



Northern Resource
CONSULTANTS

Spring Hill

Dust, Noise and Vibration Management Plan

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prepared for
PC Gold

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Dust, noise and vibration management plan

1. Sensitive Receptors

The nearest populated sensitive receptor to the Spring Hill operation is the Emerald Springs Roadhouse, approximately 10km (in a straight line) from the site. Based on the activities proposed under this MMP and the offsite processing while considering the distance of the site from Emerald Springs it is highly unlikely the minimal residents of the Roadhouse would be negatively impacted by dust, noise and vibration from the operation.

The highest risk environmental sensitive receptor in site are Ghost Bats that occupy populated stopes. Mitigation of noise and vibration to these receptors is detailed within the Ghost Bat Monitoring Plan in Appendix A.

To reduce the risk of impact to environmental receptors, this dust, noise and vibration management plan aims to control dust generated by traffic related to the project, and also reduce noise and vibration caused by mining activities. Further works to manage dust, noise and vibration are detailed in Management Actions

Table 1 below.

2. Management Actions

Table 1: Dust, noise and vibration management matrix

OBJECTIVE	TARGET	MANAGEMENT AND MITIGATION	MONITORING AND MEASUREMENT	EFFECTIVENESS	NON CONFORMANCE AND CORRECTIVE ACTION
Prevent dust from becoming a nuisance	Minimise dust from construction and mining activities	Use dust suppressing water carts with a mixture of polymer or molasses dust suppressant chemical on the site roads and the haul road to Union Reefs. The mobile crusher plant for crushing ore will be fitted with a dust suppression system	Dust generation will be monitored visually and dust suppression polymers or molasses with water carts will be used in dry periods.	Depositional dust should remain below nuisance dust limits, which on a visual inspection would be sufficient to create a visible layer of dust on a parked car or outdoor furniture in one day.	An excess of depositional dust will prompt an increase in the use of water for dust suppression. The use of a polymer or molasses dust suppressant chemical will reduce the amount of water required for dust suppressant.
Minimise noise and vibration from operational activities	Limit machinery noise	Install sound proofing and noise abatement controls on machinery where applicable.	Where noise abatement controls exist for a machine, they must be installed and used.	Machinery noise will be limited.	When machinery is inspected, lack of sound proofing should be noted and rectified.
		Ensure vehicles are maintained as per manufacturer's instructions	A vehicle maintenance register must be kept.	There will be a vehicle maintenance register that shows up to date maintenance actions.	Where vehicles are inspected and maintenance is found to be out of date, an incident report must be completed and the vehicle taken offline until it can be maintained.

OBJECTIVE	TARGET	MANAGEMENT AND MITIGATION	MONITORING AND MEASUREMENT	EFFECTIVENESS	NON CONFORMANCE AND CORRECTIVE ACTION
	Limit blasting noise	<p>Limit blasting to daylight hours only.</p> <p>Mining is expected to continue for only seven months. Any blasting on site between July and October 2018 will be limited to deep within the Hong Kong 1 Pit, which is separated from the bat exclusion zone by a valley with low potential for vibration.</p> <p>Pit development will be sequenced to minimise disturbance to the Ghost Bat roost habitat areas, so any disturbance associated with pit development will be coming from only a single direction.</p> <p>Blast design will be implemented to ensure vibration levels at old mine stopes does not exceed 10mm/sec or the disturbance threshold for Ghost Bats identified during early vibration monitoring phase.</p> <p>Blasting protocols specified in the Ghost Bat Monitoring Plan (Appendix P) will be implemented</p>	<p>TM Gold will maintain a noise complaints register.</p> <p>Blasting protocols specified in the Ghost Bat Monitoring Plan (Appendix A) will be implemented to monitor blasting vibrations</p>	There will be no complaints on the register.	Any complaints received should be acknowledged within 24 hours and a resolution targeted within 7 days of receiving the complaint.

OBJECTIVE	TARGET	MANAGEMENT AND MITIGATION	MONITORING AND MEASUREMENT	EFFECTIVENESS	NON CONFORMANCE AND CORRECTIVE ACTION
	Limit noise impacts on staff	Ensure staff utilise hearing protection on site where appropriate.	Provide hearing protection for staff.	Staff will wear hearing protection where required.	Any staff complaint on noise exposure must be acknowledged within 24 hours and an investigation initiated within 48 hours of receiving the complaint.
		Install signs in areas where hearing protection is required.	Conduct spot checks to ensure staff are wearing appropriate hearing protection.	Staff will wear hearing protection where required.	Any staff complaint on noise exposure must be acknowledged within 24 hours and an investigation initiated within 48 hours of receiving the complaint.
Operate a complaints process to ensure stakeholder feedback is handled promptly and issues resolved satisfactorily	Deal with complaints promptly and resolve issues in a satisfactory fashion.	Maintain a complaints register and communicate that register to staff and the local stakeholders.	Review the register for complaints monthly.	Complaints received will be dealt with successfully.	If on review, complaints were found to not be acknowledged or resolved promptly, an investigation must be undertaken into the reason for this.

