

Environmental Enforcement Order

Section 362 of the *Environmental Protection Act 1994*

Contravention of condition of environmental authority

Department of
**Environment, Science
and Innovation**

Order id: STAT-E-100737881

Issued to: Capricorn Copper Pty Ltd [ACN 106 396 801]
Level 2 150 Collins Street Melbourne VIC 3000

For the purpose of this notice “you” means the recipient of this notice or your authorised representative.

Site address: Capricorn Copper Mine [Mining Leases ML5407, ML5412, ML5413, ML5418, ML5419, ML5420, ML5429, ML5430, ML5441, ML5442, ML5443, ML5444, ML5451, ML5454, ML5457, ML5459, ML5467, ML5485, ML5486, ML5489, ML5500, ML5548, ML5549, ML5550, ML5562, ML5563, ML90180, ML90181 and ML90182] (“the premises”)

Issued by: Kirstie Treloar, Manager Compliance, Department of Environment, Tourism, Science and Innovation at 400 George Street Brisbane, an authorised person of the administering authority (“the delegate”)



Signed by delegate

Date: ~~1 November 2024~~ 15 November 2024

Relevant matter/ enforcement grounds: Section 359(c) - to secure your compliance with the general environmental duty (GED);
Section 359 (e)(ii) to secure compliance with condition/s of your environmental authority, specifically conditions A3-1, G5-2 and G8-1of EA EPML00911413 effective 6 December 2023.

Service method: Via registered post and/or email: Geraldine.mcguire@29metals.com

Why are we writing to you?

The delegate reasonably suspects that you have contravened section 430 of the *Environmental Protection Act 1994* (the Act) at the premises and has issued this Environmental Enforcement Order (EEO) to you under sections 359 of the Act to remedy the contravention, avoid further contraventions and keep the Department of Environment, Science and Innovation (“the department”) informed.

What are you required to do?

Please read this EEO carefully and carry out all the required actions listed below by the required dates.

Terms used in this order have the meaning defined in the Background and Definitions section of the EEO, or if not defined, in the Act.

If you have any questions about this EEO, please contact Alex Apostol by email alex.apostol@des.qld.gov.au or ESTownsville@des.qld.gov.au or telephone 07 4222 5316.

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Note: This Environmental Enforcement Order was amended by the administering authority on 15 November 2024. Where text has been deleted it is shown in ~~strike through~~. Where text has been included it is shown in underline.

Required actions:

General requirements

1. You must prevent any Unauthorised Release from the Premises to the receiving environment.
2. You must not import any water to the Premises with the exception of water used for Critical Purposes.
3. You must not transfer water from Underground Mine Workings into EPit (directly or otherwise) at any time other than for the purpose of maintaining the groundwater level at -25m RL AHD in the Esperanza underground mine.
4. At all times you must retain sufficient personnel, plant, equipment and resources at the Premises to oversee the water management system and meet requirements of this EEO.
5. You must ensure that all requirements of this EEO are carried out by a Suitably Skilled and Competent Person.
6. You must provide any information, reports or data produced/collected as a requirement of this EEO to the department within 24 hours of a request.
7. You must notify the administering authority in writing within 2 hours of commencing or ceasing an EEO release event.
8. You must notify the administering authority and potentially affected downstream landholders within 24 hours of becoming aware of any exceedance of a water quality objective stated in this EEO.

Treated water release

9. Contaminants may be released from the Premises to Gunpowder Creek under this EEO in accordance with requirements 10 to 17.
10. You must not release contaminants in accordance with conditions of environmental authority EPML00911413 either during an EEO release event or for a period of at 72 hours following cessation of an EEO release event.
11. The release of contaminants to Gunpowder Creek must only occur:
 - a) Between the date of issue of this EEO and **30 April 2025**.
 - b) From Release Point W1; and
 - c) In a manner that ensures effective dilution and dispersion of contaminants through the use of an appropriately designed diffuser; and
 - d) In a manner that does not cause erosion of the bed or banks of receiving waters; and
 - e) At a minimum dilution factor of 1:10 (1 part release flow rate to 10 parts background flow rate); and
 - f) At a maximum release rate of 1.5 Cumecs; and
 - g) When Background Flow in Gunpowder Creek exceeds 3 Cumecs; and
 - h) In accordance with the maximum contaminant concentration for the dilution rate specified in Table 1 – Contaminant Release Limits.
12. The concentration of contaminants released to Gunpowder Creek from Release Point W1 must not exceed any release limit specified in Table 1 – Contaminant Release Limits.

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Table 1 – Contaminant Release Limits

Contaminant (mg/L unless specified otherwise) ¹	Release limit (maximum concentration unless specified otherwise)	
	Dilution rate of 1:10	Dilution rate of 1:20
Electrical conductivity (us/cm)	5,000	10,000
Sulfate	3,500	7,000
Total suspended solids	30	60
pH (pH units)	Minimum of 6.5 and maximum of 9.0	
Arsenic	0.25	
Cadmium	0.002	
Chromium	0.001	
Cobalt	5	
Copper	2.5	5
Lead	0.05	0.1
Zinc	10	
Dissolved oxygen	Must be greater than 2 mg/L	
Oil and grease	No detectable film or odour	

¹All metals and metalloids must be measured and reported as both total (unfiltered) and dissolved (field filtered) concentrations. Release limits are based on the total metal concentration.

13. For all releases of contaminants to Gunpowder Creek from Release Point W1, you must undertake monitoring at each monitoring point specified in Table 2 – Monitoring Locations and in accordance with all requirements specified in Table 3 – Monitoring Requirements.

Table 2 - Monitoring Locations

Monitoring Point	Coordinates (GDA94, Zone 54)	
	Latitude	Longitude
GPU1	S 19° 42' 27.4"	E 139° 20' 13.9"
Release Point W1	S 19° 41' 20.0"	E 139° 21' 24.9"
GPA2	S 19° 41' 19.6"	E 139° 21' 24.2"
GPA4	S 19° 41' 14.8"	E 139° 21' 33.6"
GPA7	S 19° 40' 44.4"	E 139° 22' 25.4"
GS2	S 19° 40' 49.1"	E 139° 22' 34.3"
GPD1	S 19° 40' 00.4"	E 139° 22' 42.7"

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Table 3 - Monitoring Requirements

Type of monitoring	Monitoring Point/s	Timing/frequency	Requirements
Rainfall	Rainfall gauge on Site	Daily	Measures rainfall at the site in mm/24hr.
Background flow in Gunpowder Creek.	GPA2	Measured continuously during release.	Measures continuous background flow in Cumecs.
Volume and rate of release.	Release Point W1	Measured continuously during release.	Measures total daily volume released in megalitres/day and continuous release rate in Cumecs.
Water quality at release point.	Release Point W1	For pH and electrical conductivity, measured continuously during release. For all other contaminants listed in 'Table 1 – Contaminant Release Limits' – one sample at commencement of release and a minimum of once daily thereafter for the duration of release.	Quality of water released for all contaminants listed in 'Table 1 - Contaminant Release Limits', including sample time and date. Water quality for Release Point W1 may be sampled in-pipe.
Upstream water quality in Gunpowder Creek.	GPU1 and GPA2	For pH and electrical conductivity at GPU1 only, measured continuously during release. For all contaminants listed in 'Table 4 – Water Quality Objectives' – one sample at commencement of release, a minimum of once daily thereafter for the duration of release and one sample between 24 and 48 hours after the end of release.	Quality of water for all contaminants listed in 'Table 4 – Water Quality Objectives', including sample time and date. Note: Only in the event that safe access to GPU1 is unavailable, GPA2 monitoring results may be used as a proxy (for GPU1). Records should be kept to document when and why there was no safe access to GPU1.
Downstream water quality in Gunpowder Creek.	GPA4, GPA7 and GPD1	For pH and electrical conductivity at GPD1 and GPA4 only, measured continuously during release. For all contaminants listed in 'Table 4 – Water Quality Objectives' – one sample at commencement of release, a minimum of once daily thereafter for the duration of release and one sample between 24 and 48 hours after the end of release.	For GPD1 and GPA4 only – records electrical conductivity and pH. Quality of water for all contaminants listed in 'Table 4 – Water Quality Objectives' including sample time and date. Note: GPD1, and GPA4 <u>and</u> GPA7 grab samples may be collected as close to these monitoring locations as practicable when there is no safe access. Records should be kept to document when and why there was no safe access to monitoring sites.

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Type of monitoring	Monitoring Point/s	Timing/frequency	Requirements
Quality from Greenstone Creek into Gunpowder Creek.	GS2	For all contaminants listed in 'Table 4 – Water Quality Objectives' – one sample within two hours of a release commencing, a minimum of once daily thereafter for the duration of release, and one sample between 24 and 48 hours after the end of release.	Quality of water for all contaminants listed in 'Table 4 – Water Quality Objectives', including sample time and date.

14. The release of contaminants from the Premises must not cause or contribute to an exceedance of any water quality objective specified in Table 4 – Water Quality Objectives in Gunpowder Creek at any monitoring point specified in Table 3 – Monitoring Requirements.

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Table 4 – Water Quality Objectives

Contaminant (mg/L unless specified otherwise) ¹	Water quality objective (mg/L unless specified otherwise)
Electrical conductivity (µS/cm)	1,000
Sulfate	1,000
Total dissolved solids	For interpretative purposes only
Total suspended solids	Background concentration + 10%
pH (pH units)	Minimum of 6.5 and maximum of 8.5
Arsenic (total metals concentration)	0.5
Arsenic (dissolved metals concentration)	0.013
Cadmium (total metals concentration)	0.01
Cadmium (dissolved metals concentration)	0.0002
Chromium (total metals concentration)	1
Chromium (dissolved metals concentration)	0.001
Cobalt (total metals concentration)	1
Cobalt (dissolved metals concentration)	0.003
Copper (total metals concentration)	1
Copper (dissolved metals concentration)	0.018
Lead (total metals concentration)	0.01 <u>0.1</u>
Lead (dissolved metals concentration)	0.0034
Zinc (total metals concentration)	20
Zinc (dissolved metals concentration)	0.042
Dissolved oxygen	For interpretative purposes only
Dissolved Organic Carbon	For interpretative purposes only

¹All metals and metalloids must be measured and reported as both total (unfiltered) and dissolved (field filtered) concentrations.

15. During flow events in Gunpowder Creek greater than 200 Cumecs at GPA2:

- a) Requirement 14 of this EEO does not apply; and
- b) You must ensure any contaminant release to Gunpowder Creek does not cause harm to environmental values.

16. You must ensure that:

- a) All water quality monitoring is undertaken in accordance with the administering authority's monitoring and sampling manual; and
- b) All samples (except electrical conductivity, pH and dissolved oxygen) must be analysed at a NATA accredited laboratory; and
- c) All monitoring is undertaken in accordance with documented processes that are based on recognised standards and methodology that are consistent with best practice; and
- d) All monitoring required to be measured continuously must be accessible in real time at the Premises.

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17. You must:

- a) Maintain continuous oversight and monitoring of all water quality data received in real time during release events; and
- b) Cease the release of contaminants from release point W1 immediately upon becoming aware of an exceedance of a water quality objective stated in this EEO, with the exception of any release undertaken in accordance with requirement 15.

Treated water release infrastructure

18. During the Wet Season, you must ensure that discharge infrastructure capable of releasing treated water ~~at a rate of 1.5 Cumecs~~ to Gunpowder Creek in accordance with the requirements of this EEO is maintained at all times.
19. You must install and/or maintain a flow gauging station at GPA2 in proper working order for the duration of this EEO.
20. You must maintain a flow rate meter at release point W1 in proper working order for the duration of this EEO.
21. You must install and/or maintain real-time in-situ water quality monitoring stations at the water quality monitoring locations stated in Table 3.
22. You must install and/or maintain a rainfall gauge at the Premises in proper working order for the duration of this EEO.

Final report

23. By **30 June 2025** you must provide a final report to the administering authority. The report must contain the following information at minimum:
 - a) summary of all actions taken to comply with each requirement of this EEO; and
 - b) a description and assessment of each release event against the requirements of this EEO; and
 - c) rainfall data for the site; and
 - d) details of how you determined the 'potentially affected downstream landholders' for each water quality objective exceedance event; and
 - e) details of the volume of water imported to the site and the reason for importing; and
 - f) details of the stored water levels (mAHD) in each Regulated Structure at the commencement and the end of this EEO.
 - g) records and raw data of all monitoring undertaken in accordance with this EEO.
24. You must send this report via email to ESTownsville@des.qld.gov.au or via mail to Department of Environment, Science and Innovation to PO Box 7230 CAIRNS QLD 4870.

Background and Definitions

1. The department is the administering authority and has responsibility for enforcing the Act.
2. You are the holder of EA [EPML00911413 dated 6 December 2023].
3. The department is satisfied that you are responsible for the operation and maintenance of the premises under the EA.
4. A large volume of contaminated water is currently stored at the Premises, particularly within the regulated structure known as the Esperanza Pit (EPit).
5. This contaminated water has the potential to cause serious environmental harm due to elevated concentrations of metals, sulfate and acidity.
6. As of 18 September 2024, EPit water level was 229mRL.

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7. The maximum operating level (MOL) of EPit as specified under EA condition (G8-1) is 222mRL, therefore, current water levels exceed the MOL by approx. 7 metres.
8. The department alleges that you failed to achieve DSA for EPit by 1 November 2023.
9. You have advised DESI that DSA will not be achieved for EPit on 1 November 2024.
10. Due to the large volume of poor-quality water stored at the Premises, there is a heightened and unacceptable risk of environmental harm due to unauthorised contaminant release over the 2024-25 wet season and beyond.
11. The department has formed the view that there are reasonable and practicable measures available to reduce the risk of environmental harm and secure compliance with conditions of the EA, including but not necessarily limited to:
 - a. Installation, maintenance and operation of more effective water treatment, storage, monitoring and discharge infrastructure to maximise the release of suitably treated water to Gunpowder Creek under the requirements of this EEO.
 - b. Ceasing to import any non-critical water volumes to the regulated structures.
12. You have advised the department that a greater volume of treated water will need to be released from the Premises over the course of the 2024-25 wet season than is currently authorised under the EA, in order to effectively manage the current site water inventory.
13. The department has also formed a view that additional treated water releases are likely required over the course of the 2024-25 wet season to mitigate risk of environmental harm, particularly if significant wet season rainfall is experienced at the Premises.
14. Accordingly, the department has decided to issue this EEO to you pursuant to section 362 of the Act in response to the matters detailed above and having duly considered the standard criteria in accordance with section 363 of the Act.
15. In summary, the department considers you have contravened and continuously contravening sections 319 and 430 of the Act and it is reasonable to require you to secure your compliance with those conditions and the Act.
16. The department has considered the circumstances (including the standard criteria and human rights) and determined that the required actions are reasonable to remedy or otherwise address the relevant matters.
17. This EEO takes effect from the date service and remains in force until stayed, amended, revoked or finalised.

Definitions that apply to this notice:

The following definitions apply to this Order:

- a) 'Authorised Discharge' means a discharge in accordance with all of the requirements of this EEO.
- b) 'Background Flow' means streamflow in Gunpowder Creek immediately upstream of the Mt Oxide Rd Causeway, measured as the average flow over a 60-minute period, in Cumecs.
- c) 'Continuously' means at a frequency of at least once every 5 minutes for the duration of the release event.
- d) 'Critical Purpose' means water used exclusively for:
 - i. Drinking/personal hygiene; or
 - ii. Meeting emergency management or health and safety obligations; or
 - iii. Facilitating the treatment and authorised release of water to Gunpowder Creek where it is unsuitable to use water from other sources.
- e) 'Cumec' means cubic metres per second.

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- f) 'EPit' means Esperanza Pit.
- g) 'm AHD' means elevation in metres with respect to the Australian Height Datum.
- h) 'MCD' means Mill Creek Dam.
- i) 'Premises' means the Capricorn Copper Project located on the mining leases specified on environmental authority EPML00911413, located approximately 120 kilometres north-west of Mount Isa in the State of Queensland.
- j) 'Regulated Structure' means, for the purposes of this Order, the Esperanza Pit (or 'EPit'), Mill Creek Dam (or 'MCD') and the Esperanza TSF as defined in environmental authority EPML00911413.
- k) 'Release Point W1' means the authorised contaminant release point to Gunpowder Creek located at S 19° 41' 20.0"; E 139° 21' 24.9".
- l) 'Suitably Skilled and Competent Person' means a person who has professional qualifications, training and experience relevant to the nominated subject matter, who can give authoritative assessment, advice and analysis on performance relative to the subject matter using relevant protocols, standards, methods and literature.
- m) 'Unauthorised Release' means any release of contaminants other than an Authorised Discharge, as defined by this EEO.
- n) 'Underground Mine Workings' means any subsurface mine excavations/workings at the Premises constructed to directly facilitate the winning of minerals.
- o) 'Water Treatment Plant' means a water treatment system located at the Premises that is:
 - i. Capable of operating at full capacity in a manner that is fully independent of mineral processing and other mining infrastructure;
 - ii. Able to treat any water stored or reasonably expected to be stored in future at the Premises to Discharge Quality (with regard to metals/metalloids and salinity);
 - iii. Able to produce Discharge Quality water at a minimum rate of 15ML/day at any time.
- p) 'Wet Season' includes the months of November, December, January, February, March and April of each year.

Warnings and information about this EEO

A PERSON WHO IS BOUND BY THIS EEO AND WHO FAILS TO COMPLY WITH THIS EEO, WITHOUT A REASONABLE EXCUSE, COMMITS AN OFFENCE UNDER THE ACT.

- The maximum penalty for wilfully contravening an EEO is 1655 penalty units, totalling \$257,742.00 for an individual, or \$1,288,710.00 for a corporation.
- The maximum penalty for contravening an EEO is 600 penalty units, totalling \$92,880.00 for an individual, or \$464,400.00 for a corporation.

Note that under section 493 of the Act that each executive officer of the corporation may be taken to have also committed an offence, of failing to ensure the corporation complies with the Act.

If you propose to dispose of the premises or business to which the EEO relates, you must advise the buyer of the existence of this EEO. Failure to provide written notice to the buyer of the existence of the order is an offence under section 369C of the Act with a maximum penalty of 50 penalty units, totalling \$7,740.00 for an individual, or \$36,700.00 for a corporation.

Further information about EEOs can be found on the [department's website](#).

Review and appeal rights

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Under Chapter 11, Part 3 of the Act, a dissatisfied person may apply for a review of this EEO within 10 business days of receiving this EEO; and a dissatisfied person who is dissatisfied with the review decision may appeal against the decision to the Court.

A request for review is to be made using the approved form 'Application for review of original decision' (available at www.qld.gov.au). Applications for reviews are to be sent to Permit and Licence Management, Department of Environment, Tourism, Science and Innovation: via email at palm@des.qld.gov.au, or by mail to the following address: GPO. Box 2454, Brisbane, QLD, 4001.

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.

Privacy statement

Section 540 of the Act requires the department 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 to 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 redaction in part is required by the Act. 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.

Accessibility

Contact us if you need this information in an accessible format such as large print or audio.

Interpreter assistance



If you need interpreter assistance or want this document translated, please contact us and advise your preferred language. If you are deaf, or have a hearing or speech impairment, contact us through the [National Relay Service](#).