

Mine Name	MineID	Operator	Activity Type	Activity Date
Grasstree Mine	MI01459	Anglo Coal (Capcoal Management) Pty Ltd	Inspection - Unannounced	27/02/2020

*Vision: Our Industries Free of Safety and Health Incidents*

## 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 on Safety Notice Boards.**

**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 the 27th February 2020 Department of Natural Resources Mines and Energy Inspector Keith Brennan travelled to Grasstree Underground operations to conduct an unannounced inspection, the focus an inspection was 909 Single Entry and 910 Installation Faceline. The inspection was a continuation of an inspection aborted due to a power failure on the 16th January 2020.

### Opening Meeting:-

The opening meeting was attended by Underground Mine Manager (UMM) Kelvin Schiefelbein, Compliance Superintendent Joel Duffy and Mine Senior Official (MSO) Andrew Firle.

### High Potential Incidents:-

I commenced by reviewing a serious injury to a coal mine worker on the 31st January 2020 during tramming of a continuous miner. The coal mine worker received minor crush injuries after being caught between vent tubes and bolting carousel. A documented corrective action has been communicated with the workforce regards positioning of workers during tramming.

On the 18th January 2020 Shaft 2 Emergency Sealing ability was compromised due to the bladders filling with water, the new bladders are on site, 23ct E - F heading has been prepared (mesh sprayed) all existing infrastructure from the bottom of the manifold to the bladder locations has been replaced, the estimated time for completion is 14th May 2020.

A gas exceedance on the 28th January, failure of electrical equipment on 13th February resulting in an arch flash, coal mine worker sprayed with emulsion as a result of a failed base lift cylinder seal. The failure of explosion protected equipment (lights torn off) of the Load Haul Dump (LHD) the operator continuing to operate the LHD.

### Sealing Plans:-

We discussed a guidance developed for the inspectors (2011) for Sealing a part of a coal mine, I emphasized 2.1 Sealing Management Plan must:-

Be developed in a similar manner to an SOP involving an appropriate x-section of mineworkers and subject experts.

2.1.2. Have the risk assessment appended

2.1.3. Be "Stand Alone" that is, contain all relevant information and not simply references to other documents eg. TARPS or references to other Management Plans or procedures. These documents or relevant parts of them can be appended. (An Inspector cannot assess what is not provided and this will cause delays)

Previous discussions on the 16th January 2020 inspector Brennan advised the referencing of PHMPs - SOPs - MOP in WRACs without the supporting detail was unacceptable, Compliance Superintendent acknowledged the WRAC shall be developed as required by item 2.1.3.

Gas/DPM Monitoring:-

On the 12th February Inspector of Mines Hygiene Fritz Djukic received a response from UMM Kelvin Schiefelbein with regard to personal Diesel Particulate Monitoring (DPM) and personal monitoring of hauler operators for Carbon Monoxide (CO) exposures during 909 single entry hauling and mining development of 910 face roadway.

Key findings

All monitoring required for January under the Personal Monitoring Plan (as per MRE 7/1/2020) has been completed.

DPM

Nine of 16 DPM results were in excess of half the OEL. These were:

Ram Car Operator – 4 of 8 results exceeded half the OEL. Two results (0.139 and 0.132 mg/m<sup>3</sup>) exceeding the OEL.

Continuous Miner Operator – 2 of 2 results exceeded half the OEL. Maximum 0.051 mg/m<sup>3</sup>.

Underground Maintenance – 3 of 4 results exceeded half the OEL. Maximum 0.097 mg/m<sup>3</sup>.

Carbon Monoxide and Nitrogen Dioxide

Based on the analysis of Personal Gas Detector (Drager X-am® 5600) data using the "Drager" Software "GasVision" (versions 5.9.1 & 6.0.5) all TWA concentrations calculated for CO and NO<sub>2</sub> were well below the OELs of 30ppm and 3ppm, respectively.

There were no exceedances of the STEL (5ppm) for NO<sub>2</sub>. The maximum concentration reported for NO<sub>2</sub> was 2.59 ppm which is less than 52% of the STEL.

The personal monitoring results for February will be forwarded upon receipt of analysis.

Inspection:-

Prior to travelling underground I reviewed the night shift 909 single entry and 910 face road (Area 13 /13a) ERZ Controllers statutory report 26th February 2020. Ventilation recorded 27/28ct - 53.55m<sup>3</sup>/s Heat TARP Code Yellow, CH<sub>4</sub> 0.48%, CO<sub>2</sub> 0.19% and CO 0.00ppm. VLI in seam drillers at 19ct inspection was recorded in the Outbye statutory report. I was advised 910 face production development is planned to be completed within 10 working days.

In the company of Compliance Superintendent Joel Duffy, MSO Andrew Firlie and Development Superintendent Anthony Johns, I commenced my inspection at pit bottom where I was shown the preparation works completed for the installation of the emergency sealing bladders.

Grading of D heading travel roadway is required including low hanging roof mesh removal, numerous areas of damaged rib mesh was evident throughout the roadways travelled. Superintendent Anthony Johns will implement corrective actions.

At 909 single entry I had a conversation with a coal mine worker, the worker was currently carrying out pumping duties in 909 single entry, the worker was also a hauler operator. I enquired as to operator rotation of outbye and inbye hauler operators to reduce DPM and CO exposures. The operator confirmed rotation occurs, two of four haulers undergo servicing while the remaining two haul from 910 faceline. I enquired if the operator had worn DPM/CO monitors, the operator confirmed wearing the monitors. As we walked to the hauler breaker feeder side loading point I observed a supply pod GLI - 375 - in a stub, Non Destructive Testing was out of date 08/2018.

I inspected the breaker/feeder delivery to the trunk belt, minimal spillage at the transfer, the haulers have damaged rib mesh throughout the area. I read the pre-start for Hauler GCH008 the pre-start is completed every 24 hours, I reminded my escorts The Coal Mining Safety and Health Regulation section 73 Checking mobile plant (1) requires the mine to have a Standard Operating Procedure (SOP) the procedure (2) The procedure must provide for the operator of the plant, as soon as practicable after taking control of the plant, to check that the plant's brakes, steering, lights and any other safety features are functioning properly, the operator shall document their inspection.

Entering 909 single entry a copy of the Single Entry Management Plan was available adjacent the diesel and district tag boards. Fire fighting reels were located in all cut-throughs, fire depots located at a maximum separation distance of 400 metres. A number of cut-throughs had implements stored - 8ct Jib - 13ct Rubbish Pod GL1020 - at 17ct the fire fighting reel was located behind a mesh barrier erected to prevent access during drilling ventilation shafts to reduce CH<sub>4</sub> concentrations during longwall 910 retreat. The shafts will be located at 910TG 17c/t A to C hdg ( 2 shafts) and 910TG 6 c/t A to C hdg (2 shafts).

Two auxiliary fans will be setup on top of the shafts to force air to the mine, Development Superintendent Anthony Johns actioned the re-location of the fire water reeler including the removal of equipment compromising access to the reelers.

At 28ct cribb room I had a discussion with the section deputy who provided an overview of the statutory report using a tablet. We discussed the Tell -Tale readings noting the location of movement at 910 belt road/installation face 54 - 32 - 12 - 0 - B1 intersection recorded 18 - 17 - 14 - 2 respectively. Heat Management TARP - Yellow.

Brattice has been hung from the roof from B1 intersection in preparation for a possible ventilation failure, at auxiliary fan A/F GAF04 the Trolex recorded CH4 0.38%, the bleeder overdrive was ventilated using a brattice wing bag CH4 recorded 0.44%. No production was taking place, three coal mine workers wearing PPE were grouting 8 metre Mega bolts, I enquired if the number of pump strokes were counted during grouting, one of the workers confirmed pump strokes are counted.

An Eimco GL801/1511 parked at the intersection pre-start had not been completed, I enquired if layering had been detected in a cavity at the belt/face intersection? MSO Andrew Firlé checked for the presence of CH4 in the cavity recording 0.36% a venturi was directed into the cavity.

I conducted a general question and answer with a number of coal mine workers referencing extracts from the 909 Single Entry Management plan, the workers spoken to all had a sound knowledge of the requirements, adding two Level 4 Emergency events were recently conducted for a tyre fire, one with the fan running one with the fan stopped.

I requested to inspect the in-seam gas drainage stub at 19ct. VLI drill only on night shift, the inbye gas sensor read 0.13% CH4 and 0.14% CH4 above the drill rig. I raised poor hole identification, holes have an information tag, I was unable to identify hole numbers on the Elgin. VLI are required to use reflective numbering of standpipes and Elgin's to remove any confusion.

Close Out Meeting:-

The meeting was attended by Compliance Superintendent Joel Duffy, MSO Andrew Firlé and Operations Manager Tim McNally. We discussed the matters recorded in the mine record entry, I raised the standard of D heading requiring grading, B heading was acceptable. MSO Andrew Firlé and Development Superintendent Anthony Johns had documented the corrective actions identified during my inspection.

The management team provided information of testing being conducted on two 10 ton LHDs fitted with Diesel Engine Emission packages. The Catalytic diesel particulate filter trial will confirm filters Regenerating/Self Cleaning, Eliminate the requirement for disposable Exhaust Particulate Filters,

the Ceramic wall flow filter with an applied catalyst promotes chemical reactions between gas and collected soot.

During discussions with coal mine workers on 910 installation face a worker enquired as to the effects of residual scrubber water from diesel equipment after the water evaporates leaving dust that may be raised into the ventilation stream containing diesel particulate matter. I suggest the question be directed to Grasstree Hygienist Ian Marshall.

I thanked Grasstree management for their assistance during my inspection.

**Keith Brennan**  
**Inspector of Mines**