



FIMISTON GOLD MINE OPERATIONS 5 YEAR PERFORMANCE REVIEW

MINISTERIAL STATEMENT 782

MINISTERIAL STATEMENT 188

2020 TO 2024

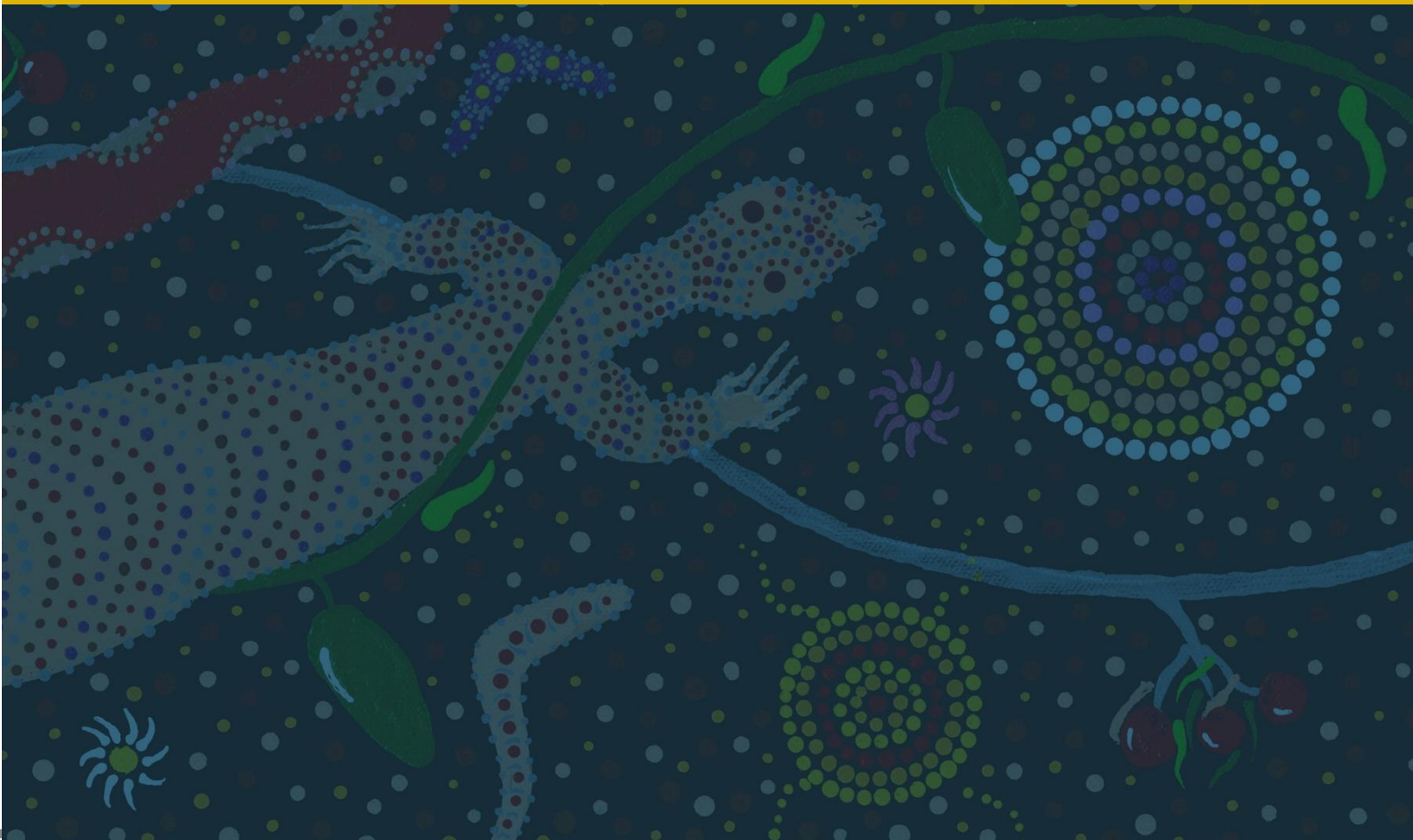


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1 INTRODUCTION

Kalgoorlie Consolidated Gold Mines Pty Ltd (KCGM) is a wholly owned subsidiary of Northern Star Resources Ltd (Northern Star) and is responsible for operating the KCGM Operations. The KCGM Operations is located immediately east of the City of Kalgoorlie-Boulder in the Goldfields Region of Western Australia, approximately 600 km east of Perth (see Figure 1-1). In February 2021, the KCGM Operations became 100% Australian-owned and controlled by a single entity, Northern Star, for the first time in its history.

The KCGM Operations includes the Fimiston Open Pit, Mt Charlotte Underground Mine and Fimiston and Gidji Processing Plants. The Fimiston Processing Plant, in conjunction with the Gidji Processing Plant, produces up to 500,000 ounces of gold each year. The Fimiston Open Pit and Mt Charlotte Underground have a combined gold ore reserve of approximately 13.2 million ounces (as of March 2024) with current mine life forecast to continue until 2034.

Specifically, the Fimiston Gold Mine Operations includes the Fimiston Open Pit, Fimiston Processing Plant, three Tailings Storage Facilities (TSFs), Waste Rock Dumps, Run of Mine Pad, infrastructure corridors and workshop areas.

In December 2004, KCGM publicly released its “KCGM Concept Plan” which outlined the proposed final dimensions of the Fimiston Open Pit and options to extend operations beyond the estimated mine life. To continue open pit mining, KCGM submitted a Public Environmental Review (PER) in 2006 for assessment by the Environmental Protection Authority (EPA) to undertake the Fimiston Gold Mine Operations Extension (Stage 3) and Mine Closure Planning (the Project). The Project sought approval for a cutback of the Fimiston Open Pit (the Golden Pike Cutback) and additional areas for waste rock dumps and tailings storage, to extend the life of the mine.

Following formal assessment of the Project by the EPA, the Minister for Environment (Minister) issued Ministerial Statement 782 (MS782) on the 29 January 2009 approving the Project.

In accordance with Condition 5 of MS782 ‘Performance Review’ compliance against the requirements of MS782 is assessed in this Performance Review Report. Also considered in this Report is the previous Fimiston Operations Ministerial Statement 188 *Fimiston Project Stage II – Mine and Waste Dumps (248)* (MS188) published on 24 October 1991.

A review of the following Environmental Management Plans relevant to MS188 and MS782 are also included in this Report:

- Fimiston Air Quality Management Plan (FAQMP);
- Noise and Vibration Monitoring and Management Plan (NVMMMP);
- Aboriginal Cultural Heritage Management Plan (ACHMP); and
- Mine Closure Plan (MCP).

In August 2022, KCGM made a submission to the EPA seeking approval under the Environmental Protection Act 1986, Part IV (Section 38), to develop the Fimiston South Project, a significant amendment to the existing proposal and to make changes to supporting infrastructure at Fimiston (the Proposal). The Proposal is considered a significant amendment under Section 40AA of the EP Act, which allows the conditions of previous Ministerial Statements (188 and 782) to be reviewed during the assessment process. As of December 2024, the Proposal was under assessment by the EPA.

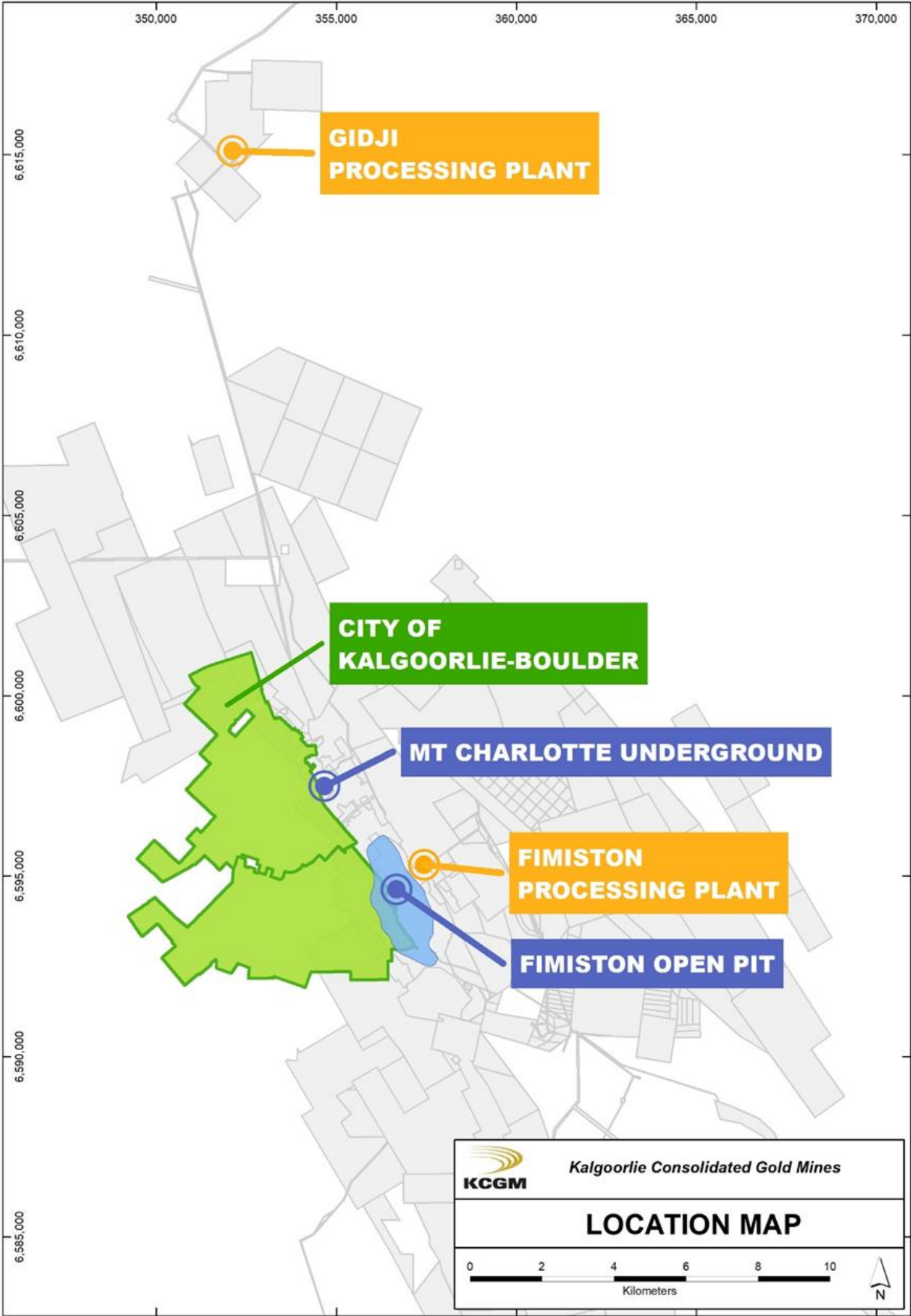


Figure 1-1 Location of the KCGM Operations

1.1 Purpose of this Report

The Fimiston Gold Mine Operations (Fimiston Operations) have been subject to formal environmental assessment under Part IV of the WA *Environmental Protection Act 1986* (EP Act) on two occasions. The most recent assessment for the 'Fimiston South' project is ongoing, while the previous assessment for the 'Golden Pike project' was concluded in January 2009 following a Public Environment Review of the Fimiston Gold Mine Operations Extension (Stage 3) and Mine Closure Planning Project. This culminated in the issue of MS782 which is regulated by the Department of Water and Environmental Regulation (DWER).

Condition 5 of MS782 requires KCGM to prepare and submit a performance review every 5 years as shown in the following:

5 Year Performance Review

5-1 The proponent shall submit a Performance Review report every five years after the start of mining activities forming part of the expanded and revised proposal to the Environmental Protection Authority, which addresses:

- 1. The major environmental issues associated with implementing the project; the environmental objectives for those issues; the methodologies used to achieve these; and the key indicators of environmental performance measured against those objectives.*
- 2. The level of progress in the achievement of sound environmental performance, including industry benchmarking, and the use of best available technology where practicable.*
- 3. Significant improvements gained in environmental management, including the use of external peer reviews.*
- 4. Stakeholder and community consultation about environmental performance and the outcomes of that consultation, including a report of any on-going concerns being expressed; and*
- 5. The proposed environmental objectives over the next five years, including improvements in technology and management processes.*

This report represents the third 5 Year Performance Review prepared for the Fimiston Gold Mine Operations, covering the calendar year period from 2020 through to 2024. The review addresses three major environmental issues associated with the Fimiston Operations for which specific conditions are included in MS782. These major environmental issues are:

- Noise, vibration and airblast;
- Air quality; and
- Rehabilitation and closure.

The environmental objectives for these issues are outlined within the management plan for each issue and assesses performance against those objectives as presented in Section 5.

1.2 Project Status

The current KCGM Life of Mine (LOM) Plan sees mining and processing until at least 2034. However, Northern Star continues to look for opportunities to extend mine life and expects that mining and processing at KCGM Operations will continue well beyond the current LOM Plan.

As part of its purpose to create value and improve lives through sustainable and responsible mining, Northern Star continues to focus on the growth of its people and resource. To deliver on this commitment, the KCGM Operations is currently exploring several future growth opportunities as well as permitting the Fimiston South project and Mount Charlotte Eastern Areas underground projects. Significant upgrades to modernise the

existing Fimiston Processing Plant are also underway that will improve efficiency, utilisation and increase throughput rates to 27Mtpa.

With the Fimiston South permitting, Northern Star is seeking approval to extend the Fimiston II TSF (Fimiston II G paddock), construct a new TSF (Fimiston III TSF), expand the waste rock dump and extend the pit in the south-east, which will allow for the continuation of KCGM's operations to the end of the current Life of Mine (2034), providing ongoing economic and employment benefits to the City of Kalgoorlie-Boulder.

2 FIMISTON OPERATIONS

2.1 Fimiston Open Pit

The Fimiston Open Pit is located on the eastern boundary of the City of Kalgoorlie-Boulder as shown in Figure 2-2. It is one of the largest open pit gold mining operations in Australia. The Fimiston Open Pit operates 24 hours a day, 365 days a year. On completion, the Fimiston Open Pit is expected to measure approximately 3.5 km in length, 1.5 km in width and up to 700 m in depth; encompassing the ground known as the Golden Mile.

Mining of the Fimiston Open Pit is undertaken using conventional open pit mining methods. Mine planning identifies the locations of ore and waste rock to be mined based on the location of ore, its grade and sulphur content, the current gold price, the presence of old workings and the quantity and grade of ore required by the Fimiston Processing Plant.

Areas to be mined are drilled and blasted, taking care to locate and plan for mine voids arising from historical mine workings. Blasting is conducted under strict controls. Ore and waste rock are loaded into trucks by shovels, excavators and loaders and hauled to the surface. Face shovels can scoop 66 tonnes of ore or waste rock at a time with each truck carrying 240 tonnes of material.

2.2 Fimiston Processing Plant

The Fimiston Processing Plant comprises two parallel circuits for processing refractory sulphide ore from the Fimiston Open Pit and ore from the Mt Charlotte Underground Mine.

The processes undertaken in the Fimiston Processing Plant are outlined below and shown in Figure 2-1 Gold Ore Treatment Flowchart.

- Two crushing circuits that supply coarse ore as a mill feed stockpile;
- Two milling circuits, the Fimiston and the Mt Charlotte. The Fimiston circuit comprises a semi-autogenous grinding (SAG) mill and a pebble crushing circuit with two secondary ball mills and four Knelson concentrators. The Mt Charlotte circuit is a single SAG mill and ball mill with a single Knelson concentrator;
- A flotation circuit and three carbon-in-leach (CIL) circuits through which milled ore is processed;
- Filtration and Ultra Fine Grind (UFG) via a carbon in leach circuit through which flotation concentrates are de-slimes and processed;
- A gold recovery circuit comprising an Acacia reactor, elution, electrowinning, smelting, pouring and production of gold bullion; and
- Tailings storage facilities (TSFs).

Gold is generally present as either free gold, within telluride minerals, locked in pyrite or silicate minerals. Ore is ground to liberate the pyrite in preparation for the ensuing processes. In the flotation circuit the gold bearing refractory sulphide is separated and referred to as concentrate. This concentrate is de-slimes, and the slimes

are subjected to flotation to recover any coarse sulphide particles. The slimes flotation tailings (SFT) are treated at Fimiston in one of the CIL circuits, CIL1.

The de-slimed concentrate and slime sulphides are combined and classified into two streams. One stream is washed, filtered and transferred to Gidji for further treatment. The other stream is directed to an Ultra-Fine Grinding (UFG) circuit at Fimiston. The UFG circuit reduces the particle size of the concentrate to facilitate acceptable cyanide leach recoveries; this material is combined with the SFT. Flotation circuit tailings are further treated on site in two of the CIL circuits, CIL2 and CIL3. Final tailings are pumped to the TSFs.

A revitalisation project is currently underway to optimise, modernise and increase the throughput rates at the Fimiston Processing Plant. Environmental benefits of this project include better energy utilisation, lower energy usage per tonne processed, lower operating costs through less consumable usage, lower reagent requirements per unit processed, improved recovery of the mineral resource and improved process safety.

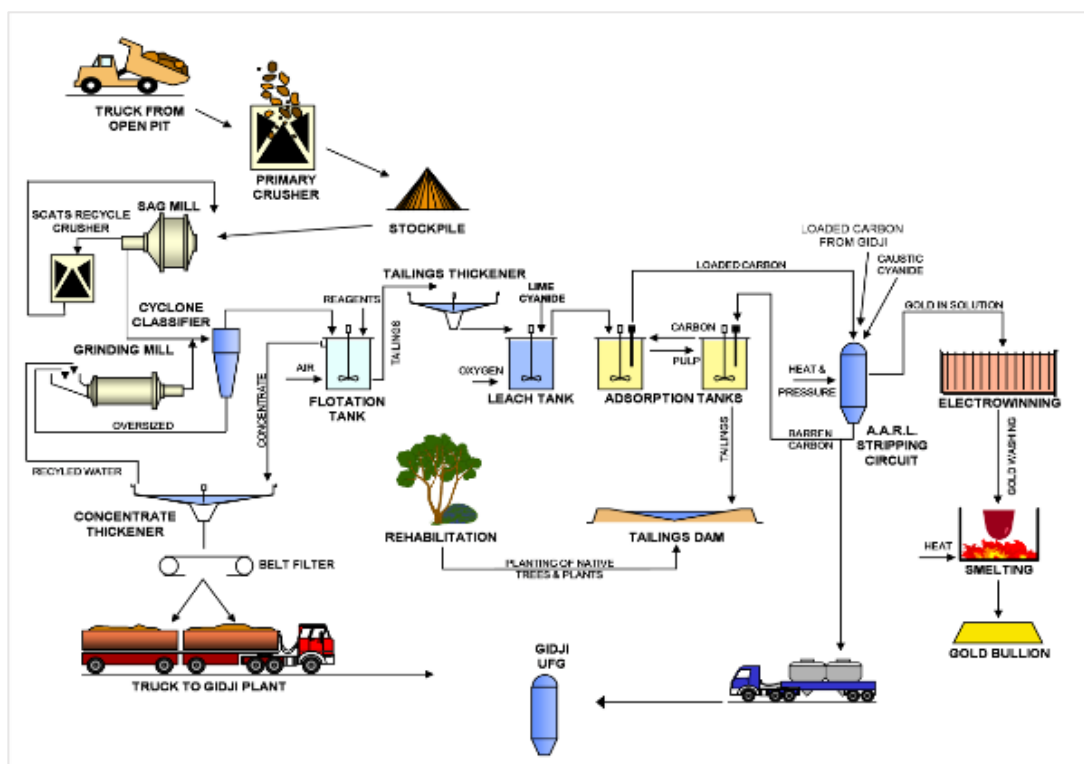


Figure 2-1 Gold Ore Treatment Flowchart

2.3 Infrastructure

The mining and processing operations are supported by other infrastructure comprising:

- Workshops;
- Fuel storages;
- Administration and offices;
- Haul and access roads;
- Services corridors such as powerlines and pipelines; and
- Water supply and dewatering facilities (including water storages and a managed aquifer recharge scheme for reinjection of excess water, if required).

Power is supplied by the Parkeston power station and by Western Power.

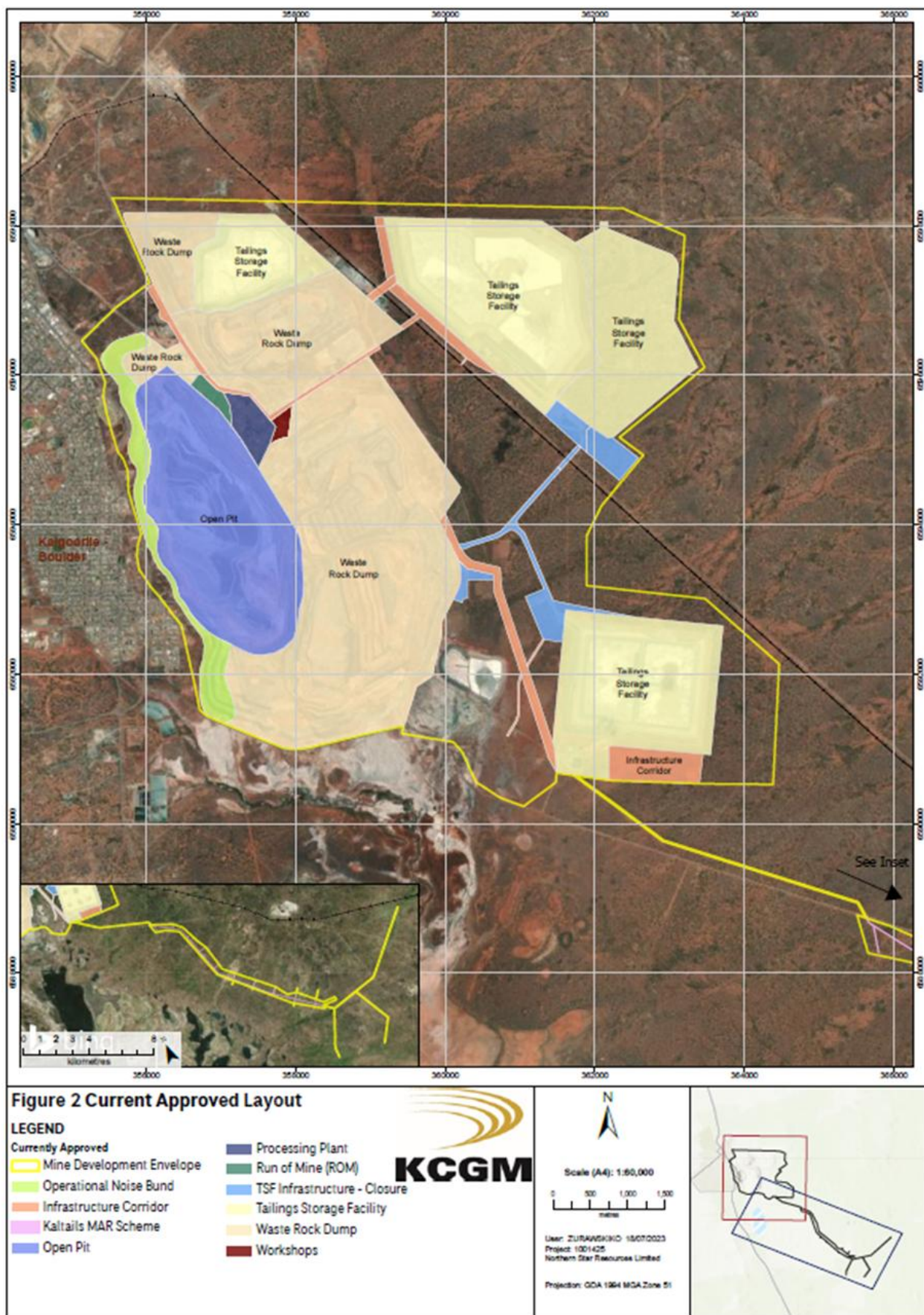


Figure 2-2 Current Approved Layout

2.4 Production in 2020–2024

Approximately 70 Million tonnes of ore (both oxide and refractory sulphide ores are mined) and waste rock is removed from the Fimiston Open Pit each year, although total tonnages of ore and waste rock mined varies. Table 2-1 and Figure 2-3 shows the yearly ore and waste rock mined at Fimiston Open Pit. Production volumes in 2020 and 2021 was lower following a significant rock fall (East Wall Slip) which occurred in May 2018.

Table 2-1 Mine production in million tonnes mined at Fimiston Open Pit

YEAR	ORE (Mt)	WASTE ROCK (Mt)	TOTAL Mt)
2020	5.78	25.47	31.25
2021	6.63	52.41	59.04
2022	7.30	58.43	65.73
2023	5.00	77.97	82.97
2024	7.93	60.23	68.16

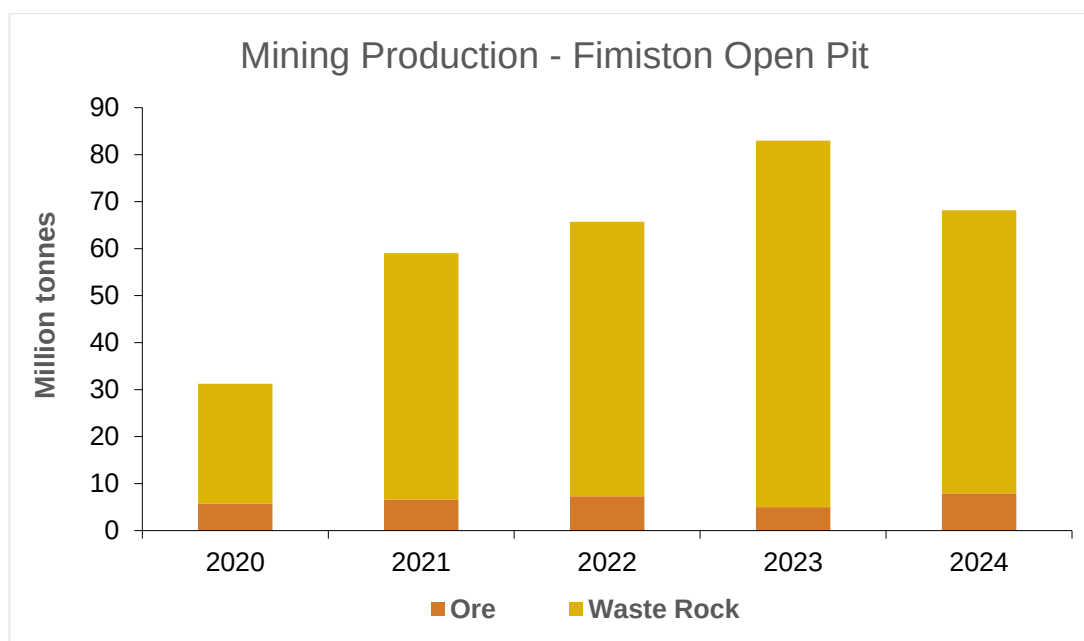


Figure 2-3 Ore and waste rock mined at Fimiston Open Pit 2020-2024

3 STAKEHOLDER AND COMMUNITY CONSULTATION

Northern Star values its' connection to the communities in which it operates and actively encourages open dialogue with local communities and key stakeholders. The Company regards its' positive reputation as a vital strategic advantage and seeks to ensure that local communities benefit from its' presence.

The proximity of the KCGM Operations (KCGM) to the City of Kalgoorlie-Boulder community requires ongoing delivery of continued stakeholder engagement to ensure community safety and concerns are at the forefront of KCGM's planning and ongoing operations. Northern Star has an established stakeholder engagement network and utilises a range of mechanisms to facilitate consultation to capture input from the Kalgoorlie-Boulder community on a continuous basis. KCGM undertakes regular and ongoing consultation with the community

using Social Impact Assessments and independent public consultation tool 'Local Voices'. A range of other consultation forums and mechanisms are also used to capture input from the wider Kalgoorlie-Boulder community on an ongoing basis, which include regular information sessions, advertising in local media, the Super Pit website, social media publications and the Public Interaction Line.

3.1 Social Impact Assessment

Northern Star acknowledges the recommendations of the International Council on Mining and Metals (ICMM) that requires companies to engage with stakeholders based on an analysis of the local context. The data generated by independent, objective Social Impact Assessments (SIAs) can be a valuable source of information on how operational impacts are being managed and improved, as well as opportunities to enhance positive outcomes. The findings of SIA reports are used to prioritise the Community and Heritage team's work, targeting key stakeholder areas of interest and needs, and maximising the impact of our social performance.

Every five years a SIA is commissioned to identify what impacts it has, or is perceived to have, on neighbouring communities, and how to avoid, mitigate and manage these impacts. The SIA process engages with key stakeholders to identify the social effects of our operational and growth activities, providing recommendations on how best to minimise any negative impacts, and maximise positive impacts.

In July 2020, a comprehensive SIA was undertaken for KCGM to understand the priority impacts resulting from mining activities at Fimiston on the community of Kalgoorlie-Boulder. Conducted by KPMG Banarra, a specialist human rights and social impact advisory team, the SIA process was designed to:

- Understand how KCGM's operations impact on the surrounding community of Kalgoorlie-Boulder – considering social impacts as well as cumulative and human rights impacts, where identified;
- Develop and prioritise strategies to work with stakeholders within the community, with a focus on vulnerable stakeholders;
- Understand any social risks (risks to KCGM) that might influence KCGM's future mine planning and the conduct of its operations; and
- Develop management strategies to support KCGM to enhance and support the positive social impacts of its presence and avoid, mitigate or manage negative social impacts.

The SIA revealed twelve priority impacts. In response, a broad Social Impact Management Plan for KCGM was developed to enhance positive impacts and mitigate potential negative impacts. As an addendum to the comprehensive 2020 SIA, a SIA specifically for the Fimiston South Project was completed in August 2021 (KPMG, 2021) which identified nine potential social impacts, both positive and negative, resulting from the Project.

The Company's Social Performance team (now Community and Heritage), implement the Social Impact Management Plan, based on the key themes identified. This remains responsive to changing community expectations and operational requirements plan and is reviewed annually.

In 2025, Northern Star have engaged ReGen Strategy to undertake a SIA of the Kalgoorlie Production Centre. This SIA is scheduled for completion in July 2025 and will include the following approach to evaluating impact significance:

- Community – composition, character, cohesion, function, and sense of place;
- Way of life – how people live, how they get around, how they work, how they play, how they interact on a daily basis;
- Access – how people access and use infrastructure, services, and facilities, whether provided by local, state, or federal governments, or by for-profit or not-for-profit organisations or groups;

- Culture – both Aboriginal and non-Aboriginal culture, including shared beliefs, customs, values, and stories, and connections to country, land, waterways, places, and buildings;
- Health and wellbeing – physical and mental health, especially for those who are highly vulnerable to social exclusion or substantial change, plus wellbeing of individuals and communities;
- Surroundings – access to, and use of, services that ecosystems provide, public safety and security, access to use of the natural and built environment, and its aesthetic value and amenity;
- Livelihoods – people’s capacity to sustain themselves, whether they experience personal breach or disadvantage, and the distributive equity of impacts and benefits; and
- Decision-making systems – whether people experience procedural fairness; can make informed decisions; have power to influence decisions; and can access complaint, remedy, and grievance mechanisms.

These eight categories are used to organise, understand and document information throughout the Social Impact Assessment process.

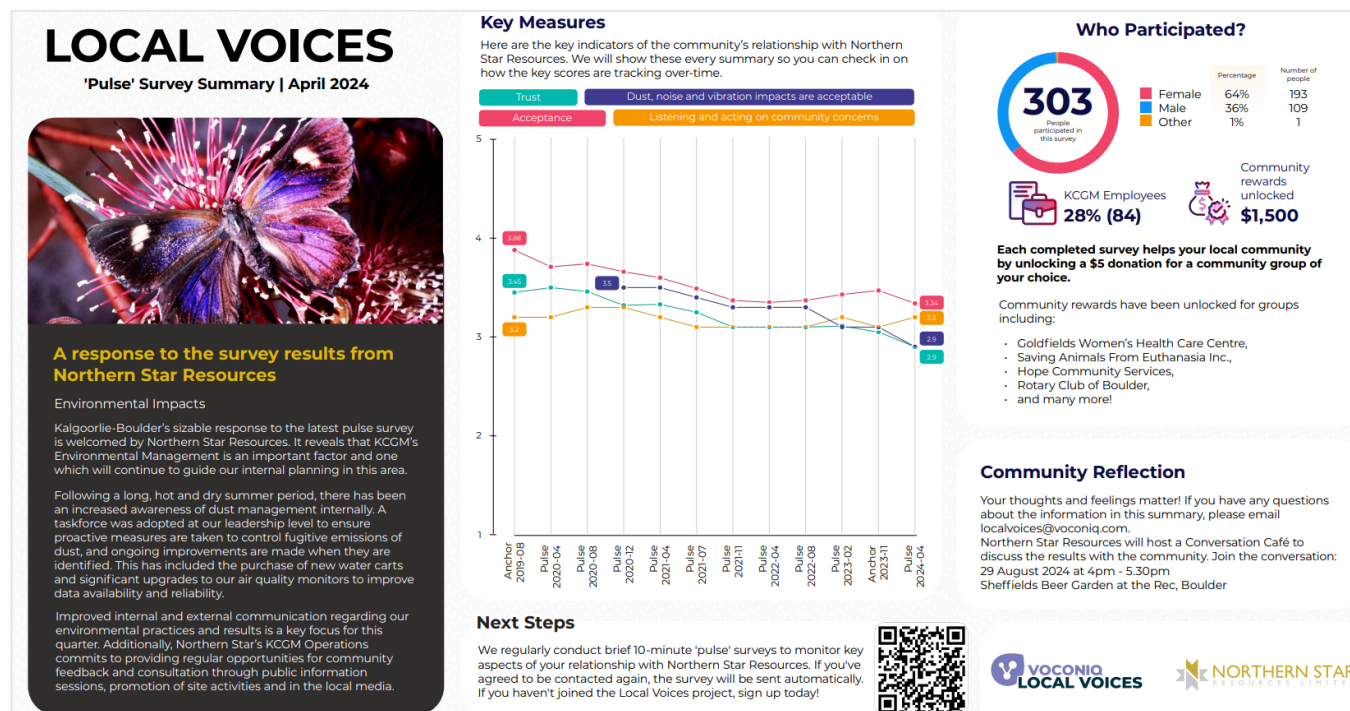
3.2 Local Voices

Providing the community with easy ways to communicate with Northern Star and provide feedback about our operations is critical to maintaining positive stakeholder relationships and being responsive to changing community and operational needs. This is evident through Northern Star’s ‘Local Voices’ program, a community consultation initiative that provides stakeholders in Kalgoorlie-Boulder with the opportunity to provide anonymous direct feedback on KCGM’s activities.

Delivered through a series of online ‘pulse’ surveys, Local Voices helps us to better understand what issues and opportunities that matter most to the Goldfields communities, allowing Northern Star to develop and implement strategies to actively address these.

A focus question is included in each Pulse survey, to provide greater insight into specific areas identified through previous survey results or changing operational activities. The results of each quarterly survey are published online, with the aim to build trust, and promoting transparency in relation to KCGM operations. The findings of these surveys are publicly disclosed and can be accessed at the following link: <https://voconiqlocalvoices.com/en/kalgoorlie-boulder/results/>.

A detailed ‘anchor’ survey was conducted in 2019 and again in 2023 to understand the key drivers of trust and acceptance between the KCGM operations and Kalgoorlie-Boulder residents. These include feeling heard and respected by the Company, as well as responsiveness to community concerns, management of environmental impacts and social investment survey questions. Anchor surveys are conducted every 4 years to determine any major trends or changes. Since the implementation of Local Voices in 2019, there has been over 3000 individual responses to the surveys.



3.3 Community Consultation Forums

The KCGM Community Reference Group (CRG) is a self-selected group of local community members. The group meets regularly to discuss current KCGM planning, operational activities, and feedback from the community. KCGM provides information on different aspects of the operation, including environmental management, mining proposals and closure planning. KCGM continues to work with members to increase participation, with several recent community nominations to join group.

The Public Interaction Line (PIL) is backed up by an electronic database (INX Inform) which enables queries, complaints and grievances to be captured and actioned. bringing concerns or issues from within the community to the attention of Northern Star.

During business hours, inquiries are referred immediately to the Community and Heritage team to take the required action. Incoming calls received outside office business hours are recorded and sent to the Community and Heritage team for immediate action or where appropriate will be followed up the next working day.

KCGM responds to all people who contact the PIL (and provide contact details) either by phone, in writing or in person meetings, as required. Complaints and corrective actions are reported through daily reporting to relevant teams and included in KCGM annual compliance reports.

3.4 Consultation Specific to Environmental Performance

In accordance with conditions of the Environmental Protection (Fimiston Gold Mine Noise Emissions) Approval (2009, 2016), KCGM prepares an Annual Noise Report. This report provides a summary of the noise and airblast levels recorded during the year, and progress of the implementation of the noise management plan. The report is submitted to the DWER and is made publicly available on the KCGM website.

Since October 2011, real-time monitoring results from a noise logger (located at MEP) have been made publicly available on the KCGM website. The real-time noise report is automatically updated every 15 minutes and graphically displays the data over a 48-hour period.

Results of the PM₁₀ dust monitoring programme are made publicly available on the KCGM website. The 'KCGM Dust Report' is automatically updated daily and provides the 24-hour average recorded at each dust monitoring site for one month.

A summary of Northern Star's consultation with relevant government agencies and non-government agencies at KCGM operations is outlined in the below tables.

Key relevant government agency consultation is listed below in Table 3-1 and non-government agency consultation is listed in Table 3-2.

Table 3-1 Government Agency Consultation

GOVERNMENT AGENCIES	CONSULTATION
City of Kalgoorlie-Boulder (CKB)	Land Access and property issues Strategic Town Planning Town Planning Scheme Environmental Management Mine Closure Plan
Clean Energy Regulator (CER)	National Greenhouse and Energy Reporting (NGER) Safeguard Mechanism
Department of Water and Environmental Regulation (DWER)	Ministerial Statements Annual Compliance Assessment Report Prescribed Premises Licences Works Approvals Annual Environment Report Annual Audit Compliance Reporting Annual Inspection as requested Fimiston Air Quality Management Plan PM ₁₀ dust events above the daily performance target Air Quality Data Noise Regulation 17 Variation Noise and Vibration Monitoring and Management Plan Noise and Blast Quarterly Monitoring Reports National Pollutant Inventory (NPI) Groundwater Licensing Mine Closure Plan
Department of Health (DoH)	Fimiston Air Quality Management Plan PM ₁₀ dust events above the daily performance target
Main Roads Western Australia (MRWA)	Permitting for haul truck transport on main roads Voids management Road Reserve information Traffic Management Plans (Blasting/Flyrock Management)
Goldfields Esperance Development Commission (GEDC)	Local and regional development Working group collaborations (Boulder Camp Relocation)
Regional Development Australia Goldfields Esperance	Local and regional development

GOVERNMENT AGENCIES	CONSULTATION
Department of Mines, Energy, Industry Regulation and Safety (DEMIRS)	Annual Environment Reports Mining Rehabilitation Fund Reports Closure and rehabilitation planning (Mine Closure Plan) Environmental and Exploration Approvals (Mining Proposals and Programme of Works) Standing invitation to the CRG monthly meetings
Department of Biodiversity, Conservation and Attractions (DBCA)	Environmental and Exploration Approvals Conservation Management Plans
Department of Planning, Lands and Heritage (DPLH)	Mine Closure Plan Heritage matters (namely the Boulder Railway Station, Subway, Loopline Railway, and Cornwall Hotel) Property leasing Native Title and heritage matters
Water Corporation	Water Efficiency Management Plan Goldfields Water Supply Scheme

Table 3-2 Non-Government Consultation

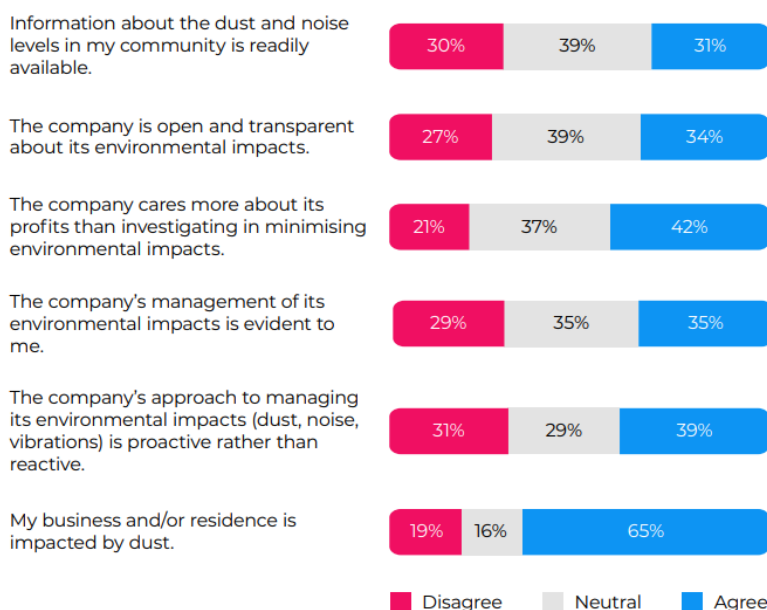
NON-GOVERNMENT AGENCIES	CONSULTATION
Chamber of Minerals and Energy (CME)	Mining Industry representative body Northern Star representatives sit on the Goldfields Regional Council and attend the Goldfields Community Relations, Environment, and Procurement Forums
Community Reference Group (CRG)	Regular CRG meetings
Kalgoorlie-Boulder Chamber of Commerce and Industry (KBCCI)	Local and regional development Monthly representation at the KBCCI City and Regional stakeholder meetings Partnership initiatives
Kalgoorlie Boulder Urban Landcare Group (KBULG)	Representative at committee meetings Urban land rehabilitation Annual tree planting and clean-up days
Goldfields Aboriginal Business Chamber	Local and regional development Partnership initiatives
Central Regional TAFE	Regional workforce training and development
Curtin Kalgoorlie – West Australian School of Mines	Regional workforce training and development
East Kalgoorlie Primary School	Representative at school board meetings Regular consultation and engagement with school leaders Partnership initiatives
Williamstown Resident Committee	Host meetings 3-monthly
Marlinyu Ghoorlie Native Title Claimant Group	Cultural heritage management
Maduwongga Native Title Claimant Group	Cultural heritage management. It should be noted that the Maduwongga Native Title Claim was dismissed in April 2023

3.5 Communicating Environmental Management at KCGM Operations

In April 2024, environmental management was the focus topic of a Local Voices Survey. Key insights included the following:

The key insights of the focus topic 'environmental management'

In many areas of the focus topic – such as perceived transparency of environmental impacts, availability of information, proactive management of environmental impacts – sentiment was mixed. There was a high level of agreement that dust is impacting on people's business and/or residence (65% agreed).



The response indicated that KCGM's environmental management is an important factor within the community, requiring continued management and improvement of operational activities relating to environmental impacts. Following an extended dry summer period in early 2024, an internal working group was established with relevant operational and departmental representatives to identify and implement proactive measures to control fugitive emissions of dust, and improvements made when they are identified. This included the purchase of new water carts and significant upgrades to KCGM's air quality monitors to improve data availability and reliability.

Improved internal and external communication regarding KCGM's environmental practices and results became a key focus with regular opportunities for community feedback and consultation through public information sessions, promotion of site activities and in the local media.

Information Sessions

Northern Star presented a keynote address and hosted a booth at Kalgoorlie Boulder Chamber of Commerce and Industry's 2024 What's Down the Track - an industry forum with over 200 business owners, community leaders and government agencies in attendance. The focus was on KCGM's operations and growth plans, as well as environmental impact management.

In March 2024, KCGM's General Manager Growth (pictured below) and Manager Community and Heritage Australia presented to City of Kalgoorlie-Boulder elected members on KCGM's environmental management, as well as current and planned operational and growth activities.



Newspaper Advertisements

Published in The Kalgoorlie Miner: September 2024, October 2024, January 2025



Fimiston South - Extending the life of the Super Pit to 2034

Northern Star Resources has been busy preparing for the Fimiston South growth project at our KCGM Operations.

Work is underway on the realignment of the environmental noise bund at the southern end of the Super Pit. This is a vital step to ensure a noise barrier exists between the expanding Fimiston Open Pit and the City of Kalgoorlie-Boulder.

We have implemented strategies to alleviate the impacts of dust and noise as this temporary construction occurs; including additional water carts and stopping works in unfavourable wind conditions. Additional mobile monitors have been deployed to capture dust, noise and vibration levels.

Want to find out more? Visit www.superpit.com.au for details.

Visit: www.superpit.com.au/fimistonsouth

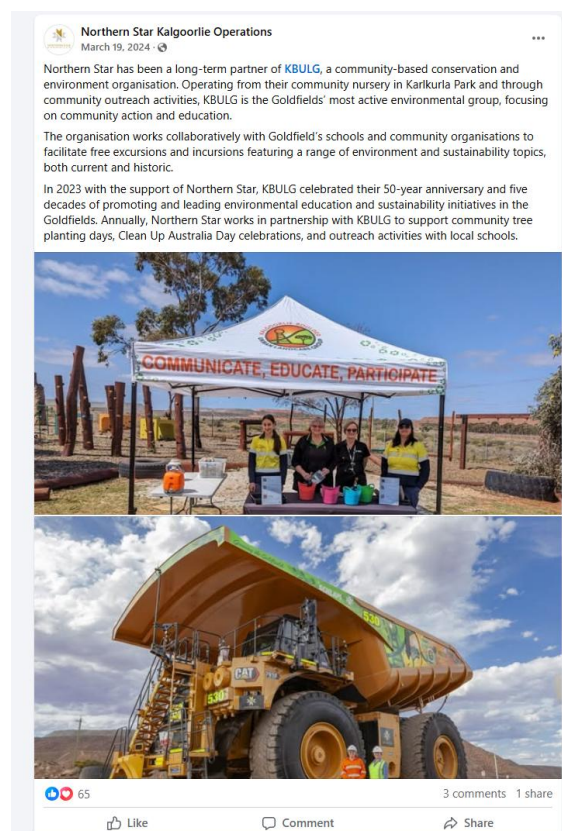
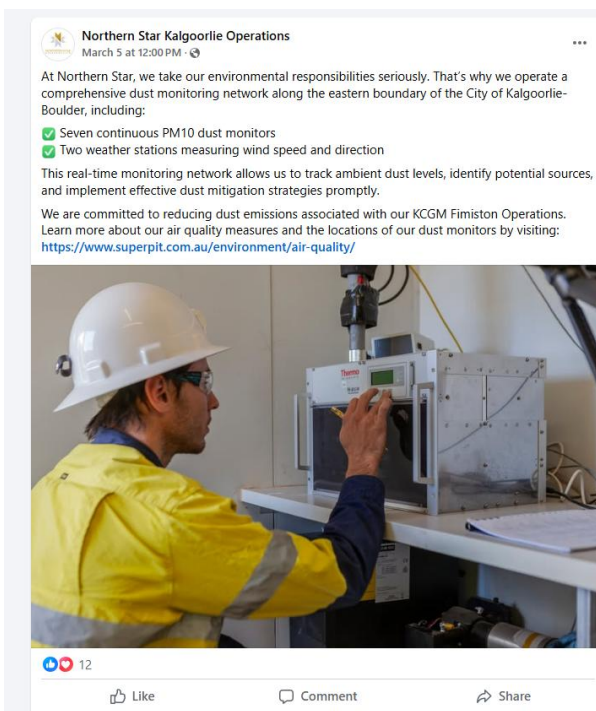
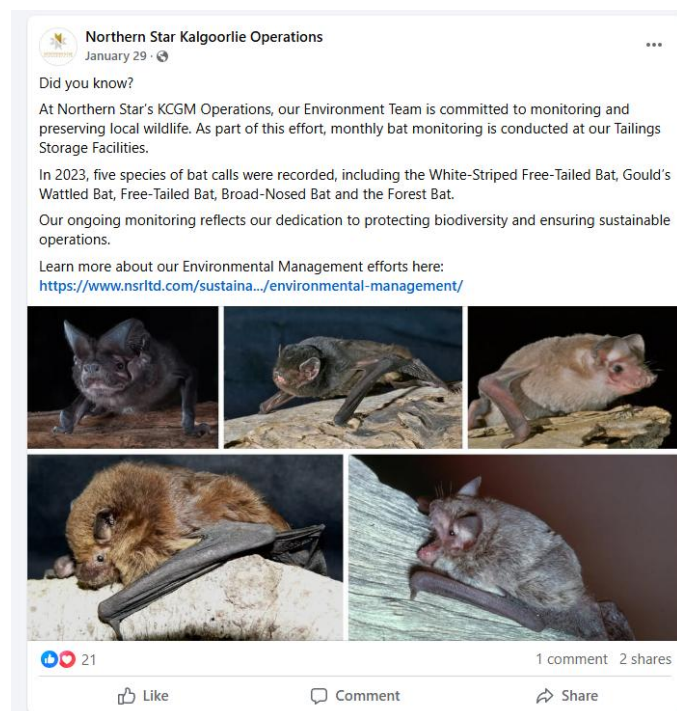
Call: (08) 9022 1100 - 24/7 Public Interaction Line

Local Voices: voconiqlocalvoices.com/kalgoorlie-boulder



Social Media

Northern Stars Kalgoorlie Operations' Facebook page has 48,000 followers. Examples of shared content includes:



School Engagement

Engagement continues with both our Environmental team and Community and Heritage team with local school groups for primary school age through to university groups, including school visits and on-site tours.



4 EXTERNAL PEER REVIEW AND BENCHMARKING

4.1 External Audits

During the 5 year review period there has been one external audit conducted by DWER.

On the 15-16 December 2020 two inspectors from DWER conducted a compliance inspection of the Fimiston Gold Mine Operations. The scope of this inspection was to assess compliance against the licence conditions as per instrument L6420/1988/14 (Part V) and MS188 and MS782 (Part IV) relating to emissions to the environment and the operation of the premises. The Part V inspection report from DWER, dated 12 February 2021, was received noting that it considered the inspection closed. A letter from DWER was also received on 10 March 2021 in relation to the Part IV audit, advising that KCGM was compliant with the implementation conditions of MS782.

Other external audits and desktop reviews that have been carried out during the review period have also included the Clean Energy Regulator in relation to compliance to NGERs, Cyanide Code audits and Independent Tailings Review Board (ITRB) audit.

4.2 Complaints

Between 2020 and 2024 there were a total of 64 complaints received relating to environmental aspects of the Fimiston Gold Mine Operations. Of these complaints, 39 were related to dust, 20 related to noise and 5 related to blasting and vibration. A summary of complaints for each of the relevant environmental aspects between 2020 and 2024 is provided in

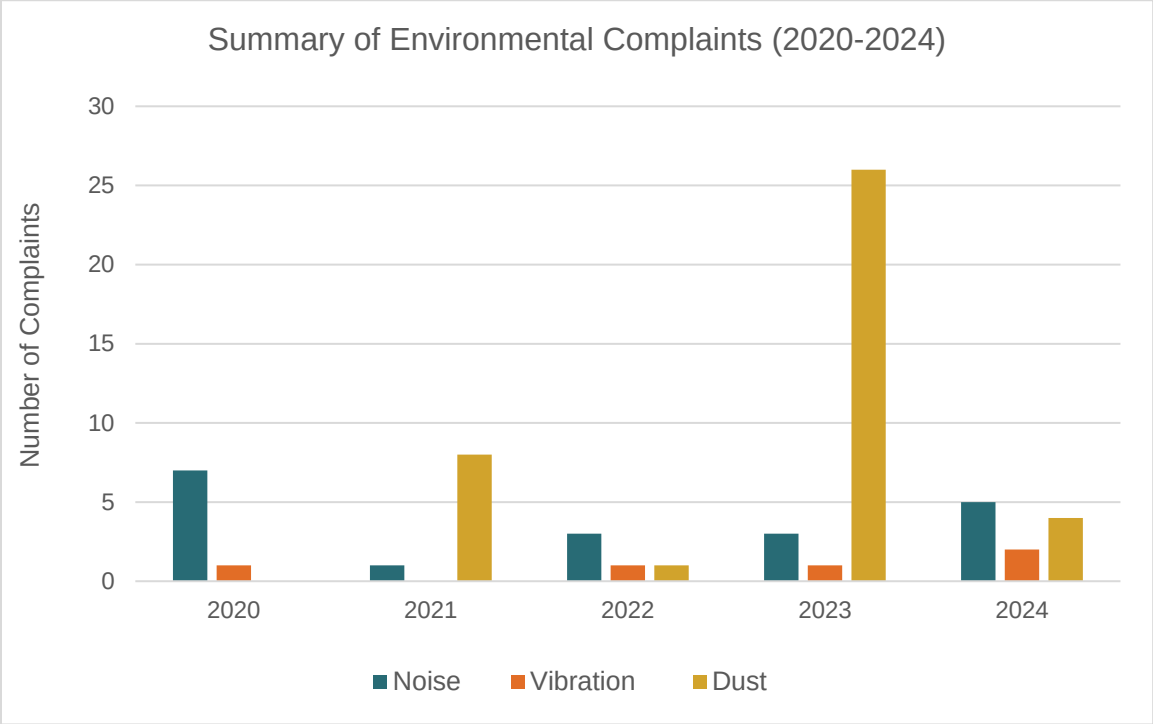


Figure 4-1.

Results of the complaint register for 2020 indicate that noise-related complaints comprised the highest proportion of complaints (87.5% of total complaints for 2020), followed by vibration related concerns (12.5%). In 2021, noise related complaints were greatly reduced (11.1% of total complaints for 2021) and no vibration complaints were received. However, a significant increase in dust related complaints was observed (88.8%), during this period. In 2022, the total number of complaints received was reduced to five, with noise comprising 60% of the complaints followed by vibration (20%) and dust (20%).

In 2023 there was a significant increase in complaints received with a total of 30. A significant portion of these complaints were related to dust (86.6% of total complaints for 2023), followed by noise (10%) and vibration (3.3%). The dust complaints were related to 9 separate dust events, with two of the events resulting in 13 complaints. Of the 9 dust events that resulted in a community complaint/s, only the one incident on 31 May 2023 was KCGM considered to be a significant contributor of the daily PM₁₀ dust concentration, resulting in a reportable dust exceedance.

The 2024 complaints data collated saw a decrease in total complaints, with a total of 13 received. Noise related complaints accounted for the largest portion of complaints (54% of total for 2024) followed by vibration (15%) and a reduction in dust complaints (31%) compared to the previous year.

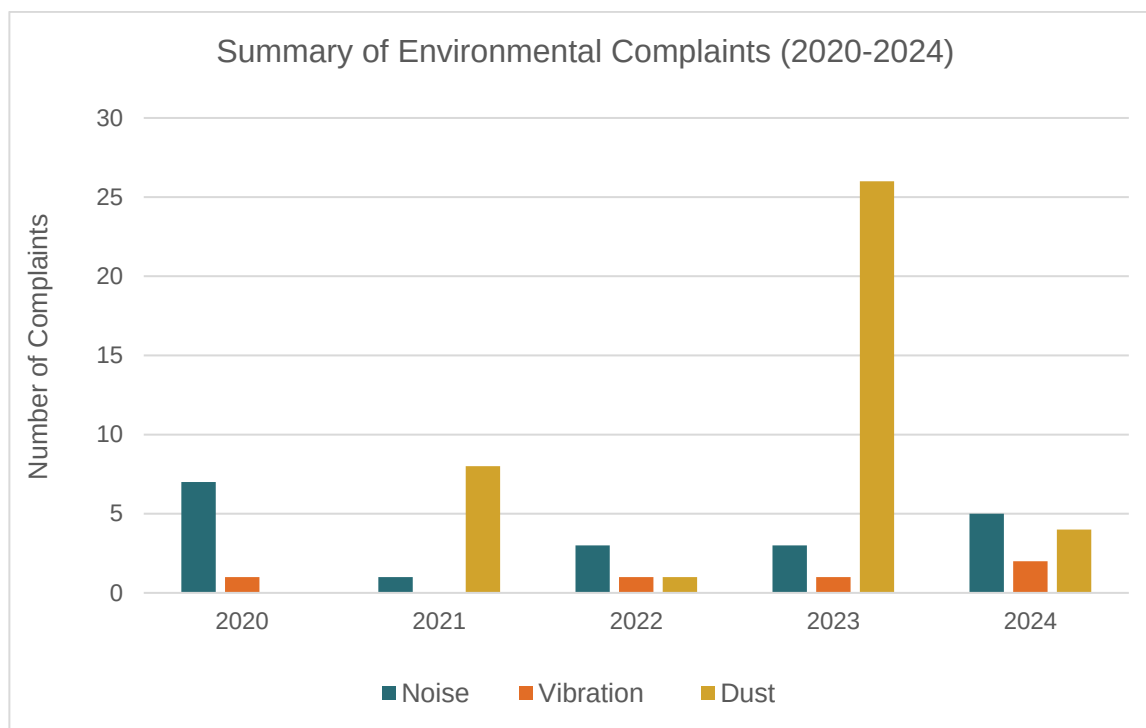


Figure 4-1 Summary of Environmental Complaints 2020-2024

4.3 Compliance

KCGM submits annual Compliance Assessment Reports (CAR) to DWER to ensure compliance against the conditions of MS782. Potential non-compliances and non-conformances reported to DWER during 2020 to 2024 are summarised below:

2021 Potential Non-Compliances

782:7-5 Air Quality: *“The proponent shall make available continuous dust monitoring data on their website within 24 hours of the recording of that data.”*

1. PM₁₀ monitoring data was not made available on the KCGM website within 24 hours of the recording of that data on one occasion on the 23 November 2021. A summary report of the daily dust monitoring data is made available on the Super Pit website daily via an automated process, with a manual process in place to check that the report has uploaded. Although this manual checking process identified that the 23 November 2021 report had not uploaded, it could not be automatically reloaded as on that day the Super Pit website was undergoing a migration to an alternative digital platform. The migration was successful, and the report was uploaded on the 24 November 2021. As a result of the event KCGM has implemented a process to upload the report manually, should the automated process fail.

2021 Potential Non-Conformances with Environmental Management Plans

There were 2 potential nonconformances identified relating to the Fimiston Air Quality Management Plan and the Noise and Vibration Monitoring and Management Plan during 2021.

1. Fimiston Air Quality Management Plan (Section 4.2.1) *“Complete quarterly calibration of dust monitoring equipment.”*

Quarterly calibrations of the dust monitoring equipment were completed during the audit period for Quarter 1 (18-20 January 2021), Quarter 2 (25-27 May 2021), and Quarter 3 (6-8 September 2021). However, the Quarter 4 calibrations, originally scheduled for December 2021, were delayed due to the unavailability of a specialist contractor and a delay in the arrival of replacement monitoring parts required to complete the calibration. The Quarter 4 calibrations were completed as soon as the specialist contractor and the replacement parts became available, and this was between 19-23 January 2022. As a result of this event KCGM has reviewed the scheduling of the dust monitor calibrations with future calibrations to be scheduled as close to the start of each quarter as practicable.

2. Noise and Vibration Monitoring and Management Plan (Section 5.2.5) *“The continuous noise monitoring equipment is NATA calibrated every two years.”*

The annual calibration of the blast monitors was scheduled to occur in Quarter 2, 2021. However, WA State Government COVID-19 travel restrictions prevented Texcel staff, who are Queensland based, from safely travelling to WA, without having to quarantine. The annual calibrations were conducted as soon as WA travel restrictions allowed Texcel staff to travel to WA. It's important to note that whilst the annual calibration of the blast monitors has been delayed, a performance check of the blast monitoring equipment is completed daily with a copy of the performance report sent to KCGM Drill and Blast personnel for quality assurance purposes.

2023 Potential Non-Compliances

782:9-3 Airblast Overpressure and Vibration from Blasting: *“The proponent shall ensure that all airblast overpressure levels due to blasting comply with Regulation 11 of the Environmental Protection (Noise) Regulations 1997”.*

1. On 19 April 2023, pre-split blast 160-24052A recorded an airblast overpressure reading of 116.1dB at Alpha blast monitoring station. Two days later, on 21 April 2023, blast 160-24052B recorded a reading at Alpha again of 118.2dB initiating the more than 1 in 10 consecutive blasts procedure above the approved level (115dB) at this monitoring site.
2. On 18 May 2023, one airblast overpressure exceedance of 120.5dB was recorded at the Alpha monitoring site following blast 170-2416 in the Fimiston Open Pit.

A review of the events shows no unusual blasting conditions and KCGM believes that the signals received by the blast monitor are representative of the blast events. KCGM is aware that the airblast limits do not apply to an airblast level received at premises, or a part of premises, on which the blaster has reasonable grounds to believe that no person is present at the time of the blast (as per Environmental Protection (Noise) Regulations 1997, Part 2, Division 2, r. 11 (5)). KCGM was unable to confirm if a person was present at the premises at the time of the blast

2023 Potential Non-Conformances with Environmental Management Plans

One potential non-conformance has been identified against the Fimiston Air Quality Management Plan (FAQMP): *“Not more than five events above the daily performance target at any dust monitoring location per annum where KCGM is a significant contributor”.*

1. During 2023, dust monitoring locations CLY and HOP recorded more than five events above the daily average of 50 µg/m³ where KCGM was considered a potential significant contributor. CLY recorded ten events and HOP recorded seven events.

2024 Potential Non-Conformances with Environmental Management Plans

One potential non-conformance has been identified against the Fimiston Air Quality Management Plan (FAQMP): “Not more than five events above the daily performance target at any dust monitoring location per annum where KCGM is a significant contributor”.

- 1. During 2024, dust monitoring location CLY recorded more than five events above the daily average of 50 µg/m³ where KCGM was considered a potential significant contributor. CLY recorded six events.

A summary of the details of each potential non-compliance and non-conformance recorded by KCGM regarding the Fimiston Open Pit Operations during the 5-Year Review Period is provided in Appendix B.

2024 Potential Non-Compliances

782:9-3 Airblast Overpressure and Vibration from Blasting: “The proponent shall ensure that all airblast overpressure levels due to blasting comply with Regulation 11 of the Environmental Protection (Noise) Regulations 1997”.

- 1. On 23 February 2024, Blasting oversize on the East Wall Remediation has resulted in overpressure exceedances at Alpha Monitor of 123.1dB on an allowable limit of 120dB. KCGM notified DWER of the exceedance on 29 February 2024.
- 2. On 6 April 2024, Blasting oversize on the East Wall Remediation has resulted in overpressure exceedances at Alpha Monitor of 121.3dB on an allowable limit of 120dB and at Charlie Monitor of 125.2dB on an allowable limit of 125dB. KCGM notified DWER of the exceedance on 11 April 2024.
- 3. On 7 July 2024, Blasting 170-3910 has resulted in overpressure exceedance at Delta Monitor of 124.9dB on an allowable limit of 115dB due to Sunday Blasting. KCGM notified DWER of the exceedance on 11 July 2024.

5 ENVIRONMENTAL PERFORMANCE REVIEW

5.1 Noise, Vibration and Airblast

5.1.1 Objective

Table 5-1 Noise, Vibration and Airblast objective

FACTOR	OBJECTIVE	MANAGEMENT PLAN
Noise, vibration and airblast	To manage noise emissions and blasting from the Fimiston Operations to minimise potential impacts to the residents of the City of Kalgoorlie-Boulder	Noise and Vibration Monitoring and Management Plan

5.1.2 Management Measures

5.1.2.1 Noise

Noise, Vibration and Airblast are managed under the Noise and Vibration Monitoring and Management Plan (NVMMMP). While routine measures are used to reduce noise generated by KCGM that may affect nearby residential areas, investigations (noise modelling undertaken in 1992) identified that a noise bund would lead to a significant reduction in noise levels from mine operations in residential areas. The original noise bund was constructed in 1993 with subsequent extensions to consider pit expansions. The bund now extends for more than six kilometres along the western edge of the Fimiston open pit.

Other measures aimed at reducing the risk of nuisance noise include:

- Restrictions on the use of certain equipment to daytime only;
- The use of high intensity magenta strobe lights on the ROM pad in lieu of a reversing alarm;
- The use of 'broadband' reversing alarms that produce a less tonal noise than traditional 'beeping' alarms on mining equipment;
- Adjustments to conveyor maintenance procedures; and
- The use of screening using sea containers to reduce noise emissions from exploration drilling activities when operating in close proximity to the community.

5.1.2.2 Vibration and Airblast

Blasting generates noise (airblast) and ground vibration, both of which have the potential to cause annoyance to nearby residents.

The key management measures employed by KCGM to mitigate potential impacts caused by blasting include:

- Restricting blasting times to daylight hours (between 07:00 and 18:00 hours) only, and on most occasions occurs at a publicised time each day (generally 13:00 or 17:00 hours). Whenever possible, explosives placed for surface blasts are fired when weather conditions are such that the impact of airblast and dust emissions on residential areas of Kalgoorlie-Boulder are minimised;
- Avoiding blasting on Sundays where possible;
- Internal procedures and training for blasting to ensure that the quality of the blast design and set up is within the set guidelines;
- Implementing a quality assurance (QA) system of continuous measurement and review of drilling, charging and firing practices to ensure the best possible outcomes from a blast. KCGM has completed several QA studies measuring every aspect of drilling and charging. The studies have revealed that the more intense the QA, the more accurate is the drill and blast process; and
- Selection of competent personnel and supervision to overcome the 'human factor' in the implementation of procedures and encouragement of a professional culture within the respective drilling and blasting crews. Any blasts which exceed the KCGM internal limits are investigated, and notification is provided to the people responsible for preparing the blast.

5.1.3 Key Performance Indicators

5.1.3.1 Noise Compliance Monitoring

KCGM operates under a set of approved noise levels ('compliance monitoring') which are defined within the Environmental Protection (Fimiston Gold Mine Noise Emissions) Approval 2016, outlined in Table 5-2. These approved noise levels apply at five reference locations within Kalgoorlie-Boulder as shown in Figure 5-6.

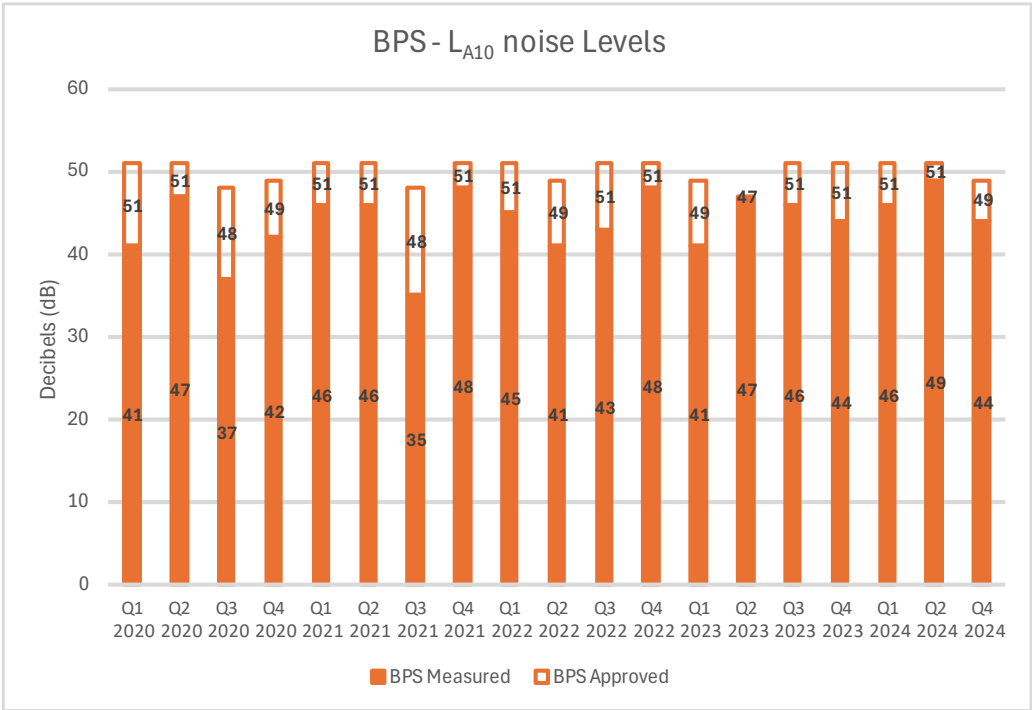
Table 5-2 Approved Noise Levels

LOCATION	APPROVED LEVEL (dB)	
	L _{A10}	L _{Amax}
BSW (Barton Street Williamstown)	45 + WIF	55 + WIF
BPS (Boulder Primary School)	45 + WIF	52 + WIF
KTS (Kalgoorlie Technical School)	45 + WIF	52 + WIF
OSB (Outram Street Boulder)	49 + WIF	60 + WIF

LOCATION	APPROVED LEVEL (dB)	
	L _{A10}	L _{Amax}
YSB (York Street Boulder)	49 + WIF	60 + WIF

Compliance noise monitoring is undertaken each quarter by specialist noise consultants during the evening and/or night periods to minimise the sources of contributing noise other than mining (i.e. traffic), and also as it represents the time of day that Kalgoorlie-Boulder residents are likely to be most affected by mining noise from the Fimiston Operations. These results have been provided to the DWER in the Quarterly Noise and Blast Reports published on the KCGM Superpit website.

For the five-year review period, the noise levels measured at the five reference locations have all complied with the key performance indicators. A compilation of the quarterly compliance noise monitoring results for L_{A10} and L_{Amax} at each of five reference locations has been provided in Figure 5-1 to Figure 5-5



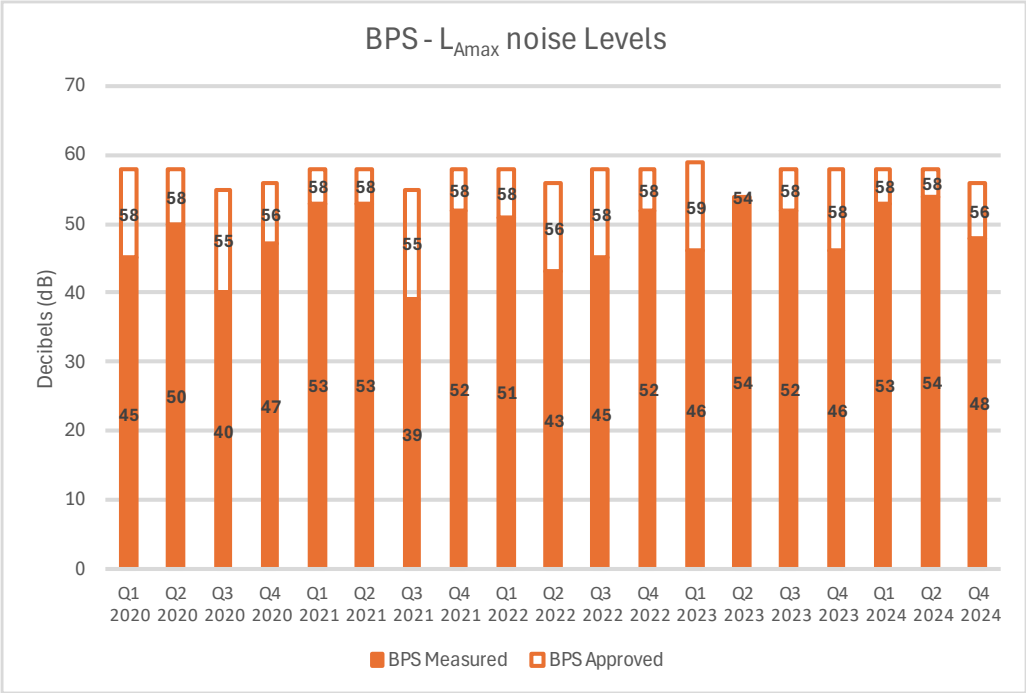
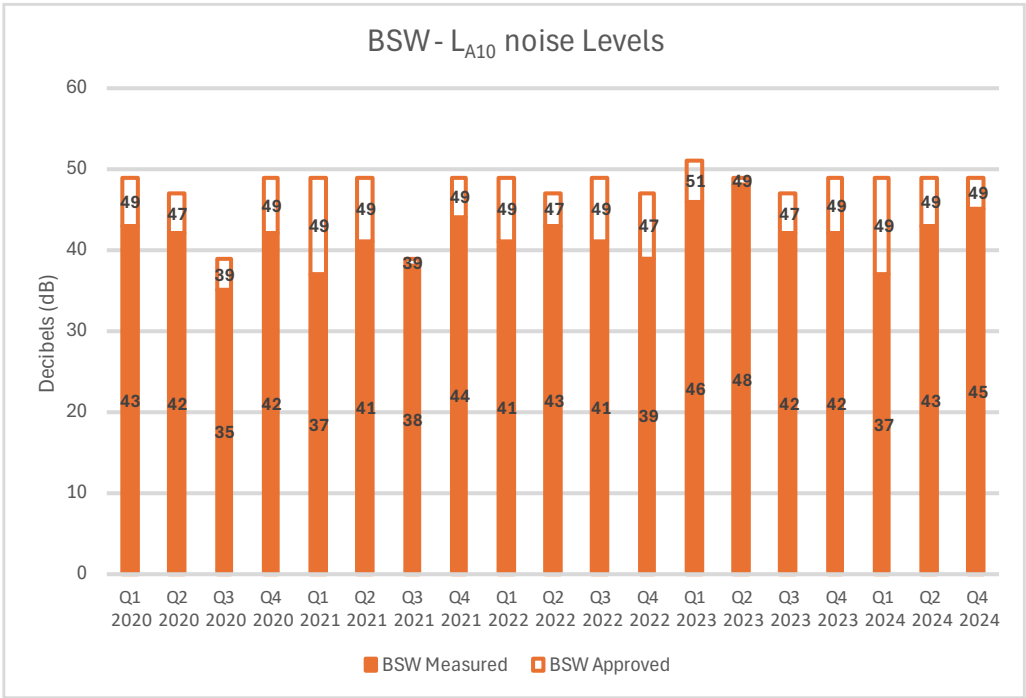


Figure 5-1 BPS – Compliance Noise Monitoring – L_{A10} and L_{Amax} Noise Levels



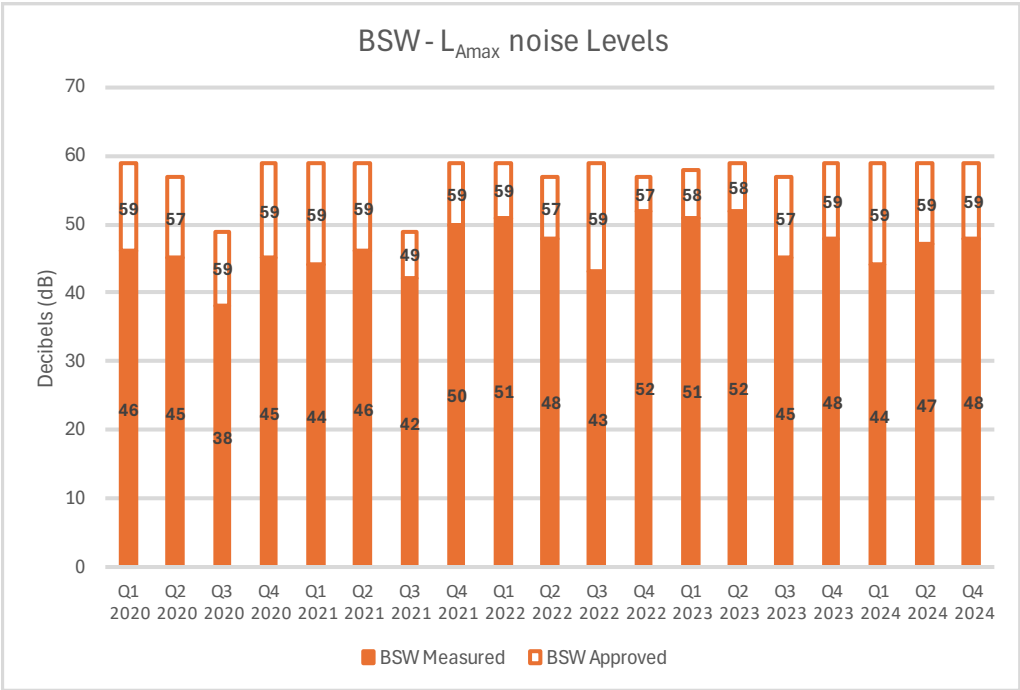
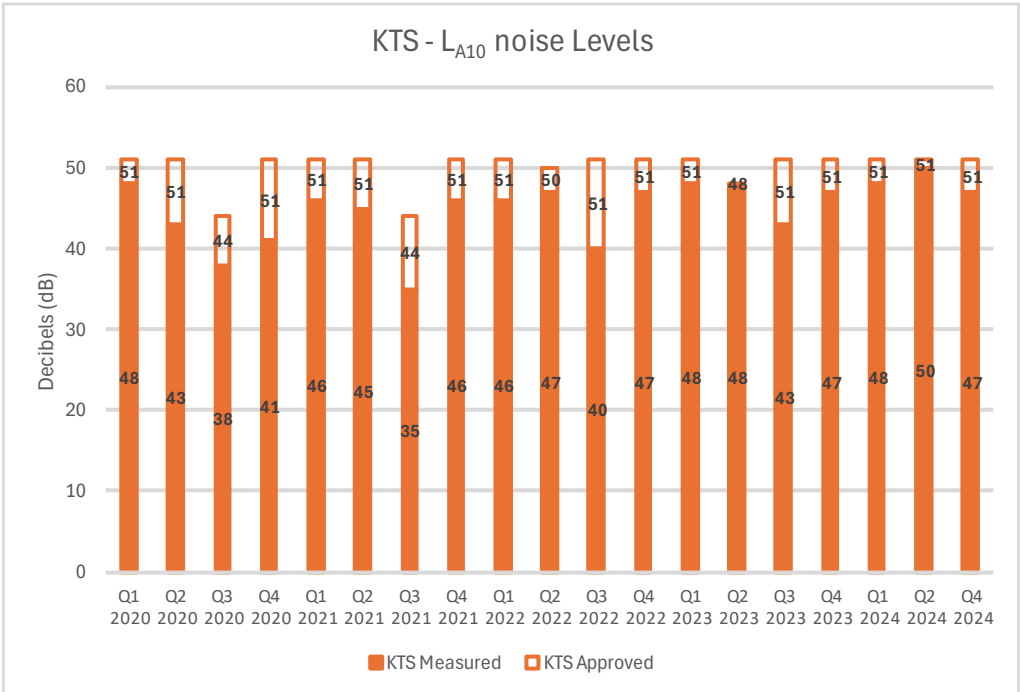


Figure 5-2 BSW – Compliance Noise Monitoring – L_{A10} and L_{Amax} Noise Levels



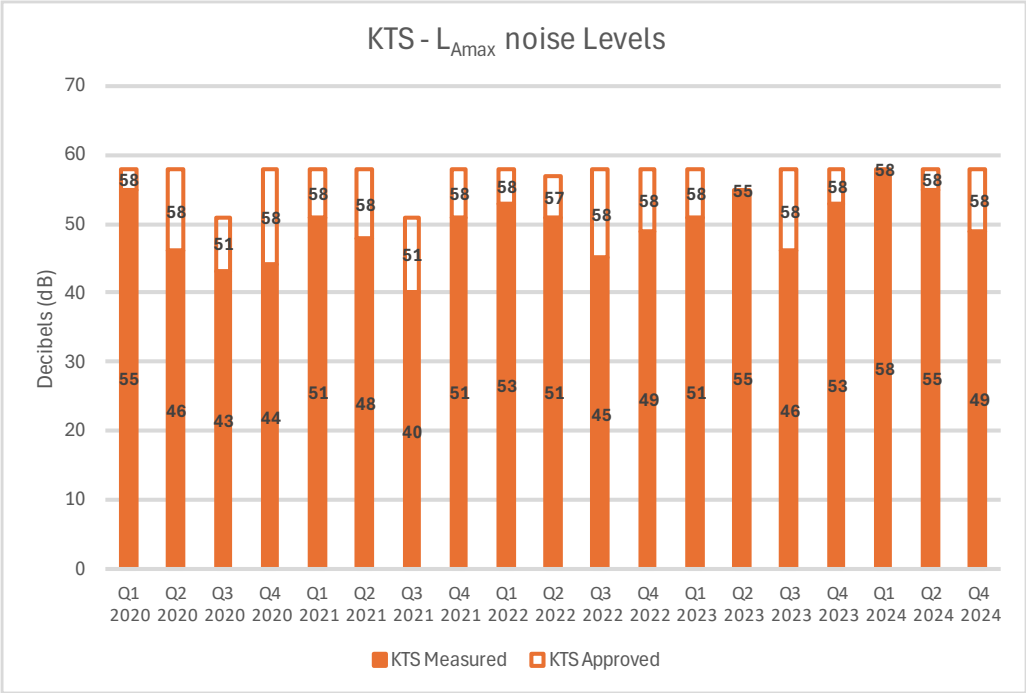
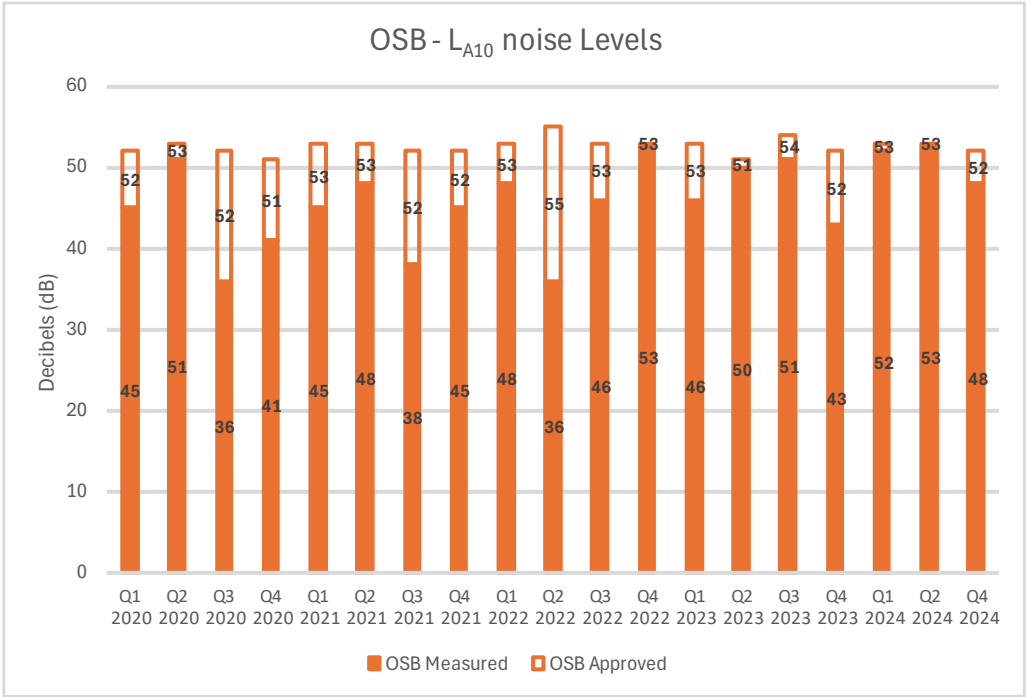


Figure 5-3 KTS – Compliance Noise Monitoring – L_{A10} and L_{Amax} Noise Levels



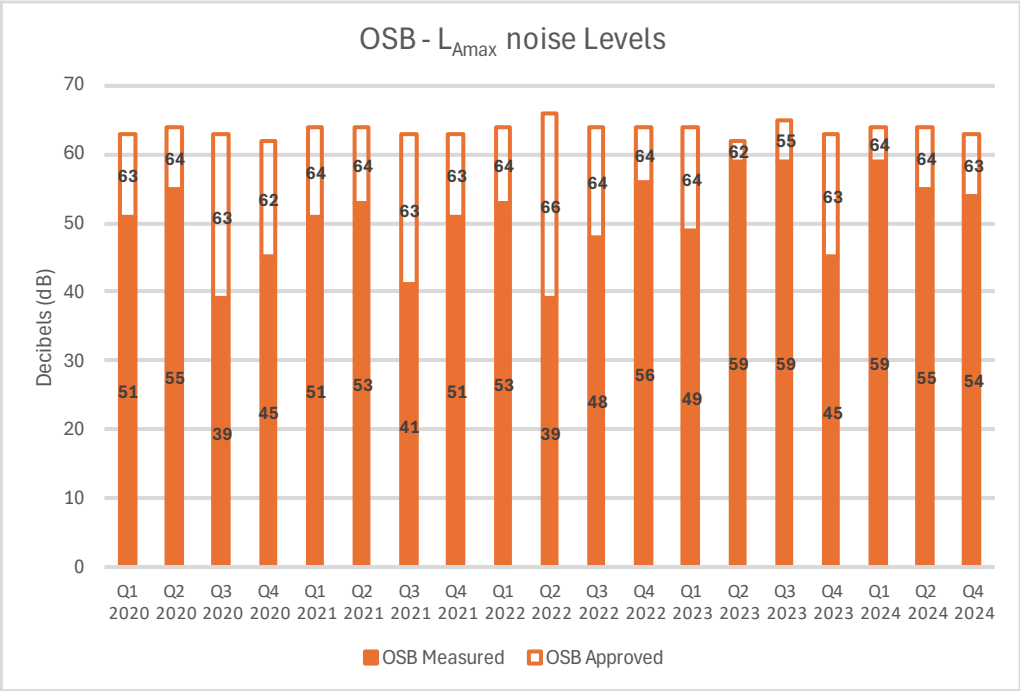
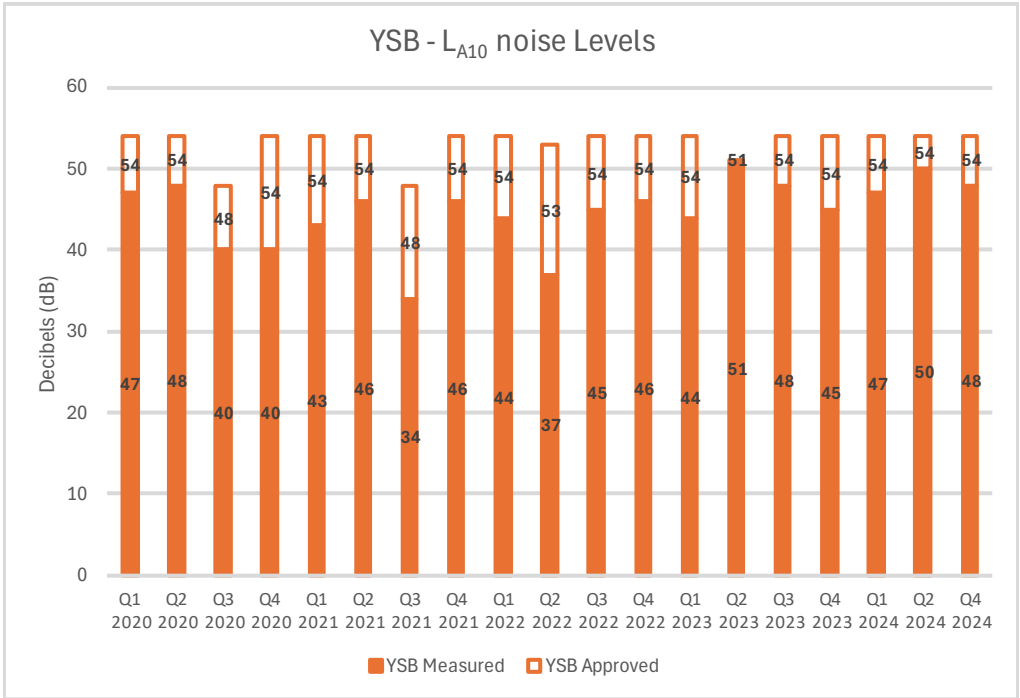


Figure 5-4 OSB – Compliance Noise Monitoring – L_{A10} and L_{Amax} Noise Levels



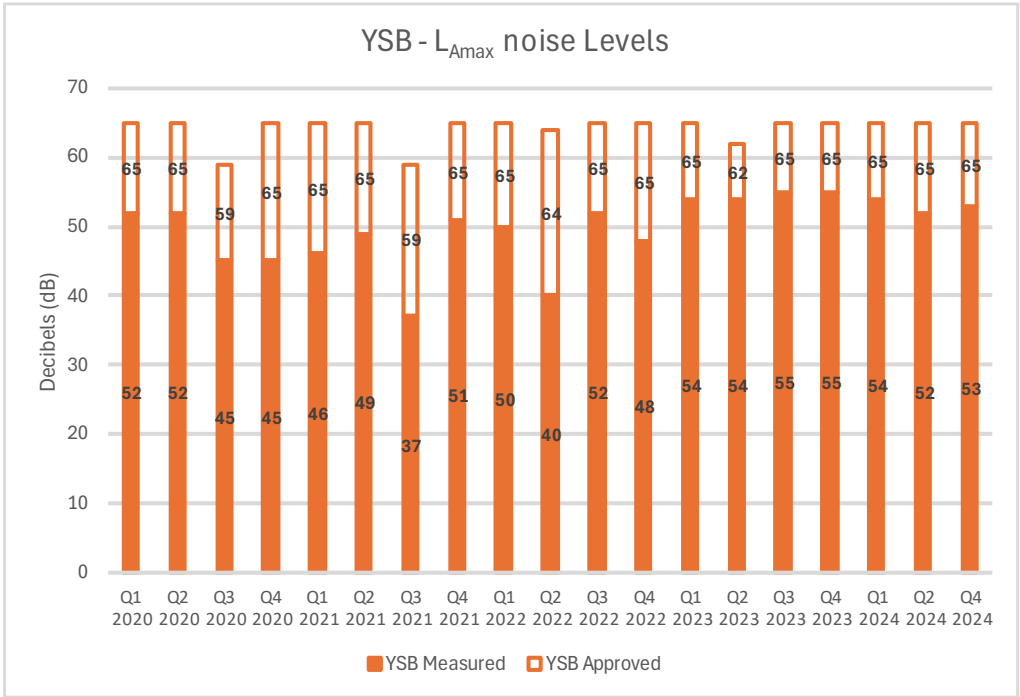


Figure 5-5 YSB – Compliance Noise Monitoring – L_{A10} and L_{Amax} Noise Levels

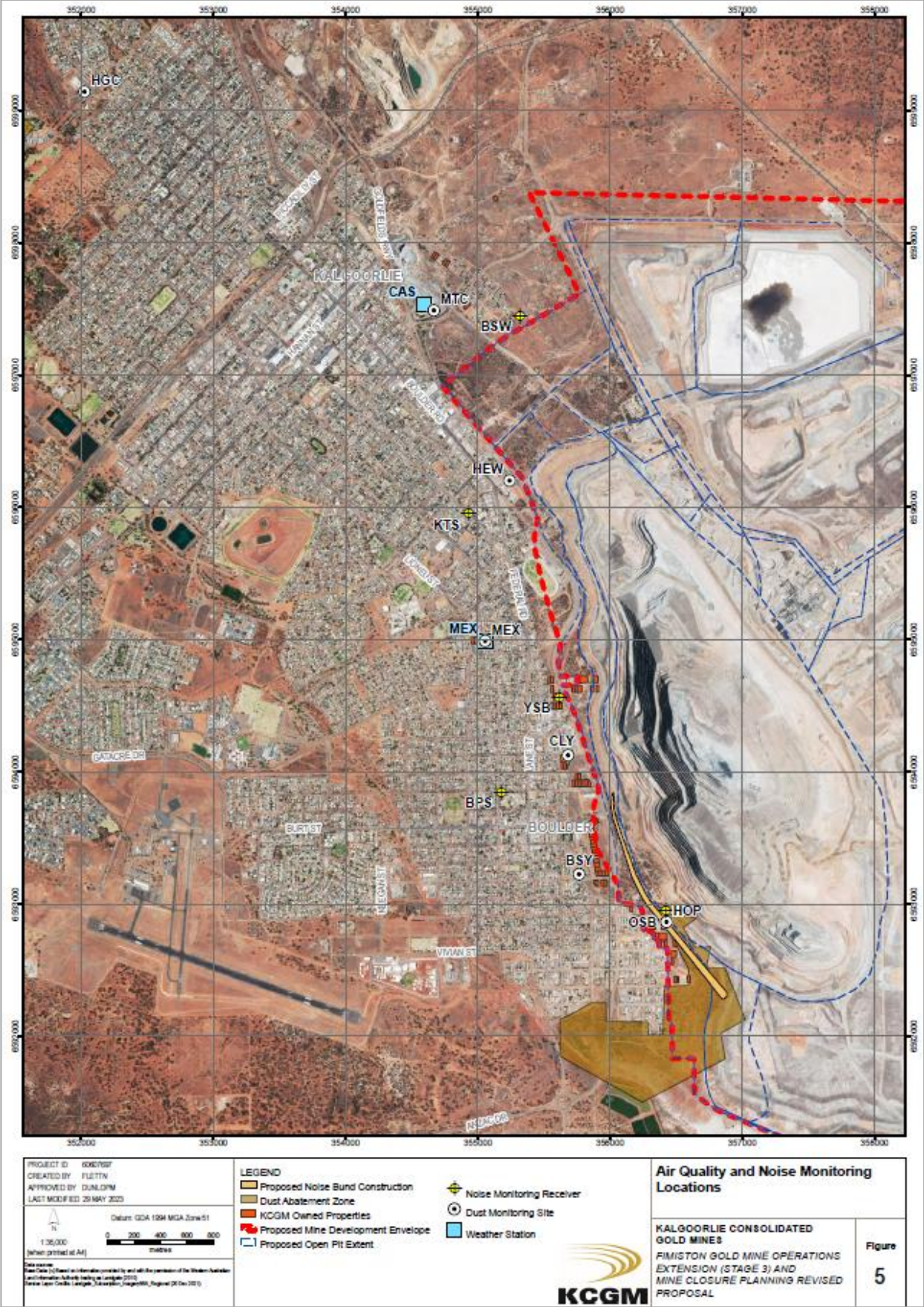


Figure 5-6 Noise (and Dust) Monitoring Locations

5.1.3.2 Noise: Continuous Monitoring

Continuous noise monitoring is also undertaken at Fimiston Operations. While not required for compliance purposes, it provides a reference for the comparison of noise levels over time. It is not a reliable indicator of noise from the mine as it also records noise from a range of other sources from the residential area e.g. traffic, workshops etc. There are no key performance indicators that apply.

Continuous noise monitoring has been conducted over the five-year review period at KTS, MEP and BPS. Monitoring data is provided in the Annual Noise Report as an average over the reporting period.

Noise levels during the 5 year review period have been consistent with those of previous years.

5.1.3.3 Blasting: Airblast Monitoring

Blasting creates an airborne shock wave ('airblast'), which is measured in LZ peak (the peak sound pressure level in decibels (dB) obtained using the "Z" frequency weighting characteristic). Monitoring of airblast is undertaken at six locations (see Table 5-3).

Table 5-3 Blast Monitoring Criteria - Airblast

SITE ID	SAMPLING FREQUENCY	TIME OF DAY	APPLICABLE STANDARDS OR LIMITS
Alpha	Each blast	0700 to 1800 hours Any Day	No blast greater than 120 dB L _Z peak 9 in any 10 consecutive blasts less than 115 dB L _Z peak
Bravo, Charlie, Delta	Each blast	0700 to 1800 hours Monday to Saturday (excluding public holidays)	No blast greater than 125 dB L _Z peak 9 in any 10 consecutive blasts less than 120 dB L _Z peak
		0700 to 1800 hours Sunday and public holidays	No blast greater than 120 dB L _Z peak 9 in any 10 consecutive blasts less than 115 dB L _Z peak
Echo, Foxtrot	Each blast	0700 to 1800 hours Any Day	No blast greater than 125 dB L _Z peak 9 in any 10 consecutive blasts less than 120 dB L _Z peak
Alpha, Bravo, Charlie, Delta, Echo, Foxtrot	Each blast	1800 to 0700 hours	No blast greater than 90 dB L _Z peak

During the five-year review period, six potential non-compliances were identified and reported against MS782 Condition 9-3. A summary of the locations is provided in Table 5-4

Table 5-4 Summary of Potential Airblast Non-Compliances 2020-2024

YEAR	TOTAL NUMBER OF BLASTS	NUMBER OF POTENTIAL NON-COMPLIANT AIRBLASTS AT EACH MONITORING SITE					
		ALPHA	BRAVO	CHARLIE	DELTA	ECHO	FOXTROT
2020	278	0	0	0	0	0	0
2021	264	0	0	0	0	0	0
2022	245	0	0	0	0	0	0
2023	261	2	0	0	0	0	0
2024	306	2	0	1	1	0	0

5.1.3.4 Blasting: Vibration Monitoring

Blasting also causes ground vibration, which is measured in terms of peak particle velocity (ppv) in mm/s. Monitoring of ground vibration is undertaken at six locations (see Table 5-5 and Figure 5-7).

Emission limits also apply to ground vibration. Limits are set to minimise annoyance and are well below levels that could give rise to damage to competent structures. For KCGM, the levels that apply are outlined in the following table.

Table 5-5 Blast Monitoring Criteria - Vibration

SITE ID	SAMPLING FREQUENCY	APPLICABLE STANDARDS OR LIMITS
Alpha, Bravo Charlie, Delta, Echo, Foxtrot	Each blast	Shall not exceed 5 mm/s for 90% of blasts per year Shall not to exceed 10 mm/s for any blast No more than one in ten consecutive blasts shall exceed 5 mm/s

For monitoring purposes, KCGM assesses each blast to determine whether a 'blast event' has occurred. All blasts are monitored but unless a blast exceeds an internal vibration level of 0.5 mm/s at one or more monitoring points (a 'blast event'), it is not considered further in monitoring records.

In the last five years, all blasts have been compliant with condition 9-5 of MS782.



5.1.3.5 Monitoring (Sunday blasting)

Under MS782, KCGM is also required to “make all reasonable effort to avoid blasting on Sundays”. The number of Sunday blast events recorded during the period 2020-2024 is shown in Figure 5-8.

The number of blasts on a Sunday ranged from 16 in 2020 to 32 in 2023. Blasts are generally not scheduled on Sundays and each internal request to do so is subject to a multi-departmental review that considers the likely impact to nearby residents and the wider community. In most instances, the decisions to blast on a Sunday were primarily due to safety concerns and adverse weather conditions (e.g. opportunity to fire under favourable wind conditions to mitigate the potential for dust impacts on local residents). It is important to note that no complaints or queries have been received as a result of these Sunday blasts.

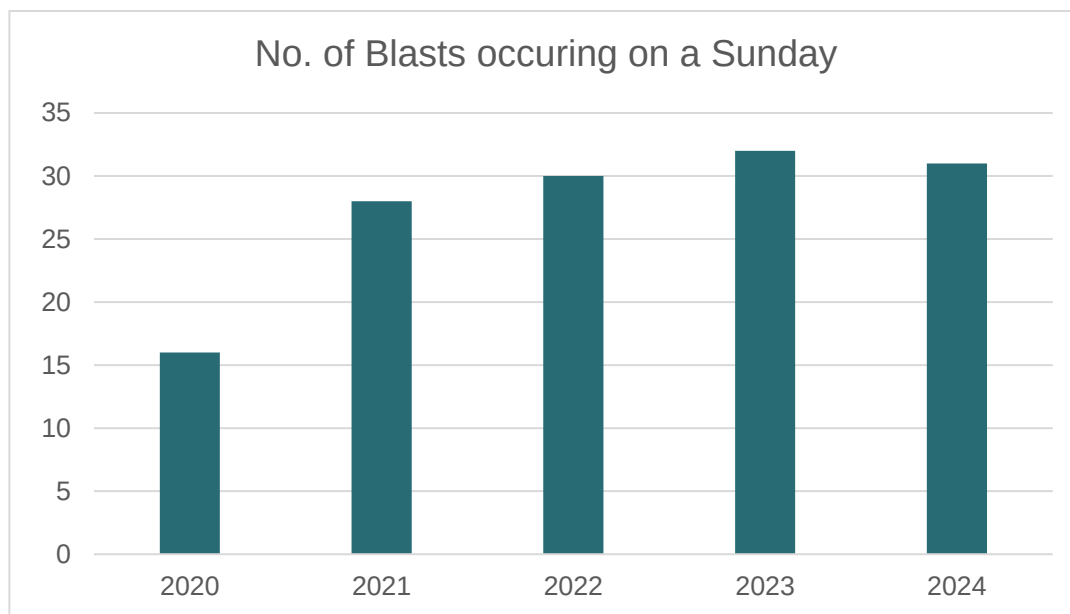


Figure 5-8 Number of Blasts occurring on a Sunday 2020-2024

5.1.4 Initiatives and Developments

KCGM has also been proactive in research and development in less invasive blasting techniques while still achieving the mining outcomes required. Initiatives include:

- The ‘near field’ vibration study to further understanding of how the rock behaves when subject to the pressure waves of a blast and ‘fine tune’ blasting methods to minimise blasting vibration;
- Continued research into the use of electronic detonators, driven in part from the perceived environmental benefits (reduced vibration) of extremely accurate timing that is ‘customised’ for ground conditions;
- Studies of ‘domain blasting’ where the rock strength is predicted by examining the penetration rate of drills or studying the geology of the area. The aim of the exercise is to have a formal prediction process that prevents weaker rock areas being overcharged, which can lead to elevated airblast levels; and
- Use of a high-speed camera capable of showing blasts in one two-thousandth of a second frames to provide a better understanding of what processes are leading to unfavourable events within blasts.

5.1.5 Discussion

Monitoring indicates over the five-year review period that there have been a total of six potential non-compliances relating to airblasts at the Fimiston Operations. These incidents occurred between 2023 and 2024 and are summarised in Section 4.2 and Appendix B.

A review of the events shows no unusual blasting conditions and KCGM believes that the signals received by the blast monitor/s are representative of the blast events. KCGM is aware that the airblast limits do not apply to an airblast level received at premises, or a part of premises, on which the blaster has reasonable grounds to believe that no person is present at the time of the blast (as per Environmental Protection (Noise) Regulations 1997, Part 2, Division 2, r. 11 (5)). KCGM was unable to confirm if a person was present at the premises at the time of the blast.

Production blasting at KCGM is carefully managed to minimise potential impacts on the residents of Kalgoorlie-Boulder. The blast monitors are routinely checked and calibrated annually to ensure accuracy. It is important to note that no complaints or enquiries have been received as a result of these overpressure events.

5.2 Air Quality

5.2.1 Objective

Table 5-6 Air Quality Objective

FACTOR	OBJECTIVE	MANAGEMENT PLAN
Air quality	To proactively manage the Fimiston Operations to ensure that the 24 hours average PM ₁₀ concentrations as a result of KCGM's emissions are less than 50ug/m ³	- Fimiston Air Quality Management Plan - Dust Monitoring and Management Program - Mercury Emissions Management Plan - Blasting Dust Management Plan

5.2.2 Management Measures

Air quality is managed under the Fimiston Air Quality Management Plan (FAQMP). KCGM routinely implements dust control strategies including:

- Monitoring current and forecast weather conditions using daily weather forecasts and real time wind speed and direction monitoring data to plan work activities, particularly activities such as blasting which have the potential to produce significant dust levels over a short period;
- Use of water trucks and water cannons in areas that produce dust such as haul roads, service corridors and other active surfaces. Potable water is used on areas to be rehabilitated;
- Use of additional dust control measures where practical (e.g. a dust binding agent);
- Progressive rehabilitation to minimise exposed areas;
- Suspending work in a particular area or for a nominated activity as deemed necessary based on inspections, dust alarms, public feedback or prevailing wind conditions; and
- Use an alternative operational area if possible (e.g. use a different waste rock dump).

KCGM ensures all contractors and staff undertake site-specific inductions which include awareness of the importance of dust control. Ongoing consultation with stakeholders is undertaken to get their view of the success of the dust management measures.

5.2.2.1 Monitoring

KCGM conducts ambient PM₁₀ dust monitoring in accordance with the requirements of the Dust Monitoring and Management Program (DMMP), as specified within the FAQMP. The dust monitoring criteria are detailed in Table 5-7 below.

Table 5-7 Dust Monitoring Criteria

MONITORING PROGRAMME	SITE ID	SAMPLING FREQUENCY	PARAMETER	DAILY PERFORMANCE CRITERIA
Ambient PM ₁₀	HEW (Hewitt Street) CLY (Clancy Street) HOP (Hopkins Street) BSY (Boulder Shire Yard, Forrest Street) MEX (Metals Exploration Yard, Holmes Street) MTC (Mount Charlotte) HGC (Hannans Golf Course)	5-minute averages calculated from continuous monitoring	PM ₁₀	24-hour average less than 50 µg/m ³

KCGM uses data from its dust monitoring network (see Figure 5-9) (seven continuous PM₁₀ monitors and two wind speed and direction monitors) to assess the potential contribution of mining operations to any elevated concentrations.

The MTC and MEX PM₁₀ monitors are located near the wind speed and wind direction monitoring stations CAS and MEX respectively; these two dust monitoring sites were installed to comply with condition 7-6 of MS782.

The HGC site is primarily used as a control/background monitoring site for PM₁₀ as it is located some 4.5 km from the Fimiston Operations. It is representative of the local environment and data enables comparison of background levels with the other monitoring sites.

Mercury emissions from the Fimiston Processing Plant are monitored under the Fimiston Emissions Reduction Project (ERP). The Fimiston ERP is designed to capture greater than 90% of the atmospheric mercury emissions associated with mineral processing activities. The Fimiston ERP uses an Off-Gas Cleaning Circuit (KOGCC) comprising an exhaust off-gas wet scrubber, a regenerative thermal oxidiser (RTO), and a sulphur-impregnated carbon scrubber to capture mercury from the carbon regeneration kilns off-gas prior to release. A mercury report unit installed in the gold room reduces mercury emissions from the furnace. In February 2021, the Fimiston ERP was approved by DWER, authorising the operation of the Kiln Off Gas Cleaning System and the storage of mercury onsite.

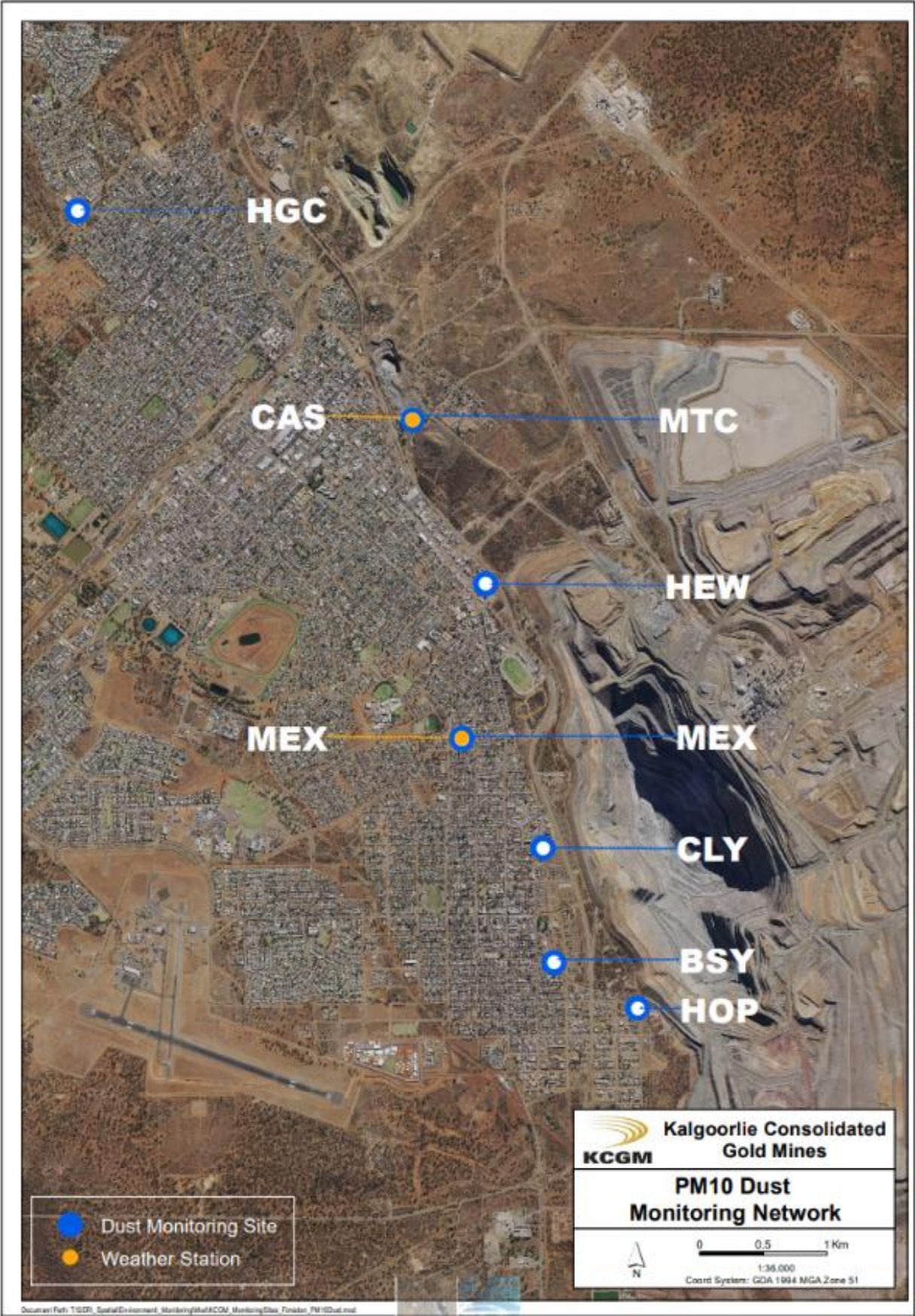


Figure 5-9 PM₁₀ Dust Monitoring Network

5.2.3 Key Performance Indicators

5.2.3.1 Particulate Matter (PM₁₀)

The data obtained by the PM₁₀ monitoring program is used to generate 24-hour average concentrations for comparison against the National Environmental Protection (Ambient Air Quality) Measure (NEPM) PM₁₀ standard of 50 µg/m³.

The 24-hour average PM₁₀ concentrations measured at each site are contained in the KCGM Dust Monitoring Report which is available on the KCGM website (www.superpit.com.au) within 24 hours of the data being recorded. The provision of the KCGM Dust Monitoring Report meets the requirements of Condition 7-5 of MS782.

Where a 24-hour average PM₁₀ concentration of greater than 50 µg/m³ is recorded (a "PM₁₀ Dust Event"), KCGM completes a review of the monitoring data, in combination with meteorological and operational data. The data from PM₁₀ monitors, in combination with the wind data, are used to identify the potential sources of the emissions using back trajectory analysis techniques. If several of the monitors are recording high PM₁₀ concentrations at any one time, this may indicate that the emissions are from more regional sources rather than KCGM-specific sources.

Where KCGM is considered to be a significant contributor, further assessment is undertaken to identify the likely source of dust (i.e. mining operations, vehicle movements and/or wind erosion). KCGM report the findings of these assessments to DWER (Industry Regulation and EPA Services) and the Department of Health. Corrective actions arising from these assessments are recommended where appropriate.

The FAQMP specifies a performance target of no more than five PM₁₀ Dust Events at any dust monitoring site per annum where KCGM is considered to be a significant contributor.

During 2020, there were 46 days where 24-hour average PM₁₀ concentrations of greater than 50 µg/m³ were recorded at one or more of the six active monitoring stations. KCGM was considered a significant contributor on four of these days.

During 2021, there were 24 days where 24-hour average PM₁₀ concentrations of greater than 50 µg/m³ were recorded at one or more of the six active monitoring stations. KCGM was considered to be a significant contributor on three of these days.

During 2022, there were 21 days where 24-hour average PM₁₀ concentrations of greater than 50 µg/m³ were recorded at one or more of the six active monitoring stations. KCGM was considered to be a significant contributor on eight of these days.

During 2023, there were 89 days where 24-hour average PM₁₀ concentrations of greater than 50 µg/m³ were recorded at one or more of the six active monitoring stations. KCGM was considered to be a significant contributor on 25 of these days.

During 2024, there were 37 days where 24-hour average PM₁₀ concentrations of greater than 50 µg/m³ were recorded at one or more of the six active monitoring sites. KCGM was considered to be a significant contributor on 10 of these days.

A summary of the total number of recorded events where the 24-hour average PM₁₀ concentration exceeded µg/m³ is shown in Table 5-8. All PM₁₀ exceedance readings where KCGM was identified as a significant contributor to the dust event were reported to the DWER and DoH within seven days of the event date in accordance with the FAQMP. Figure 5-10 shows the number of reportable events across the dust monitoring sites during the review period.

Table 5-8 Summary of Reportable PM₁₀ Events 2020-2024

YEAR	NUMBER OF 24-HOUR AVERAGE PM ₁₀ CONCENTRATIONS ABOVE 50UG/M ³						
	HGC	BSY	HEW	CLY	HOP	MTC	MEX
2020	2	4	12 (1)	11 (3)	7	6	4
2021	0	0	7	10 (2)	4 (1)	3	0
2022	0	0	2 (1)	5 (1)	9 (4)	2	3 (2)
2023	3	10 (3)	27 (4)	23 (10)	17 (7)	6	3 (1)
2024	0	3 (1)	6(1)	12 (6)	4	9	3 (2)

Note: The value in brackets represents the number of occasions KCGM was identified as a significant contributor to the dust event. These events were reported to DWER and DoH within seven days in accordance with the FAQMP commitments.

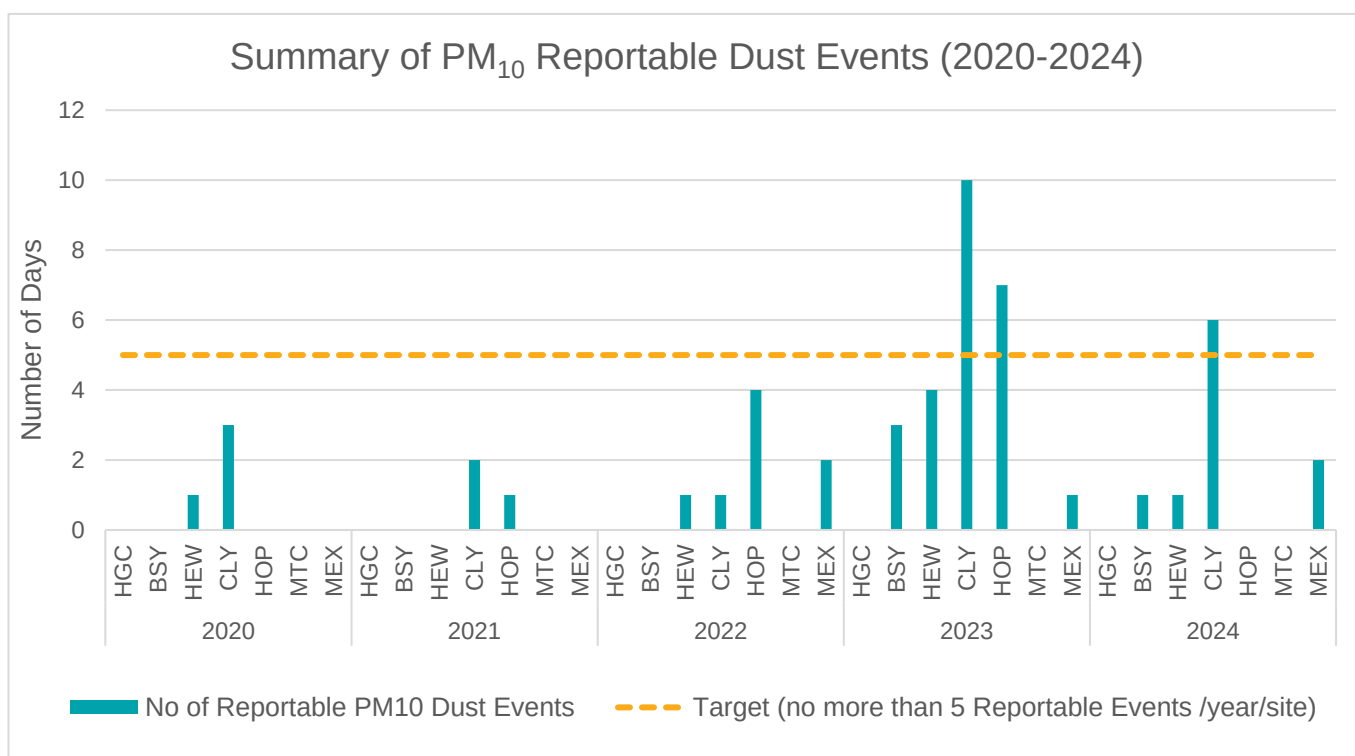


Figure 5-10 Reportable PM₁₀ Dust Events Across Monitoring Sites 2020-2024

5.2.3.2 Mercury

In accordance with the FAQMP, mercury emissions from the carbon regeneration kilns are estimated via a mass/balance calculation and the data is submitted annually to the National Pollutant Inventory (NPI, <http://www.npi.gov.au/>). There is no target level of mercury emissions but, as outlined in the previous section, work has been underway in the Fimiston ERP, to significantly reduce mercury emissions from the Fimiston Processing Plant. While the emission loads are measured indirectly through calculations, the results are supported by stack testing. Results of the stack and exhaust testing for the carbon kiln demonstrate annual mercury emissions have fallen to close to zero, as shown in Table 5-9 and Figure 5-11.

Table 5-9 Summary of Total Mercury Emissions 2020-2024

YEAR	TOTAL MERCURY EMISSION (KG)
2020	0.166
2021	0.484
2022	0.79
2023	0.032
2024*	0.021

*Total mercury emissions for 2024 represent the results between January 2024 and June 2024 as this is aligned with the NPI financial year reporting period.

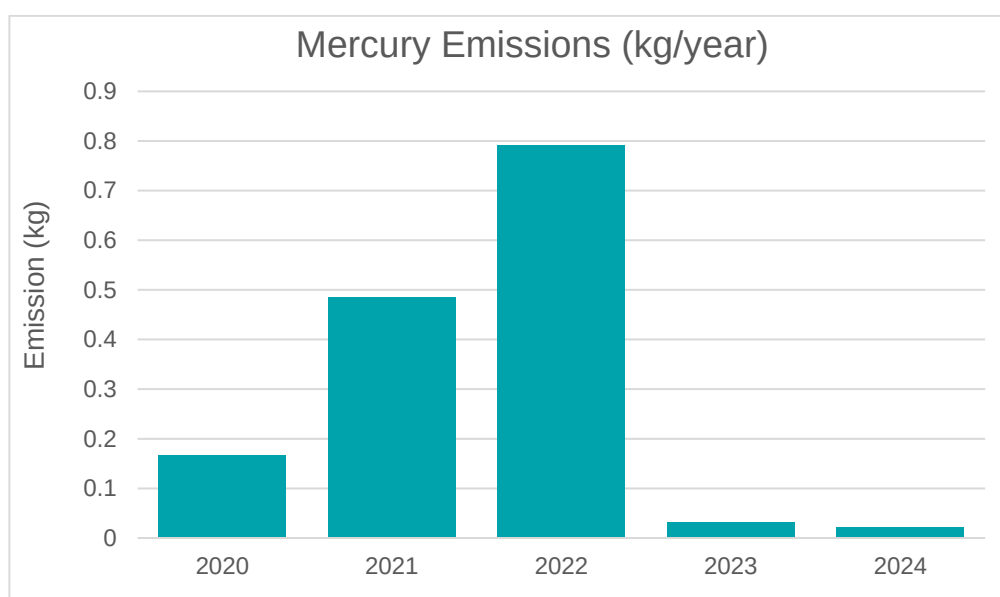


Figure 5-11 Annual Mercury Emissions 2020-2024

5.2.4 Initiatives and Developments

KCGM has implemented several measures to improve management of air quality. This includes:

- Increasing awareness and communications with our mine planning and operational teams to ensure appropriate actions are taken to control fugitive emissions of dust;
- Targeted training for the Dispatch team to help increase response times to visible dust observations and implement mitigation measures when alerts or alarms are triggered. The Dispatch team are primarily responsible for providing direction, communication and coordination of personnel and equipment within the Fimiston Open Pit operations;
- Incorporating weather forecast reviews into daily planning to anticipate potential dust generation;
- Optimizing the use of water carts, with two additional water carts added to KCGM's mining fleet expected in mid-2025;
- Where dust exceedances are detected the Incident Cause Analysis Methodology (ICAM) is used to investigate and determine the source/origins; and

- Ongoing internal review of dust monitoring data through an air quality consultant to identify site specific emission sources and develop mitigation strategies.

In addition, during 2024 KCGM made significant capital investments to the hardware and software of the air quality monitoring network by upgrading all seven particulate dust monitors to newer models – Thermo 5014i Beta Attenuation Monitors (BAMs) and transitioning to a new ‘SmartOps Enviro’ integrated data monitoring platform. The new cloud-based data monitoring platform will allow for a more streamlined, supported, and reliable integrated system.

5.2.5 Discussion

KCGM has made significant developments over the five-year review period with the management of PM₁₀ dust and mercury emissions. However, three exceedances of the FAQMP target (<5 reportable events per year) were observed in the last 5 years, two in 2023 for sites CLY and HOP and one in 2024 for site CLY.

Significant reductions in gaseous mercury emissions were observed following implementation of the Fimiston emissions reduction project at the Fimiston Processing Plant.

During the next five-year review period KCGM aims to achieve the following objectives:

- Complete the transition to ‘SmartOps Enviro’ integrated data monitoring platform;
- Complete installation of real-time optical cameras at the PM₁₀ monitoring stations;
- Develop a site-specific Trigger Action Response Plan (TARP) to support the FAQMP;
- Continue to engage our Air Quality consultant to undertake regular reviews of our dust monitoring data and an analysis of onsite dust emissions and mitigation strategies tailored to each operational area;
- Develop additional training and awareness material to enhance dust mitigation and control content in site inductions; and
- Improve and promote the publicly available information such as daily blast notices, dust monitoring data and management plans to increase engagement with community stakeholders relating to KCGM’s operational activities and its ongoing management of potential environmental impacts.

5.3 Rehabilitation and Closure

5.3.1 Objective

Table 5-10 Closure Objective

FACTOR	OBJECTIVE	MANAGEMENT PLAN
Rehabilitation and Closure	Undertake 3 yearly updates and improvements to technical knowledge and planning/scheduling in the Mine Closure Plan to ensure that it reliably reflects the current operations. Undertake successful, cost effective, risk based progressive rehabilitation on site	Mine Closure Plan (2022 v2)

To meet this objective, KCGM continues to:

- Integrate closure opportunities into operational planning and implementation;
- Ensure a risk-based approach; and

- Develop and document closure designs and other technical closure requirements.

KCGM's overall post closure objectives for rehabilitation are documented in the most current version of the Mine Closure Plan (MCP 2022 v2). Post closure land use for Fimiston is 'modified landscape' for most areas, with some areas having an additional criteria of 'restricted access' due to safety.

To achieve the required outcomes, the following is implemented;

- Implementation of rehabilitation designs;
- Implementation of the Visual Amenity Concept;
- Minimise long term environmental impacts; and
- Minimise closure costs and liability through:
 - Integration of closure planning into operational aspects of the business; and
 - Progressive rehabilitation.

5.3.2 Management Measures

Planning for rehabilitation and closure of the Fimiston Operations is well advanced and KCGM has an approved Mine Closure Plan (MCP) under the Mining Act 1978 and operates in accordance with condition 11 of MS782. The approach to rehabilitation and closure evolves as more information comes to hand, with the MCP formally updated every three years.

The 2022 v1 MCP was originally submitted to both DEMIRS and DWER (EPA Services) in August 2022. The 2022 v2 MCP is currently under assessment with DEMIRS. The 2024 Mine Closure Plan is in preparation and will be submitted to DEMIRS with the Mining Proposal(s) associated with the Fimiston South Project.

5.3.3 Key Performance Indicators

Completion criteria for closure and rehabilitation are documented in the KCGM MCP (Vol 1). Monitoring and measurement to achieve the required outcomes are also documented within the MCP (Vol 2).

5.3.4 Initiatives and Developments

The initiatives and developments outlined in Table 5-11 have been undertaken in relation to rehabilitation and closure over the past 5 years.

Table 5-11 Closure Initiatives 2020-2024

ASPECT	ACTIVITIES
Technical studies	KCGM continues to initiate studies to refine completion criteria and measurement techniques, namely: • Further soil studies; • Further hydrological work to align with Fimiston South implementation; • Quality assurance (QA) of rehabilitation activities against design intent; • Salinity vs rehabilitation success studies; and • Ongoing refinement of vegetation monitoring techniques to achieve better alignment with completion criteria and site conditions.
Open pit abandonment strategy	• Updated geotechnical modelling work associated with long term wall stability for the most current pit shell.
Rehabilitation	Rehabilitation was undertaken on available areas between 2020 and 2024. During this

ASPECT	ACTIVITIES
	time period there were some limitations, namely: • The rehabilitation team was seconded to Mining Operations during the Covid ‘only essential work’ period; • Rehabilitation at the Fimiston TSFs was discontinued until a clear understanding of final buttressing requirements was fully understood (this is a factor of approvals timelines for Fimiston South’s new TSFs and monitoring outcomes of operational dam safety parameters); and • An approved Mining Proposal in 2021 allowed for the southern waste rock dumps to be developed to the full EPA approved footprint. During this period, the rehabilitation team undertook civil works to prepare for this expansion, before recommencement of rehabilitation on completed areas of the waste rock dump.

Rehabilitation works completed during the review period are documented in Section 5.3.5.

5.3.5 Rehabilitation

Table 5-12 Rehabilitation activities 2020-2024

TIMEFRAME	LOCATION & DESCRIPTION	PHOTO
Jan 2020 - Mar 2020	D Paddock, Fimiston II TSF Reshape walls, Rock capping, topsoil, seeding 10.7 Ha	
April 2020 - June 2020	Kaltails TSF East cell Northern Flank Rock capping 4.7 Ha	
April 2020 - Nov 2020	Old Croesus TSF Reshape walls, Rock capping, topsoil, seeding 3.2 Ha	

TIMEFRAME	LOCATION & DESCRIPTION	PHOTO
Mar 2020 - April 2020	C Paddock Fimiston II TSF Reshape walls, Rock capping, topsoil, seeding 8.7 Ha	
Feb 2021 - Sept 2021	A/B Paddock Fimiston II TSF Reshape walls 20.6 Ha	

TIMEFRAME	LOCATION & DESCRIPTION	PHOTO
April 2023 - Sept 2023	New 6 Waste Rock Dump Reshape slopes 5.2 Ha	
July 2024 - Ongoing	Morro 1 Waste Rock Dump & new Lookout Ramp Reshape slopes Construct new access ramp 4.4 Ha	
April 2024 - Ongoing	Morro 2 Waste Rock Dump Reshape slopes 3.5 Ha	

APPENDIX A:
LIST OF COMPLAINTS RECEIVED RELATING TO VIBRATION, DUST AND NOISE DURING 2020 – 2024

DATE	ASPECT	DESCRIPTION
17/03/2020	Noise	Local resident complaint regarding noise from the Super Pit operations. The resident did not leave any contact details or details pertaining to their property location. The recent commencement of mining activities within the Brownhill area was likely the primary source of noise emissions, however the works were undertaken in accordance with Environmental Noise Assessment for Brownhill.
31/03/2020	Noise	Local resident complaint regarding noise from the Super Pit operations between 10 pm and 12:30 am (night of the 30 March 2020). An External Relations Advisor contacted the resident, who was happy with the call and did not want any further correspondence. An investigation of the complaint found that weather conditions during the night period likely influenced the noise emissions associated with the Fimiston Operations (i.e. a temperature inversion/cloud cover).
17/04/2020	Noise	Local resident complaint regarding noise from the Super Pit operations. The resident complained of a noise that sounded like rocks being dumped between the hours 10:00 pm to 8:30 am. A review of operational activities identified that the commencement of mining activities within the Brownhill area was likely the primary source of noise emissions, however the works were undertaken in accordance with the Environmental Noise Assessment for Brownhill. The resident didn't require any follow up.
17/05/2020	Noise	Local resident complaint regarding noise from the Super Pit operations. The resident complained of noise related to Dump Trucks and Loaders. A review of operational activities identified that the commencement of mining activities within the Brownhill area was likely the primary source of noise emissions, however the works were undertaken in accordance with the Environmental Noise Assessment for Brownhill. The resident was also aware of the impact of weather, wind and temperature on noise levels and that KCGM was operating in a new area of the pit.
22/05/2020	Noise	Local resident complaint regarding noise from the Super Pit operations. The resident complained of noise from reverse beepers and trucks being loaded. An External Relations Advisor contacted the resident and left a message. No further correspondence has been received.
27/06/2020	Noise	Local resident contacted KCGM via the Public Interaction Line (PIL) indicating they could hear a reversing alarm from nearby rehabilitation activities. The issue was investigated and with the responsible machine identified. Works ceased until a broadband reverse alarm was fitted. The resident was notified of the outcome.
19/08/2020	Noise	Local resident contacted the PIL regarding noise from nearby operations. No further correspondence has been received.
29/12/2020	Vibration	Three complaints received from local residents regarding dust from open pit blast. External Relations Superintendent phoned all complainants to apologise and advised that blasting occurred close to the surface of pit.
8/01/2021	Noise	Local resident contacted the PIL regarding noise from the Fimiston operations. An External Relations Advisor contacted the resident and left a message requesting

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DATE	ASPECT	DESCRIPTION
		more details regarding the resident's concern. No further correspondence has been received.
11/01/2021	Dust	Local resident contacted the PIL regarding dust coming from the Fimiston Waste Rock Dumps. It was identified that loader tipping activities were generating dust. Tipping activities were immediately stopped, and no further correspondence has been received.
21/01/2021	Dust	Local resident contacted the PIL regarding generated dust from blasting. An External Relations Advisor contacted the resident and explained the blast occurred at surface level which should subside when the pit depth increases. Further, the blast was predominantly oxide ore which generates more dust than normal had rock blasting activities. No further correspondence has been received.
21/01/2021	Dust	Local resident contacted the PIL regarding blasting. An External Relations Advisor contacted the resident who raised their concerns about excessive blasting. No further correspondence has been received.
21/01/2021	Dust	Local resident contacted the PIL regarding dust generated from blasting. An External Relations Advisor contacted the resident to explain how potential impacts are managed via wind condition monitoring prior to blasting, as well as how we use several air quality monitoring stations throughout Kalgoorlie-Boulder and that our records are publicly available. No further correspondence has been received.
21/01/2021	Dust	Local resident contacted the PIL regarding dust generated from blasting. An External Relations Advisor discussed wind condition monitoring processes prior to blasting, as well as how we use several air quality monitoring stations throughout Kalgoorlie-Boulder and that our records are publicly available. No further correspondence has been received.
29/01/2021	Dust	Local resident contacted PIL regarding generated dust from mining operations. The resident raised concerns about dust blowing into his property. Extra watercarts were immediately sent to operational areas and the resident didn't require further correspondence.
4/02/2021	Noise	Local resident contacted PIL regarding noise from blasting and frequency of blasts. The resident raised concerns about a recent loud blast and blast vibration potentially causing cracks in their property. An External Relations Advisor contacted the resident to discuss the KCGM property damage process. The advisor also explained the latest blast was larger than normal due to other blasts being cancelled earlier in the week and that the blasts occurred in a new operational area that is close to surface. No further correspondence has been received.
5/08/2021	Dust	Local resident contacted the PIL regarding generated dust coming from blasting. No further correspondence has been received.
5/08/2021	Dust	Local resident contacted the PIL regarding dust coming from blasting. No further correspondence has been received.
7/01/2022	Dust	Kalgoorlie-Boulder resident contacted the PIL regarding dust. The Social Performance Advisor contacted the resident and explained the circumstances leading to the decision to blast. Resident was satisfied with follow-up response.

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DATE	ASPECT	DESCRIPTION
3/03/2022	Vibration	Local resident contacted the PIL regarding blast vibration and dust. A Social Performance Advisor visited the property to better understand the resident's concerns. The resident has since relocated from Kalgoorlie-Boulder.
8/04/2022	Noise	Local resident contacted the PIL regarding noise and also advised the 'Real Time Noise Monitoring Graph' on the Super Pit website was unavailable. An internal review concluded that whilst the wind direction aligned with Fimiston Open Pit 'OBH' operations, including load and haul activity, the closest noise monitor to the resident, MEP, did not record elevated noise. With respect to the Real Time Noise Graph it was identified that there was an interruption to the network communications and whilst repairs were being carried out, the report was manually uploaded to the Super Pit website.
17/09/2022	Noise	Local resident made a complaint through the website query function regarding constant machinery noise at 12:30am near Federal Road and Brookman Street, Boulder. An internal environment review of noise identified that the closest noise monitor at "MEP" recorded marginal elevated night-time noise and wind direction fluctuated with the low speeds. The complaint also claimed real-time noise data was not available. On review, it was confirmed that the data upload was successful and available.
16/10/2022	Noise	Local resident made a complaint through the Northern Star Resources Facebook page stating noise 'accelerated' from 3am to sunrise. An internal environment review indicated haulage was occurring around the Southern and Eastern waste rocks dumps and that the wind direction was aligned with Fimiston haulage operations. However, as the resident only indicated that they were a "nearby resident" to the Fimiston operations it limited KCGM's ability to narrow down the location of the potential noise sources.
18/10/2022	Noise	Local resident made a complaint through the PIL seeking a resolution to noise emissions from KCGM Operations. A KCGM Social Performance Advisor called the resident the morning of October 19th. Upon receiving the PIL Form information was sourced the KCGM night shift team to better understand the residents' concerns and a follow-up call with the resident was undertaken.
20/01/2023	Dust	Complaint received regarding dust impact. KCGM team member provided details of KCGM's dust monitoring network; and publicly available information including daily blast notices, dust monitoring data and management plans (e.g. Fimiston Air Quality Management Plan).
31/01/2023	Vibration	A resident reported concerns about vibrations, inquiring if an earthquake or blast had occurred. KCGM team member provided information confirming the occurrence of a blast. The blast design, a centre-lift, was explained to traditionally produce higher vibrations. The use of electronic detonators for accurate timing was highlighted as a measure to minimise vibration levels. The resident expressed gratitude for the confirmation and explanation.
9/02/2023	Dust	A resident reported a complaint in relation to excessive dust aftermath from a mining blast which was investigated by the mining team. The blast was planned and executed with consideration of size, material, and wind direction to minimize impacts. However, an unforeseen variable in pit conditions caused the debris to carry over the Fimiston Open Pit, affecting residents. The mining team investigated ways to better manage blasting impacts. The incident highlights the

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DATE	ASPECT	DESCRIPTION
		need for continued monitoring and improvement of blasting practices to minimise effects on the local community.
9/02/2023	Dust	KCGM received a complaint regarding dust impact. A variable pit condition caused debris to be carried over the pit, resulting in excessive dust impact. Mining team considered size, material, and wind direction to minimize impact, but unexpected conditions occurred. Complaint investigated, and response provided to resident. Teams are reviewing ways to improve blasting impact management. Complaint addressed, and improvements to blasting impact management are being explored.
9/02/2023	Dust	A resident complained about dust from a blast at the Fimiston Open Pit. The blast was planned at OBH, on the east wall, with considerations for size, material, and wind direction to minimise impacts. The blast was executed as planned, but an unknown variable in pit conditions caused debris to carry over the pit, affecting residents. The mining team had predicted minimal impacts due to north-easterly wind conditions. The resident was satisfied with the information provided by the KCGM team. The teams will investigate how to better manage blasting impacts to prevent similar incidents in the future.
9/02/2023	Dust	A resident complained about the impacts of a blast, including noise and dust. The complaint was investigated, and a response was provided. The blast was planned at OBH, on the east wall, with consideration of size, material, and wind direction to minimize impacts. Despite predictions of minimal impacts, a variable in pit condition caused debris to carry over the Fimiston Open Pit, affecting residents. The complaint was investigated, and a response was provided to the resident. The mining team will investigate ways to better manage blasting impacts to prevent similar incidents in the future.
9/02/2023	Dust	KCGM received a complaint regarding dust impact. The blast was planned on the east wall of the OBH pit. Mining teams considered size, material, and wind direction to minimise impacts on the community. Unforeseen pit conditions caused debris to carry over the Fimiston Open Pit, affecting residents. A verbal response was provided to the resident, who appreciated the update. The incident was investigated, and teams are working to improve blasting impact management.
9/02/2023	Dust	A complaint was lodged regarding a blast at the Fimiston Open Pit, which impacted a school event at East Kalgoorlie Primary School. The school was hosting an outdoor BBQ, which had to be moved indoors due to the blast. The blast was planned and executed with consideration for minimising impacts on the community. Unforeseen variables in the pit condition caused debris to carry over the pit, affecting residents. The mining team apologised and offered to make amends by hosting a BBQ or providing an ice cream truck for the school, which was confirmed for March 30. The team continued to review and refine blasting procedures to account for potential variables in pit conditions and continue to engage with the community and respond promptly to concerns. The team committed to investigating ways to better manage blasting impacts.
11/02/2023	Dust	Complainant expressed concerns regarding increased dust emissions from the open pit mining operations at KCGM, specifically citing a visible dust plume affecting residential areas, the daily impact of dust on their property, including vehicles. The resident attributed the perceived increase in dust emissions to the recent takeover of operations by Northern Star. A message was left requesting a return call. KCGM Team member followed up to address the resident's concerns and determine an appropriate course of action.

DATE	ASPECT	DESCRIPTION
4/03/2023	Dust	Complainant reported concerns regarding dust impact from trucks dumping at the Fimiston Pit waste dumps. Investigation revealed a terrain vehicle operating nearby, with northerly winds carrying dust outside the KCGM footprint. The community member was contacted and provided with information on the Air Quality Management Plan via email, addressing their concerns.
16/03/2023	Dust	A resident contacted the Public Interaction Line to report visible dust impacts from Fimiston Operations. This was the resident's first complaint. Notably, their property has a high vantage point, providing an unobstructed view of the operations. The resident observed large dust plumes between 7:00 am and 10:00 am and expressed disappointment regarding inadequate dust suppression measures. Following an investigation, a detailed response was provided to the resident via return call. The resident expressed satisfaction with the response and thanked the KCGM Team Member for providing informed and timely information. The complaint was resolved through effective communication and provision of detailed information, resulting in a positive outcome for the resident.
19/03/2023	Dust	KCGM received a complaint regarding dust impact. The complaint was promptly investigated to determine the cause and impact of the dust. A response was provided to the resident, outlining the findings of the investigation and the actions to be taken to mitigate future dust impacts. As a gesture of goodwill, an offer was extended to the resident to have their vehicle cleaned. A carwash voucher was provided to the resident, which was subsequently used. The complaint has been resolved, and the resident's concerns have been addressed.
24/03/2023	Dust	A community member contacted KCGM's Public Information Line, expressing concerns about air quality impacts from a blast at Fimiston Pit. An investigation found that the blast was conducted during favourable wind conditions and dust concentrations remained within acceptable levels. The issue was resolved by providing the community member with information about KCGM's Operations Air Quality Management Plan, which they found satisfactory. Additionally, they were informed about available resources for blast time notifications.
24/03/2023	Dust	Complainant contacted the NSR Corporate Office to report concerns regarding visible air quality impacts from trucks dumping on the southern end of Fimiston Pit waste dumps. The area of concern was adjacent to Boulder Camp. An investigation was conducted, and it was determined that a terrain vehicle was operating in close proximity to the area of the complaint, Northerly winds were present, which would have carried the dust outside of the KCGM footprint. The community member was contacted and provided with information regarding the Air Quality Management Plan via email. This addressed their concerns and provided context regarding the measures in place to manage air quality.
6/04/2023	Noise	A noise complaint regarding mining operations in Fimiston Pit was received at 11:00 pm. The complaint was lodged by a local resident. KCGM Team Member promptly responded to the complaint by attempting to contact the resident via phone to gather additional information. Two voice messages were left in an effort to obtain further details.
31/05/2023	Dust	A complaint was received regarding dust impact from a blast conducted at the Super Pit. The blast resulted in a significant dust plume due to low wind speed and mild temperature conditions. Remediation work on the East Wall of the Super Pit, impacted by a significant slip in 2018, generated a large volume of fine and dry oxide ore material, creating a dust cloud when removed. KCGM implemented measures to manage impacts during remediation works, including, deploying

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DATE	ASPECT	DESCRIPTION
		water carts to minimise dust generation, continuously monitoring wind conditions, halting work during unfavourable weather conditions and issued a public statement acknowledging the incident and committing to work with stakeholders to minimise impacts.
31/05/2023	Dust	KCGM received a complaint regarding dust impact. Refer to commentary above.
31/05/2023	Dust	KCGM received a complaint regarding dust impact. Refer to commentary above.
31/05/2023	Dust	KCGM received a complaint regarding dust impact. Refer to commentary above.
31/05/2023	Dust	KCGM received a complaint regarding dust impact. Refer to commentary above.
31/05/2023	Dust	KCGM received a complaint regarding dust impact. Refer to commentary above.
31/05/2023	Dust	KCGM received a complaint regarding dust impact. Refer to commentary above.
28/06/2023	Noise	KCGM received a complaint about noise disturbance from a shovel beeping to signal trucks at 4:00am, with a prolonged beep occurring from 4:45am to 5:30am. The complainant suggested using flashing lights instead of the horn. To address this, KCGM investigated whether the beeping exceeded acceptable noise levels and explored alternative communication methods to prevent similar disturbances.
4/08/2023	Noise	KCGM received a complaint about excessive noise from Fimiston Pit, allegedly caused by operating equipment, which was disturbing a local resident. The resident requested that personnel reduce the noise level. Although the KCGM Team Member attempted to contact the resident for further discussion, their efforts were unsuccessful.
28/09/2023	Noise	A resident contacted the NSR Perth Office on October 2 to report operational noise from Fimiston Pit. After a missed call, the resident spoke with a KCGM Team Member at 2:00pm, expressing concerns about increased noise over the past two years. The Team Member provided information on noise management practices, logged the feedback as a complaint, and directed the resident to the Super Pit website for further information, resulting in the resident's satisfaction with the follow-up and feedback provided.
29/10/2023	Dust	A resident contacted NSR multiple times to report increased dust impacts from the Fimiston Pit, attributing it to heightened activity. After initial calls on October 30 and November 2, 2023, a 10-minute conversation took place on November 21, 2023, where a KCGM team member addressed the concerns, providing information on growth projects, east wall remediation works, and dust management controls. The resident expressed satisfaction with the information and considered the matter resolved.
15/12/2023	Dust	A resident contacted PIL on December 15, 2023, reporting severe dust impacts from KCGM Operations and expressing concerns about air quality, pollution, and potential health impacts on Kalgoorlie Boulder residents. A KCGM team member responded to discuss the issue and the resident's suggestion to adjust mining procedures. An investigation found that a shovel operation near the pit edge caused an unintentional dust plume, resulting in a 20-minute halt in loading operations. KCGM continued monitoring particulate data, and the resident plans to follow up with DEMIRS regarding KCGM's environmental impacts.

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DATE	ASPECT	DESCRIPTION
22/01/2024	Dust	Resident called seeking information about visible dust from open pit mining operations. KCGM team member spoke to resident providing information about the mining activities taking place and dust mitigation measures being undertaken.
30/01/2024	Dust	Business owner contacted PIL with concerns of dust in the area from Fimiston South Early Works (operational noise bund construction). Work in the area was suspended for the rest of the day.
13/02/2024	Dust	Complaint regarding dust was received in relation to Fimiston South Early Works. Trucks were tipping in easterly winds which was blowing to workplace. Projects team arranged for a portable windsock, to provide real-time conditions to support better decisions on tipping. KCGM team member communicated this to the complainant.
17/02/2024	Dust	Email received by a resident with regards to dust. No phone number was provided to call the resident back to learn of location or additional information. Email sent seeking contact number and offer for them to call KCGM team member directly to discuss.
06/04/2024	Noise	Noise complaint received regarding operations at night. KCGM team member contacted the complainant, but the resident was uncooperative and declined to speak. KCGM team member scheduled a follow-up call but received no response.
18/04/2024	Vibration	Complaint received regarding a blast at 4.50pm. Complainant reported increased blast intensity over the past 2 years, dust and explosive smell after firing also increasing. KCGM team member provided blast monitoring results indicating no compliance limits breached due to the event.
26/04/2024	Noise	Complaint received via KCGM's air quality monitoring contractor regarding noise emissions coming from the recently installed High Volume Air Sampling (HVAS) monitor at CLY monitoring station. Decision was made to turn the unit off and look to relocate it to BSY monitoring station. HVAS monitor was relocated to BSY monitoring station and Environment team also investigated fitting a noise muffler to reduce noise emissions.
18/05/2024	Vibration	A resident reported their house shaking and windows rattling on 18/05/2024, enquiring about potential blasting in the area. KCGM team member responded to confirm the event time and clarified that a seismic event occurred at 3:36pm. The resident was provided blast data and was satisfied with the explanation.
22/05/2024	Noise	Noise complaint received via email from a near-mine resident. KCGM team member contacted the resident via phone and provided information on the possible reason for the excess noise. The resident was content with the explanation provided and the complaint was resolved.
17/07/2024	Noise	Noise complaint received via email from near mine resident, reporting excessive noise coming from Fimiston Open Pit overnight. KCGM team member followed up with a phone call to the resident, providing detailed information on the reason for the excess noise. The resident expressed satisfaction with the explanation and agreed to provide ongoing feedback on noise levels.

DATE	ASPECT	DESCRIPTION
10/08/2024	Noise	A complaint was received regarding excessive noise from air horns used by operators in the Fimiston Open Pit. The complainant reported that the noise had been disrupting their sleep over the past 12 months in the Boulder area. KCGM team spoke with the complainant to better understand their concerns. Mining teams were briefed on the proper use of horns, emphasising the importance of avoiding excessive horn-holding. KCGM team member provided feedback to the complainant on actions taken onsite. The complainant reported a decrease in noise since the initial complaint and expressed satisfaction with the outcome.
29/10/2024	Noise	A complaint was received via the info@nsrltd.com email address asking if operators could communicate by radio instead of the constant sounding of horns. The complainant noted that sound echoes loudly through the streets of Boulder and has been unbearable over the last 12 month period. KCGM team member attempted to contact the complainant via phone and left a message.
14/11/2024	Noise	A complaint was received in relation to excessive noise from horn signals overnight. KCGM team member followed up with a phone call providing information on activities that may be causing the excess noise. Complainant was satisfied with the response and acknowledged that the excessive noise only occurs when winds come from the east.

APPENDIX B:
LIST OF NON-COMPLIANCES AND NON-CONFORMANCES REPORTED
DURING 2020 – 2024

YEAR	MINISTERIAL CONDITION	REGULATORY REQUIREMENTS	DESCRIPTION
2021	MS782 7-5	The proponent shall make available continuous dust monitoring data on their website within 24 hours of the recording of that data	PM ₁₀ monitoring data was not made available on the KCGM website within 24 hours of the recording of that data on one occasion on the 23 November 2021. A summary report of the daily dust monitoring data is made available on the Super Pit website daily via an automated process, with a manual process in place to check that the report has uploaded. Although this manual checking process identified that the 23 November 2021 report had not uploaded, it could not be automatically reloaded as on that day the Super Pit website was undergoing a migration to an alternative digital platform. The migration was successful, and the report was uploaded on the 24 November 2021. As a result of the event KCGM has implemented a process to upload the report manually, should the automated process fail.
2021	Fimiston Air Quality Management Plan	Fimiston Air Quality Management Plan (Section 4.2.1) "Complete quarterly calibration of dust monitoring equipment."	Quarterly calibrations of the dust monitoring equipment were completed during the audit period for Quarter 1 (18-20 January 2021), Quarter 2 (25-27 May 2021), and Quarter 3 (6-8 September 2021). However, the Quarter 4 calibrations, originally scheduled for December 2021, were delayed due to the unavailability of a specialist contractor and a delay in the arrival of replacement monitoring parts required to complete the calibration. The Quarter 4 calibrations were completed as soon as the specialist contractor and the replacement parts became available, and this was between 19-23 January 2022. As a result of this event KCGM has reviewed the scheduling of the dust monitor calibrations with future calibrations to be scheduled as close to the start of each quarter as practicable.

FIMISTON GOLD MINE OPERATIONS (MS782)

5 YEAR PERFORMANCE REVIEW 2020-2024



YEAR	MINISTERIAL CONDITION	REGULATORY REQUIREMENTS	DESCRIPTION
2021	Fimiston Air Quality Management Plan	Noise and Vibration Monitoring and Management Plan (Section 5.2.5) "The continuous noise monitoring equipment is NATA calibrated every two years."	The annual calibration of the blast monitors was scheduled to occur in Quarter 2, 2021. However, WA State Government COVID-19 travel restrictions prevented Texcel staff, who are Queensland based, from safely travelling to WA, without having to quarantine. The annual calibrations will be conducted as soon as WA travel restrictions allow Texcel staff to travel to WA. It's important to note that whilst the annual calibration of the blast monitors has been delayed, a performance check of the blast monitoring equipment is completed daily with a copy of the performance report sent to KCGM Drill and Blast personnel for quality assurance purposes.
2023	MS782 9-3	The proponent shall ensure that all airblast overpressure levels due to blasting comply with Regulation 11 of the Environmental Protection (Noise) Regulations 1997.	One airblast overpressure exceedance of 120.5dB (approved level 120.0dB) was recorded at the Alpha monitoring site following blast 170-2416 in the Fimiston Open Pit.
2023	MS782 9-3	The proponent shall ensure that all airblast overpressure levels due to blasting comply with Regulation 11 of the Environmental Protection (Noise) Regulations 1997.	A pre-split blast 160-24052A recorded an airblast overpressure reading of 116.1dB at Alpha blast monitoring station, initiating the more than 1 in 10 consecutive blasts procedure above the approved level (115dB) at this monitoring site. Two days, later on 21 April 2023, blast 160-24052B recorded a reading at Alpha again of 118.2dB.
2023	Fimiston Air Quality Management Plan	Fimiston Air Quality Management Plan (FAQMP): "Not more than five events above the daily performance target at any dust monitoring location per annum where KCGM is a significant contributor".	During 2023, dust monitoring locations CLY and HOP recorded more than five events above the daily average of 50 µg/m ³ where KCGM was considered a potential significant contributor. CLY recorded ten events and HOP seven events.
2024	Fimiston Air Quality Management Plan	Fimiston Air Quality Management Plan (FAQMP): "Not more than five events above the daily performance target at any dust monitoring location per annum where KCGM is a significant contributor".	During 2024, dust monitoring locations CLY recorded more than five events above the daily average of 50 µg/m ³ where KCGM was considered a potential significant contributor. CLY recorded six events.

FIMISTON GOLD MINE OPERATIONS (MS782)

5 YEAR PERFORMANCE REVIEW 2020-2024



YEAR	MINISTERIAL CONDITION	REGULATORY REQUIREMENTS	DESCRIPTION
2024	MS782 9-3	The proponent shall ensure that all airblast overpressure levels due to blasting comply with Regulation 11 of the Environmental Protection (Noise) Regulations 1997.	On 23 February 2024, Blasting oversize on the East Wall Remediation has resulted in overpressure exceedances at Alpha Monitor of 123.1dB on an allowable limit of 120dB. KCGM notified DWER of the exceedance on 29 February 2024.
2024	MS782 9-3	The proponent shall ensure that all airblast overpressure levels due to blasting comply with Regulation 11 of the Environmental Protection (Noise) Regulations 1997.	On 6 April 2024, Blasting oversize on the East Wall Remediation has resulted in overpressure exceedances at Alpha Monitor of 121.3dB on an allowable limit of 120dB and at Charlie Monitor of 125.2dB on an allowable limit of 125dB. KCGM notified DWER of the exceedance on 11 April 2024.
2024	MS782 9-3	The proponent shall ensure that all airblast overpressure levels due to blasting comply with Regulation 11 of the Environmental Protection (Noise) Regulations 1997.	On 7 July 2024, Blasting 170-3910 has resulted in overpressure exceedance at Delta Monitor of 124.9dB on an allowable limit of 115dB due to Sunday Blasting. KCGM notified DWER of the exceedance on 11 July 2024.