Rasp Mine

Zinc – Lead – Silver Project
Project Approval 07_0018
January 2011

Environment Management Strategy

April 2023

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Table of Contents

List of Tables

List of Figures

Appendices

1. INTRODUCTION

The Rasp Mine is owned and operated by Broken Hill Operations Pty Ltd (BHOP) (a wholly owned subsidiary of CBH Resources Limited (CBH)) and is located in Broken Hill in the far west of New South Wales. The Rasp Mine occupies a central region of the historic Broken Hill Line of Lode orebody and incorporates the original mine areas that commenced operations in the 1880s this includes a substantial amount of mining infrastructure from various mining phases.

The Rasp Mine was declared a Major Project under the State Environment Planning Policy (SEPP) (Major Development) 2005 (now repealed) and required the approval of the then NSW Minister for Planning under Part 3A of the *Environment Planning & Assessment Act 1979*. Approval (07_0018) was granted on 31 January 2011 for underground mining, the construction and operation of a processing plant to produce lead and zinc concentrates and a rail siding for concentrate dispatch.

The Rasp Mine Project has now been transitioned to a State Significant Development.

The Project Approval has been modified on nine occasions to (**Table 1**):

Table 1 Summary of Approved Modifications

Modification	Aspect
MOD1 (March 2012)	Accommodate the relocation of the main ventilation shaft
MOD2 (August 2014)	Allow crushing of ore to occur at any time
MOD3 (March 2015)	Extend the underground mining area into Block 7
MOD4 (September 2017)	Installation of a Concrete Batching Plant and construction of three embankments and retaining wall at Blackwood Pit TSF2
MOD5 (November 2018)	Construct a warehouse extension, install concrete silo at the concrete batching plant and amend Air Quality Monitoring conditions
MOD7 (July 2019)	Perform crushing and screening of waste rock in BHP Pit
MOD8 (April 2021)	Sub lease arrangement with Perilya Broken Hill Limited
MOD9 (December 2021)	Extension of exploration in the Main Lodes Blocks 13-15 and installation of escape ladder way from Stockpile 1 underground to surface
MOD6 (March 2022)	Relocation of mine access portal and conversion of Kintore Pit to a Tailings Facility

1.1. Purpose

This Environment Management Strategy (EMS) provides the strategic framework for environmental management at the Rasp Mine. The EMS provides the necessary guidance for activities to comply with

relevant environmental regulatory requirements and standards, and provides that all activities are generally in accordance with the:

- Environmental Assessment;
- Response to Submissions and Preferred Project Report;
- Revised Statement of Commitments;
- Modification 1;
- Modification 2;
- Modification 3;
- Modification 4;
- Modification 5;
- Modification 7;
- Modification 8;
- Modification 9;
- Modification 6; and
- Conditions of the Project Approval.

The specific requirements for the EMS are outlined in the Rasp Mine Project Approval 07_0018 MOD5, Schedule 4, Condition 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.*

The Rasp Mine does not use the environmental management process required by ISO14001, however this EMS and the systems to manage potential environmental impacts are aligned to the environmental management framework of ISO 14001.

1.2. Scope

This EMS applies to any employee or contractor engaged by BHOP and undertaking activities for the Rasp Mine, or any other agent acting on behalf of the BHOP.

1.3. Referenced Documents

- Project Approval No 07_0018, Department of Planning 31 January 2011
- Project Approval No 07_0018 MOD1 – Relocation of Ventilation Shaft, 16 March 2012
- Project Approval No 07_0018 MOD2 – Change to Operating Hours of the Primary Crusher, 29 August 2014
- Project Approval No 07_0018 MOD3 – Block7 Extension, 17 March 2015
- Project Approval No 07_0018 MOD4 – Concrete Batching Plant and TSF2 Extension, 4 September 2017
- Project Approval No 07_0018 MOD5 –Warehouse Extension, Cement Silo and Adjustment of Air Quality Monitoring, 2 November 2018
- Project Approval No 07_0018 MOD7 – Additional Crushing and Screening, 29 July 2019
- Project Approval No 07_0018 MOD8 – Mining Extension, 15 April 2021
- Project Approval No 07_0018 MOD9 – Extension of Underground Exploration, 23 December 2021
- Project Approval No 07_0018 MOD6 – New Tailings Storage Facility, 16 March 2022
- Environment Protection Licence 12559, Environment Protection Agency
- Environment Assessment Report, BHOP, June 2010 and response to submissions
- Preferred Project Report, BHOP, September 2010 and response to submissions
- MOD1 Relocation of Ventilation Shaft, Environmental Assessment BHOP, November 2011, and Response to Submissions
- MOD2 Change to Crusher Operating Hours, Environmental Assessment, EMGA Mitchell McLennan Pty Limited, January 2014 and BHOP Response to Submissions
- MOD3 Mining Extension Block 7, Environmental Assessment, BHOP, November 2014 and Response to Submissions
- MOD4 Concrete Batching Plant & TSF2 Extension Environment Assessment, BHOP, April 2017 and Response to Submissions June 2017
- MOD5 Warehouse Extension, Cement Silo & Adjustment of Air Quality Monitoring Statement of Environmental Effects, BHOP, August 2018
- ISO 14001:2004 Environment Management Systems

1.4. Definitions and Acronyms

Definitions

Environment	Surrounding in which BHOP operates including air, water, noise, land, flora, fauna, natural resources, humans and their interactions.
Environmental Impact	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from BHOP activities, products or services.

Acronyms

AEMR	Annual Environment Management Report
AQMP	Air Quality Management Plan
AMP	Asbestos Management Plan
BHCC	Broken Hill City Council
BHOP	Broken Hill Operations Pty Ltd
CBH	CBH Resources Ltd
CLMP	Community Lead Management Plan
CML7	Consolidated Mine Lease 7
CMS	Conservation Management Strategy
COM	
DPE	Department of Planning and Environment
DPI - Water	Department of Primary Industry - Water
EMS	Environment Management Strategy
EPA	Environment Protection Authority
EPL	Environment Protection Licence
GSFMP	Principal Hazard Management Plan – Ground or Strata Failure
GM	General Manager
HSE	Health Safety and Environment
JSA	Job Safety Assessment
LEP	Local Environment Plan (BHCC)
MOD	Modification to the Project Approval
NHL	National Heritage List
NMMP	Noise Monitoring Management Plan
OEH	Office of Environment and Heritage
Perilya	Perilya Broken Hill Operations Pty Ltd
RMP	Rehabilitation Management Plan
RMS	Roads and Maritime Services NSW
SEPP	State Environment Planning Policy (Major Developments) 2005
SP1	Special Purpose Zone 1
SWMP	Site Water Management Plan
TBMP	Technical Blasting Management Plan
TSF	Tailings Storage Facility
TSF OM	Blackwoods Pit TSF Operations and Maintenance Plan
WMP	Waste Management Plan

2. ENVIRONMENTAL POLICY AND COMMITMENT

2.1. Rasp Mine Environment Policy

The Rasp Mine Environmental Policy (BHO-POL-ENV-001) has the support of senior management and is reviewed every three years or as required. The Policy applies to all areas operated by or under the control of BHOP and outlines the commitments we make to protect the environment and our community. The Policy is displayed at the site and can be accessed by employees, contractors and

visitors. The Rasp Mine Environmental Policy is also referenced in site inductions to ensure all people entering the site are aware of our commitments and their role in working to them.

Environment Management Commitments
BHOP has made a number of commitments to its environmental management activities and these are outlined in the BHOP Statement of Commitments as part of its Project Approval (Appendix B Statement of Commitments).

3. DESCRIPTION OF OPERATIONS

3.1. Rasp Mine Activities

Table 2 outlines the key features of the Rasp Mine consistent with Project Approval 07_0018 MOD6.

Table 2 Key Features of the Rasp Mine

Item	Description
Mine life	15 years (includes construction (1 year) and closure (1 year)) from 2011
Tenement status	CML7 – Incorporates the Rasp Mine
Approval period	15 years comprising construction, underground mining, processing operations and closure Approval granted 31 January 2011 to 31 December 2026
Mining methodology	Underground mining using various methods including long hole, benching, modified Avoca, room and pillar or uphole retreat
Mining rate and total production	500 000 tpa ore Total production over life of Project: Approximately 8,450,000 t
Waste rock disposal	Underground: Backfill Surface: Inert material to be used for road repair and bunding and rehabilitation at closure and disposal within Kintore Pit (TSF3) as per MOD6
Processing methodology	Crushing, grinding, flotation, thickening and filtration at on-site processing facilities
Processing rates	250 tph in crushing plant and 93.8 tph in grinding plant
Concentrate production	Lead: 25,000 tpa (concentrate 73% Pb and 985 g/t Ag) Zinc: 55,000 tpa (concentrate 50% Zn)
Tailings disposal	Kintore Pit to be converted to a tailings storage facility Utilise the surface of TSF2 to naturally dry tailings which will be harvested and transferred to TSF3
Services	Extensions to existing substations, water lines and phone lines 22kV overhead powerlines

3.2. Rasp Mine Location and Surrounding Environment

The Rasp Mine is located centrally within the City of Broken Hill and is surrounded by transport infrastructure, areas of commercial and industrial development and residential housing. The Rasp Mine is bounded by Eyre Street and Holten Drive to the south and east, Perilya Broken Hill Operations Pty Ltd (Perilya) North Mine to the northeast and Perilya's South Mine to the southwest, and the commercial centre of Broken Hill to the northwest.

The Mine site is dissected by two major State roads, including South Road (Silver City Highway SH22) to the southwest and Menindee Road (MR66) to the northeast. These roads form part of the existing road train and B-double routes through Broken Hill. The Broken Hill railway station is located directly to the north and west of the mine and lies on the main Sydney – Perth railway line.

Residential and commercial areas surround the mine with pasture land to the south east. Recreational activities Italio International (Bocce) Club, which is only intermittently occupied, is located to the southwest. The Blue Metal Quarry lies to the east of the processing plant.

The Rasp Mine and the surrounding area is depicted in **Figure 1**.

Past mining has left the Project Area highly modified and disturbed. The original landform has been significantly altered, the majority of native vegetation has been removed and soils have been degraded and covered with waste rock.

There are a number of heritage items on the site relating to historic mining activities and the site is recorded on the Register of National Estate for its heritage values. It is also considered by the people of Broken Hill as an important historic site for its role in Broken Hill's history. The entire City of Broken Hill was included on the National Heritage List (NHL) on 20 January 2015. The City of Broken Hill is of outstanding heritage value to the nation for its significant role in the development of Australia as a modern and prosperous country. The NHL recognises the significance of over 130 years of continuous mining operations, the City's contribution to technical developments in the field of mining, its pioneering role in the development of occupational health and safety standards, and its early practice of regenerating the environment in and around mining operations.

The Rasp Mine lies within Special Purpose Zone 1 (SP1) Special Activities – Mining (BHCC Local Environment Plan, 2013). The City is made up primarily of large residential areas with dispersed commercial and industrial land uses.

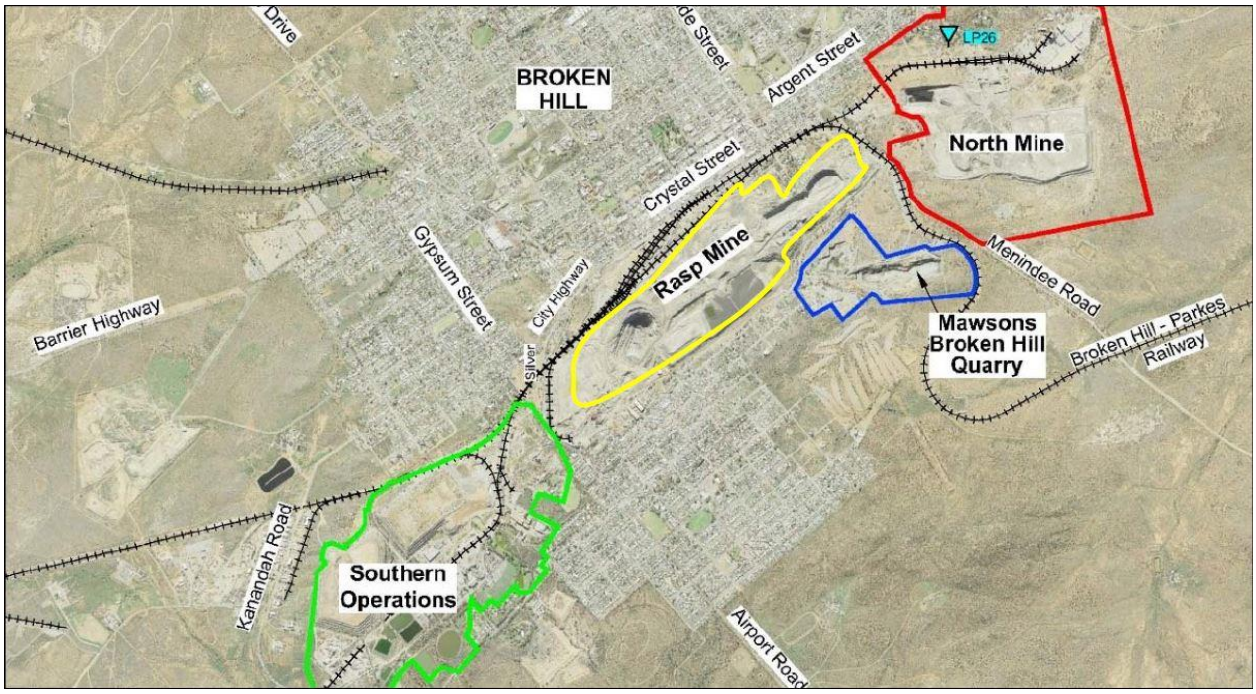

Figure 1 Project Site and Surrounding Area

4. LEGAL AND OTHER REQUIREMENTS

4.1. Approvals, Leases, Licences and Permits

All activities at the Rasp Mine or under the control will be undertaken in accordance with the following approvals, leases, and permits:

(i) Project Approval 07_0018 granted by the Minister for Planning, pursuant to Part3A of the *Environment Planning and, Assessment Act 1979* in January 2011, including nine modifications, listing operating conditions:

MOD1 – March 2012 - Relocation of Ventilation Rise
MOD2 – August 2014 - 24 hour operation of primary crusher
MOD3 – March 2015 - Extension of underground mining to include Block 7 and the Zinc Lodes.
MOD4 – September 2018 – Erection of Concrete Batching Plant and Extension of TSF2.
MOD5 – November 2018 - Warehouse Extension, Cement Silo & Adjustment of Air Quality Monitoring
MOD7 – July 2019 - Additional Crushing and Screening
MOD8 – April 2021 - Mining Extension
MOD9 – December 2021 - Extension of Underground Exploration
MOD6 – March 2021 - New Tailings Facility

(ii) Mining Leases issued by the Resources Regulator:

Consolidated Mine Lease 7 - for open cutting, shaft sinking, stoping, tunnelling, building of dams, extraction and obtaining minerals, generation of electricity, erecting dwellings, storage of fuels, dumping of ore, treatment and dumping of tailing, development of roads.

Mining Purpose Leases 183, 184, 185 and 186 – for dumping of ore and mine residues, treatment of tailing.

(i) Environment Protection Licence 12559 issued by Environment Protection Authority (EPA) – authorises the carrying out of scheduled activities as indicated - crushing , grinding or separating >100,000 – 500,000T processed and mining for minerals >100,000 – 500,000T produced, under listed conditions.

(ii) Dangerous Goods and Explosives Notification, issued by SafeWork NSW – to store, manufacture, use and notify.

(iii) Water Extraction Licence 85WA752823, granted by the Department of Primary Industry – Water (DPI Water) – authorises taking 370 unit shares in the Adelaide Fold Belt Water groundwater source for use on site or to send to Perilya Broken Hill Operations Pty Ltd.

(iv) Radiation Permit, issued by EPA - authorises the selling and/or possessing of radiation apparatus, selling and/or possessing radioactive or items containing radioactive substances.

(v) Refrigerant permit, issued by the Refrigerant Trading Council which authorises its use.

4.2 Legislative Obligations

The key reference documents for environmental legal obligations related to the Rasp Mine include the following Acts and their respective regulations:-

- *Mining Act 1992*
- *Protection of the Environment Operations Act 1997*
- *Protection of the Environment Legislation Amendment Act 2011.*
- *Environment Planning and Assessment Act 1979*
- *Protection of the Environment Administration Act 1991*
- *Water Act 1912*
- *Water Management Act 2000*
- *Contaminated Land Management Amendment Act 2008*
- *Soil Conservation Act 1938*
- *Local Government Act 1993*
- *Explosives Act 2003*
- *Explosives Regulations 2013*
- *Radiation Control Act 1990*
- *OHS Amendment (Dangerous Goods) Act 2003*
- Broken Hill Local Environment Plan 2013
- Broken Hill Development Control Plan No 11 Management of Lead Contamination
- *Heritage Act 1977*
- *Noxious Weeds Act 1993*
- *Aboriginal Lands Rights Act 1983*
- *Threatened Species and Conservation Act 1995*, and
- The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

4.3 Primary Statutory Authorities

The primary statutory authorities relevant to the Rasp Mine are:-

- Department of Planning and Environment (DPE)
- DPE Resources Regulator (DRR)
- Department of Industry – Lands (Lands)
- Environment Protection Authority (EPA)
- Office of Heritage and Environment (OEH)
- Department of Primary Industry – Water (DPI Water)
- Broken Hill City Council (BHCC)
- SafeWork, NSW
- NSW Department of Health
- NSW Department of Premier and Cabinet
- Commonwealth Department for the Environment

4.4 Other Stakeholders

- Surrounding residents and neighbours
- Neighbouring mining operations
- Australian Rail Track Corporation
- Roads and Maritime Services
- Broken Hill City Council
- Broken Hill Local Indigenous Land Council
- Greater Western Area Health Service

5 PLANNING

5.1 Environmental Aspects and Impacts

The identification of environmental aspects and their impacts is an ongoing process. **Table 3** lists the key environmental risks and references the document where the risks are assessed and control measures are outlined. A Rasp Mine Environment Risk Register is provided at **Appendix D**.

Table 3 Summary of Key Environmental Aspects and Impacts

Potential Key Environmental Risks	Plan Reference
Deterioration of air quality from the generation of airborne dust	AQMP
Deterioration of air quality from mining exhaust	AQMP
Loss of containment of airborne dust from Blackwood Pit TSF2	AQMP, TSF OM
Increase in greenhouse gas emissions	AQMP
Community health impacts related to exposure to lead bearing dust	CLMP
Noise from operations affecting community amenity levels	NMMP
Vibration impacts to local buildings from mine blasting	TBMP

Potential Key Environmental Risks	Plan Reference
Vibration impacts to neighbouring mines.	TBMP
Mining induced subsidence results in damage to buildings, roads, rail or other local infrastructure	TBMP, GSFMP
Disturbance of significant heritage sites	RMP
Surface water runoff leads to off-site contamination	SWMP
Decrease in the water supply to the City of Broken Hill	SWMP
Reduction in groundwater flow and availability affecting other groundwater users	SWMP
Seepage from TSF impacts on offsite environment and/or residents	SWMP
Asbestos release from buildings.	AMP
Wall Failure TSF2 Extension from a seismic event, flooding or from poor design and construction.	TSF OM

The Rasp Mine Environment Risk Register is reviewed following:

- Change to plant and processes;
- Modification to the Project Approval;
- Variation to EPL;
- Legislative changes and/or
- Every three years.

It is the responsibility of the Senior Environmental Advisor to initiate this review with management and update the Register as required.

5.2 Environmental Management Objectives

The overall objectives for environmental management are outlined in the Environment Policy. **Table 4** provides a summary of objectives for a number of key environmental aspects.

Table 4 Environmental Objectives

Aspects	Goal	Objectives
Air	To maintain pre Rasp Mine air quality standards.	To comply with air quality criteria as listed in the Project Approval and EP Licence, as verified by monitoring. To implement air quality control measures as outlined in the Air Quality Management Plan. To receive minimal community complaints, which are addressed promptly and satisfactorily, and reported as required. To report and address any non-compliances.

Lead	To have no adverse impact on blood lead levels of the community.	To assist the community in raising awareness about managing lead in the environment. To use measures to minimise dust emissions. To support community blood lead level monitoring programs.
Noise	To maintain an acceptable noise amenity for surrounding neighbours.	To use measures to minimise noise emissions. To monitor and meet noise emission criteria and EP Licence conditions. To promptly address any complaints relating to noise from the general public and report as required. To report and address any non-compliances.
Blasting	To maintain an acceptable mine blasting vibration amenity for surrounding neighbours.	To use measures to minimise mine blasting vibration levels. To monitor and meet blasting criteria and EP Licence conditions. To promptly address any complaints relating to blasting from the general public and report as required. To report and address any non-compliances.
Subsidence	To control the potential for mine induced subsidence preventing damage to buildings, roads, rail or other local infrastructure.	To use measures to prevent mining induced subsidence levels as outlined in the Principal Hazard Management Plan – Ground or Strata Failure. To meet ground movement trigger levels. To monitor and undertake surface infrastructure inspections designed to identify subsidence activity. To promptly address any complaints relating to subsidence from the general public and report as required.
Water	To prevent pollution and contamination to surrounding lands.	To use measures to prevent water discharge as identified in the Site Water Management Plan. To reduce the risk of oil or chemical contamination of surface / groundwater. To reduce sediment runoff.
Emergency response	To quickly and effectively minimise adverse impacts to the environment associated with an emergency situation.	To provide training and equipment to enable a quick and effective response to environmental emergencies including spillages.
Heritage	To retain where reasonable the maximum possible value of cultural mining heritage located on CML7.	To prevent demolition wherever possible of listed heritage buildings and structures. To adaptively reuse heritage buildings where possible. To conserve heritage buildings and structures as identified in the Rehabilitation Management Plan.

5.3 Environmental Management Plans

Environmental management plans and procedures are developed in order to meet various commitments and to improve environmental performance.

Environmental management plans and procedures have been developed by the Rasp Mine to address all environmental objectives and specifically to manage environmental impacts of the operation. Plans are revised regularly to reflect changes in operational practices, legislative requirements and where relevant and possible, industry best practice.

The Rasp Mine Project Approval also requires the development and review of a number of environmental plans:-

- BHO-PLN-ENV-008 Environment Management Strategy (EMS), this document
- BHO-PLN-ENV-007 Air Quality Management Plan (AQMP), including air quality monitoring
- Community Lead Management Plan (CLMP), describes air quality management measures and the method for distributing funds to NSW Health
- A Noise and Blasting Management Plan this Plan has now been separated into BHO-PLN-ENV-009 Noise Monitoring Management Plan (NMMP) and BHO-PLN-MIN-002 Technical Blasting Management Plan (TBMP) and both include monitoring
- Subsidence is managed under BHO-PLN-MIN- 014 Principal Hazard Management Plan – Ground or Strata Failure (GSFMP)
- BHO-PLN-ENV-004Site Water Management Plan (SWMP), including surface and ground water monitoring
- A Rehabilitation Management Plan & Strategy (RMPS) and Rehabilitation Management Plan (RMP)
- BHO-PLN-ENV-005 Waste Management Plan (WMP)
- BHO-PLN-MET-004 Blackwoods Pit TSF Operations and Maintenance Plan has been developed for the operation and maintenance of the TSF.
-
- BHO-PLN-HLT-004 Asbestos Management Plan outlines the requirements for entering spaces and working with asbestos containing products.

In addition the *Protection of the Environment (General) Amendment (Pollution incident response management plans) Regulation 2012*, requires a Pollution Incident Response Management Plan (PIRMP) to be developed and posted on the BHOP website. The PIRMP specifies the relevant local emergency response agencies, their contact details and how and when they will be contacted. It also provides:

- description and likelihood of hazards
- pre-emptive actions to be taken
- inventory of pollutants
- safety equipment
- communicating with neighbours and the community
- minimising harm to persons on the premises
- actions to be taken during or immediately after a pollution incident

- staff training opportunites

The PIRMP is tested and reviewed annually.

The Rasp Mine also has an Emergency Response Control Plan.

5.4 Environmental Management System

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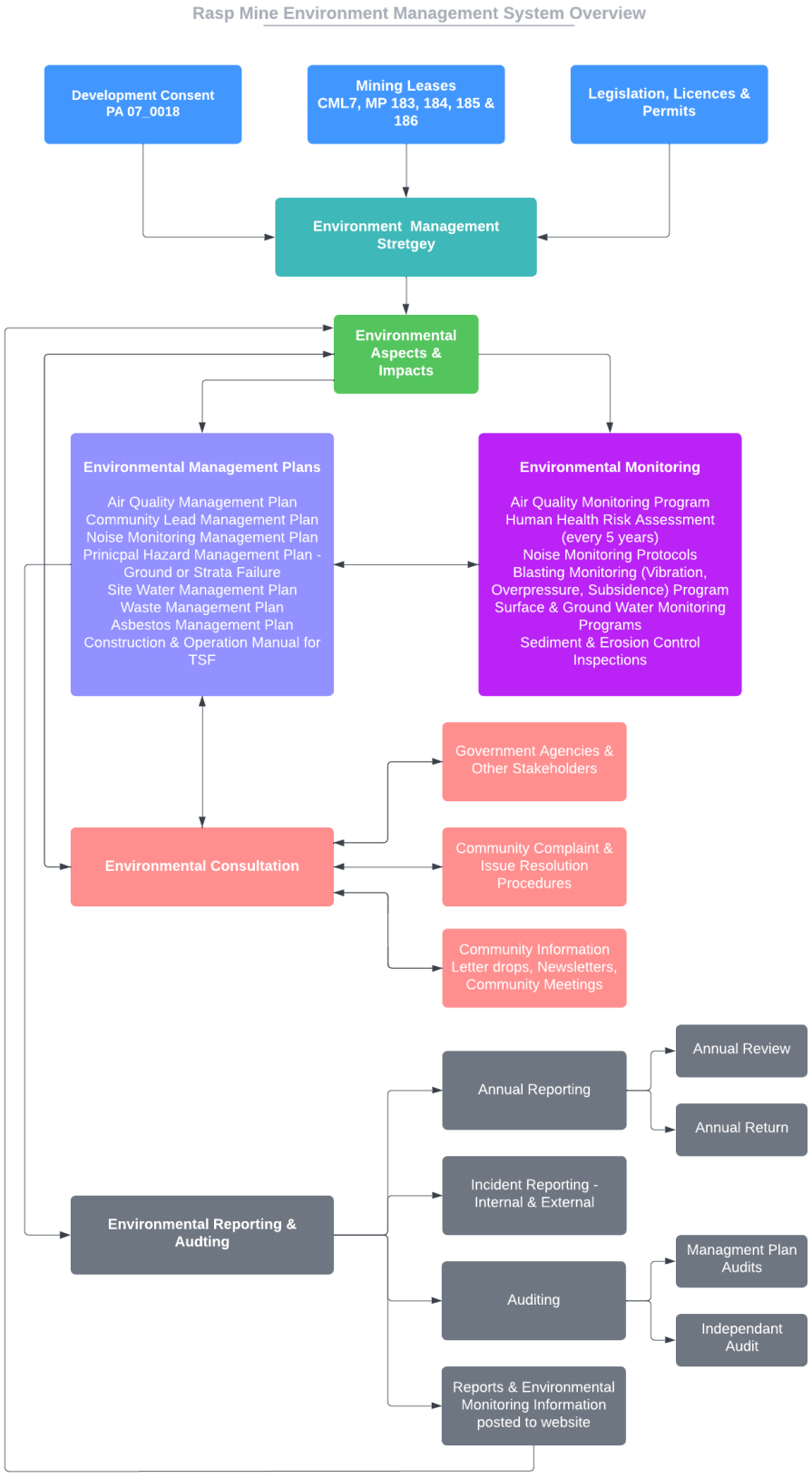


Figure 2 Rasp Mine Environment Management Strategy Overview

6 SITE IMPLEMENTATION AND OPERATION

6.1 Structure and Responsibility

The General Manager is the most senior person on site and takes overall responsibility for this EMS, its implementation, maintenance and review.

BHOP has an appointed Health Safety Environment & Training Manager and a Senior Environmental Advisor who are responsible for ensuring that the day to day environmental management at the Rasp Mine is maintained, commensurate with their levels of authority. An Environmental Graduate/Officer reports to the Senior Environmental Advisor and conducts required environmental management activities including site environmental monitoring. **Table 5** outlines the major environmental responsibilities of personnel.

Table 5 Major Environment Responsibilities

Title	Responsibility
General Manager	• Overall site responsibility for environmental performance and legal compliance. • Provide required resources and support to implement the EMS and associated plans, standards and procedures. • Authorise the implementation of the EMS. • Participate in annual reviews of the EMS. • Provide presentations to the Community Consultative Group. • Resolve community environmental issues (with CBH senior management where required).
Department Managers	• Set environmental objectives and targets • Provide resources required to implement the actions from the EMS and associated plans, standards and procedures. • Allocate responsibilities within their department for the implementation of the EMS. • Arrange and/or authorise training, including competency assessments, for personnel undertaking works in relation to the EMS. • Implement environmental control measures as required. • Investigate incidents within their department and implement corrective actions as required • Participate in annual reviews of the EMS.
HSET Manager	• Prepare budgets for environmental items. • Support the Senior Environmental Advisor in designing environmental improvement plans for the site. • Review and check environment monitoring reports prior to distribution to Department Managers and GM, and posted to web site. • Provide environment monitoring reports to the Department Managers and GM. • Investigate incidents within their department and implement corrective

Title	Responsibility
	actions as required. • Participate in annual reviews of the EMS.
Senior Environmental Advisor & Environmental Graduate/Officer	• Prepare and maintain this EMS. • Assist in the monitoring and review of the plans, standards and procedures required to implement this EMS. • Consult with regulatory authorities as required. • Undertake or arrange environmental monitoring as required and maintain monitoring records. • Check monitoring equipment is correctly installed and used. • Arrange maintenance and calibration of equipment as required to ensure equipment reliability. • Assist in the investigation of environmental incidents. • Provide recommendations for continual improvement of the EMS and associated procedures. • Report environmental performance via site meetings and reports, the Rasp Mine website, the AEMR, Annual Return and annual environmental reviews required by government agencies. • Post environment monitoring results on the web site as required. • Report incidents to government agencies and prepare and submit written incident reports. • Provide employees and contractors with updates on environmental requirements. • Follow up on community enquires and complaints, and close out. • Liaise with community members. • Undertake monitoring and record results. • File all electronic results from monitoring and store information on file for a period of not less than 4 years. • Report monitoring results to the Senior Environmental Advisor.
Supervisors	• Conduct mining activities under their control in accordance with operational and environmental procedures. • Maintain environmental control systems in a proper and effective condition. • Assist the Senior Environmental Advisor, as necessary, to develop and deliver appropriate environmental training programs and conduct environmental risk assessments for the site. • Implement environmental procedures relevant to their areas. • Responding to and assisting with managing, reporting and investigating environmental incidents and community complaints. • Regularly auditing/inspecting emergency spill controls. • Encouraging environmental hazards to be reported and actioned. • Check that items leaving their area and site do not pose any

Title	Responsibility
	environmental risk, eg oil leakage, lead dust contamination. • Check that items, in particular chemicals, are transported, unloaded, handled and used so as not to pose an environmental risk.
BHOP Personnel and Contractors	• Be aware of, and implement, the Rasp Mine control measures to manage environmental risk. • Participate in training to implement the standards and procedures for noise and vibration management as required to maintain competency levels. • Follow environmental procedures. • Immediately report any environmental incident to their immediate supervisor.

6.2 Training, Awareness and Competence

Workers receive information and training of what their obligations and responsibilities are with regards to environmental management through the induction and role required training process which includes assessments.

6.3 Communication

6.3.1 Community

BHOP, where relevant, provides advice of activities through newsletters which are distributed by a letter box drop to local neighbours. In addition where significant changes are to occur BHOP arranges advertised community meetings to present changes and receive feedback.

BHOP has also established a website for the Rasp Mine and consistent with the Project Approval posts a number of documents including environmental monitoring reports (**Section 6.3.3**).

6.3.2 Internal Reporting

The Senior Environmental Advisor reports the monitoring results to the General Manager, HSET Manager and Department Managers. Results are reviewed against relevant criteria to determine if changes to mining or monitoring practices are required.

Serious incidents are reported internally via the Incident Reporting system and entered in INX.

6.3.3 External Reporting

The Senior Environmental Advisor provides the following external reports:

- Any non-compliance with the Project Approval and EPL criteria is immediately reported to the DPE and EPA, together with copies of investigation reports and details to prevent a recurrence (reports within 28 days).
- Any non-compliance with the EPL criteria is recorded in the Statement of Compliance for submittal to the EPA as part of the Annual Return and detailed in the Annual DPE Report.

The Senior Environmental Advisor shall immediately notify the NSW Roads and Maritime Services (RMS), where inspections of South Road indicate damage that can be related to the Rasp Mine mining activities. The Senior Environmental Advisor will check that work has stopped in the area, an incident report has been completed and an investigation is being undertaken. Results of these investigations shall be provided to RMS and include details of how further damage will be prevented.

6.3.4 Reporting to Web Site

The following information is available on the CBH Resources Ltd web site under the Rasp Mine Operation:

- Project Approval 07_0018 and Modifications.
- Environmental Assessment Reports and subsequent response to submissions.
- Human Health Risk Assessment Reports.
- Copies of AEMRs and other Environment Reports.
- Independent Environmental Audit Reports and BHOP responses.
- Environment Protection Licence 12559.
- A link to LeadSmart (NSW Health – Far West Local health District) regarding health information about lead risks and community blood lead results.

In addition environmental monitoring data is updated monthly, or as appropriate, for:

- Air quality
- Noise
- Blasting – vibration, overpressure and subsidence
- Water quality – ground water and surface water
- Weather

Community complaints are also updated monthly.

6.4 Complaints and Resolution of Disputes

A complaint may be made in writing or by telephone.

All complaints shall be managed in accordance with BHO-PRO-ENV-029 Environmental Issue Complaints Procedure. This includes the requirement for all complaints to be conveyed to the Senior Environmental Advisor who shall record the complaint in the Complaints Register and enter into INX. The Senior Environmental Advisor shall notify the HSET Manager and conduct an investigation into the complaint including developing appropriate actions to address the complaint.

Information about the environmental issue and the complaint are recorded in the Complaints Register and INX and reported internally to senior management (BHOP and CBH) and to external government agencies (OEH, EPA, DRR, BHCC, RMS and/or DPE) when required.

In the event of a disagreement between BHOP and a member of the community, the Senior Environmental Advisor and HSET Manager, and as necessary the General Manager and/or CBH Chief Operations Officer, will work to resolve the issue. Where necessary external assistance may be sought to assist, this may include technical expertise and/or local government agencies.

7 COMMUNITY CONSULTATION

BHOP has established a number of communication mechanisms with local major stakeholders to provide and inform about changes to activities at the Rasp Mine. These include:

- Advertised community meetings.
- Newspaper articles.
- Door knocks.
- Newsletter drops to neighbours.
- Visits to neighbours.
- Site visits and tours.

Environmental personnel attend the Broken Hill Lead Reference Group and exchange information on lead management and blood lead monitoring in Broken Hill.

8 ENVIRONMENTAL EMERGENCY RESPONSE

BHOP has an Emergency Response Plan that extends to environmental emergencies. This Plan outlines organisational responsibilities, actions, reporting requirements (both internal and external) and resources available to enable an effective and timely response to emergency situations. It outlines specific actions for a number of environmental emergency scenarios, in particular addressing spill response to ore, concentrate and hydrocarbon spills.

Rasp Mine personnel are trained in emergency response procedures which are reinforced through tool box talks and participation in emergency training scenarios.

The Rasp Mine has also developed a Pollution Incident Response Management Plan which outlines the required actions and communications when a serious environmental emergency arises. It is posted on the website and reviewed annually with results submitted to the EPA as required in the Annual Return.

9 COMPLIANCE AND AUDTING

Compliance with all approvals, plans and procedures is the responsibility of all personnel and contractors employed on or in association with the Rasp Mine with the General Manager holding overall accountability.

Any non-compliance or potential non-compliance with regulations, licences or approvals are reported to the relevant authority. Incident reports will be generated and information recorded for the corrective actions taken to avoid future occurrences. Incidents are reported at daily crew briefings.

Non-compliances with the requirements of the Rasp Mine EP Licence are reported each year via the Annual Return.

A review the Rasp Mine's compliance with conditions of the Project Approval, mining lease and other approvals and licences is undertaken yearly as part of the Annual Environment Management Report /

Annual Review (Report) is submitted to DPE and DRR. The Report is also provided to BHCC and relevant government agencies.

Additionally, an independent environmental audit is undertaken every three years (and within 12 months of commencement of MOD6 construction) and the report submitted to the Secretary – DPE. The independent auditor is approved by the DPE and the audit is undertaken in accordance with DPE requirements. The auditor's report and BHOP's response to any recommendations are posted on the Rasp Mine website.

10 REVIEW

This EMS will be reviewed as required by DA 07_0018 Schedule 4, Condition 4 which includes;

Within three months of:

(a) the submission of an annual review

(b) the submission of an incident report under Condition 5

(c) the submission of an audit report under Conditions 7 – 8A

(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.

Appendix A - Project Approval 07_0018 (MOD5)

Appendix B - Summary of Environment Monitoring Program and Locations

EPA ID	BHOP ID	Environment Factor	Parameter	Frequency	Location
1	Vent Shaft	Dust	- Oxides of Nitrogen (as NO_2) -Total solid particles (TSP) - Volatile organic compounds - Sb, As, Cd, Pb, Hg, Be, Cr, Co, Mn, Ni, Se, V	Real time	Ventilation Shaft (Map 1)
2	Process Enclosure/ Baghouse Stack	Dust	- Total solid particles (TSP) - Total - Sb, As, Cd, Pb, Hg, Be, Cr, Co, Mn, Ni, Se, V	Real time	Process Plant Enclosure (Map 1)
3	D1	Dust	Insoluble solids, Lead	Monthly	St Johns Enclosure (Map 1)
4	D2	Dust	Insoluble solids, Lead	Monthly	Block 10 Hill (Map 1)
5	D3	Dust	Insoluble solids, Lead	Monthly	Thompsons Shaft (Map 1)
6	D4	Dust	Insoluble solids, Lead	Monthly	Brown's No 1 Residence (Map 1)
7	D5	Dust	Insoluble solids, Lead	Monthly	Silver Tank (Map 1)
8	D6	Dust	Insoluble solids, Lead	Monthly	Casuarina Ave (Map 1)
9	D7	Dust	Insoluble solids Lead	Monthly	Blackwood Pit (Map 1)
10	TSP-HVAS	Dust	Total Suspended Particulate, Lead on filter paper	Every 6 days	Silver Tank (Map 1)
11	PM10-HVAS1	Dust	PM10, Lead on filter paper	Every 6 days	Silver Tank (Map 1)
12	PM10-HVAS2	Dust	PM10, Lead on filter paper	Every 6 days	Blackwood Pit (Map 1)
57 (TBC)	TSP-HVAS3	Dust	Total Suspended Particulate, Lead on filter paper	Every 6 days	Blackwood Pit (Map 1)
13	TEOM 1	Dust	PM10, Wind Speed/Direction	Continuous	Essential Water Enclosure (Map 1)
14	TEOM 2	Dust	PM10, Wind Speed/Direction	Continuous	Blackwood Pit (Map 1)
Air quality monitoring for TSF2 will be updated following consultation with the EPA.					
29	S31-1	Surface Water	pH, EC, TDS, SO4, Cl, Na, Cd, Pb, Mn, Zn	When contain water (at least 2 per 12 mths)	S31-1, S31-2 (Federation Way)
30	S44	Surface Water	pH, EC, TDS, SO4, Cl, Na, Cd, Pb, Mn, Zn	When contain water (at least 2 per 12 mths)	S44 (Rail load out)
31	S49	Surface Water	pH, EC, TDS, SO4, Cl, Na, Cd,	When contain	S49 (Ryan St

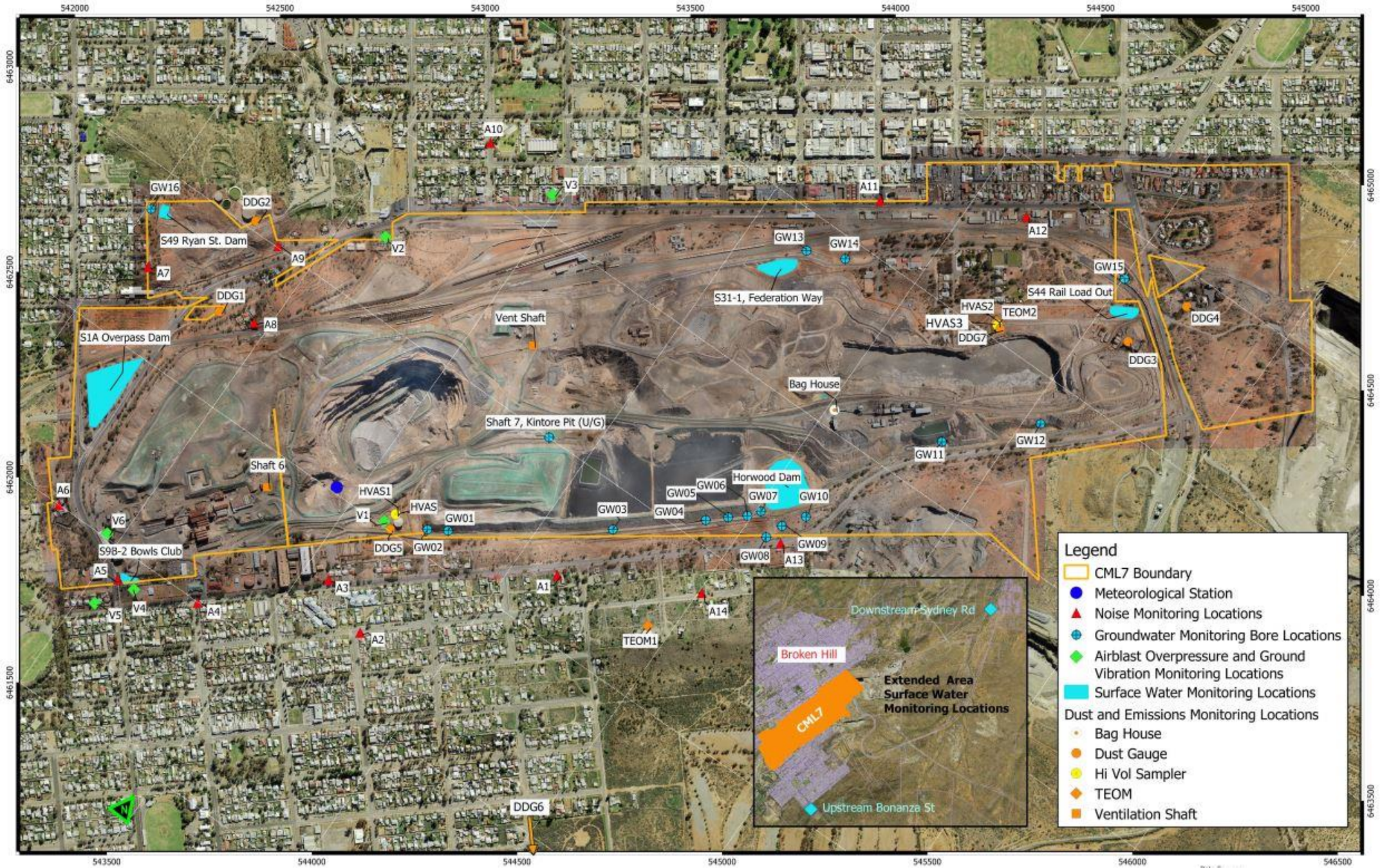
EPA ID	BHOP ID	Environment Factor	Parameter	Frequency	Location
			Pb, Mn, Zn	water (at least 2 per 12 mths)	Dam)
32	S1A	Surface Water	pH, EC, TDS, SO4, Cl, Na, Cd, Pb, Mn, Zn	When contain water (at least 2 per 12 mths)	S1-A (South Road overpass adj. Olive Grove)
33	S9B-2	Surface Water	pH, EC, TDS, SO4, Cl, Na, Cd, Pb, Mn, Zn	When contain water (at least 2 per 12 mths)	S9B-1, S9B-2 (Behind Bowling Club)
34	Horwood Dam	Surface Water	pH, EC, TDS, SO4, Cl, Na, Cd, Pb, Mn, Zn	When contain water (at least 2 per 12 mths)	Horwood Dam
35	Upstream Monitoring Location 1	Surface Water	pH, EC, TDS, SO4, Cl, Na, Cd, Pb, Mn, Zn	When flowing (at least 2 per 12 mths)	Creek near airport
36	Downstream Monitoring Location 2	Surface Water	pH, EC, TDS, SO4, Cl, Na, Cd, Pb, Mn, Zn	When flowing (at least 2 per 12 mths)	Creek crossing on Menindee Rd
37	GW01	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Mt Hebbard
38	GW02	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Mt Hebbard
39	GW3	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Roadside to Horwood Dam
40	GW4	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Roadside to Horwood Dam
41	GW5	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Roadside to Horwood Dam
42	GW6	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Roadside to Horwood Dam
43	GW7	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Roadside to Horwood Dam
44	GW8	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Eyre Street Dam
45	GW9	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Eyre Street Dam
46	GW10	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Adjacent to Eyre Street Dam
47	GW11	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Adjacent to Blackwood Pit
48	GW12	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Adjacent to Blackwood Pit
49	GW13	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg,	Quarterly	Near existing

EPA ID	BHOP ID	Environment Factor	Parameter	Frequency	Location
			Na, Fe, Cd, Pb, Mn, Zn		slag heap
50	GW14	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Near existing slag heap
51	GW15	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Near rail load out facility
52	GW16	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	Near Ryan Street/ S49
53	Shaft 7 discharge	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	From Shaft 7 collected in S22
54	Kintore Pit discharge	Groundwater	pH, EC, TDS, SO4, Cl, Ca, Mg, Na, Fe, Cd, Pb, Mn, Zn	Quarterly	From mine dewatering collected in S22
15	A1	Noise	Leq, 15min/Day Leq, 15min/Evening Leq, 15min/Night	*Quarterly or otherwise determined by EPA	A1 Piper Street North
16	A2	Noise	Leq, 15min/Day	*Quarterly or otherwise determined by EPA	A2 Piper Street Central
17	A3	Noise	Leq, 15min/Evening	*Quarterly or otherwise determined by EPA	A3 Eyre Street North
18	A4	Noise	Leq, 15min/Night	*Quarterly or otherwise determined by EPA	A4 Eyre Street Central
19	A5	Noise	Leq, 15min/Day	*Quarterly or otherwise determined by EPA	A5 Eyre Street South
20	A6	Noise	Leq, 15min/Evening	*Quarterly or otherwise determined by EPA	A6 Bonanza and Gypsum Streets
21	A7	Noise	Leq, 15min/Night	*Quarterly or otherwise determined by EPA	A7 Carbon Street
22	A8	Noise	Leq, 15min/Day	*Quarterly or otherwise	A8 South Road

EPA ID	BHOP ID	Environment Factor	Parameter	Frequency	Location
				determined by EPA	
23	A9	Noise	Leq, 15min/Evening	*Quarterly or otherwise determined by EPA	A9 Crystal Street
24	A10	Noise	Leq, 15min/Night	*Quarterly or otherwise determined by EPA	A10 Barnet and Blende Streets
25	A11	Noise	Leq, 15min/Day	*Quarterly or otherwise determined by EPA	A11 Crystal Street
26	A12	Noise	Leq, 15min/Evening	*Quarterly or otherwise determined by EPA	A12 Crystal Street
27	A13	Noise	Leq, 15min/Night	*Quarterly or otherwise determined by EPA	A13 Eyre Street North
28	A14	Noise	Leq, 15min/Day	*Quarterly or otherwise determined by EPA	A14 Piper Street North
55	Meteorological Station			To determine meteorological conditions for noise monitoring	Weather Station
V1	V1	Airblast Overpressure & Ground Vibration	dB mm/ second	Continuous	Silver Tank
V2	V2	Airblast Overpressure & Ground Vibration	dB mm/ second	Continuous	Scrap metal yard Crystal Street
V3	V3	Airblast Overpressure & Ground Vibration	dB mm/ second	Continuous	Air Express yard

EPA ID	BHOP ID	Environment Factor	Parameter	Frequency	Location
V4	V4	Airblast Overpressure & Ground Vibration	dB mm/ second	Continuous	Eyre St Bowls Club
V5	V5	Airblast Overpressure & Ground Vibration	dB mm/ second	Continuous	80 Eyre Street
-	V6	Airblast Overpressure & Ground Vibration	dB mm/ second	Continuous	BHOP Core Shed / No4 Headframe

Appendix B - Rasp Mine Environmental Monitoring Locations



Appendix C - Rasp Mine Environment Risk Register