



Mine Name	Mine ID	Operator	Activity Type	Activity Date
Vulcan Mine	MI04148	Vulcan Mine Management Pty Ltd	Inspection - Unannounced	10/11/2021

Mine Record Entry

This report forms part of the Mine Record under s68 of the Coal Mining Safety and Health Act 1999. It must be placed in the Mine Record and displayed in 1 or more conspicuous positions at the mine in a way likely to come to the attention of workers at the mine.

Note that inspection or audit activities conducted by the Mines Inspectorate are based upon sample techniques. It remains the primary responsibility of Mine Personnel to identify hazards, and risks associated with Operations and ensure those risks are at an acceptable level.

Today, Wednesday 10 November 2021 Inspector Richard Gouldstone and Senior Inspector Fritz Djukic, attended Vulcan Mine at 7:45am. The intention was -

- i) To conduct an unannounced inspection
- ii) For Richard Gouldstone to conduct an audit of Emergency Response Capability
- iii) For Fritz Djukic to conduct an audit of the mines occupational hygiene management processes

Contact had been made with SSE Mr Mike Cavanagh shortly before the arrival and both inspectors undertook COVID clearance and alcohol tests on entering the administration building.

1.0 Opening Meeting

An opening meeting was conducted involving:

- Inspector Djukic
- Inspector Gouldstone
- Mike Cavanagh (SSE)
- Shane Walters (HSEC)
- Jesse Russell (ERT)
- Matthew McGregor (Production Manager)

1.1 Inspection and initial briefing exchanges

On arrival, Inspector Gouldstone requested to be provided with copies of the Tour Briefing Notes and the last two OCE reports (electronically).

An inspection of the mining areas was not possible because there had been heavy rainfall in the preceding days and again just before arrival causing the OCE to halt all mobile operations on site. Instead we were given a comprehensive introduction to the Mine site by means of drone camera aerial footage taken just two days previously. This footage is also used to brief oncoming crews to supplement tour start information.

The information provided included -

- Office layout
- Settling ponds for local drainage and ROM area
- ER accommodation under construction
- Workshop area (concrete floored)
- All sealed approach road and unsealed mine roads
- Solterra preparation plant area (Trial water-free coal/discard separation technology)
- ROM layout for receipt and despatch
- Newly established first dump area
- 'Lox line', initial cuts and coal winning from three seams (approximately 70,000T so far) from outcrop area, with a 3 to 1 strip ratio. This area will last about 4 years with maximum highwall height being 45m. Mine life in today's market situation is a minimum of 20 years. Arrangements are underway to divert the adjacent highway, in the next three months, to move it closer to the rail line.

We discussed the layout and plans for the Mine explained by the team commenting that:

ROM area is small and with high activity raw coal imports, crushing/screening, feed to Solterra and despatch to three different destinations all by road train. This will necessitate close attention to traffic management which Mr McGregor indicated will change shift to shift. Early dust problems have been highlighted by RSHQ. Inspector Djukic raised potential dust issues due to the volume of turning traffic around the ROM and Dry Scan facility. Hazards associated with airborne dust in this location are not restricted to health but also could potentially impact visibility if not managed effectively. Mr Cavanagh advised that additional controls in this location were being considered (eg. fixed sprays etc).

At present the coal mining activity is dealt with by an excavator and two dump trucks, a further three are immediately available. A CAT775 water cart is in use with a second (CAT777) soon to be available.

Operators are on a 7 day roster.

Headcount is 50 to 60 per day with 60% being contractors but this will fluctuate because of the amount of proposed construction work planned - contractor management will receive scrutiny.

Inspector Djukic discussed the latest Mine Dust Lung Disease (MDLD) report (237 cases) and the increasing proportion of surface mine workers implicated as a result of silica exposure.

The opportunity for Vulcan Mine to establish a procurement standards for HME and in particular operator cabin ventilation systems incorporating pressurisation and filtration was discussed. Inspector Djukic provided an overview of the RSHQ audit program focusing on RS 20 (Dust control surface coal mines) and early observations. A copy of the mines HME asset list was requested.

Inspector Djukic then provided context around the recently drafted Guidance Note for Heat Management on Surface Coal Mines (QGN32). Mr Cavanagh advised he had received a copy for comment and site would review in due course.

Additionally the following matters were presented to the group:

- RSHQ welding fume exposure review and concerning trends regarding **non use** of RPE during welding fume exceedances.
- Changes to recognised standard 14.
- Occupational Hygiene forum in Emerald on 17 November 2021 focusing on dust mitigation strategies.

The Inspectors then inquired regarding status of OCE gas tickets and progress at site with implementation. The inspectors were advised that Vulcan mine has booked and confirmed training with QMRS.

1.2 Recent Incidents

Inspector Gouldstone highlighted a series of recent incidents involving mobile plant

- A collision occurred between two trucks hauling coal from ROM pad to the bin. Photographs were shown identifying both operators had full visibility in daylight but it was badly impacted by the sun, low in the sky. The primary cause was one operator failing to give way to the vehicle on the left. After the incident all junction indicators were changed to make the ROM intersections consistent with all other intersections at the mine site.
- A D11 dozer moved into the excavator swing area without positive communications and incurred significant damage. Dust from loading operations also obscured vision of both operators. Poor or non-existent 'Pos Comms' is a recurring theme in the sector.
- A Scraper roll-over occurred when the operator was not working to a plan. Poor planning and lack of effective supervisory control were the main causal factors.

1.3 OCE Reports

- Inspector Gouldstone commented about recent experiences relating to OCE inspections, reports and in a recent MRE wrote -

"this also raised a number of noteworthy examples of corrective action taken which I would have believed worth passing to the oncoming OCE in the report. It is important to ensure that the reports are comprehensive and include where instruction has been issued to deal with action to fix safety related issues and to report unsafe situations that have not yet been made safe. It is for this reason that an SCP is given to review the methods by which the SSE fulfils his obligations by appointment of OCEs and the expectation of what their reports should contain ".

On too many occasions noteworthy malpractice is not highlighted - if all OCE's report similar issues then mines can collate the information to potential identify an endemic problem.

NB at this point Inspector Gouldstone, Mr Cavanagh and Mr Russell split from the team to deal with emergency response matters, while Inspector Djukic and Mr Walters then commenced review and collection of documentation and records from the SHMS relating to occupational hygiene management.

2.0 Emergency Management System Audit information and preparation

Inspector Gouldstone explained to Mr Cavanagh and Mr Russell that the audit required the Mine to demonstrate compliance to the following sections of legislation.

Coal Mining Safety and Health Regulations 2017 Sections 35, 36, 37 and 63 and, Coal Mining Safety and Health Act 2017.

This will require the Mine to produce documentation as a minimum for me to examine relating to -

- PHMP Emergency Response
- TARP Emergency Response
- SOP Action to be taken in the event of a fire
- Risk Assessment Tyres Overheating and Fires
- SOP 0037 Tyres Overheating and Fires
- Level 1, 2 or 3 Emergency Exercise Reports 2021
- Visitor Process and Induction
- SHMS Training Requirements for coal mine workers and rescue personnel
- Four examples of '*Action to be taken in the event of*' with evidence of training records

Mr Russell used a power point presentation which showed how the company had invested substantially in providing a purpose made ER facility with associated equipment to assist in dealing with emergencies, an increase in ER personnel, intensified training provision and a commitment to keep the matter high profile.

In response to this request for information Inspector Gouldstone suggested that Mr Cavanagh also includes a further supporting account of the action taken beyond the response to the Directive given by Inspector Mark Royes relating to ER management.

3.0 Occupational Hygiene Management

Inspector Djukic worked through the SHMS material with Mr Walters, outlining the legislative and best practice expectations for management of occupational hygiene/ health risks.

Initial observations from the document gathering exercise are as follows.

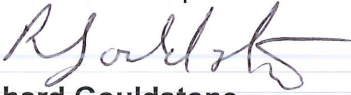
- Site has been divided into Similar exposure groups (SEGs)
- Exposure monitoring is being conducted at quarterly intervals by hygiene provider. This is occurring for inhalable dust, respirable coal dust (RCD), respirable crystalline silica (RCS) and noise.
- Site is currently collecting required sample numbers to establish baseline exposure profiles for each SEG.
- Exceedance for RCS and RCD were being investigated following ICAM process.
- Personal monitoring results and exceedances are being reported in accordance with CMSHR 89, 89(A) and RS14.
- There is a water treatment plant on site. Vulcan have engaged specialist expertise to assist with water treatment and development of water management plan. This includes development of TARPs.
- To date there has been no Health Risk Assessment (HRA) conducted on site.
- A gap analysis has not yet been conducted against RS20, however an SOP for Dust has been developed.
- SHMS contains a number of SOPs, MOPs and procedures that address the following Health / hygiene risks. This include but not limited to the following:
 - i. Dust
 - ii. Noise
 - iii. Hot works
 - iv. Hazardous substances
 - v. PPE
 - vi. Flammable and toxic gas
 - vii. Heat stress
- CMW are provided with mandatory training on the above SOPs. Additional training is provided on health, safety and occupational hygiene risks at return to week (start of tour) briefings. Examples were provided.
- Copies of the above documents were provided for further review and observations will be provided in a separate Mine Record Entry.

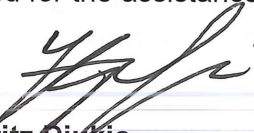
4.0 Close out

Each inspector individually closed out briefly with the SSE Cavanagh prior to leaving site.

The review and outcomes of matters addressed in items 2.0 and 3.0 of this mine record entry will be addressed in separate Mine Record Entries from the inspectors following consideration and review of the documentation provided.

The SSE and his team are thanked for the assistance provided on this day for this unannounced inspection.


Richard Gouldstone
Inspector of Mines


Fritz Djukic
Inspector of Mines