

Notice

Environmental Protection Act 1994

Environmental Evaluation

Notice to conduct or commission an environmental evaluation

This notice to conduct or commission an environmental evaluation is issued by the administering authority pursuant to section 326B of the Environmental Protection Act 1994.

CuDeco Limited
Suite 11A, Level 11, 100 Edward Street
BRISBANE QLD 4000

Your reference: STAT1301

Our reference: 101/0010180

Monday, 3 September 2018

Take notice: that under the *Environmental Protection Act 1994* (the Act) a notice to conduct or commission an environmental investigation is issued to CuDeco Limited by the administering authority. The administering authority is the Chief Executive of the Department of Environment and Science (the department).

The notice to conduct or commission an environmental investigation is issued in respect of the activities of CuDeco Limited on land described as Mining Lease (ML) 90177, ML90188 and ML90219 (the premises).

This notice contains an administrative amendment and replaces the notice issued on 31 August 2018, pursuant to section 24AA of the *Acts Interpretation Act 1954*.

A. Grounds

The notice to conduct or commission an environmental investigation is issued on the following grounds:

The administering authority is satisfied on reasonable grounds that an activity is causing or is likely to cause environmental harm.

The facts and circumstances forming the basis for these grounds are:

1. On 20 September 2017, authorised officers of the Department of Environment and Science (the department) conducted a compliance inspection of the Rocklands Copper Project, owned and operated by CuDeco Limited (CuDeco).
2. The inspection included an investigation of a community report pertaining to water ponding outside of the tailings storage facility (TSF). During the inspection it was confirmed with representatives of CuDeco that the presence of water was likely attributable, either directly or indirectly, to mining activities related to construction and/or use of the TSF.
3. Environmental Authority EPML00887913 (EA) authorises the storage of contaminants in the TSF but does not authorise the release of contaminants from the TSF other than via a conditional release from

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the spillway. The EA does not authorise the mobilisation of in-situ contaminants from groundwater sources to the surface water environment.

4. As specified under the *Environmental Protection (Water) Policy 2009* (EPP Water), the following environmental values may apply to receiving waters outside of the TSF:
 - a) for high ecological value waters—the biological integrity of an aquatic ecosystem that is effectively unmodified or highly valued;
 - b) for slightly disturbed waters—the biological integrity of an aquatic ecosystem that has effectively unmodified biological indicators, but slightly modified physical, chemical or other indicators;
 - c) for moderately disturbed waters—the biological integrity of an aquatic ecosystem that is adversely affected by human activity to a relatively small but measurable degree;
 - d) for highly disturbed waters—the biological integrity of an aquatic ecosystem that is measurably degraded and of lower ecological value than waters mentioned in paragraphs (a) to (c);
 - e) for waters that may be used for producing aquatic foods for human consumption—the suitability of the water for producing the foods for human consumption;
 - f) for waters that may be used for aquaculture—the suitability of the water for aquacultural use;
 - g) for waters that may be used for agricultural purposes—the suitability of the water for agricultural purposes;
 - h) for waters that may be used for recreation or aesthetic purposes, the suitability of the water for—
 - i. primary recreational use; or
 - ii. secondary recreational use; or
 - iii. visual recreational use;
 - i) for waters that may be used for drinking water—the suitability of the water for supply as drinking water;
 - j) for waters that may be used for industrial purposes—the suitability of the water for industrial use;
 - k) the cultural and spiritual values of the water.
5. Analysis of water quality samples taken by the department and CuDeco on 7 August 2017, 21 August 2017 and 20 September 2017, indicates elevated concentrations of certain parameters, including; arsenic, copper, nickel, boron, and electrical conductivity (indicative of salinity), within the ponded water. The concentrations of these parameters exceed water quality objectives for one or more of the relevant environmental values for surface water specified in point 4. Ponded water in the sampled locations at the time, was reflective of groundwater/subsurface conditions, rather than surface water conditions.
6. CuDeco submitted a report to the department produced by hydrogeologists of Rob Lait and Associates Pty Ltd and Australasian Groundwater and Environmental Consultants, titled *Rocklands TSF Ponding: Investigation of Source and Pathways of Water*, dated 7 November 2017 (Rocklands TSF Ponding Investigation). Review of this report indicates that:
 - i. The source of ponded water to the east of the TSF is consistent with groundwater, expressing at the surface, due to a pressure response from mass loading exerted by the TSF and the higher than average rainfall period from late 2015 onwards; and
 - ii. contaminant concentration in the ponded water is likely increasing due to evapoconcentration.
7. The department has no records of groundwater expressing in areas east of the TSF, prior to the TSF being built.

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8. While the ponded water to the east of the TSF was identified as groundwater, CuDeco installed management measures, including:
 - i. Installing and operating a seepage interception trench and system on the TSF eastern embankment, which was designed by *ATC Williams Pty Ltd* consulting engineers.
 - ii. Installing and monitoring a further groundwater monitoring (investigation) bore to the east of the TSF.
9. On 11 June 2018, authorised officers of the department conducted a site inspection at the premises. A previously unknown (to the department) expression of water was observed on the outside of the north-west TSF embankment and the eastern expression appeared to have intensified (all ponded water observed outside of the TSF was uncontained, other than that in the interception trench). Unlike the eastern expression, the north-west expression of water did not share the same level of similarity with local groundwater and was not considered in the *Rocklands TSF Ponding Investigation*. Samples taken of the north-west expression of ponded water, by the department, indicated elevated levels of certain parameters, including; copper and electrical conductivity (indicative of salinity), within the ponded water. The concentrations of these parameters exceed water quality objectives for one or more of the relevant environmental values for surface water specified in point 4.
10. On 8 August 2018, authorised officers of the department conducted a site inspection at the premises. The expression of ponded water outside of the east and north-west TSF embankment appeared to have intensified further (all ponded water observed outside of the TSF was uncontained, other than that in the interception trench). Samples taken of the northern expression of ponded water, by the department, indicated elevated levels of certain parameters, including; copper, selenium, boron, and electrical conductivity (indicative of salinity), within the ponded water. The concentrations of these parameters exceed water quality objectives for one or more of the relevant environmental values for surface water specified in point 4.
11. The department has formed a reasonable belief that:
 - i. The presence of ponded water outside of the TSF is the result of CuDeco's mining activities (i.e. construction and/or use of the TSF); and
 - ii. The ponded water contains elevated concentrations of contaminants likely to interact with the receiving environment and cause environmental harm.
12. Therefore, the department has decided that an environmental investigation is required, pursuant to section 326B of the Act.

B. Requirements

The report on the environmental investigation must address the following relevant matters:

1. By 12 October 2018, develop and implement a monitoring program sufficient to monitor the quality and characteristics representative of the **ponded water** on-site. The monitoring program must:
 - i. Identify all environmental values that may be impacted by **ponded water** and map those locations.

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- ii. Identify the location of **ponded water** and include reference to areas that are showing indications of water close to the surface (including anomalous soil moisture content and/or the presence of precipitates).
 - iii. Monitor the quality of the **ponded water** on a monthly basis for all parameters specified in *Table G10 – Groundwater Contaminant Trigger Levels and Contaminant Limits*, of environmental authority EPML00887913 as well as **major ions**.
 - iv. Monitor the quality of groundwater on a monthly basis for **Groundwater Monitoring Bores** for all parameters specified in *Table G10 – Groundwater Contaminant Trigger Levels and Contaminant Limits*, of environmental authority EPML00887913, as well as **major ions**.
 - v. At the commencement of the environmental evaluation, estimate the volume of **ponded water** which has already been pumped to the **TSF**.
 - vi. Monitor and record volumes of **ponded water** pumped to the **TSF**.
2. By 30 November 2018, provide an update report to the department at a minimum frequency of once every three months. The update report must:
 - i. Map the locations of **ponded water** and potential environmental values and include reference to areas that are showing indications of water close to the surface (including anomalous soil moisture content or presence of precipitants). Identify any changes.
 - ii. Assess the quality of the **ponded water** and identify changes to its composition and contaminant concentrations. Changes and trends must be identified and reference must be made to relevant water quality objectives.
 - iii. Assess the geochemical composition of the **Groundwater Monitoring Bores** and water contained in the **TSF**, and comment on the relationship to that of the **ponded water**.
 - iv. Assess changes to water levels in the **Groundwater Monitoring Bores** and provide a reasoning for any changes.
 - v. Identify any exceedances of water quality objectives for any environmental values which may be impacted on by interaction of the **ponded water** with surface water.
 - vi. Identify the volume of **ponded water** pumped to the **TSF** during the reporting period, and in total.
3. By 31 December 2018, provide a report to the department outlining interim intervention and remediation options to contain existing **ponded water**.
4. By 31 May 2019, conduct hydrological modelling, for a projected period of at least 20 years, to:
 - i. Estimate likely changes to water levels in the aquifer(s) underlying, and surrounding the **TSF**, as a result of increasing hydrostatic pressure exerted on the aquifer(s) by the **TSF**, with regard to predicted future inputs to the **TSF**, and;
 - ii. Identify and map areas, in order of likelihood, that water may express to the surface, if water levels in aquifers aquifer(s) underlying and surrounding the **TSF** rise in accordance with the hydrological modelling predictions.

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5. By 31 May 2019, provide the hydrological model to the department, inclusive of a sensitivity analysis and identification and justification of model inputs.
6. By 31 August 2019, provide a final investigation report that:
 - i. Summarises the results from all monitoring completed as a requirement of this Environmental Evaluation Notice with reference to water quality objectives for all relevant environmental values and any change or significant trend in water quality.
 - ii. Defines the relationship between the **ponded water**, the **Groundwater Monitoring Bores**, water in the **TSF** and any other potential sources of contamination.
 - iii. Provides mapping, at yearly intervals, based on the hydrological model, of predicted water levels in the aquifer(s) underlying, and surrounding the **TSF**, and identify the predicted areas that water may express at the surface during the projected period of the hydrological model. Where water is predicted to express at the surface, include an estimate of seepage rates.
 - iv. Identify any impacts or potential impacts to environmental values as a result of the expression, or predicted future expression of **ponded water**.
 - v. Identifies intervention and remediation measures to minimise **ponded water** expressions.
7. All monitoring required under this Environmental Evaluation Notice must be undertaken by a suitably qualified and experienced person using monitoring equipment that is accurately calibrated and maintained in good working order.
8. All water quality analysis required under this Environmental Evaluation Notice must be carried out by a laboratory that has NATA certification for such analyses and tests.

Definitions:

- i. **Groundwater Monitoring Bores** means the groundwater monitoring bores specified in *Table G9 - Groundwater Monitoring Locations and Frequency* of environmental authority EPML00887913 on mining lease 90188.
- ii. **Ponded water** means any water which is ponding or expressing at the surface as a result of mining activities (directly or indirectly) conducted by the holder of environmental authority EPML00887913.
- iii. **TSF** means the tailings storage facility as authorised by environmental authority EPML00887913.
- iv. **major ions** means; calcium, magnesium, sodium, potassium, chloride, carbonate, bicarbonate, and sulphate.

The environmental investigation must be carried out, and the environmental report prepared by a suitably qualified person. A suitably qualified person is defined as per s564 of the Act.

The environmental report must be submitted to the department on or before: Saturday, 31 August 2019

As the recipient of this notice, you are also required to provide a statutory declaration in the form attached, to accompany the environmental report submitted to the department. Copies of the template statutory declarations

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can also be accessed from the Queensland Government website at www.qld.gov.au, using the publication number as a search term:

1. Statutory declaration environmental evaluation for recipient ([ESR/2016/1997](#))
2. Statutory declaration for suitably qualified person ([ESR/2016/2266](#))

Take notice:

1. The requirements of the notice to conduct or commission an environmental investigation take effect immediately upon service of this notice;
2. This notice remains in force until further notice from the department; and
3. You are responsible for meeting the costs of conducting or commissioning the environmental evaluation, preparing the environmental report and providing any further information as requested by the department.

C. Reviews and appeals

The provisions regarding reviews of decisions and appeals are found in sections 519 to 539 of the Act.

A person who is dissatisfied with certain decisions of the department, may be able to apply to have the department review that original decision.

Generally, a request to have a decision reviewed must:

- be made within 10 business days of the decision being notified to the person;
- be supported by enough information to enable the department to decide the application for review; and
- be made using the application form, Application for review of original decision ([ESR/2015/1573](#)) available on the Queensland Government website at www.qld.gov.au, using the publication number (ESR/2015/1573) as a search term.

Where an application has been made for a decision to be reviewed, the applicant may also apply to the relevant court for a stay of the decision to secure the effectiveness of the review.

Once the original decision has been reviewed, a person who is dissatisfied with the review decision may be able to appeal against that decision to the relevant court within 22 business days after receiving notice of the review decision.

A person whose interests are or would be adversely affected by a decision of the department may also be able to request a statement of reasons for a decision or a statutory order review under the *Judicial Review Act 1991*. For further information about reviews and appeals see the information sheet, Internal review and appeals ([ESR/2015/1742](#)) available on the Queensland Government website at www.qld.gov.au, using the publication number (ESR/2015/1742) as a search term.

The information sheets are available on the Queensland Government website at www.qld.gov.au, using the publication number as a search term.

You may have other legal rights or obligations and should seek your own legal advice.



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D. Penalty

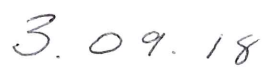
Failure to comply with a notice to conduct or commission an environmental evaluation is an offence.

1. The maximum penalty for an individual is 300 penalty units, totalling \$ 39,165.
2. The maximum penalty for a corporation is 1500 penalty units, totalling \$ 195,825.

Should you have any queries in relation to this notice, please contact Daniel Gunzburg of the department on telephone number 07 4222 5157.



Signature



Date

Gus Gonzo

Manager, Compliance

Delegate of the Chief Executive

Department of Environment and Science

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