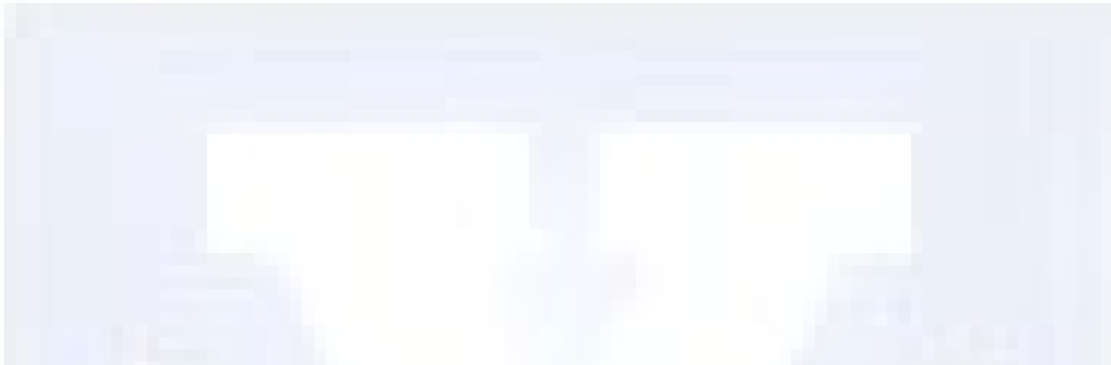
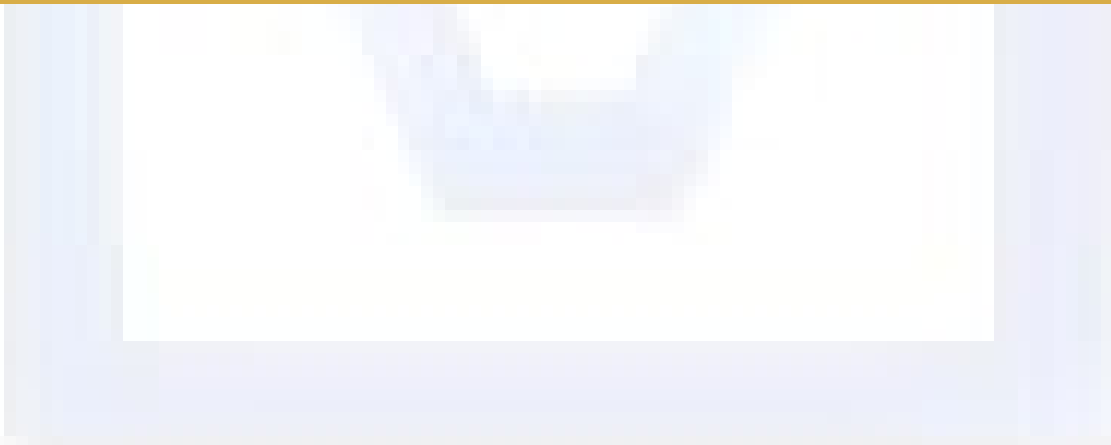




Principal Hazard Management Plan

Dust





Contents

1. PURPOSE.....	3
2. DEFINITIONS	3
Process Definitions	4
3. OPERATION OVERVIEW	4
4. SCOPE	5
5. HAZARD MANAGEMENT	5
6. Inspections and Monitoring.....	6
6.1.1. Exposure Exceedances.....	7
7. Dust Generation in Operations and Manual Handling Activities.....	8
8. Respiratory Protective Equipment	8
9. Coal Mine Worker's Health.....	8
10. IMPLEMENTING AND MAINTAINING THE PLAN	8
10.1. Training	8
10.2. Communicating the Plan	8
10.3. Document Control.....	8
10.3.1. Records.....	9
10.3.2. Monitoring and Verification of Critical Controls	9
11. REVIEWS AND AUDITS	9
12. REFERENCES	9
13. ROLES AND RESPONSIBILITY	10
14. AMENDMENTS.....	11



1. PURPOSE

The purpose of this PHMP is to identify principal hazards associated with Dust exposure at the Vulcan Mine and to specify its management by reducing identified risks to an acceptable level.

The potential for harm results from a combination of the concentration of dust and the duration of the exposure. As such, section 89 of the Coal Mine Safety and Health Regulations indicates that each coal mine workers exposure to respirable dust is kept at an acceptable level; and the worker does not breathe an atmosphere at the mine containing respirable dust exceeding an average concentration, calculated under AS2985 equivalent to the following for an 8-hour period –

- For Coal dust – 1.5mg/m³ air;
- For free silica – 0.05mg/m³ air

Vulcan Mine Management through a Broad-Brush Risk Assessment, has deemed Dust to be a Principal Hazard and therefore has developed and implemented a PHMP in alignment to the requirements of:

- Recognised standard 14
- Recognised standard 20

This PHMP describes how risks associated with the exposure to excessive dust in the open cut mine environment are managed.

2. DEFINITIONS

BBRA	Broad Brush Risk Assessment.
CMSHA	Queensland Coal Mining Safety and Health Act (1999).
CMSHR	Queensland Coal Mining Safety and Health Regulation (2017).
CMW	Coal Mine Worker.
PHMP	Principal Hazard Management Plan.
SSE	Site Senior Executive.
Competent Person	Competence for a task at a coal mine is the demonstrated skill and knowledge required to carry out the task to a standard necessary for the safety and health of persons.
SEG	Similar Exposure Group.
CWP	Coal Workers' Pneumoconiosis.
CMW	Coal Mine Worker.
JHA	Job Hazard Analysis.
MOP	Mine Operating Procedure
OCE	Open Cut Examiner



RSHQ	Resources Safety and Health Queensland
RSK	Risk Assessment
ROM	Run of Mine.
RS	Recognised Standard
SHMS	Safety and Health Management System.
SME	Surface Mining Equipment.
SOP	Standard Operating Procedure.
SWP	Safe Work Procedure
Senior Person	A person appointed to a senior position in the Vitrinite Mine Management Structure
Shall	Indicating a requirement is mandatory
TARP	Trigger and Response Plan
Take 5	Personal Risk Assessment.
WRAC	Workplace Risk Assessment and Control.
Process Definitions	
Inhalable Dust	Inhalable dust refers to the particle size entering the mouth and nose during normal breathing. These particles may be deposited into the respiratory tract. The term inhalable dust applies to both non-toxic and toxic dust. The inhalable fraction of dust entering the respiratory tract may be further divided into 'respirable' and 'non-respirable' fractions.
Respirable Dust	The respirable dust fraction is composed of the very fine dust which is able to reach the lower bronchioles and alveolar regions of the lung.
Sampling	Sampling is the process of conducting a measure or series of measures of the concentrations of airborne contaminants, such as respirable dust and respirable crystalline silica.

3. OPERATION OVERVIEW

The Vulcan Mine is an open cut coking coal mine, located approximately 30 kilometres north-west of Dysart and 35 kilometres south-east of Moranbah. The mine is adjacent to BHP Billiton Mitsubishi Alliance's Peak Downs Mine.

The Jupiter hard coking coal target was mined from 2021 until the end of 2024 via a single pit. This pit and associated out of pit dump are being rehabilitated in line with sites progressive rehabilitation and closure plan (PRCP). The Vulcan South Project at the same complex was approved in late 2024, with further open cut developments in Vulcan North, Vulcan Main and Vulcan South are being mined at a rate of 1.95Mtpa. In addition to the open cut pits, Vitrinite has commenced its highwall mining operation in the North of the Vulcan South Project.



Mining will be conducted by open cut mining in compliance with the conditions of the Mining Lease with progressive backfilling of the pit. In summary, the mining method comprises the following stages:

- Clearing and grubbing.
- Topsoil removal and stockpiling.
- Drilling and blasting.
- Overburden, inter-burden and partings removal and dumping.
- Highwall mining
- Selective coal mining to maximise recovery and minimise dilution.
- Coal haulage to ROM stockpile.
- Crushing and dry sorting.
- Operate and maintain reject co-disposal system.
- Manage and maintain all site services.
- Mine planning and development.
- Progressive re-contouring of waste dumps; and
- Re-spreading of topsoil.

As mining commences, exploration activities are planned to continue. This work will include all aspects for exploration, including field mapping, drilling, seismic surveys and environmental surveys, etc.

4. SCOPE

This plan applies to all mining operations conducted on the site, including but not limited to:

- Open-cut and Highwall mining activities
- Drilling, blasting, excavation, and loading
- Haulage and material transfer
- Crushing, screening, and processing
- Construction and maintenance activities
- Exploration drilling and rehabilitation works
- Maintenance and servicing activities.

The PHMP covers:

- Respirable dust (e.g., coal dust, silica dust)
- Inhalable dust
- Dust control during dry and windy conditions
- Monitoring, reporting, and recordkeeping requirements
- Emergency response to exceedances or dust-related health incidents

5. HAZARD MANAGEMENT

VUL-MOP-089– Dust Management & Monitoring Section 4.3 outlines the hazards associated with Dust Exposure.

The minimum identified controls identified in the **BBRA**, and **WRACs** consist of the development and implementation of Vulcan Mine **SOPs, MOPs, SWPs, Forms** and **TARPs**.

Risk assessed as per -

- **VUL-MOP-049 – Risk and Hazard Management**
- **Recognised Standard 02 Control of risk management practices**



- **ISO 31000 Risk Management**
- **VUL-PLN-001 Safety and Health Management Plan**

Dust hazards have been vigorously risk assessed on-site via -

- **VUL-RSK-089_Dust_Review (240919 Update)**
- **Recognised Standard 20 - Gap Analysis - VULCAN MINE**
- **Vulcan Mine health risk assessment**
The control measures reviewed in the risk management of airborne dust shall follow the hierarchy of controls, with higher order control measures considered first.
**See Hierarchy of control in*
- **VUL-MOP-089– Dust Management & Monitoring; and**
- **Recognised Standard 20 Dust control in surface mines**

To ensure that controls are in place and are effective Vulcan Mine has developed a system of review to monitor the effectiveness of controls and implement corrective and preventative actions as required.

6. Inspections and Monitoring

Section 4.4 - **VUL-MOP-089-Dust Management & Monitoring**

The HST Manager must ensure the mine has a Dust Monitoring Plan as part of the mine's SHMS.

A certified occupational hygienist (or equivalent competency under an international certification scheme), shall be engaged to determine respirable dust levels at the Vulcan Mine, and to ensure the adequacy of and endorse the mine's Dust Monitoring Plan in accordance with **Recognised Standard 14**.

The occupational hygienist shall:

- Establish similar exposure groups.
- Conduct baseline monitoring (risk identification) to establish the initial estimate of exposure.
- Develop a respirable dust sampling plan that is representative of worker numbers, workers, shift work, tasks performed and conditions at the mine.
- Estimate exposure of a SEG using descriptive statistics.
- Submit their review of the Dust Monitoring Plan to the SSE; and
- Conduct periodic monitoring to ensure the risk exposure is at an acceptable level.

Ongoing sampling shall be conducted by the Occupational Hygienist, at a frequency defined in the Dust Monitoring Plan.

The Dust Monitoring Plan shall be reviewed routinely. The frequency of the review will generally be determined by the duration over which the respirable dust sampling is required. If there are any changes to the plant, equipment, operating environment or operating methods that have the potential to impact dust exposure levels, the frequency of sampling shall be reviewed and, in some instances, a new baseline will be established.

The Dust Monitoring Plan and sampling results shall be available to all CMWs via the Mine Record.



Dust monitoring shall take place on each shift at the mine. Records of this monitoring shall be captured within the following documents:

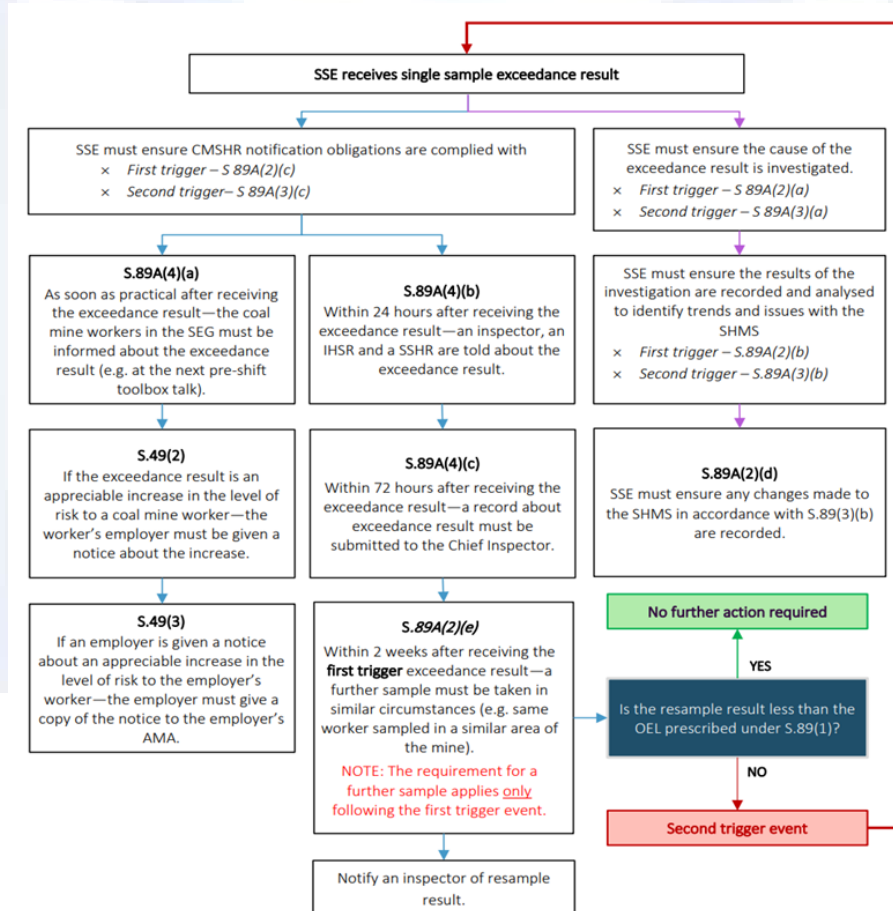
- VUL-FRM-11-01-OCE Report
- VUL-FRM-11-24-Supervisor Shift Report
- VUL-FRM-11-25-ROM Shift Report
- VUL-FRM-11-05-Workshop Inspection
- VUL-FRM-16-04-Drill Blast Pattern Checklist

6.1.1. Exposure Exceedances

Section 4.4.3 - **VUL-MOP-089– Dust Management & Monitoring**

If a personal sample exceeds the relevant exposure limit, an investigation shall be initiated in accordance with Section 8 of Recognised Standard 14. This shall be conducted in consultation with the Occupational Hygienist.

Figure 3 shows the action requirements relating to a single sample exceedance result with reference to the applicable sections of CSMHR 2017. These requirements apply if a single personal exposure dust sample result shows that the average concentration of respirable dust in the atmosphere of the work environment exceeds the levels stated in Section 89 (1) of the CSMHR 2017.





7. Dust Generation in Operations and Manual Handling Activities

VUL-MOP-089-Dust Management & Monitoring provides requirements and controls to assist in the management of dust generation in operations and manual handling activities. The procedure details dust suppression measures and provides guidance to enable CMWs to identify, monitor, and control dust hazards.

8. Respiratory Protective Equipment

Where persons are required to work in areas of excessive, otherwise uncontrollable dust, they shall be provided with, and required to wear, suitable RPE.

Respiratory Protective Equipment shall be to the Australian Standard and calibrated in accordance with AS/NZS 1715, and personnel shall be 'Fit Tested' in accordance with the **VUL-SOP-065-PPE**.

9. Coal Mine Worker's Health

Testing of all CMWs for detrimental health effects caused by respirable dust is a requirement of the Queensland Coal Mine Employee's Health Assessment Scheme. This is conducted during the pre-employment medical and at least once every five years or advised by the Appointed Medical Advisor (AMA). Participation in the medical assessments is mandatory

10. IMPLEMENTING AND MAINTAINING THE PLAN

10.1. Training

CMWs shall receive training during site inductions covering the **VUL-04-PHMP-Dust Principal Hazard Plan**.

Requirements for competencies required by coal mine workers, including requirements from industry competency standards are specified within the VUL-MOP-082-Training Scheme.

10.2. Communicating the Plan

The SSE is accountable for ensuring the PHMP and an overview of its content is communicated to all affected people, including contractors.

The effectiveness of this PHMP relies on all employees playing an active role and notifying other people of any potentially hazardous areas.

Any potential hazards shall be communicated to workers at shift prestart meetings or toolbox meetings.

10.3. Document Control

All documents associated with this PHMP will be stored within the Vulcan Mine SHMS. The electronic version is the controlled copy, and any hard copy document must be reviewed in the light of the controlled copy.



10.3.1. Records

Vulcan Mine will maintain records that demonstrate conformance with this PHMP. These records shall include but not be limited to:

- Training records.
- Results of risk assessments, audits and reviews.
- Monitoring data, including surveys.

10.3.2. Monitoring and Verification of Critical Controls

Vulcan Mine will implement a critical control program and verification process before June 10, 2026.

11. REVIEWS AND AUDITS

This PHMP shall be audited (internally) annually and reviewed at least every five years or if the any of the following occur:

- When there is a change of method and/or technology and/or legal or other requirement that may affect the accuracy of this document.
- When operational changes occur that effect the currency of the document.
- When there has been a significant event to which this document was relevant; and
- As a result of relevant audit findings.

12. REFERENCES

Documents directly relevant to this PHMP and form Vulcan Mine's Dust Management System include:

- *VUL-PLN-001-Safety & Health Management Plan*
- *Vulcan Mine Health Risk Assessment*
- *VUL-MOP-089-Dust Management and Monitoring*
- *VUL-SOP-065-Personal Protective Equipment*
- *VUL-PLN-021- Electrical Management Section 13.*
- *VUL-TAR-001-Post Blast Fumes*
- *VUL-RSK-089-Dust-Review-update-0923*
- *VUL-FRM-11-01-OCE Report*
- *VUL-FRM-11-24-Supervisor Shift Report*
- *VUL-FRM-11-25-ROM Shift Report*
- *VUL-FRM-11-05-Workshop Inspection*
- *VUL-FRM-16-04-Drill Blast Pattern Checklist*
- *VUL-REG-18-14-Hazard Identification Register*
- *VUL-FRM-02-03-Job Hazard Analysis*
- *VUL-FRM-11-19-Critical Task Observation*
- *Take 5 (Personal Risk Assessment)*



13.ROLES AND RESPONSIBILITY

Position	Responsibilities
Coal Mine Operator	- Ensure that a PHMP has been developed to align with legislation. - Conduct audits of the SHMS. Provide adequate resources for ongoing implementation of the PHMP.
Site Senior Executive	- Review the control monitoring and effectiveness requirements as defined by this PHMP. - Ensure adequate resources are available for the ongoing implementation of the PHMP. - Understand the intent and content of this PHMP. - Ensure the PHMP is audited and reviewed as required and audits are actioned in a timely manner. Ensure statutory obligation are met.
Operations Manager	- Ensure the control monitoring and effectiveness system is implemented and operational. - Ensure adequate resources are available for the ongoing implementation of the PHMP. - Ensure that the systems and procedures established as part of the PHMP are implemented and followed. Oversee the mining operations and adherence to the PHMP.
HST Manager	- Ensure the control monitoring and effectiveness system is implemented and operational. - Ensure adequate resources are available for the ongoing implementation of the PHMP. - Ensure surface mobile equipment is fit-for-purpose. Verify that all persons with responsibilities under this PHMP, including external service providers, have the necessary competencies and resources available to them to comply with this PHMP.
Technical Services Superintendent	To ensure that the mine is designed to comply with all the requirements of this PHMP.
Open Cut Examiners	- Comply with the requirements of the PHMP and monitor that the systems and procedures established as part of the PHMP are being implemented and followed. - Ensure that all work areas and traffic flow areas are maintained in a satisfactory condition. - Ensure that all findings and actions are recorded and communicated to all coal mine workers. Promptly highlight any hazards to all Coal Mine Workers.



Position	Responsibilities
Supervisors	- Comply with the requirements of the PHMP and monitor that the systems and procedures established as part of the PHMP are being implemented and followed in practice. - Ensure personnel under their direction remain aware of their responsibilities under the PHMP and carry them out. - Ensure that only competent and authorised personnel operate mobile equipment. Promptly highlight to the OCE any increased risk of an incident related to operation of mobile equipment.
Coal Mine Workers	Observe the requirements of this PHMP.

14.AMENDMENTS

Version	Date	Description	Document Controller
1	28/08/2025	Document Creation	Kelly Jensen