TRITTON RESOURCES PTY LTD

ABN 88 100 095 494

Submissions Report

for the

Tritton Copper Mine

Modification 8

Prepared by:

R.W. CORKERY & CO. PTY. LIMITED

April 2022

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Prepared for:

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Ref No. 440/21

April 2022

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APPENDICES

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EXECUTIVE SUMMARY

Tritton Resources Pty Ltd (Tritton) has commissioned R.W. Corkery & Co Pty Limited to prepare a *Submissions Report* that addresses the key issues raised in submissions lodged with the Department of Planning and Environment (DPE) during the public exhibition period for the *Modification Report* for the proposed modification of Development Application (DA) 41/98. This document provides an analysis of the submissions received relating to the proposed modification, a summary of consultation and actions taken since the public exhibition of the *Modification Report* and a detailed response to each of the key matters raised in submissions.

A total of seven submissions were received from Government agencies following public exhibition of the *Modification Report* with submissions generally regarding the matters relevant to the administrative functions of each agency. No submissions were received from members of the public.

Consultation was undertaken with Crown Land, NSW Environment Protection Authority (EPA), and Mining, Exploration and Geoscience (MEG) during the preparation of the *Submissions Report*, as follows.

- Follow up discussions were undertaken with Crown Land regarding the mechanism required to permit mine-related activities to continue on Crown Land within Mining Lease (ML) 1544. Tritton has subsequently commenced preparation of a Section 265 Compensation Agreement which will identify all Crown Land within ML1544 and appropriate compensation payments to allow for the continued use of this land.
- Consultation with EPA was undertaken regarding advice on the permissibility of importing and disposing of mill trash within the Tailings Storage Facility (TSF). EPA advised that the use of the TSF as a landfill for mill trash was not supported and that all mill trash would need to be disposed of at a landfill that can lawfully accept the waste. As a result of this feedback, Tritton has withdrawn the part of modification that would allow for the disposal of mill trash within the TSF.
- MEG requested that Tritton provide further information relating to the proposed modification in order for the agency to complete a Resource and Economic Assessment of the proposed modified operation. Tritton provided the requested information to MEG on 4 March 2022 to inform its review.

Following consultation with the EPA concerning the proposed modification, Tritton has decided to defer the component of the proposed modification that would allow for the disposal of mill trash within the TSF. Although discussions with EPA remain ongoing, this part of the modification is no longer being sought. It is noted that the disposal of treated drilling mud is subject to a Resource Recovery Order under clause 93 and an exemption under clauses 91 and 92 of the *Protection of the Environment Operations (Waste) Regulation 2014*. The exemption and order allow for the application of treated drilling muds to land for use as engineering fill or for earthworks.

In response to feedback on the *Modification Report* received from the Biodiversity, Conservation and Science Directorate (BCS), EnviroKey Pty Ltd (EnviroKey) was commissioned to review the plant community types (PCTs) within the assessed groundwater

drawdown area identified by GHD (2022) and the potential impacts of the Project on Groundwater Dependent Ecosystems (GDEs). The assessment identified the likely vegetation present and discussed likely rooting depths and water use requirements. EnviroKey concluded that it is unlikely that the Project would impact potential terrestrial or aquatic GDEs due the depth of groundwater, water quality (principally salinity) and the low yield of water in the aquifer.

Additional information has been provided to address the matters raised in feedback from agencies, principally concerning the need for a compensation agreement with Crown lands and discussion of traffic levels and likely impact to the public road network. It is considered that the proposed modification to the Tritton Copper Mine could be implemented and operated in a manner that would satisfy all relevant statutory goals and criteria, environmental objectives and community expectations. Any changes to local amenity or the local experience of the mining operation would be difficult to discern from existing approved operations. It is therefore considered that the proposed modification would firmly be in the public interest.

1. INTRODUCTION

1.1 SCOPE

This document has been compiled to provide a response to the key matters raised in submissions lodged with the Department of Planning and Environment (DPE) during the public exhibition period for Modification 8 for the Tritton Copper Mine (the Mine). The *Modification Report* for the application was publicly exhibited from 23 February 2022 to 8 March 2022. Tritton Resources Pty Ltd (hereafter referred to as "Tritton") is proposing to extend existing underground operations to access the Budgerygar Deposit located 600m to the north of the existing underground operations at the Mine. Apart from the location of mining, there are no other changes to the ongoing operation of the Mine. No public or organisation submissions were received

This document provides an analysis of the submissions received relating to the proposed modification, a summary of consultation and actions taken since the public exhibition of the *Modification Report* and a detailed response to each of the key matters raised in submissions.

1.2 DOCUMENT FORMAT

This report has been compiled in six sections, as follows.

Section 1: presents a scope and format for the report.

Section 2: provides an analysis of the submissions received during public exhibition.

Section 3: describes consultation that has been undertaken with stakeholders.

Section 4: describes the actions that have been undertaken since exhibition.

Section 5: provides a comprehensive set of responses to the matters raised in submissions.

Section 6: provides an updated evaluation of the proposed modification taking into consideration the feedback received from Government agencies and responses provided in this report.

A letter report has been prepared by EnviroKey Pty Ltd and is provided as **Appendix 1** that provides a greater level of assessment of groundwater dependent ecosystems as requested by the Biodiversity Conservation and Science Directorate.

2. ANALYSIS OF SUBMISSIONS

No public submissions were received regarding the proposed modification.

A total of seven submissions were received from Government agencies following public exhibition of the *Modification Report* for the Project. It is noted that the government agency submissions provided feedback and recommendations on the matters relevant to the administrative functions of each agency. Advice was provided by the following agencies.

- Biodiversity, Conservation and Science Directorate
- Crown Land
- Department of Planning and Environment – Water

- Environment Protection Authority
- Mining, Exploration and Geoscience
- Resources Regulator[1]
- Transport for New South Wales

No advice was received from Bogan Shire Council at the time the Submissions Report was completed.

3. CONSULTATION SINCE EXHIBITION

3.1 CROWN LAND

In its initial feedback provided to DPE, Crown Land identified that:

- the free and uninterrupted passage of stock via Travelling Stock Reserves Nos. 9602 and 6000 must be maintained; and
- a Section 265 Compensation Agreement under the *Mining Act 1992* would be required within 12 months of the approval date.

Crown lands identified that there were no records that an appropriate agreement had been reached following the approval of the Mine in 1998. Tritton had previously understood that an agreement had been reached at the time the Mine was approved. However, upon review of documents and records were unable to find evidence of an agreement.

Tritton consulted with Crown Lands to confirm that no records of an agreement were available and to commence the process of preparing the necessary agreement. Subsequent consultation with Crown Land, clarified that the above requirements would both be achieved through a Section 265 Compensation Agreement. That is, the agreement would include measures to ensure free and uninterrupted passage of stock. Tritton has subsequently commenced preparation of an agreement which will identify all Crown Land within ML1544 and appropriate compensation arrangements.

3.2 ENVIRONMENT PROTECTION AUTHORITY

During a site meeting on 9 December 2021, discussion with the Environment Protection Authority (EPA) included the possibility of placing mill trash and drilling muds within the TSF. Feedback from the EPA indicated that there was no current provision in the Environment Protection Licence (EPL) to receive waste. It is noted that it was not requested that the TSF be used as a landfill, with only specific wastes to be emplaced within the facility. Tritton considered this would provide an optimal environmental outcome especially as mill trash can be exposed to sulphides. During these discussions, EPA advised that the emplacement of mill trash and drilling muds within the TSF would be permissible if planning approval was granted to allow for a subsequent variation to the EPL.

[1] No comment was provided in relation to the proposed modification.

In its feedback to the Submissions Report, the EPA subsequently advised that the placing mill trash within the Tailings Storage Facility TSF was not supported and that all mill trash would need to be disposed of at a landfill that can lawfully accept the waste. Further consultation was subsequently undertaken with the EPA on the matter. The consultation included several phone calls and a meeting with the EPA on 19 April 2022. The purpose of this meeting was to discuss the practicalities and benefits of disposing of mill trash within the TSF and to present the EPA with a sample of the mill trash to inform their assessment. Given the uncertainty that remained on the matter, Tritton have now decided to remove this aspect of the modification and are no longer proposing this be included in the modification application.

3.3 MINING, EXPLORATION AND GEOSCIENCE

Mining, Exploration and Geoscience (MEG) requested that Tritton provide further information relating to the proposed modification in order for the agency to complete a Resource and Economic Assessment of the proposed modified operation. Tritton provided the requested information to MEG on 4 March 2022 to inform its review. It is noted that the feedback made the following conclusion.

MEG considers that should the Modification be approved; efficient and optimised resource outcomes can be achieved.

4. ACTIONS TAKEN SINCE EXHIBITION

4.1 DISPOSAL OF MATERIAL WITHIN THE TSF

Following consultation with the EPA concerning the proposed modification, Tritton has decided to defer the component of the proposed modification that would allow for the disposal of mill trash within the TSF. Although discussions with EPA remain ongoing, this part of the modification is no longer being sought. Tritton intends to continue to consult with the EPA regarding the disposal of mill trash within the TSF to resolve this matter and ensure that optimal environmental and operational outcomes are achieved moving forward.

It is noted that the disposal of treated drilling mud is subject to a Resource Recovery Order under clause 93 and an exemption under clauses 91 and 92 of the *Protection of the Environment Operations (Waste) Regulation 2014*. The exemption and order allow for the application of treated drilling muds to land for use as engineering fill or for earthworks. As such, the disposal of treated drilling muds within the TSF has been retained as part of the proposed modification.

4.2 GROUNDWATER DEPENDANT ECOSYSTEMS

EnviroKey Pty Ltd (EnviroKey) were commissioned to review the plant community types (PCTs) within the assessed groundwater drawdown area identified by GHD (2022) and assess the likelihood that vegetation in this location may be groundwater dependant and the potential impacts of the Project on Groundwater Dependent Ecosystems (GDEs). The report is hereafter referred to as EnviroKey (2022) and is provided as **Appendix 1**.

EnviroKey (2022) undertook a desktop analysis using know vegetation mapping data including review of data available from the NSW BioNET Vegetation Classification (DPIE/OEH, 2022) using the latest State Vegetation Type (SVT) mapping (Western). EnviroKey also relied upon that companies previous vegetation surveys in the locality undertaken on numerous occasions in 2011, 2012, 2014 and 2015.

EnviroKey (2022) identified the following nine PCTs in these areas.

- PCT 36 - River Red Gum tall to very tall open forest / woodland wetland on rivers on floodplains
- PCT 103 - Poplar Box - Gum Coolabah - White Cypress Pine shrubby woodland
- PCT 104 - Gum Coolabah woodland on sedimentary substrates
- PCT 105 - Poplar Box grassy woodland on flats
- PCT 174 - Mallee - Gum Coolabah woodland on red earth flats
- PCT 175 - Ridge mallee woodland on hills of meta-sediments and volcanics
- PCT 176 - Green Mallee - White Cypress Pine very tall mallee woodland on gravel rises
- PCT 244 - Poplar Box grassy woodland on alluvial clay-loam soils
- PCT 250 - Derived tussock grassland.

Two areas of where potential GDE may occur were identified within the proposed drawdown radius. These areas were mapped as PCT 36 – *River Red Gum tall to very tall open forest / woodland wetland on rivers on floodplains*. EnviroKey (2022) assumed the presence of PCT 36 as the mapping was not ground-truth in this study. **Table 1** presents the characteristic overstory of species of PCT 36.

Table 1
Overstory Species of PCT 36 as identified by NSW BioNET Vegetation Classification

Common Name	**Scientific Name**
River Red Gum	*Eucalyptus camaldulensis*
Black Box	*Eucalyptus largiflorens*
	Eucalyptus coolabah subsp. coolabah
Bimble Box	*Eucalyptus populnea subsp. bimbil*
Yellow Box	*Eucalyptus melliodora*
Whitewood	*Atalaya hemiglauca*
	Alectryon oleifolius subsp. elongatus
River Oak	*Casuarina cunninghamiana subsp. cunninghamiana*
Source: EnviroKey (2022) – Table 2	

EnviroKey (2022) note that the River Red Gum species generally occurs along river systems in western NSW. As there are no river systems present in the predicted drawdown area, the dominant overstory species that are more likely to occur would be Black Box or Bimble Box (assuming the vegetation is River Red Gum).

EnviroKey (2022) considered the outcomes of the groundwater assessment for the application (GHD, 2022) particularly as it relates to water quality and water availability and noted the following.

- GHD (2022) noted that groundwater is present at depths between 10m and 140m below ground level (mbgl) within the vicinity of the Mine Site, however groundwater is generally between 20mbgl and 90mbgl. Data on root depths of Black Box or Bimble Box was unable to be located, however root depths of River Red Gum are expected to be extensive and deep (at least 20m horizontally, and 10m vertically (Hulme, 2018)).
- GHD (2022) also note that groundwater is generally brackish to saline and has high electrical conductivity (EC) historically ranging from 10 000µS/cm to 20 000µS/cm. EnviroKey (2022) note that salinity has been known to be a major cause of dieback of River Red Gum where EC was above 5,100µS/cm (MDBA, 2003). This suggests that if River Red Gum were present as mapped, any trees are likely only to occur should the groundwater be unreachable by these individuals. This strongly suggests that any drawdown of current groundwater with high EC would have no negative impact on PCT 36 if it was to occur there.
- Further to this, GHD (2022) also note that groundwater yield is very low and likely occurs through tightly controlled fractures. EnviroKey (2022) considered this to further support the conclusion that GDEs are unlikely to be present.

On the basis of the above, EnviroKey (2022) concludes that it is unlikely the Project will impact potential terrestrial or aquatic GDEs.

5. RESPONSE TO SUBMISSIONS

5.1 INTRODUCTION

This section provides a response to all submissions received following the exhibition of the *Modification Report*. Each submission has been reviewed and presented under the Government agency that provided the submission with their comment(s). The matters raised are addressed in a response below each submission.

5.2 BIODIVERSITY, CONSERVATION AND SCIENCE DIRECTORATE

Representative Comment(s)

Section 6.3.2.3 of the modification report states that a search of the Bureau of Meteorology Groundwater Dependent Ecosystem Atlas identified terrestrial groundwater dependent ecosystems (GDEs), of high medium and low potential, to be present on the site. The modification report then concludes that it is unlikely that the vegetation in these locations are GDEs given the deep groundwater levels identified in monitoring.

The report does not provide any information about the plant community types on the site or surrounds. Without this information, the claim that there are unlikely to be GDEs present has not been sufficiently justified.

Recommendations

1.1 Plant community types (PCTs) should be identified and mapped.

1.2 PCTs that are associated with groundwater dependent ecosystems should be identified.

Response

As discussed in Section 4, PCTs were mapped by EnviroKey (EnviroKey 2022) based on available information and PCTs that were known to be associated with GDEs were identified. PCT 36 – *River Red Gum tall to very tall open forest / woodland wetland on rivers on floodplains* was identified in areas of potential GDE value within the proposed drawdown radius. However, further investigation by EnviroKey concluded that GDEs are unlikely to be present due to:

- the monitored groundwater levels and known rooting depth of plants within PCT 36;
- the monitored salinity of the groundwater and likelihood that this would cause dieback if roots were accessing the aquifer; and
- the estimated poor groundwater yield which would be unlikely to support vegetation.

EnviroKey concluded that it is unlikely the Project will impact potential terrestrial or aquatic GDEs.

Representative Comment(s)

If GDEs are present, baseline data should be collected for the relevant plant community types prior to underground mining commencing. A monitoring program should be established to determine whether impacts to groundwater are affecting GDEs. A trigger, action, response plan should be implemented.

Recommendations

1.3 A monitoring program should be implemented for groundwater dependent ecosystems which includes collection of adequate baseline data. This program should include a trigger, action, response plan.

2.1 Threatened entities that may be impacted by changes to water bodies, water quality and hydrological processes should be identified.

2.2 If such threatened entities are present, an assessment following section 6.1.4 of the Biodiversity Assessment Method 2020 is required.

Response

Based on the assessment undertaken by EnviroKey (2022), no GDEs are likely to be present within the proposed groundwater drawdown area (refer Section 4). Therefore, a monitoring program is not required. Similarly, as no GDEs are likely to be present, an assessment for water bodies, water quality and hydrological processes likely to be impacted by changes to the hydrogeological regime is not required.

5.3 CROWN LAND

Representative Comment(s)

The following Crown land is subject to Mining Lease ML1544 currently held by Tritton Resources Pty Ltd issued for the period 22/12/2003 to 21/12/2024 and consequently forms a significant land component of the Tritton Copper Mine operations.

- Lot 13 in DP751346
- Lot 7004 in DP1126793
- Lots 7318, 7319, 7320 & 7321 in DP1160810

It is noted that approximately 20% of the Tailings Storage Facility (TSF) is located on Crown land.

Mining Lease ML1544 permits a range of mining and prospecting activity to take place on the Crown land listed above. In addition to the TSF, the Crown land is utilised for aesthetic buffer, access, water supply access, power access, haulage roads, and periodic exploration. These activities cannot take place on Crown land without a Section 265 Compensation Agreement under the Mining Act 1992.

The department has no record of such an agreement.

The following standard conditions apply to this project:

For mining operations involving Crown land or Crown Roads:

1. *All Crown Land and Crown Roads within a Mining Lease (with surface rights), subject to mining or mining related activity, must be subject to a Compensation Agreement issued under Section 265 of the Mining Act 1992, to be agreed and executed prior to any mining activity taking place. The Compensation Agreement may include conditions requiring the Mining Lease Holder to purchase Crown land impacted on by mining activity……*

The following conditions to Modification 8 are sought:…….

2. *The Applicant must within 12 months of the approval date enter into a Section 265 Compensation Agreement for the parcels listed above.*

Response

Tritton had previously understood that an agreement was in place for the use of Crown Land within ML1544. Correspondence from July 2000 refers to an application having been made and it had been assumed this matter had progressed. Records to indicate the matter had been finalised were assumed to be held by Crown Lands. However, during consultation with Crown Land it was identified that no such agreement is currently in place. As such, Tritton has committed to enter into a Section 265 Compensation Agreement with Crown Land within 12 months of the date of approval of the modification, should it be granted. The agreement would apply to all Crown Land within ML1544 including Lot 13 DP751346, Lot 7004 DP1126793 and Lots 7318, 7319, 7320 and 7321 DP1160810.

Representative Comment(s)

The following standard conditions apply to this project:

For mining operations involving Crown land or Crown Roads:

2. *All Crown Land and Crown Roads located within an Exploration Licence, subject to exploration activity, must be subject to an Access Arrangement issued under Section 141 of the Mining Act 1992, to be agreed and executed prior to any exploration activity taking place.*

Response

The Applicant acknowledges that it must not carry out prospecting operations within an Exploration Licence on any area of land that is not owned by the Applicant except in accordance with an access arrangement issued under Section 141 of the *Mining Act 1992*. Any exploration activities undertaken within Crown Land and Crown Roads will be undertaken in accordance with an access agreement.

Representative Comment(s)

The following standard conditions apply to this project:

For mining operations involving Crown land or Crown Roads:…….

3. *All Crown Land and Crown Roads within a Mining Lease (with sub-surface rights only) must be subject to a Section 81 Consent under the Mining Act 1992 where surface activities are proposed, to be agreed and executed prior to any surface activity taking place.*

Response

No additional surface activities are proposed within Crown Land under the proposed modification.

Section 81 of the *Mining Act 1992* provides that the holder of a subsurface Mining Lease may carry out certain activities on the surface of the land in connection with the Mining Lease with landowner consent. The activities are prescribed under clause 27 of the *Mining Regulation 2016* and include "prospecting operations" and "the construction, maintenance and use (in or in connection with mining operations) of any drillhole or shaft" for the following.

- Drainage of gas.
- Drainage or conveyance of water.
- Ventilation.
- Conveyance of electricity.
- Conveyance of materials.
- Communications.
- Emergency access to underground workings.

The Applicant acknowledges its obligations under Section 81 of *Mining Act 1992* and will obtain consent from Crown Lands in the event that these activities are undertaken on Crown Land or Crown Roads within ML1544.

Representative Comment(s)

The following standard conditions apply to this project:

For mining operations involving Crown land or Crown Roads:……

4. *All Crown Roads within a Mining Lease or Exploration Licence must be subject to a works consent approval under s138 and or s71 of the Roads Act 1993 where exploration, mining or mining related activity impact on these roads.*

Response

The Applicant understands that a permit under s138 of the *Roads Act 1993* is required for any works to public roads. No works to public roads are proposed as part of the proposed modification.

Representative Comment(s)

The following conditions to Modification 8 are sought:

1. *The Applicant must permit free and uninterrupted passage of stock through that part of ML1544 covered by Travelling Stock Reserves Nos. 9606 (Lot 7321 DP1160810) and 60000 (Lot 7319 DP1160810), and or part of Lot 7320 DP1160810 adjoining Yarrandale Road, and must conduct operations in a manner that does not cause danger to travelling stock.*

Response

The Applicant acknowledges that the Tailings Storage Facility (TSF) has been constructed within parts of Lot 7321 DP1160810 which may constrain the passage of stock via Travelling Stock Reserves (TSR) Nos. 9606 and 60000. This impact and land use was assessed in the EIS for the Project (RWC, 1998) and approved under DA1/98.

The Applicant has committed to enter into a Section 265 Compensation Agreement with Crown Land within 12 months of the date of determination of the modification (whether it is granted or refused). The agreement would apply to all Crown Land within ML1544 and would resolve the matter relating to TSR Nos. 9606 and 60000 by identifying an alternative route for livestock passage.

5.4 DPE WATER

Representative Comment(s)

The proponent should:

- *Update the Water Management Plan to reflect the additional water take points, disturbance areas, water management infrastructure and transfer requirements and relevant mitigating measures due to the modification project.*

Response

In the event that the proposed modification is approved, Tritton would review and, if necessary, revise all management plans within 3 months in accordance with Condition 6B of DA 41/98. This would include a review and revision of the Water Management Plan to reflect any additional water use, disturbance areas, water management infrastructure, transfer requirements and relevant mitigation measures required as a result of the modification.

Representative Comment(s)

The proponent should:

- *implement a method to accurately meter and monitor water take needs with ongoing review of actual versus modelled predictions where relevant.*
- *report on water take at the site each year (direct and indirect) in the Annual Review. This is to include water take where a water licence is required and where an exemption applies. Where a water licence is required the water take needs to be reviewed against existing water licences.*

Response

Tritton would continue and expand the existing metering of water transfers into and out of the Budgerygar workings. This expanded monitoring program would allow for quantitative calculation of groundwater inflows into the mine workings. It is noted that water sourced under licence is also used for drilling activities and then removed from the workings. A more robust measure of water that is applied to underground workings and does not represent groundwater inflows will also be implemented. All monitoring results would be reported in the Annual Review.

Representative Comment(s)

The proponent should:

- *ensure sufficient water entitlement is held in a water access licence/s to account for the maximum predicted take for each water source prior to take occurring.*
- *ensure that relevant nomination of work dealing applications for Water Access Licences proposed to account for water take by the project have been completed prior to the water take occurring.*
- *be aware of the rules of the relevant water sharing plans and how they may impact the project and ability to trade or take water.*

Response

The groundwater inflow analysis predicts a peak groundwater inflow during mining of 54.75 ML/year and a post-mining peak of 51.1 ML/year. It is understood that these predicted inflows would need to be covered by a Water Access Licence (WAL) and works approval in order to ensure compliance under the *Water Management Act 2000*. Regardless, the predicted inflows are considered highly conservative and not likely to be reached.

Tritton holds an entitlement of 334ML within the *Lachlan Fold Belt Murray Darling Basin Groundwater Source* under WAL31041 (304ML/year) and WAL31090 (30ML/year). Therefore, Tritton holds sufficient entitlements to cover predicted inflows. However, it is understood that WAL31041 is only nominated on the works approval for the Murrawombie Mine operations (although within the same water source). Tritton will consult with DPE Water on the best approach to ensure that the WALs and associated works approvals are appropriately allocated. This may include trading part of the entitlement under WAL31041 to WAL31090 or between works approvals to account for the predicted peak groundwater inflows within the Tritton underground workings. Tritton has never exceeded its groundwater entitlements when measured across all existing operations.

Representative Comment(s)

The proponent should:

- *meet the requirements of the Guidelines for Controlled Activities on Waterfront Land (NRAR 2018) for any works carried out within waterfront land.*

Response

The proposed modification does not comprise or make provision for any controlled activities on waterfront land.

5.5 MINING, EXPLORATION AND GEOSCIENCE

Representative Comment(s)

MEG requests that the Proponent consider potential resource sterilisation should any future biodiversity offset areas be considered. The Proponent must consult with MEG and any holders of existing mining or exploration authorities that could be potentially affected by the proposed creation of any such biodiversity offsets, prior to creation occurring. This will ensure there is no consequent reduction in access to prospective land for mineral exploration or potential for the sterilisation of mineral and extractive resources.

Response

The proposed modification does not sterilise any land from future exploration or mining. No biodiversity offset areas are proposed at the Mine Site.

5.6 NSW ENVIRONMENT PROTECTION AUTHORITY

Representative Comment(s)

There is only a broad overview of the waste types and management presented in the modification. The use of the tailings dam as a landfill is not supported. Waste generated outside of the premises should be disposed of to an appropriately licensed and engineered landfill. Comingling wastes (such as plastics, detonation cord etc. classified in 'mill trash') with tailings (crushed rock) is not supported.

Wastes such as those described as mill trash (plastic, detonation cord, general waste) are to be disposed of to a landfill that can lawfully accept the waste. Disposal of this waste within the TSF is not supported as it does not meet the NSW Solid Waste Landfill guidelines nor does it represent best practice for disposal of mining wastes.

Additional information in relation to drill cuttings should be provided including the waste classification and/or comparison against the treated drilling mud order and exemption criteria.

Response

Tritton no longer intends to proceed with the part of modification relating to the disposal of mill trash within the TSF in order to expedite the approvals process. Tritton intends to continue to consult with the EPA regarding the disposal of mill trash in the TSF to resolve this matter and ensure that optimal environmental and operational outcomes are achieved moving forward.

It is noted that the disposal of treated drilling mud is subject to a Resource Recovery Order under clause 93 and an exemption under clauses 91 and 92 of the *Protection of the Environment Operations (Waste) Regulation 2014* which allows for the application of treated drilling muds to land for use as engineering fill or for earthworks. As such, the disposal of treated drilling muds within the TSF has been retained as part of the proposed modification. It is accepted that all chemical and material requirements and sampling and testing protocols identified within the Resource Recovery Order must be adhered to as part of this process.

Representative Comment(s)

Three new groundwater monitoring bores were proposed to be installed. Ongoing site activities have the potential to result in future site contaminations as well as offsite contaminant migration. If the modification is to go ahead, the EPA recommends that any new monitoring wells installed at the site are incorporated into the licence and be included as part of the regular, ongoing monitoring requirements of the licence.

Should the modification be approved, a variation to the Environment Protection Licence (EPL) 11254 will be required to incorporate some of the changes proposed.

Response

In the event that the modification is approved, the Applicant would seek a variation to Environmental Protection Licence (EPL) 11254 to incorporate the additional monitoring bores in order to ensure that any groundwater monitoring requirements are nominated within the EPL.

5.7 TRANSPORT FOR NSW

Representative Comment(s)

Consider the imposition of a condition limiting the drill cuttings and mill waste haulage to a maximum of one (1) truck load per day (two movements) a maximum of 50 truck loads per year (100 movements) generally transported within a vacuum truck to ensure traffic movements generated by the proposal are able to be safely facilitated within the existing road network.

Response

It is acknowledged that Section 3.5 of the *Modification Report* identifies that the import of drill cuttings to the Mine Site would be limited to a maximum of 100 heavy vehicle movements (50 loads) per year and would typically comprise no more than two movements (1 load) per day. However, it is considered that conditioning maximum daily heavy vehicle movements is unwarranted in this instance due to the remote nature of the Mine Site and the fact that Tritton is the principal user of Yarrandale Road. The truck movements associated with the transportation of drilling muds are unlikely to require more than the estimated levels simply due to the nature of the activity. That is, it would be very rare for more than one load to be required in one day given the process required to generate drilling muds. Regardless, should a second load ever be required on a given day, it is considered that impacts associated with a second load would be difficult to discern from the impact of a single load. It is also noted that no community members have complained or written objecting submissions on this matter. Therefore, a condition of consent limiting this activity to one load per day is considered unnecessary. A limit of 50 loads per year is supported.

Representative Comment(s)

The Driver Code of Conduct is to be updated to take into account the alterations to the development and road transport impacts as a result of the modification to the development in consultation with Bogan Shire Council and Transport for NSW.

Response

In the event that the modification is approved, the Driver Code of Conduct would be updated in consultation with Bogan Shire Council and Transport for NSW to take into account any changes to road transport impacts as a result of the modification.

6. EVALUATION OF THE PROJECT

6.1 INTRODUCTION

This section provides an update to the evaluation of the merits of the proposed modification as presented in the *Modification Report*. It takes into account amendments made to the Project and refinements to management and mitigation that have been made in response to the submissions received from Government agencies. As assessment outcomes have not changed as a result of the review of submissions, this section presents the relevant updates to the merits of the Project. That is, this section does not replicate or supersede the evaluation of merits presented in Section 7 of the *Modification Report*, except where it discusses the amended outcomes of assessment. A final review of the public interest is provided in conclusion to the document.

6.2 AMENDMENTS AND REFINEMENTS TO THE PROJECT

The key amendment to the Project made in response to the submissions received from Government agencies is the withdrawal of the part of the modification relating to the disposal of mill trash within the TSF. This amendment was made as EPA advised that the use of the TSF as a landfill for mill trash was not supported and that all mill trash would need to be disposed of

at a landfill that can lawfully accept the waste. It is noted that Tritton intends to continue to consult with the EPA regarding the disposal of mill trash in the TSF, however, this part of the modification has been withdrawn at this time.

Further clarification and commitments have also been made with relation to GDEs, groundwater monitoring and the use of Crown Land within ML1554.

6.3 UPDATED CONTEXT FOR THE PROJECT

A thorough analysis of the strategic context for the Project was presented in Section 2 of the *Modification Report*. It is considered that the outcomes of the response to submission do not change the statutory or strategic context of the Project, and that no further consideration on these matters is required.

6.4 UPDATED JUSTIFICATION OF THE PROJECT

6.4.1 Social and Economic Considerations

As described in Section 7.4.3 of the *Modification Report*, the social and economic implications of the proposed modification are on balance overwhelmingly positive. The proposed modification would enable the continued efficient operation of the Tritton Copper Mine and consequently the continued distribution of the economic benefits of the Mine. Any changes to local amenity or the local experience of the mining operation would be difficult to discern from existing approved operations.

6.4.2 Biophysical Considerations

A detailed summary of the biophysical outcomes of assessment for the Project was presented in Section 7.4.2 of the *Modification Report.* There have been no changes to the outcomes of technical assessments as a result of review of the submissions received from Government agencies following public exhibition of the *Modification Report*.

Further clarification and commitments were provided with relation to management of GDEs, groundwater monitoring and the use of Crown Land within ML1554, however these matters do not change the outcomes of assessment. No additional management or mitigation measures relating to biophysical considerations are proposed.

6.5 THE CONSEQUENCES OF NOT PROCEEDING WITH THE PROJECT

The consequences of not proceeding with the Project are discussed in Section 7.4.4 of the *Modification Report* and relate principally to the loss of a significant resource and operational efficiencies that are expected to be generated by the proposed activities. If the proposed modification were not to proceed, these benefits would be forgone. Minor changes to local amenity would be avoided in this scenario.

6.6 CONCLUSION

It is noted that no public or organisation submissions were received regarding the proposed modification. This is taken to indicate that the community of the Bogan Shire does not object to the ongoing operation of the Mine. Feedback received from NSW government agencies on the application has been considered and the proposed modification has been refined to address the matters raised, including from the EPA in relation to storing waste in the TSF and in relation to the outstanding compensation agreement with Crown Lands. Consultation with these agencies has resolved outstanding queries on these matters. Additional information has been provided on potential GDEs in the vicinity of the Mine, however it is still considered unlikely that GDEs are present within the assessed maximum cone of groundwater drawdown (however unlikely it is that this would be reached). Importantly it is noted that the Resource and Economic Assessment completed by MEG supports the continued efficiency of operations.

The proposed modification presents an opportunity to access a small but significant mineral deposit using existing infrastructure and mobile equipment. The key benefits of access to the Budgerygar deposit remain the following.

- Continued mining operations in a location that is separated from private residences and other sensitive and uses.
- The continued employment of 378 personnel (at end 2020), 88% of whom reside in the Bogan Local Government Area and contribute to the diversity and sustainability of the region.
- The continued distribution of the economic benefits of the Mine locally and regionally through the use of local services and businesses.
- The ongoing supply of copper to domestic and international markets that is consistent with the objectives identified in the *Critical Minerals and High-tech Metals Strategy* (Regional NSW, 2021). The copper supply is essential to support growing demand for electricity transmission (supporting the decarbonisation of the power grid) and use in electric vehicles and the renewable energy sector.

The conclusion to the Modification Report (RWC, 2022) is reiterated. That is, the proposed modification to the Tritton Copper Mine could be implemented and operated in a manner that would satisfy all relevant statutory goals and criteria, environmental objectives and community expectations. Any changes to local amenity or the local experience of the mining operation would be difficult to discern from existing approved operations. It is therefore considered that the proposed modification would firmly be in the public interest.

7. REFERENCES

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Appendix 1

Tritton Mod8 – EnviroKey Report 22.BA-028 – April 2022

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22 April 2022

Nick Warren

RW Corkery & Co Pty. Ltd

PO Box 239

BROOKLYN NSW 2083

Re: 440: Tritton Mod8 – EnviroKey report 22.BA-028

Dear Nick,

Please find attached our analysis of plant communities types with regard to Groundwater Dependant Ecosystems (GDE) at the Tritton Mine Site near Hermidale, NSW.

We agree with the findings of GHD in that there is unlikely to be impacts to potential terrestrial of aquatic GDE as a result of the proposed modification.

Should you require any additional information, please contact me directly.

Regards,

Steve Sass

Director, Principal Ecologist

B. App. Sci (Env. Sci) (Hons) (CEnvP), GradCert.CaptVertMgt

NSW Biodiversity Accredited Assessor (BAAS17047)

Certified Environmental Practitioner, Environment Institute of Australia & New Zealand

Practicing Member, Ecological Consultants Association of New South Wales

INTRODUCTION

EnviroKey were engaged by RW Corkery & Co to review the plant community types within the proposed groundwater drawdown area identified by GHD.

METHODS

EnviroKey conducted this analysis using a desktop approach given our extensive on-ground knowledge of the proposed groundwater drawdown area and surrounds through previous biodiversity assessments and studies (EnviroKey, 2015, EnviroKey, 2012a, EnviroKey, 2012c, EnviroKey, 2011b, EnviroKey, 2011a, EnviroKey, 2010a, EnviroKey, 2010b, EnviroKey, 2010c, EnviroKey, 2014, EnviroKey, 2012b, EnviroKey, 2012d, EnviroKey, 2011c).

Plant community type (PCT) information was drawn from the NSW BioNET Vegetation Classification (DPIE/OEH, 2022) using the latest State Vegetation Type (SVT) mapping (Western) with commentary on the potential for groundwater interactions identified on the existing Groundwater Dependant Ecosystems from DPIE.

RESULTS

The Groundwater Dependant Ecosystems Value (Macquarie/Castlereagh) dataset by DPIE (2018) identifies three areas of potential groundwater dependant ecosystem value within or directly adjacent to the proposed drawdown radius (**Figure 1**).

Based on the Western SVT (DPIE/OEH, 2022) nine PCT are mapped within the potential groundwater drawdown area. These being:

- PCT 36 - River Red Gum tall to very tall open forest / woodland wetland on rivers on floodplains
- PCT 103 - Poplar Box - Gum Coolabah - White Cypress Pine shrubby woodland
- PCT 104 - Gum Coolabah woodland on sedimentary substrates
- PCT 105 - Poplar Box grassy woodland on flats
- PCT 174 - Mallee - Gum Coolabah woodland on red earth flats
- PCT 175 - Ridge mallee woodland on hills of meta-sediments and volcanics
- PCT 176 - Green Mallee - White Cypress Pine very tall mallee woodland on gravel rises
- PCT 244 - Poplar Box grassy woodland on alluvial clay-loam soils
- PCT 250 - Derived tussock grassland.

Extensive areas of non-native vegetation are also mapped.

The extent of each PCT within ML 1744 and the proposed drawdown area is provided (**Figure 2, Table 1**).

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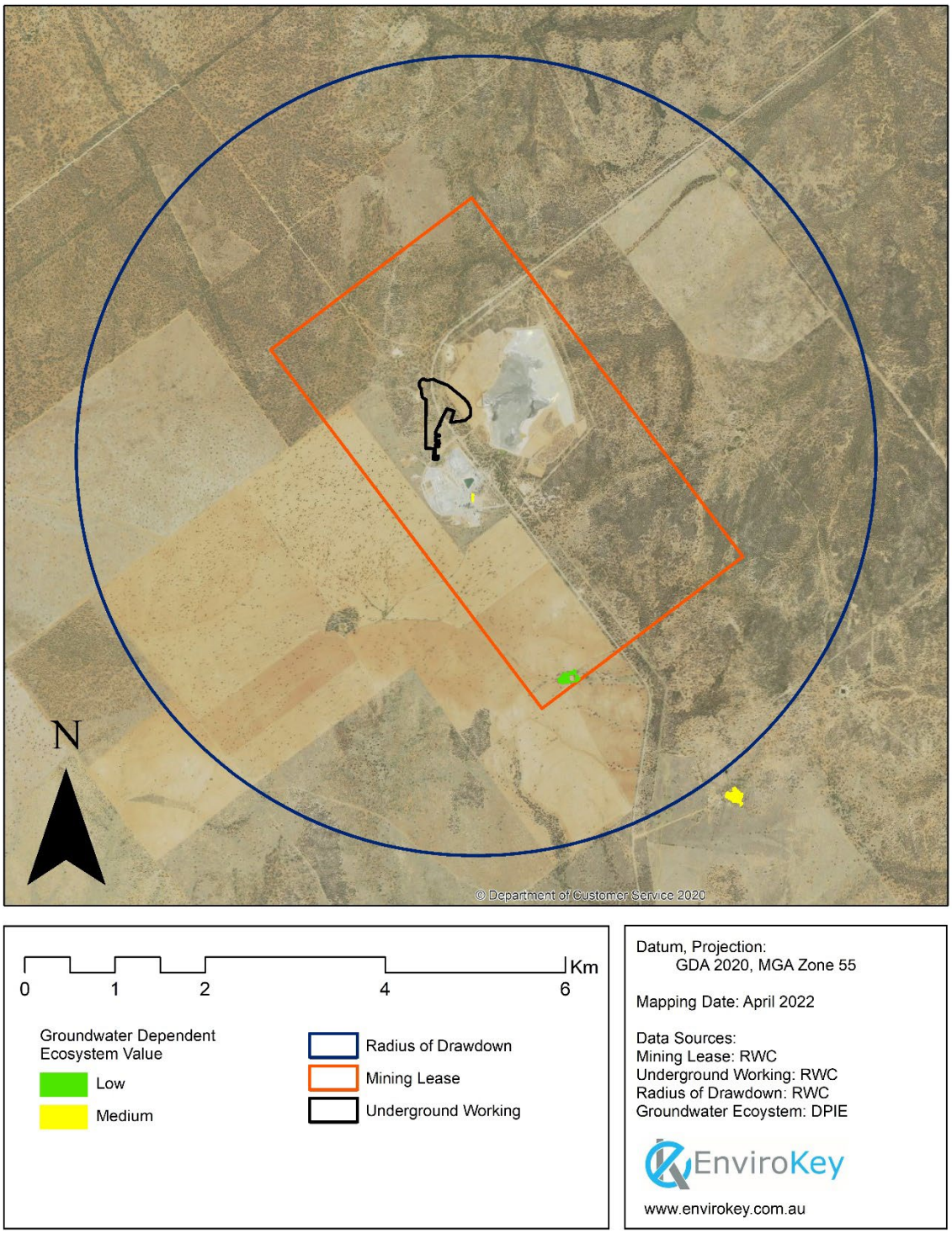

Figure 1: Areas mapped as having Groundwater Dependant Ecosystem value

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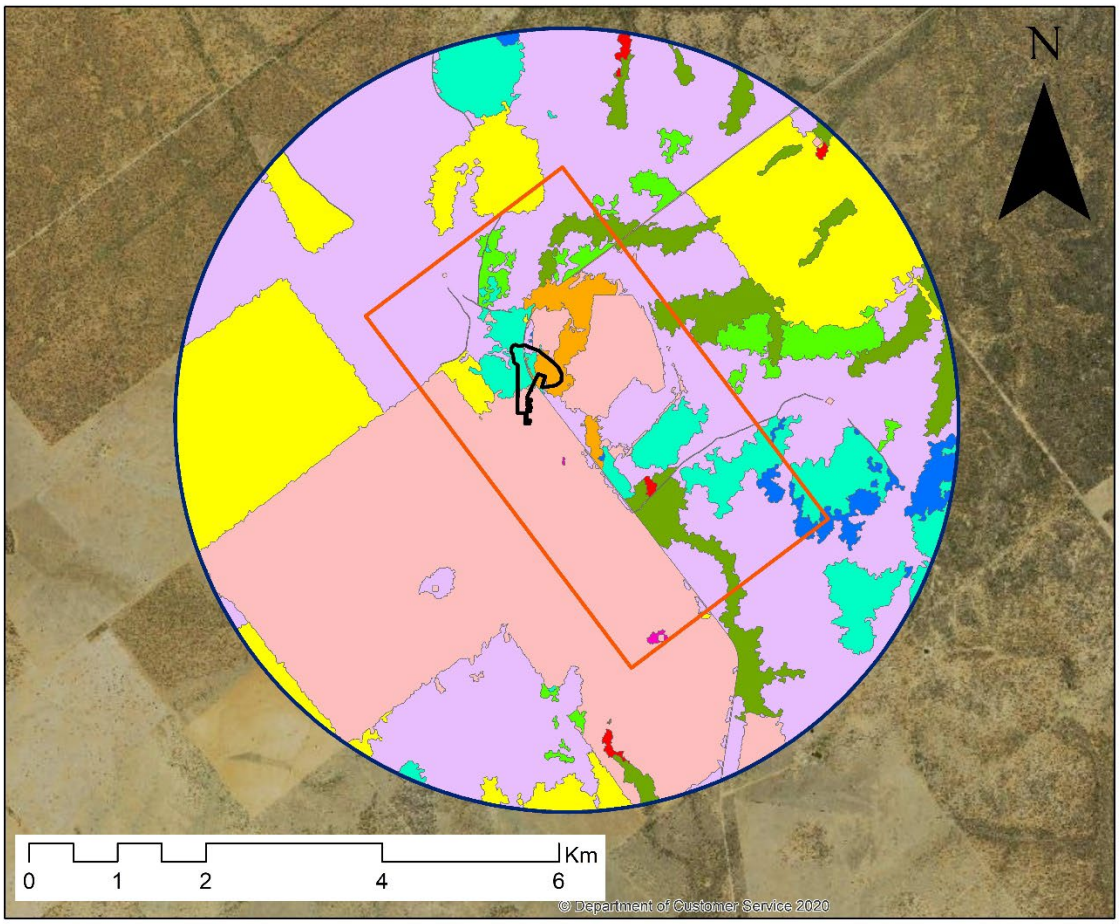

Vegetation

- Not Native
- PCT 103 - Poplar Box - Gum Coolabah - White Cypress Pine shrubby woodland
- PCT 104 - Gum Coolabah woodland on sedimentary substrates
- PCT 105 - Poplar Box grassy woodland on flats
- PCT 174 - Mallee - Gum Coolabah woodland on red earth flats
- PCT 175 - Ridge mallee woodland on hills of meta-sediments and volcanics
- PCT 176 - Green Mallee - White Cypress Pine very tall mallee woodland on gravel rises
- PCT 244 - Poplar Box grassy woodland on alluvial clay-loam soils
- PCT 250 - Derived tussock grassland
- PCT 36 - River Red Gum tall to very tall open forest / woodland wetland on rivers on floodplains

- Radius of Drawdown
- Mining Lease
- Underground Working

Datum, Projection:
GDA 2020, MGA Zone 55

Mapping Date: April 2022

Data Sources:
Mining Lease: RWC
Underground Working: RWC
Radius of Drawdown: RWC
Vegetation: DPIE

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Figure 2: Western State Vegetation Type mapping within the predicted groundwater drawdown.

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Both of the mapped areas of potential GDE value within the proposed drawdown radius are mapped as PCT 36 River Red Gum tall to very tall open forest/woodland wetland (refer **Figure 2**). One location is mapped within the middle of the existing Mine Site and is unlikely to still be present.

Table 1: Area of each plant community type as mapped by the Western State Vegetation Type mapping within the proposed groundwater drawdown area.

Plant Community Type	**Area (ha)**
Not Native	1736.06
PCT 36 - River Red Gum tall to very tall open forest / woodland wetland on rivers on floodplains	2.22
PCT 103 - Poplar Box - Gum Coolabah - White Cypress Pine shrubby woodland	2461.65
PCT 104 - Gum Coolabah woodland on sedimentary substrates	130.15
PCT 105 - Poplar Box grassy woodland on flats	11.6
PCT 174 - Mallee - Gum Coolabah woodland on red earth flats	74.83
PCT 175 - Ridge mallee woodland on hills of meta-sediments and volcanics	66.88
PCT 176 - Green Mallee - White Cypress Pine very tall mallee woodland on gravel rises	358.34
PCT 244 - Poplar Box grassy woodland on alluvial clay-loam soils	315.54
PCT 250 - Derived tussock grassland	1034.16
TOTAL	6191.43

PCT 36 generally occurs in the riparian zone of rivers (banks, levees, benches), ox-bow lakes and cowals and on floodplains of major rivers and creeks in the Western region. The PCT can be characterised by a number of overstorey species as identified in **Table 2**. As this is a desktop analysis, the Western SVT mapping has not been ground-thruth by this study, so the presence of PCT 36 is assumed.

Table 2: Characteristic overstorey species of PCT 36 as identified by NSW BioNET Vegetation Classification

Common Name	Scientific Name
River Red Gum	*Eucalyptus camaldulensis*
Black Box	*Eucalyptus largiflorens*
	Eucalyptus coolabah subsp. coolabah
Bimble Box	*Eucalyptus populnea subsp. bimbil*
Yellow Box	*Eucalyptus melliodora*
Whitewood	*Atalaya hemiglauca*
	Alectryon oleifolius subsp. elongatus
River Oak	*Casuarina cunninghamiana subsp. cunninghamiana*

DISCUSSION AND CONCLUSION

GHD (2022) concluded there was unlikely to be impacts to potential terrestrial or aquatic GDEs as a result of the proposed mining of the Budgerygar deposit as:

- the measured groundwater levels (mainly 20m to 90m below ground level but in some cases 10m to 140m below ground level) are beyond the reasonable limit of tree rooting depths; and

- the two potential aquatic GDEs are beyond the predicted extent of groundwater drawdown.

On this basis, GHD (2022) considered that the proposed activity would satisfy the Level 1 minimal impact considerations under the AIP for groundwater levels and pressure head decline impacts for GDE.

EnviroKey found that two mapped locations for GDE within the predicted extent of groundwater drawdown (**Figure 2**) which differs to the results of GHD. These two locations correspond with PCT 36 on the Western SVT. which generally occurs in the riparian zone of rivers (banks, levees, benches), ox-bow lakes and cowals and on floodplains of major rivers and creeks in the Western region.

While both locations have not been ground-thruthed, River Red Gum generally occurs along minor and major river systems in western NSW, features that do not occur within the predicted drawdown area. Given this, dominant overstorey species should PCT 36 occur are

more likely to be Black Box (*Eucalyptus largiflorens*) or Bimble Box (Eucalyptus *Eucalyptus populnea subsp. bimbil).* While no specific data could be located on Black Box or Bimble Box relating to root depth, some information is published relating to River Red Gum. River Red Gum has an extensive and deep root system (at least 20 metres in the horizontal direction and at least 10 metres vertically (Hulme, 2018). GHD (2022) note that groundwater is present at depths between 10m and 140m below ground level in the vicinity of the Mine, but is generally 20m to 90m below ground level.

GHD (2022) also note that groundwater is generally brackish to saline and has high electrical conductivity (EC) historically ranging from 10 000 µS/cm to 20 000µS/cm. While most studies have been on plantation River Red Gum, MDBA (2003) note that salinity was the major cause of dieback of River Red Gum along the Murray River below Euston. Death of River Red Gum is likely to occur as a result of EC above 5,100 µS/cm (MDBA, 2003) strongly suggesting that if River Red Gum were present as mapped, any trees are likely only to occur should the groundwater be unreachable by these individuals. This strongly suggests that any drawdown of current groundwater with high EC would have no negative impact on PCT 36 if it was to occur there.

GHD (2022) state the groundwater yield is also very low with expectation that groundwater flow is through tight fractures also suggesting that PCT 36 should it occur here, does not rely on any of the saline groundwater present.

Regardless of the potential presence of PCT 36, EnviroKey agree with the assessment of GHD (2022) , that there are unlikely to be impacts to potential terrestrial or aquatic GDEs as a result of the proposed mining of the Budgerygar deposit (Mod8) given that the measured groundwater levels generally exceed the reasonable limit of tree root growth, and that groundwater is also likely not being used by any native vegetation community given its highly saline nature.

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