

Hera Resources Pty Ltd

Federation Project

Environmental Impact Statement

Chapter 3

Existing Operations

3. Existing Operations

3.1 Overview

This section provides an overview of the current operations and approvals related to the Project. The purpose of this section is to provide context for the current operations and to identify how they will form part of the Project and interact with the Project.

3.2 Hera Mine

Hera Mine is operated by Hera Resources and is located approximately 5 km south of Nymagee and approximately 80 km south east of Cobar (refer **Figure 1-1**). Hera Mine commenced operations in 2012 under the former EP&A Act Part 3A approval PA10_0191 which has been modified six times. Approved activities at the Hera Mine include the extraction of waste rock and metalliferous ore using underground open stope mining methods and underground load and haul operations approved up to 31 December 2025.

Other approved activities at Hera Mine include:

- Backfilling of underground stope voids created during underground mining using PAF waste rock to minimise sulphide oxidation. Modification 6 also provides for the backfilling of stopes with tailings;
- Use of surface infrastructure required for the underground mine, including a box cut, portal and decline, magazines, fuel store, ventilation rises and power and water store;
- Waste rock emplacement to a height of 15 m above ground level;
- Establishment and use of a surface extraction area and associated relocation of the existing magazine;
- Use of a processing plant, including a run of mine (ROM) pad, crushing, grinding and screening operations, gravity separation and flotation circuits to process up to 505,000 tpa of ore to produce gold and silver doré and a zinc/lead concentrate;
- Use of a TSF, including cyanide detoxification of tailings prior to discharge to the TSF. The TSF has an approved area of approximately 50ha and an approved western embankment elevation of 329 m AHD. The existing western embankment elevation is 324.7 m;
- Use of a water management system, including production bores, sediment basins, tanks, water management dam, water catchment dams and an associated water diversion system to enable separation and management of different water types, and the harvesting and supply of water for operational purposes;
- Transportation of up to 60,000 tpa of zinc/lead concentrate from the mine to Hermidale Rail Siding via public roads, including Hermidale Road;
- Transportation of up to 100,000 tpa of ore from the Hera Mine to the Peak Gold Mine (PGM) by road, with backloading of a similar amount of waste rock from PGM to the Hera Mine;
- The use of a mine accommodation village, including accommodation facilities, ablution facilities, a water treatment facility, communal facilities and a communal car park. The

accommodation village was approved under Cobar Shire Council (CSC) development consent 2012/LD-00004 (2012), with an extension approved under development consent 2021/LD-00010 (2021); and

- Receipt of water from dewatering of the decommissioned Nymagee Copper Mine for use in processing operations at the Hera Mine or evaporation within the water management dam. The pipeline from Nymagee Copper Mine to Hera Mine is approved under CSC development consent 2019/LD-00027.

As part of the recent modification approved in June 2021, Hera Mine will also receive a 20,000 t bulk sample from the Exploration Decline Program for batch processing, which is further detailed in **Section 3.5**. Hera Mine is also approved to receive waste rock and water from the Exploration Decline Program (R W Corkerys, 2019).

Mining operations at Hera Mine are scheduled to cease around late 2023 with similar workforce numbers transitioning to the Federation Project. However, numerous elements of Hera Mine will remain operational (as modified if required) as part of the Project. This is described in **Section 4**.

3.3 Peak Gold Mine

PGM, which includes the New Cobar Complex is located 3km to the south-east of Cobar and the Peak Complex located 10km south east of Cobar. PGM has been operational since mining commenced at the Peak deposit in 1991 and operates under development approvals issued by CSC. Mineral production commenced in 1992, producing gold, copper, lead, zinc and silver. The current approvals at PGM allow for the operations to continue indefinitely and process up to 800,000 tpa of ore at the Peak processing plant.

The PGM processing plant comprises a range of mills, flotation cell banks and other associated equipment. The plant has recently been upgraded to replace the flotation circuit and install a segregated concentrates storage area. Tailings are managed within the Peak Complex and are placed in the PGM TSF.

As detailed in **Section 4.5.2**, it is proposed to transport approximately 200,000 tpa of ore from the Federation Site to PGM for processing. It is anticipated this would be undertaken up to Year 5 of the Project whilst the new processing plant at Hera Mine is constructed and commissioned.

3.4 Nymagee Mine

The Nymagee Mine is owned as a joint venture between Nymagee Resources Pty Ltd (95%), a subsidiary of Aurelia and Ausminindex Pty Ltd (5%). The mine is approximately 1 km west of the Nymagee township and 80 km south east of Cobar (refer **Figure 1-1**).

No active mining is currently occurring at the Nymagee Mine and the site is non-operational, however it is approved to provide water for Hera Mine located approximately 6km to the south east (Aurelia Metals Pty Ltd, 2020).

3.5 Exploration Decline Program

In February 2021, Hera Resources applied to DPIE-Resource Regulator (DPIE-RR) for the development of an exploration decline at Federation (referred to as the Exploration Decline Program) under Part 5 of the EP&A Act. The application was supported by a review of environmental factors (REF) assessing the potential impacts and describing measures to mitigate and manage impacts (R W Corkerys, 2020). Approval was granted by DPIE-RR on the 12 August 2021. The main objectives of the Exploration Decline Program are:

- Further define the mineral resources associated with the Federation Deposit, including permitting drilling of exploration drill holes from underground;
- Provide further samples for metallurgical, geotechnical and associated test work; and
- Allow for extraction of one or more bulk samples (totaling no more than 20,000t).

Key components of the Exploration Decline Program include:

- Establishment of a surface infrastructure area required to support the exploration decline;
- Development of a box cut, portal, exploration decline, two ventilation rises and one escapeway;
- Transportation to and storage of waste rock within the surface infrastructure area. Waste rock from the box cut would be stored within the surface infrastructure area for future use in rehabilitation. All other waste rock would be stored within the surface infrastructure area and transferred to Hera Mine via Burthong Road, or returned underground via the decline;
- Establishment and use of an approximately 14.8km surface pipeline to transfer water from the exploration decline to Hera Mine. The pipeline would be installed on the surface, except where it crosses ephemeral watercourses where it would be buried. The pipeline would be installed within an approximately 3m wide cleared corridor, with the cleared corridor increasing to 7m wide 40m either side of any watercourse crossings;
- Exploration drilling from the exploration decline; and
- Extraction of one or more bulk samples together totaling no more than 20,000t and transportation of that material to Hera Mine via Burthong Road.

The Exploration Decline Program is scheduled to commence in early 2022 and be completed in the second half of 2023. Components of the Exploration Decline Program which are developed over this timeframe will remain in place and form part of the Project, with infrastructure upgraded as required, following Project approval, to support mining rather than exploration.

3.6 Existing Approvals

Provided in **Table 3-1** and **Table 3-2** are the current approvals and licences which are held by subsidiaries of Aurelia for Hera Mine and Nymagee Mine. **Table 3-3** identifies current approvals and licences for PGM.

As part of the Federation Project, it is intended to rescind/surrender Hera Mine's Major Project Approval (PA) 10_0191 with activities at Hera Mine incorporated into the SSD approval.

Table 3-1 Existing Approvals and Licences (Hera Mine)

Issuing Authority	Type	Date of Issue	Expiry	Comments
Department of Planning, Industry and Environment	Major Project Approval - (PA) 10_0191	31 July 2012	31 December 2022	Modified six times. MOD6 approved June 2021 to extend approval to 2025
Cobar Shire Council	Development Consent 2012/LD-00004	14 March 2012	No Expiry	Hera Accommodation Village
Cobar Shire Council	Development Consent 2021/LD-00010	13 July 2021	No Expiry	Hera Accommodation Village expansion
Environment Protection Authority	Environmental Protection Licence 20179	18 March 2013	No Expiry	
Natural Resources Access Regulator	Water Access Licence (WAL) 43173	6 March 2020	No Expiry	Permits extraction of up to 543ML per year
Mining, Exploration and Geoscience	Mining Lease 1686	16 May 2013	16 May 2034	For copper, gold, lead, silver and zinc
	Mining Lease 1746	7 December 2016	7 December 2037	For copper, gold, lead, silver and zinc
	Exploration Licence 6162	26 November 2003	26 November 2024	Held by Hera Resources Pty Ltd
	Exploration Licence 7447	2 February 2010	2 February 2026	Held by Defiance Resources Pty Ltd (a subsidiary of Aurelia)

Table 3-2 Existing Approvals and Licences (Nymagee)

Issuing Authority	Type	Date of Issue	Expiry	Comment
Mining, Exploration and Geoscience	Mining Lease 53	5 November 1975	31 December 2026	Renewal application for a 21 year period was submitted to Mining, Exploration and Geoscience on 24 August 2020.
	Mining Lease 90	30 July 1975	31 December 2026	Renewal application for a 21 year period was submitted to Mining, Exploration and Geoscience on 24 August 2020.
	Mining Lease 5295	24 December 1951	31 December 2026	Renewal application for a 21 year period was submitted to Mining, Exploration and Geoscience on 24 August 2020.
	Mining Lease 5828	25 October 1962	31 December 2026	Renewal application for a 21 year period was submitted to Mining, Exploration and Geoscience on 24 August 2020.
	Private Lease Land 857	24 December 1951	31 December 2026	
	Exploration Licence 4458	26 November 1992	26 November 2018	Renewal sought
Natural Resources Access Regulator	Water Access Licence 43173	10 March 2020	No expiry	

Table 3-3 Existing Significant Approvals and Licences (PGM)

Issuing Authority	Type	Date of Issue	Expiry
Cobar Shire Council	The Peak Project – development application No. 27:89	1990	
	New Cobar South Open Cut - LDA 98/99:08	1999	
	New Cobar Open Cut - LDA 99/00:22	2000	
	New Cobar Underground – 2004/LDA 00003	2004	
	Peak Gold Mine 2020/LD-00029	13 July 2021	15 July 2026 (if work isn't substantially commenced)
Environment Protection Authority	Environmental Protection Licence 3596		No Expiry
Natural Resources Access Regulator	Miscellaneous Works Approval 85MW095002	12 February 2020	No expiry
Natural Resources Access Regulator	Works Approval 80WA704315	25 June 2013	No expiry
Mining, Exploration and Geoscience	Consolidated Mine Lease (CML) 6	9/2/96	27/2/34
	Consolidated Mine Lease (CML) 7	28/6/95	28/6/25
	Consolidated Mine Lease (CML) 8	16/9/96	16/9/33
	Consolidated Mine Lease (CML) 9	26/9/95	26/9/27
	Mining Lease (ML) 1483	30/4/01	27/1/29
	Mining Lease (ML) 1805	14/05/20	14/05/41
	Mining Purposes Lease (MPL)	29/9/36	29/9/22