environment.nsw.gov.au

Yours sincerely

Tempe Beaven

Tempe Beaven
Manager
Assessments
Heritage NSW
Department of Planning and Environment
As Delegate of the Heritage Council of NSW
13 October 2023

Michael Frankcombe

From: Michael Frankcombe
Sent: Wednesday, 15 June 2022 8:30 AM
To: Devon Roberts; Joel Sulicich
Subject: FW: Final Land Use Options - Rasp Mine
Attachments: BHO-EMM_stakeholder initial consultation letter_V1.pdf

First feedback for your records

Michael Frankcombe

National Technical Leader – Land, Water and Rehabilitation

T 02 4907 4824

M 0406 380919

www.emmconsulting.com.au

From: Shaun Barker <shaun.barker@crowland.nsw.gov.au>
Sent: Wednesday, 15 June 2022 8:25 AM
To: Natalie Addison <naddison@emmconsulting.com.au>
Cc: Michael Frankcombe <mfrankcombe@emmconsulting.com.au>; Sharon Hawke <sharon.hawke@crowland.nsw.gov.au>; Jody Chinner <jody.chinner@crowland.nsw.gov.au>
Subject: RE: Final Land Use Options - Rasp Mine

CAUTION: This email originated outside of the Organisation.

Good morning Natalie,
Thank you for your email.
Please note that post-closure land use for the Rasp Mine will need to be actioned/considered in the broader context of all mines in Broken Hill to ensure consistency in how this is approached and undertaken.
I will take this forward to the Broken Hill Post Mining Interagency Group and will respond in due course.
Regards,
Shaun.

Shaun Barker

Acting Area Manager- Far West

Crown Lands | Department of Planning and Environment

M 0428 467 190 | E shaun.barker@crowland.nsw.gov.au

45 Wingewarra Street, Dubbo NSW 2830 - PO Box 2185, Dangar NSW 2309

From: Natalie Addison <naddison@emmconsulting.com.au>
Sent: Tuesday, 14 June 2022 11:03 AM
To: Shaun Barker <shaun.barker@crowland.nsw.gov.au>
Cc: Michael Frankcombe <mfrankcombe@emmconsulting.com.au>
Subject: Final Land Use Options - Rasp Mine

Dear Shaun

EMM Consulting (EMM) has been engaged by Broken Hill Operations Pty Ltd (BHOP) to prepare a rehabilitation management plan for the Rasp Mine. We are seeking your input into post-closure land use for the Rasp Mine as detailed in the attached letter.

Your input and response would be appreciated.

Please contact Michael Frankcombe (0406 380 919) if you have any questions.

Natalie Addison

Division Coordinator

Water and Contamination & Rehabilitation



T 02 9493 9500

M 0411 200 056

D 02 9493 9539

 Connect with us

SYDNEY | Ground floor, 20 Chandos Street, St Leonards NSW 2065

Michael Frankcombe

From: ROG South West Region Mailbox <rog.southwest@environment.nsw.gov.au>
Sent: Wednesday, 22 June 2022 8:27 AM
To: Natalie Addison
Cc: Michael Frankcombe; Michael Todd
Subject: BCD Response RE: Final Land Use Options - Rasp Mine
Attachments: DPIE BCD comments RE 938_Broken Hill North Mine_Rehabilitation Strategy for Consultation_email.pdf

CAUTION: This email originated outside of the Organisation.

Hi Natalie,

Thank you for the opportunity to comment on the plans for final land use at the Rasp Mine.

BCD has previously commented on a Rehabilitation Strategy for the mine that involved stabilising slopes and revegetating areas to open shrubland (see attached correspondence from 10 January 2020). This met condition 45 (Schedule 3) of the SSD 7538 development consent. In commenting on the Rehabilitation Strategy, BCD queried the length of time required to successfully rehabilitate and whether vegetation was going to be used for the stabilisation of slopes.

BCD is however aware that the mine has been in operation since the 1800s and any rehabilitation is unlikely to be a direct match for pre-existing vegetation that occurred 140 years ago. With this in mind, there may be an opportunity to develop a mining heritage tourism post-mining land use around Broken Hill that can still provide some habitat for biodiversity while meeting the requirements for safe, stable and non-polluting landforms on the existing mine site. It would be undesirable however to commence rehabilitation in any area that would subsequently be cleared to facilitate tourism development.

EMM should give consideration to how both of these goals might be achieved at the Rasp Mine, including which parts of the mine might provide tourism potential and which areas would be best rehabilitated. This way the Rehabilitation Strategy at Rasp Mine would remain compatible with any future city-wide plan via the Broken Hill Post Mining Interagency Group.

If you have any further questions please contact Michael Todd, Senior Conservation Planning Officer on 03 5021 8915 or via rog.southwest@environment.nsw.gov.au.

Regards

Andrew Fisher
Senior Team Leader, Planning – South West

Biodiversity and Conservation | Department of Planning and Environment
T 02 6022 0623 | **M** 0427 562 844 | **E** andrew.fisher@environment.nsw.gov.au
PO Box 1040, 512 Dean St, Albury NSW 2640
www.dpie.nsw.gov.au

Contact the South West Planning Team about biodiversity and flood management planning matters by emailing rog.southwest@environment.nsw.gov.au



The Department of Planning and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: Natalie Addison <naddison@emmconsulting.com.au>
Sent: Tuesday, 14 June 2022 11:00 AM
To: ROG South West Region Mailbox <rog.southwest@environment.nsw.gov.au>
Cc: Michael Frankcombe <mfrankcombe@emmconsulting.com.au>
Subject: Final Land Use Options - Rasp Mine

Dear Michael Todd

EMM Consulting (EMM) has been engaged by Broken Hill Operations Pty Ltd (BHOP) to prepare a rehabilitation management plan for the Rasp Mine. We are seeking your input into post-closure land use for the Rasp Mine as detailed in the attached letter.


Your input and response would be appreciated.

Please contact Michael Frankcombe (0406 380 919) if you have any questions.

Natalie Addison

Division Coordinator
Water and Contamination & Rehabilitation



T 02 9493 9500
M 0411 200 056
D 02 9493 9539
 Connect with us

SYDNEY | Ground floor, 20 Chandos Street, St Leonards NSW 2065



Please consider the environment before printing my email.

This email and any files transmitted with it are confidential and are only to be read or used by the intended recipient as it may contain confidential information. Confidentiality or privilege is not waived or lost by erroneous transmission. If you have received this email in error, or are not the intended recipient, please notify the sender immediately and delete this email from your computer. You must not disclose, distribute, copy or use the information herein if you are not the intended recipient.

This email is intended for the addressee(s) named and may contain confidential and/or privileged information. If you are not the intended recipient, please notify the sender and then delete it immediately. Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment, Energy and Science.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Michael Frankcombe

From: Joel Sulicich <joelsulicich@cbhresources.com.au>
Sent: Monday, 11 July 2022 3:03 PM
To: Michael Frankcombe
Cc: Devon Roberts
Subject: FW: Final Land Use Options Rasp Mine
Attachments: Rasp Mine - Final Land Form - RMP & RMS - Crown Lands comment.pdf

CAUTION: This email originated outside of the Organisation.

FYI – Further consideration required due to complexities.

Joel

From: Giorgio Dallarmi
Sent: Monday, 11 July 2022 2:18 PM
To: Joel Sulicich
Subject: FW: Final Land Use Options Rasp Mine

FYI for EMM

From: Jarrod Smith [mailto:jarrod.smith@crownland.nsw.gov.au]
Sent: Monday, 11 July 2022 2:16 PM
To: Giorgio Dallarmi
Cc: Sharon Hawke
Subject: Final Land Use Options Rasp Mine

Good afternoon Giorgio,

Please find attached the response from Crown Lands regarding the final land use options for Rasp Mine.

Kind regards,

Jarrod Smith

Group Leader – Property Management – Far West

Crown Lands | Department of Planning and Environment

T 02 6883 5448 | M 0448 074 738 | E jarrod.smith@crownland.nsw.gov.au

45 Wingewarra Street, DUBBO NSW 2830 | PO Box 2185, DANGAR NSW 2309

www.dpie.nsw.gov.au



The Department of Planning and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

Please Note: our office opening hours are 9.00am to 12.00pm Monday to Friday and outside of these hours by appointment only.

This email message is intended only for the addressee(s)
and contains information that may be confidential and/or

copyright. If you are not the intended recipient please notify the sender by reply email and immediately delete this email. Use, disclosure or reproduction of this email by anyone other than the intended recipient(s) is strictly prohibited. No representation is made that this email or any attachments are free of malware. Virus scanning is recommended and is the responsibility of the recipient.

Thomas Frankham

From: ROG South West Region Mailbox <rog.southwest@environment.nsw.gov.au>
Sent: Monday, 17 October 2022 12:37 PM
To: Michael Frankcombe
Cc: Michael Todd; Joel Sulicich; Devon Roberts
Subject: BCD Response RE: Rasp Mine Rehabilitation Management Plan

Hi Michael,

Thank you for the opportunity to comment on the Rasp Mine Rehabilitation Management Plan.

The lack of topsoil or subsoil resources within the mining area is a significant obstacle to revegetation. BCD agrees that it would not be appropriate to import soil to the site to enable revegetation. However, the possibility of creating a growing media from compostable waste produced by Broken Hill City is worth investigating. This will require partnership with Broken Hill City Council, Broken Hill Landcare and other landholders in the area. This would be compatible with the proposed future mining heritage tourism around Broken Hill. It would also be compatible with the requirements for safe, stable and non-polluting landforms on the existing mine site. Rehabilitation should not occur in any area that would subsequently be cleared to facilitate tourism development.

Ensuring that the rehabilitation remains compatible with the tourism goals and possible revegetation via the manufacture of growing media is important. Continuing research and discussions with Broken Hill City Council and the Broken Hill Post Mining Interagency Group are encouraged.

If you have any further questions please contact Michael Todd, Senior Conservation Planning Officer on 03 5021 8915 or via rog.southwest@environment.nsw.gov.au.

Regards

Andrew Fisher
Senior Team Leader, Planning – South West

Biodiversity and Conservation | Department of Planning and Environment
T 02 6022 0623 | M 0427 562 844 | E andrew.fisher@environment.nsw.gov.au
PO Box 1040, 512 Dean St, Albury NSW 2640
www.dpie.nsw.gov.au

Contact the South West Planning Team about biodiversity and flood management planning matters by emailing rog.southwest@environment.nsw.gov.au



The Department of Planning and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: Michael Frankcombe <mfrankcombe@emmconsulting.com.au>
Sent: Tuesday, 13 September 2022 2:24 PM
To: ROG South West Region Mailbox <rog.southwest@environment.nsw.gov.au>
Cc: Joel Sulicich <joelsulicich@cbhresources.com.au>; Devon Roberts <devonroberts@cbhresources.com.au>
Subject: Post mining land use options input for Rasp Mine

Att: Andrew Fisher and Michael Todd

Dear Andrew and Michael,

Thank you for your email 22 June 2022 in response to our letter dated 14 June 2022 requesting input into the post closure land use for the Rasp Mine at Broken Hill.

In your email you indicated that BCD had provided comment on the Rehabilitation Strategy prepared for Perilya Mine in accordance with Schedule 3, condition 45 of SSD 7538. It is important to note that the Rasp Mine is adjacent to Perilya Mine and is approved by PA 07_0018. EMM has previously prepared a Rehabilitation Management Plan (RMP) for Rasp Mine (https://www.cbhresources.com.au/files/2216/5949/2860/E211010_2_Rasp_Mine_RMP_v1_final.pdf) and has just completed revising the RMP to include the requirements of a Rehabilitation Strategy required by Schedule 3, condition 34A of PA 07_0018. This will be submitted to DPE for approval at the end of this week.

The Rasp Mine is significantly different to Perilya Mine in the ability to re-establish biodiversity values during the rehabilitation process as all available soil resources were lost by previous mine operators and the surface waste rock does not contain sufficient fines, nutrients and water holding capacity to support vegetation growth. A study is currently being undertaken to see if it is feasible if growing media can be manufactured from green wastes in Broken Hill. It would be appreciated if you would review the RMP, specifically sections 3.3 and 3.4 that discuss the climate and growing media constraints and offer some further comments after that.

Please contact me at any time on 0406 380919 if you have any questions.

Thanks

Michael Frankcombe

National Technical Leader – Land, Water and Rehabilitation

T 02 4907 4824

M 0406 380919

www.emmconsulting.com.au

This email is intended for the addressee(s) named and may contain confidential and/or privileged information. If you are not the intended recipient, please notify the sender and then delete it immediately. Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment, Energy and Science.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Paul Freeman

From: ROG South West Region Mailbox <rog.southwest@environment.nsw.gov.au>
Sent: Monday, 17 October 2022 12:37 PM
To: Michael Frankcombe
Cc: Michael Todd; Joel Sulicich; Devon Roberts
Subject: BCD Response RE: Rasp Mine Rehabilitation Management Plan

Hi Michael,

Thank you for the opportunity to comment on the Rasp Mine Rehabilitation Management Plan.

The lack of topsoil or subsoil resources within the mining area is a significant obstacle to revegetation. BCD agrees that it would not be appropriate to import soil to the site to enable revegetation. However, the possibility of creating a growing media from compostable waste produced by Broken Hill City is worth investigating. This will require partnership with Broken Hill City Council, Broken Hill Landcare and other landholders in the area. This would be compatible with the proposed future mining heritage tourism around Broken Hill. It would also be compatible with the requirements for safe, stable and non-polluting landforms on the existing mine site. Rehabilitation should not occur in any area that would subsequently be cleared to facilitate tourism development.

Ensuring that the rehabilitation remains compatible with the tourism goals and possible revegetation via the manufacture of growing media is important. Continuing research and discussions with Broken Hill City Council and the Broken Hill Post Mining Interagency Group are encouraged.

If you have any further questions please contact Michael Todd, Senior Conservation Planning Officer on 03 5021 8915 or via rog.southwest@environment.nsw.gov.au.

Regards

Andrew Fisher
Senior Team Leader, Planning – South West

Biodiversity and Conservation | Department of Planning and Environment
T 02 6022 0623 | M 0427 562 844 | E andrew.fisher@environment.nsw.gov.au
PO Box 1040, 512 Dean St, Albury NSW 2640
www.dpie.nsw.gov.au

Contact the South West Planning Team about biodiversity and flood management planning matters by emailing rog.southwest@environment.nsw.gov.au



The Department of Planning and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: Michael Frankcombe <mfrankcombe@emmconsulting.com.au>
Sent: Tuesday, 13 September 2022 2:24 PM
To: ROG South West Region Mailbox <rog.southwest@environment.nsw.gov.au>
Cc: Joel Sulicich <joelsulicich@cbhresources.com.au>; Devon Roberts <devonroberts@cbhresources.com.au>
Subject: Post mining land use options input for Rasp Mine

Att: Andrew Fisher and Michael Todd

Dear Andrew and Michael,

Thank you for your email 22 June 2022 in response to our letter dated 14 June 2022 requesting input into the post closure land use for the Rasp Mine at Broken Hill.

In your email you indicated that BCD had provided comment on the Rehabilitation Strategy prepared for Perilya Mine in accordance with Schedule 3, condition 45 of SSD 7538. It is important to note that the Rasp Mine is adjacent to Perilya Mine and is approved by PA 07_0018. EMM has previously prepared a Rehabilitation Management Plan (RMP) for Rasp Mine (https://www.cbhresources.com.au/files/2216/5949/2860/E211010_2_Rasp_Mine_RMP_v1_final.pdf) and has just completed revising the RMP to include the requirements of a Rehabilitation Strategy required by Schedule 3, condition 34A of PA 07_0018. This will be submitted to DPE for approval at the end of this week.

The Rasp Mine is significantly different to Perilya Mine in the ability to re-establish biodiversity values during the rehabilitation process as all available soil resources were lost by previous mine operators and the surface waste rock does not contain sufficient fines, nutrients and water holding capacity to support vegetation growth. A study is currently being undertaken to see if it is feasible if growing media can be manufactured from green wastes in Broken Hill. It would be appreciated if you would review the RMP, specifically sections 3.3 and 3.4 that discuss the climate and growing media constraints and offer some further comments after that.

Please contact me at any time on 0406 380919 if you have any questions.

Thanks

Michael Frankcombe

National Technical Leader – Land, Water and Rehabilitation

T 02 4907 4824

M 0406 380919

www.emmconsulting.com.au

This email is intended for the addressee(s) named and may contain confidential and/or privileged information. If you are not the intended recipient, please notify the sender and then delete it immediately. Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment, Energy and Science.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Quote No L23/1317 – 11/193
TS

Telephone / Personal Enquiries
Ask for Mrs T Stephens

Please address all communications to:
The General Manager
240 Blende Street
PO Box 448
Broken Hill NSW 2880
Phone 08 8080 3300
Fax 08 8080 3424
council@brokenhill.nsw.gov.au
www.brokenhill.nsw.gov.au

5 June 2023

ABN 84 873 116 132

Mr G Dall'Armi
General Manager
CBH Resources - Rasp Mine
Broken Hill Operations Pty Ltd
PO Box 5073
BROKEN HILL NSW 2880

Dear Sir

LAND USE OPTIONS - RASP MINE

Reference is made to the abovementioned matter and specifically your correspondence to Council dated 22 May 2023.

Council acknowledges advice that BHOP are preparing a Rehabilitation Management Plan (RMP) and Strategy (RMS).

Council notes that, in the absence of any specific guidance from the Broken Hill Post Mining Interagency Group, that BHOP's position is to rehabilitate the site to be safe, stable, and non-polluting, and further to that BHOP consider a combination of mining heritage - related tourism and a safe, stable, non-polluting Land Use for the non-heritage components of the mine is desirable and achievable.

Council acknowledges the approach which you have outlined, and also concurs with BHOP's understanding that it will take some time for all relevant stakeholders to reach consensus, however Council is willing to continue to work with BHOP to achieve beneficial outcomes for the community and the mining company.

For any further enquiries in relation to this matter, please feel free to contact Council's Planning Coordinator, Mrs Tracey Stephens on telephone 08 8080 3300.

Yours faithfully



JAY NANKIVELL
GENERAL MANAGER

Our ref: OUT22/9898

Michael Frankcombe

EMM Consulting

Email: mfrankcombe@emmconsulting.com.au

11 July 2022

Subject: Rasp Mine – Rehabilitation Management Plan – Land Use Options Input Request

Dear Michael

I refer to your email dated 14 June 2022 providing the Department of Planning and Environment (DPE) Water an opportunity to comment on the above matter. It is understood this consultation is in accordance with the requirements of Condition 35, Schedule 3 of project approval MP07_0018 for the Rasp Mine.

DPE Water has considered the request and has no specific comments to provide in terms of landuse options. Please note however that DPE Water has responsibilities under water management legislation and related policies that may need to be considered in the design and implementation of the selected landuse options. Examples of such responsibilities include:

- Water storage, extraction, diversion, interception and use meets the necessary regulatory requirements under the *Water Management Act 2000* and relevant Water Sharing Plans.
- Water sources, floodplains and dependent ecosystems are protected and restored.
- Sharing of water must protect the water source, its dependent ecosystems and basic landholder rights.
- Water source related activities should avoid or minimise land degradation, including soil erosion, compaction, geomorphic instability, contamination, and where possible land should be rehabilitated.

DPE Water would appreciate further consultation once a draft Rehabilitation Management Plan has been prepared.

Should you have any further queries in relation to this submission please do not hesitate to contact DPE Water Assessments at water.assessments@dpie.nsw.gov.au, or me at Tim.Baker@dpie.nsw.gov.au or 0428162097

Yours sincerely,



Tim Baker
Senior Project Officer
Water Assessments
Department of Planning and Environment: Water



DOC22/485174-02
23 August 2022

Ms Natalie Addison
Division Coordinator
EMM Consulting
Ground Floor
20 Chandos Street
ST LEONARDS NSW 2065

By email: naddison@emmconsulting.com.au

Attention: Michael Frankcombe

Dear Ms Addison

Re Final Land Use Options – RASP Mine

I refer to your email dated 15 June 2022 to the NSW Environment Protection Authority (EPA) seeking comments on the preparation of a rehabilitation management plan for the Broken Hill Operations Pty Ltd's Rasp Mine.

We note in the letter dated 3 June 2022 from Broken Hill Operations Pty Ltd (BHOP), that BHOP's base case position is to rehabilitate the site to be safe, stable and non-polluting. The EPA supports the goal of safe, stable and non-polluting and recommends that consideration be given to undertaking progressive rehabilitation whilst mining is occurring, particularly for the free areas of the mine, in order to minimise and manage potential lead dust emissions coming from the Line of Load.

We also recommend the rehabilitation management plan outline the proposed measures to control, manage and mitigate dust as well as stormwater and sediment run off from the proposed rehabilitation areas during and post rehabilitation.

As you are aware the EPA runs the BHELP program which addresses current and legacy lead contamination in Broken Hill. The main driver for the EPA through BHELP is to protect children aged 0 to 5 years old from the impacts of legacy lead contamination, as well as fresh sources of dust originating from the Line of Lode.

We note BHOP's desire to achieve a mining-heritage related tourism for the greater mine area and a safe, stable and non-polluting post-mining land use for the non-heritage components of the mine.

Rehabilitation on any areas of the Line of Load proposed for tourism need to have good dust controls assured with no uncapped tailings or other contaminated material accessible. There should also be no playgrounds or other attractions that would encourage children to linger.

The EPA through BHELP would be very keen to discuss with Rasp Mine how the rehabilitation of the mine might be accelerated, and how the EPA could assist in facilitating that.



If you have any further enquiries about this matter please contact Judi Louvel from our BHELP team by telephoning 131 555 or by electronic mail at info@epa.nsw.gov.au.

Yours sincerely

A handwritten signature in blue ink, which appears to read 'J. Creed', is positioned above the printed name.

JESSICA CREED
Manager Regulatory Operations
NSW Environment Protection Authority

Our ref: DOC22/141500

Mr Giorgio Dall'Armi
General Manager
CBH Resources - Rasp Mine
PO Box 5073
Broken Hill, NSW 2880
Sent via email: giorgiodallarmi@cbhresources.com.au

11 July 2022

Subject: Final Land Use Options Rasp Mine

Dear Mr Dall'Armi,

Thank you for your letter dated 3 June 2022, seeking input into post mining land use options for Rasp Mine once mining and processing operations have been completed.

I note, BHOP has engaged EMM Consulting to prepare the Rehabilitation Management Plan and a Rehabilitation Management Strategy to satisfy the requirements of the Mining Amendment Regulation and will detail a "base case" position to rehabilitate the site to be safe, stable and non-polluting.

I also acknowledge the complexities concerning this site not only for the Department of Planning and Environment - Crown Lands but for the NSW Government as a whole and these issues were highlighted in the visit in August 2019 that I attended.

At this time, Crown Lands is unable to provide guidance or requirements to determine final land use options as further consultation will be required with the other agencies and stakeholder groups.

If you have any further enquiries please contact Mr Jarrod Smith, Group Leader – Property Management on email jarrod.smith@crowland.nsw.gov.au or on telephone (02) 6883 5400.

Yours sincerely,



Sharon Hawke
Area Manager – Far West
Crown Lands

Paul Freeman

Subject: FW: WST09/00121/16 - RE: Final Land Use Options - Rasp Mine

From: Andrew McIntyre <Andrew.McIntyre@transport.nsw.gov.au>
Sent: Monday, 9 January 2023 4:46 PM
To: Natalie Addison <naddison@emmconsulting.com.au>; Development West <development.west@transport.nsw.gov.au>
Cc: Michael Frankcombe <mfrankcombe@emmconsulting.com.au>
Subject: WST09/00121/16 - RE: Final Land Use Options - Rasp Mine

CAUTION: This email originated outside of the Organisation.

Dear Natalie

Firstly, I apologise for the extensive delay in my reply and thank you for the invitation to provide comment.

I understand EMM are investigating options and preparing for closure of Rasp mine as an operational mine. In your investigations, I ask that the following matters be taken into consideration:

- In 2015 Broken Hill Operations and Roads and Maritime Services (now TfNSW) entered into a Deed of Agreement to manage mining activity beneath the South Road/Silver City Highway (HW22). In closing the mine and considering potential uses, TfNSW requests that the deed entered into for activities beneath the highway be reviewed and any commitments/requirements relating to this Deed be adhered to.
- Any future tourist proposals at the sites needs to consider safe vehicular access from public roads as well as any access required to rail corridors. In determining safe road access treatments, TfNSW adopts Austroads Guide to Road Design.

I hope this information is of assistance, despite its lateness.

Kind Regards

Andrew McIntyre
Manager, Development Services
West Region
Transport for NSW

T 0417 431 982
E andrew.mcintyre@transport.nsw.gov.au

transport.nsw.gov.au
Level 1, 51-55 Currajong Street, Parkes



From: Natalie Addison <naddison@emmconsulting.com.au>
Sent: Tuesday, 14 June 2022 10:58 AM
To: Development West <development.west@transport.nsw.gov.au>
Cc: Michael Frankcombe <mfrankcombe@emmconsulting.com.au>
Subject: Final Land Use Options - Rasp Mine

You don't often get email from naddison@emmconsulting.com.au. [Learn why this is important](#)

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Dear Howard Orr

EMM Consulting (EMM) has been engaged by Broken Hill Operations Pty Ltd (BHOP) to prepare a rehabilitation management plan for the Rasp Mine. We are seeking your input into post-closure land use for the Rasp Mine as detailed in the attached letter.

Your input and response would be appreciated.

Please contact Michael Frankcombe (0406 380 919) if you have any questions.

Natalie Addison

Division Coordinator

Water and Contamination & Rehabilitation



T 02 9493 9500
M 0411 200 056
D 02 9493 9539
in Connect with us

SYDNEY | Ground floor, 20 Chandos Street, St Leonards NSW 2065



[Please consider the environment before printing my email.](#)

This email and any files transmitted with it are confidential and are only to be read or used by the intended recipient as it may contain confidential information. Confidentiality or privilege is not waived or lost by erroneous transmission. If you have received this email in error, or are not the intended recipient, please notify the sender immediately and delete this email from your computer. You must not disclose, distribute, copy or use the information herein if you are not the intended recipient.

This email is intended only for the addressee and may contain confidential information. If you receive this email in error please delete it and any attachments and notify the sender immediately by reply email. Transport for NSW takes all care to ensure that attachments are free from viruses or other defects. Transport for NSW assume no liability for any loss, damage or other consequences which may arise from opening or using an attachment.

 **Consider the environment. Please don't print this e-mail unless really necessary.**

OFFICIAL

Devon Roberts

From: Leanne Hastwell (Far West LHD) <Leanne.Hastwell@health.nsw.gov.au>
Sent: Tuesday, 23 May 2023 12:00 PM
To: Devon Roberts
Subject: RE: Final Land Use Options - Rasp Mine

Hi Devon,

The Lead Health program has reviewed your letter which includes the Manager of Child & Family Health, Health Promotions and Lead Health Education Officer.

- If the land returns to mining heritage tourist site after final use and CBH rehabilitate the site to be safe and stable, who will continue to monitor the site and how often?
Is it EPA?
- Line of Lode Association- who governs this? Who is responsible for ongoing environmental assessment and abatement of assets, including residential properties, café and miners memorial?
- The letter refers to an active interagency? How often does this meet? Are you referring to the Lead reference group? Have we missed meetings?
- In the letter we are listed Broken Hill Lead Program – Health is The Lead Health Program.

I hope this is the feedback you require.

Regards

Leanne

Leanne Hastwell

Manager Child & Family Health

Allied Health & Integrated Community Services

Far West Local Health District

T (08) 8080 1242 E Leanne.Hastwell@health.nsw.gov.au

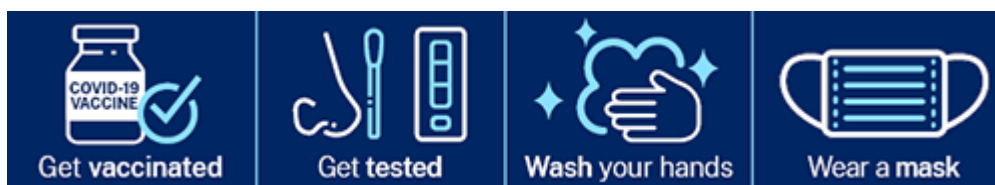
Broken Hill Community Health Centre

2-4 Sulphide Street

Broken Hill, NSW 2880



**Far West
Local Health District**



I acknowledge the traditional custodians of the land and pay respects to Elders past and present. I also acknowledge all the Aboriginal and Torres Strait Islander staff working with NSW Government at this time.

Please consider the environment before printing this email.

Australia

SYDNEY

Ground floor 20 Chandos Street
St Leonards NSW 2065
T 02 9493 9500

NEWCASTLE

Level 3 175 Scott Street
Newcastle NSW 2300
T 02 4907 4800

BRISBANE

Level 1 87 Wickham Terrace
Spring Hill QLD 4000
T 07 3648 1200

CANBERRA

Level 2 Suite 2.04
15 London Circuit
Canberra City ACT 2601

ADELAIDE

Level 4 74 Pirie Street
Adelaide SA 5000
T 08 8232 2253

MELBOURNE

Suite 8.03 Level 8 454 Collins
Street
Melbourne VIC 3000
T 03 9993 1900

PERTH

Suite 9.02 Level 9 109 St
Georges Terrace
Perth WA 6000

Canada

TORONTO

2345 Young Street Suite 300
Toronto ON M4P 2E5

VANCOUVER

60 W 6th Ave Suite 200
Vancouver BC V5Y 1K1



[linkedin.com/company/emm-consulting-pty-limited](https://www.linkedin.com/company/emm-consulting-pty-limited)



emmconsulting.com.au