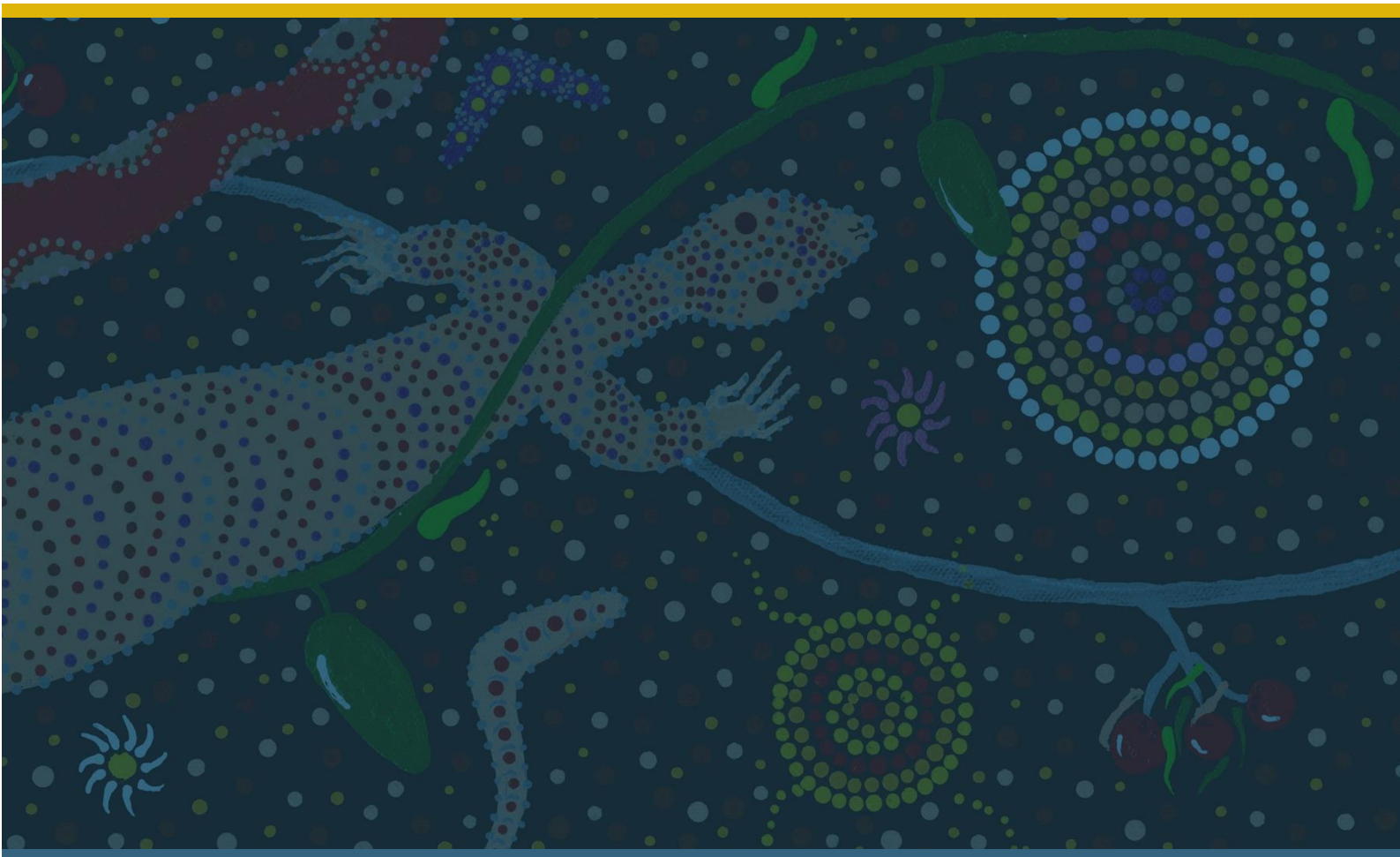
FIMISTON AIR QUALITY MANAGEMENT PLAN 2022 (PROVISIONAL)



KALGOORLIE CONSOLIDATED GOLD MINES PTY LTD

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1. SUMMARY

1.1. Purpose of the Document

The Fimiston Air Quality Management Plan (FAQMP) is prepared by Kalgoorlie Consolidated Gold Mines Pty Ltd (KCGM) in consultation with air quality consultants Ramboll Australia Pty Ltd to satisfy Condition 7-1 of Ministerial Statement 782 for the *Fimiston Gold Mine Operations Extension (Stage 3) and Mine Closure Planning* proposal, which was approved on 29 January 2009 by the Minister for Environment; Youth.

KCGM is submitting this 2022 Provisional FAQMP to support a revised version (Revised Proposal) of the *Fimiston Gold Mine Operations Extension (Stage 3) and Mine Closure Planning* proposal. The Revised Proposal is to mine a cutback to the south of the Fimiston open pit, referred to as the Fimiston South Project (the Project). This will allow for both the widening and deepening of the pit and extend the life of mine to 2034. KCGM believes the FAQMP incorporates best practice to minimise impacts to air quality as a result of the Fimiston Gold Mine Operations.

1.2. Management Plan Summary

TITLE OF PROPOSAL	**Fimiston Gold Mine Operations Extension (Stage 3) and Mine Closure Planning: Revised Proposal** **Fimiston South Project**
PROPONENT	Kalgoorlie Consolidated Gold Mines Pty Ltd
MINISTERIAL STATEMENT NUMBER	A Ministerial Statement and associated conditions are yet to be issued.
PURPOSE OF THE CONDITION EMP	The 2022 FAQMP (Provisional) is submitted to fulfil the requirements of support the Revised Proposal.
CONDITION ENVIRONMENTAL OBJECTIVE	To manage air emissions from the Fimiston Operations to minimise potential impacts to the residents of the City of Kalgoorlie-Boulder
ENVIRONMENTAL CRITERIA	Criterion 1: Ambient PM_{10} dust Criterion 2: Mercury Air Emissions

1.3. Document History

Table 1: Document History

Version	Date	Document Changes
1	SEP 2007	New Document. An integrated air quality management plan was developed to incorporate a number of management plans including: Blasting Dust Management Plan (BDMP), Dust Monitoring and Management Programme (DMMP) and the Carbon Kiln Mercury Emissions Reduction Program (CKMERP) as recommended by the Department of Health (DoH) and included feedback received from the [then] Department of Environment and Conservation (DEC) following submission of the Public Environmental Review (PER) for the Fimiston Gold Mine Operations Extension (Stage 3) and Mine Closure Planning in September 2006.
2	MAY 2009	Revised and implemented to meet requirements of Ministerial Statement 782.
3	DEC 2009	Annual Review
4	DEC 2010	Annual Review
5	DEC 2011	Annual Review
6	MAR 2012	Revised to include DoH and DEC comments
7	DEC 2012	Revision to Ambient Mercury Monitoring Programme
8	DEC 2015	First Triennial Review. Reviewed PM_{10} dust monitoring data and updated the trigger levels (Table 4) of DMMP, included an additional performance target for DMMP, removed the ambient mercury monitoring programme as it has been completed, and updated the notification/reporting requirements. Addressed issues that the [then] Office of the Environmental Protection Authority (OEPA) asked to consider in this review in a letter dated 14 August 2013.
	JUN 2016	Inserted methodology for determining a significant contribution following a request by the OEPA via email dated 14 June 2016.
9	JUN 2019	Triennial Review. Format updated to align with the EPA's template for Environmental Management Plans. Updated information regarding implementation of the Fimiston Emissions Reduction Project.
	NOV 2019	Inserted additional information to Section 6.2 to further clarify the use of back trajectories following a request by the EPA via email/letter dated 11 October 2019.
10	JUL 2022	The 2022 FAQMP is submitted as provisional to support the Revised Proposal. Finalisation of the 2022 FAQMP is dependent on the outcomes of the assessment of the Project by the EPA and the triennial review of the 2019 FAQMP.

1.4. Corporate Endorsement

This FAQMP is submitted as Provisional and will be endorsed when the 2022 FAQMP is finalised.

2. CONTEXT, SCOPE AND RATIONALE

2.1. Overview of the Fimiston Operations

Kalgoorlie Consolidated Gold Mines Pty Ltd (KCGM), a wholly owned subsidiary of Northern Star Resources Limited, is the operator of the KCGM Gold Mine Operations located in Kalgoorlie-Boulder approximately 600 km east of Perth, Western Australia. KCGM Gold Mine Operations include the following:

- Fimiston Open Pit: open pit mining and waste rock disposal.
- Mt Charlotte Underground Mine: underground mining.
- Fimiston Processing Plant: crushing, mineral processing, refining and tailings disposal.
- Gidji Gold Processing Plant: mineral processing and tailings disposal.
- Exploration: mineral resource definition drilling and core processing.

Up to 80 million tonnes (Mt) of ore and waste rock material are mined from the Fimiston Open Pit annually with waste rock transported to various waste rock dumps or marginal ore stockpiles adjacent to the open pit operations. Approximately 13 Mt of the ore mined is processed at the Fimiston Processing Plant to produce up to 500,000 ounces of gold. The current footprint of the Fimiston Open Pit extends approximately 1.5 km in width, 3.5 km in length and to a depth greater than 600 m, making it one of the largest open pit gold mines in Australia.

The Project is to mine a cutback at the southern end of the Fimiston Open Pit using mining methods currently employed in the open pit. The cutback will allow for both the widening and deepening of the pit and extend the life of mine to 2034. The Project will require additional areas for infrastructure, waste rock dumps and tailings.

The Project has been referred to the Western Australian Environmental Protection Authority (EPA) for assessment under Part IV of the *Environmental Protection Act 1986* (EP Act), which applies to development proposals that are likely to have a significant impact on the environment.

This FAQMP will be finalised and implemented following receipt of approval under the EP Act. In the interim, the Fimiston Gold Mine Operations will continue to operate under current Ministerial Conditions and management practices.

2.2. History of the Fimiston Air Quality Management Plan

KCGM developed and implemented a Dust Monitoring and Management Programme (DMMP) in accordance with condition 5 of Ministerial Statement 188 in the early 1990s. The DMMP was updated periodically to ensure that it continued to achieve its objectives as the Fimiston Operations developed over time.

KCGM developed the FAQMP in 2007 as an integrated air quality management plan to incorporate a number of management plans including: Blasting Dust Management Plan (BDMP), Dust Monitoring and Management Programme (DMMP) and the Carbon Kiln Mercury Emissions Reduction Program (CKMERP) as recommended by the Department of Health (DoH) and included feedback received from the DEC following submission of the PER in September 2006.

While each of the above programs was managed separately due to their different approaches, requirements and areas of application, the FAQMP was produced to ensure that they are managed within a consistent and integrated framework.

Following approval of the PER via Ministerial Statement 782 on 29 January 2009, the FAQMP was formally implemented in May 2009 in accordance with Ministerial Condition 7.1.

2.3. Key Environmental Factors

This Condition EMP specifically addresses the air quality environmental factor.

Air quality is a key environmental factor for this proposal due to the proximity of the Fimiston Gold Mine Operations to the City of Kalgoorlie-Boulder (CKB) and nearby Ninga Mia Aboriginal community. It is essential that KCGM manages environmental air quality aspects which may impact on nearby residents (e.g. fugitive dust emissions). KCGM's management approach is detailed in Section 3.

2.4. Requirements of the Proposed Condition

Specifically, this Condition EMP is submitted in accordance with Conditions 7-1 to 7-7 of Ministerial Statement 782. Table 2 provides a summary of where the requirements of these conditions are addressed in this Condition EMP. Conditions will be finalised and implemented following receipt of approval of the Project under the EP Act.

Table 2: Summary of Conditions

Proposed Condition		Section in Condition EMP	
XX XX-1	Air Quality Within three months following the issuing of the notice to the decision-making authorities under section 45(7) of the Environmental Protection Act 1986, the proponent shall implement the Air Quality Management Plan to the requirements of the Minister for Environment on advice of the DWER and the DoH.	1.3	Document History
XX-2	The proponent shall review the Air Quality Management Plan referred to in condition XX-1 as required by the EPA, and shall amend the Plan to the requirements of the Minister for Environment on advice of the DWER and the DoH.	1.3 2.2	Document History History of the Fimiston Air Quality Management Plan
XX-3	The proponent shall implement the amended Air Quality Management Plan required by condition XX-2.	1.3	Document History
XX-4	The proponent shall only detonate explosives at surface level on the premises when wind directions favour the carriage of dust away from the residential areas of Kalgoorlie-Boulder, unless undertaken in accordance with regulation 8.28 (4) of the *Mines Safety and Inspection Regulations 1995.*	3.1.1	KCGM Dust Programme
XX-5	The proponent shall make available continuous dust monitoring data on their website within 48 hrs of the recording of that data.	6	Reporting Provisions (Section 6.1 updated)
XX-6	The proponent shall keep and make publicly available a register of complaints regarding air emissions; investigate those complaints; and keep a record of the investigations and actions taken with regard to the complaint.	5.	Public Consultation

3. MANAGEMENT APPROACH

KCGM's approach to managing air emissions is based on the identification of major air emission sources using conventional risk assessment methodologies, air quality modelling and air quality monitoring results and experience drawn from community feedback and complaints. The management measures implemented to address the major air emission sources identified by KCGM are summarised in Table 3, and detailed within the following sub-sections.

Table 3: Summary of Emission Sources

Activity	Emission Source Summary	Air Emission Type	Management Plan/Programme
Ore Processing	The Fimiston Processing Plant treats ore mined from the Fimiston Open Pit and the Mt Charlotte Underground Mine. Crushing activities and conveyor transfer points have the potential to create fugitive dust emissions.	Fugitive Dust	Dust Monitoring and Management Programme
	During the gold recovery process there is potential for point source atmospheric emissions of mercury from the carbon regeneration kilns and the gold room	Mercury	Mercury Emissions Management Plan
Tailings Storage Facilities	KCGM operates three Tailings Storage Facilities (TSFs) for the Fimiston Processing Plant. These are the Fimiston I TSF, Fimiston II TSF and the Kaltails TSF. Fugitive dust from the TSFs is generally caused by strong winds resulting in wind erosion.	Fugitive Dust	Dust Monitoring and Management Programme
Drilling and Blasting	Drilling and blasting is undertaken to break and loosen the rock material for extraction by hydraulic shovels. Blasting activities have the potential to cause high short term fugitive dust emissions and therefore need to be carefully managed and planned, particularly for blasts that occur near the surface.	Fugitive Dust	Blasting Dust Management Plan
Mining	Mining is undertaken using hydraulic shovels that load ore/waste rock into haul trucks to transport ore to the run of mine (ROM) pad or stockpile to be subsequently processed whilst waste rock is dumped on various waste rock dumps. Load, haul, and dumping activities have the potential to create fugitive dust emissions through the following: handling, transporting and dumping; use of earth moving equipment; vehicle movement on unsealed roads; and wind erosion in pit, from waste dumps, stockpiles and unsealed roads.	Fugitive Dust	Dust Monitoring and Management Programme

3.1. Blast Dust Management Plan

Blasting is essential to the mining process. In simple terms a blast is defined as a pattern of charged holes that are fired in a sequence to fracture the rock enabling digging by hydraulic shovels and subsequent load and haul activities. Open pit blasting has the potential to cause fugitive dust resulting in high short-term ambient dust emissions.

Due to the proximity of the Fimiston Open Pit to residential areas of Kalgoorlie-Boulder, it is necessary to determine the potential for a blast to result in fugitive dust emissions being transported into residential areas, prior to a blast being conducted. Blasts within the Fimiston Open Pit that have the potential to impact on residential areas are termed “Wind Direction Dependent” blasts; as the name implies, the firing of these blasts is dependent on wind direction. Wind Direction Dependent blasts are primarily related to surface blasting undertaken in the upper benches of the open pit.

3.1.1. KCGM Dust Programme

To manage Wind Direction Dependent blasts, the KCGM Dust Programme was created to graphically display the current wind speed and direction data recorded at the Metals Exploration Yard (MEX) and Cassidy Headframe (CAS) weather monitoring stations.

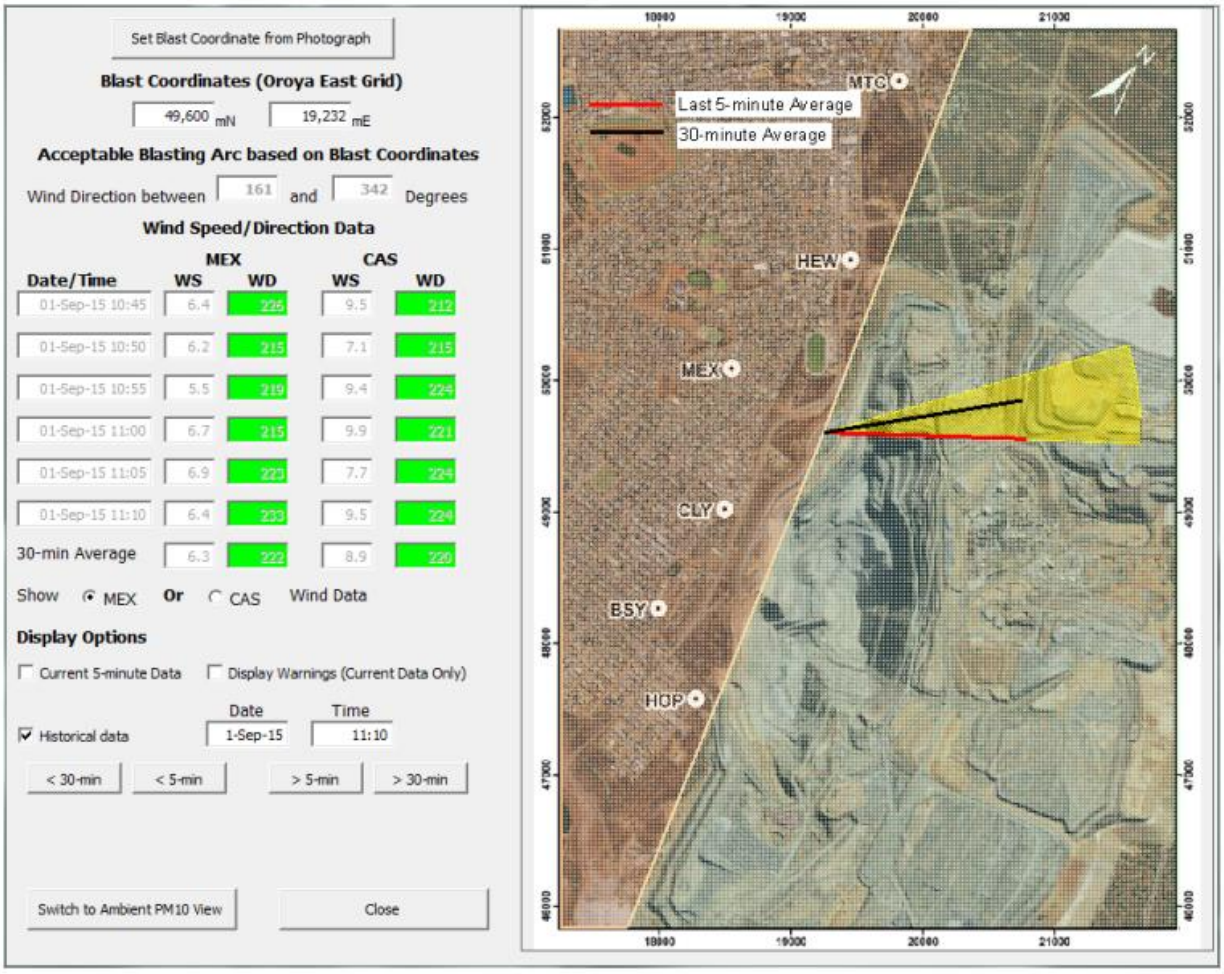

Figure 1: Example Display from the KCGM Dust Programme

The KCGM Dust Programme is used by Drill and Blast personnel to determine the acceptable wind direction arc for a Wind Direction Dependent blast. Firstly the blast location is selected and then the KCGM Dust Programme calculates and displays the acceptable wind direction arc within which that blast can be undertaken. Wind directions recorded over the last 30-minutes at both MEX and CAS are shaded green if they fall within the acceptable arc and red if they fall outside of the acceptable arc. Figure 1 provides an example of the KCGM Dust Programme display.

In order for a Wind Direction Dependent Blast to proceed, the KCGM Dust Programme is reviewed fifteen minutes prior to the blast being initiated to ensure the conditions outlined in Table 4 are met. If the conditions are not met then the blast is cancelled and delayed until the conditions are favourable.

Occasionally, it is necessary to fire a Wind Direction Dependent blast even though wind conditions are unfavourable. For example: if the explosives have been in place for up to 14 days, at which time the explosives need to be fired for safety reasons (i.e. they may not detonate properly if left in-situ for longer periods); if inclement weather is forecast which may result in inadvertent detonation of the shot from lightning or rockfall; or if the shot contains underground workings whereby subsidence may result in misfires if the shot is not fired within a timely manner.

The MEX wind data are used in assessing these conditions. If the data from MEX are not available, the CAS wind data are used. Conditions 4 and 5 in Table 4, are relaxed (or considered not applicable) when the current winds are clearly in the ‘green arc’ and are forecast to remain that way.

Table 4: KCGM Dust Programme – Required Conditions for Wind Dependent Blasting

Condition	
1	At least four of the 5-minute average wind direction boxes are shown as green
2	No more than one of the last three 5-minute wind direction boxes are shown as red
3	The 30-minute average is shown as green
4	The variation in the measured wind direction (as depicted in yellow) is narrow (e.g. less than 60º) and not reflective of large variations in the wind directions
5	The 30-minute average wind speed is greater than 2 m/s

Each request to fire a Wind Direction Dependent blast is considered on a ‘case by case’ basis and requires appropriate environmental review and managerial authorisation prior to being fired. Table 4 outlines the restrictions imposed on Wind Direction Dependent blasts and examples of situations which require authorisation.

Table 5: Blast Restrictions for Wind Direction Dependent Blasts

Situation	Blasting Restriction	Authorisation Required
Normal	Blast may be fired only if the KCGM Dust Programme meets the conditions of Table 4 with relaxation of Conditions 4 and 5 if winds are clearly in the "green" arc.	No
Opportunity to blast due to dust mitigating circumstances (e.g. rain, depth in pit).	Decision to blast on a case by case basis.	Yes
Necessity to blast for safety reasons (e.g. sleep time for explosives is approaching 14 days, risk of lightning strike or rockfall, shot contains voids)	Decision to blast on a case by case basis.	Yes

3.2. Dust monitoring and management programme

The objective of the DMMP is to ensure 24-hour average PM_{10}[1] concentrations as a result of the Fimiston Operations are less than 50 µg/m^3 at the monitoring locations (daily performance target, refer to Section 4.1.1). A dust modelling study for the Fimiston Operations, undertaken by Environ Pty Ltd for KCGM in August 2006, indicated that the 24-hour average PM_{10} ground level concentrations resulting from the Fimiston Operations were predicted to be less than 50 µg/m^3 at the nominated receptors with the exception of the HEW monitoring site (see Figure 2 for monitoring locations).

[1] Particulate matter of diameter less than 10 microns.

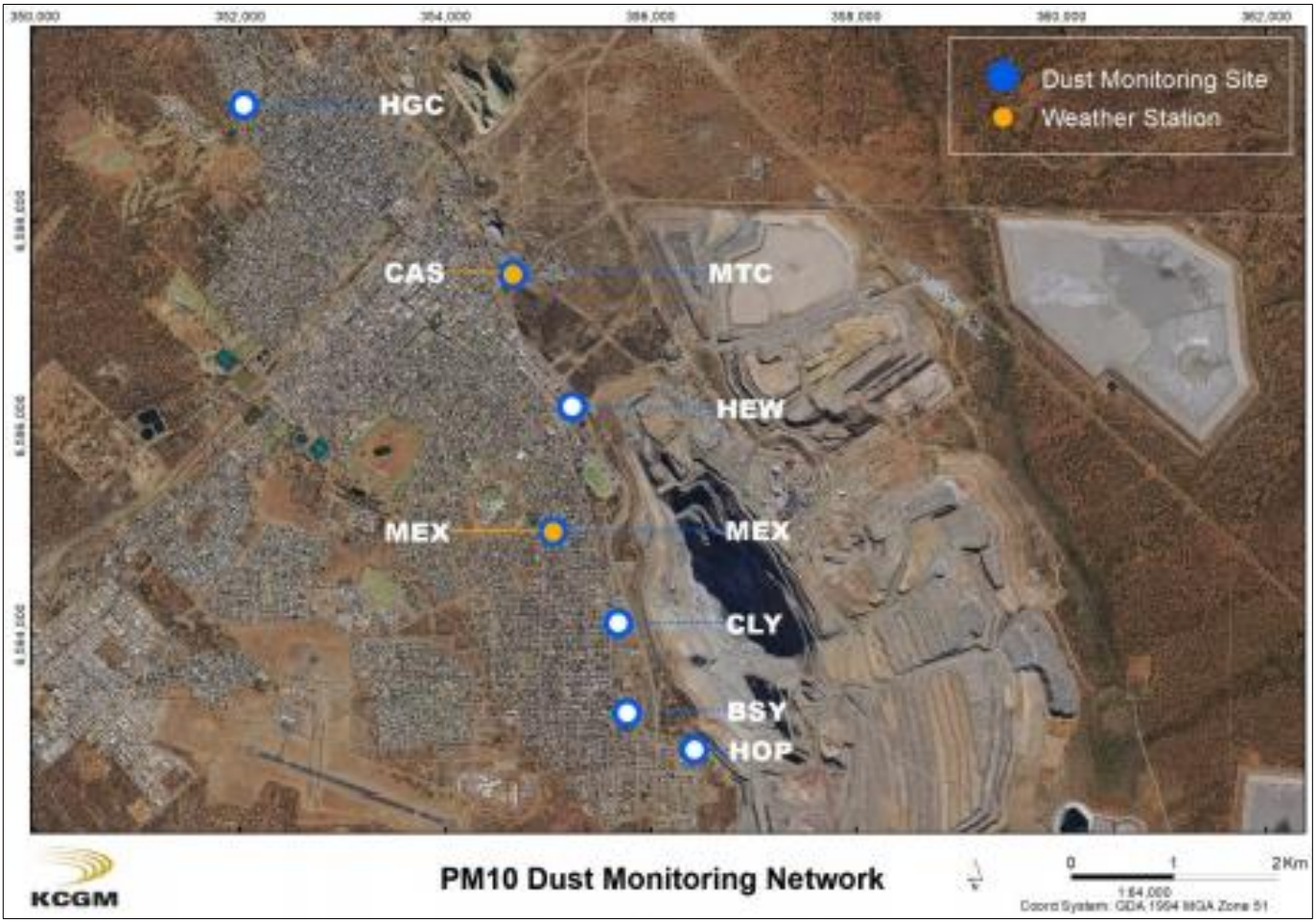

Figure 2 Dust and Weather Monitoring Locations

It must be recognised however that air dispersion modelling results are only indicative as they are influenced by a number of factors, including the effectiveness of the management measures and the prevailing meteorological conditions. The DMMP has been developed to enable KCGM to actively manage its operations to mitigate fugitive dust emissions. This is achieved via real time monitoring of ambient PM_{10} concentrations.

3.2.1. Dust Management Strategy

3.2.1.1 Preventative Control Strategy

KCGM implements the following preventative control strategies:

- Progressive rehabilitation of bare ground areas to minimise the fugitive dust emissions from wind erosion;
- Use of water trucks and water cannons in areas that could produce dust such as haul roads, service corridors and other active surfaces;
- Watering down ore/waste rock material prior to load and haul activities as required;
- Watering down the surface of the blast prior to firing as required;
- Plan activities in high risk areas (e.g. digging/loading) during day shift when fugitive dust can be seen and managed where practicable; and
- Use of additional dust control measures (i.e. a dust binding agent) where necessary.

3.2.1.2 Predicted Control Strategy

KCGM uses forecast weather conditions to manage potential fugitive dust emissions associated with blasting and earthmoving activities (e.g. top-soil stripping, rehabilitation, landform management and construction) through implementation of the following control measures:

- Delaying/suspending work as deemed necessary; and
- Use of alternative operational areas if possible (e.g. use a different waste rock dump).

3.2.1.3 Reactive Component of DMMP

KCGM has implemented a dust alarm system which actively monitors the ambient PM_{10} dust data and based on a set of criteria automatically activates an alarm which prompts a reactive response by KCGM to mitigate dust emissions if the dust is likely to be from the Fimiston Operations. The alarm system is primarily based on trigger levels for each monitoring site to address the occurrence of short-term/high concentration events. The management of longer-term/lower concentration data that could potentially result in the 24-hour average being greater than the daily performance target was integrated into the alarm system in 2016.

The alarm system also caters for missing data and/or instrument failure requiring remedial action. In order to implement the DMMP alarm system the following are required:

1. Determination of appropriate trigger levels for ambient PM_{10} concentrations over different time periods (i.e. 30-minute, 1-hour, and 6-hour averages). The trigger levels should also be low enough to allow adequate response time to reduce the risk of exceeding the Daily performance target, but high enough to ensure that they do not unduly disrupt normal operations (without due cause).

   The trigger levels were initially determined by assessing the historical PM_{10} monitoring data from the BSY site on days where the measured 24-hour average PM_{10} concentration was greater than 40 µg/m^3. This analysis determined the average and maximum of the peak (initially 30-minute to 6-hour averages) to mean (24-hour average) ratios from the monitoring data. The trigger levels for an ‘Alert’ alarm were set at a point that is at or below the average peak to mean ratio while the trigger levels for an ‘Action’ alarm were set at a point at or below the maximum peak to mean ratio.

   It is expected that the peak to mean ratios will change over time as more data becomes available. Therefore, the trigger levels are reviewed every few years or following any high level events based on the monitoring data collected at each monitoring site (the last review was conducted in May 2019 where data from each individual monitoring site were used).

2. Determination of the most appropriate response time subsequent to an alarm being activated. This may include consideration of wind speed and travel time. The response time is the elapsed time taken to implement control measures following an alarm being raised. Two alarm conditions have been adopted: Alert and Action which correspond to a response time of 30 minutes and 10 minutes respectively.

   The Alert alarm trigger levels are indicative of the possibility of on-site activities contributing to ambient concentrations that may approach the daily performance target and where reasonable and practicable management measures could be implemented to reduce this risk.

The Action alarm trigger levels are set at values that indicate it is likely that on-site activities are contributing to ambient concentrations that may be higher than the daily performance target and where reasonable and practicable, immediate management measures should be implemented to reduce this potential.

The trigger levels for each monitoring site as recommended by Ramboll Australia Pty Ltd following a review of the PM_{10} data in May/June 2019 are provided in Table 6. As the HGC site is used as a control monitoring site no trigger levels have been set for this site. Note that it is likely that the trigger levels will be updated and the HOP dust monitoring station be relocated as a result of the implementation of the Project. This will be addressed when the 2022 Provisional FAQMP is finalised.

Table 6: Trigger Levels of PM_{10} Dust Monitors

Dust Monitoring Concentration (µg/m^3)						
Site	**HOP**	**CLY**	**HEW**	**BSY**	**MTC**	**MEX**
0.5 hr Alert	160	135	155	155	175	165
0.5 hr Action	315	320	360	365	375	300
1 hr Alert	140	115	135	140	155	145
1 hr Action	270	250	285	285	325	235
6 hr Alert	75	65	75	80	90	90
6 hr Action	115	110	115	130	150	115

In the event of an alarm being activated the Open Pit Dispatch is notified via an audible and visual alarm and the Dispatch Operators are notified with the alarm type (Alert or Action) and the monitoring site of interest. The alarm system also displays the dust concentration over the different time periods (i.e. 5-minute, 30-minute, 1-hour, and 6-hour averages), wind direction, and wind speed. The KCGM Dust Programme is then used to identify the potential sources/causes of the alarm.

The KCGM Dust Programme (Figure 3) provides a visual representation of the location of the potential emission sources via back trajectory paths based on wind speed and direction. If the back trajectory indicates that the Fimiston Operation is the possible source, the Dispatch Operators, Shift Supervisor or nominated person will determine what activities are occurring in the indicated area and implement control measures as appropriate within the appropriate response time (Figure 4).

There are many natural and anthropogenic sources of particulate emissions in the Goldfields Region and it is not unusual to have regional dust storms that can result in significant ambient PM_{10} concentrations over a wide area.

If several of the monitors are recording high PM_{10} concentrations at any one time, this may indicate that the emissions are potentially from regional sources rather than specific KCGM sources. In all instances where an alarm is activated the ambient monitoring data will be reviewed at that time and this review may include visual observations to aid in the identification of emission sources.

Figure 4 shows the process flow that occurs on an ongoing basis as part of the DMMP.

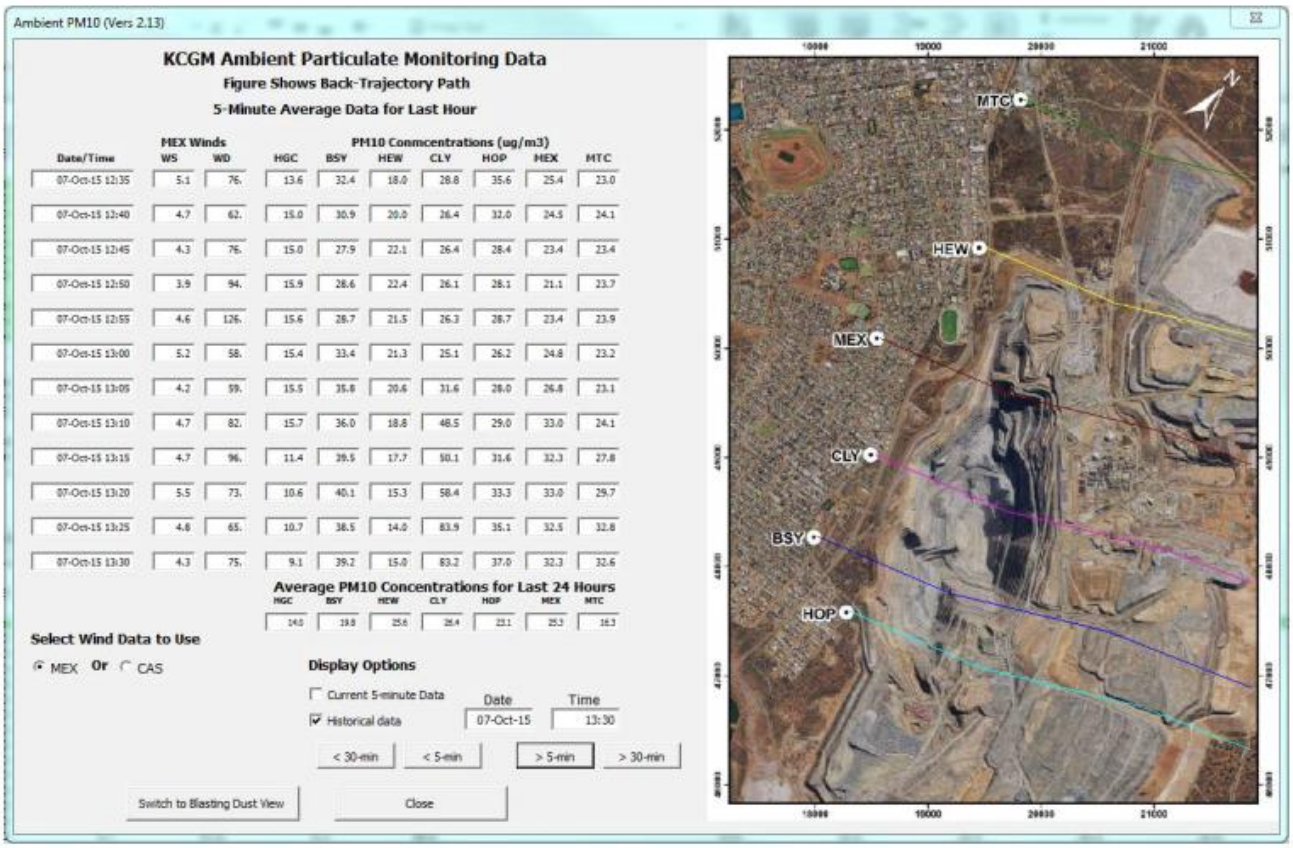

Figure 3: Sample Display from the Ambient Particulate Monitoring Data (KCGM Dust Programme)

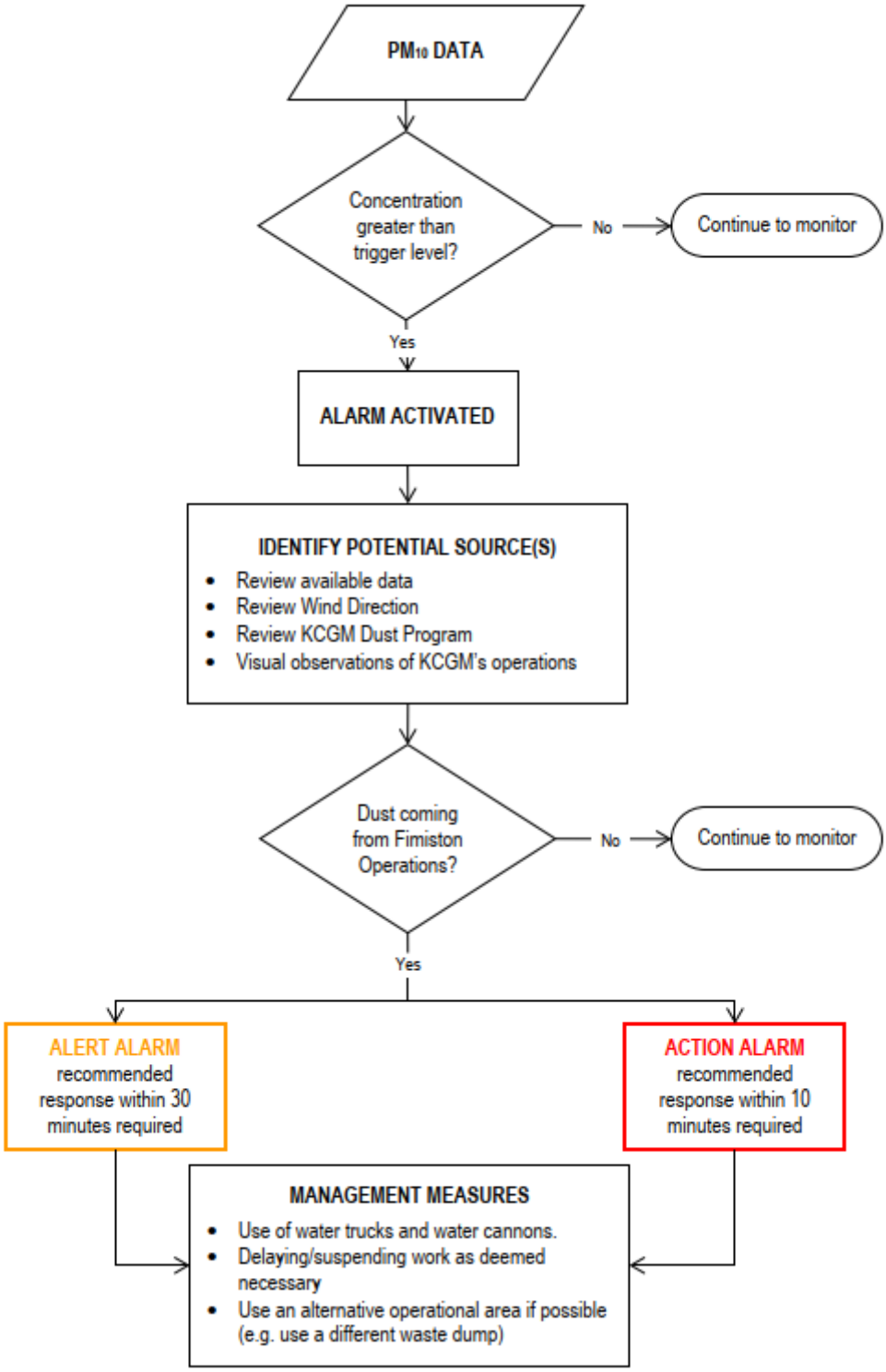

Figure 4 Process Flowchart for Reactive Component of DMMP

3.2.2. Dust Management Measures

Dust management practices implemented by KCGM have proven to be successful and include (but are not limited to):

- Monitoring current and forecast weather conditions using daily forecasts and real time wind speed and direction monitoring data to plan work activities;
- 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 visual inspections, dust alarms, public feedback or prevailing wind conditions;
- Use an alternative operational area if possible (e.g. use a different waste dump);
- Ensuring that all contractors and staff undertake site-specific inductions which include raising awareness of the importance of dust control;
- Ensuring dust monitoring is undertaken, that the data are assessed in real time, and the results of the monitoring are reviewed and reported on; and
- Ongoing consultation with stakeholders to determine the success of the dust management measures.

KCGM continues to work on reducing the impact of dust from its operations. Investigations into best practice management are ongoing and improvements are made when they are identified.

The above management practices are primarily implemented by the Shift Supervisor and/or Project Supervisor and the nominated Environment Advisor. However, each employee and contractor is made aware of the potential impact fugitive dust emissions can have on the community and are therefore required to implement dust control measures where required and report any notable visible dust coming from KCGM's operations to the Shift Supervisor and/or Project Supervisor or the nominated Environment Advisor.

3.3. Mercury Emissions Management Plan

Mineral processing activities at the Fimiston Processing Plant can potentially result in point source emissions of mercury to the atmosphere; namely from the carbon regeneration kilns and the gold room. Mercury is known to be contained within coloradoite, one of a suite of telluride minerals that are rare but widely distributed through the Golden Mile lodes and generally represents less than 0.00014% of the ore mined from the Fimiston Open Pit and the Mt Charlotte Underground Mine. The percentage of mercury present in the ore processed through the Fimiston Processing Plant circuit is typically less than 0.0001%.

During the gold recovery process some of the mercury that is contained in the ore is leached and collected onto carbon via the Carbon in Leach (CIL) circuit. Whilst a small amount of mercury joins the gold in the refining process the majority of the mercury is retained on the carbon. Subsequently the mercury is recovered from the carbon during the carbon regeneration process and during the gold refining process (refer to Section 3.3.1).

Mercury is also present in the waste rock (typically 0.00001%). KCGM undertook an analysis of particulate collected by its high volume samplers which showed that the maximum level of

mercury present in the ambient dust samples (each collected over a 24-hour period) was around 0.002% with an average concentration of approximately 0.0001%. The maximum particulate mercury level was recorded in a Total Suspended Particulate (TSP) sample and was much higher than the results obtained from all of the other filters that were analysed (which had an average of 0.0001%). The calculated 24-hour average particulate mercury concentration in the maximum sample was less than 1% of the World Health Organisation (WHO) (2003) annual average guideline (0.2 µg/m^3). Therefore mercury contained in fugitive dust emissions from KCGM's operations is considered to represent a very small and negligible environmental and/or health risk.

Following the April 2011 monitoring program KCGM completed two short term continuous ambient mercury monitoring programs, in April 2012 and February 2013, along with a longer-term monitoring program using passive samplers which ran from February 2012 through to March 2013. The results of these monitoring programs found the ambient mercury concentrations were well below the ambient guidelines, confirming the findings of the previous studies.

3.3.1. Fimiston Emissions Reduction Project

During 2015, KCGM commenced implementation of the Fimiston Emissions Reduction Project (ERP) which has been designed to capture greater than 90% of the atmospheric mercury emissions associated with mineral processing activities at the Fimiston Processing Plant. The Fimiston ERP involved the installation of an exhaust off-gas 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 retort unit was also installed in the gold room to capture mercury emissions from the furnace. A new mercury storage facility has also been installed to provide for storage of elemental mercury from the Gold Room retort oven, mercury-laden carbon from the Kiln Off-Gas Cleaning Circuit (KOGCC) and other mercury wastes (e.g. contaminated PPE), until these can be removed off-site to an approved facility for final treatment / disposal. On 24 November 2020, KCGM applied to the DWER to amend Licence L6420/1988/14 under section 59 and 59B of the Environmental Protection Act 1986 (EP Act), seeking the following amendments:

- operation of infrastructure constructed and commissioned under works approval W5532/2013/1 for the Fimiston Emissions Reduction Project (ERP) including installation of new emissions control equipment including a Retort Oven in the Gold Room, a Wet Scrubber, Regenerative Thermal Oxidiser (RTO) and Carbon Filter Beds to treat the off-gas from the Carbon Regeneration Kilns;
- amending authorised emission points to air in Table 2.2.1 of the licence to reflect the new abatement system; and
- amending Table 1.3.1 containment infrastructure of the licence to include retort room liquid mercury store and mercury storage facility.

The Commissioning Report for the emissions reduction project was submitted to the department on 15 October 2020. The Delegated Officer considered the commissioning report and considered that the data adequately demonstrates that the project design criteria in terms of mercury capture and VOC destruction have been achieved. Licence L6420/1988/14 now incorporates the Fimiston Emissions Reduction Project. This plan supersedes the Carbon Kiln Mercury Emissions Reduction Programme.

4. CONDITION EMP PROVISIONS

KCGM's primary objective for the DMMP is to proactively manage its Fimiston Operations to ensure that the 24-hour average PM_{10} concentrations as a result of KCGM's emissions are less than 50 µg/m^3 at the monitoring locations. This performance target was based on the PM_{10} Standard from the National Environmental Protection (Ambient Air Quality) Measure Variation 2003, and included a target of not more than five events above the daily performance target at any dust monitoring location per annum where KCGM is a significant contributor (refer to Section 6.2.1).

To ensure the PM_{10} dust monitoring network is adequately maintained, greater than 90% availability of the continuous PM_{10} data from each dust monitoring locations is required on an annual basis.

The environmental criteria for KCGM's Continuous PM_{10} Dust Monitoring Network is outlined in Table 7.

Table 7: PM_{10} Dust Monitoring Performance Targets

Monitoring Locations	PM_{10} Dust Monitoring Performance		
	Daily	Annual Event	Annual Data Availability
Boulder Shire Yard (BSY) Hewitt Street (HEW) Clancy Street (CLY) Hopkins Street (HOP)[2] Mt Charlotte (MTC) Metals Exploration Yard (MEX) Hannan's Golf Course (HGC)	24-hour average less than 50 µg/m^3	Not more than five events above the daily performance target at any dust monitoring location per annum where KCGM is a significant contributor.	Greater than 90% per annum.

4.1.1. Mercury Air Emission

The Fimiston ERP has been designed to capture more than 90% of gaseous mercury emissions from the Carbon Regeneration Kilns.

4.2. Monitoring Programmes

4.2.1. Continuous PM_{10} Dust Monitoring Network

KCGM's Continuous PM_{10} dust Monitoring Network is detailed below:

- Continuous PM_{10} dust monitoring is undertaken at seven monitoring locations stations (BSY, HEW, CLY, HOP MTC, MEX and HGC), using Thermo Beta Attenuation Monitor (BAM) samplers, fitted with PM_{10} inlets. The monitoring locations are shown on Figure 2.

Note: The HOP dust monitoring station will be required to be relocated as a result of the implementation of the Project.

[2] To be relocated as part of the licence review.

- The MTC and MEX dust monitoring locations were established in accordance with Condition 7-6 of Ministerial Statement 782, which required KCGM to install two additional dust monitoring stations co-located with the existing wind speed and wind direction monitoring stations.
- The BAM samplers are configured to provide 5-minute average PM_{10} concentrations to assist with the detection and assessment of any high short-term PM_{10} concentrations on a real time basis.
- The BAM samplers are serviced quarterly in accordance with the manufacture's recommendations.
- The number and location of monitors used within the dust monitoring network offers sufficient coverage of the residential areas adjacent to the Fimiston Operations to enable representative data of the potential ambient PM_{10} concentrations that may occur as a result of fugitive dust emissions from the Fimiston Operations. The results of the dust modelling study undertaken for the PER were used to assist in the selection of these monitoring locations.
- The HGC site is used as a control monitoring site for PM_{10} as it is located some 4.5 km from the Fimiston Operations. It is generally considered to be representative of the local environment and data from this site enables comparison of background concentrations with the other monitoring sites.
- PM_{10} dust data are recorded in µg/m^3 which are averaged over 5 minutes.
- PM_{10} dust data are validated on a weekly basis.
- Wind direction and wind speed is recorded at two weather stations (MEX and CAS), as shown on Figure 2.
- Wind speed and wind direction is measured at each weather station using MET ONE model 50.5 sonic anemometer equipment.
- The wind sensors are field checked every 6 months and wind tunnel calibrated every two years in accordance with the manufacturer's recommendations.

4.2.2. Mercury

4.2.2.1 Ambient Mercury Monitoring

KCGM commenced a twelve-month ambient mercury monitoring program on 15 February 2012 in accordance with the FAQMP and the program was completed on 3 March 2013. The objective of the monitoring program was to confirm if the results obtained from the April 2011 ambient monitoring program are representative of the longer-term ambient mercury concentration in the Kalgoorlie-Boulder residential area adjacent to the Fimiston Operations.

The average mercury concentration in ambient air at the HEW and CLY monitoring locations over the 12-month period was less than approximately 0.08 µg/m^3, which indicates comfortable compliance with the annual ambient air quality criteria 0.2 µg/m^3 specified by the WHO (2003). The ambient mercury monitoring program and its results were documented in a report that was provided to the OEPA in November 2013. The results of the monitoring program were consistent with the anticipated outcome based on the previous work that had been conducted.

As presented in Section 3.2.2, KCGM has of commissioned the Fimiston ERP which has been designed to capture more than 90% of gaseous mercury emissions from the Carbon Regeneration Kilns.

KCGM considers that further ambient mercury monitoring is not required given that:

- The ambient mercury monitoring program produced results that were consistent with those expected, and below the ambient guidelines; and
- That the Fimiston ERP has resulted in a significant reduction in the atmospheric emissions of mercury.

4.2.2.2 Carbon Kiln Mercury Emissions

Mercury emissions from the carbon regeneration kilns are estimated via a mass balance approach based on:

- The concentration of mercury on the carbon prior to it being treated in the kilns;
- The concentration of mercury on the carbon after regeneration;
- The rate at which carbon is fed into the kilns; and
- The times during which the kilns were being used.

The Fimiston ERP has been designed to ensure that more than 90% of gaseous mercury emissions from the Carbon Regeneration Kilns are captured via the KOGCC and not released to the atmosphere.

5. COMPLAINT MANAGEMENT

Northern Star KCGM Operations has a 24-hour Public Interaction Line (PIL) (established in 1993) which the community can use to speak directly with Northern Star representatives on specific matters they wish to discuss. It is an important avenue for capturing individual and community issues which require follow up and action. The PIL is promoted regularly in print and radio advertising, radio interviews, online mediums (website) and printed materials (Information Sheets).

The PIL is supported by an electronic database, which enables the categorisation of queries and the automation of subsequent action allocation and follow-up. The database is also used to record stakeholder communications and engagement and enables data to be analysed and tracked with reference to areas of community concern.

During business hours, PIL enquiries are referred directly to the relevant department supervisor for appropriate action. Incoming calls received outside office business hours may be forwarded to the shift supervisor for immediate action or where appropriate will be followed up the next working day.

Once an internal review has been completed, the caller is informed of actions taken or outcomes of their enquiry or complaint. Northern Star responds to all people who contact the PIL (and provide contact details) either by phone, in writing or meetings if required.

6. REPORTING PROVISIONS

6.1. KCGM Website

Condition 7-5 of Ministerial Statement 782 requires KCGM make available continuous dust monitoring data on the website within 24 hours of the recording of that data. To meet this requirement, KCGM has developed a Dust Monitoring Report (Figure 5), made publicly available on the KCGM website (www.superpit.com.au). The report is updated daily at ~6 am and makes reference to the Daily performance target. Invalidated data are identified with a '*'.

KCGM proposes that a target of 100% be implemented for making the continuous dust monitoring data on the website available within 48 hours. This is to allow for unplanned outages (e.g., regional power outages, website outages and delays due to unplanned equipment maintenance).

Date	Average Daily Dust Measurements (µg/m³)						
	Hannans Golf Course (HGC)	Boulder Shire Yard (BSY)	Holmes Street (MEX)	Mt Charlotte (MTC)	Hewitt Street (HEW)	Clancy Street (CLY)	Hopkins Street (HOP)
29 Jul 2022	*6	*9	*9	*11	*9	*29	*11
28 Jul 2022	5	13	13	16	9	33	13
27 Jul 2022	21	29	36	27	35	38	33
26 Jul 2022	12	17	21	11	17	28	14
25 Jul 2022	15	33	21	14	30	36	21
24 Jul 2022	5	7	9	10	9	10	5
23 Jul 2022	7	9	10	10	12	13	10
22 Jul 2022	7	16	17	17	23	22	16
21 Jul 2022	4	5	6	5	5	13	5
20 Jul 2022	8	8	18	8	11	15	11
19 Jul 2022	13	12	12	12	13	13	8
18 Jul 2022	8	11	12	8	13	17	10
17 Jul 2022	8	8	13	7	10	15	15
16 Jul 2022	14	13	17	17	17	16	13
15 Jul 2022	6	10	10	10	11	11	9
14 Jul 2022	5	11	9	15	8	50	14
13 Jul 2022	8	14	14	11	12	24	18
12 Jul 2022	12	29	34	15	17	35	57
11 Jul 2022	14	16	19	15	19	18	12
10 Jul 2022	7	9	10	12	11	16	9
09 Jul 2022	6	10	10	17	12	31	14
08 Jul 2022	9	14	13	10	8	33	18
07 Jul 2022	13	21	16	16	22	35	33
06 Jul 2022	7	9	10	12	11	16	9
05 Jul 2022	8	11	12	19	10	36	14
04 Jul 2022	7	7	11	9	6	12	10
03 Jul 2022	4	8	14	4	7	11	18
02 Jul 2022	6	9	15	4	6	13	12
01 Jul 2022	4	3	9	5	7	12	6
30 Jun 2022	3	3	13	3	10	5	11

The National Environment Protection Measure for Ambient Air Quality particles as PM10 is an average of 50 µg/m³ for a 24 hour period.

Report generated at 30 July 2022 07:10:25

* indicates that the daily average was calculated from unvalidated live field data

Figure 5; Sample of KCMG's Dust Monitoring Report

If requested, PM_{10} dust monitoring data is provided to the DWER and/or DoH upon request.

6.2. Reporting of Exceedance of Environmental Criteria

In the event that the daily performance target for PM_{10} dust concentration is exceeded KCGM will undertake an assessment of the ambient PM_{10} monitoring data and review the circumstances and potential emission source. Where KCGM is identified to be a significant contributor to the event the relevant authorities (i.e. DWER and DoH) will be notified within seven days of the date of exceedance.

The KCGM Dust Programme is used during the investigation of any recorded exceedance of the daily PM_{10} dust monitoring performance target to determine whether operations had contributed to dust emissions despite the winds being outside the assumed arc of influence.

The KCGM Dust Programme has the ability to display data for any selected date and time including the ability to step forwards or backwards in 5-minute or 30-minute steps. These back trajectories in combination with KCGM's recorded operational activities (e.g., truck movements, waste rock dumping areas) are used within the analysis to identify potential dust sources.

The period of seven days allows for:

- The potential recovery of missing data if there have been any communication problems; and
- Data validation and analysis including time for the determination of potential source contributors and the following up with dispatch operators on dust alarm actions, taking into account shift changes and out of office periods when staff are unavailable.

The following information is included in the notification:

- A summary of the event;
- Appropriate wind roses and time series analysis indicating dust concentration, wind direction and wind speed;
- Source contribution analysis; and
- Actions taken and identified mitigation measures, where appropriate.

Details of compliance against the Annual Event Target and Annual Data Availability are reported to the DWER via the Annual Compliance Assessment Report prepared for Ministerial Statement 782.

6.2.1. Methodology for Determining Significant Contribution

Should a calculated daily average PM_{10} concentration (based on the average of the 5-minute average concentrations recorded for the day) exceed 50 µg/m^3 (provided there is sufficient data available to validate the 24-hour average), then KCGM undertakes a review of the 5-minute average PM_{10} concentrations and meteorological monitoring data to:

1. Determine the daily average concentration, if any, that was associated with wind directions that were within the arcs that align with KCGM's Fimiston Operations and use this value to calculate the ratio of the KCGM arc;
2. Based on an assessment of the winds that occurred, determine which ambient PM_{10} monitoring station is most likely to represent the "background" monitoring site (usually the HGC site) and the daily average "background" concentration recorded at that site;

3. Calculate the difference between the recorded daily average exceedance concentration and the daily average background concentration and determine the ratio of this difference and the recorded daily average exceedance concentration; and
4. If the ratios determined from steps 1 and 3 are both greater than 60% then KCGM is considered to be a potential significant contributor.

6.2.2. Other Contributory Factors

Should other factors be found to contribute to calculated daily average PM_{10} concentration, namely factors outside of KCGM's control, then KCGM is not considered to be a significant contributor to the event.

Other contributory factors may include, but are not limited to, the following:

- Fugitive dust caused by regional storm events. There are many natural and anthropogenic sources of particulate emissions in the Goldfields Region and it is not unusual to have regional dust storms that can result in significant ambient PM_{10} concentrations over a wide area. Evident when several of the monitors record a high PM_{10} concentrations at any one time.
- Fugitive dust caused by a third party (e.g. vehicle activity on unsealed roads). A common contributory factor due to the location of some monitoring sites being adjacent to unsealed/dirt areas.
- Smoke from wood heaters. A common contributory factor during the winter months.
- When the potential source of the of the PM_{10} concentrations cannot be determined due to very low wind speeds and/or highly variable wind directions.

6.3. Annual Environmental Report

In accordance with conditions of Prescribed Premises Licence L6420/1988/14, KCGM prepares an Annual Environment Report for the Fimiston Operations that includes:

- A summary of the PM_{10} dust monitoring results for the reporting period.
- An analysis of seasonal and annual dust trends to review the effectiveness of dust control measures and continuous improvement in air emission controls implemented through the FAQMP.

7. ADAPTIVE MANAGEMENT AND REVIEW OF THE CONDITION EMP

KCGM will also implement adaptive management to learn from the implementation of mitigation measures, monitoring and evaluation against the environmental criteria in order to meet the condition environmental objective. The following approach will be followed:

- Where KCGM is identified to be a significant contributor to events where the potential emission source(s) is from the same area, operational data will be reviewed to verify whether the DMMP is being implemented effectively, or if there has been a change to operating conditions. Where required, KCGM will implement improved dust management measures.
- Air Quality monitoring data and trigger levels pertaining to the dust alarm system are reviewed every three years as part of the triennial review process or following any high level events based on the monitoring data collected at each monitoring site. Please note that the triennial review of the 2019 FAQMP is due to be completed by the 23 January 2023. It is intended that this review, including a review of the monitoring data and trigger levels, will be conducted in parallel with EPA assessment of the FS Proposal. Relevant findings from the review or the EPA assessment can be incorporated into the revised FAQMP.
- An increased number of complaints or repeated complaints from the same area will be reviewed to verify whether air quality management practices are being implemented effectively, if there has been a change to operating conditions or if the source is external to the Fimiston Operations. Information received via community feedback can assist KCGM to identify air emission sources and improve air quality management.

Review of the Condition EMP will be undertaken as per the following:

- On advice from DWER and/or DoH;
- Following a significant change in process or operational aspect; or
- Following an incident investigation or response to public complaint which identifies a gap in the management plan relating to either process or data collection.

8. STAKEHOLDER CONSULTATION

KCGM's close proximity to the City of Kalgoorlie-Boulder has necessitated a sustained effort in stakeholder engagement. It is this proximity which drive a concerted effort to engage local and government stakeholders. The KCGM Stakeholder Engagement Plan details key stakeholder, engagement methods and ongoing review of external relationships. KCGM utilises a range of mechanisms to facilitate consultation, provide information and capture input from the wider Kalgoorlie-Boulder community on an ongoing basis.

A summary of key stakeholder consultation undertaken by KCGM with regards to air quality management and the development of this Condition EMP is provided in the following sections.

8.1. Social Impact Assessment

Every five years a Social Impact Assessment (SIA) is commissioned by KCGM 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 a specific mining project, providing unbiased recommendations of how best to minimise any negative impacts, and maximise positive impacts.

In July 2020, a comprehensive SIA was undertaken for our KCGM Operations to understand the priority impacts, both positive and negative, resulting from our activities on the community of Kalgoorlie-Boulder. Conducted by KPMG Banarra, a specialist human rights and social impact advisory team, the SIA revealed twelve priority impacts. In response, a broad Social Impact Management Plan was developed to enhance positive impacts and mitigate potential negative impacts.

As an addendum to the comprehensive SIA completed for KCGM Operations in 2020, Northern Star completed a SIA specifically for the Project in August 2021 (KPMG, 2021) and this SIA is documented in the Revised Proposal.

Despite the numerous challenges identified in the SIA, including the effects of blasting, vibration and dust that may be perceived to reduce the quality of life as the cutback moves closer to residents, the SIA found that there is a high level of community trust in KCGM. This is particularly valuable to the Project because as it indicates that if environmental or social impacts emerge during the construction and operation of the Project, it will be possible for the company to work with the community to find solutions to those impacts.

8.2. Community Reference Group

The Community Reference Group (CRG) is a self-selected group of local community members and invited guests from DWER, Department of Mines, Industry Regulation and Safety (DMIRS), Kalgoorlie-Boulder Chamber of Commerce and Industry (KBCCI), Department of Planning, Lands and Heritage (DPLH) and State (elected Members) and Local (CKB) Government representatives. The group meets monthly to discuss current KCGM planning, operational activities and feedback from the community. Minutes of meetings are available on the KCGM website together with contact details for all CRG Members. The local community is encouraged to contact CRG members to discuss their issues if they do not wish to contact KCGM directly.

8.3. Local Voices

Local Voices is a unique community engagement program developed over 10 years within Australia's leading science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Voconiq is an independent company which was founded by a team of dedicated social scientists at CSIRO, in conjunction with Local Voices.

KCGM has engaged the services of Voconiq to implement and coordinate a Local Voices program within Kalgoorlie-Boulder over the next three years, with the aim of improving engagement, increasing understanding and generating better relationships and outcomes between KCGM's Operations and the surrounding communities.

Local Voices was launched in August 2019, with an initial anchor survey open to all community members including KCGM employees. It is designed to provide a platform for the people of Kalgoorlie-Boulder to have a direct voice in expressing their views on current and planned activities associated with KCGM's Operations.

This will better inform KCGM of issues that matter most to communities surrounding their operations, and subsequently these insights can be used in business decision making.

The link to the KCGM Local Voices page as follows: https://voconiqlocalvoices.com/kalgoorlie-boulder/

8.4. Regulatory Agencies

KCGM has previously consulted with numerous regulatory agencies on the development of the FAQMP, including the OEPA's Proposal and Implementation Monitoring Section, DEC Air Quality Branch, DEC Industry Regulation in Kalgoorlie and the DoH.

Consultation and feedback has been used for confirmation and approval of dust monitoring locations, instruments, implementation of monitoring programmes and inclusion of additional information in the FAQMP when requested.

9. GLOSSARY

µg/m^3:	micrograms per cubic metre
BDMP	Blasting Dust Management Plan
BSY:	Dust Monitoring Location Boulder Shire Yard
CAS	Weather Monitoring Location – Cassidy Headframe
CKB	City of Kalgoorlie-Boulder
CKMERP	Carbon Kiln Mercury Emissions Reduction Programme
CLY	Dust Monitoring Location – Clancy Street
CRG	Community Reference Group
DEC	Department of Environment and Conservation. (Now DWER)
DMIRS	Department of Mines Industry Regulation and Safety
DMMP	Dust Monitoring and Management Programme
DoH	Department of Health
DPLH:	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
EMP	Environmental Management Plan
EP Act	*Environmental Protection Act 1986*
EPA	Environmental Protection Authority
ERP	Emissions Reduction Project
FAQMP	Fimiston Air Quality Management Plan
HEW	Dust Monitoring Location – Hewitt Street
HGC	Dust Monitoring Location – Hannan's Golf Course
KBCCI	Kalgoorlie-Boulder Chamber of Commerce and Industry
KCGM	Kalgoorlie Consolidated Gold Mines Pty Ltd
km	Kilometres
KOGCC	Kiln Off-Gas Cleaning Circuit
MEX	Dust/Weather Monitoring Location - Metals Exploration Yard
Monitoring	Is the process of sampling and measuring certain parameters
Mt	Million tonnes
MTC	Dust Monitoring Location – Mt Charlotte
NEPM	NEPM
OEPA	Office of the Environmental Protection Authority. (Now DWER)
PER	Public Environmental Review
PIL	Public Interaction Line
PM_{10}	Particulate Matter with an equivalent aerodynamic diameter of 10 microns or less
RTO	Regenerative Thermal Oxidiser
SIA	Social Impact Assessment
WHO	World Health Organisation

10. REFERENCES

Australian Standard AS/NZS 3580.9.11-2008 Methods for sampling and analysis of ambient air - Part 9.11: Determination of suspended particulate matter - PM_{10} beta attenuation monitors

ENVIRON Australia Pty Ltd (2006). Public Environmental Review, Fimiston Gold Mine Operations Extension (Stage 3) and Mine Closure Planning. Report prepared for Kalgoorlie Consolidated Gold Mines Pty Ltd.

Minister for Environment (1991) Ministerial Statement 188: Fimiston Mine and Waste Dumps

Minister for Environment (2009) Ministerial Statement 782: Fimiston Gold Mine Operations Extension (Stage 3) and Mine Closure Planning.

National Environment Protection (Ambient Air Quality) Measure Variation, 2003

National Environment Protection (Ambient Air Quality) Measure Variation, 2015

WHO (2003). Concise International Chemical Assessment Document No 50. Elemental Mercury and Inorganic Mercury Compounds: Human Health Aspects. World Health Organisation.

11. CHANGE REGISTER

Location	Change
Cover Page	Title change – added 2022 (Provisional)
Table of Contents	Added List of Tables
Section 1.1	Text added: KCGM is submitting this 2022 Provisional FAQMP to support a revised version (Revised Proposal) of the Fimiston Gold Mine Operations Extension (Stage 3) and Mine Closure Planning proposal. The Revised Proposal is to mine a cutback to the south of the Fimiston open pit, referred to as the Fimiston South Project (the Project). This will allow for both the widening and deepening of the pit and extend the life of mine to 2034. KCGM believes the FAQMP incorporates best practice to minimise impacts to air quality as a result of the Fimiston Gold Mine Operations.
Section 1.2	Revised name of document
Section 1.3	Added row 10 to Table 1
Section 1.4	Added Text: This FAQMP is submitted as Provisional and will be endorsed when the 2022 FAQMP is finalised.
Section 2.1	Added Text: Overview of operations
Section 2.4	Added Text: Conditions will be finalised and implemented following receipt of approval of the Project under the EP Act.
Section 3.1.1	Added text to table 4: 30 minute
Section 3.2.1.3	Added text: Note that it is likely that the trigger levels will be updated and the HOP dust monitoring station be relocated as a result of the implementation of the Project. This will be addressed when the 2022 Provisional FAQMP is finalised.
Section 3.3.1	Added dot point: Note: With the implementation of the Fimiston Emissions Reduction Project (See Section 3.3.2) the CKMERP is now redundant. KCGM proposes to remove this section of the FAQMP when this 2022 Provisional FAQMP is finalised.
Section 3.3.2	Added text: A new mercury storage facility has also been installed to provide for storage of elemental mercury from the Gold Room retort oven, mercury-laden carbon from the Kiln Off-Gas Cleaning Circuit (KOGCC) and other mercury wastes (e.g. contaminated PPE), until these can be removed off-site to an approved facility for final treatment / disposal. On 24 November 2020, KCGM applied to the DWER to amend Licence L6420/1988/14 under section 59 and 59B of the Environmental Protection Act 1986 (EP Act), seeking the following amendments:
Section 3.2.2	Added Dot points

Location	Change
Section 3.2.2	Added text: The Commissioning Report for the emissions reduction project was submitted to the department on 15 October 2020. The Delegated Officer considered the commissioning report and considered that the data adequately demonstrates that the project design criteria in terms of mercury capture and VOC destruction have been achieved. Licence L6420/1988/14 now incorporates the Fimiston Emissions Reduction Project.
Section 4.2.1	Added text: • Note: The HOP dust monitoring station will be required to be relocated as a result of the implementation of the Project.
Section 5	Added all text
Section 6.1	Added text: KCGM proposes that a target of 95% be implemented for making the continuous dust monitoring data on the website available within 24 hrs, and a target of 100% within 48 hours. This is to allow for unplanned outages (e.g., regional power outages, website outages and delays due to unplanned equipment maintenance).
Section 7	Added text: Please note that the triennial review of the 2019 FAQMP is due to be completed by the 23 January 2023. It is intended that this review, including a review of the monitoring data and trigger levels, will be conducted in parallel with EPA assessment of the Project. Relevant findings from the review or the EPA assessment can be incorporated into the revised FAQMP.
Section 8	Removed text: along with the principles of JV Owners Newmont and BarrickOwner Northern Star
Section 8.1	Added all text
Section 8.1	Removed text: The views of Kalgoorlie-Boulder residents are captured regularly in KCGM's Social Impact Assessments (SIA), which are conducted around every five years or when there is a major operational change. The most recent SIA conducted in 2015 2020 included questions regarding management of environmental impacts, including air quality. Both key stakeholders and public phone survey respondents rated KCGM highly in management of environmental impacts
Section 8.3	Added all text