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| Mine Name | Mine ID Operator | Activity Type | Activity Date |
| North Goonyella | MIOI 157 Peabody (Bowen) Pty Ltd | Site Meeting | 24/10/2018 |

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.

Site Safety & Health Reps Consulted: John Pearson

Today, 24 Oct 2018 1 , Inspector Les Marlborough, attended a meeting at North Goonyella Mine to discuss the status of the spontaneous combustion event at North Goonyella Mine and the subsequent mine evacuation. The meeting was held at the North Goonyella accommodation village in the 1MT Room.

Prior to the meeting Inspector Nugent raised the abnormal correlation between H9 shaft pressure readings and gas concentrations in the shaft. The pressure readings showed negative pressure since 9 Oct, ranging from -130 Pa to -360 Pa. Currently sitting at -260 Pa. It was suggested that moves in diurnal pressure could be influencing this, but there has been no obvious changes in pressure measured at these times. The pressure of -260 Pa indicates that the shaft is breathing in and yet the Oxygen level at the sample point 10m down still shows Oxygen at 2-3%.

Meeting

Attending the meeting was;-

Mr Mike Carter, SSE Millennium;

Mr Nev Impson, Compliance Manager; Mr Dom Cougar, Surveyor;

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Mr John Pearson, SSHR;

Mr Joshua Cook, Graduate Mining Engineer; Mr Dennis Black, Ventilation Officer; Mr Stephen Woods, ISHR.

In addition, the meeting was joined by video/telephone conference by;-

Inspector Geoff Nugent;

Mr Peter Baker, Peabody VP Operations;

Mr David Cliff;

Mr Mick Brady;

Mr Martin Watkinson (SIMTARS);

Mr Charles Lilly, Peabody Senior Director of Engineering.

Last 24 Hours

* GAG on stand-by as per plan;
* Hole 2711 (MG B Hdg concrete hole) started drilling;
* Hole 2712 (2 CT Concrete hole) at 125m depth;
* Hole 2705 (MG Chute Road) completed 5th pour (72m);
* Hole 2709 (TG Chute) started first concrete pour;

Repairs to tube bundle lines. Mr Black made note that it has proven necessary to blow out some tube bundle lines to clear water from the tubes. Believed to be a result of the tubes being run on the surface and subsequent condensation;  Transported material to 1:4 Drift for emergency sealing;

0  Took temperature readings — Bleeder Shaft showing 56C;

* Floxal units run
* #1 at 9 North through MG Seals;
* #2 in Corridor;
* #4 being used with QMRS Foam unit when boreholes hole through to workings; at 42 CT Silo.
* Fish eye camera run down 2707 borehole (MG conveyor road);
* NGC Camera run down 2706 (MG 2CT Travel Road end). Viewed the footage from this camera. Appeared to show that lay flat duct in this area had been burnt, but hoses could be seen that did not show signs of being burnt;
* Concrete batch plant having maintenance issues which caused delays to concrete pours;

Next 24 Hours

* GAG on stand-by;
* Continue drilling for LW sealing; o Continue gas sampling;
* Continue concrete in 2705 and 2709;
* Rocksil plug in 2707;
* Tube bundle repairs — camera down LW9N 25 CT;  Transport rejects to 1 drift.

## Discussion

The gas results were discussed. There was no significant changes in the H9 Shaft, 32 and 36 CT. W

There was further discussion regarding the pressure readings around the Mine and at

H9 shaft. MG 9N 25 CT borehole showing -1300Pa with similar pressures at other holes in the vicinity of the Bleeder shaft. These pressures seemed to be increasing. The Mine explained that there was no pressure readings available for the Bleeder shaft. Inspector Nugent and myself recommended that the Mine establish a pressure reading in the Bleeder Shaft. I informed the Mine that on Monday 29 October Myself and Inspector Nugent would conduct an inspection of the Mine and would specifically want to inspect the H9 shaft area within the exclusion zone. The Mine is to conduct a JSA for this task prior to the day.

Mr Cliff recommended that the Mine should obtain a sample of the black product visible around the H9 shaft as a result of the fire to determine whether it was the results of a coal fire or whether it was tar. Mr Black explained that a sample had been sent away for analysis.

There was further discussion regarding the gas readings at specific points. Inspector Nugent mentioned. Inspector Nugent stated that the results showed increase in 02 and drop in CH4 at 32G on 23 Oct at 2012 hrs entering explosive range (02 16.3% and CH4 8.4%). Mr Black stated results are unreliable due to lack of confirmed TB line integrity at 32G also uncertainties of integrity of a number of other TB lines. Mr Black explained the difficulties the Mine was experiencing with the tube bundle lines. When we asked about some of the results the Mr Black again stated that we could not rely on some of these gas readings. I stressed to the meeting that it is very important that the Mine address the reliability of the sample points otherwise they could not demonstrate an acceptable level of risk when considering work within the exclusion zones or if considering re-entry plans. I again stressed that the Mine needs to verify where every gas monitoring sample point is located within the hole and where it is located in the roadway (near roof or near floor). The existence of any "jewellery" on the bottom of these holes and where the hole is located UG to ensure it is representative of the atmosphere in the roadway.

We were informed that the crew running the camera down MG 9N 25 CT borehole pulled out the tube bundle tube from the hole. There was only 200 m of tube that came out of the hole. The hole is approximately 350 m deep.

I went out with Mr Carter to inspect some of the boreholes that were having issues with monitoring results. We watched the 3 CMW's dropping a new tube down MG9N 25 CT. They explained that when they pulled the old tube out they found a split in the line at 120 m depth. The camera showed at 220 m there was old tube bundle tube in the hole. When lowering the new tube down the hole it was sticking at this depth and they were having difficulties getting the new tube down the hole. I observed that the standard of tube bundle installation could be greatly improved. There is a lack of delineation from the tube bundle lines to traffic which puts the tube bundle lines at risk, especially during the night.

We went to H40 shaft. There was not a barrier across the exclusion Zone. Mr Carter undertook to have this rectified.

On return to the Village I discussed the gas monitoring plan with Mr Carter and Mr

Black (VO). There were two additional holes to be drilled in the Mains at 59 CT

(opposite the 9N MG Chute Road). I suggested that once the holes were drilled and

the 5 holes across the mains that were previously planned, then the Mine needs to look at the gas readings, which may suggest other locations for monitoring points.

I discussed with the Mine the need to develop a mine re-entry management plan, based on risk assessment. I recommended that, when looking at options for re ventilating the Mine, that the Mine should consider the use of a forcing fan as this could be used to reduce the risk of high levels of methane passing over the blades of an exhaust fan. I suggested that H9 shaft could be used to site a forcing fan. It would take some modification to the infrastructure on the surface at H9. I recommended that the Mine should consider a staged re-ventilation and re-entry process.

Recommendation

The Mine should develop a detailed Re-entry Management Plan, based on risk assessment, with the appropriate level of technical expertise involved in the development of the plan. The details of what the Mine should consider in developing the Re-entry Management Plan are included in the Recommendation attached to this Mine Record Entry.

I explained that Inspector Nugent would attend the Mine on Friday 26 October to attend the feedback meeting and to review progress.

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| Number | Recommendation | Due Date |
| 1 | Mine Re-entry Management Plan | NIA |

The Mine should develop a detailed Re-entry Management Plan, based on risk assessment, with the appropriate level of technical expertise involved in the development of the plan. In developing the management plan the Mine should consider the following as a minimum;The re-entry process must not commence until the Mine has determined that the underground atmosphere is clearly understood such that the Mine can determine, with high confidence, that there are no sources of ongoing combustion occurring that could be re-ignited by the re-entry process and introducing an unacceptable level of risk to coal mine workers. 2. The Mine should consider whether a staged re-ventilation strategy would be a more appropriate method of re-ventilating the Mine;

1. The Mine should consider using the QMRS MRAS system and protocols as a standard for the requirements for re-entry;
2. A management structure that details the supervision for each stage of the process and for the competencies of the people/coal mine workers involved that are appropriate to the hazards being managed;
3. Requirement for detailed work instructions to coal mine workers for each stage of the re-entry process. This to include restrictions on persons working alone;
4. Establishment of appropriate "fresh air bases" or places of safety and the minimum requirements for these as they are established during the re-entry process;
5. A detailed gas monitoring plan that clearly shows the status of the mine atmosphere for each stage of the process and the appropriate location of monitoring/sampling points to achieve this;
6. The locations of gas monitoring points/sample locations must be accurately known and be located in locations that will give results that are reliable and representative of the mine atmosphere in that location;
7. Specific TARPs should be developed that are appropriate to the re-entry process and include actions to ensure that coal mine workers are not exposed to an unacceptable level of risk;
8. When establishing a TARP the Mine should consider the rate of change to ensure timely actions are taken so that coal mine workers are not exposed to an unacceptable level of risk (very important when relying on tube bundle monitoring as the prime monitoring system); 1 1 . The reliance on monitoring that is not continuous, such as tube bundle monitoring rather than continuous real time monitors and the impact on the ability to detect changes and the rate of change in a time frame that ensures an acceptable level of risk to coal mine workers; 12. TARPs should include actions to be taken should the gas monitoring system fail during the re-entry process;
9. Management plan to address actions to be taken should conditions be encountered that are not as expected, (i.e. should re-entry process be halted while the change in conditions is investigated and assessed to determine the effect on the acceptable level of risk to coal mine workers;
10. Failed VCD's discovered during re-entry process — actions to be taken and reporting requirements. Including possible reassessment criteria;
11. Impact on the mine atmosphere of the re ventilation and the introduction of Oxygen into the airways and ventilation circuits (i.e. could create an explosive mixture or re-ignite any heating);
12. Communication requirements and the re-establishment of communications during all stages of the re-entry process;
13. Emergency response and first aid requirements to protect coal mine workers involved in the re-entry works;
14. Actions to be taken before any changes to the detailed re-entry plan are to be implemented, including risk management processes to assess the impact on the exposure of coal mine workers to an unacceptable level of risk;
15. Analysis and treatment of residue from the spontaneous combustion event that may be found on the roof, ribs and floor of the mine workings to ensure coal mine workers are not exposed to an unacceptable level of risk;
16. The status of the in seam methane drainage system throughout the Mine;

21 . The possible influence of the changes to previously sealed areas of the Mine;

1. The possible impacts on strata control of the events prior to re-entry;
2. The effects of GAG product and temperature on services and strata control;
3. The self-escape strategy for coal mine workers involved in the various stages of the re-entry process;
4. Firefighting capability during the various stages of the re-entry process;
5. The ability to emergency seal the Mine should conditions warrant it;
6. Re-establishment of services during each stage of the re-entry process. This to include a determination of which services must be re-established at each stage of the re-entry process.

The SSE to respond to this Recommendation to Inspector Marlborough by e-mail by Fri 9 Nov 2018

Please provide a written status report on each SCP together with the actions taken to address each item by their due dates

Please provide a written status report on each Directive together with the actions taken to address each item by their due dates

Please provide a written status report on each Directive and SCP together with the ac ions taken to address each item by their due dates



Les Marlborough Inspector of Mines