



Rasp Mine  
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2 October 2024

Mr. Steve O'Donoghue  
Director Resources Assessments  
NSW Department of Planning, Housing and Infrastructure  
Locked Bag 5022  
Parramatta NSW 2124

Dear Steve,

**Re: Rasp Mine (PA07\_0018) – MOD12 Northern mining extension**

## 1. Introduction

Broken Hill Operations Pty Ltd (BHO) [a wholly owned subsidiary of CBH Resources Limited (CBH)] owns and operates the Rasp Mine (the Mine), which is located centrally within the City of Broken Hill on Consolidated Mine Lease 7 (CML7). The Mine produces zinc and lead concentrates which are dispatched via rail to Port Pirie and Port Adelaide in South Australia.

CBH Resources is a wholly owned subsidiary of Toho Zinc. In November 2023, Toho Zinc, following a thorough review of the business plan of the Rasp Mine, advised that it was not in a position to invest in the further development of the mine to sustain the operation in the medium to long term. As a result, Toho Zinc advised that if the mine could not be divested, the Mine would progress to closure in (approximately) September 2024. On 26 July 2024, the conditional sale of the Rasp Mine to Broken Hill Mines (BHM) was announced. BHM has entered into a binding agreement with CBH Resources to take over Broken Hill Operations (BHO / Rasp Mine) from 1 November 2024. Operations at Rasp are continuing in parallel with the divestment process.

Mining has been undertaken within CML7 since 1885. The existing operations at the Mine include underground mining, processing, rail siding for concentrate dispatch and other associated infrastructure. These operations are undertaken in accordance with Project Approval PA07\_0018 (as modified) (PA) granted from the then Minister for Planning on 31 January 2011, under Part3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

BHO is seeking to modify PA07\_0018, pursuant to Section 4.55(1A) of the EP&A Act, to allow for and extension of Main Lode (ML) mining activity in ML Blocks 13, 14 and 15.

The purpose of this document is to provide preliminary information, including an overview of the proposed Modification (MOD12) and to request the Department's concurrence that the appropriate approval pathway for the modification is Section 4.55(1A) and that it is satisfied with the level of assessment planned to be undertaken.

## 2. Approved project

BHO purchased the mine in 2001 and it operates the mine in accordance with Project Approval (PA) MP07\_0018. The PA has been modified 11 times and allows mining operations at the Rasp mine until 31



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December 2026, including extraction of up to 500,000 tonnes of ore per annum and deposition of tailings into the Blackwood Pit tailings storage facility (TSF2) and the Kintore Pit (TSF3).

### 3. Proposed Modification

BHO is seeking to further modify PA07\_0018 to enable ongoing operations at the Rasp mine. The proposed modification involves:

- Extending underground mining activities in Main Lode (ML) Blocks 13, 14 and 15.
- Installation of an escape ladder way from the underground workings to the surface at a suitable location within ML 15.

#### 3.1. Extending underground mining activities in Main Lode Blocks 13, 14 and 15.

Under PA07\_0018, BHO is approved to conduct mining activities in the Western Mineralisation, Centenary Mineralisation and up to and including Main Lode (ML) Block 12 (shown in Figure 1). With the approval of MOD6, MOD9 and MOD11, BHO was permitted to install underground exploration and development drives (no production blasting or stoping) in ML Blocks 13 – 15. Figure 1 shows the Rasp Mine, CML7 Boundary (blue line), ML Blocks 12, 13, 14 and 15 and current underground workings (orange).

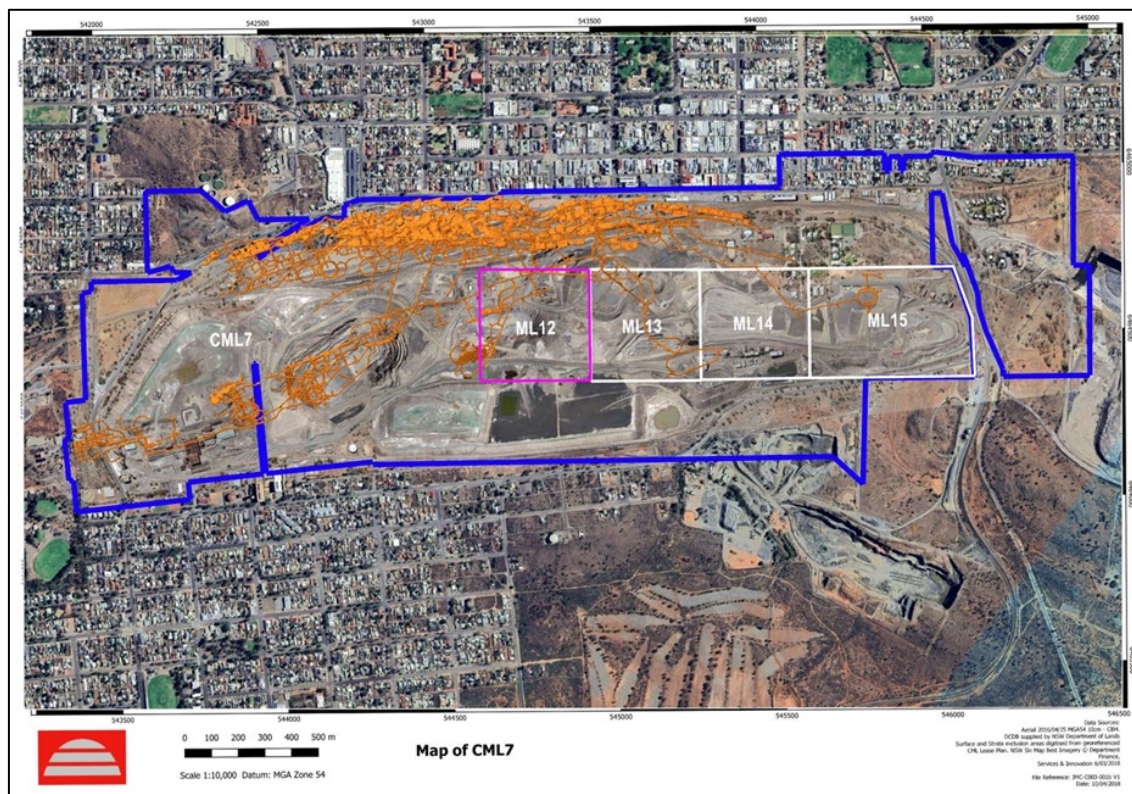


Figure 1: Rasp Mine, CML7 Boundary (blue line), Main Lode Blocks 12, 13, 14 and 15 and current underground workings (orange lines)



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BHO has identified mineral deposits in the northern areas of CML7 (refer to Figure 2) including; the Blackwoods deposit, the Blackwoods North deposit and the Thompson's deposit and is seeking to extend existing mining activities currently conducted on CML7 and in accordance with the permitted extraction rates already approved in PA07\_0018.

Blackwoods, Blackwoods North and Thompson's deposits combined contain approximately 539,000 tonnes of ore. The proposed approximate ore extraction rates for the Rasp Mine for 2025 and 2026 (including the deposits listed in this modification) are shown in Table 1. The proposed extraction for 2025 and 2026 are;

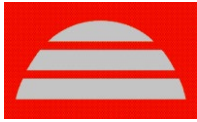
- Below the current approved annual extraction limit of 500,000 tonnes per annum; and
- Within the current approved life of the project extraction limit of 8,450,000 tonnes.

As only 7,107,274 tonnes have been extracted during the project (as at 30 September 2024) and approximately 891,376 tonnes are planned for extraction in 2025 and 2026, this leaves a buffer of approximately 451,359 tonnes below the approved life of project extraction limit coinciding with the Project Approval lapse date of 31 December 2026.

| Year | Planned ore extraction from Western Mineralisation (tonnes) | Planned ore extraction from Blackwoods, Blackwoods North and Thompsons combined (tonnes) | Total extraction (tonnes) |
|------|---|--|---------------------------|
| 2025 | 229,037   | 200,000  | 429,037                   |
| 2026 | 123,330   | 339,000  | 462,330                   |

The proposed mining activities would be fundamentally similar to those currently employed at the mine and would be conducted in the ML 13 to ML 15 blocks (Figure 2). The mining activities would include;

- Mining development workings comprising of approximately 5.0 m x 5.8 m tunnel/drives which would be supported in accordance with the site's current ground support installation standard
- Mining Production/Stopping including production blasting conducted in accordance with BHO Safety and Environmental Management System requirements including;
  - Mine Planning and Design Guidelines
  - Noise and Blast Management Plan
  - Technical Blasting Management Plan
  - Explosives Control Plan
  - Various mining specific procedures for 'boggging'/digging of material, loading into mine trucks and haulage to the surface
  - Various mineral processing and transport procedures



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The proposed mining extension in ML 13 to ML 15 would be a continuation of existing approved underground workings including the exploration and development drives/tunnels approved in MOD9 and MOD11. The activities would be conducted using conventional hard rock mining methods of drill and blasting, load and haul techniques.

Mineralised rock would be transferred to the surface and placed on the Run of Mine (ROM) Pad for loading into the crusher and processing plant. These methods are the same well established methods currently in use at the mine.

Due to the proposed works being limited to underground (at minimum depths below surface of approximately; 116m at Blackwoods deposit, 172m at Blackwoods North deposit and 172m at Thompsons deposit) and utilising existing mining methods, there is no surface disturbance or impact planned or anticipated. Any inert (<0.5% Pb) waste rock generated would be used for waste rock capping of free areas, suitably mineralized ore would be processed through the Mill (in accordance with current consent conditions) and any remaining (not inert) waste rock will be placed in TSF3.

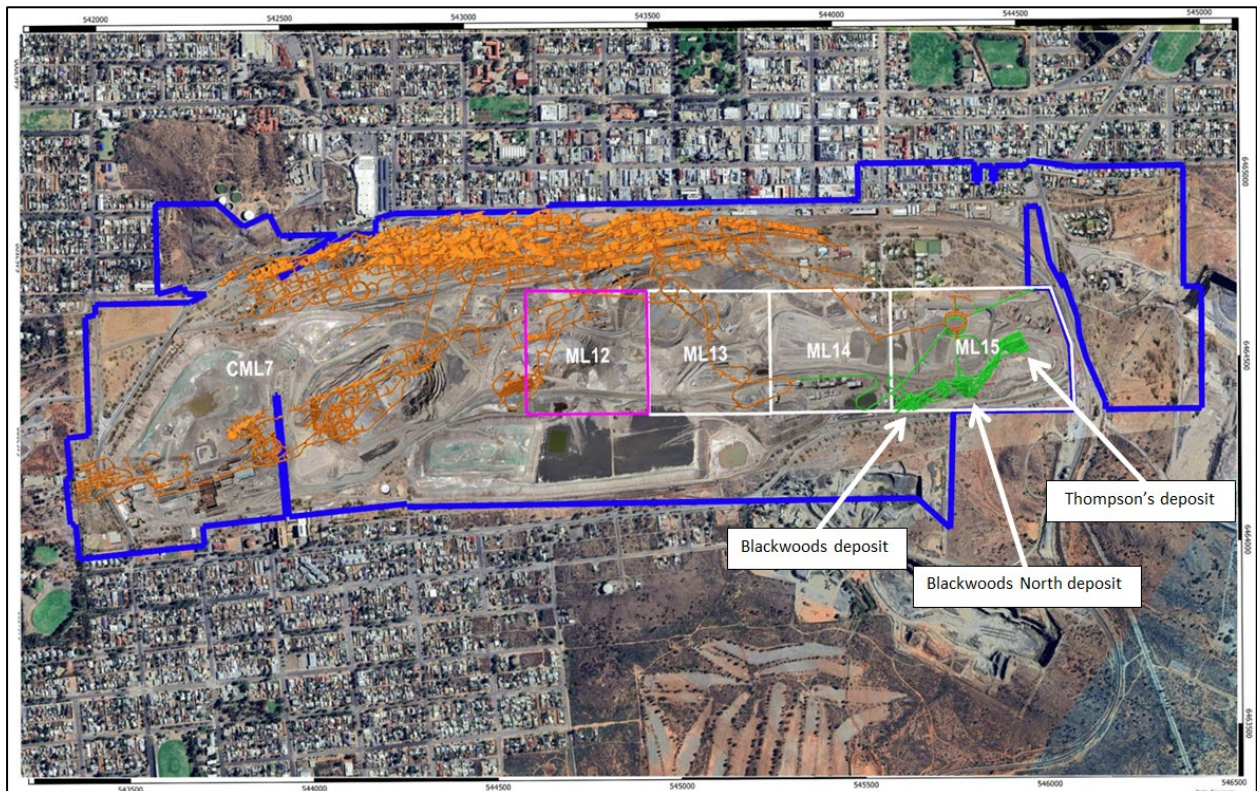


Figure 2: Identified Northern deposits (green) within CML7



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### **3.2. Installation of an escape ladder way from the underground workings to the surface in ML15.**

BHO is seeking to install an emergency egress ladder way from the underground workings to the surface. BHO currently maintains 2 means of access/egress from the mine; the main portal and emergency escape ladder way from Stockpile 1 underground to the surface (approved in MOD9), however this additional escape ladder way is to ensure that there exists a further suitable means of emergency egress from the northern areas of the mine as mining progresses further north.

The location of the escape ladder way is likely to be in ML15 (refer to Figure 1), with the specific location to be determined through consideration of;

- A reasonable distance of the ladder way from the underground location to the surface.
- Being in a (geotechnical) suitable and stable ground i.e. an unmined/undisturbed area of the mine (no historic workings)
- Exiting the surface in an area that is not readily accessible or visible from offsite.
- Mitigating any noise impacts during construction.

BHO currently has over 23 Safescape ladder ways (totaling approximately 900m in length) including an existing 155m surface escape ladder way installed underground at the Rasp mine to provide workers with a second means of egress from various work areas/levels underground. These ladder ways have been a proven success and are common place across the mining industry.

#### Ladder way design

The ladder consists of fully-enclosed, durable polyethylene product. Safescape Ladder tube is not impacted by water, salt or other mineral deposits, requires minimal upkeep and complies with the design criteria of AS1657 Fixed platforms, walkways, stairways and ladders - Design, construction and installation and fits within a 1.1m raisebore hole. The exit of the ladder way at the surface (Figure 3) would be housed in a secured 20ft shipping container (Figure 5) for security reasons, in a similar manner to the already installed escape ladder way at the southern part of the Rasp Mine.



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Figure 3: Example of the exit (at the top) of a Safescape Ladder way



Figure 4: View inside a Safescape Ladder way



Figure 5: The Rasp Mine surface escape ladder way exit housing that was approved in MOD9.

### Ladder way installation

A raise borer is a machine commonly used in underground mining (both on the surface and underground), to excavate a circular hole between two levels of a mine without the use of explosives. The raise borer will be set up on the surface on an evenly laid platform. A small-diameter hole is drilled to the level required; the diameter of this hole is typically 230mm - 445mm, large enough to accommodate the drill string.

Once the drill has broken into the opening on the target level, the bit is removed and a reamer head, of the required diameter (1.1m), is attached to the drill string and raised back towards the machine. The drill cuttings and associated dust from the reamer head fall to the floor of the lower level and will



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remain underground. The finished raise has smooth walls and will not require any further work or ground support. A summary of the raise bore process is presented in Figure 6.

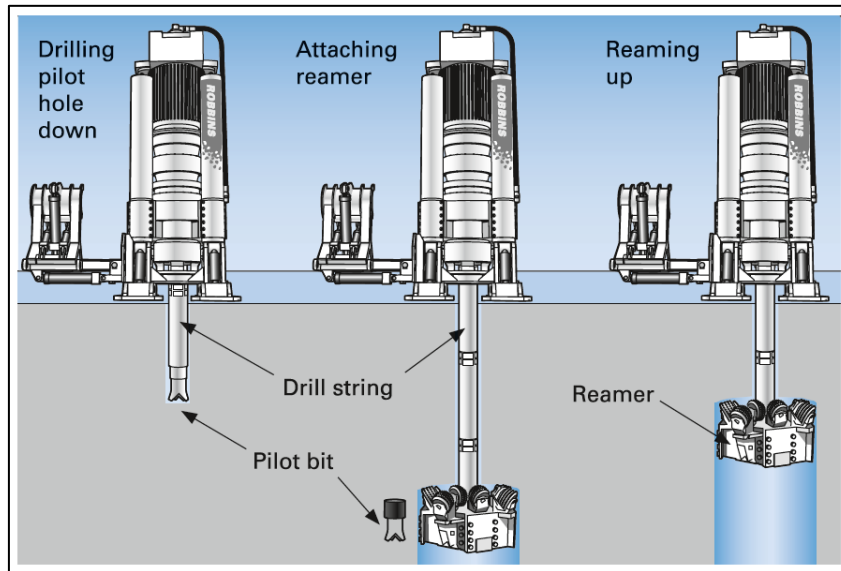


Figure 6 : Raise bore Process Overview

(Source : Atlas Copco Mining Methods in Underground Mining 2<sup>nd</sup> 2007)

Ladder way tubes are approximately 2.1m in length and fit within the 1.1m diameter raise bored hole utilising a pulley system similar to that illustrated in Figure 7.

BHO would submit a High Risk Activity (HRA) Notification (Developing a new mine entry) to the Mine Safety Regulator for this activity.

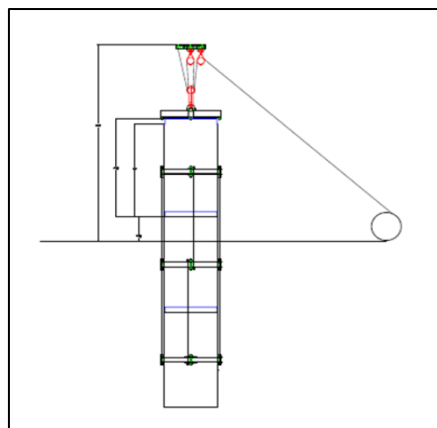


Figure 7: Pulley arrangement for installation of Safescape ladder way tubes.

The length of the escape ladder way and duration of construction activity would be confirmed when the specific location of the ladder way is identified/proven however would be expected to take approximately 60 days.



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#### 4. Approval pathway

Development consents may be modified under Section 4.55 of the EP&A Act provided that the development as modified will be substantially the same development as the development for which consent was originally granted.

BHO considers that the approval pathway for the proposed modification is Section 4.55(1A) of the EP&A Act. This is because the project as modified would not change:

- the approved extraction rate, processing rate and transportation arrangements;
- the approved surface disturbance area
- the Rehabilitation Strategy
- the management of waste rock
- the operation of the Tails Storage Facilities
- the way in which the mine is ventilated,
- the approved impacts of the mine overall.

#### 5. Proposed environmental assessments

To confirm that the proposed modification would result in minor impacts, BHO proposes to conduct the following environmental assessments, which will be included in the Modification Report.

- 5.1.1.** Blasting Assessment - A study will be conducted to confirm that development and production blasting within ML Blocks 13, 14 and 15 will be within approved and required blast vibration limits.
- 5.1.2.** Groundwater Assessment for mining in ML Blacks 13-15 and the surface ladder way
  - A study will be conducted to determine if groundwater is a possibility of being encountered and/or impacted, in accordance with the *Aquifer Interference Policy* (DPI 2012).
  - A study will be conducted to confirm that mine dewatering requirements are within the limits of the current Water Extraction Licence No. WAL31065.
- 5.1.3.** Ground Stability/Geotechnical Assessment of ground conditions for both mining in ML blocks 13-15 and the surface ladder way
- 5.1.4.** Inrush assessment regarding mining in the vicinity of historic mine working and an active tails storage facility
- 5.1.5.** Waste Rock Assessment – a waste rock inventory assessment will be conducted to review and confirm availability of suitable waste rock for surface capping requirements as part of site rehabilitation requirements
- 5.1.6.** Tails storage capacity – a tails storage capacity assessment will be undertaken to confirm that suitable tails storage exists for the proposed mining extension.
- 5.1.7.** Noise Assessment – a noise assessment will be undertaken for the installation of the surface ladder way.

In addition to the detailed assessments listed above, BHO will also conduct due diligence assessments for other potential impacts including air quality, noise, visual, biodiversity, traffic, heritage, and waste.



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## 6. Consultation

BHO will consult with all key stakeholders in the coming weeks to brief them of the proposed works, including:

- Resources Regulator (Environment),
- Resources Regulator (Safety),
- Environment Protection Authority,
- Mineral Exploration and Geosciences,
- Dam Safety NSW
- Crown Lands and
- Broken Hill City Council

Comments received from the stakeholders will be considered in the proposed assessments.

## 7. Conclusion

The proposed extension of mining activities in Main Lode Blocks 13, 14 and 15 and associated works are critical to the ongoing operations of the Rasp Mine. The proposed activities are fundamentally the same as already approved activities with no changes to production rates, extraction rates or surface disturbance areas. Following approval, it is envisaged the works would commence as soon as possible.

In order to progress the modification 12 application, BHO would appreciate it if the Department could confirm at the earliest convenience:

- That the assessment pathway will be Section 4.55(1A) of the EP&A Act; and
- That the assessments described above in Section 5 of this letter are appropriate for the proposed modification.

BHO appreciates your consideration of this request. If you have any queries or would like to discuss the matter further please do not hesitate to contact me.

Yours sincerely

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