

Environmental Protection Act 1994

Environmental Protection Order

This environmental protection order is issued by the administering authority pursuant to section 358 of the Environmental Protection Act 1994.

Alphadale Pty Ltd (ACN: 050 409 008)
Level 1, 33 Colin Street
WEST PERTH WA 6005

Cameron McLean
Director
Alphadale Pty Ltd
Via email: cmclean@greatnorthernminerals.com.au

cc. Madison Jackson
Team Lead – Approvals and Compliance
Wulguru Technical Services
permitcorrespondence@wulgurutechservices.com.au

Your reference: STAT-E-100346522

Our reference: 101/0008133 , C-CPLPO-100279909

20/12/2022

Dear Mr McLean,

Take notice: that under the *Environmental Protection Act 1994* (EP Act) this environmental protection order (EPO) is issued to Alphadale Pty Ltd, ACN 050 409 008 (you) by the administering authority. The administering authority is the Chief Executive of the Department of Environment and Science (the department).

The EPO is issued with respect to the activities of mineral mining on land described as Big Rush Mine situated at ML10168, ML10175 and ML10192 near Greenvale, Qld (the premises).

A. Grounds

This EPO is issued on the following grounds:

1. The department requires you to take reasonable measures to secure compliance with conditions A2-1 and C4-1 of Environmental Authority EPML00771413 dated 3 February 2016 which states:

Condition A2-1'

The environmental authority holder must ensure:

- a) *That all measures, plant and equipment necessary to ensure compliance with the*
- b) *conditions of this environmental authority are installed; and*
- c) *That such measures, plant and equipment are maintained in a proper condition; and*
- d) *That such measures, plant and equipment are operated in a proper manner.*



Condition C4-1

Subject to the release limits defined in Schedule C, all reasonable and practicable measures must be implemented to prevent hazardous leachate being directly or indirectly released or likely to be released as a result of the activity to any groundwater or watercourse.

2. The department requires you to take reasonable measures to secure compliance with the general environmental duty. The general environmental duty is detailed in s319 of the EP Act which states the following: *'A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practical actions to prevent or minimise the harm (the **general environmental duty**)*.

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

1. You are:
 - a. the holder of mining leases ML10168, ML10175 and ML10192;
 - b. the holder of EA EPML00771413; and
 - c. the person with possession and control over the premises.
2. EA EPML00771413 (the EA) authorises environmentally relevant activities including various aspects of mining and associated activities at the premises, subject to the conditions of the EA.
3. You undertake activities on the site including a process circuit, where leachate flows through a spent heap leach pad, to the pregnant pond, then through to the barren pond before reporting to the impoundment dam.
4. There are significant risks of environmental harm associated with the potential for discharge of hazardous leachate from the impoundment dam to the nearby watercourse, Gorge Creek.
5. The department undertook an inspection at the premises on 3 August 2022. Authorised persons observed:
 - a. significant quantities of stored leachate in the impoundment dam and noted that the impoundment dam was likely exceeding the mandatory reporting limit;
 - b. a solar powered pump in the impoundment dam and limited irrigation infrastructure on top of the heap leach pad, which was intended to facilitate evaporation; and
 - c. that there were no operational sprinkler heads on the irrigation infrastructure, so leachate was simply flowing out of two holes and back into the heap leach pad with little potential for evaporation to occur.
6. Following the 2022 inspection of the site, the department noted that the leachate level within the impoundment dam had increased since 2020.
7. On 31 October 2022, the department sent you a pre-enforcement letter outlining a number of potential non-compliances with the EA, including that all reasonable and practicable measures, plant and equipment had not been installed, maintained and operated in order to minimise the likelihood of hazardous leachate being released from the impoundment dam to Gorge Creek.
8. You responded to the pre-enforcement letter in two parts on 7 and 11 November 2022. In the 11 November 2022 response, you stated that an engineer has been engaged to review and re-design the irrigation system, and this is expected to be completed by the end of November 2022 and installed promptly after this.

9. It is unclear how you intend to manage the risks associated with the very high-water level in the impoundment dam and if the proposed action of continuing irrigation on the heap leach pad is likely to be effective to reduce the water levels sufficiently and within a reasonable timeframe.
10. On 9 November, you notified the department that an assessment by external engineers identified that the impoundment dam did not have sufficient capacity to meet the Design Storage Allowance (DSA) on 1 November 2022. You further advised that the DSA is 82.88 ML however the total system volume is only 84.0 ML, so the dams would need to be almost empty to meet DSA.
11. The provision and maintenance of available DSA volume is an important standard industry practice to provide reasonable certainty that the design performance criteria for containment will be met in any forthcoming wet season. Failure to ensure a regulated structure achieves the required DSA volume at the onset of each wet season (that is, on 1 November each year) poses a heightened risk of an uncontrolled contaminant release.
12. Further, the provision and maintenance of capacity to accommodate the extreme storm surge (ESS) required for the 72 hour, 0.1AEP is another important industry practice and, this assessment stated that the ESS for the impoundment dam is 206 mm/17.8 ML. As of 10 October 2022, when the engineer undertook their on-site assessment, there was only 6.4 ML available.
13. Sample results from the impoundment dam indicated elevated concentrations of arsenic (41.6 mg/L in October 2019 and 55.2 mg/L in October 2020), therefore, in the event of a discharge, leachate will almost certainly cause exceedance of receiving water contaminant limits specified in Schedule C, Table 2 of the EA, which states that the contaminant limit for arsenic is 0.5 mg/L.

Additionally, ANZECC & ARMCANZ (2000) guidelines identifies that, the total concentrations of arsenic in drinking water for livestock exceeding 0.5 mg/L may be hazardous to stock health, (noting where arsenic is not provided as a food additive and natural levels of arsenic in the diet are low, a level of 5 mg/L in drinking water may be tolerated), consequently the department considers there is the potential to cause environmental harm.

14. The Bureau of Meteorology reports the onset of a La Niña weather pattern. La Niña events increase the chances of above rainfall for northern and eastern Australia during spring and summer.
15. The “general environmental duty” requires that all reasonable and practicable measures be taken to prevent or minimise environmental harm. The department considers that there are further reasonable and practicable measures that can and should be taken to prevent or minimise environmental harm. Such actions include for example adopting appropriate industry practices, complying with your EA conditions, having in place a documented water management plan and lawfully reducing the water level of the impoundment dam.
16. It is the department's assessment that you are unlikely to comply with your EA without further undertakings, in the following terms:
 - a. *Condition C4-1*, that you have not taken all reasonable and practicable measures to minimise the likelihood of a release of hazardous leachate stored in the impoundment dam;
 - b. *Condition A2-1*, given the current leachate inventory at the premises (approximately 6.4 ML available capacity and less than the ESS requirement of 17.8 ML), you have not installed and operated all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority, that is, to comply with condition C4-1.

17. The department considers that additional measures are required and are available to you to manage the site's water inventory, to prevent or minimise environmental harm and to meet the obligations outlined in the EA.
18. On the basis of the information set out in facts and circumstances, the department is of the view that there is an unacceptable risk of material and/or serious environmental harm occurring as a result of mining activities at the premises.
19. Given the high leachate levels onsite (approximately 6.4 ML available capacity; which is less than both the DSA of 82.88 ML and ESS requirement of 17.8 ML) and the forecast of increased chance of above average rainfall over the 2022/2023 wet season, the department considers it reasonable for you to take further action in order to secure compliance with the general environmental duty and with conditions of your EA.

B. Requirements

In accordance with this EPO, you are required to do the following:

1. From the date of this EPO, you must take all necessary actions to prevent an unlawful release of contaminants from the premises.
2. By 5pm on 23 December 2022 you must provide the department with a water management plan (WMP), that covers the 2022/2023 wet season, to effectively minimise the risk of an unauthorised hazardous leachate release from the impoundment dam.
3. The WMP must be prepared by an appropriately qualified person and detail the proposed water management operating strategy for the 2022/2023 wet season.
4. The WMP must describe the site water management system (including the heap leach pad, barren pond, pregnant pond and impoundment dam) and in relation to the proposed water management operating strategy, must at a minimum systematically:
 - identify the actual and potential risks of environmental harm that may be caused as a result of implementing the proposed water management operating strategy (including risks associated with any areas where there are no management actions proposed);
 - define the infrastructure (including pumps and pipes), resources, management actions and critical controls necessary to effectively minimise the risks of environmental harm; and
 - provides a timeline for implementing the WMP.
5. By 5pm on 23 December 2022, you must commence implementing the WMP prepared in requirement 2, as per the timeline specified in the WMP.
6. At all times you must have available:
 - a. appropriately qualified and experienced staff to ensure compliance with this EPO;
 - b. measures, plant and equipment necessary to ensure compliance with this EPO; and
 - c. fuel supplies and access to power to ensure the ongoing operation of measures, plant and equipment to ensure compliance with this EPO.
7. All measures, plant and equipment necessary to ensure compliance with this EPO must be maintained in a functional and operable manner.
8. You must not, without the department's prior written approval, dispose of, materially alter, or remove any measures, plant or equipment on the premises, necessary to:
 - ensure compliance with the requirements of this EPO, or

- reasonably reduce the risk of a release of contaminants not otherwise permitted under your EA.
- 9. At all times you must maintain sufficient site security to ensure public safety and prevent theft or vandalism of the measures, plant and equipment that are required to ensure compliance with this EPO.
- 10. By 10am each Friday, beginning on 30 December 2022, you must provide a written report to the department which details:
 - a. for the weekly reporting period, details of actions undertaken to comply with his EPO;
 - b. for the weekly reporting period, daily rainfall totals for the premises or the closest monitored rainwater gauge to the premises.
 - c. for the weekly reporting period the actions taken to reduce the water inventory over the reporting period including the estimated total volume of water removed from the water inventory, listed for each day, separated by removal method and including details of the measurements, calculations, and assumptions that the estimate is based upon.
 - d. the storage capacity available (in ML) in each of the regulated structures (barren pond, pregnant pond and impoundment dam) and the water level (metres AHD) in the impoundment dam at the end of the weekly reporting period, including details of the measurements, calculations, and assumptions on which the estimate is based. These measurements should be determined empirically and be used to reconcile available capacity with previous capacity and the estimated removed volume.
- 11. You must notify the department in writing at least three business days prior to the date of Alphadale Pty Ltd ceasing activities at all or any part of the premises. "Ceasing activities" means any circumstances that may arise in which the EA is no longer in force, or otherwise taking any action that could result in any of the environmentally relevant activities referred to in the EA being no longer able to be lawfully carried out at the premises.

Definition

Appropriately qualified person means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

Written notifications and submissions required by this notice must be provided to the department via email to melissa.north@des.qld.gov.au and estownsville@des.qld.gov.au.

C. Obligations

If you propose to dispose of the place or business to which the EPO relates, you **must** advise the buyer of the existence of this EPO.

If you cease to carry out the activity to which this EPO relates, you **must** give written notice of ceasing to carry out the activity to the department within 10 days of ceasing the activity.

Take notice:

- the requirements of this order take effect immediately upon service of the order;
- failure to comply with this order is an offence under the EP Act;

- this order remains in force until further notice from the administering authority.

D. Penalty

It is important that you know the impact to you personally as an individual or as a corporation for not meeting your obligations.

Failure to comply with an EPO is an offence.

- The maximum penalty for wilfully contravening an EPO is 6250 penalty units, totalling \$898,437 or five years imprisonment for an individual or \$4,492,185 for a corporation.
- The maximum penalty for contravening an EPO is 4500 penalty units, totalling \$646,875 for an individual or \$3,234,375 for a corporation.

Failure to provide written notice to the buyer of the existence of the order is an offence.

- The maximum penalty is 50 penalty units, totalling \$7,187 for an individual or \$ 35,935 for a corporation.

Failure to provide written notice to the department within 10 business days of ceasing the activity to which an environmental protection order relates is an offence.

- The maximum penalty is 50 penalty units, totalling \$7,187 for an individual or \$35,935 for a corporation.

Section 3 of the *Penalties and Sentences Regulation 2015* prescribes the monetary value of a penalty unit.

E. Reviews and appeals

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

A person who is dissatisfied with an original decision made by the Department of Environment and Science (the department) may apply to have that decision internally reviewed.

Information about initiating an appeal in relation to this notice is contained within the [Internal Reviews and Appeals Information Sheet](#) (available at www.qld.gov.au using the publication number ESR /2015/1742 as a search term)

A request for review or appeal is to be made using the approved form '[Application for review of original decision](#)' (available at www.qld.gov.au using the publication number ESR/2015/1573 as a search term.

Applications for reviews are to be sent to Permit and Licence Management, Department of Environment and Science: via email at palm@des.qld.gov.au , or by mail to the following address: GPO. Box 2454, Brisbane, QLD, 4001.

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 be able to request a statement of reasons for a decision or a statutory order review under the *Judicial Review Act 1991*.

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

Notice
Environmental Protection Order

Pursuant to section 540 of the Act, the department is required to maintain a register of certain documents and information authorised under the Act. A copy of this document will be kept on the public register. The register is available for inspection by members of the public who are able take extracts, or copies of the documents from the register. Documents that are required to be kept on the register are published in their entirety unless alteration is required by the Act. There is no general discretion allowing the department to withhold documents or information required to be kept on the public register. For more information on the department's public register, search 'public register' at www.qld.gov.au. For queries about privacy matters please email privacy@des.qld.gov.au or telephone 13 74 68.

Should you have any queries in relation to the notice, please contact Mel North on (07) 4722 5309.



Signature

James Sadler
A/Compliance Delivery Manager
Delegate of the Chief Executive
Department of Environment and Science
Environmental Protection Act 1994

20/12/2022

Date

Enquiries:
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