CHAPTER 1 BACKGROUND TO THE PROJECT

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1 BACKGROUND TO THE PROJECT

This chapter introduces and provides a background to the Project, including its historical context and geographical setting. The need for the Project is outlined and a description of the purpose and structure of this Environmental Assessment Report is provided.

1.1 INTRODUCTION

This document is an Environmental Assessment Report (EAR) for the Rasp Mine (the Project) which is owned and operated by Broken Hill Operations Pty Ltd (BHOP), a wholly owned subsidiary of CBH Resources Limited (CBH). The Project provides for the extension of underground mining to include the Western and Centenary Mineralisation and further mining development of the Main Lode Pillars, the expansion of mining production to 750,000 tpa and the recommencement of processing operations at the Rasp Mine in Broken Hill.

The Rasp Mine is located on Consolidated Mining Lease 7 (CML7), which lies centrally in the City of Broken Hill, in the Far North West Region of NSW (*Figure 1-1*).

Although mining and associated operations have been conducted at the site for over 125 years CML7 still contains substantial tonnages of unmined zinc-lead-silver mineralisation. The proposed mining activities will focus on the recovery of high grade remnants, primarily vertical and crown pillars, and the development of the unmined Western Mineralisation and Centenary Mineralisation orebodies and the construction and operation of a processing plant to produce zinc and lead concentrates.

BHOP seeks approval for the Project under Part 3A of the *Environmental Planning and Assessment Act 1979 (*EP&A Act). Approval of the Project would bring economic benefits to Broken Hill by both directly employing local residents and indirectly via capital injection and value added spending, it would prevent the sterilisation of an economic resource and provide continued government royalties. Adaptive reuse of heritage buildings also secures their viability for future generations.

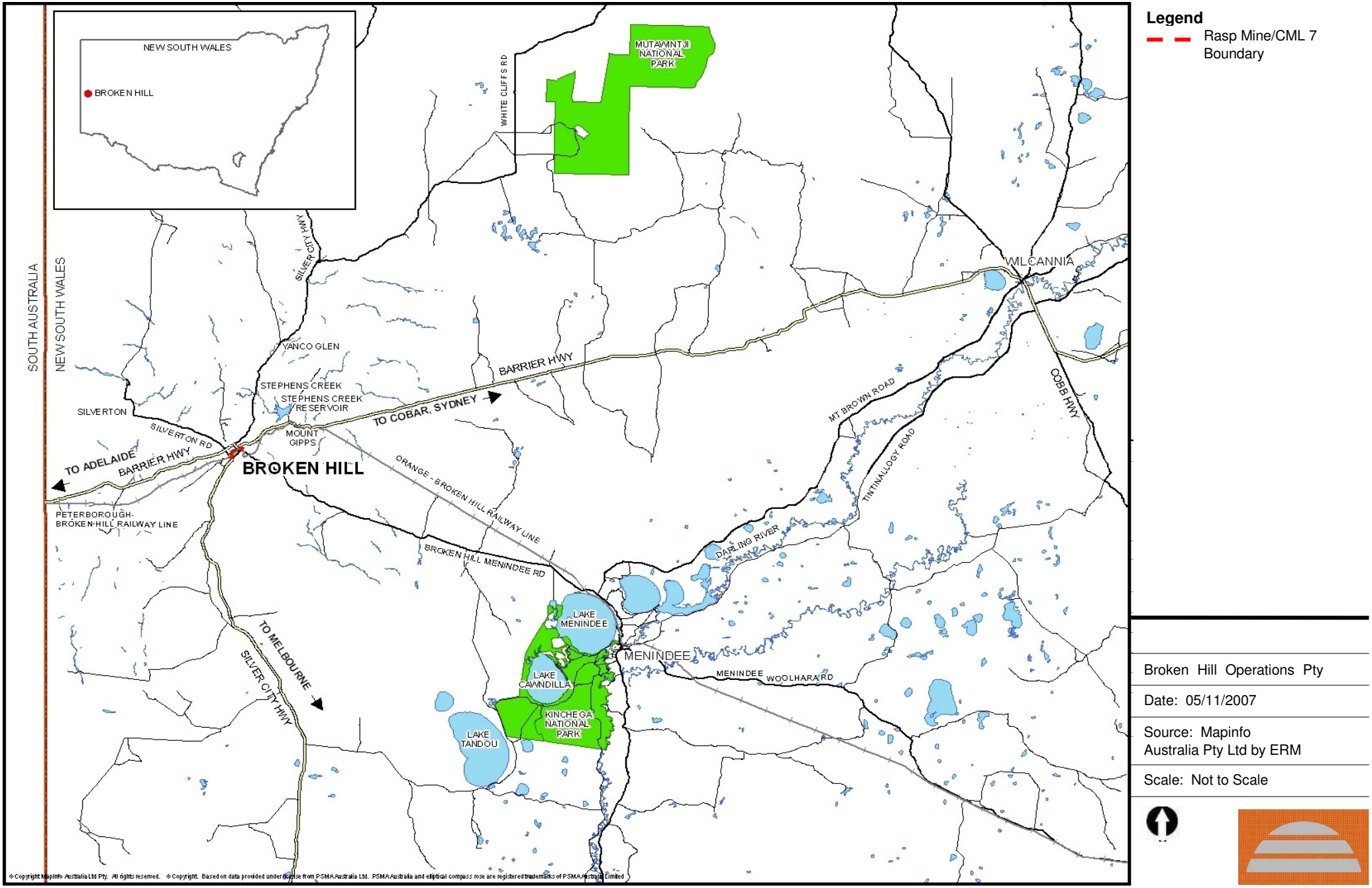
1.2 PROJECT OVERVIEW

1.2.1 Purpose of this Report

This Environmental Assessment Report has been prepared in accordance with the requirements of the EP&A Act, the *Environmental Planning and Assessment Regulation 2000* and the requirements of the Director-General of the Department of Planning (DoP) issued 29 March 2009 (*Annexure B*). The EAR has been prepared to support a Project Application made for the Project in accordance with Part 3A of the EP&A Act.

The Project was determined to be a “Major Project” to which Part 3A of the EP&A Act applies in accordance with the *State Environment Planning Policy (Major Projects) 2005* (Major Projects SEPP).

Figure 1-1 Regional location of the Rasp Mine



Legend

Rasp Mine/CML 7 Boundary

Broken Hill Operations Pty

Date: 05/11/2007

Source: Mapinfo Australia Pty Ltd by ERM

Scale: Not to Scale

The EAR describes the Project and the environmental implications associated with key aspects of the Project; it identifies management measures to mitigate and manage potential impacts.

1.3 HISTORY OF RASP MINE

Broken Hill Operations Pty Ltd purchased the Rasp Mine from Normandy Mining Investments in March 2001 (Normandy). The Rasp Mine consists of CML7 and Mining Purpose Leases 183, 184, 185 and 186 (refer *Figure 1-2 and Annexure C*). These leases occupy a central region of the historic Broken Hill Line of Lode orebody and incorporate the original mine areas that commenced operations in the 1880s and include a substantial amount of mining infrastructure from various mining phases.

Prior to the purchase by BHOP Normandy had managed the site under a care and maintenance protocol having undertaken and completed rehabilitation of the site. The site 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 Delprats Shaft.

In 1883 Charles Rasp pegged seven leases at Broken Hill (later to become CML7). These contained the major lead and silver deposit leading to Broken Hill's reputation as a significant historic mining city. The Broken Hill silver and lead deposit was the largest base metal deposit in the world. Mining has occurred almost continuously since that time. This was the original mine of the Broken Hill Proprietary Company Ltd (today BHP Billiton).

During its history a number of drilling programmes have been conducted over CML7.

The Western Mineralisation, a zinc rich lode horizon (located to the north west of the historic main Line of Lode) of the Willyama Supergroup was discovered in 1913. Since this time it has been the subject of extensive exploration activities by Broken Hill South Ltd in the 1950s - 1960s and as part of a MMM - Conzinc Rio Tinto of Australia Ltd (CRA) joint venture in the 1980s.

Exploration activities indicate that there are substantial tonnages of economic underground reserves within the lode, including high grade zinc-lead-silver lenses.

On acquisition of CML7, a detailed two stage surface drilling programme was conducted by BHOP into the Western Mineralisation to aid in resource definition. The drilling confirmed that the significant high grade zinc-lead-silver lenses indicated in the historical drilling data, are present within the broader mineralised resource. It was concluded that given new mining technologies and mine design options available, the resource could be extracted economically.

In 2001, BHOP engaged ERM to prepare a Statement of Environmental Effects (SEE) for trial mining at CML7. The proposal included development of an access decline from the base of the Kintore Pit; mining of approximately 120,000 t of ore; stockpiling of mullock and run of mine (ROM) ore within the Kintore Pit; and rail transport of product off-site to the Pasminco Mill at NBHC mine. A detailed environmental investigation was undertaken and the SEE was completed, however the trial mining did not proceed.

Figure 1-2 Consolidated Mining Lease 7

In 2006, a Review of Environmental Factors (REF) was prepared under Part 5 of the EP&A Act to accompany an application to the then Department of Primary Industries (DPI) for a Mining Operation Plan (MOP) for an exploration decline and the extraction of a bulk 200 t sample. The purpose of the bulk sample and underground in-fill drilling proposed was for resource assessment and definition. A MOP for this activity was approved by the DPI in November 2006, and decline development commenced in February 2007. The initial application was for the decline to proceed 2200 m at a slope of 1:7 and a depth of 300 m vertically below the surface; however an amendment to the MOP was approved in 2008 to extend the decline to 3000 m (3500 m including drilling cuddies).

During the development of the decline environmental performance has been governed by a comprehensive monitoring programme. High volume air samplers, four dust samplers and three vibration and overpressure measuring devices have been installed. Baseline noise monitoring has been completed and regular noise and dust monitoring undertaken.

In 2007, under Part 4 of the EP&A Act a Development Application (DA) was approved to permit recovery of some small high grade ore blocks in the floor of the Kintore Pit culminating in the extraction of 15,000 t of remnant ore material over a period of approximately three months. This project involved crushing ore on-site, prior to haulage by truck to the Endeavour Mine at Cobar. Approval was granted by Broken Hill City Council (BHCC) on 26 April 2007 (DA 101/2007). This temporary mining has been completed.

In June 2008 as a direct result of the global financial crisis, all work at the Rasp Mine was suspended. Since June 2008 BHOP has undertaken extensive work in redefining the reserve and resource which is now Joint Ore Reserves Committee (JORC) compliant.

In 2009 BHOP sought approval from Industry and Investment NSW (I&INSW) to recommence underground mining activities via a new MOP, supported by an assessment under Part 5 of the EP&A Act with a REF. This was approved in December 2009. Approval was obtained from BHCC via a Development Application to crush, stockpile and transport ore off site for processing under Part 4 of the EP&A Act. This DA was approved in January 2010 and was supported by a SEE.

Table 1-1 summarises the consents obtained since purchase of the Rasp Mine by BHOP.

Table 1-1 Consents

APPROVAL NUMBER	DATE ISSUED	DURATION	PURPOSE
DA 125/2001	5 Sept 2002	Work completed	Surface drilling on CML7 in surface exclusion zone (near rail)
MOP 06/6436	26 Oct 2006	31 Aug 2008	Construct exploration decline, conduct drilling and obtain bulk sample, supported by a REF
DA 101/2007	26 April 2007	Work completed	Undertake temporary mining in the Kintore Pit, this involved excavation of material (no blasting), crushing, stockpiling and transport of ore to the Endeavor Mine near Cobar
MOP Amendment 06/6436	5 May 08	31 Oct 2008	Extension of the exploration decline
MOP 06/6436	16 Dec 09	31 Dec 2010	For underground mining and stockpiling 120,000 tpa, supported by a REF
DA 264/2009	19 Jan 10	2 Feb 2010	For ancillary surface mining activities including crushing, stockpiling and transport of ore, supported by a SEE

1.4 PROJECT SUMMARY

The Project involves the recommencement of mining on CML7 and includes:

- mining of 8,450,000 tonnes (t) of ore:

  - 7,200,000 t from underground mining in the Western Mineralisation and Centenary Mineralisation; and

  - 1,250,000 t from underground mining of Main Lode Pillars off the Rasp Decline;

- continued crushing, stockpiling and transport of ore off site to the Endeavor Mine;

- construction and/or extension of associated infrastructure, plant, equipment and activities, including upgrade of internal roads and construction of on-site acoustic barrier;

- transport of ore to the surface in haul trucks;

- ore processing using crushing, milling and flotation;

- tailings management, including emplacement at an existing tailings storage facility (TSF1) and in the Blackwood Pit (TSF2) (following evaluation of the economic potential of remnant ore) as well as providing back fill for underground mining voids;

- works for surface water management; and

- reinstatement of a rail spur and transport of concentrate in lidded containers by rail to a port / smelter.

1.5 PROJECT SETTING AND STUDY AREA

1.5.1 Site setting

The Project Area is within the CML7 including underground and surface lease areas (there are some surface exclusion areas within CML7 and these are not included in the Project and do not from part of the Rasp Mine). CML7 is within the local government area of Broken Hill and occupies a central region of the Broken Hill Line of Lode orebody, approximately 3.8 km long and 1.2 km wide *(Figure 1-3*). CML7 incorporates the original mine areas that commenced operations in the 1880s.

The Project is located centrally within the City of Broken Hill and is surrounded by transport infrastructure, areas of commercial and industrial development and some residential housing. The Project is bounded by Eyre Street and Holten Drive to the south and east, Menindee Road (MR 66) to the northeast, Crystal and Argent Streets to the north, and South Road (Silver City Highway SH 22) to the west. These roads form part of the existing trucking route through Broken Hill. The Broken Hill railway station is located directly to the north of the mine and lies on the main Sydney – Perth railway line. Residential and commercial areas are located to the west, north and south of the Project Area, Perilya mine developments to the east (North Mine) and west (Southern Operations) and the Blue Metal Quarry to the east. These features are shown on *Figure 1-3*.

Broken Hill is renowned as one of Australia's foremost mining cities and is the largest regional centre in the western half of NSW. In general, the region is dominated by urban development within the City of Broken Hill, cattle and sheep grazing beyond the city limits and extractive industries including mines and quarrying. With the exception of the Line of Lode and its associated waste dumps the surrounding landform is a rejuvenated undulating peneplain.

Figure 1-3 Project site and surrounding area

Legend

- Rasp Mine/CML 7 Boundary
- Project Area

Broken Hill Operations Pty Ltd

Date: 24/09/07

Source: Aerial Dept of Lands by ERM

Scale: Not to scale

1.5.2 Project Area and tenure

The Project Area comprises CML7, associated MPLs and 24 additional parcels of land adjacent to Eyre Street, which include the site offices and the site access road (*Figure 1-3*). It excludes those areas of CML7 where BHOP does not have the surface rights (*Figure 1-2*).

BHOP is the holder of the mineral leases outlined in *Table 1-2*.

Table 1-2 Mining leases

Mineral Authority	Grant Date	Renewal Date	Holder	Purpose
CML7	8 Oct 1987	31 Dec 2026	BHOP	As per Schedule 2 - 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 tailings, development of roads
MPL 183	4 Feb 1981	31 Dec 2026	BHOP	Dumping of ore and mine residues, treatment of tailings
MPL 184	4 Feb 1981	31 Dec 2026	BHOP	Dumping of ore and mine residues, treatment of tailings
MPL 185	4 Feb 1981	31 Dec 2026	BHOP	Dumping of ore and mine residues, treatment of tailings
MPL 186	4 Feb 1981	31 Dec 2026	BHOP	Dumping of ore and mine residues, treatment of tailings
EL 5818	8 Mar 2001	7 Mar 2011	BHOP	Surface disturbing works such as drilling and soil sampling

This land on which the additional land parcels are located is either freehold land owned by BHOP, part of the Western Lands lease (held by BHOP), private leasehold, road easement or electricity easement, as detailed in *Table 1-3*. *Annexure C* illustrates the registered CML7 land holdings.

Table 1-3 Listing for freehold and western lands leases - land parcels

NUMBER	OWNER	GOVERNMENT AUTHORITY	DESCRIPTION
Lots 1 to 10 26 / 758018			Land lots northwest of BHOP office and Radford House continuing to Lot 1790 / 757298 and to the power plant. Access road from Eyre Street and boom gate is located on Lot 2.
Lot 1	BHOP	BHCC	Freehold
Lot 2	BHOP	BHCC	Freehold
Lot 3	BHOP	BHCC	Freehold
Lot 4	BHOP	BHCC	Freehold
Lot 5	Western Lands Lease	Dept of Lands	Lease 97856 (Western Lands Lease 2547)
Lot 6	BHOP	BHCC	Freehold
Lot 7	BHOP	BHCC	Freehold
Lot 8	Western Lands	Dept of Lands	Lease 97932 (Western Lands Lease 2649)

NUMBER	OWNER	GOVERNMENT AUTHORITY	DESCRIPTION
	Lease		
Lot 9	Western Lands Lease	Dept of Lands	Lease 97933 (Western Lands Lease 2650)
Lot 10	Western Lands Lease	Dept of Lands	Lease 97924 (Western Lands Lease 2639)
Lot 17 26 / 758018	BHOP	BHCC	Northeast end of BHOP office block. Freehold
Lot 1 809279	BHOP	BHCC	Access road to CML7 from Eyre Street. Freehold
Lot 2 809279	Lifeline	BHCC	Radford House currently rented by BHOP with an understanding of first refusal for purchase. Freehold Previously Lot 18 26/758018.
Lot 1 134676	BHOP	BHCC	Southwest end of BHOP office block. Freehold
Lot 2 134676	BHOP	BHCC	Land Lot between Lot 1 and Lot 17 26/758018, both owned by BHOP. Contains Perilya's power line. Freehold
Lot 3 134676	BHOP	BHCC	Land Lot adjacent Radford House and BHOP land Lots 3 and 4 26/758018. Contains Perilya's power line. Freehold
Lot 11 725393	State of NSW LOLA	BHCC	BHOP office driveway adjacent Lot 1 134676. Freehold There is some confusion over who owns this Lot. The BHCC has this listed as LOLA, the Dept of Lands as State of NSW. It should have gone to BHOP on purchase of the office building (located on Lots 1 134676 and 17 26/758018). To be addressed by BHOP.
Lot 675 761716	BHOP	Dept of Lands	Land Lot located between the block of Lots 1 – 10 26/758018 and CML7, part also runs between Lots 7 and 8 26/758018. Lease 98285 (Western Lands Lease 3183)
Lot 1790 757298	BHOP	Dept of Lands	Located northeast and adjacent Lot 10 26/758018. Lease 97923 (Western Lands Lease 2638)

The majority of surface land within the Project Area is unalienated crown land, defined as 'Willyama Common' and managed by a trust (currently BHCC). BHOP holds the surface lease for the portion of Willyama Common within the Project Area, where all surface operations with the exception of access and administration will be conducted. Parcels of land over the northeastern portion of CML7 are privately owned and are occupied by private residences and commercial buildings. Vacant land to the east of Holten Drive is also privately owned. In addition, there are public roads and railway land at the surface within the Project Area. With the exception of site access from

Eyre Street and administration buildings, BHOP will not require surface access to land beyond the extent of Willyama Common.

1.5.3 Site condition and existing infrastructure

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. A typical view of the site is presented in *Photograph 1-1*. 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. Heritage values are discussed in *Chapter 11*.

Photograph 1-1 Project area looking north east

The Project Area is occupied by mine workings and associated buildings and infrastructure, with isolated trees, mainly located along boundaries. Most vegetation within the Project Area comprises introduced species.

Existing site infrastructure

- developed exploration decline, current decline face is 230 m below the portal entrance and 2,140 m of development has been completed;

- Kintore Pit and other disused open cut pits (Little Kintore Pit, Block 14/Blackwood Pit and BHP Pit);
- disused mine shafts;
- rehabilitated TSF positioned in a central location near to the southern (Eyre Street/ Holten Drive) site boundary;
- buildings associated with former mining activities. The majority are clustered in the south-west corner of the site in the vicinity of the main access road to the site and around Delprats, Thompson and Browne shafts;
- installation of a bunded hydrocarbon storage area on the western side of the workshop;
- wash down pad and settling dam on the eastern side of the workshop, and settling dams and oil / water separating system below the workshop;
- haul roads and site access roads - internal unsealed and sealed roads, and car parking;
- 22kVA overhead electrical transmission lines, transformers and poles which service surface infrastructure and underground workings;
- a fully fenced substation (owned by BHOP) and associated cabling for decline development;
- site services (including sewerage, potable water, raw water, telephone and data lines) which enter the site in the vicinity of the Eyre Street site access and are distributed to existing buildings, workshop and underground workings;
- two portable magazines located at the southern end of BHP Pit, they are separated by an earth bund and are fenced;
- a 68,800 litre self contained diesel storage tank is located north of the workshop;
- vehicle wash bay;
- disused rail spur line which runs across the western end of the site and connects to the main intercontinental railway line at a point just north of South Road;
- surface workshop, incorporating oil and lubricant storage facilities and a light vehicle wash down pad, and settling pond for workshop water run off, installation of services – air, water and power, installation of roller doors and access doors, and installation of tanks and pumps on the eastern side of the workshop for raw water;
- weather station;
- communications hut for surface and underground radio communications;
- core shed;
- transfer ramp for concrete and shotcrete, it is also used as a truck unloading / loading area;
- sprinkler system on main internal unsealed roads to provide dust suppression;
- boom gate and wire gate access infrastructure; and
- tourist lookout and descriptive signage at Block 10 and tourist descriptive signage and fencing at Brown's Shaft.

1.5.4 Other users

There are a number of other land users within CML7 where the underlying surface land is held by BHOP, *Table 1-4.*

Table 1-4 Other users of BHOP surface lease areas of CML7

Occupier	Area (ha)	Purpose
Broken Hill Gourmet Products Co-operative Limited	2.59	Olive Grove
Crown Castle Australia	0.1	Vodafone Communications Tower
LOLA (the houses were donated to the LOLA in 2000 by NMI)	0.26	2 Residences (South Rd)
Banto Pty Ltd – sublease buildings from LOLA (the Miners Memorial is located on Lease Holding 7 – MPL 183 and 184)	2.91	Broken Earth Restaurant and Miners Memorial
LOLA (these buildings were donated to the LOLA in 2000 by NMI)	2.49	BHP House and Residence D4874

The Broken Hill City Council has a number of tourist leases within CML7, these include:

- tourist lease for Café and Miners Memorial (Licence to Occupy UG12R) (5.61 ha);
- tourist lease for Browns Shaft (Licence to Occupy UG2-3A) (0.25 ha); and
- tourist lease for Block 10 (Licence to Occupy C39-1L) (1.29 ha).

Vodafone Communications Tower

A communication tower has been managed by Crown Castle Australia since in 2001. Known locally as the Vodafone Communications Tower, the Tower services the City of Broken Hill. Although the Tower is located on CML7 and within the surface area of BHOP, BHOP is required to allow access to the Tower for maintenance and repair work (Telecommunications Act 1997).

Broken Hill Miner's Memorial and Broken Earth Café

The Broken Hill Miner's Memorial and Broken Earth Café are located centrally in the Project Area within the surface lease of BHOP. It is operated by Banto Pty Ltd under a tourist lease held by BHCC. The buildings are owned by LOLA. These facilities will not be affected by the proposed mining operations. Notably, noise and air quality modelling predicts that the Project will not impact the Broken Hill Miner's Memorial and Broken Earth Café.

Olive Grove Plantation

A plantation of olive trees (1000) was planted on an old tailings storage dam in October 2004 by the Broken Hill Gourmet Products Co-operative Limited. It is located on 2.6 ha to the north-west of CML7 and within the surface area of BHOP. The project produces olives each year which are pressed for their oil. The project is still under evaluation.

Photograph 1-2 Vodafone Communications Tower

Photograph 1-3 Broken Hill Miner's Memorial and Broken Earth Cafe

Photograph 1-4 Olive Grove Plantation

Line of Lode Association Properties

A number of residential and other buildings were donated by Normandy to LOLA in 2000. These consist of 3 residential houses and the British Flats a heritage listed building on the local LEP. Although the buildings are owned by LOLA they are located on CML7 and within the surface area of BHOP. These buildings are currently used as:

- South Road Number 1 Residence, residential building, occupied;
- South Road Number 2 Residence, residential building, occupied;
- Proprietary Square Number 27, residential housing, occupied; and
- British Flats, unused building.

Photograph 1-5 British Flats/BHP House

1.6 PROPONENT

BHOP is a wholly-owned subsidiary of CBH Resources Ltd (CBH), an independent Australian resource company focussed on the exploration and development of major base and precious metals projects. CBH is listed on the Australian Stock Exchange (ASX Code: CBH) and its corporate office is located in Sydney, NSW.

In addition to the Project, CBH has a range of exploration targets and mining operations in NSW and Western Australia.

- the operating Endeavour Mine (zinc-lead-silver) at Cobar, NSW (production capacity 1.4 Mtpa);
- the concentrate shiploading facility at Newcastle Port, NSW operated by Carrington Facilities Pty Ltd (a wholly owned subsidiary of CBH). The facility has the capacity to handle more than 500,000 tpa and includes rail receival, unloading equipment and storage capacity, retrieval and shiploading systems;
- the development of a mining operation for a copper-zinc orebody as part of the Panorama (Sulphur Springs) Project in the Pilbara region of Western Australia; and
- major base metal exploration projects in the Pilbara and East Kimberley regions of Western Australia (Panorama JV, Napier Range), and in Broken Hill and the Cobar Basin in NSW.

CBH key sustainability policies include health and safety, environment and community partnerships, these policies form the basis of CBH corporate values. Further information on CBH is provided at www.cbhresources.com.au.

1.7 NEED FOR THE PROJECT

The Project will make an important contribution to Broken Hill's economy over a 15 year time frame encompassing Project development, mining operations and closure activities.

The Western and Centenary Mineralisation is an unmined separate large orebody to the north west of the main Line of Lode (historically mined in Broken Hill) and will be mined in conjunction with the substantial resources of remnant ore in the Main Lode Pillars within the original mining areas. The size and extent of these Pillars which includes high grade zinc-lead-silver masses (refer *Section 2.1* for resource description) is largely unknown and further definition drilling is planned.

BHOP aims to recover resources from the Western and Centenary Mineralisation and remnant ore from the Main Lode Pillars, re-establish a supply of high quality zinc-lead-silver concentrates for smelting in Australia and overseas thereby realising financial benefits for Australia and the Company. The Project will enable BHOP to capitalise on their initial investment for exploration and decline development and to take advantage of the existing site infrastructure.

The Project will have environmental, social and economic benefits including:

- provision of employment for Broken Hill residents, with approximately 107 people to be directly employed during the open cut, construction and commissioning and approximately 143 people during full-scale mining operations;
- training of Broken Hill residents as miners, trades workers and professionals for BHOP's operations;
- indirect and induced employment (346) generated via support services such as maintenance workers and short term sub-contractors;
- economic benefits to the Broken Hill community via capital injection and value added spending;
- enhancement of the economic position of CBH which in turn will fuel investment in other projects;
- extraction of a valuable mineral resource before the site reverts to other uses, thus preventing its sterilisation;
- extension of the life of Broken Hill mining ensuring continued provision of government royalties; and
- preservation of the historical heritage of the site for future generations.

1.8 DIRECTOR-GENERAL'S REQUIREMENTS

A Planning Focus Meeting was held in February 2007. The purpose of this meeting was to provide government and agency stakeholders with an outline of the proposed Project activities and their potential environmental impacts. This meeting also provided an opportunity for government department and agency representatives to inspect the site, exchange information and to raise and discuss issues with BHOP management. Following this meeting and the provision of the Preliminary Assessment for the Project, the participants through their respective agencies provided a list of areas that needed to be addressed as part of the environmental assessment of the Project.

These comments formed the basis of the Director General's Requirements provided on the 19 March 2007. These Requirements expired on the 19 March 2009 and were subsequently updated and reissued on the 29 March 2009 by the DoP (*Table 1-5 and Annexure B*).

Table 1-5 Director General's requirements

Application number	**07_0018**	
Project	The proposed Rasp Mine Project which includes: • extracting 8.5 million tonnes of ore by open cut [BHOP no longer seeks approval for open cut mining under this application] and underground mining methods at an approximate rate of 750,000 tpa; • processing ore using a surface crusher and flotation concentrator and managing tailings using a settling facility; • constructing and/or extending associate infrastructure, plant, equipment and activities • reinstatement of a rail spur and transport of concentrate in rail wagons to a smelter and/or port.	
Location	Within Broken Hill township in the Far West Region of New South Wales.	
Proponent	Broken Hill Operations Pty Ltd	
Date of Issue	29 March 2009	
General Requirements	The Environmental Assessment must include:	
	• an executive summary;	*Executive Summary*
	• a detailed description of:	*Chapter 1*
	- historical mining operations on site;	*Chapter 1*
	- existing and approved mining operations and infrastructure on site, including a copy of all statutory approvals that apply to these operations and infrastructure; and	*Annexure M*
	- the existing environmental management and monitoring regime on site;	*Chapter 2*
	• a detailed description of the project, including the:	
	- need for the project;	*Chapter 1*
	- alternatives considered;	*Chapter 2*
	- likely interactions between existing and approved mining operations and the project;	*Chapter 2*
	- likely staging of the project; and	*Chapter 2*
	- plans of any proposed building works;	*Chapter 2*
	• a risk assessment of the potential environmental impacts of the project, identifying the key issues for further assessment;	*Chapter 6*
	• a detailed assessment of the key issues specified below and any other significant issues identified in the risk assessment (see above), which includes:	
	- a description of the existing environment, using sufficient baseline data;	*Chapters 7 to 17*
	- an assessment of the potential impacts of all stages of the project, including any cumulative impacts associated with the concurrent operation of the project with any other existing or approved mining operations in the region, taking into consideration any relevant policies, guidelines, plans and statutory provisions (see below); and	*Chapter 6*
	- a description of the measures that would be implemented to avoid, minimise, mitigate and / or offset the potential impacts of the project, including detailed contingency plans for	*Chapters 6 and 18*

Application number	**07_0018**	
	managing any significant risks to the environment;	
	• a statement of commitments, outlining all the proposed environmental management and monitoring measures;	*Chapter 18*
	• a conclusion justifying the project on economic, social and environmental grounds, taking into consideration whether the project is consistent with the objects of the *Environmental Planning & Assessment Act 1979*;	*Chapter 19*
	• a signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false nor misleading.	Attached sign off by G Wilson, CBH Group Manager - SHEC
Key Issues	• **Air** – including:	
	• assessment of all potential airborne lead and dust emissions from construction, traffic movements, open exposed areas including tailings dams, material processing and handling, transfer points, mine exhaust, loading facilities etc;	*Chapter 8 and Annexure H*
	• a health risk assessment identifying all potential pathways of lead exposure from proposed mining operations, including full toxicological profiles of all potential contaminants, and taking into account potential additional long-term exposure to lead and other emissions from proposed mining operations (including transport of ore and the tailings dam);	*Chapter 9 and Annexure I*
	• a lead monitoring programme based on current best practice with respect to monitoring impacts of off-site lead exposures on the community; and	*Chapter 9 and Annexure I*
	• a greenhouse gas assessment;	*Chapter 8*
	• **Noise & Blasting** – including construction and operational, and off-site road impacts;	*Chapter 7 and Annexures G(A) and G(B)*
	• **Soil and Water** – including erosion controls;	*Chapters 10 and Annexure J*
	• **Heritage** – both Aboriginal and non-aboriginal (particularly mining heritage);	*Chapter 11*
	• **Waste –** including detailed information on the proposed measures to manage the tailings and waste rock generated by the project;	*Chapter 15*
	• **Transport** – including off-site rail impacts;	*Chapter 14*
	• **Rehabilitation and Final Landform**- including a Rehabilitation and Landscape Management Strategy which provides • a detailed overview of the final land use and closure criteria; and • identification and discussion of opportunities to improve rehabilitation and environmental outcomes for existing disturbed areas within the project site; and	*Chapter 17*
	• **Social and Economic.**	*Chapter 16*
References	The Environmental Assessment should take into account relevant State and Commonwealth Government technical	*Chapter 20*

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	and policy guidelines. While not exhaustive, guidelines which may be relevant to the project are included in Attachment 1.	
Consultation	During the preparation of the Environmental Assessment, you should undertake an appropriate level of consultation with the relevant local, State or Commonwealth government authorities, service providers, community groups or affected landowners. In particular you should consult with: • Department of Environment and Conservation; • Department of Natural Resources; • Department of Primary Industries; • NSW Health; • Roads and Traffic Authority; • BHCC; • Country Water; and • Australian Rail Track Corporation. The consultation process and the issues raised must be described in the Environmental Assessment	*Chapter 3*
Deemed refusal period	90 days	

1.9 STRUCTURE OF THE EAR

The EAR contains two volumes incorporating this Report in Volume 1 with annexures and specialist technical studies in Volume 2. Volume 1 is divided into three parts, as follows.

Volume 1

Executive Summary

The Executive Summary provides a brief overview of the Project and the major outcomes of the environmental assessment.

Part A – Background and project description

Part A provides the background to and a detailed description of the Project. Additionally, an overview of alternatives assessed and justification for the preferred options is provided. Part A also describes the consultation process undertaken with government and community stakeholders to identify issues together with an outline of the statutory framework under which the Project will be assessed.

Part A includes Chapters 1 to 4.

Part B – Social and environmental interactions

Part B describes the interactions between the Project and the biological, physical and social environments. In addition, it provides an assessment of the potential environmental impacts associated with the Project and a description of the management and monitoring measures proposed to manage any identified impacts. This Section also discusses rehabilitation and post mining land use and closure criteria.

Part B includes Chapters 5 to 17.

Part C – Conclusion

Part C provides the Statement of Commitments outlining BHOP's commitments to manage environmental impacts associated with the Project. In addition, it assesses the Project against the principles of Ecological Sustainable Development (ESD) and provides a conclusion to the EAR.

Part C includes Chapters 18 and 20.

A list of acronyms and references used throughout the report is provided at the front and rear of Volume 1 respectively.

Volume 2

Volume 2 comprises:

Annexure A – EAR Project Team

Annexure B – Director General's Requirements

Annexure C – Registered Consolidated Mine Lease 7

Annexure D – Sample Community Consultation Material

Annexure E – Rasp Underground Mine – Subsidence Study, Coffey Mining 2007

Annexure F – Tailings Storage Scoping Study and Preliminary Design – Rasp Project, Broken Hill NSW, Golder Associates 2010

Annexure G(A) – Rasp Mine Noise and Vibration Assessment Report, ERM 2007

Annexure G(B) – Rasp Mine Noise and Vibration Assessment Report Addendum, EMGA 2009

Annexure H – Rasp Mine Air Quality Assessment Report, ENVIRON 2010

Annexure I(A) – Rasp Mine Health Risk Assessment Report, Toxikos Pty Ltd 2010

Annexure I(B) – Rasp Mine, Broken Hill Screening Assessment of Health Risk Potentials due to Chemical Dust Suppression Agent Applications, ENVIRON 2010

Annexure J – Rasp Mine Surface Water Management – Plan, Golder Associates 2010

Annexure K – Hydrogeological Assessment for Proposed Mine Expansion, Rasp Mine, Broken Hill, New South Wales, Golder Associates 2008

Annexure L – Rasp Mine Historic Heritage Assessment Report, ERM 2007

Annexure M – Copies of the Statutory Approvals

Project features presented throughout this EAR are represented as accurately as possible. However, due to the scale of these figures and the thickness of lines etc minor inaccuracies may occur.