Notice

Environmental Protection Act 1994

Information request

This information request is issued by the administering authority under section 140 of the Environmental Protection Act 1994 *to request further information needed to assess an amendment application for a site-specific environmental authority.*

To: Orion Mining Pty Ltd
PO Box 131
Clermont QLD 4721
Via email transmission only

Attention: Steven Leighton, Danny McCarthy
Email: sleighton@terracomresources.com; dmccarthy@terracomresources.com

Your reference: EPML00876713
Our reference: A-EA-AMD-100464270

Further information is required to assess an amendment application for environmental authority

1. Application details

The amendment application for a site-specific environmental authority was received by the administering authority on 10 July 2023.

The application reference number is: A-EA-AMD-100464270

Land description: ML1804

2. Information request

The administering authority has considered the abovementioned application and is writing to inform you that further information is required to assess the application (an information request).

The information requested is provided at Attachment 1.

3. Actions

The abovementioned application will lapse unless you respond by giving the administering authority -

(a) all of the information requested; or
(b) part of the information requested together with a written notice asking the authority to proceed with the assessment of the application; or

(c) a written notice –

i. stating that you do not intend to supply any of the information requested; and

ii. asking the administering authority to proceed with the assessment of the application.

A response to the information requested must be provided by **28 March 2024** (the information response period). If you wish to extend the information response period, a request to extend the period must be made at least 10 business days before the last day of the information response period.

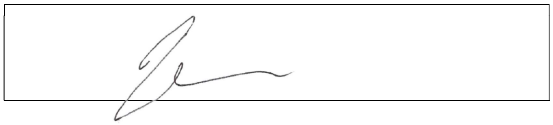
The response to this information request or a request to extend the information response period can be submitted to the administering authority by email to CRMining@des.qld.gov.au.

If the information provided in response to this information request is still not adequate for the administering authority to make a decision, your application may be refused as a result of section 176 of the *Environmental Protection Act 1994,* where the administering authority must have regard to any response given for an information request.

4. Human rights

A human rights assessment was carried out in relation to this decision/action and it was determined that no human rights are engaged by the decision.

If you require more information, please contact Alison Cummings on the telephone number listed below.



Signature

25 September 2023

Date

Juliana McCosker
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Business Centre Coal
PO Box 3028, Emerald QLD 4720
Phone: (07) 4987 9320
Email: CRMining@des.qld.gov.au

Attachment 1 Information required

No.	Matter of interest	DES comment	Requested Action/s
2.3. Groundwater			
1	Residual void proposed to remain as a NUMA – Groundwater	The current amendment proposes a change of post-mining land use (PMLU) for the residual void to a non-use management area (NUMA), given the water quality of the pit lake. The following matters are noted in regards to groundwater and the proposed NUMA, that require additional information to describe and determine any actual or potential change in impacts resultant from this the current amendment. Section 2.3.1 states, "*The shallow unconfined Tertiary basalt aquifer is the most significant aquifer within the Mine and surrounding area"* and *"The shallow alluvial aquifer system within the mining lease has largely been removed by open-cut mining. These systems were localised and associated with Washpool and Bath Creeks prior to disturbance."* Minimal evidence has been provided to support the statement that the residual void will act as a sink preventing migration to surrounding aquifers. The change in criterion could result in void water that is of a worse quality as compared to the groundwater of the surrounding area. Additional discussion regarding the data limitations and model uncertainty and how that impacts the predictions of longterm groundwater levels in comparison to void equilibrium water levels is required to be provided. It is unclear how the various models can predict *no* impact on the alluvial aquifer. Whilst the residual void may not be directly connected to the alluvium, it is noted that unrehabilitated spoil runoff is a key driver of salinity (from Table 3.3, of Appendix B). It is unclear if:	Provide – (a) A figure indicating the groundwater flow direction surrounding the mine for different aquifers including Tertiary basalt and alluvial. (b) Cross-sectional diagrams of the residual void that show the indicated water level at equilibrium in comparison to the water levels in the Tertiary basalt and alluvial aquifers. Note: a cross sectional diagram must be provided that includes the alluvium associated with Washpool and Bath creeks. (c) Evidence that supports no increase in impact to surrounding groundwater quality or groundwater levels will result from the proposed amendment. (d) Hydrographs depicting the units being monitored by the groundwater bores and a comparison of changing water levels over time for bores in clearly identified hydrostratigraphic units is required. The predicted water level elevation contours for the aquifers and major coal seams for the end of mining, 10, 50, 100 and 500 years post closure are required. (e) Provide additional information regarding the change to the landform and potential off-site impacts from the previous rehabilitation proposal (Closure Management Plan 2020) to the current final landform proposal in this application.

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		(i) the potential impacts from the previous site rehabilitation landform (see the figure on page 23 from Closure Management Plan, October 2020) have changed when compared to the current proposed layout (Figure 2 of Supporting Information document); and (ii) what changes there may be to the off-site impacts from the altered final landform configuration, i.e. impacts to alluvial aquifers and GDEs etc.	
3.2 Location, size and extent of the residual void unable to support a PMLU			
2	Residual void proposed to remain as a NUMA	The current amendment proposes a change of post-mining land use (PMLU) for the residual void (302ha) to a NUMA. Section 3.2 states – "*The area of the residual void that is unable to support a PMLU is peak modelled water level plus the one in 2,000 annual exceedance probability (AEP) storm surge boundary (Figure 2; WRM 2023a). Final void location, size and extent are in Figure 6.*" The intent of the Mined Land Rehabilitation Policy (DES) is to ensure that land disturbed by mining activities is able to sustain an approved PMLU and the Environmental Protection Regulation 2019 requires that the total area of land proposed as a NUMA is minimised to the greatest extent possible. The extent of the NUMA must be based on modelled groundwater inputs and inputs from average annual rainfall only. Note that the long-term rainfall annual average for Clermont* is 658 mmy^{-1}. The administering authority does not include storm events when considering maximum void water levels, and hence the NUMA area.	Provide – (a) Updated details for the NUMA, including proposed Figure for the EA, that excludes the one in 2000 year AEP and utilises the annual average rainfall only. (b) further justification to demonstrate how the area of the final void (NUMA) has been minimised. (c) cross-sectional diagrams of the residual void to further detail the design of the void (e.g. slope angles; depth of void; water level at equilibrium). (d) Updated diagrams and discussion that clearly differentiate the expected freeboard (in both vertical distance and volume) between the: (i) Void water level at equilibrium; and (ii) Void water level after a probably maximum precipitation (PMP) event.

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		However, such extreme rainfall events should be considered when discussing the potential for the NUMA to overtop the void crest. * Based on long term rainfall from Clermont Post Office [1870-2018]. The current alternative is Clermont Airport [2010-2023] with an annual average rainfall of 575 mmy^{-1}. Climate statistics for Australian locations (bom.gov.au)	
4.1.2 Extent of the residual void and catchment that reports to it has been minimised			
3	Residual void – stable	The supporting information states: "*It is unknown whether enough spoil will be generated by mining to substantially backfill the residual void because the mining plan has not been finalised and spoil volumes are unknown. Should excess spoil become available, sequential backfilling of the residual void will be done to minimise their size and extent.*" The application lacks information demonstrating the applicant has attempted to minimise the extent of the NUMA. Section 4.1.2 further states, "*Consequently, focus for rehabilitation is the creation of a safe and stable landform by filling as much of the residual void as possible and develop pit walls with appropriate factors of safety*." The application lacks any further information on the impacts on stability of the residual void.	Provide – (a) Given the lack of knowledge of the volumes of available spoil for void backfill it is unclear in the application: (i) How the proposed NUMA extent has been calculated in terms available spoil volumes; and (ii) What actions have already been taken and/or proposed to be taken to minimise the extent of the NUMA. (b) Provide further information on the predicted stability of the residual void pit walls, including a factor of safety criterion that demonstrates the residual void will remain safe and stable.
4.1.5 Engagement with relevant stakeholders			
4	Landholder consultation	The current amendment proposes a change of PMLU for the residual void to a NUMA. Section 4.1.5 states –	Provide details on the existing and proposed community consultation undertaken regarding the residual void outcome (NUMA), as per section 126C(d) of the EP Act and Section 3.3. of the PRCP Guideline.

No.	Matter of interest	DES comment	Requested Action/s
		"*TerraCom has restarted community consultation with representatives of State Forest, and State Land within the Department of Environment and Science (DES). Representatives of State Forest have indicated a preference towards returning all disturbance, other than the residual void to forestry. Representatives of State Land have indicated a preference towards grazing. There is ongoing discussion with relevant representatives to decide an agreed PMLU*." It is noted that consultation has been undertaken with landholder/s regarding the PMLUs of grazing and forestry. However, there is insufficient information to demonstrate that community consultation has been undertaken in relation to the residual void remaining as a NUMA in the final landform. It is acknowledged that the PRCP is due for submission by **17 May 2024**. As per section 126C (1)(d) of the *Environmental Protection Act 1994* (EP Act), the PRCP is required to *state the extent to which each proposed post-mining land use for land, or non-use management area, identified in the proposed PRCP schedule for the plan is consistent with— (i) the outcome of consultation with the community in developing the plan*.	