



Rasp Mine  
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22 March 2021

Mr Steve O'Donoghue  
Director Resources Assessments  
NSW Department of Planning, Industry and Environment  
Locked Bag 5022  
Parramatta NSW 2124

Dear Mr Steve O'Donoghue,

**Re: Rasp Mine PA07\_008 Modification Report (MOD8) – Mining Under a Perilya Sublease Arrangement for ML1249**

Broken Hill Operations Pty Ltd (BHOP) owns and operates the Rasp Mine (the Mine) located centrally within the City of Broken Hill on Consolidated Mine Lease 7 (CML7), **Figure 1**. Operations are undertaken in accordance with Project Approval 07\_0018 (PA). The Mine has been transitioned to a State Significant Development (SSD-814).

BHOP seeks to modify its PA to incorporate a predefined region of Mine Lease 1249 that is proposed to be mined under a sublease arrangement with Perilya Broken Hill Limited (PBHL), the lease holder. The application for this modification is made pursuant to Section 4.55(1A) of the *Environment al Planning and Assessment Act 1979* (EP&A Act) and is determined a minor modification as there are no additional surface activities or environmental impacts associated with the application and it is consistent with the original development application.

The following Modification Report is provided to support the application.

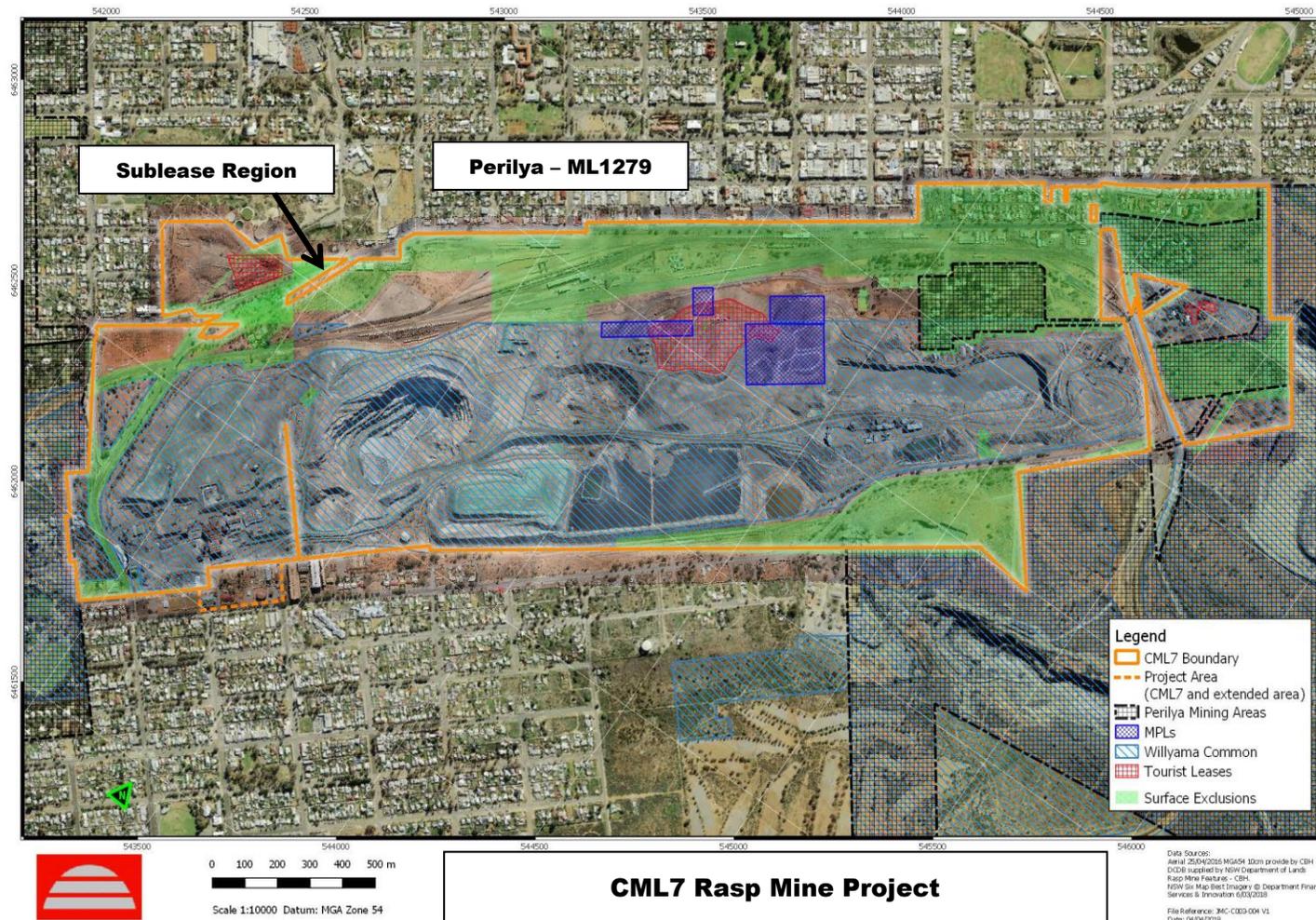
Mining Lease 1249 (ML1249) lies adjacent and to the northwest of CML7 and is held by Perilya Broken Hill Ltd (PBHL) and a small area of this Lease (20 m x 250 m) juts into CML7, **Figure 1**. The current surface infrastructure that lies in the sublease region is a service road (referred to as Old South Road) providing access to the RSPCA and three residences. There are no structures or buildings located on the surface area.

BHOP is to enter into a sublease agreement with PBHL to mine mineral resources in this area (as part of an exchange with PBHL for mining an area on the CML7 and CML8 boundary). The volume of resources that is located within this proposed sublease is approximately 255,000t of ore at a combined grade of 6.3% lead/zinc (PbZn) from mining Levels 21 (650 m below surface) to 24 and may extend at depth. The current value of this resource is approximately \$9.1M (after extraction costs).

Mining of this resource would be undertaken in accordance with PA conditions and current mining methods, with no change to production rates (as this is a resource exchange with PBHL). There would be no additional surface activities and no additional environmental impacts.



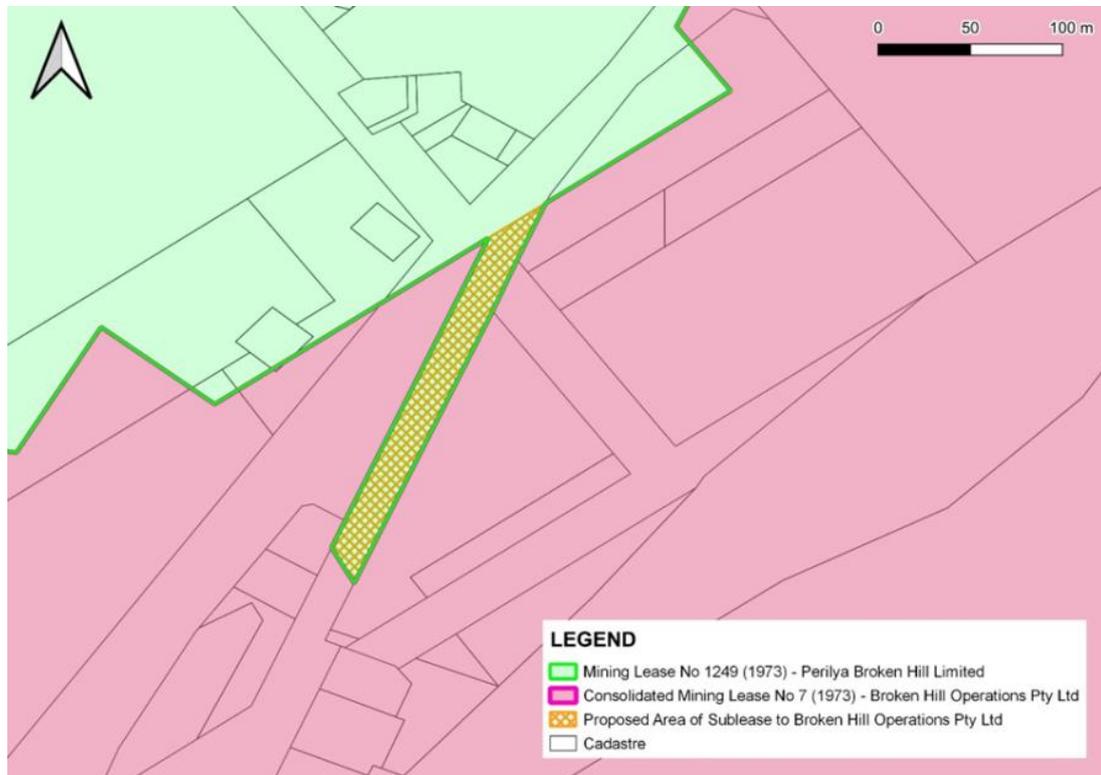
**Figure 1 - Rasp Mine CML7**





The pre-defined region of ML1249 that forms the basis of the sublease is presented in **Figure 2**.

**Figure 2 - ML1279 Sublease Region**



And is defined by the following MGA coordinates:

6463180.86N	543079.2E
6463147.74.N	543056.95E
6462926.21N	542960.02E
6462945.21N	542946.38E
6463150.25N	543036.1E

Given its spatial location this mineral resource can only be effectively and efficiently extracted via access from the current BHOP underground infrastructure that lies adjacent to the proposed sublease region. The proposed mining level plans for the 21 to 24 Levels with the proportion that is located within the sublease region (highlighted) is provided in **Appendix 1 – Underground Level Plan (21 – 24 Level) showing sublease region and current / proposed workings**.

The identified resource is inaccessible and unviable from the current and future mining activities of PBHL to be mined and hence will be sterilised if this approval was not granted.

BHOP currently mine or have mined on either side of the proposed area and the Modification would enable continuation of the existing mining activities on CML7 across the sublease region. The depth of the proposed mining activity (in excess of 650 m below the surface) means there will be no surface



disturbance or potential for subsidence issues. There is no evidence of subsidence from current mining activities in the area and no community complaints have been received in this area in regards to underground mining activities including blasting vibration.

PBHL has confirmed the proposed sublease arrangement and given BHOP approval to mine in this area of ML1249 as defined and support in any application to the existing development consent associated with CML7 (**Appendix 2 – PBHL Approval Letter**).

Consultation has been undertaken with local government and regulators and a summary of the feedback and requirements is presented **Table 1**.

**Table 1 – Summary of Consultation for MOD8**

<b>Agency</b>	<b>Consultation Feedback and Requirement(s)</b>
Resource Regulator – Environment	<p>Feedback</p> <p>No issue with the proposed minor modification due to the fact that it is at significant depth (~700mts below the surface) and there will be no surface disturbance as a result of the proposed minor modification.</p> <p>Requirement</p> <p>The MOP will need to be updated with an amendment to reflect the minor modification.</p>
Resource Regulator – Safety	<p>Feedback</p> <p>No issue with the proposed minor modification due to the fact that it is continuation of the adjacent approved mining activity.</p> <p>Requirement</p> <p>The agreement between the two parties will need to ensure clear accountability between the ownership of the Mining Engineering Manager (MEM) statutory obligations with respect to the mining activities within the sublease region.</p>
EPA	<p>Feedback</p> <p>No issue with the proposed minor modification due to the fact that it is continuation of the adjacent approved mining activity and there is no surface disturbance resulting from the mining of this area.</p> <p>Requirement</p> <p>Ensure that impact of proposed mining with respect to blasting vibration is in line with current license limits. (Refer to Blasting Analysis below.)</p>



Mining, Exploration & Geoscience - Department of Regional NSW	<p>Feedback</p> <p>No issue with the proposed minor modification due to the fact that it is continuation of the adjacent approved mining activity</p> <p>Requirement</p> <p>Provide the following as part of the modification submission</p> <ul style="list-style-type: none"><li>○ Provide resource geology, sublease area, extension and current mining area locations in a shape file.</li><li>○ Site layout to determine potential resource sterilisation/optimisation</li><li>○ Resource recovery method, tonnages and ore grade figures in table format</li><li>○ Production schedule adjustments in table format</li></ul>
Broken Hill City Council	<p>Feedback</p> <p>No issue with the proposed minor modification due to the fact that it is continuation of the adjacent approved mining activity</p> <p>Requirement</p> <p>No additional requirements</p>

An internal review of recent production firings adjacent the proposed sublease region was undertaken to determine the current blasting induced vibration trends in that area of the Mine.

Over the last nine months 27 production firings have been undertaken from eight stopes on the 20 Level which is located immediate adjacent to the sublease region at 660m from the surface (refer to **Figure 3**). Based on the actual vibration data collected for these blasts , the average vibration magnitude was 1.1 mm/s being detected at our offsite license and roving monitors (highest 4.75mm/s and lowest 0.13mm/s). This analysis is based on a data set of 186 vibration traces and all vibrations detected were below 5 mm/s well within the Environment Protection Licence 12559 (EPL) for the Mine of 95% of blasts to be below 5 mm/s.

Blasting performance from the 21 Level (the first level that mining will occur within the sublease region) is consistent with what we have seen on the 20 Level. The first stope within this area ( 21L 116) has recently been fired and based on the 3 blasts (20 data points) the vibration has averaged 1.4 mm/s , with all vibration traces well below the 5mm/s licence requirement (highest was 2.7 mm/s).

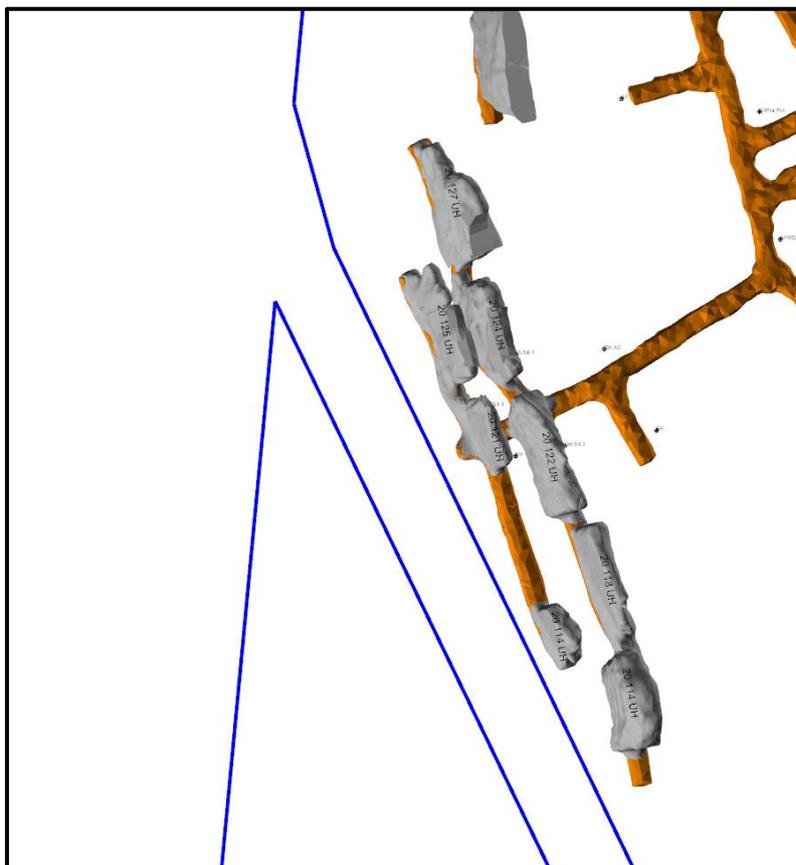
The sublease area represents continuity down dip of the Western Mineralisation orebody. Rock types are typical Western Mineralisation lithologies including metasediments of Pelites and psammo pelites,



Blue quartz lode and garnet quartzites. Primary mineralisation is galena (lead and silver) and sphalerite (Zinc) with minor chalcopyrite pyrrhotite on the edges. Rhodonite and hedenbergite are accessory gangue minerals. There are no significant geological structures within the vicinity and no dykes have been identified within the sublease that may lead to excessive blast vibrations.

Given the similarities of the geological features and ore distribution with the existing Western Mineralisation, the mining parameters (stope size, production hole length and diameter) within the sublease region will remain unchanged and it is not anticipated to be unfavorable with regards to blast vibration. A mine plan indicating historical firings from the 20 Level (grey shapes) adjacent to the sublease region (blue line) is provided below.

**Figure 3 – Mine Plan of 20 Level Workings**



Given the location of the sublease with respect to current working, it is anticipated that BHOP will be in a position to commence mining activities across the sublease in the next 4 weeks (mid-April 2021).

The justification for this project is to ensure maximum utilisation of the resource along the Line of Lode. It will enable access to a part of the resource that would otherwise be sterilised as it is not economically viable for PBHL to mine in this area with current mining access in excess of 1km.



Please advise if further information is required.

Yours sincerely

**Giorgio Dall'Armi**  
**General Manager**  
**Rasp Mine**  
**Broken Hill Operations Pty Ltd**  
**M: 0419 184 445**  
E: [giorgiodallarmi@cbhresources.com.au](mailto:giorgiodallarmi@cbhresources.com.au)

List of Appendices:

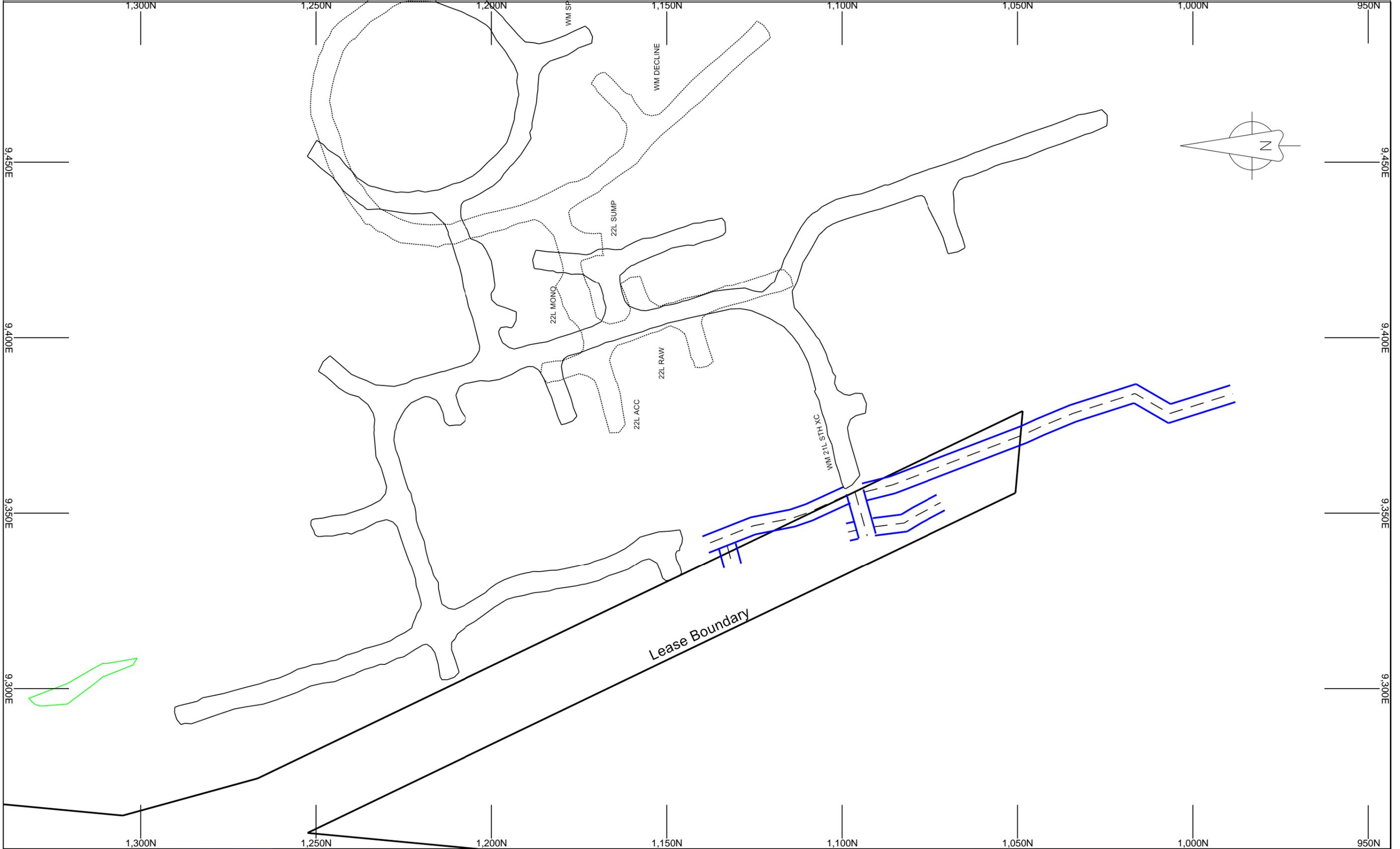
**Appendix 1 – Underground Level Plan (21 – 24 Level) showing sublease region and current / proposed workings**

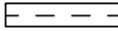
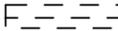
**Appendix 2 – PBHL Approval Letter**

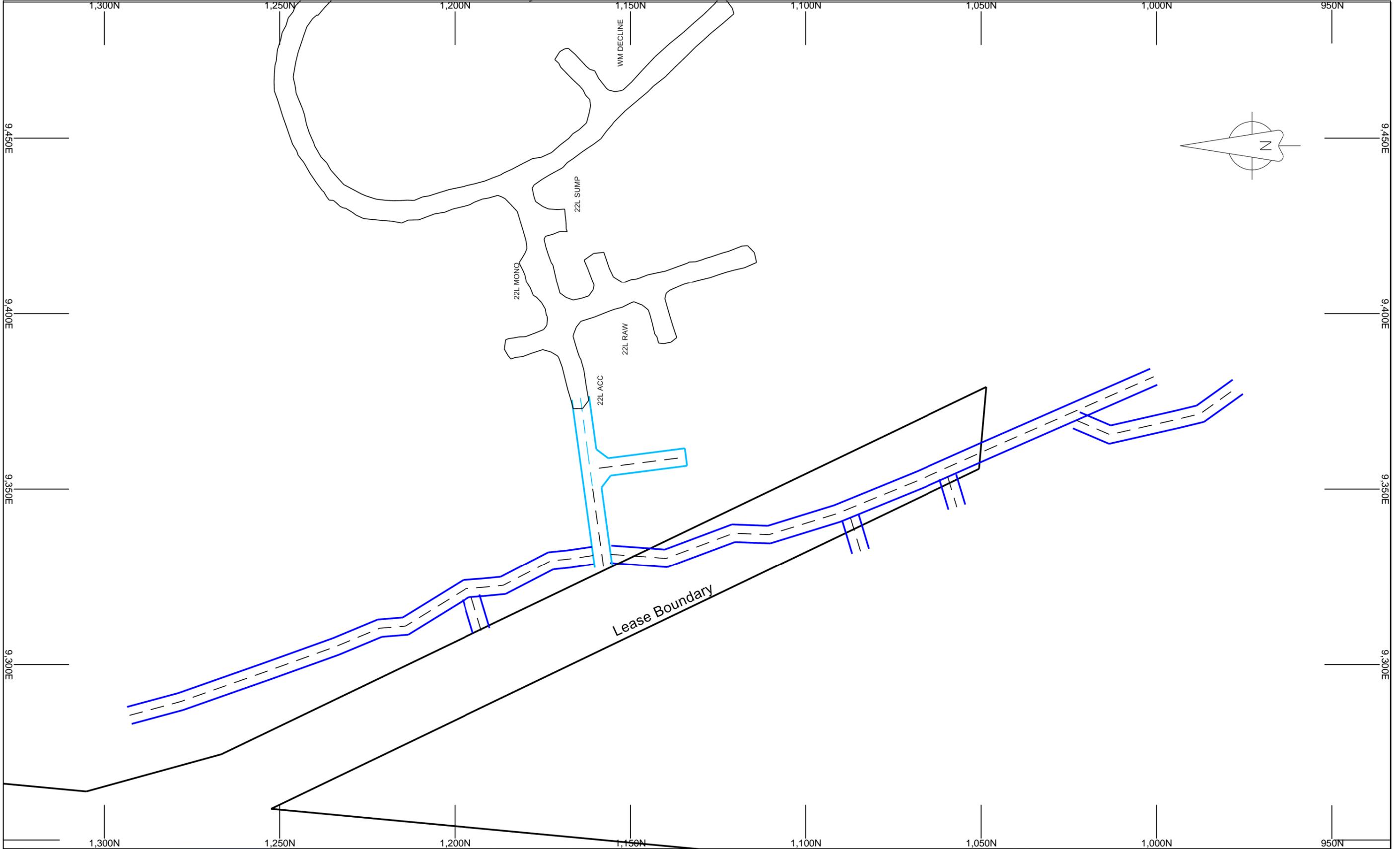


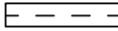
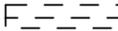
# **Appendix 1**

*Underground Level Plan (21 – 24 Level)  
Showing sublease region and current / proposed workings*

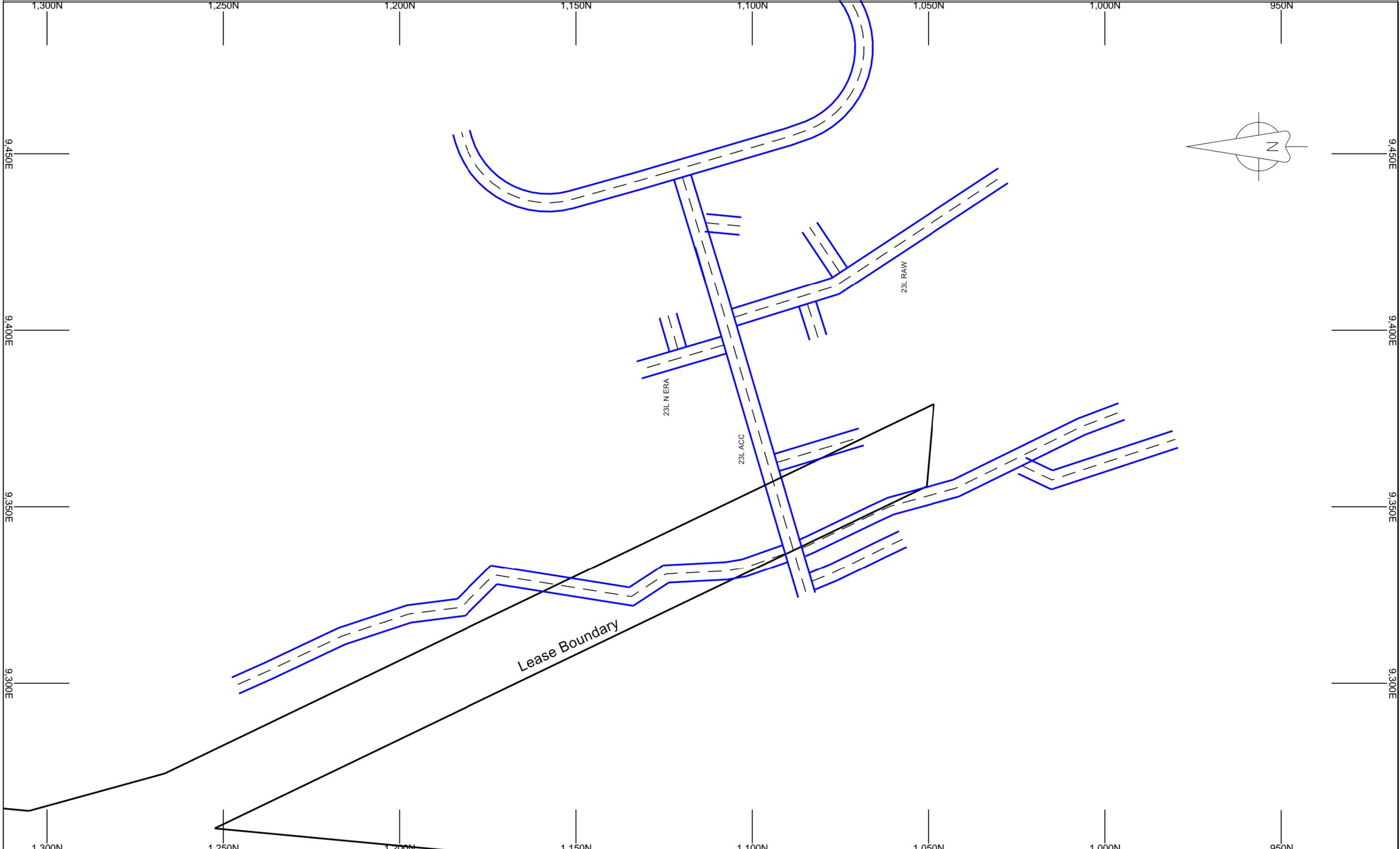


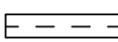
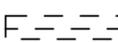
 <b>CBH Resources Limited</b>  Broken Hill Operations Pty Ltd <b>RASP OPERATIONS</b> <b>Mining Instruction</b>	Scale: 1:1000	Date: 19/03/2021	<b>Legend</b>		<b>Sign</b>	<b>Date</b>	<b>Sign</b>	<b>Date</b>
	WM 21 Level		Pre-Approved Design		Planning Eng.		Surveyor	
			Design for Approval		Geology		Mine Supt.	
			Conceptual Design		Geotech		Snr Mine Eng.	
					Ventilation Eng		Tech Serv Supt.	
				Mining Manager				

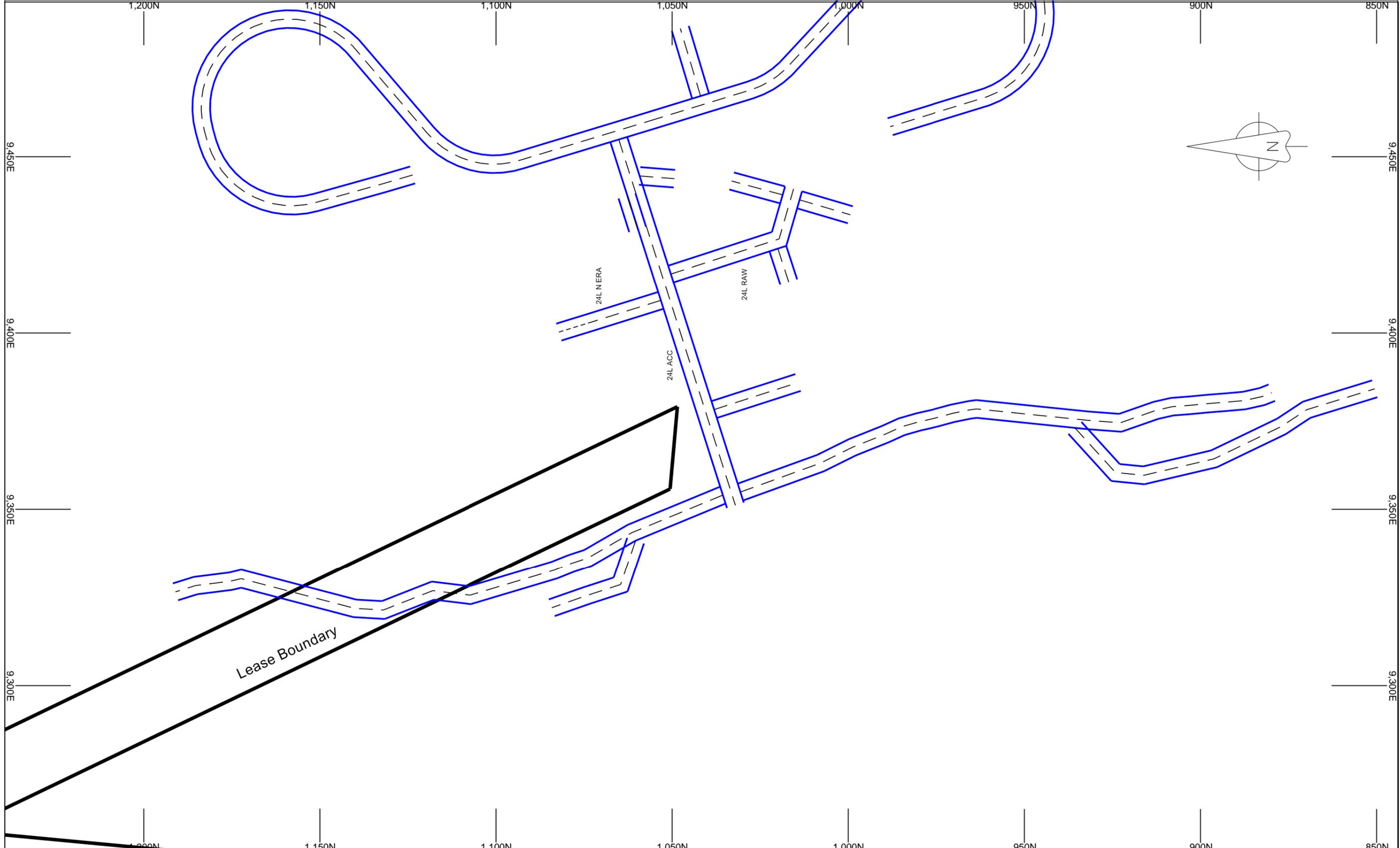


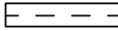
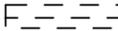
 <b>CBH Resources Limited</b>	Scale: 1:1000	Date: 19/03/2021	Legend		Sign	Date	Sign	Date
	WM 22 Level		Pre-Approved Design  Design for Approval  Conceptual Design 	Planning Eng. Geology Geotech Ventilation Eng Mining Manager			Surveyor Mine Supt. Snr Mine Eng. Tech Serv Supt.	

Broken Hill Operations Pty Ltd  
**RASP OPERATIONS**  
 Mining Instruction



 <b>CBH Resources Limited</b>	Scale: 1:1000	Date: 19/03/2021	Legend		Sign	Date	Sign	Date
	WM 23 Level		Pre-Approved Design 	Planning Eng.			Surveyor	
Broken Hill Operations Pty Ltd RASP OPERATIONS Mining Instruction			Design for Approval 	Geology			Mine Supt.	
			Conceptual Design 	Geotech			Snr Mine Eng.	
				Ventilation Eng			Tech Serv Supt.	
				Mining Manager				



 <b>CBH Resources Limited</b>	Scale: 1:1000	Date: 19/03/2021	Legend		Sign	Date	Sign	Date
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Broken Hill Operations Pty Ltd <b>RASP OPERATIONS</b> <b>Mining Instruction</b>			Design for Approval 	Geology			Mine Supt.	
			Conceptual Design 	Geotech			Snr Mine Eng.	
				Ventilation Eng			Tech Serv Supt.	
				Mining Manager				



## **Appendix 2**

### ***PBHL Approval Letter***

22 March 2021

To whom it may concern,

**RE: Sublease of ML 1249 and CML 7**

Perilya Broken Hill Limited (**PBHL**) is the holder of Mining Lease No 1249 (**ML 1249**). Broken Hill Operations Pty Ltd (**BHO**) is the holder of Consolidated Mining Lease No 7 (**CML 7**).

PBHL and BHO are looking to each grant the other a sublease to allow the following:

- BHO to mine minerals from an area of land within ML 1249 held by PBHL (**ML 1249 Sublease**) as identified in the attached (**ML 1249 Sublease Area**); and
- PBHL to prospect and mine minerals from an area of land within CML 7 held by BHO (**CML 7 Sublease**).

The purpose of this letter is to provide PBHL's consent and approval to BHO to do all things necessary to:

- (a) affect any modifications or amendments that may be required to BHO's current development consent for the Rasp Mine, MP07\_0018, in relation to the ML 1249 Sublease Area;
- (b) without limitation to paragraph (a) above, lodge any application for modification of BHO's current development consent for the Rasp Mine, MP07\_0018 and/or to lodge any new development application, in relation to the ML 1249 Sublease Area;
- (c) achieve the registration of the following:
  1. the ML1249 Sublease; and
  2. the CML 7 Sublease.

Perilya Broken Hill Limited  
ABN: 46 099 761 289



Should you require any further information, please do not hesitate to contact me.

Yours sincerely

A handwritten signature in black ink, appearing to read "B. Byrne".

**Bruce Byrne**  
General Manager