

LEGISLATIVE COUNCIL
Question On Notice

Thursday, 16 April 2020

2893. Hon Robin Chapple to the Minister for Environment

In reference to the Whim Creek Mine site, including discernible features such as Coorinjinna Pool, and acknowledging questions without notice 1070, 936, and 873 and their respective answers, I ask:

(a) has the initial investigation, referred to by the Hon. Minister Dawson in Question Without Notice 936; asked in the Legislative Council on 3 September 2019, been completed:

- (i) if yes to (a), would the Minister please provide the findings of the investigation;
- (ii) if no to (a), can the Minister advise when this is expected to be completed; and
- (iii) if no to (a), have the effects of recent tropical cyclones Damien, Esther, and Ferdinand been considered in the investigation; and

(b) has any sampling or testing been conducted since the tropical storms referred to in (a)(iii):

- (i) if yes to (b), could the Minister provide the relevant information; and
- (ii) if no to (b), and given the history of the site, does the Department intend to conduct testing at the site:

(A) if yes to (b)(ii), when does the Department expect to have data from the testing?

(B) if no to (b)(ii), why not?

Answer

(a) The Department of Water and Environmental Regulation (DWER) has not completed its investigation into offences under the *Environmental Protection Act 1986*. However, following a preliminary investigation DWER issued an Environmental Protection Notice (EPN) under section 65 of the *Environmental Protection Act 1986* to the operators of the Whim Creek Mine to ensure that emissions and discharges are appropriately managed.

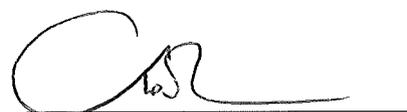
[See tabled paper no].

(i) Not applicable

(ii) DWER is not able to provide an expected completion date at this time.

(a)(iii)– (b)(B) Whilst the investigation is not complete, the EPN requires that the operator appropriately manages emissions and discharges, including those which may result from cyclones and significant rainfall events. The EPN requires the operators to undertake works and implement management and monitoring plans, including the reporting of all discharges from infrastructure on-site.

Following Cyclone Damien, the operators of Whim Creek mine site provided correspondence and photographs to DWER demonstrating that no discharge to the Balla Balla River had occurred. Cyclones Esther and Ferdinand had little impact on the area of Whim Creek. As there have been no discharges, sampling after these storms has not been undertaken by DWER.



Hon Stephen Dawson MLC
**MINISTER FOR ENVIRONMENT;
DISABILITY SERVICES; ELECTORAL AFFAIRS**



GOVERNMENT OF
WESTERN AUSTRALIA

Environmental Protection Act 1986

Section 65

**ENVIRONMENTAL PROTECTION NOTICE
AMENDMENT 1 Dated 15 May 2020**

Reference No: DWERDG804/19

PERSON TO WHOM THIS NOTICE IS ISSUED:

Venturex Pilbara Pty Ltd, ACN 071 748 911

In its capacity as owner (part only) and occupier of the premises
Level 2, 91 Havelock Street,
WEST PERTH WA 6005

AND

Blackrock Metals Pty Ltd, ACN 166 503 395

In its capacity as occupier of the premises
65 Dalry Road
DARLINGTON WA 6070

PREMISES TO WHICH THIS NOTICE RELATES (the Premises)

The Premises the subject of the Environmental Protection Notice (Notice) is situated on:

- Lot 99 on Plan 28276 as shown on Certificate of Title LR3124/975 known as Whim Creek WA 6718, incorporating part of Mining Tenement M4700236, part of Mining Tenement M4700237, part of Mining Tenement M4700238 and part of Exploration Tenement E4703495;
- Lot 71 on Plan 251827 as shown on Certificate of Title 1031/75 known as Whim Creek WA 6718, incorporating Mining Tenement M4700443;
- Lot 69 on Plan 28276 as shown on Certificate of Title LR3113/366 known as 69 North West Coastal Highway, Whim Creek WA 6718, incorporating part of Mining Tenement M4700237, part of Mining Tenement M4700236 and part of Exploration Tenement E4703495; and
- Lot 58 on Plan 189890 as shown on Certificate of Title 1972/692 known as Whim Creek WA 6718, incorporating part of Mining Tenement M4700236 and part of Exploration Tenement E4703495.

REASONS FOR WHICH THIS NOTICE IS ISSUED

This Notice is given because I reasonably suspect that there are emissions of heavy metals (namely Copper, Aluminium, Cadmium, Chromium, Mercury, Nickel and Zinc) and highly acidic process water from the heap leach processing facility on the Premises, and these emissions have likely caused, or is likely to cause, pollution, being a direct alteration of the environment to its detriment.

- Groundwater monitoring data provided to the Department of Environment Regulation in 2014 indicated potential seepage from the Premises' Environmental Pond, and to a lesser extent from the Premises' heap leach pads and Process Water Ponds. The data

indicates hypersaline, highly acidic groundwater with concentrations of Aluminium, Cadmium, Cobalt, Copper, Lead, Nickel and Zinc, amongst others, significantly above Australian and New Zealand Guidelines for Fresh and Marine Water Quality; Livestock Drinking Water Quality Guideline levels, as well as Australian Drinking Water Guideline values and non-potable groundwater use guideline levels.

- Groundwater monitoring data provided to the Department of Environment Regulation in 2016 for the decommissioned production bore adjacent to the ephemeral Balla Balla River also indicates highly acidic and hypersaline properties as well as contaminant concentrations for Aluminium, Cadmium, Chromium, Copper, Mercury, Nickel and Zinc above guideline levels.
- Groundwater monitoring data provided to DWER in 2018 indicates the likely ongoing seepage from the Premises' Environmental Pond, with high concentrations of various heavy metals persistent in monitoring bores adjacent to the Environmental Pond.
- Due to the proximity of the Process Water Ponds and Environmental Pond to the Balla Balla River there is an ongoing and increased risk to the surrounding environment including the immediate groundwater aquifer and potential stygofauna habitat should the Process Water Ponds and Environmental Pond continue to operate in their current mode.
- The potential groundwater emissions are likely to cause pollution through the potential impacts to stygofauna and/or habitat and the hyporheic zone of the Balla Balla River.
- The containment infrastructure on the Premises is not capable of preventing emissions to the Environmental Pond or the environment in the event of a rainfall greater than a 1 in 5 year 72 hour event.
- The continued operation of the heap leach facility, as well as the presence of existing contaminants within the heap leach facility and associated infrastructure presents an increased likelihood of causing further pollution.

I am satisfied that because:

- **Venturex Pilbara Pty Ltd** is the Mining Tenement Holder of the Premises from which the emissions emanated; and
- **Blackrock Metals Pty Ltd** is the Operator of the Premises from which the emissions emanated;

that you are the appropriate person to whom to give this Notice.

Unless specified otherwise in this Notice, the requirements of this Notice apply to both the Mining Tenement Holder and the Operator

REQUIREMENTS OF THIS NOTICE

The requirements of this notice are amended by the removal of words with a strikethrough and the insertion of that underlined. Completed and/or due dates passed are marked with the timeframes removed.

Immediate Requirements

1. From the ~~date this Notice is given~~ 6 December 2019, the persons to which this Notice is given must not undertake any activities involving or related to Vat or In Situ Leaching of Metals including the extraction of metal from ore by the addition of a chemical solution.
2. From the ~~date this Notice is given~~ 6 December 2019, cease or cause to cease all active discharges to the Environmental Pond (as depicted in Appendix 2: Maps).
3. From the ~~date this Notice is given~~ 6 December 2019, ensure the capacity of Premises' high-density polyethylene (HDPE) lined heap leach infrastructure is sufficient to retain a 1 in 5 year 72 hour rainfall event without discharge to the Environmental Pond (as depicted in Appendix 2: Maps).

Other Requirements

Implementation of Approved Heap Leach Facility Management Plan

4. ~~Within 14 days of the date this Notice is given, the~~The Mining Tenement Holder must ~~engage and~~ retain a mining or environmental consultant (the HL Consultant) that is:
 - 4.1. from within or outside Australia,
 - 4.2. tertiary qualified in a discipline applicable to heap leach facility management, including but not limited to environmental engineering, environmental science or mining engineering, and
 - 4.3. with demonstrated practical experience in heap leach process decommissioning and/or closure.
5. ~~Within 5 days of the engagement of the HL Consultant in Requirement 4, the~~ The Mining Tenement Holder must provide the CEO with the qualifications and information demonstrating the HL Consultant meets the requirements specified in Requirement 4.
 - 5.1. If the CEO considers the proposed HL Consultant to be inappropriate for the purposes of this Notice, the Mining Tenement Holder must comply with any direction for improvement issued by the CEO.
6. The HL Consultant will prepare a Heap Leach Facility Management Plan specific to the Premises.
7. The Heap Leach Facility Management Plan must:
 - 7.1. detail how the Mining Tenement Holder will manage the Heap Leach Facility to prevent the discharge of contaminated or potentially contaminated water to the Environmental Pond and the environment;
 - 7.2. identify works to be undertaken to enable the implementation of the Heap Leach Facility Management Plan; and
 - 7.3. identify the timeframe for the works identified in Requirement 7.2 to be completed including the expected completion timeframes for any preparatory works, infrastructure works, possible decommissioning activities and any other ongoing works related to achieve the requirements of Requirement 7.1.

8. The Mining Tenement Holder must submit the Heap Leach Facility Management Plan to the CEO within 90 days of engaging the HL Consultant identified in Requirement 4.
9. The Mining Tenement Holder must commence implementation and comply with the Heap Leach Facility Management Plan from the day after the date written approval for the Heap Leach Facility Management Plan is received from the CEO but cannot commence the works detailed in that plan before the CEO provides written approval for the plan.
 - 9.1. If the CEO considers the Heap Leach Facility Management Plan to be inappropriate for the purposes of this Notice, the Mining Tenement Holder must comply with any direction for improvement issued by the CEO.
 - 9.2. If subject to a direction for improvement, the Mining Tenement Holder must:
 - 9.2.1. within 21 days from the day after the receipt of the direction provided in Requirement 9.1, ensure that the Heap Leach Facility Management Plan is amended and resubmitted to the CEO in accordance with those directions; and
 - 9.2.2. amend the revised Heap Leach Facility Management Plan that was submitted under Requirement 9.2.1 as further directed by the CEO; and
 - 9.2.3. await written approval for the Heap Leach Facility Management Plan to be received from the CEO to implement and comply with the Heap Leach Facility Management Plan in accordance with Requirement 9.
10. ~~Within 182 days of the date this Notice is given~~ By the 5 December 2020, the Mining Tenement Holder must design and construct a diversion for stormwater so that the heap leach infrastructure (including the heap leach pad, HDPE drainage channels, Process Water Ponds and the Environmental Pond) maintains a capacity to contain a 1 in 100 year 72 hour rainfall event.
11. Following any construction to meet the requirements of Requirement 10 the Mining Tenement Holder must maintain stormwater diversion bunds within the facility to maintain a capacity to contain a 1 in 100 year 72 hour rainfall event.
12. By 19 April 2020, the Mining Tenement Holder must remove all solid precipitate matter or liquid solution, to at least the compacted clay layer, from within the Environmental Pond.
 - 12.1. If the Premises experiences an event equal to or exceeding a 1 in 5 year 72 hour rainfall event that generates overflow into the Environmental Pond prior to 19 April 2020, then the timeframe within which the Mining Tenement Holder must comply with Requirement 12 is extended from 19 April 2020 to 30 October 2020.
 - 12.2. Removal of liquid solution is to take place until the liquid within the Environmental Pond is at a depth that it cannot practically be suctioned when assisted by a shallow water suction device (such as a floating strainer) before evaporation may be considered the primary tool for liquid removal.
 - 12.3. Once removal of all solid precipitate or liquid solution has been completed the Mining Tenement Holder must have a Permeability Specialist assess the compacted clay liner of the Environmental Pond in accordance with AS 1289.6.7.1-2001 (R2013) or similar. The assessment must include:

- 12.3.1. representative assessment of the entire surface area within the Environmental Pond; and
- 12.3.2. assessment of known areas of previous damage or weakness.
- 12.4. Should the assessment under Requirement 12.3 determine a hydraulic conductivity greater than 1×10^{-8} m/s within the compacted clay liner of the Environmental Pond, the Mining Tenement Holder must incorporate management actions or remediation strategies within the Heap Leach Facility Management Plan required in accordance with Requirement 6.
13. Solid precipitate matter or liquid solution, referred to in Requirement 12, once removed from the Environmental Pond, is to be stored in an impermeable bunded facility, returned to a lined heap leach pad, or removed from the Premises and disposed to an appropriately authorised facility.

Implementation of Approved Permeability Management Plan

14. By ~~30 June~~ December 2020 the Mining Tenement Holder must ensure that all Process Water Ponds and HDPE drainage channels from the heap leach pad are impermeable.
15. The Mining Tenement Holder must provide to the CEO ~~by 19 December 2019~~, a Permeability Management Plan identifying how the Mining Tenement Holder intends to meet the requirements of Requirement 14.
 - 15.1. The Mining Tenement Holder must implement and comply with the Permeability Management Plan once they receive written approval from the CEO.
 - 15.2. If the CEO considers the Permeability Management Plan to be inappropriate for the purposes of this Notice, the Mining Tenement Holder must comply with any direction for improvement issued by the CEO.
 - 15.3. If subject to a direction for improvement, the Mining Tenement Holder must:
 - 15.3.1. within 21 days from the day after the receipt of the direction provided in Requirement 15.2, ensure the Permeability Management Plan is amended and resubmitted to the CEO in accordance with those directions;
 - 15.3.2. amend the revised Permeability Management Plan that was submitted under Requirement 15.3.1 as further requested by the CEO; and
 - 15.3.3. await written approval of the CEO to implement and comply with the Permeability Management Plan in accordance with Requirement 15.1.

Implementation of Approved Groundwater Monitoring Plan

16. ~~Within 7 days from the date this Notice is given, the~~ The Mining Tenement Holder must retain an Environmental Consultant, as defined in Appendix 1: Definitions.
17. The Environmental Consultant will prepare a Groundwater Monitoring Plan.
18. The Groundwater Monitoring Plan must:

- 18.1. detail the investigation into the extent and nature of the groundwater emissions caused or likely to be caused by the operation of the Premises;
 - 18.2. specify the methodology to be used to investigate the extent and nature of groundwater emissions in accordance with:
 - 18.2.1. the NEPM; and
 - 18.2.2. the Contaminated Sites Guidelines;
 - 18.3. include the identification of the flow of groundwater within the Premises;
 - 18.4. identify locations best suited to install groundwater monitoring bores within the Premises to monitor:
 - 18.4.1. for potential impacts to stygofauna species and significant habitat and riparian vegetation within and adjacent to Balla Balla River (including the hyporheic zone and hyporheic zone species); and
 - 18.4.2. seepage from the Environmental Pond, Process Water Ponds, HDPE drainage channels and heap leach pad within the Premises.
 - 18.5. specify the construction of monitoring bores in accordance with Schedule B2 Guideline on Site Characterisation of the NEPM;
 - 18.6. include the identification of the standing water level within the groundwater monitoring bores;
 - 18.7. include an assessment of the variation in standing water level between subsequent annual periods within the investigation area;
 - 18.8. identify those parameters likely to be elevated within groundwater through copper heap leach activities, including, but not limited to, pH, Total Dissolved Solids, Electrical Conductivity, Aluminium, Arsenic, Cadmium, Copper, Chromium, Iron, Mercury, Manganese, Lead and Zinc;
 - 18.9. specify the methodology to collect and preserve any groundwater samples is in accordance with AS/NZS 5667.1 (Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples);
 - 18.10. specify the methodology to conduct sampling of groundwater is in accordance with AS/NZS 5667.11 (Guidance on sampling of groundwaters);
 - 18.11. specify a sampling frequency of at least quarterly for the monitoring of parameters identified in Requirement 18.8; and
 - 18.12. specify all groundwater samples are submitted to and tested by a laboratory with current National Association of Testing Authorities' accreditation for the parameters being analysed.
19. The Mining Tenement Holder must submit the Groundwater Monitoring Plan to the CEO ~~within 21 days from the day this Notice is given.~~

21. The Mining Tenement Holder must implement and comply with the Groundwater Management Plan once they receive specific written approval from the CEO.
 - 21.1. If the CEO considers the Groundwater Monitoring Plan to be inappropriate for the purposes of this Notice, the Mining Tenement Holder must comply with any direction for improvement issued by the CEO.
 - 21.2. If subject to a direction for improvement, the Mining Tenement Holder must:
 - 21.2.1. within 21 days from the day after the receipt of the direction provided in Requirement 21.1, ensure that the Groundwater Monitoring Plan is amended and resubmitted to the CEO in accordance with those directions, and
 - 21.2.2. amend the revised Groundwater Monitoring Plan that was submitted under Requirement 21.2.1 as further requested by the CEO; and
 - 21.2.3. await written approval of the CEO to implement and comply with the plan in accordance with Requirement 21.
22. The Groundwater Monitoring Plan, identified in Requirement 17, must commence from the day after the date the approval is granted by the CEO.
23. Installation of groundwater monitoring bores, as required in accordance with the approved Groundwater Monitoring Plan identified in Requirement 17, must be completed within 60 days after the date the Mining Tenement Holder is notified the Groundwater Monitoring Plan has been approved or by an alternative date agreed on in writing by the CEO.
 - 23.1. Installation of groundwater monitoring bores within an Area Of Significance may take an additional 30 days on written notification to the CEO.
24. Monitoring of the groundwater monitoring bores, in accordance with the approved Groundwater Monitoring Plan identified in Requirement 17, must commence within 21 days from the day after the date of installation of the monitoring bores.
25. The Groundwater Monitoring Plan will be reviewed annually by the Mining Tenement Holder with the reviewed plan to be submitted to the CEO for approval on the annual anniversary of the date this Notice is given.
26. The Mining Tenement Holder must implement and comply with the Reviewed Groundwater Management Plan once they receive specific written approval from the CEO.
 - 26.1. If the CEO considers the Reviewed Groundwater Monitoring Plan to be inappropriate for the purposes of this Notice, the Mining Tenement Holder must comply with any direction for improvement issued by the CEO.
 - 26.2. If subject to a direction for improvement, the Mining Tenement Holder must:
 - 26.2.1. within 21 days from the day after the receipt of the direction provided in Requirement 26.1, ensure that the Reviewed Groundwater Monitoring Plan is amended and resubmitted to the CEO in accordance with those directions, and
 - 26.2.2. amend the revised Reviewed Groundwater Management Plan that was submitted under Requirement 26.2.1 as further requested by the CEO; and

26.2.3. await written approval of the CEO to implement and comply with the Reviewed Groundwater Monitoring Plan in accordance with Requirement 26.

Implementation of Approved Vegetation Monitoring Plan

27. ~~Within 14 days from the date that this Notice is given, the~~The Mining Tenement Holder must ~~engage and~~ retain an Environmental Specialist, as defined in Appendix 1: Definitions.
28. The Environmental Specialist referred to in Requirement 27 is to have qualifications and experience in the assessment of Western Australian native vegetation, including vegetation identification and sampling.
29. The Environmental Specialist will prepare a Vegetation Monitoring Plan.
30. The Vegetation Monitoring Plan must:
 - 30.1. detail an investigation to the extent and nature of impacts to vegetation health adjacent to the Premises' heap leach pads, Process Water Ponds, the Environmental Pond and Balla Balla River;
 - 30.2. identify locations best suited to install reference points for monitoring within the Premises to monitor vegetation health adjacent to the Premises' heap leach pads, Process Water Ponds, Environmental Pond, Balla Balla River and a suitable upstream control reference site;
 - 30.3. specify the GPS location of the selected reference points referred to in Requirement 30.2;
 - 30.4. include detail on the criteria to measure vegetation health, including but not limited to criteria relating to species composition, structure, density and vegetation condition of the native vegetation;
 - 30.5. include photographic recording of the vegetation within the selected reference points from nominated marked locations or GPS coordinates;
 - 30.6. specify the methodology to conduct the vegetation health assessment;
 - 30.7. identify a suitable frequency for the monitoring to be conducted; and
 - 30.8. detail the mechanism to review and assess changes to vegetation health at the specified monitoring locations between vegetation monitoring events;
31. The Vegetation Monitoring Plan must be submitted to the CEO within 21 days from the day ~~this Notice is given~~ 6 December 2019.
32. The Mining Tenement Holder must implement and comply with the Vegetation Management Plan once they receive specific written approval from the CEO.
 - 32.1. If the CEO considers the Vegetation Monitoring Plan to be inappropriate for the purposes of this Notice, the Mining Tenement Holder must comply with any direction for improvement issued by the CEO.

- 32.2. If subject to a direction for improvement the Mining Tenement Holder must,
- 32.2.1. within 21 days from the day after the receipt of the direction provided in Requirement 32.1, ensure that the Vegetation Monitoring Plan is amended and resubmitted to the CEO in accordance with those directions;
 - 32.2.2. amend the revised Vegetation Monitoring Plan that was submitted under Requirement 32.2.1 as further requested by the CEO; and
 - 32.2.3. await written approval of the CEO to implement and comply with the plan in accordance with Requirement 32.
33. The Vegetation Monitoring Plan, identified in Requirement 29, must commence from the day after the date the approval is granted by the CEO.

Reporting

34. The Mining Tenement Holder is to report all discharges from the containment infrastructure to the Environmental Pond to the CEO within 24 hours of such discharge taking place, until such time as Requirement 12 has been satisfied. The report shall include:
- 34.1. the date, time and duration the discharge took place;
 - 34.2. the approximate quantity of material discharged to the Environmental Pond; and
 - 34.3. the water level of the Environmental Pond when the discharge ceased.
35. The Mining Tenement Holder is to report all discharges from the Environmental Pond to the environment to the CEO within 24 hours of such discharge taking place. The report shall include:
- 35.1. the time, date and duration the discharge took place;
 - 35.2. the approximate quantity of material discharged to the environment; and
 - 35.3. the potential environmental impact of such discharge including potential risks to public health and livestock utilising Balla Balla River.
36. Within 60 days from the day after the completion of each Groundwater Monitoring Event, the Mining Tenement Holder must provide a report in writing and electronic format to the CEO. This report must include as a minimum:
- 36.1. results from all sampling undertaken in implementation of the approved Groundwater Monitoring Plan;
 - 36.2. copies of all laboratory certificates of analysis and chain of custody forms for samples analysed in the implementation of the approved Groundwater Monitoring Plan; and
 - 36.3. an assessment of the monitoring data, including but not limited to, the identification and assessment of trends observed in the monitoring data (groundwater flow and quality), assessment of the improvement or decline in groundwater quality and the

identification of mitigation strategies for controlling and reducing any contaminated groundwater plumes.

37. Within 28 days from the day after the completion of each Vegetation Monitoring Event, the Mining Tenement Holder must provide a written report to the CEO. This report must include as a minimum:

37.1. results from all vegetation health assessments undertaken in implementation of the approved Vegetation Monitoring Plan;

37.2. photographic records from all vegetation monitoring undertaken at the specified monitoring points; and

37.3. an assessment of the monitoring data, including but not limited to, any deterioration in the presence and/or quality of the vegetation monitored.

~~Mike Rowe~~

~~Chief Executive Officer
Department of Water and Environmental Regulation~~

~~6 December 2019~~



Stuart Cowie

Executive Director, Compliance and Enforcement (Delegation No. 143)
Department of Water and Environmental Regulation
Officer delegated under Section 20 of the Environmental Protection Act 1986

15 May 2020

**IMPORTANT
NOTES**

**A PERSON WHO IS BOUND BY THIS NOTICE AND WHO DOES
NOT COMPLY WITH THIS NOTICE COMMITS AN OFFENCE.**

A person who is aggrieved by a requirement contained in this Notice may within 21 days of being given this Notice lodge with the Minister for Environment an appeal in writing setting out the grounds of that appeal.

Any other person who disagrees with a requirement contained in this Notice may within 21 days of the making of that requirement lodge with the Minister for Environment an appeal in writing setting out the grounds for that appeal.

**PENDING THE DETERMINATION OF AN APPEAL REFERRED TO
ABOVE THE RELEVANT REQUIREMENTS CONTAINED IN THIS
NOTICE CONTINUE TO HAVE EFFECT.**

Note that under section 118 of the *Environmental Protection Act 1986* that each person who is a director or who is concerned in the management of the body corporate may be taken to have also committed the same offence.

APPENDIX 1

DEFINITIONS

In this Notice, unless the contrary intention appears –

'Act' means the *Environmental Protection Act 1986* (WA);

'Area Of Significance' means an area of land as identified to DWER by the tenement holder following tenement holder consultation with the Ngarluma People;

'CEO' means Chief Executive Officer, Department of Water and Environmental Regulation;

'CEO' for the purposes of correspondence means;

Chief Executive Officer
Department of Water and Environmental Regulation
Locked Bag 10
JOONDALUP DC WA 6919
Telephone: (08) 6364 7000
Fax: (08) 6364 7001
Email: primehouse.reception@dwer.wa.gov.au

'Contaminated Sites Guidelines' means *Assessment and Management for Contaminated Sites- Contaminated Sites Guidelines, December 2014*. Located at [https://www.der.wa.gov.au/images/documents/your-environment/contaminated-sites/guidelines/Assessment and management of contaminated sites.pdf](https://www.der.wa.gov.au/images/documents/your-environment/contaminated-sites/guidelines/Assessment%20and%20management%20of%20contaminated%20sites.pdf)

'DWER' means Department of Water and Environmental Regulation;

'Environmental Consultant' means a person to have qualifications and experience consistent with those described in Schedule B9 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (the NEPM).

'Environmental Pond' means the constructed earthen pond designed to receive overflow from Process Water Ponds associated within the Premises heap leach processing facility, as depicted in Appendix 2: Map as 'Environmental Pond'.

'Environmental Specialist' means a person who hold a tertiary qualification in environmental science or equivalent, and has experience in the assessment of Western Australian native vegetation.

'Freeboard' means the distance between the maximum water surface elevations and the top of the retaining banks or structures at their lowest point.

'Keighery scale' means the vegetation condition scale described in *Bushland Plant Survey: A Guide to Plant Community Survey for the Community* (1994) as developed by B.J. Keighery and published by the Wildflower Society of WA (Inc.) Nedlands, Western Australia.

'Groundwater Monitoring Event' means the discrete and periodic groundwater samples obtained for each groundwater bore detailed within the approved Groundwater Monitoring Plan, obtained at a frequency defined within the approved Groundwater Monitoring Plan.

'Mining Tenement Holder' means Venturex Pilbara Pty Ltd, ACN 071 748 911

“**NEPM**” means the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (Cth) available at <https://www.legislation.gov.au/Details/F2013C00288>

‘**Occupier**’ Venturex Pilbara Pty Ltd, ACN 071 748 911

‘**Percentage cover**’ means the area of ground covered by the canopy of each and every species of flora, including native flora and weed species within the monitored area expressed as a percentage of the total cover of all species within the monitored area.

‘**Permeability**’ means the state or quality of being permeable; ‘Permeable’ means allowing liquids or gasses to pass through it.

‘**Permeability Specialist**’ means a person with tertiary qualifications in hydrology, engineering or similar with demonstrated experience in compaction and or permeability testing in accordance with relevant standards.

‘**Precipitate**’ means the solids formed from the copper heap leach process through chemical reaction and/or evaporative action from process liquid or contaminated stormwater.

‘**Premises**’ means:

- Lot 99 on Plan 28276 as shown on Certificate of Title LR3124/975 known as Whim Creek WA 6718, incorporating part of Mining Tenement M4700236, part of Mining Tenement M4700237, part of Mining Tenement M4700238 and part of Exploration Tenement E4703495;
- Lot 71 on Plan 251827 as shown on Certificate of Title 1031/75 known as Whim Creek WA 6718, incorporating Mining Tenement M4700443;
- Lot 69 on Plan 28276 as shown on Certificate of Title LR3113/366 known as 69 North West Coastal Highway, Whim Creek WA 6718, incorporating part of Mining Tenement M4700237, part of Mining Tenement M4700236 and part of Exploration Tenement E4703495; and
- Lot 58 on Plan 189890 as shown on Certificate of Title 1972/692 known as Whim Creek WA 6718, incorporating part of Mining Tenement M4700236 and part of Exploration Tenement E4703495.

‘**Process Water Ponds**’ means all of the pregnant solution ponds and barren (raffinate) ponds associated within the Whim Creek Copper Project heap leach processing facility, as depicted in Appendix 2: Map.

‘**Provide in writing**’ includes by email with an authorised signature.

“**Qualified**” means officially recognised as being tertiary certified and trained to perform a particular job.

‘**Quarterly**’ means 4 discrete periods within a 12 month annual period, with each period separated by at least 45 days.

‘**Vat or In Site Leaching of Metals**’ means all extraction of metal from ore by the addition of a chemical solution.

‘**Vegetation condition**’ means the rating given to native vegetation using the Keighery scale and refers to the degree of change in the structure, density, and species present in the particular vegetation in comparison to undisturbed vegetation of the same type.

'Vegetation Monitoring Event' means the discrete and periodic vegetation monitoring samples obtained for each vegetation monitoring reference location at a frequency defined within the approved Vegetation Monitoring Plan.

'Weed species' means any plant –

- (a) that is a declared pest under section 22 of the *Biodiversity and Agriculture Management Act 2007*; or
- (b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
- (c) that is not a species recorded as naturally occurring within 20 kilometres of the land.

Appendix 2: Map

