Department of Planning, Housing and Infrastructure

Our ref: MP07_0143-PA-28

Kiara Crook
Environment and Compliance Superintendent
Tarago Operations Pty Ltd
507 Collector Road
Tarago NSW 2580

27/08/2025

Woodlawn Copper Mine – Blast Management Plan

Dear Ms Crook

Thank you for submitting the Blast Management Plan in accordance with Condition 12, Schedule 4 of the consent for the Woodlawn Copper Mine (MP07_0143). I also acknowledge your response to the Department's review comments and request for additional information.

I note the Blast Management Plan has been prepared in consultation with Veolia and Infigen Energy, and contains the information required by the conditions of approval.

Accordingly, as nominee of the Planning Secretary, I approve the revised Blast Management Plan (Rev 3, August 2025).

You are reminded that if there are any inconsistencies between the Plan and the conditions of approval, the conditions prevail.

Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Charissa Pillay on (02) 9995 5944.

Yours sincerely

Gen Lucas
A/Director
Resource Assessments

As nominee of the Planning Secretary

Blast Management Plan

Woodlawn Zinc Copper Project

Document Review/Change History

Date	Summary of review and changes	Revision No.	Authors	
			Drafted by	Reviewed by
08/01/2025	Documented separated from 2017 approved noise and blast plan with amendments made. Final version sent to Veolia.	1	KC	CT
25/01/2025	Document finalised for upload to major projects portal	2	KC	KC
23/08/2025	Plan updated in response to DPHI RFI (MP07_0143-PA-28) and re-submitted to the major projects portal	3	KC	KC

Contents

Tables

Appendices

Glossary

Acronym	Definition
ANZECC	Australian and New Zealand Environment and Conservation Council
CEMP	Construction Environmental Management Plan
DEVELOP	Develop Global Limited
DPE	Department of Planning and Environment
EA	Environmental Assessment
EMP	Environmental Management Plan
EMS	Environmental Management Strategy
EPA	Environment Protection Authority
EPL	Environmental Protection Licence
Heron	Heron Resources Limited
IEC	International Environmental Consultants
INP	NSW Industrial Noise Policy
MBT	Mechanical Biological Treatment
NBMP	Noise and Blasting Management Plan
NMP	Noise Management Plan
NSW	New South Wales
OEH	Office Environment and Heritage
POEO Act	Protection of the Environment Operations Act 1997
PPV	Peak Particle Velocity
Project	Woodlawn Zinc-Copper Mine
RNP	NSW Road Noise Policy
SML20	Special Mining Lease 20
TARP	Trigger Action Response Plan
Veolia	Woodlawn Bioreactor

1. INTRODUCTION

1.1. Background

The Woodlawn Zinc-Copper mine (the Project) is located approximately 7 km northwest of Tarago in New South Wales (NSW) within Special (Crown and Private Land) Mining Lease no. 20 (SML20) as shown in Plan 1, Appendix 1. The original Woodlawn mine operated from 1978 to 1998 and processed 13.8Mt of ore from the Woodlawn open pit, underground and minor satellite deposits. Following its prolonged closure, the Project was acquired by ASX-listed Heron Resources who secured Project Approval in July 2013 following the public exhibition of the Projects Environmental Assessment (EA). Heron completed the construction of the project and developed the new underground mine in accordance with the Project Approval before it was put on care and maintenance in March 2020. Heron was placed in administration in July 2021. Develop Global Limited (DEVELOP) completed its acquisition of the Project in May 2022 and Tarago Operations Pty Limited which holds Special Mining Lease (SML) 20 and Environment Protection License (EPL) 20821. Veolia operates an eco-precinct, including a licensed landfill, within SML20 but separated from the project and has separate EPL's as shown in Plan 1, Appendix 1.

There have been many versions of the Blast Management Plan (BMP) which has previously been included within a combined Noise and Blast Management Plan and initially approved in May 2017. Given the change in site operators and completion of surface blasting this plan has been updated and separated from noise. This BMP also considered the results of monitoring undertaken since 2017.

This BMP forms one component of the of the Projects overall Environmental Management Strategy (EMS). The EMS includes several commitments and associated management plans which together form the basis for the ongoing operation of the Project. The EMS and associated management plans will be updated as required to reflect any changes to the Project.

1.2. Scope and objectives

The purpose of this BMP is to document the control measures and management initiatives to mitigate blasting activities during operation of the Project. The overall objectives for the BMP are to:

- Implement the commitments made in the EA including specific conditions of approval and the Statement of Commitments.
- Ensure compliance with relevant environmental legislation.
- Manage blasting related risks associated with the Project.
- Provide for continuous improvement in vibration mitigation and blast performance.
- Provide a mechanism to identify and correct areas of non-compliance.

1.3. Consultation

The previous Noise and BMP and this BMP has been developed through a process of consultation with government and non-government organisations. A consultation log is provided in Appendix 2 which will be updated as required during the ongoing operation of the Project. The Noise and BMP was originally approved in 2017 (Appendix 3).

1.4. Legislation

Legislation relevant to blast management includes:

- Environmental Planning and Assessment Act 1979 (EP&A Act);
- Protection of the Environment Operations Act 1997 (PoEO Act).

The Project is governed by the following:

- Project Approval: as issued in 2013 and amended in 2016 and 2017. Document ID: 07_0143MOD2
- Environment Protection License (EPL): 20821 as issued by the NSW Environmental Protection Agency (EPA)
- Special Mining Lease (SML): 20

1.5. Guidelines and standards

The NSW and Australian government provide a range of guidelines and fact sheets regarding the control and assessment of blasting activities. These guidelines provide general information on the control systems as well as methods to achieve current best practice. These sources are presented in Section 5 and have been referred to in the preparation of this plan where applicable.

1.6. Project approval

This BMP has been developed in accordance with the Project Approval Statement of Commitments (SOC). Table 1-1 outlines these including reference to where each of the conditions are addressed.

Table 1-1 Consent conditions relating to blasting

<table>
<tr><th>Condition ID</th><th>Condition description</th><th>Where Addressed</th></tr>
<tr><td>Sch 4
Condition 8</td><td>The Proponent shall ensure that blasting on the site does not cause exceedances of the criteria in Table 5.
Note: All blasts are to be designed by a suitably qualified and experienced blasting engineer
Table 5: Blasting Criteria
<table>
<tr><th>Location</th><th>Time of Blasting</th><th>Airblast overpressure ($dB_{(Lin\ Peak)}$)</th><th>Ground vibration (mm/s)</th><th>Allowable exceedance</th></tr>
<tr><td rowspan="4">Residence on privately-owned land</td><td>Any time</td><td>120</td><td>10</td><td>0%</td></tr>
<tr><td>Day</td><td>115</td><td>5</td><td rowspan="2">5% of the total number of blasts over a period of 12 months</td></tr>
<tr><td>Evening</td><td>-</td><td>2</td></tr>
<tr><td>Night, and all day on Sundays and public holidays</td><td>-</td><td>1</td><td>0%</td></tr>
</table></td><td>Section 3.1</td></tr>
<tr><td>Sch 4
Condition 9</td><td>The Proponent shall comply with the blasting hours in Table 6.
Table 6: Blasting Hours
<table>
<tr><th>Activity</th><th>Blasting Hours</th></tr>
<tr><td>Surface blasting</td><td>9am – 5pm Monday to Friday, excluding public holidays</td></tr>
<tr><td>Underground blasting</td><td>Anytime</td></tr>
</table></td><td>Section 3.1</td></tr>
<tr><td>Sch 4
Condition 10</td><td>In relation to above ground blasting, the Proponent may carry out a maximum of 1 blast per day, unless an additional blast is required following a blast misfire.
This condition does not apply to blasts required to ensure the safety of the site or its workers, and to minor additional blasts required during the construction of the box cut to access the underground workings.
Note: For the purpose of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the site.</td><td>Section 3.1</td></tr>
<tr><td>Sch 4
Condition 11</td><td>During operation of the project, the Proponent shall implement best management practice to:
(a) protect the safety of people and livestock in the surrounding area;
(b) protect public or private infrastructure/property in the surrounding area from any damage; and
(c) minimise the dust and fume emissions from any blasting;
to the satisfaction of the Secretary.</td><td>Section 3.3</td></tr>
<tr><td>Sch 4
Condition 12</td><td>The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the Secretary. This plan must:
(a) be prepared in consultation with Veolia and Infigen Energy, and submitted to the Secretary for approval prior to commencing blasting on the site;</td><td>This plan

Appendix 2</td></tr>
</table>

Condition ID	Condition description	Where Addressed
	(b) describe the process for incrementally developing and monitoring blasting design;	Section 3.3 Section 3.4
	(c) describe the blast mitigation measures that would be implemented to ensure compliance with the blasting criteria in Table 5; and	Section 3.3
	(d) include a blast monitoring program to evaluate the performance of the project.	Section 2 Section 3.4
Schedule 6, Condition 3	The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:	
	(a) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;	Section 1.4 & 1.5 Section 3 Section 3
	(b) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Section 3.3
	(c) a program to monitor and report on the: • impacts and environmental performance of the project; • effectiveness of any management measures (see b above);	Section 2
	(d) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 3.4
	(e) a protocol for managing and reporting any: • incidents and complaints; • non-compliances with statutory requirements and exceedances of the impact assessment criteria and/or performance criteria; and	Section 4
	(f) a protocol for periodic review of the plan.	Section 4.5
Schedule 6, Condition 8	The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any approved plans of the conditions of this approval.	Section 4.2
Statement of Commitments Item 8D	A negotiated agreement would be prepared between TriAusMin and Veolia for managing impacts of blasting on the Project Site experienced at Cowley Hills and Woodlawn Farm properties. Methods would be developed to ensure blast vibrations	Section 3.2 Section 2

Condition ID	Condition description	Where Addressed
	and airblast overpressures do not exceed the criteria (nominated in this EA) at any privately owned sensitive receiver. TriAusMin would monitor blasting impacts to ensure blasting criteria are satisfied.	

2. VIBRATION MONITORING PROGRAM

2.1. Review of previous monitoring results

Heron completed extensive monitoring and reporting during their surface and underground blasting operations between 2018 and 2020. The monitoring and corresponding results during this period determined:

- There were no vibrations detected at any privately owned residence locations.
- Only two very low (<0.4 mm/sec) off-site detections occurred which were both at the Veolia owned Woodlawn Farm shearing shed.
- No detectable vibrations were recorded at the closest wind turbine located ~950 m from the box cut.
- The approximate outer limit of detectible vibrations from blasting activities was determined to be between 760 and 1060 m from the box cut.
- Regarding the bioreactor void wall where Veolia operate; the most elevated readings were recorded at monitors when located at the western side.

The EA notes that surface blasting was going to be the most relevant blasting issue due to the different natures of surface blasting and underground blasting in mineral extraction processes. The mine is now underground with no further surface blasting planned.

The EA notes that underground vibration impacts are difficult to predict as they are associated with the surrounding geology. However, when a lower maximum instantaneous charge is used during underground blasting and, considering that blasting is below ground, vibration levels at receivers would be expected to be less than those observed during excavation of the box cut (although the time period over which they would be felt would be substantially longer). Therefore, the monitoring program and associated triggers have been adjusted accordingly.

2.2. Monitoring locations

Vibration monitoring will occur while mining is occurring at locations which are either regulatory required or as determined from previous monitoring results. The blast monitoring locations and the type of equipment installed at each is subject to change depending on the results being received or in response to regulatory requirements. The current locations are summarised in Table 2-2.

Approval to mine under ED1 is required by DSNSW (previously Dam Safety Committee) and is currently approved subject to the monitoring and reporting summarised in Appendix 4. Blasting related items are included in this plan with the remainer further detailed in the mine extraction management plan (ENW-005-PL).

Table 2-2 Vibration monitoring locations

Location	Monitor type	Land ownership
Bioreactor wall	Manual	Veolia
ED1	Manual	Veolia
Close to underground mine	Telemetry	Veolia but within DEVELOPs delineated operational area

2.3. Interpretation of results

Data from vibration monitors is regularly downloaded and compared to the blast log and criteria. As the box cut has been completed and only underground blasting is proposed overpressure will not be monitored. Additional monitoring may be undertaken at other locations from time to time in order to gain additional data about blast performance. This will be included in each years Annual Review.

All blast monitoring instrumentation will be installed, calibrated and maintained in accordance with both AS2187.2 – 2006 – Explosives Storage and Use and the manufacturer's specifications.

Upon receipt of blast monitoring data any detections are compared to actual blast records in order to confirm the readings are representative of a real blast event. Values that represent real blast events are then compared to compliance criteria.

2.4. Pit surveys

A series of pit monitoring prisms currently exist to monitor for potential movement within the wall of the bioreactor. This monitoring is currently undertaken by Veolia. Veolia would notify DEVELOP if there are discrepancies in this monitoring which requires investigation.

3. BLAST AND VIBRATION COMPLIANCE

3.1. Compliance criteria

It is noted that in relation to above ground blasting a maximum of 1 blast per day would be completed, unless an additional blast is required following a blast misfire. However, DEVELOP does not have any current requirement to progresss with any surface blasting.

DEVELOP will ensure that blasting on the site does not cause exceedances of the criteria reproduced in Table 3-3 reproduced from the Schedule 4, Section 8 of the project approval. Given previous monitoring (refer to Section 2.1), significant difference to the closest privately-owned residence (3 km +) and the nature of future blasting (subsurface rather than surface) DEVELOP will regularly reassess data being collected as to whether an actual installed monitor is required to determine this.

Table 3-3 Blasting criteria

Location	*Time of Blasting*	*Airblast overpressure ($dB_{(Lin\ Peak)}$)*	*Ground vibration (mm/s)*	*Allowable exceedance*
Residence on privately-owned land	Any time	120	10	0%
	Day	115	5	5% of the total number of blasts over a period of 12 months
	Evening	-	2	
	Night, and all day on Sundays and public holidays	-	1	0%

Note: All blasts are to be designed by a suitably qualified and experienced blasting engineer.

Blasting hours will be in accordance with Schedule 4, Condition 9 of the project approval which is reproduced in Table 3-4.

Table 3-4 Blasting hours

Activity	*Blasting Hours*
Surface blasting	9am – 5pm Monday to Friday, excluding public holidays
Underground blasting	Anytime

3.2. Interaction with Veolia

A cooperation agreement exists between both the operators of the mine and bioreactor which guides the management of operational impacts including blasting. The agreement also acknowledges that each party is entitled to carry out their activities in each respective area of operations which may cause nuisance. DEVELOP also acknowledges there may be additional obligations to Veolia and the protection of the void as detailed in this agreement. These are not detailed in this BMP but are referred to in the trigger, action and response plan (refer to Section 3.4).

3.3. Mitigation measures

The mitigation identified further in this section are based on best practices and have been developed to minimise the effects of blasting outside of the mining area to ensure:

- Protection of the safety of people and livestock in the surrounding area
- Protection of public and private infrastructure/property in the surrounding area from any damage
- Dust and fume emissions which leave the mine are minimised.

Mitigation measures can be increased and scaled up in response to monitoring data and/or complaints, the process for this is further described with reference to specific trigger values in Section 3.4.

Pertaining to underground blasting and the mitigation of the effects of blasting, particularly vibration, the following areas will be considered in the blast design process:

- Timing of initiation. The aim will be to limit the number of holes firing on a single delay time. In development blasts this may mean the use of alternative detonators such as “develdets” over traditional LP detonators. In stope blasting this may include the use of “connector dets” or electronic detonators over the traditional millisecond in-hole delays.
- Optimisation of explosive quantity required to break the rock. This may reduce the overall powder factor required, but specifically the amount of explosive in each hole being fired, thereby reducing the vibration.
- Utilising raise bored slots for the generation of the initial free face for stope firings.
- Optimising the ring burden and spacing and examining the impact on blast vibration generation.
- Developing a detailed knowledge of vibration propagation and attenuation characteristics of different rock types and the impact of geological structure.
- Appointment of a professional engineer as the blasting engineer. Role responsibilities include design and implementation of all drill and blast operations and communication with production drillers and charge up crews.
- Regular review of blasting practices and clear communication of monitoring and the results of blasting with drillers and charge up crews.

Best practice control of ground vibration and other related hazards will be achieved by developing shot firing (referred to as charge-up) Safe Work Procedures which will include:

- Adherence to blast designs unless risks are determined by the shotfirer at the time of loading that may be mitigated through changes to design;
- Use of initiation systems that minimise vibration. The initiation system will be selected to ensure compliance with vibration criteria and may include the use of electronic detonators to ensure an adequate spread of in-hole delays;
- Surveying of underground voids to measure over-break resulting from excessive blasting. This will help optimise future blast patterns and reduce explosive consumption and vibration generation throughout the project as more data and observations are recorded in order to further minimise the potential for any infrastructure or property damage;
- Use of monitoring data to establish and refine predictive tools to estimate likely vibration levels during the design process of subsequent blasts;
- Blast designs will identify any drive, raise or drill hole that may connect the blast site with the surface;

- Access to underground workings, declines and raises will be guarded during firing times. In addition, any area where a connection between the blast site and surface is possible (i.e. surface drill holes) will either be sealed or guarded;
- Stope firing will usually only be undertaken at the end of shift. Shift start times will be 06:00 and 18:00 hours, 7 days a week.
- Watering down of the walls and the backs to suppress dust and fumes.

3.4. Trigger, Action and Response Plan

The Trigger, Action and Response Plan (TARP) for vibration and blast management is presented in Table 3-5.

Table 3-5 Blast management TARPs

Event level	Trigger	Action	Response/ corrective action
Level 1	Blasting equal to or less than trigger values	No action required, continue monitoring	Continue monitoring and reporting as required
Level 2	Telemetry vibration monitor (the one closest to the mine) records a value more than 25 mm/s	Collect/review manual monitors and complete a review of data and conditions including: • Whether the exceedance of the criteria was directly related to a source associated with the Project or if environmental factors contributed to the exceedance. • The primary cause of the exceedance. • Any contributing factors which led to the exceedance. • Whether appropriate controls were implemented to prevent the exceedance. • Review of results from pit wall monitoring.	Continue monitoring and reporting unless collection of data triggers another event level. If the reading is considered abnormally elevated review blast design for causal factors and implement mitigation measures. This could include investigating blast design and modifying charge weight, hole depth, charge delay and number of charges in order to reduce surface vibration being detected.
Level 2	Exceedance of co-operation deed specified reading at bioreactor wall vibration monitor	Collection and review of vibration data from all installed locations and conditions as per above.	None (if exceedance not attributed to mining blasting activity) or elevate to Level 3 event as per below.
Level 3	Confirmed exceedance of co-operation deed specified reading at bioreactor wall vibration monitor	Notify Veolia, review data and conditions, complete additional monitoring to confirm results.	Implement mitigation measures if not already done so. Investigate blast design and modify charge weight, hole depth, charge delay and number of charges in order to meet the criteria.
Level 3	PPV exceeds 50mm/s at ED1	Collection and review of vibration data from all installed locations and conditions as per above. Determine if results can be directly corelated to mining blasting activity.	Investigate blast design and modify charge weight, hole depth, charge delay and number of charges in order to meet the criteria.
Level 3	Notified of discrepancies in pit wall mining	Collection and review of vibration data from all installed locations and conditions as per above. Request a secondary survey is completed if not already.	As detailed in the cooperation deed or discussed with Veolia
Level 3	Blasting related complaint received	Collection and review of vibration data from all installed locations and conditions as per above.	Contact with the complainant to discuss and resolve the complaint, if possible.

Event level	Trigger	Action	Response/ corrective action
Level 4	Compliance criteria exceeded following monitoring at a private residence.	Review of data and conditions. Complete additional monitoring to confirm results. Review activities being undertaken at the time of exceedance which could be changed or mitigated to minimise vibration effects. Undertake further sampling to check mitigation measures applied.	Report to the EPA and DPIE while all monitoring results and any corrective actions will be included in the Annual Review.
Level 4	Ongoing confirmed exceedances of co-operation deed specified reading at bioreactor wall vibration monitor	Review of data and conditions. Complete additional monitoring to confirm results. Review activities being undertaken at the time of exceedance which could be changed or mitigated to minimise vibration effects. Undertake further sampling to check mitigation measures applied.	Investigate blast design and modify charge weight, hole depth, charge delay and number of charges in order to meet the criteria.
Level 4	If PPV as a result of mining exceed 50mm/s at ED1	Notify DSNSW immediately and follow directions.	DSNSW may require inspection of the dam by a suitable dams engineer.
Level 4	Complaint not resolved	Advise complainant of their rights under Schedule 5 Condition 2	As directed by DPHI

4. COMMUNICATION, REPORTING AND REVIEWS

4.1. Communication

Effective communication with government agencies, the workforce and the community are important features of the overall Environmental Management Strategy for Woodlawn mine and therefore a key component of each environmental Management Plan.

DEVELOP is committed to consulting with the wider community and strives to achieve a high standard of community awareness and communication. A Community Consultation Committee (CCC) was established in 2015 as part of the construction phase of the Project and continues to meet regularly to discuss the Project. Further detail regarding stakeholder liaison in included in the Project EMS.

4.2. Reporting

All environmental monitoring requirements specified in EPA licences and approvals are undertaken and the data maintained on site in data management systems. Copies are provided for internal review as required by the General Manager. A summary of the data is provided to regulatory authorities as required by statutory approvals. Other data collected as part of projects or auditing procedures are reported internally in accordance with the Environmental Management Strategy verification procedures.

In accordance with Project Approval Schedule 6 Condition 4 an Annual Review will be prepared in accordance with the Department of Planning *Post Approval requirements for state significant mining development Annual Review Guideline* dated October 2015 (or more recent edition if appropriate). A copy of the Annual Review will be made available on the DEVELOP web site as follows: http://develop.com.au/Woodlawn-sustainability/

Monitoring data required by the EPL will be reported on the company's web page in accordance with EPA requirements for public disclosure, and as per Schedule 6 Condition 11 of the Project Approval http://develop.com.au/Woodlawn-sustainability/.

4.3. Complaints

Operational related complaints may be received:

- Directly via the Community Hotline (available 24/7): 1800 371 124
- Directly via the website: https://www.develop.com.au/contact-us/
- Directly via the CCC
- Indirectly via government agencies

Following receipt of a blast related complaint DEVELOP would investigate and respond as per Section 3.4. The Environmental Management System includes more detail on the complaints management procedure. A complaints register is updated monthly and is publicly available on the DEVELOP website.

4.4. Incident reporting

All reasonable and feasible avoidance and mitigation measures are employed to ensure that vibrations from mining related blasting do not exceed the criteria in Section 3.1. In the event that an exceedance does occur and is attributable to the project, it will be reported to the DPHI within 24 hours of the completion of the investigation. A detailed report will be subsequently provided within 7 days. Corrective and/or preventative actions will be assigned to relevant Company personnel. Actions will be communicated internally through planning meetings and toolbox talks and outstanding actions will be monitored for their effectiveness upon completion. A copy of the investigation report and regular updates on the status of the identified corrective and/or preventative actions will be provided to the relevant government agencies and, if required, the complainant.

4.5. Review and continuous improvement

The BMP will be reviewed and updated annually or in the case of a significant operational change. The review will include an assessment of the effectiveness of control measures and performance against the Plan's objectives. The objectives of a review are to:

- Maintain compliance with statutory requirements.
- Identify opportunities for improvement in the management plan.
- Incorporate community considerations.

The BMP review will include:

- This document.
- Legislation, approval, license changes.
- Community complaints and enquiries.

As per Schedule 6 Condition 5, DEVELOP will review, and if necessary, revise the BMP within 3 months of:

- the submission of an annual review;
- the submission of an incident report;
- the submission of an audit report; or
- any modification to the conditions of this approval.

Where the review leads to revisions in the BMP, then within 4 weeks of the review the revised document will be submitted to the Secretary for approval.

5. REFERENCES

NSW Department of Environment and Conservation's (DEC, 2006) Assessing Vibration: A Technical Guideline

Australian and New Zealand Conservation Council's (ANZECC 1990) Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration

Environmental Planning and Assessment Act 1979 (EP&A Act);

Protection of the Environment Operations Act 1997 (PoEO Act).

AS2187.2 – 2006 – Explosives Storage and Use and the manufacturer's specifications

Appendix 1 Plans

732000 736000 740000

6120000

6116000

SML20 (Woodlawn Mine Site)
Drainage Catchment Boundary
Revegetation Area
Underground Workings
Railways
WindfarmTurbines
EPL20436 (Infigen Energy)
EPL 20821 (Tarago Operations)
EPL 20476 (Veolia MBT)
EPL 11436 (Veolia Bioreactor)
GOULBURN MULWAREE COUNCIL
QUEANBEYAN-PALERANG REGIONAL COUNCIL

ALLIANCE/VIGA CREEK
GOULBURN MULWAREE LGA
LAKE GEORGE CATCHMENT
QUEANBEYAN-PALERANG REGIONAL LGA
HAWKESBURY CATCHMENT
CRISPS CREEK
BONGARALAB
BRAIDWOOD ROAD
COLLECTOR ROAD
GOULBURN STREET
BUNGENDORE ROAD
MULWAREE RIVER

Woodlawn Farm
EVAP. DAM 2 (ED2)
EVAP. DAM 1 (ED1)
Paste Plant
Veolia Bioreactor
Box Cut
Processing Plant
Rehabilitated Waste Rock Dump
Tailings Dam (TSF 4)
Tailings Dam North (TDN)
Tailings Dam West (TDW)
Tailings Dam South (TDS)
Cowley Hills
Pylara Homestead
Tarago

SYDNEY
SML20
CANBERRA

1 2 km

Scale: 1:32,000 MGA94 (Zone 55)

VTX-JOB-0473-MAP-02

Date: 2025-6-26 | Rev: 02 | @A3

DEVELOP

Author: C Hobbs | Requested By: K Crook

WOODLAWN ZINC COPPER PROJECT

Site Plan

Appendix 2 Consultation Log – BMP

Date	Form/Agency	Comments and Outcomes	Response/how addressed
8/01/2025	Veolia	Copy of Blast Management Plan sent as requested with request to return comments by 24/01/2025	Response received from Woodlawn Environment Manager on 29th January with no further comments.
17/12/2024	Iberdrola	Briefing the Iberdrola representative for the Capital Renewable Energy Precinct	Copy of presentation sent. No comments received requiring action.
17/12/2024	Veolia	Briefing Woodlawn Veolia environment manager on project re-start and updates being proposed for management plans.	Copy of presentation sent. No comments received. Draft plans which require consultation under the approval (blast and water) to be sent once drafted.
9/12/2024	Online meeting with EPA Queanbeyan	Briefing with EPA to outline updates being proposed for management plans. Included: air quality, water, noise, waste rock and rehabilitation.	No comments / noted. Recommendation to re-engage with EPA if technical input or advice is required for any of the plans at any point.
15/11/2024	DPHI	Briefing DPHI on complex site historical context and re-start timeline with high level discussion on timing and process of management plan submission and approval.	Agreed with approach to re-draft and re-submit management plans.
30/03/2017	Email from EPA with final EPL 20821	Final EPL issued to Heron Resources	Noted
15/03/2017	Email from EPA re EPL	Updated Woodlawn Mine EPL for comment	Various emails and calls to finalise EPL and attachments
13/01/2017	Meeting with EPA Queanbeyan	Meeting with EPA to discuss licence finalisation and amendmentsto license	No specific comments received in relation to noise, blasting or dust management. The inclusion of the 4 dust deposition gauge was added to the licence
20/10/2016	Letter from EPA re draft EPL	Provision of second draft EPL 20821 for the Heron operation	Noted
12/10/2016	Letter to DPE re additional Experts	Letter from Heron Resources requesting approval of additional experts engaged in management plan preparation	Noted and approved by DPE
12/10/2016	Email from EPA re licence application	First draft EPL provided for comment with request for additional plans	6 emails to and from EPA and various phone calls in relation to comments on draft EPL

Date	Form/Agency	Comments and Outcomes	Response/how addressed
12/10/2016	Letter to DPE re additional Experts	Letter from Heron Resources requesting approval of additional experts engaged in management plan preparation	Noted and approved by DPE
10/08/2016	EPL Application to EPA	Application for new EPL covering Woodlawn Mine construction and operation	Noted
27/05/2016	email to Julian Thompson EPA	Copy of Noise and Blast Management Plan provided to EPA for comment	Noted
9/03/2016	Meeting with Community Consultation Committee	Presentation to Woodlawn Community Consultation Committee which included overview of project, monitoring program, construction program, workforce numbers, exploration and environmental management plan preparation and content.	Draft EMPs provided on web page for download by committee members
13/10/2014	Meeting with EPA and OEH Queanbeyan Office	General project briefing, need for EPL separation with Veolia EPL, monitoring conditions, lack of archaeology sites and impact, need to define vegetation offset area and outcomes	Ongoing negotiation with EPA in relation to licensing requirements
9/10/2014	Email to Sandie Jones OEH	Copy of Planning Approval and plans of development area	Noted
18/09/2014	Site meeting with DRE	General briefing and site inspection, outline of Management Plans, finalised scope of MOP, Need for rehabilitation trials, standard environmental management provisions, control of acid generation	Noted
11/09/2014	Letter to DPE (Department of Planning and Environment)	Seeking approval of Experts engaged in relevant management Plan	Approval provided
23/07/2014	Meeting with Goulburn City Council	General Management and Planning Manager, general briefing no specific feedback	Noted
7/07/2014	Letter from Trade and Investment	Requested meeting and briefing on site and staged approach to preparation and approval of management plans	On site meeting held
3/07/2014	Initial consultation letter to: • NSW Trade and Investment • Environment Protection Authority • NSW Office of Water • Sydney Catchment Authority	These letters were the initial consultation and sought specific advice from each agency according to the respective relevant management plan.	None required

Date	Form/Agency	Comments and Outcomes	Response/how addressed
	• Office of Environment and Heritage • Department of Planning and Environment (DPE)		
19/01/2014	Email to Fran Kelly and James Caddey SCA	Copy of Woodlawn EMS provided, Project Approval, and Construction Environmental Management Plan (EMP)	None required

Appendix 3 Plan Approval

Resource Assessments
Contact: Stephen Shoesmith
Phone: 9274 6164
Email: stephen.shoesmith@planning.nsw.gov.au

Mr Andrew Lawry
Chief Operating Officer
Heron Resources Limited
WOODLAWN MINE PROJECT

By email to: ALawry@HeronResources.com.au

Dear Mr Lawry

Woodlawn Mine Project (07_0143)
Approval of Environmental Management Plans

I refer to your letter dated 30 March 2017 seeking the Secretary's review and approval of the:

- Vegetation and Rehabilitation Management Plan (incorporating the Tailings Management Strategy, Vegetation Management Plan and Rehabilitation Management Plan);
- Noise and Blast Management Plan;
- Water Management Plan;
- Heritage Management Plan; and
- Air Quality Management Plan.

The Department has reviewed the revised versions of these documents, dated May 2017 and is satisfied that they address the requirements of Condition 2 in Schedule 3 and Conditions 4, 7, 12, 17, 20, 22, and 27 in Schedule 4 of project approval 07_0143. Accordingly, the Secretary approves the revised management plans.

Please ensure that a copy of the approved plans is placed on your website as soon as possible.

If you require further information, please contact Stephen Shoesmith on 9274 6164 or by email to stephen.shoesmith@planning.nsw.gov.au.

Yours sincerely

Preshaw 12/5/17

Clay Preshaw
A/Director
Resource Assessments
As nominee of the Secretary

Appendix 4 DSNSW monitoring and reporting requirements (for ED1)

Condition ID	Monitoring / Reporting Type	Frequency	Description	Due date
ANN D/22.1	Liaison officer appointed	Once off	Liaison officer appointed	As soon as possible
ANN D/3.1	Notification of mining	Once off	Notification of commencement of mining	Within 7 days of the commencement of mining
ANN D/17	Management plan	Once off, reviewed annually	Monitoring management plan to the satisfaction of the Committee	As soon as possible
			Review of monitoring management plan	By August 31
ANN D/14.2 ANN D/14.3	Vibration monitoring	Once off	Vibration monitoring program – DSC to be informed	As soon as possible
		Per blast Monthly	Monitor vibrations on embankment Reports on results of vibration monitoring	-
ANN D/14.5	Inspection of the dam by a suitable dams engineer	Once off	If peak particle velocities as a results of mining exceed 50mm/s at any point on ED1	As directed by DSNSW
ANN D1/3 ANN D1/3 ANN D1/3.3	Seepage monitoring	Once off	Seepage monitoring plan	As soon as possible
		Monthly	Monitor seepage from the dams Reports on monitoring seepage	-
		Once off	Notification if seepage changes significantly	Immediately
ANN D1/4	Subsidence monitoring	3 monthly	Results of crest subsidence monitoring	Within 1 month of subsidence survey
ANN D1/2.1 ANN D1/2.2	Inspections	Yearly	Inspection of dams Reports on inspection of dam	-
ANN D/20	Statement of compliance	Monthly	Statement of compliance with the required conditions	Monthly
ANN D/19	Statistics reports	Annually	Staatsitcs report for year ended 30 June	By August 31 for results for year ended 30 June