



WONMUNNA IRON ORE PROJECT DUST AND FIBROUS MATERIALS MANAGEMENT PLAN AM471423-SAF-PLN-0006

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1. INTRODUCTION

The Wonmunna Iron Ore Project (WIOP) is located within the Hamersley Ranges 80km northwest of Newman and approximately 360km south of Port Hedland along Great Northern Highway.

The Wonmunna Iron Ore Project (WIOP) was acquired by Mineral Resources Limited 2020 and comprises three mining tenements all situated within the Shire of East Pilbara.

The Wonmunna operations will be accessible by public road (Great Northern Highway) from Newman and Port Hedland. Site access is via a newly constructed access road that intersects Great Northern Highway.

To access site, operational personnel will be flown to Newman utilising charter flights and ground transport. Utilisation of the MRL Wodgina Aerodrome may also be a consideration.

MRL propose to commence mining operations to extract iron ore from three deposits with a potential production rate upwards of 8Mtpa. Life of mine is anticipated to be ten years.

Mining production is scheduled to commence during November 2020 following the mining, processing and general mine infrastructure construction phases of the project.

The village camp facilities will be developed on the mine lease, with a 110 man camp being constructed within the mine boundary.

The Wonmunna Operations will include conventional mining & processing operations and the operation and management of general infrastructure such as administration facilities, laydown areas, fuel farms, mobile equipment maintenance (MEM) workshops, dangerous goods, power generation, internal roads, hazardous materials, laboratory, bore fields, waste management facilities and a fully serviced camp village for employees and contractors.



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2. SCOPE

This dust and fibrous materials management plan (The Plan) applies to all MRL personnel, its contractors and visitors at the Wonmunna Mine Operations.

The Plan has been developed in accordance with the DMIRS guideline for the Management of Fibrous Materials in Western Australian Mines -2^{nd} Edition.

The Plan will be used in conjunction with the Wonmunna Health and Hygiene Management Plan (HHMP) to provide guidance in managing risks where:

- High dust levels are present requiring material to be conditioned above the Dust Extinction Moisture percentage (DEM %),
- Potentially fibrous materials have been identified; and
- The occurrence has the potential to result in the generation of respirable fibres during drilling, blasting, mining, haulage and subsequent processing operations.

3. OBJECTIVES

The Plan is pursuant to the Wonmunna Health and Hygiene Management Plan (HHMP). The objective of The Plan is to describe the hazards and controls necessary to prevent harm to persons from exposure to dust and fibrous materials at the Wonmunna site.

The Plan should be used as a tool of reference and guidance in conjunction with the Wonmunna HHMP, and the site-specific Safety & Risk Management Plan and Environmental Management Plan which will be used by Managers and Supervisors to prevent the risks of potential exposure to harmful dust and fibrous material.

4. **DEFINITIONS**

Fibrous Material	Fibrous Minerals - the fibrous form of mineral silicates belonging to the serpentine and amphibole groups of rock forming minerals typically including actinolite, amosite, anthophyllite, crocidolite, chrysotile and tremolite.
Safety Resource System (SRS)	SRS is the Resources Safety database for storing atmospheric occupational hygiene monitoring data submitted by mine sites across Western Australia
Contaminant	Any substance which can directly or indirectly cause contamination to another substance, person, environment or process
DMIRS	Department of Mines, Industry Regulation and Safety
OEL	Occupational Exposure Limit
OES	Occupational Exposure Standard
Wonmunna	Wonmunna Mine
Potentially Hazardous Area	An area on the mine site which has been designated as being hazardous following the identification of potentially fibrous material
Potentially Fibrous Material (PFM)	A material or mineral characterised by its appearance to be potentially fibrous in nature
HHMP	Health and Hygiene Management Plan
ROM	Run of Mine

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Sensitive Receptors	Sensitive receptors may include but not be limited to, residential housing, schools, hospitals where building occupants are more susceptible to the adverse effects of exposure to dust and other contaminants
SEG	Similar Exposure Group
VO	Ventilation Officer, the person appointed for the mine in accordance with regulations who is responsible for reviewing and maintaining the Dust and Fibrous Materials Management Plan
MEM	Mobile Equipment Maintenance
SME	Service Mobile Equipment

5. FIBROUS MINERAL IDENTIFICATION

5.1 Mine Geology

The Project area consists of younger valley-fill material and detritals in the lower topographic areas, overlying Banded Iron Formation (BIF), shales, mineralised shales and mineralised BIFs and dolerites sequences. The geology of the area is dominated by the recent transported unconsolidated sediments and valley fill material, and Mineralised Brockman.

A description of the key features of the geology within the proximity of the Iron Valley mine site area is provided in the following table.

6. FIBROUS MINERAL MANAGEMENT

Exploration drilling sample logging has not identified any potential fibrous material within the Wonmunna mine site footprint. MRL acknowledges the risks of intercepting potentially fibrous minerals during its exploration drilling campaigns and mining operations and as such, as such has developed this dust and fibrous materials management plan for the Project.

This plan is pursuant to the Health and Hygiene Management Plan and sets out the requirements for the management of dust and fibrous materials on the Project in accordance with the DMIRS Guideline for the Management of Fibrous Minerals in WA Mining Operations.

6.1 Risk Analysis & Evaluation

To develop the Wonmunna HHMP, a formal documented risk assessment will be undertaken to indicate potential exposure to metal and fibrous material in dust in addition to providing an assessment of the overall health and hygiene risks associated with the mine.

The aim of the HHMP is to ensure that

- Plant, equipment, hazardous substances (including dust and potentially fibrous material), work processes and tasks that are potentially hazardous to health are identified and controlled;
- Provision is made for experienced technicians to estimate the concentration, duration and frequency of exposure to dust and fibres is determined through workplace observations and the evaluation and assessment of data;
- Occupational groups most at risk are identified and effectively monitored; and

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• Control measures commensurate with the level of risk are developed implemented to effectively manage dust & fibrous material risks.

6.2 Ongoing Monitoring and Assessment

Management of fibrous materials will be determined by an ongoing air sampling program which assesses fibrous material exposure levels against pre-determined occupational exposure standards.

The Wonmunna HHMP outlines the selected sampling strategy, atmospheric monitoring quota and ongoing monitoring schedule. All monitoring data will be collated in a site database and made accessible to the site Lead Team and site Health and Safety Representatives.

The following range of mining activities has been identified as potential sources of dust and fibres at Wonmunna. Refer to Figure 5 for locations of the processing activities.

- Drill and blast activities Operating Pits
- Load and haul operations Haulage Rd
- Mine processing Dry & Wet Plant
- Material Stockpiles ROM & Ore Fingers
- Plant and vehicle movements on site All Areas
- Conveyor transfer points Dry & Wet Plants
- Primary crusher

Appendix 8 contains a Dust Management Trigger Action Response Plan (TARP) that is to be used to determine appropriate action in the event of problematic dust conditions.

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7. EMPLOYEE INFORMATION AND TRAINING

7.1 Dust & Fibrous Materials Education & Awareness

The Wonmunna Induction Program will include information on dust and fibrous material at the Wonmunna Mine. All employees engaged on the mine will participate in the program.

Induction content will include:

- How to identify and describe different types of fibrous material;
- How to identify and control fibrous material related hazards;
- The requirements for reporting the presence of potentially fibrous material to relevant Supervisors or site Ventilation Officer;
- Providing participants information on the health risks, effects and preventative measures associated with fibre exposure;
- The mandatory requirements for participating in risk-based monitoring programs;
- How to handle, transport & dispose of fibrous materials;
- Correct disposal of contaminated waste on site;
- The use of personal protective equipment as directed in designated hazardous are;
- Overview of decontamination facilities and decontamination procedure;
- Respirator Fit Testing will be mandatory How to choose & effectively wear respirators; and
- Plant & equipment hygiene.

8. CONTRACTOR TRAINING

Contractor employees engaged to undertake works on the Wonmunna site will participate in the Wonmunna induction program and complete dust and fibrous materials education and awareness training consistent with all other employees.

9. LEGISLATIVE REQUIREMENTS

Mines Safety and Inspection Regulations 1995 (MSIR)

Monitoring airborne dust and fibrous materials shall be in accordance with Risk Based Hygiene Management Planning and atmospheric monitoring System Procedures;

DMIRS Management of Fibrous Minerals in Western Australian Mining Operations Guideline – 2nd Edition; and

MSIR Part 9 Ventilation and control of dust and atmospheric contaminants, sections 9.6. to 9.13.

A Ventilation Officer (VO) will be appointed on the Wonmunna Mine to undertake duties assigned to them in accordance with the *MSIR1995, Part 9, sect. 9.3*.

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9.1 Registered Mine Manager Accountability

The Wonmunna Registered Mine Manager will be accountable to ensure that:

- Employees are not exposed to hazards;
- As far as practicable, any presence of mineral fibres at Wonmunna are identified, analysed and as applicable documented in a register, site drawings and mine plans;
- Systems and processes are developed and implemented for the effective management of dust and fibres on site;
- A competent person who has undertaken training in the sampling and assessment of atmospheric contaminants is appointed to be a Ventilation Officer at the Wonmunna site;
- A ventilation log book is established and maintained at the mine
- Atmospheric monitoring sampling strategies are completed in accordance with the Wonmunna HHMP schedule;
- All employees and contractors are made aware of the potential risks of exposure to fibrous minerals and dust, through instruction and training;
- Provision is made for suitable personal protective equipment to protect workers from hazardous fibres and dust;
- All employees and contractors are trained in the proper use of personal protective equipment;
- Provision is made on site for adequately trained personnel to identify fibrous material;
- Employees and contractors adhere to the requirements for the management of fibrous materials and participate in scheduled monitoring programs;
- Plant and equipment used in designated hazardous areas are cleaned and maintained in a way which prevents the potential spread of fibres and other contaminants; and
- The handling, processing, storage and transportation of hazardous fibrous material is undertaken safely.

9.2 Employee Responsibility

All site Personnel will be responsible to:

- Comply with the requirements of this plan
- Follow management directives for the effective management of dust and fibrous materials on site
- Report all occurrences of potentially fibrous materials to site management
- Participate in all training and awareness programs for the management of potentially fibrous materials, dust and other contaminants
- Wear PPE as directed
- Participate in all site monitoring programs when requested to do so
- Ensure plant and equipment is cleaned and maintained to prevent the potential spread of contaminants

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9.3 Duties of Ventilation Officer (Surface Mining)

The appointed Ventilation Officer will be responsible to:

- Inspect the workplace for potential hazards verifying atmospheric contaminant control measures on site remain current and effective;
- Ensure contaminant monitoring is undertaken in accordance with the Wonmunna HHMP quota and schedule;
- Ensure legislative atmospheric monitoring reporting requirements are met and that employees are notified on the outcomes of personal monitoring programs;
- Report to site management and Safety Manager Mining any monitoring exceedances;
- Monitor and as applicable report the effectiveness of dust suppression strategies on the mine;
- Ensure equipment used at the mine for the purposes of heath monitoring are used, maintained and calibrated in accordance with manufacturer specifications; and
- Ensure the Wonmunna Ventilation Log Book is maintained and that all entries made are dated and signed.

9.4 Reporting to Regulatory Authority

- In consultation with the Wonmunna Registered Manager, only the Wonmunna appointed and DMIRS approved Ventilation Officer or Ventilation Technician will be permitted to submit atmospheric monitoring reports and any occupational hygiene exceedance notification to the DMIRS;
- Atmospheric monitoring data and occupational hygiene exceedance notifications will be made using the pro-forma provided by the DMIRS (available through the DMIRS website);
- Notification of any exceedance to the DMIRS will occur at the same time results of atmospheric monitoring sampling are reported;
- An action plan which adequately addresses the exceedance will be submitted with the notification;
- A copy of the exceedance notification form will be placed in the ventilation log book; and
- All notifications and accompanying action plan will be submitted to the DMIRS via SRS.

10. WORK AND HYGIENE

10.1 Personal Protective Equipment General Requirements

Adequate provision will be made for PPE that complies with Australian Standards.

The following are the minimum PPE requirements for all workers & visitors on the Wonmunna site:

- Long sleeve high visibility shirt, sleeves rolled down and buttoned at the cuff. Shirt to be tucked in and buttoned up to the second top button;
- Long cotton drill trousers;
- Laced, steel capped safety footwear;

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- Safety Helmet;
- Safety Glasses;
- Gloves of an appropriate type (task specific)
- In areas signposted "Designated Hazardous Area" disposable coveralls complying with ISO 13892-1:2004 will be worn over the top of clothing and the use of P2 respirators shall be mandatory
- P2 respirators shall be mandatory in all areas of the mine crushing plant.
- In all other areas of the mine, personnel are not required to wear P2 respirators or coveralls unless:
 - Directed by a Supervisor;
 - Directed by mandatory signage;
 - A risk assessment stipulates the requirement; or
 - Environmental conditions warrant P2 respirator and coverall use

Personnel required to wear respirators on site will be clean shaven and will have undertaken mandatory respiratory fit testing to ensure the correct type and fit of respirator

10.2 Personal Decontamination

Personnel intending to leave a designated hazardous area should use the following decontamination procedures. Personal decontamination should be conducted in a decontamination facility that has a "Dirty" and "Clean" area that is located within or at a boundary of the asbestos work area where re-contamination cannot occur.

All personnel should vacuum protective equipment and clean work clothing to remove any asbestos fibres. Footwear should be wet wiped. Hands and face should be thoroughly washed.

At the completion of a shift, personnel should vacuum clean their clothing, wet wipe footwear then shower and wash their hair as soon as possible when arriving at their accommodation.

The decontamination facility should be partitioned into two interconnecting well-ventilated areas:

"Dirty" area is used for washing hands and face as well as vacuuming and removing contaminated clothing;

Clean area should also contain appropriate washing facilities so that personnel can thoroughly wash hands and face.

Provision shall be made for liquid soap and disposable paper towels.

Contaminated coveralls, respirators and wipes and paper towels will be packed into heavy duty plastic bags and labelled to indicate potentially fibrous material contamination prior to being sent to the designated fibrous materials waste site for burial.

10.3 Equipment Decontamination

 Vehicles used in designated areas will have sealed cabins fitted with full positive pressure serviceable air conditioning units set to recycle and incorporate dust filtration;

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- After completion of work in a designated hazardous area, vehicle cab interiors will be wet wiped down to remove any dust and vacuumed utilising a Class H (HEPA filter) vacuum cleaner.
- Prior to undertaking vehicle maintenance or using a vehicle outside a designated area, vehicles and auxiliary plant will be washed down in the designated wash down areas ensuring that used water is channelled to a sump for safe disposal;
- Vehicles will be subject to a scheduled maintenance program to ensure the efficiency and effectiveness of door and window seals and air conditioning filtration systems;
- Using compressed air to remove dust from a vehicle or a person is strictly prohibited;
- Mobile plant spent air filters including air conditioning filters will be disposed of at the designated fibrous materials waste site;
- · When changing vehicle air filters, personnel will wear a P2 respirator;
- Filters shall never be struck against a surface to dislodge material.

11. FIBROUS MATERIAL EXPOSURE ASSESSMENT

11.1 Fibrous Material Monitoring & Assessment

An airborne fibrous material monitoring program will be established at Wonmunna.

The sampling program and the evaluation & analysis of results will be undertaken in accordance with NOHSC: 3003 (2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres with adjustments to counting criteria in accordance with DMIRS requirements

11.2 Fibrous Material Action Levels

Where work shifts exceed eight hours, the relevant OES will be adjusted using the Quebec Model in accordance with the "Guide for Adjustment of Permissible Exposure Values for Unusual Work Schedules" The below table summarises the OES fibrous material action levels.

Contaminant	Exposure Standard 5 Days On-2 Days Off 8Hrs	Exposure Standard Adjusted 14 Days On-7 Days Off 12Hrs
Actinolite	0.1f/mL	0.07f/mL
Crocidolite	0.1f/mL	0.07f/mL
Anthophyllite	0.1f/mL	0.07f/mL
Tremolite	0.1f/mL	0.07f/mL
Other Asbestiform	0.1f/mL	0.07f/mL

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11.3 Exceedances

Based on this background and sound occupational hygiene principles, a progressive implementation of procedures will be imposed in accordance with the table below:

RECOMMENDED ACTION LEVELS

Summary of Result	e.g. 12-hour TWA (fibres / mL)	Recommended Action
Below the extended shift exposure standard and the action level	≤ 0.035	No additional action necessary Maintain air sampling program
Below the extended shift exposure standard and 5% of results are above the action level	> 0.035 and ≤ 0.07	Classify as a Potentially Hazardous Area Investigate work practices; Measure effectiveness of controls; Consider implementing further controls such as routine personal fibre monitoring
5% of results are above the extended shift exposure standard	> 0.07	Classify as Designated Hazardous Area and take remedial action (improve control measures, provide respiratory protection). Investigate workplace/work practices and control measures. Invoke agreed work and management procedures. Implement routine personal monitoring

As applicable, Wonmunna will undertake an investigation into all SEG exposures which exceed the respective occupational exposure standards. The aim will be to identify the mechanism of results, identifying and implementing controls which protect personnel from future exposure to potentially hazardous dust or fibrous material.

Wonmunna will ensure atmospheric exceedance reports are sent to the Department of Mines and Petroleum Resources Safety Division as soon as practicable following the completion of the investigation.

At scheduled intervals or following future monitoring programs, Wonmunna will undertake a review of this plan and assigned actions to ensure they remain valid and effective in managing dust and PFM risks.

11.4 Plan & Timeframe for Accessing Monitoring Results

All monitoring data will be collated in a site database and made accessible to the site Lead Team, site Health and Safety Representatives and program participants within 14 days of completing each scheduled monitoring program.

11.5 Summary of Results and Recommended Action

For all results below the recommended standard (adjusted OES: TWA) - No additional action necessary. Control measures identified in the site Risk Register are to be implemented and monitored as required. Maintain sampling program as determined by the site "Risk Based Hygiene Management Plan".

All results above occupational exposure standards (OES) or where indicator minerals for fibrous materials have been identified, the area will become a Designated Hazardous Area (refer section 14). Results will be investigated and assessed and

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work practice and current control measures will be reviewed. As applicable, additional control measures and personal monitoring will be implemented as required.

Where 5% of samples exceed OES or 5% of samples exceed 50% of OES and indicator minerals for fibrous minerals have been identified or visible fibres have been identified:

Immediate controls are to:

- Temporarily designate the area as a Designated Hazardous Area (refer section 14) and demarcate with "Hazardous Area" signage;
- Provide respiratory protection for all personnel entering or working near the demarcated area;
- Take remedial action inclusive of undertaking an investigation to identify contributory cause for elevated results;
- Investigate and review current workplace / work practices and control measures
- Implement additional controls as applicable; and
- Implement routine personal monitoring

The recommended actions should be risk based and determined by data accumulated over time. Caution should be exercised when only a few air-sampling measurements are available. Where results are repeated, then this would warrant further assessment.

12. TRANSPORT, STORAGE AND DISPOSAL OF FIBROUS MATERIALS

- Contaminated waste and material which has been identified as being fibrous in nature shall be disposed of at a designated area that will not be disturbed by future activities, such as rehabilitation
- Contaminated waste may include but not be limited to respirators, disposable coveralls, sample bags and air filters. Contaminated PPE shall be placed in designated bins for disposal
- All waste containers shall be labelled "WARNING CONTAINS FIBROUS MATERIAL" in accordance with section 13 of this plan
- Fibrous material (mineral) will be stored in a suitable container and stored in the designated hazardous area until it can be effectively disposed
- The contaminated materials will be placed in a polythene bag, about 0.2mm thick or wrapped in polythene sheeting and buried to a minimum depth of one meter to prevent the liberation of mineral fibres to the open environment
- During waste disposal, employees involved will wear PPE in accordance with section 7.1 of this plan
- Designated waste areas shall be surveyed and records of the location, depth and quantity of materials disposed of in the area shall be retained in the fibrous materials register.

12.1 Fibrous Materials Register

A register detailing the identification of fibrous materials shall be maintained on site, the register shall detail the:

- Date the material was identified
- Person who identified the material

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- Site location in which the material was identified
- Type and structure of the material found;
- Details of analysis; and as applicable
- Method and place of disposal

13. POTENTIALLY FIBROUS MATERIALS DETECTION & RESPONSE

13.1 Response Procedure

Where an employee suspects they have found potentially fibrous material, the employee will immediately notify their Supervisor so that appropriate action can be taken.

The area will be barricaded and signposted. Personnel working in the vicinity will be reassigned work activities in another work area until the material can be removed for examination and the risk of dust generation in the area has been adequately supressed.

The geology team will examine the potentially fibrous material and where material is deemed as being hazardous in nature, site management will be informed.

When accessing a PFM area, personnel shall wear a P2 respirator.

At the discretion of site management, hazardous material may be sent off site for further analysis or carefully bagged and removed for disposal at the designated fibrous materials waste site in accordance with section 10 of this plan.

Details will be documented in the Wonmunna Fibrous Materials Register and as applicable reported to the regulatory authority.

14. SITE DUST AND FIBRE MANAGEMENT

14.1 Dust Mitigation

The potential sources of dust which may potentially contain fibrous materials generated during site operations are likely to emanate from:

- Clearing of vegetation;
- General earthworks;
- Drill & blast activities;
- Load & haul operations;
- Mine processing;
- Material stockpiling; and
- Plant and vehicle movements on site.

To mitigate the risk of dust generation:

- All trafficable areas on the mine will be maintained in a condition that will minimise the generation or emission of windblown or traffic generated dust;
- Dust mitigation controls will be documented in task specific JHA's. Control measures will be applied prior to the commencement of work activities;
- A regular assessment of environmental conditions will be made and as applicable, control measures will be implemented to supress or prevent dust. This may include restricting operations during high wind conditions;

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- As far as practicable, clearing of vegetation will be minimised;
- Vehicle movements will be restricted to specified routes;
- Vehicle operators will adhere to site speed limits;
- Dust will be supressed on roadways using watercarts;
- Water used for dust suppression will be of a suitable quality free of pathogens;
- When undertaking drill & blast activities, consideration will be given to wind direction to prevent potentially hazardous dust from propagating into other areas of the mine; (Blast pattern will be supressed with water prior to initiation)
- When undertaking general excavation earthworks provision will be made for dust suppression utilising watercarts;
- Topsoil stripping should be undertaken when there is sufficient moisture content in the material to minimise dust generation;
- Following the completion of works, rehabilitation and stabilisation of disturbed ground will occur as soon as practicable;
- Stockpiles/Ore fingers will be sufficiently dampened down to prevent excessive dust;
- To prevent the spread of dust through offices and other buildings, personnel will clean boots at boot cleaning stations and keep doors and windows closed;
- Building air conditioning systems will be fully cleaned monthly and the filters of 3 or more internal units are cleaned or replaced on a rotating basis.

14.2 Drilling Activities

- When undertaking drilling activities, consideration will be given to wind direction to prevent potentially hazardous dust from propagating into areas of less risk;
- Where possible, wet drilling will take precedence over dry drilling;
- Where dry drilling cannot be avoided, a cyclone type dry collection system will be used to assist in reducing dust levels by collecting dust and fine cuttings;
- All personnel in the vicinity of an operating drill rig shall wear a P2 respirator and in conditions where clothing is likely to become dust laden, disposable coveralls should be worn;
- Where potentially fibrous material is identified during any drilling activity, the task will cease, and the applicable Supervisor will be informed. An assessment using the Dust Management TARP (see Appendix 8) is to be used by the Supervisor to select appropriate action and controls. The course of action selected by the Supervisor is to be logged in the sites hazard management software and an entry logged into the fibrous materials register;
- Where ongoing drilling activities are required in an area of known fibrous material risk, the Registered Manager or their delegate at the mine shall authorise the works in writing before proceeding further.

14.3 Blasting Activities

Managers / Supervisors shall:

- Advise all personnel that fibrous minerals may be intersected;
- Ensure that all drilling & blasting personnel have been adequately trained to identify and manage dust;

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- Ensure that adequate supplies of PPE are available;
- Muddy boots shall be washed and cleaned, and muddy coveralls removed before entering a vehicle;
- Use disposable / washable floor mats in vehicles; and
- Dispose of waste materials by burying them by encapsulation at a recognised waste dump;
- Following blasting, where potentially fibrous materials are identified the site VO is to be immediately notified and further works in the vicinity will be suspended. The location will be logged and a report submitted to the Registered Manager or delegate as soon as practicable. Written approval from the Registered Manager, or delegate to re-commencing works.

14.4 Site Load & Haul Operations

- All vehicles will be equipped with enclosed cabs to prevent the ingress of dust;
- Vehicles to be used in a designated hazardous area will at scheduled intervals undergo a documented inspection by the maintenance team to verify the integrity of door seals and air conditioner filters in preventing the ingress of dust;
- Driving directly over ground which has been identified as being fibrous in nature will be avoided;
- Vehicles will be operated with the cab windows closed and vehicle air conditioning switched on;
- Water carts will be used to condition the work areas and haul/access roads to supress dust generation; and
- Stockpiles will be watered down prior to loading and hauling to mine processing areas.
- In the event of dust being generated the Supervisor is to be notified. The Supervisor is to respond and act in accordance with the site Dust Management TARP (refer to Appendix 8).
- Due to inability of the excavators to be walked out of the pits every shift, PPE coveralls for excavator operators transferring between LV bus and excavator in the Designated Hazardous Areas need not be worn. (P2 masks shall be worn during transfers)

14.5 Crushing and Screening Operations

People working in or about the crusher may be at an increased risk of exposure to dust when:

- Loading of the crusher;
- Undertaking activities on or about the ROM;
- Unblocking, repairing & maintaining plant;
- Water suppression sprays are not operating correctly;
- Cleaning up spillage;
- Control room dust control measures are not followed;

To mitigate the risks:

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- Site geologists will inspect ROM stockpiles at scheduled intervals to identify the presence PFM. Where identified the area and material will be quarantined and managed accordingly;
- To reduce the risk of dust, material on the ROM will be dampened down, dust suppression will be achieved by a direct wet spray system; spraying the material to be processed to prevent dust from becoming airborne; Material stockpiles will be dampened down, by direct wet spray systems;
- Wet spray systems will be maintained in good serviceable condition to ensure material is appropriately conditioned to prevent dust during material transfer and road haulage;
- Personnel working in the crushing plant shall wear P2 half face respirators and personnel will have undertaken respirator fit testing;
- To prevent the ingress of dust, loader operators and the maintenance team will verify the integrity of loader cab door and window seals;
- To prevent elevated dust levels, Supervisors will monitor site conditions and take appropriate action to supress the propagation of dust. This may include restricting operations during windy conditions;
- Where environmental conditions warrant, Supervisors will have the authority to direct personnel to wear respirators in all areas of the mine;
- When unblocking or undertaking maintenance works on the crushing and conveying systems, personnel should wear appropriate coveralls and P2 half face respirator and as practicable the plant will be cleaned down prior to commencement of the work activity.
- In the event of dust being generated the Supervisor is to be notified. The Supervisor is to respond and act in accordance with the site Dust Management TARP (refer to Appendix 8).

14.6 **DEM Management**

- All ore trucked to PPA Utah Point operations shall meet dust extinction moisture (DEM) levels to meet Utah Point licence requirements.
- To prevent dust during transport and on delivery to port, material will be conditioned on site to maintain DEM at an acceptable level. DEM will be monitored and monitoring results shall be documented.
- Product moisture results for ore trucked to the Utah Point site will be provided to PPA on a weekly basis, as required by the Utah Point licence. Product moisture results for product shipped will be reported to PPA following the completion of each shipment. Shipment product moisture results will be provided in 10,000 tonne increments or per vessel hold. All product moisture results are required to be above DEM. Should a static stockpile occur, information will be reported to PPA'

14.7 Road Haulage

- All multi combination road train trailers shall incorporate the use of tarpaulins or trailer lids to prevent dust emission during transport. MC Operators shall inspect and verify trailer lids and/or tarpaulins are in place prior to site departure
- MC pre-start inspections shall verify trailer lids and tarpaulins are in good serviceable condition

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- Mine site access road will be tar sealed and incorporate a 'brush down bay' so that MC operators can inspect their trailers and remove any excess dust or hangup material from wheel arches prior to reaching the main highway.
- In transit trailer inspections shall ensure trailer lids and tarpaulins remain in place.

14.8 Port Conveyance and Shipping

- On delivery of product to Utah Point (Port Hedland), dust management will be managed by the PPA service provider (QUBE). The service provider will ensure the conveyance of material from port facility stockyards to bulk ore carriers is undertaken in a manner that minimises the proliferation of dust.
- Material movement at Utah Point shall be undertaken in accordance with the QUBE
 - Health Safety and Environmental Management Plan Pilbara Ports – SHEMS-04-PL- PIL001 – 12.1 – Air Quality; and
 - SHEMS UP-GD-002 Dust Management Plan

14.9 AMG Workshop

Personnel working in or about the workshop may be at an increased risk of exposure to dust when:

- Heavy equipment and vehicles are brought into the workshop after working in a Designated Hazardous Area without having a thorough wash down;
- Undertaking repairs and servicing of equipment and vehicles in Designated Hazardous Areas;

To mitigate the risks:

- All equipment and vehicles brought into the MEM workshop is to be thoroughly washed down prior to commencing servicing or maintenance;
- As vehicle cleaning contractors do not work night shift plan and schedule equipment or vehicle requiring work during the night shift to be washed and clean during the day shift;
- Personnel working on equipment and vehicles in the Designated Hazardous Areas shall wear P2 half face respirators, PPE coveralls and will have undertaken respirator fit testing;
- Where environmental conditions warrant, Supervisors will have the authority to direct personnel to wear respirators in all areas of the mine;
- All trafficable areas in the workshop will be maintained in a condition that will minimise the generation or emission of dust;
- In the event of dust being generated the Supervisor is to be notified. The Supervisor is to respond and act in accordance with the site Dust Management TARP (refer to Appendix 8).

14.10 Surface Dust Management Audit

Systems and processes for the management of dust on site will be audited in accordance with the Wonmunna Safety Activity Schedule. MRL-SAF-TEM-0036 Surface Dust Management Audit shall be used for this purpose.

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Corrective and Preventative actions will be raised to address deficiencies. Actions will be tracked to completion and assessed at scheduled intervals to ensure controls remain effective.

Results from fixed/static monitoring stations will reviewed on a regular scheduled basis. Exceedances from these results will be reported in accordance with internal and legislative requirements.

15. LABELLING AND SIGNAGE

Warning signs will be placed in all areas of the workplace designated as hazardous as determined in section 13 of this plan.

Signage will be placed at the entrance to designated hazardous areas and at the entrance to any area where contaminated waste is held.

All warning signage will comply with AS1319; 1994 Safety Signs for Occupational Environment.

The below are examples of warning signs that could be used.



16. DESIGNATED AREAS

16.1 Designated Hazardous Area

Where fibrous material has been identified and the area meets the criteria as determined by the site geologist or other approved person, the area shall be classified as a "Designated Hazardous Area" by the Registered Manager or delegate.

The Registered Manager or their delegate will as soon as practicable:

- Document the details in the fibrous materials register;
- Notify all employees of the hazardous area;
- Ensure hazardous areas are cordoned off and signposted with "Designated Hazardous Area, Authorised Access Only"
- Provide directive for additional PPE requirements;
- As applicable, issue details in site safety notices; and

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• Provide details at pre-shift meetings or other appropriate safety forum.

16.2 De-classification of a Designated Hazardous Area

The Registered Manager or delegate may de-classify an area as "Designated, if:

- Geological predictions indicate that further hazardous minerals are unlikely to be encountered;
- Monitoring results indicate that activities are well controlled; or
- Future activities in the area are unlikely to expose hazardous minerals.

16.3 Access to a Designated Hazardous Area

- All personnel required to enter a designated hazardous area shall be approved to do so by the Registered Manager or their delegate;
- Personnel will have completed fibrous material management awareness training in accordance with the requirements of this plan;
- Task specific risk assessments shall detail the mandatory requirements to be met prior to entry including the requirements for coveralls, P2 respiratory protection and decontamination;
- Smoking (including e-cigarettes) is prohibited in all designated hazardous areas.

16.4 Decontamination Process when Leaving a Designated Hazardous Area

- Boots and clothing will be brushed down to remove any loose material before entering a vehicle. Using compressed air to remove dust from a person is strictly prohibited;
- On completion of assigned works, barricading and signage will be re-instated around the perimeter of the designated hazardous area if required.
- When clear of a designated hazardous area, Interior of vehicle shall be cleaned, respirators and disposable clothing removed and bagged at the decontamination facility for disposal in dedicated and labelled disposal bins, and then bagged waste shall be disposed of in the designated fibrous materials waste area.

16.5 On arrival to Decontamination Facility

- On arrival to the decontamination facility, Vehicle interior shall be cleaned using the Class HEPA Filter equipped vacuum cleaner provided and the interior wet wiped prior to removal of respirators and disposable clothing. Used wipes shall be disposed of in the orange PFM bins provided at the decontamination facility.
- Boots and clothing will be brushed down to remove any loose material before entering the "Dirty Side" of the decontamination facility
- Personnel shall be cleaned using the Class H HEPA Filter equipped vacuum cleaner provided.
- Respirators and disposable clothing must be removed and bagged in the orange PFM bins provided at the decontamination facility.
- Hands and face are to be washed prior to leaving the "Dirty Side" of the decontamination facility and transferring to the "Clean Side"
- Employees will then enter the "Clean Side" of the decontamination facility where hands and face are to be washed again prior to exiting the facility.

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- The "Clean Side" of the facility will have spare respirators and disposable clothing for use. This will be the only side the toilet facilities are to be used.
- Under no circumstances will employees enter the "Clean Side" of the facility in used, dirty suits or masks.

16.6 Cleaning the Decontamination Facility

- A register of the cleaning schedule will be kept at all times
- Boots and clothing will be brushed down to remove any loose material before entering the facility. Using compressed air to remove dust from a person or cleaning of the facility will be strictly prohibited;
- Cleaning of the facility will be done in a respirator and disposable clothing working from the "Clean Side" first
- Facility is to be vacuumed in the first instance using the HEPA Filter equipped vacuum cleaner provided, followed by a wet mop using disposable mop head covers and spray bottles to reduce dust and water spreading fibres. To maintain hygiene between the facility Mops/wipes shall not transferred or used between sides
- Internal walls and ventilation fan covers of the facility are to be wet wiped at a minimum of every 2 weeks
- Respirators, disposable clothing, used wipes, vacuum contents, used hand towel and used mop covers must be removed and bagged at the decontamination facility.
- All bagged waste shall be disposed of in the designated fibrous materials waste area..

17. MINE SITE LABORATORY

17.1 Laboratory Dust Management

Please refer to the site specific Laboratory Risk Assessment

Some sample preparation activities occur within the processing laboratory which have the potential to generate dust. To mitigate the risk of dust generation, machinery used for pulverising minerals, crushing and sieving materials will only be used when connected to dust extraction and collection systems.

P2 respirators and hearing protection will be worn in the laboratory when pulverising and crushing machinery is being used.

Personnel required to wear respirators in the laboratory will be clean shaven and will undertake mandatory respiratory fit testing to ensure only the correct type of respirator is selected and appropriately worn.

Personnel are required to wear P2 Respirators when dust collection canisters are emptied daily. Dust extraction systems will be routinely inspected and air flow efficiency will be assessed on a scheduled basis.

18. ENVIRONMENTAL CONSIDERATIONS

Environmental Protection Act 1986 (EP Act 1986)

Development proposals and activities that are likely to generate dust will be subject to the provisions of the Environmental Protection Act and Environmental Protection (Unauthorised Discharge) Regulations 2004

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In accordance with the regulations, Wonmunna will not freely discharge dust produced by a blasting, loading, hauling, crushing and processing into the environment.

18.1 Sensitive Receptors

Sensitive receptors regarding dust at Wonmunna are predominantly internal to the mine (i.e. mine site workers). There are no nearby local communities which are close enough to the mine to be adversely impacted by dust emissions.

Whilst flora and fauna can be affected by dust, it is considered unlikely that concentrations generated from the mine would be sufficient enough or travel far enough to cause harm to flora and fauna.

18.2 Internal Mine Site Receptors

The following areas within the Wonmunna mine site have been identified as potential sensitive receptors for dust:

- Administration offices
- Open pit operations
- Mine ore crushing, processing and ROM operations
- Maintenance workshops
- Load & haul operations (mobile plant)
- Laboratory operations

18.3 Vegetation

Dust may have physical effects on vegetation such as blockage and damage to stomata, shading, abrasion of leaf surface or cuticle, and cumulative effects, e.g. drought stress on already stressed species.

Vegetation closest to a dust source is more than likely to be subject to such impacts. Dust could also affect the health of fauna, although fauna is likely to avoid dusty areas.

Vegetation on or adjacent to the site does not show any significant visible sign of dust contamination or poor health.

19. REFERENCES

Mines Safety and Inspection Act 1994

Mines Safety and Inspection Regulations 1995

Environmental Protection Act 1986

Environmental Protection (Unauthorised Discharge) Regulations 2004

Code of Practice for the Safe Removal of Asbestos" 2nd Edition [NOHSC:2002 (2005)]

Department of Mines and Petroleum – Management of Fibrous Minerals in Western Australian Mining Operations -2nd Edition

Code of Practice for Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)]

AS/NZS 1715:2009 Selection, use and maintenance of respiratory protection devices

AS 1319:1994 Safety signs for the occupational environment

P16110:RPT001 Risk Based Hygiene Management Plan

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MRL-SAF-TEM-0036 Surface Dust Management Audit Tool

MRL-SAF-PRO-0001 Document Control Procedure

MRL-SAF-PRO-0003 Records Management Procedure

20. RECORDS MANAGEMENT

This plan will be reviewed on an annual basis or more frequently where a change to the site conditions warrants such a review.

The Plan will be reviewed, amended and document controlled in accordance with MRL-SAF-PRO-0001 Document Control Procedure and MRL-SAF-PRO-0003 Records Management Procedure.

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APPENDIX 1 - FIBROUS MINERAL IDENTIFICATION FOR MINE PLANNING



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APPENDIX 2 - FIBROUS MINERAL IDENTIFICATION FOR MINE GEOLOGY



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APPENDIX 3 - FIBROUS MINERAL IDENTIFICATION FOR DRILL & BLAST OPERATIONS



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APPENDIX 4 - FIBROUS MINERAL IDENTIFICATION FOR MANAGEMENT



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APPENDIX 5 - FIBROUS MINERAL IDENTIFICATION FOR MINING OPERATIONS



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APPENDIX 6 - FIBROUS MINERAL IDENTIFICATION FOR MEM DEPARTMENT



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APPENDIX 7 – DFMMP AUDIT TOOLS



Surface Dust Management – Audit Template



Surface Atmospheric Contaminant Management – Audit Template

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