

Notice

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.

Thomson Resources Ltd ACN 138 358 728
Level 1, Suite 3, 80 Chandos Street
ST LEONARDS, NSW 2065
CC: david@thomsonresources.com.au

Your reference: EPML04238116

Our reference: C-CPLPO- 100263306; E-100309951

9 September 2022

Dear Sir/Madam

Take notice: that under the *Environmental Protection Act 1994* (the Act) this Environmental Protection Order (EPO) is issued to Thomson Resources Ltd ACN 138 358 728 (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 in respect to the activities carried out by Thomson Resources Ltd at the Texas Silver Project site located on Mining Lease (ML) 100106, and land described as Lot 28 Crown Plan MPH14454 and Lot 2 Survey Plan SP140743, situated at Texas, QLD (the premises).

A. Grounds

This EPO is issued to you:

1. To secure compliance by you with the “general environmental duty” pursuant to section 358(d)(i) of the Act.

The general environmental duty is defined pursuant to section 319(1) of the Act as follows:

*A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm (the **general environmental duty**).*

2. To secure compliance by you with conditions of Environmental Authority (EA) EPML04238116 pursuant to section 358(d)(iii) of the Act.

The conditions of the EA which are directly relevant are conditions A3, E1, F1, F2, F3, H17, H20, and H22, which are as follows:

A3 *The environmental authority holder must:*

- a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority;*
- b) maintain such measures, plant and equipment in a proper and efficient condition;*
- c) operate such measures, plant and equipment in a proper and efficient manner; and*
- d) ensure all instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority are properly calibrated.*

E1 *The environmental authority holder must not release contaminants to groundwater.*

F1 *Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters, except as permitted under the conditions of this environmental authority.*

F2 *The release of contaminants to waters must only occur from the release points specified in Table F1—Contaminated water release points, sources and receiving waters and Schedule I—Figure 3 (Contaminated water release points).*

F3 *The release of contaminants to waters in accordance with condition F2 must comply with all the requirements specified in Table F2—Contaminated water release limits and monitoring frequency, when measured at the monitoring points specified in Table F1—Contaminated water release points, sources and receiving waters.*

H17 *The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.*

H20 *By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems)*

H22 *The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.*

The facts and circumstances forming the basis for the issue of this EPO are as follows:

1. You are:
 - (a) the registered owner of Lot 28 on MPH14454 and Lot 2 on SP140743;
 - (b) the holder of mining lease ML100106;
 - (c) the holder of EA EPML04238116;
 - (d) the person with legal ownership, possession and control over the premises.
2. EA EPML04238116 authorises environmentally relevant activities including mining and associated activities at the premises, subject to the conditions of the EA.
3. There is disturbed land and infrastructure on the premises including an open cut pit, waste rock dumps, heap leach pads, processing ponds, a processing plant and water storages that have the potential to generate contaminated water and/or seepage.
4. There are significant risks of environmental harm associated with the activities authorised by EA EPML04238116 on the premises. This includes, but not limited to:
 - environmental risks associated with disturbance to the land resulting from the activities;
 - environmental risks associated with the mobilisation of contaminants in rainfall runoff from disturbed areas;
 - environmental risks associated with the discharge of mine wastes (e.g. process waters); and
 - environmental risks associated with equipment, plant and infrastructure utilised in the carrying out of activities (e.g. residual process chemicals, chemical and fuel storages etc).
5. Active management of these risks is required to mitigate the potential for environmental harm.
6. Condition A3 requires you as the holder of EA EPML04238116 to install all measures, plant and equipment necessary to ensure compliance with the conditions of the EA, and to maintain and operate such measures, plant and equipment in a proper and efficient condition.
7. Condition E1 provides that you must not release contaminants to groundwater.
8. Condition F1 provides that the release of contaminants directly or indirectly to waters is not permitted except as authorised under the EA, condition F2 sets the authorised release points and F3 provides for specific contaminant release limits (from the authorised release points).
9. Conditions H1 to H38 of the EA deal with regulated structures. Conditions H14 to H18 deal with the mandatory reporting level (MRL) for regulated structures, other than low consequence category structures. Condition H17 provides that you must, immediately upon becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated structure.
10. Conditions H19 to H22 deal with the design storage allowance (DSA) for regulated structures or networks of shared containment systems with shared DSA volumes. Condition H22 provides that you must, immediately on becoming aware that a regulated dam or network of linked containment systems will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment system.
11. Conditions H23 to H26 of the EA deal with inspection and reporting requirements for regulated structures.

12. One of the primary ways by which the environmental risks set out in paragraph 4 above are managed at the premises, is through capturing and containing contaminated water, to prevent the release of contaminated water from the premises.
13. The water storages at the premises that capture and/or contain contaminated water include Terminal Dam and the Process Ponds (Barren, Intermediate and Pregnant), East Dam and East Sump, West Dam and West Sump, the Pit, Middle Dam and New Dam.
14. The department holds data in relation to the contaminated water quality onsite. This water typically contains high acidity (low pH levels), salts and metal concentrations.
15. The contaminated water is of particularly poor quality, and typically exceeded relevant *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* guideline levels and the EA EPML04238116 authorised contaminant release limits.
16. It is considered that any release of contaminated water in appreciable quantities from the premises, is likely to cause serious or material environmental harm to the downstream environment, including to groundwater.
17. The environmental values and water quality objectives for the receiving waters are listed in the document titled [Queensland Border Rivers and Moonie River basins Environmental Values and Water Quality Objectives \(des.qld.gov.au\)](https://des.qld.gov.au).
18. The contaminated water stored and generated at the premises needs to be actively and appropriately managed, such that it does not accumulate to a point where an uncontrolled and/or unlawful release occurs to the receiving environment.
19. Such a release occurred on 1 and 2 December 2021, when there was an uncontrolled release of contaminated water. This release occurred from East Dam. East Dam water at the time had a low pH of approximately 3, high level of electrical conductivity, and contained a range of heavy metals that exceeded many of the published guideline values in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.
20. The release was estimated as being 1.15ML in volume. The contaminants released were in excess of the release limits authorised for release under condition F3 of EA EPML04238116.
21. Water storages at the premises, referred to in paragraph 13 above (with the exception of West Sump and New Dam) were the subject of a report titled '*Thomson Resources 2021 Regulated Dams Inspection, Texas Silver Project, 15 March 2022*' (the Report).
22. The Report was completed following an inspection and review of regulated structures at the premises. The Report states that the assessment was carried out in accordance with requirements of the *Manual for assessing consequence categories and hydraulic performance of structures* (ESR/2016/1933) (the Manual).
23. The Manual sets out the department's requirements for consequence category assessment and certification of the design of 'regulated structures'.
24. The Report notes that the consequence categories for the majority of structures were last assessed in 2018 (Water Solutions, 2018) with West Dam reassessed in 2021 (Engeny, 2021).

25. Assigned consequence categories for relevant water storages are as follows:

Structure	Failure to Contain - Overtopping	Failure to Contain – Dam Break	Overall Consequence Category
Terminal Dam & Process Ponds	High	High	High
East Dam	Significant	High	High
East Sump	Significant	High	High
The Pit	High	N/A – no plausible failure mode	High
West Dam	Significant	Significant	Significant
Middle Dam	Significant	Significant	Significant

26. Given the consequence category, each of these water storages is a regulated structure.

27. Regulated structures are either dams or levees.

28. A minimum available storage, called a design storage allowance (DSA), is required to be estimated for regulated structures in accordance with the Manual.

29. On-site water management must allow for and provide the DSA volume in each regulated structure, going into each new wet season (that is, on 1 November each year).

30. The intent of a DSA volume is to provide reasonable certainty that 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.

31. The hydraulic performance requirement for each of the regulated structures as per the Manual is provided in the Report as follows:

Structure	Minimum Spillway Capacity	Design Storage Allowance (DSA)	Mandatory Reporting Level (MRL)
Terminal Dam & Process Ponds	1:1,000 AEP	1:100 AEP	1 in 100 AEP 72hr
East Dam	1:1,000 AEP	1:20 AEP	1 in 10 AEP 72hr
East Sump	1:1,000 AEP	1:20 AEP	1 in 10 AEP 72hr
The Pit	N/A	1:100 AEP	1 in 100 AEP 72hr
West Dam	1:100 AEP	1:20 AEP	1 in 10 AEP 72hr
Middle Dam	1:100 AEP	1:20 AEP	1 in 10 AEP 72hr

32. The MRL is a level at which the dam has a remaining available volume equivalent to the extreme storm storage (ESS) allowance. This available storage is critical to manage the risk associated with short duration intense rainfall events.

33. For each regulated structure, the associated total structure capacity, ESS, DSA, and available storage capacity⁶ as calculated is as follows:

Structure	Structure storage capacity ¹	DSA calculated by ATC Williams 2021 ²	Adopted DSA calculated by Engeny 2022 ³	ESS calculated by ATC Williams 2021 ⁴	ESS calculated by Engeny 2022 ⁵	Available Storage ⁶
Terminal Dam & Process Ponds	222.9 ML	225.5 ML	197.4 ML	74.8 ML	77.1 ML	12.9 ML
East Dam	10.3 ML	13.3 ML	13.9 ML	3.2 ML	3.1 ML	8.9 ML
East Sump	7.0 ML	102.4 ML	Incorporated into East Dam	25.0 ML	21.9 ML	0
The Pit	73.1 ML	65.1 ML	46.7 ML	21.6 ML	27.2 ML	2.1 ML
West Dam	103.6 ML	235.1 ML	27.9 ML	57.3 ML	58.9 ML	24.6 ML
Middle Dam	12.4ML	7.6 ML	1.3 ML	1.9 ML	3.0 ML	6.4 ML
Total	429.28 ML	649 ML	287.33 ML	183.8 ML	191.2 ML	54.9 ML

¹based off the 2021 Bathymetric Survey, as reported in Engeny 2022

²using the method of deciles

³using the method of operational simulation

⁴using the method of deciles

⁵using the method of operational simulation

⁶water treatment and Spill Risk Management Plan 11 April 2022

34. The Report details the following **Wet Season Containment Assessment**:

Structure	Design Storage Allowance Containment Criteria	October 26 Water Level	DSA Volume	Estimated Available DSA Volume	Mandatory Reporting Level	Compliance Status
Terminal Dam & Process Ponds	1:100 AEP	487.9 mAHD	197.4 ML	48.4 ML	486.4 mAHD	Non-compliant
East Dam	1:20 AEP	403.1 mAHD	13.9 ML	13.1 ML	N/A	Non-compliant
East Sump	1:20 AEP	414.7 mAHD	N/A	N/A	N/A	Non-compliant
The Pit	1:100 AEP	469.9 mAHD	46.7 ML	24.4 ML	469.3 mAHD	Non-compliant
West Dam	1:20 AEP	399.4 mAHD	27.9 ML	61.0 ML	399.4 mAHD	Compliant
Middle Dam	1:20 AEP	388.0 mAHD	1.3 ML	12.4 ML	392.9 mAHD	Compliant

35. The Report indicates that Terminal Dam and Process Ponds, East Dam, East Sump and Pit, had insufficient available storage entering into the 2021/2022 wet season. The Report further provides high priority recommendations in relation to the stored water levels including (but not limited to) dewatering the stored contents currently held in the dam reservoirs, maintaining stored water levels as low as practicable and implementing other actions (as required) through-out the wet season to prevent the occurrence of any unauthorised discharge.

36. To manage the risk of a release, the department understands you have been undertaking a range of measures, including the use of enhanced evaporation, water treatment via lime dosing and release to land, and water treatment via reverse osmosis and release to waters.

37. The release to land and waters as referred to above are not authorised under EA EPML04238116. You advised the department you were taking these measures to comply with your general environmental duty obligations.
38. During the course of the 2021/2022 wet season, despite your efforts, the premises continued to accumulate contaminated water, to the extent that most of the regulated structures or storage networks on the premises are largely full. As such, there is limited capacity to manage rainfall inflows and prevent a release of contaminated water to the receiving environment.
39. In response to the December 2021 release from East Dam, the department issued you a Clean Up Notice STAT-E-100171549.
40. Under Clean Up Notice STAT-E-100171549, you generated a series of Water Treatment and Spill Risk Management Plans. The most recent plan was dated 11 April 2022 (the Plan).
41. In the Plan, the estimated total water inventory on 1 November 2022, interpreted from figure 3.2, ranges from approximately 175 ML (under a 50th percentile scenario) to greater than 300 ML (under the 99th percentile scenario). In considering the model outputs, it is notable the model was not calibrated and that consistently since the East Dam release in December 2021, the water reduction assumptions adopted in the model have not been achieved.
42. The most recent spill risk assessment provided by you was in August 2022, based on a site calibrated water balance mode. This assessment predicts a 2ML spill commences during a 90th percentile wet year and a 40ML spill occurs during a 99th percentile wet year.
43. The department understands that this spill risk assessment includes as a modelled input, the utilisation of evaporators at West Dam for 9 hours per day with an average net total water destruction of 5.46 litres per second.
44. The department further understands that the following regulated structures have water levels above MRL: the Terminal Dam and Processing Ponds, the Pit, West Dam, and East Dam and East Sump combination. As a result, these structures have an unacceptable risk of release in the short term.
45. On 12 May 2022 you provided the department with a Water Management Options Assessment (WMOA).
46. The WMOA notes that the premises typically has a positive water balance which if unmitigated, results in the accumulation of contaminated water.
47. The WMOA details your proposed management strategy and contains an assessment that highlights that the current spill risk is predominantly a function of the current inventory on the premises.
48. The latest Bureau of Meteorology climate outlook (8 September 2022) indicates that during October to December, rainfall is likely to be above median for the eastern half of Australia and that there is an increasing chance of La Niña emerging during spring. La Niña events increase the chances of above-average rainfall for northern and eastern Australia during spring and summer.
49. It is the department's assessment that you are unlikely to meet your obligations associated with regulated structures management, consistent with EA EPML04238116 and the Manual, by 1 November 2022, and that further measures are required to be implemented.
50. It is also the department's assessment that further measures are required to ensure that contaminated water stored and generated at the premises does not release to the environment in contravention of EA EPML04238116 release limits.

51. The department considers that you are not taking sufficient measures to comply with the conditions of EA EPML04238116, or all reasonable and practicable measures to prevent or minimise environmental harm.
52. On 8 September 2022, you advised the department that you are no longer able to finance the cost of hiring or running evaporators located at West Dam. You further advised that you are no longer conducting lime treatment and release to land (one of your previously applied water reduction measures), as New Dam contains approximately 7ML of sludge and requires de-sludging, and you have insufficient resources to cover the cost of this action.
53. It is the departments assessment that if the West Dam evaporators are not retained/replaced and utilised as per the August 2022 spill assessment, the action of removing this water reduction measure will significantly increase the risk of an unauthorised release of contaminants.
54. The department considers that measures are available to you to manage the contaminated water inventory, to prevent or minimise environmental harm, to meet the obligations outlined in the Manual, and to secure compliance with conditions of EA EPML04238116 and the general environmental duty.
55. The department considers this includes measures such as
 - a. reducing the water accumulation during rainfall events on the premises by diverting clean water catchments;
 - b. constructing additional containment capacity to service East Dam catchment to meet ESS;
 - c. installing appropriate pumping and transfer capacity and associated redundancy;
 - d. operating and increasing enhanced evaporation capacity at the premises; and
 - e. operating and increasing water treatment activities and capacities at the premises.
56. 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 your activities, and that the current measures you are taking are inadequate to reduce that risk and the reoccurrence of an unauthorised release of contaminated water from the premises. The department considers that it is reasonable to require you to take further action in order to secure compliance with the general environmental duty and with conditions of EA EPML04238116, such that you accelerate the reduction of the contaminated water inventory onsite.

B. Requirements

1. From the date of this EPO, you must take all necessary actions to prevent a release of contaminants from the premises, unless such release is otherwise permitted under EA EPML04238116.
2. 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.
3. All measures, plant and equipment necessary to ensure compliance with this EPO must be maintained in a functional and operable manner.
4. 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:

- a. ensure compliance with the requirements of this EPO, or
 - b. that reasonably reduce the risk of a release of contaminants not otherwise permitted under EA EPML04238116.
5. From the date of this EPO until such time as each of the premises regulated structures have sufficient storage capacity to contain an ESS event, you must provide a written report to the department each alternative Friday (fortnightly report) which details:
 - a. for the fortnightly reporting period, daily rainfall totals for the premises.
 - b. for the fortnightly reporting period, the actions taken to reduce the water inventory over the reporting period, including the number of evaporators in operation, their type, location and hours of use, any water treatment undertaken, and the method of water disposal.
 - c. for the fortnightly reporting period, the estimated daily volume of water removed from the water inventory, listed for each day, separated by each method, including details of the measurements, calculations and assumptions that the estimate is based.
 - d. the storage capacity available in each of the regulated structures at the end of the fortnightly reporting period.
6. By 1 November 2022, install additional transfer and pumping capacity within the East Dam catchment, to ensure that you have available at all times, sufficient water transfer capacity to regulated structures on the premises, to manage an ESS sized event without release from East Dam.
7. You must notify potentially affected downstream landholders as soon as possible (but within 24 hours) of any release of contaminants that are not reasonably expected to be authorised by EA EPML04238116.
8. Between 1 November 2022 and 29 April 2023, you must provide to the department within 48 hours of a reasonable request (based on forecast weather events), an accurate spill risk assessment which models for each structure, the impact of a nominated short term (24, 48 and 72 hour) high intensity rainfall event (consistent with any Bureau of Meteorology forecast).
9. Any written notification or submission to the department, as required by this notice, must be provided via email to southwest.es@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 Act;
- this order remains in force until further notice from the administering authority.

D. Penalty

Failure to comply with an EPO is an offence.

- The maximum penalty for an individual for wilfully contravening an EPO is 6,250 penalty units, totalling \$898,437.50 or five years imprisonment.
- The maximum penalty for a corporation for wilfully contravening an EPO is 31,250 penalty units, totalling \$4,492,187.50 .
- The maximum penalty for an individual for contravening an EPO is 4,500 penalty units, totalling \$646,875.00
- The maximum penalty for a corporation for contravening an EPO is 22,500 penalty units, totalling \$3,234,375.00.

Failure to provide written notice to the buyer is an offence.

- The maximum penalty for an individual is 50 penalty units, totalling \$7,187.50.
- The maximum penalty for a corporation is 250 penalty units, totalling \$35,937.50.

Failure to provide written notice within 10 business days of ceasing the activity to the department is an offence.

- The maximum penalty for an individual is 50 penalty units, totalling \$7,187.50.
- The maximum penalty for a corporation is 250 penalty units, totalling \$35,937.50.

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

E. Reviews and appeals

The provisions regarding review of decisions and appeals may be 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 for review of an original decision form ([ESR/2015/1573](#)).¹

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 appeal to the Planning and Environment Court ([ESR/2015/1572](#)). You may have other legal rights or obligations and should seek your own legal advice.

¹ This is the publication number. The publication number can be used as a search term to find the latest version of a publication at <www.ehp.qld.gov.au>.

Notice
Environmental Protection Order

Should you have any queries in relation to the notice, please contact Tariq Khan on telephone number (07) 4529 8324.



Signature

09/09/2022

Date

Gus Gonzo
Manager Minerals, Compliance
Delegate of the Chief Executive
Department of Environment and Science
Environmental Protection Act 1994

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