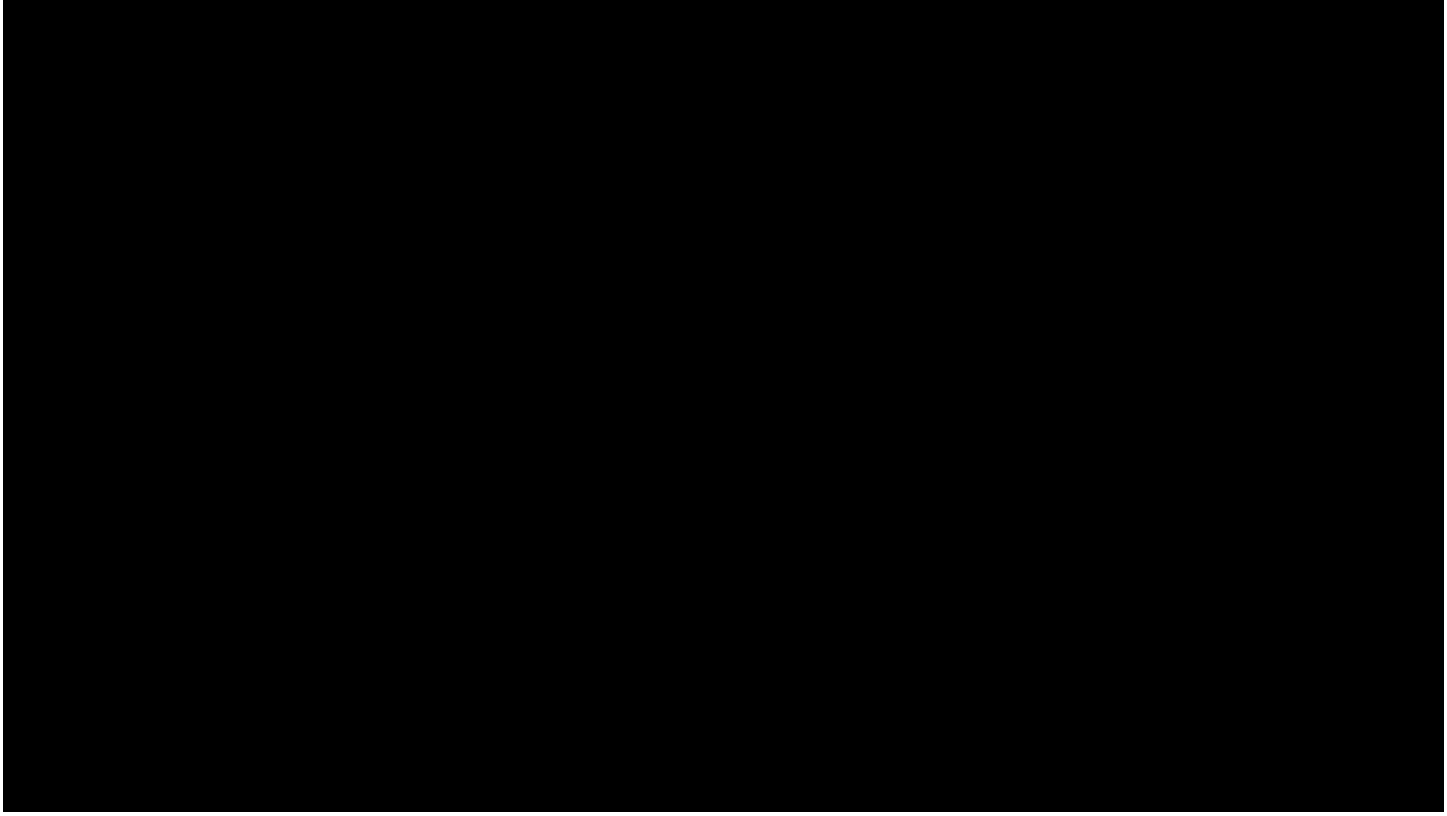
AUSTRALIAN GARNET LUCKY BAY OPERATIONS

DUST MANAGEMENT PLAN

Document Number: AUG-PLN-EV-003-02-Dust Management Plan



CONTENTS

1. PURPOSE AND SCOPE

This Dust Management Plan (DMP) applies to the Australian Garnet Pty Ltd (Australian Garnet) Lucky Bay Operations (Figure 1).

This DMP is a revision of document originally prepared in June 2022, and revised in December 2023. This version provides a revised Trigger-Action-Response-Plan (TARP).

The purpose of this revised DMP is to outline the way in which the Lucky Bay Operations will be managed and monitored such that impacts to surrounding air quality and associated environmental values are minimised. The DMP outlines the:

- Operational management measures applied to reduce the levels of fugitive dust generated by operations.
- Identified dust sources and dust control equipment, management practices and relevant maintenance procedures to minimise the generation of dust.
- Monitoring processes to quantitatively measure particulate (dust) levels and assess performance against the DMP objectives and targets.

The key environmental risks relate to the release of dust during material handling and from wind erosion. Dust generated by operations, and in combination with naturally occurring background levels, may potentially impact on the local environment and surrounding community locations via:

- Increased risk to human health and wellbeing.
- Loss of amenity or nuisance impacts.
- Reduction in visibility along George Grey Drive.

The DMP is prepared to meet the requirements of following environmental approvals:

- Environmental Protection Act 1986, Works Approval W6214/2019/1.
- Environmental Protection Act 1986, Licence Application.

2. DEFINITIONS

Standard definitions used in this document are as follows:

Term / Abbreviation	Definition
AGPL	Australian Garnet Proprietary Limited, the Company.
AS / NZS	Australian and New Zealand standard.
DCS	Distributed Control System. Computer system operating processing plant and support services.
DEMIRS	WA Department of Energy, Mines, Industry Regulation and Safety.
Dust Episode	Defined as being either: ➢ **Observed dust leaving the Lucky Bay premises boundary and impacting or likely to impact an offsite receptor.** ➢ **Community complaint relating to dust.** ➢ **Measured dust above the Level 3 Trigger.**
Dust Event	Defined as being any dust episode that is investigated and found to be attributable to dust from the Lucky Bay premises.
DWER	WA Department of Water and Environmental Regulation.
EAG	Environmental Assessment Guideline from EPA (Western Australia)
EPA	Environmental Protection Authority (Western Australia)
Fugitive dust	Dust emitted from a source that is not defined.
km	Kilometre.
KUNAL Air Pro	A Microsensor with particulate cartridge.
mAHD	Metres above Australian Height Datum.
Mt	Million tonnes.
Netsuite	AGPL database software used for the compilation of HSE statistics, data and incident record.
PM_{10}	Particulate matter with an equivalent aerodynamic diameter average size of less than 10 µm, (micrometres).
tpa	Tonnes per annum.
TSP	Total Suspended Particulates.
TWA	Time Weighted Average.
Weekly Class Report	Data from Main Roads Western Australia (MRWA) of traffic measurements on specific roads.

3. ENVIRONMENTAL CONTEXT

3.1. Location

The Lucky Bay Operations are located within leases M70/1280 and G70/253, at the southern margin of the Carnarvon Basin, approximately 40 kilometres (km) south of Kalbarri in the Shire of Northampton, and are adjacent to George Grey Drive, approximately 2 km from the coastline. The project location is shown in Figure 1.

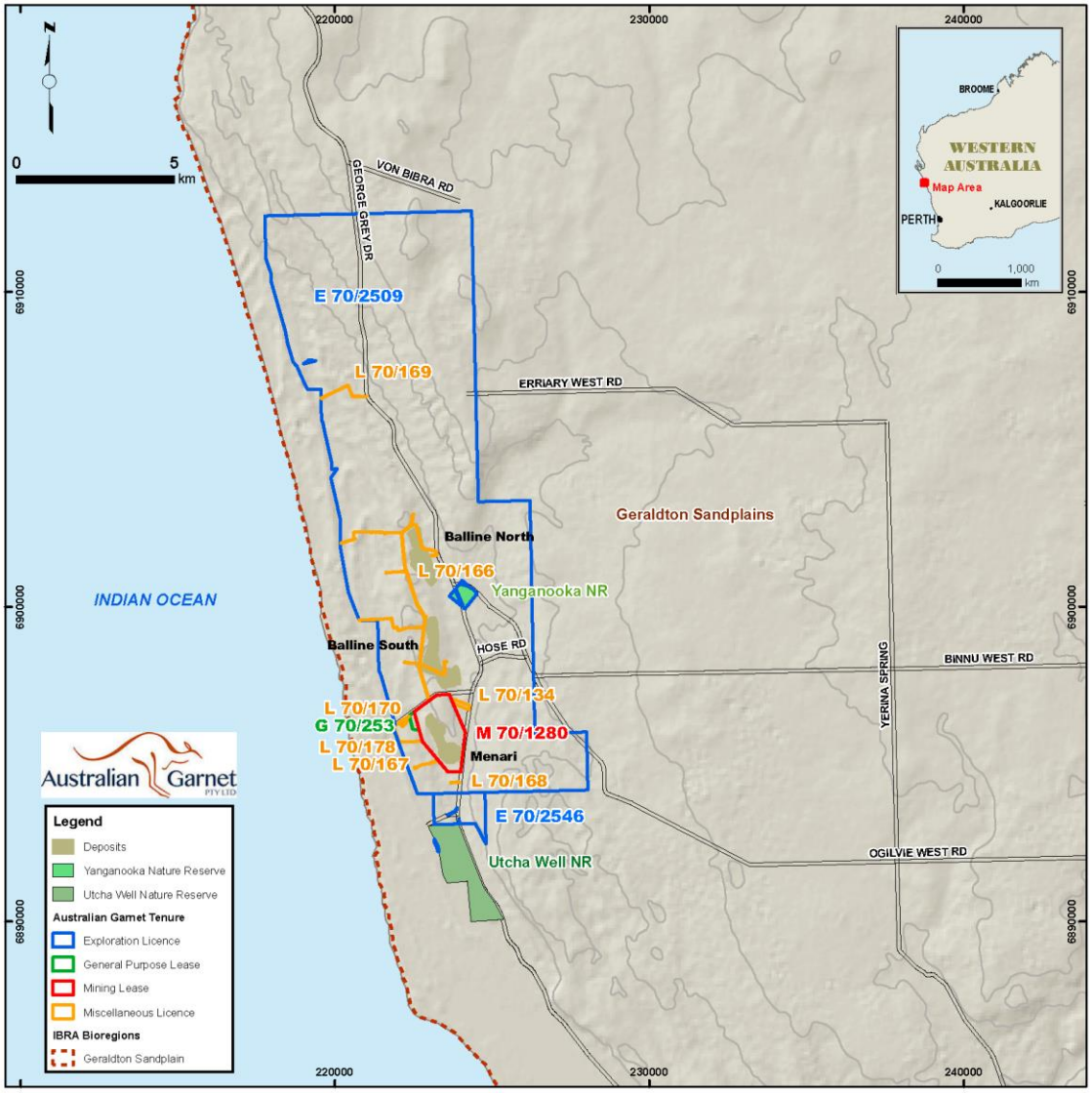


Figure 1: Regional location of the Lucky Bay Project.

3.2. Climatic conditions

The region experiences a Mediterranean climate with hot, dry summers and mild, wet winters. The nearest Bureau of Meteorology (BoM) weather stations are:

- Lynton station (operating since 1915), approximately 23 km south-south-east.
- Kalbarri (operating since 1970), approximately 36 km north.
- Geraldton Airport approximately 98 km south-east.
- Lucky Bay station (operating since 1930), approximately 5 km north-east.

The closest station BoM station that records continuous meteorological data is the BoM Automatic Weather Station (AWS) at Geraldton Airport (Station ID 008315). The data from this station is expected to be broadly similar to that experienced at the Australian Garnet operations.

The annual wind rose, derived from hourly wind speed and direction measurements from 2012 to 2022 is presented in Figure 2. From this figure it is apparent that:

- The prevailing wind direction is from the south, with a significant proportion of these winds above 6 m/s, which is the nominal wind speed at which wind erosion occurs.
- There is a prevailing wind direction from the southeast, though the wind speeds from this direction are primarily below 6 m/s.
- The third prevailing wind direction is from the northeast with wind speed being below 6 m/s for most of the time.

The wind speed and direction data from the Geraldton Aero AWS, for the period 2012 to 2022, is presented as monthly wind roses in the Appendices. The monthly wind roses show that on average:

- Southerly winds occur for six months of a year from October through to March.
- The frequency of strong winds from the south occurs mainly November through to February.
- The months of April and September are transitional months in that the wind direction can vary from the south, southeast or northeast.

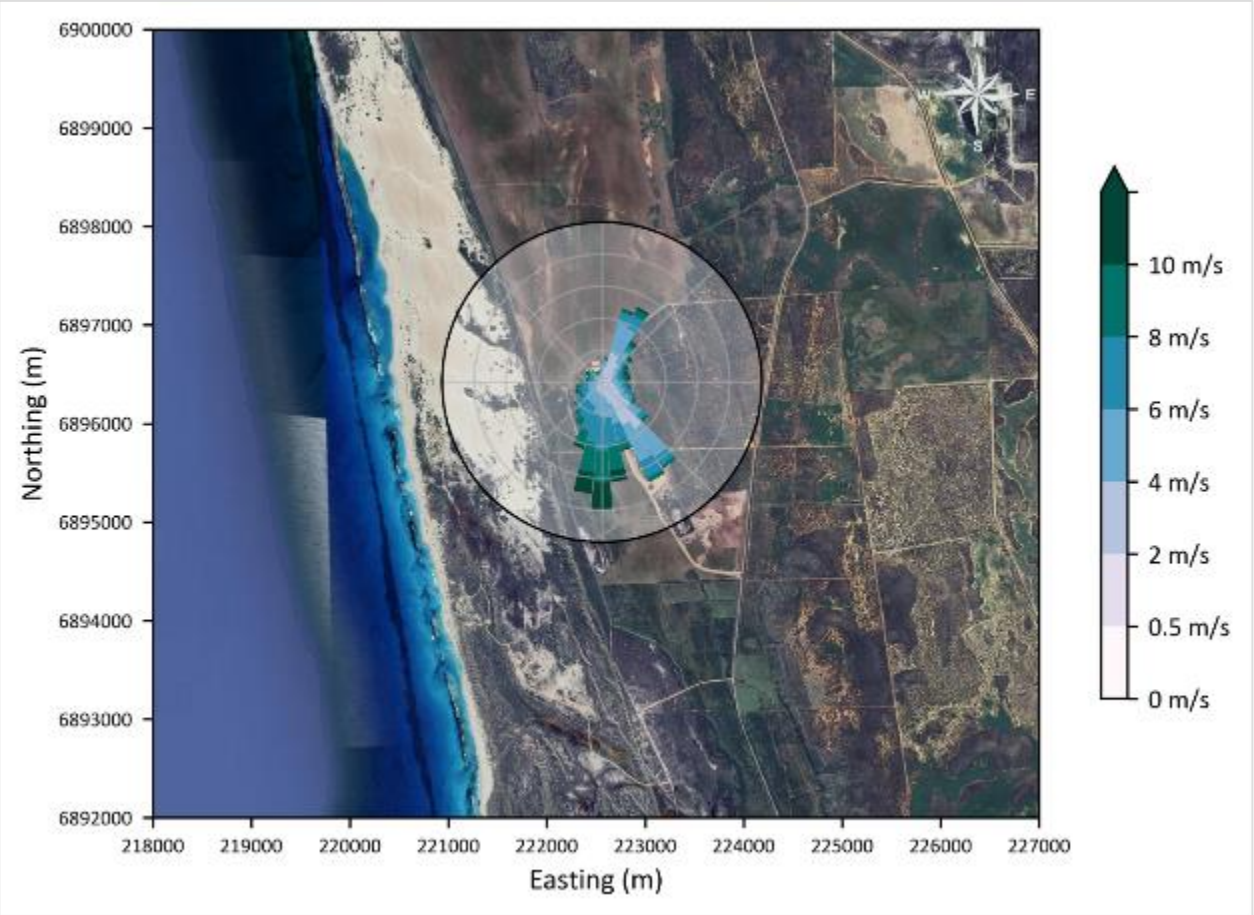


Figure 2: Annual wind rose (BoM Geraldton Aero 2012-2022).

An assessment of average hourly wind speed by day of the year and time of day for Geraldton Aero from 2012 to 2022 in Figure 3, indicates that:

- Wind speeds above 6 m/s (marked with a black contour line) are frequent during the daytime during the summer months. These conditions present a high risk of dust generation from wind erosion.
- Wind speeds above 6 m/s are infrequent during winter months.

The assessment of total hourly precipitation by day of the year and time of day for the last three years, as shown in Figure 4, indicates that rainfall is more frequent in winter than summer, and that rainfall is inconsistent and heavy rain is rare.

In summary, high average wind speeds and dry conditions in the warmer months are an indicator that there is a strong seasonal pattern to wind erosion, and therefore a higher risk for the generation of wind-blown dust, with much higher levels of wind erosion occurring over summer. The dominant strong southerly winds indicate that areas to the north of the project are most likely to be at higher risk of being impacted by site dust emissions, than other locations.

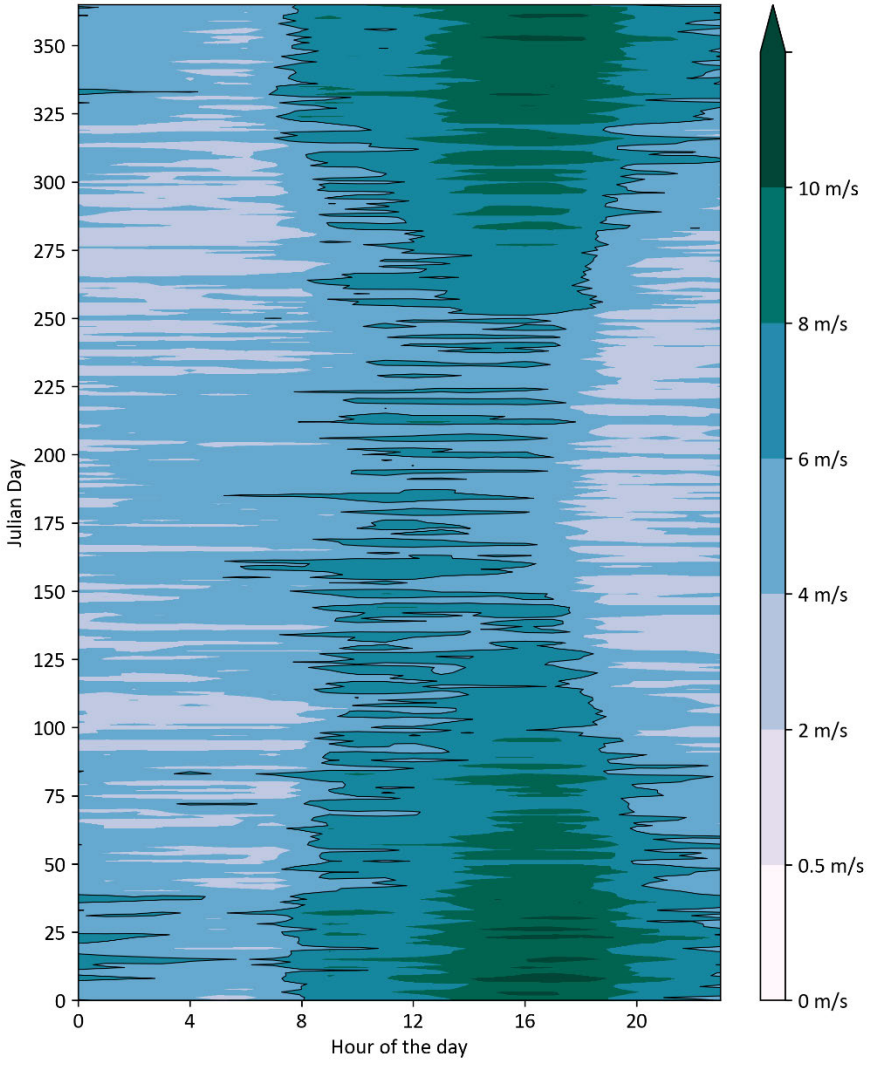


Figure 3: Hourly average wind speed by hour of the day and calendar day of year (BoM Geraldton Aero 2012-2022).

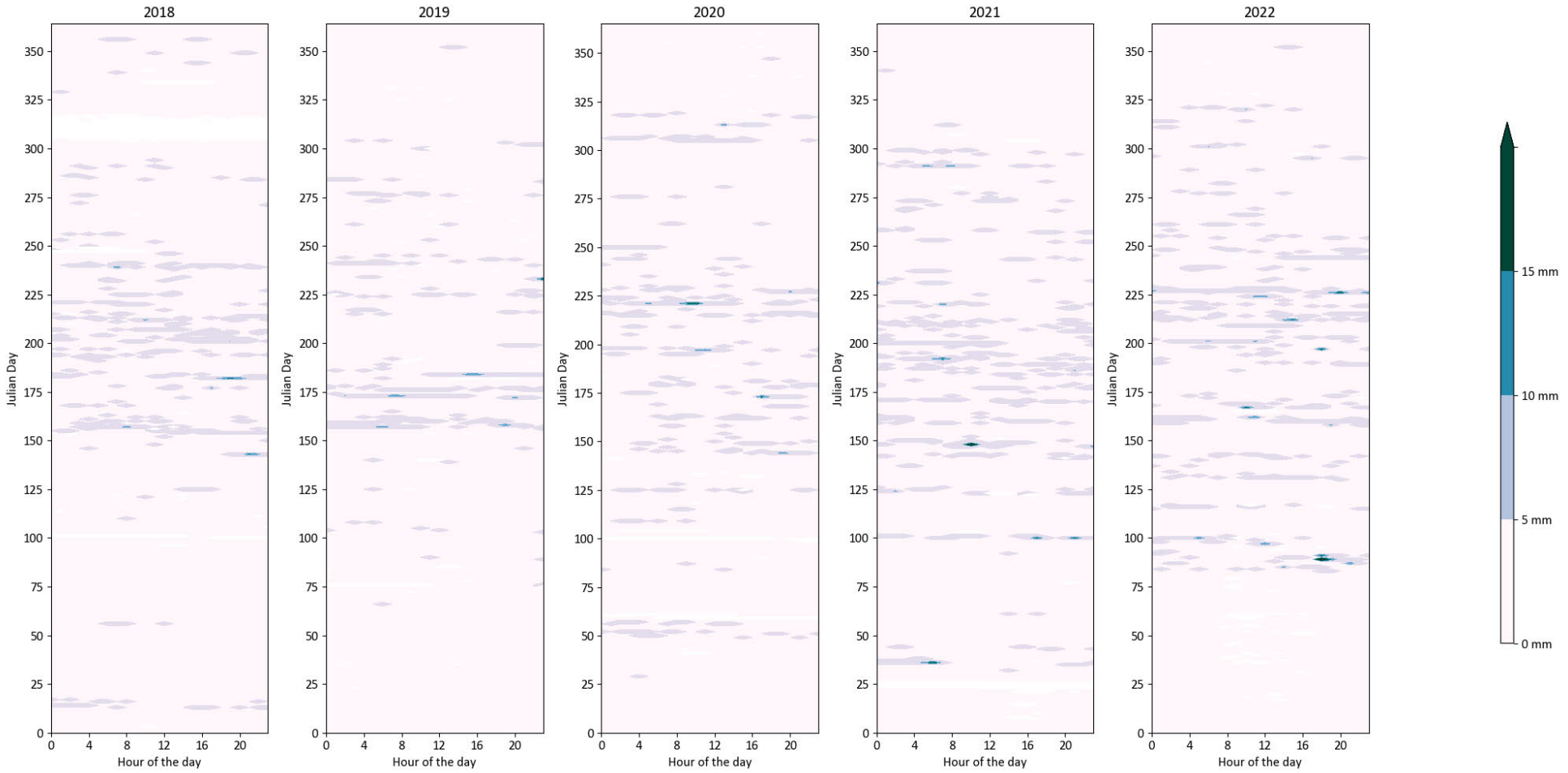


Figure 4: Total hourly precipitation by day of year and hour of day (BoM Geraldton Aero 2018-2022)

3.3. Sensitive receptors and associated impact assessment criteria

The Lucky Bay Project is adjacent to three sensitive receptors (dwellings), shown on Figure 5:

- R1 – residential building on a rural property.
- R2 – Half Way Bay Camp located on crown land and administered by the Shire of Northampton.
- R3 – Lucky Bay farm house, residential and associated buildings on a rural property.

Table 1 shows the nearest distance for each property from the operation in comparison to the EAG guidelines for separation distances, (EPA 2015). The EAG recommends a separation distance of 2,000 m for a mineral sand mining and processing facility, and a distance of 300 – 500 m for a sand or clay pit. In addition to these three nearest dwelling locations shown, the next nearest sensitive receptors are more than 5 km away and are therefore unlikely to be directly influenced by dust generated at the premises.

From a road safety perspective, given the proximity of the operations to George Grey Drive, as shown in Figure 5, wind-blown dust visibly leaving the premises boundary may lead to reduced driving visibility. Main Roads Western Australia (MRWA) data for 2023 (Site 19539[1]) suggests 692 vehicle movements a day (weekdays) on average, or one vehicle movement every 2 minutes pass along George Grey Drive. Of this, 31% or 214 vehicles a day are heavy vehicles. Weekend days vehicle movements are less frequent at 657 vehicle movements a day on average, with a lower percentage of heavy vehicles (27%) equivalent to 177 heavy vehicle movements[2].

[1] George Grey Drive (M058) North of Ogilvie Rd West (SLK 73.70).
[2] These rates have essentially doubled since the initial DMP was developed.

Table 1: Separation distances for sensitive receptors to the project, (nearest point).

Receptor	Separation Distance	Source-Receptor-Alignment Based on Wind Conditions
R1	1,000 m	Receptor location not aligned to prevailing wind direction **but** may seasonally experience winds from the direction of AGPL (winter). The location is closer to AGL than the recommended separation distance (i.e. increased risk of impact at the receptor). Note that emissions from the facility will be visible from this receptor.
R2	2,260 m	Receptor location is aligned to winter prevailing wind direction and may seasonally experience winds from the direction of AGPL during late Autumn and early of Spring. The location is further away from AGPL than the recommended separation distance (i.e. reduced risk of impact at the receptor).
R3	3,620 m	Receptor location is not aligned to prevailing wind direction **but** may seasonally experience winds from the direction of AGPL during Spring. The location is further away from AGPL than the recommended separation distance (i.e. reduced risk of impact at the receptor).
Note: The guideline recommends a separation distance of 2 km for a mineral sand mining and processing facility to minimise potential impacts. The guideline recommends a distance of 300 to 500 m for a sand or clay pit.		

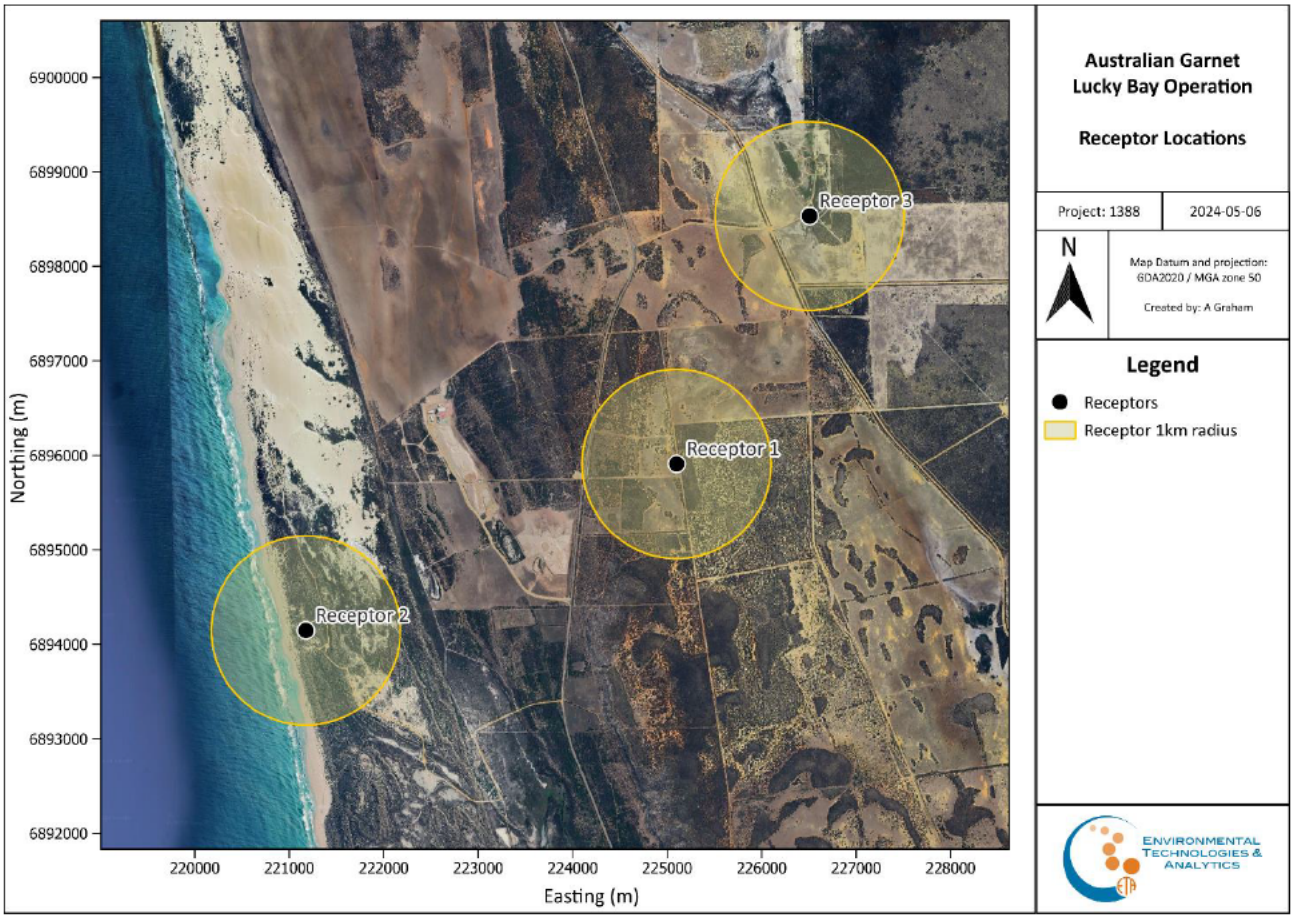


Figure 5: Dwellings adjacent to the Lucky Bay project area and relative separation.

3.4. Operations

The Lucky Bay Operation is a conventional mineral sand mine and processing plant, designed to minimise energy and environmental impacts. The mining process involves:

- Stripping and stockpiling of topsoil to expose the ore.
- Ore is mined directly with a front-end loader (i.e. there is no waste material), with some bulldozing, and fed directly to an in pit mining screen plant.
- Oversize is screened out and the ore is slurried with water and pumped back to a wet concentrator plant. Operating this way reduces trucking and minimises material movement, reducing energy consumption and dust generation.
- The wet concentrator plant separates the heavy mineral (HM) from the mainly silica sand and slimes via a conventional gravity plant, which recovers approximately 5% of the ore mass as a heavy mineral concentrate (HMC). The plant uses a reliable and proven method of efficient ore extraction which is similar to most wet mineral sand concentrator processes in Western Australia.
- The HMC is then fed directly to a dry separation plant located adjacent to the wet plant. The damp mineral is dried, then treated via conventional screens and magnets to recover the garnet.
- The dry garnet sand products are packed in Bulka bags and loaded onto trucks for container shipping via Fremantle. Some product is loaded from an overhead silo into trucks and transported to Geraldton in preparation for export via the port.
- Sand tails are slurried and pumped to a stockpile and when capacity becomes available to the mining void. Sand tailings are dewatered via cyclones or screens prior to stacking.
- Slimes from the thickeners are pumped to a series of solar drying cells. When the deposits are dry enough, they are excavated to create additional drying capacity. Recovered material will be blended with dry sand tails in the mining void as part of the backfill and rehabilitation operations.
- The planned mining rate is 4.5 million tonnes per annum (Mtpa).

3.5. Compliance Obligations

The Lucky Bay Operation has been subject to assessment under the provisions of Part V of the *Environmental Protection Act 1986* (EP Act). The current regulatory approval is Works Approval W61214/2019/1 which states the following with respect to:

- Emissions to air: Waste emitted to air from the Dry Separation Plant (DSP) rotary dryer must pass through a baghouse (pulsejet fabric filter), with minimum stack height 3 m.
- Dust Controls: Implement the following:
- Topsoil Stripping:
    - Be scheduled to avoid periods of high winds from unfavourable directions relative to off-site receptors (including George-Grey Drive).
    - Where there is a risk of dust affecting off-site receptors, conduct when soil conditions are moist.
    - Cease/suspend topsoil stripping operations during high wind conditions where there is risk of dust impacting off-site receptors.
- Water carts / sprays:

- Operate when discernible levels of dust are generated from ground surfaces on the premises and there is risk of dust affecting off-site receptors.
- Apply proactively subject to weather forecasting over a 24-hour period.
- Ensure that any water used on the premises for dust suppression does not impact on the health of native vegetation.

- Dust suppressants (other than water):
  - Apply proactively to overburden / topsoil stockpiles.
  - Apply proactively subject to visual inspection and weather forecasting over a 24-hour period.
- Cessation of activities:
  - Cease an activity causing discernible levels of dust where dust management measures have not prevented dust lift-off and there is a risk of dust affecting off-site receptors.

4. DUST RISK ASSESSMENT AND MANAGEMENT

4.1. DMP objective and targets

The purpose of the DMP is to document the dust control mechanisms that will be in place for the life of the garnet processing operations. Australian Garnet's specific management objectives for dust are:

- Ensure that dust emissions from the premises do not exceed the health or amenity criteria guidelines established by DWER.
- Monitor dust to ensure that dust emissions are adequately controlled onsite.
- To use all reasonable and practical measures to maintain dust emissions from the operations to as low as reasonably practical.

4.2. Dust Risk and Impact Analysis

The dust generating emission sources associated with the project, and the potential environmental, health and amenity impacts associated, are summarised in Table 2.

Dust controls incorporated in the design of the Lucky Bay operations are listed, along with the dust controls achieved through operational management. The management approach adopted at Lucky Bay is based on the following:

- Minimising the scale, intensity and exposure to high-risk activities or conditions according to present climatic conditions.
- Ensuring adequate management resources are available for current activities and conditions, and if conditions change.
- Educating the workforce on site to understand dust generation risks and controls. Mining and processing supervisors will be trained to recognise dust issues and the processes to follow should these issues arise.
- Recognising when weather conditions are too severe or otherwise unsuitable for conducting high dust risk activities and practical levels of management response would be ineffective.
- Consideration of current and forecast weather conditions, along with the potential for dust lift-off.

The routine implementation of the controls outlined in Table 2 will be supported through the implementation of ambient monitoring, and a Trigger-Action-Response-Plan that will be activated in circumstances when, due to environmental conditions and observed dust levels, additional supplementary actions are required. The TARP is outlined in Section 4.

A recent review of the operations and the dust controls in action (ETA, 2023) identified:

- The Clean Sand stockpile as dominating the dust risk profile, with the need to apply a suitable abatement solution to the exposed surface being critical to reduce the site's potential to generate dust. The dust suppressant product DustCheck, has been used with successes on site to reduce dust generation from the sand tailing stockpile.
- Unsealed roads and open areas require an access/traffic plan to reduce the size of the area from where dust may be generated. The application of a suitable polymer to treat the surface may also assist.

These actions have been included in Table 2.

Table 2: Dust Impact Analysis, Controls and Management

Dust source	Dust generating activity	Potential Impact	Dust control by design	Dust control through management
Clean Sand storage stockpile	➢ Wet sands are pumped into the pit from the processing plant. ➢ Sand rapidly dry and become susceptible to wind erosion.	➢ Dust may impact on nearby sensitive receptors. ➢ Dust deposition may occur at nearby sensitive vegetation. ➢ Wind speeds above 5 m/s will generally disturb the soil surface layer causing dust to disperse into the air.	➢ Sand are initially wet preventing dust emissions when deposited. ➢ Emissions occur within the pit which may reduce spread of emissions. ➢ Stabilised through the use of various surface treatments – including a polymer emulsion (prior to summer months). ➢ Re-contouring of the stockpile. ➢ Applying topsoil and seeding.	➢ Daily forecast and works planning to consider wind speed and wind direction forecast. ➢ High wind speeds will lead to a review of site activities to ensure dust controls are operational. ➢ Watering of exposed tailings to prevent drying out and emissions.
Stockpiling of Waste	➢ Depositing of waste material on stockpiles. ➢ Wind action on exposed waste stockpiles.	➢ Wind erosion of unsealed/untreated areas ➢ Wind speeds above 5 m/s will generally disturb the surface layer causing dust to disperse into the air. ➢ Dust may impact on nearby sensitive receptors in close proximity to the operations. ➢ Settling on sensitive vegetation, if present and at sensitive receptors	➢ Stockpiles and disturbed areas can be stabilised through the use of various surface treatments – such as a spray-on polymer chemical.	➢ Regularly inspect stabilised stockpiles and assess effectiveness of stabilisation. ➢ Progressively rehabilitate.

Dust source	Dust generating activity	Potential Impact	Dust control by design	Dust control through management
		➢ Visible dust plumes from nearby sensitive receptors or George Gray Drive.		
Stockpiling of HMC	➢ Unloading from ore truck ➢ Secondary or "dead' stockpiles exposed to southerly winds. ➢ Wind erosion	➢ Dust may impact on nearby sensitive receptors in close proximity to the processing plant.	➢ HMC stockpile is protected from the wind by stacked shipping containers. HMC has 6% moisture content on stacking. (note this excludes the secondary stockpile)	➢ Daily forecast and works planning to consider wind speed and wind direction forecast. ➢ Secondary stockpile being progressively reprocessed.
Screening and processing plant	➢ Processing of product through screening and processing plant	➢ Dust may impact on nearby sensitive receptors in close proximity to the processing plant.	➢ Processing of product is a wet process which reduces dust emissions significantly. ➢ Processing occurs in partially contained spaces preventing emissions from escaping.	➢ None required.
Bulldozers	➢ Bulldozers are used to push ore downwards onto pit floor.	➢ Visible dust plumes from nearby sensitive receptors or George Gray Drive.	➢ Bulldozers are operating in the pit which will reduce the amount of dust leaving the site.	➢ Watering of pit and stockpiles with water cart. ➢ Operator awareness, supervision & training. ➢ Water carts to wet down areas

Dust source	Dust generating activity	Potential Impact	Dust control by design	Dust control through management
Ore handling	➢ Material transfers – miscellaneous and not already accounted for.	➢ Dust may impact on nearby sensitive receptors in close proximity to the processing plant.		➢ Daily forecast and works planning to consider wind speed and wind direction forecast.
Wind erosion from topsoil stockpiles and open areas	➢ Depositing of topsoil or storage materials on stockpiles. ➢ Wind action on exposed stockpiles and unsealed roads.	➢ Wind erosion of open and unsealed areas ➢ Wind speeds above 5 m/s will generally disturb the soil surface layer causing dust to disperse into the air. ➢ Dust may impact on nearby sensitive receptors in close proximity to the operations. ➢ Settling on sensitive vegetation, if present and at sensitive receptors ➢ Visible dust plumes from nearby sensitive receptors or George Gray Drive.	➢ Stockpiles and disturbed areas can be stabilised through the use of various surface treatments. ➢ Re-contouring of the stockpile. ➢ Applying topsoil and seeding.	➢ Daily forecast and works planning to consider wind speed and wind direction forecast. ➢ High wind speeds will lead to a review of site activities to ensure dust controls are operational. ➢ Watering of open areas and unsealed roads using water and water with dust suppressant product (dust suppressant used on site roads but not on topsoil stockpiles). ➢ Watering of fine ore stockpile area ➢ Regularly inspect stabilised stockpiles and assess effectiveness of stabilisation.
Emissions from vehicles moving over unsealed roads	➢ Vehicle movement on unsealed roads. ➢ Wind action on unsealed roads.	➢ Movement of large vehicles on haul roads can lead to significant particulate emissions by mechanical disturbance of the road surface.	➢ Sealing of road surfaces to prevent emissions from vehicles. ➢ Installation of gutters to reduce material being tracked onto the road.	➢ Cleaning of sealed roads to prevent dust build up. ➢ Watering of unsealed roads with water cart and utilisation of dust suppression additive.

Dust source	Dust generating activity	Potential Impact	Dust control by design	Dust control through management
		➢ Movement of smaller vehicles on unsealed roads can produce particulate emissions. ➢ Visible dust plumes from nearby sensitive receptors or George Gray Drive.	➢ Clearly defined parking bays.	➢ Reduction in trafficable area by reducing the width of roads and clearly demarcating them. ➢ Making some roads one-way only. ➢ Limiting speed limit to 60 km/h.
Topsoil Stripping and replacement.	➢ Removal of topsoil disturbing soil and generating dust emissions. ➢ Disturbed areas are subject to wind erosion.	➢ Wind erosion of recently disturbed areas without vegetation. ➢ Wind speeds above 5 m/s will generally disturb the soil surface layer causing dust to disperse into the air. ➢ Dust may impact on nearby sensitive receptors in close proximity to the operations: ➢ Settling on sensitive vegetation, if present and at sensitive receptors ➢ Visible dust plumes from nearby sensitive receptors or George Gray Drive.	➢ Progressive application of surface treatments. ➢ Revegetation of disturbed areas after use.	➢ Watering of disturbed areas with a watering cart ➢ Daily forecast and works planning to consider wind speed and wind direction forecast. ➢ Topsoil will be stripped on a progressive basis to minimise disturbed area. ➢ Restricted access to stabilised stockpiles. ➢ Remove topsoil outside summer months.

5. DUST MONITORING AND RESPONSE PROGRAM

Ambient dust monitoring will be undertaken during the operating life of the project to inform the implementation of dust controls, and to ascertain the relative change in PM_{10} levels at nearby community receptors. In summary, the monitoring program includes:

- Three monitoring locations in the vicinity of the operations.
- Continuous real-time PM_{10} monitoring (KUNAK Air Pro Microsensor – nephelometer).

Table 3: Boundary Dust Monitoring

Monitor ID	Easting[1]	Northing[1]	Type	Monitoring Purpose
M1	222880	6895005	KUNAK Air Pro Microsensor – Particulate cartridge [2]	Boundary monitor for down-wind source-receptor alignment during north-easterly winds to track potential to impact Lucky Bay Shacks and Camping Ground.
M2	224060	6895820		Boundary monitor for – ➢ Down-wind source-receptor alignment during southerly to south-easterly winds to track potential impact to Receptor 1. ➢ Up-wind or background indicator during north-easterly winds
M3	222215	6897775		Boundary monitor for TARP during prevailing southerly winds.

Note:

[1] Coordinate system = MGA94 Zone 50 (Map Grid of Australia)

[2] Cartridge capable of PM_{10}, PM_4, $PM_{2.5}$ and PM_1 however only PM_{10} will be used for TARP action. The Sampling Methodology for the KUNAK is as per manufacturer specifications.

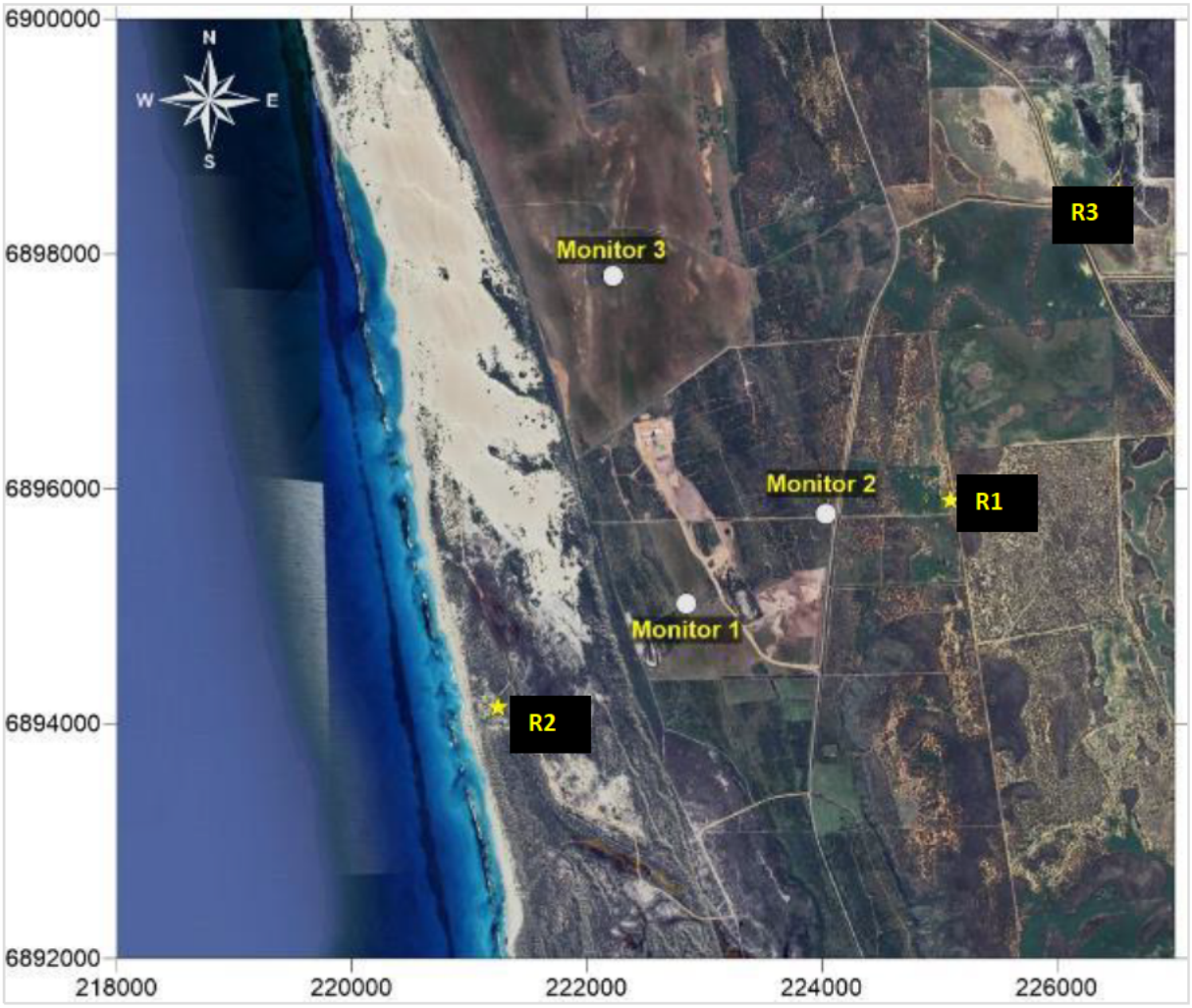


Figure 6: Location of KUNAK Air Pro PM10 sensors.

Stars in Figure 6 represent the location of sensitive receptors discussed in Section 3.3 and shown in Figure 5.

5.1. Daily Forecast and Local Meteorology Monitoring

Meteorological conditions have a direct influence on dust generation and the potential impact on sensitive receptors. Wind speed and wind direction will be taken into consideration in planning activities including dust suppression, specifically:

- Proactive – Shift Supervisors to review daily weather forecast for predicted wind conditions, particularly relating to direction of Receptor 1, Receptor 2 and Receptor 3.
- When winds are forecast above 7 m/s and/or dust lift off is observed in the direction of these receptors, the Shift Supervisor will ensure all controls are adhered to, for site, to operate productively minimising impacts.
- Reactive – Shift Supervisors to review monitored data (live 10-minute average data) as part of response when wind speed trigger alert and/or high dust level alert noted in-field.
- Routine visual inspection.
- In response to a notification, complaint or as part of a dust investigation.

Real time wind speed and direction data is available from the site weather station, installed in the central processing area and from the three KUNAK Air Pro monitors. Daily forecasts are available from the Bureau of Meteorology Kalbarri weather station, approximately 36 km north of the Site.

5.2. Trigger-Action-Response-Plan

The preliminary TARP framework is described in Table 4.

Three metrics are used, each with a three-tiered trigger based on the potential risk of an off-site dust impact. The three metrics used are:

- Visual monitoring for dust lift-off
  - The principle is for each activity area to manage dust from the activity being undertaken.
  - Dust seen to be leaving the work area or source (e.g. access roads, mine, processing plant, stockpiles, open areas) will trigger a required action (see Table 4).
- Meteorological monitoring
  - Includes the use of current and forecast weather conditions (wind speed, wind direction and rainfall) to plan and review works under windy conditions where the wind is directly blowing towards the community receptors, and to implement additional dust mitigation controls particularly increasing the water application on site.
- Ambient dust monitoring
  - Operating continuous dust monitors (microsensors, PM10) at three locations to provide real-time data on dust levels, including automated alerts (SMS and email to critical site personnel) when reaching each pre-determined Trigger Level.
  - In the interim, an arbitrary instantaneous value has been set for the dust monitors of 200 ug / m^3 which will trigger a response to investigate and where appropriate, take additional management action. The instantaneous value is arbitrarily set as an early warning for the potential to exceed the 1 day average standard of 50 ug/m^3 set in the National Environmental Protection (Ambient Air Quality) Measure at the sensitive receptors. The interim level may be revised once improved understanding of ambient dust levels are obtained from the Site's ambient dust monitoring program

Once the ambient monitoring has been in place for 6-months, the TARP will be revised with quantitative trigger values to support the implementation of responsive dust management actions (i.e. additional dust controls and actions in response to alert levels). Once the long term level 3 TARP has been set it will be reviewed on an annual basis and revised if required, with outcomes advised in the Annual Report.

Table 4: Preliminary TARP

Trigger Level		Visual Observation of Dust	Wind Conditions	P10
Level 1 Low Risk of Off-site Impact	Trigger	Visible dust observed from activity.	Wind arc away from sensitive receptors: • R1 • R2 • R3 Poor dispersion conditions present or forecast.	NA
	Action	Check controls in place. If not in place apply appropriate controls outlined in Appendix 2.		NA
Level 2 Medium Risk of Off-site Impact	Trigger	Visible dust observed from activity across site. Visible dust observed leaving activity area(s).	Wind arc toward sensitive receptor: • R1 • R2 • R3 Poor dispersion conditions present or forecast.	NA
	Action	Check controls in place. If not in place apply appropriate controls outlined in Appendix 2. Consider need for further action.		
Level 3 (Interim)* **High Risk of Offsite Impact**	Trigger	Visibility on George Gray Drive materially impacted. Community complaint received that dust is causing a nuisance or impacting amenity **	NA	Dust levels at monitor exceeding instantaneous PM_{10} level (200 ug/m^3) attributable to site activities *
	Action	Review real time dust monitoring data and check visibility at George Gray Drive. If not in place apply appropriate controls outlined in Appendix 2. Reduce the level of activity in the affected areas. Divert activities away from the areas where dust is originating. Cease activity until control is applied.		

* Check for localised and transient events and check downwind dust monitors to ensure exceedance isn't due to a broad regional event. Two consecutive 10 minute average exceedances of 200 ug/m^3, attributable to Premise activities, initiates requirement for further actions. ** Complaint determined to be genuine (follow up with resident). *** Long Term Level 3 Trigger to be developed following analysis of minimum 6 months of data

6. ROLES AND RESPONSIBILITIES

In order to be effective and efficient, dust management and mitigation needs to be an operations wide integrated activity. To this end the key roles, accountabilities and responsibilities are summarised in Table 5. All site personnel to receive information on dust control as part of site inductions and through daily tool-box meetings.

Table 5: DMP – roles, responsibilities and accountabilities

Role	Responsibility
Asset Owner | Licensee	Ensure: ➢ Dust management is integrated as part of business outcomes. ➢ Personnel are aware of their obligations in relations to the implementation of the DMP. ➢ Resources are available to achieve the commitments in the DMP. ➢ Implement the DMP.
Mine Superintendent | Shift Supervisor	Accountable for: ➢ Implementation of controls to manage dust – suppression activities. ➢ Maintaining of equipment to ensure machinery does not cause unnecessary / excessive dust emissions. ➢ Responding to ambient monitoring alerts for dust management and dust mitigation (i.e. TARP actioned). ➢ Supporting investigation response and resolution of dust event investigations and reporting.
Environment Advisor	Accountable for: ➢ Ambient air quality monitoring. ➢ Configure Trigger Alerts and review periodically for effectiveness. ➢ Regularly review monitoring data. ➢ Internal reporting of monitoring. ➢ Investigate results indicating high dust levels. ➢ Investigation response and resolution of dust event investigations and reporting. ➢ Audit operation's success in implementing corrective actions.
Site personnel - All	Ensure that DMP actions are integrated and actioned as part of daily work routine.

7. REPORTING

7.1. Annual Report

Every twelve months, Australian Garnet prepares a full review of its environmental performance over the previous year. The annual review process and subsequent reporting will outline the performance of the DMP.

7.2. Dust episode investigation

A ***Dust Episode*** is defined as covering any of the following:

- Observed dust leaving the Lucky Bay premises boundary and impacting or likely to impact an offsite receptor.
- Community complaint relating to dust.
- Measured dust above the Level 3 Trigger Levels.

The Dust Episode investigation process for a public complaint is shown in Figure 7.

In response to a community complaint, the Environmental Advisor or a responsible delegate will provide open and transparent consultation with the local community on potential dust impacts, monitoring activities and mitigation measures. This may include regular meetings with local sensitive receptors and stakeholders if requested.

The front gate of the mine on George Grey Drive will maintain signage with contact information for the local mine.

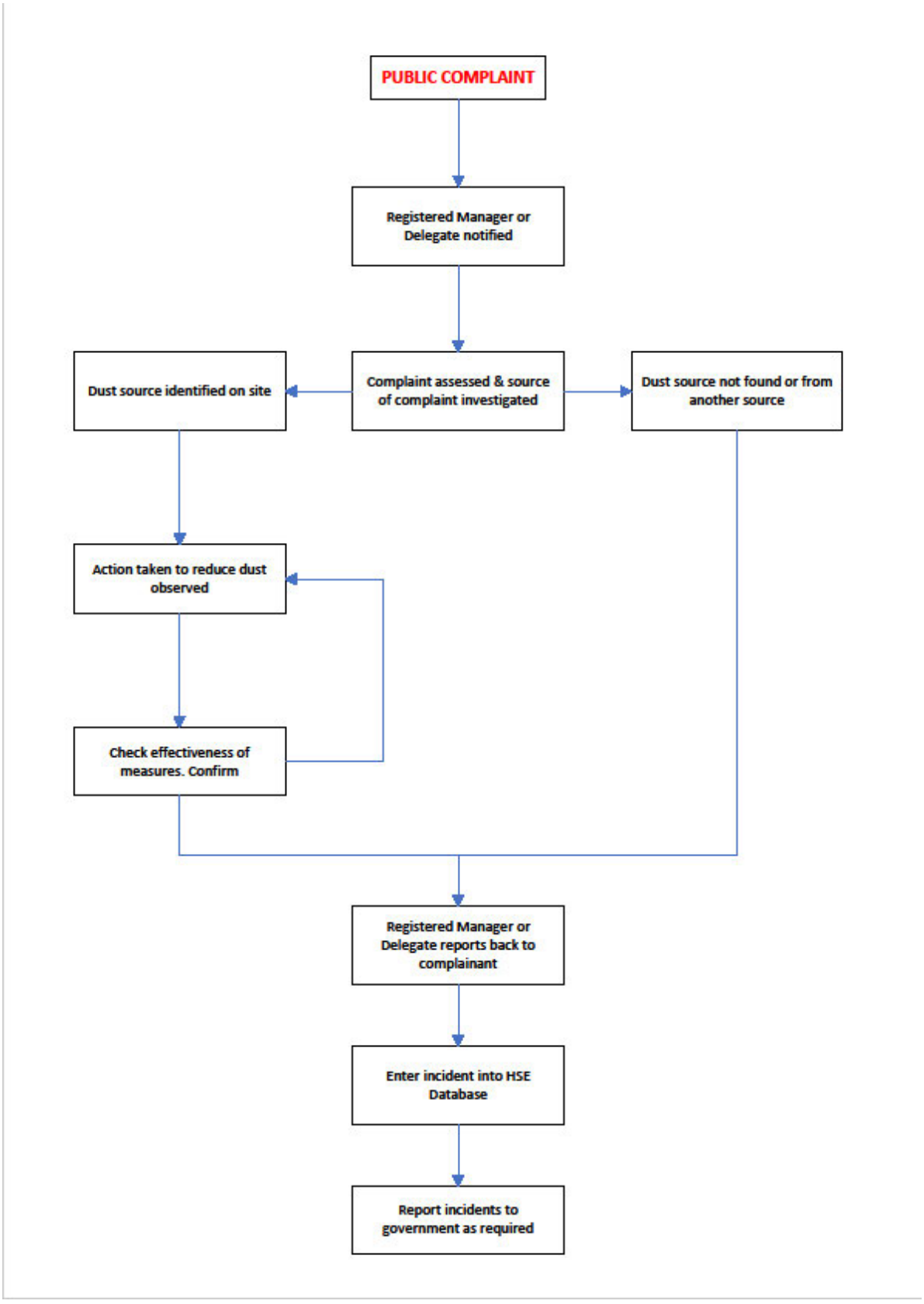


Figure 7: Flow diagram of process for assessing and responding to a public complaint

8. APPENDICES

Appendix.1 Wind roses – by month

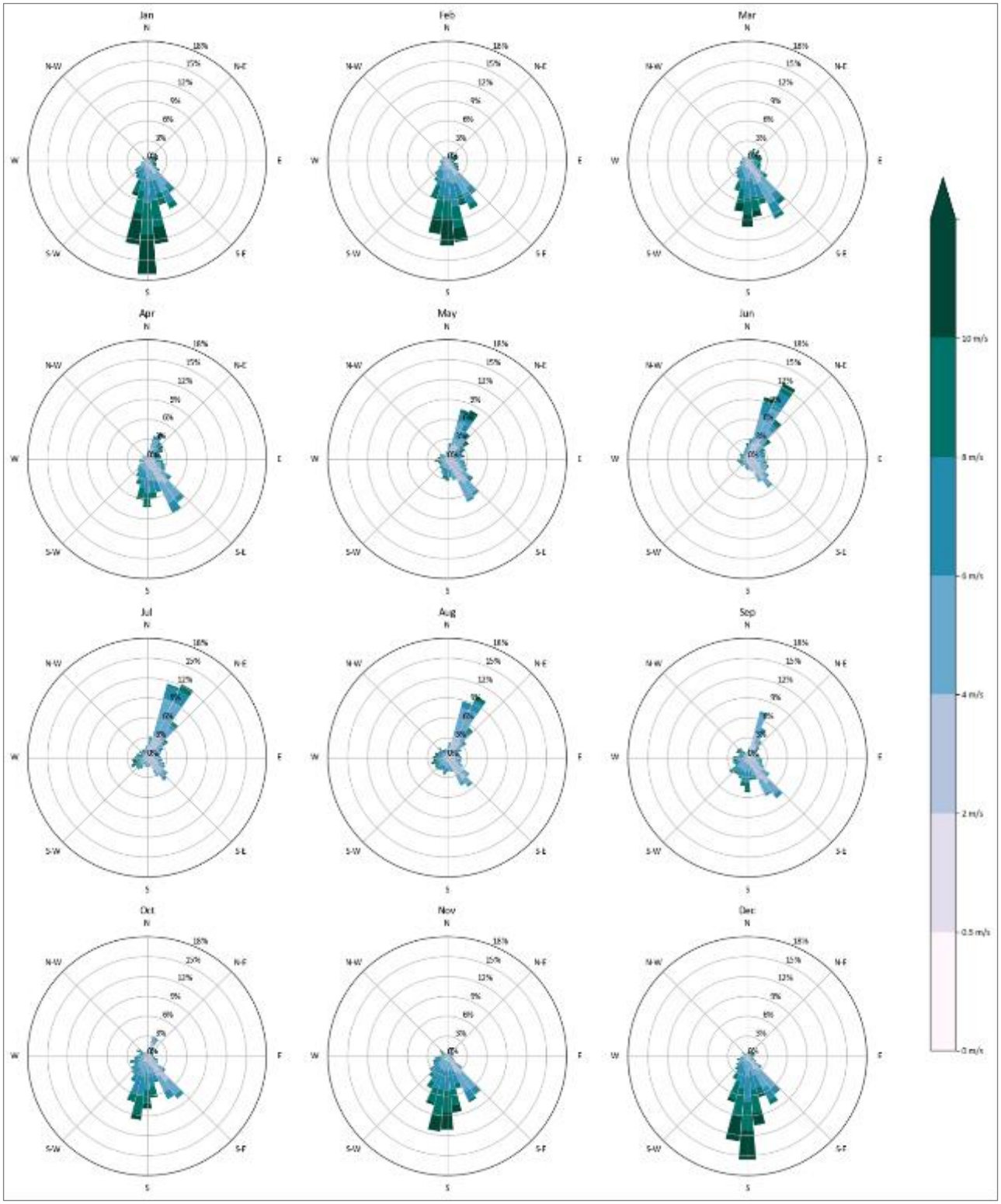


Figure 8: Monthly wind roses (BoM Geraldton Aero 2012-2022).

Appendix.2 Supporting information for site personnel on dust controls

Management objective	Dust Management Action
To minimise dust generated by internal traffic movements	➢ Mine site speed limits on the main access haulage road and unformed tracks will be restricted to no more than 40 km/h for light vehicles and haulage trucks. ➢ Heavy earthmoving equipment will drive to soil conditions with water applied to working areas as needed. Speed limits for heavy earthmoving equipment are a contingency available during adverse conditions, based on the Mining Services Manager assessment. ➢ Management of dust from access roads is to be controlled by using well-formed roads. Consideration of dust minimisation chemical application. ➢ When required access roads will be dampened through water application such as water carts.
To minimise dust from clearing activities and open areas	➢ Clearing areas will be restricted to the minimum requirement for continued operation. ➢ Outside of winter months, soil stabilisation methods will be applied, when required, to any disturbed areas that are not to be immediately utilised. ➢ Soil will be dampened by utilising water carts in high activity, disturbed areas that cannot be stabilised using traditional sealing agents or areas that are awaiting application of sealing agents. ➢ Access will be restricted to any areas that have been stabilised using sealing agents. ➢ Reduce the level of activity in the affected areas. ➢ Divert activities away from the areas where dust is originating. ➢ Cease activity where dust measures have not prevented dust lift off and there is a risk of dust affecting off-site receptors.
To minimise dust from topsoil stripping activities	➢ Scheduled to avoid periods of high winds from unfavourable directions relative to off-site receptors Including George Gray Drive) ➢ Topsoil will normally only be stripped outside summer months, or when weather conditions suit the activity. Water carts will be used to suppress dust when low soil moisture conditions require it. ➢ Exceptions to this may occur where soil conditions do not require it. ➢ Topsoil will be stripped on a progressive basis, so the disturbed area is the minimum required for continued operation. ➢ If topsoil stripping occurs during poor conditions, then water carts will be used to keep the soil and stockpile damp during topsoil stripping. ➢ Weather conditions will be assessed before commencing topsoil stripping and re-assessed on a daily basis during stripping. ➢ Reduce the level of activity in the affected areas.

	➢ Divert activities away from the areas where dust is originating. ➢ Cease activity until control is applied
To minimise dust from stockpiles	➢ Stabilising agents will be applied proactively to stockpiles subject to visual inspection and weather forecasting to the batters of stockpiles. ➢ At the completion of stockpiles an appropriate soil stabilisation treatment will be applied.
To minimise dust from mining activities	➢ Soil will be dampened by utilising water carts in high activity, disturbed areas that cannot be stabilised using traditional sealing agents or areas that are awaiting application of sealing agents. ➢ Reduce the level of activity in the affected areas. ➢ Divert activities away from the areas where dust is originating. ➢ Cease activity where dust measures have not prevented dust lift off and there is a risk of dust affecting off-site receptors.
Continuous Improvement	➢ Management commitment to continually improving and innovating practices. ➢ Annual review of the Dust Management Plan, updated with new information. ➢ Ongoing training and awareness of mine site staff about the risks, controls and benefits of dust management.