



Queensland Government

Mackay District Office

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Mine Name	Mine ID	Operator	Activity Type	Region	Activity Date
Moranbah North	MI00750	Anglo Coal (Moranbah North Management) Pty Ltd	Inspection - Weekend or Backshift	Central	18/01/2015

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: Mr Paul Green

Today the 18th January 2015 Department of Natural Resources and Mines Inspector Keith Brennan travelled to Moranbah North Underground operations to investigate an ignition of gas in the vicinity of the tailgate drive of the Armoured Face Conveyor (AFC) during mining operations in Maingate 110 longwall.

Opening Meeting:-

An opening meeting was held with Underground Mine Manager Les Marlborough (UMM) and Operations Manager Andrew Morris, I was provided an incident overview as follows:-

On Saturday 17th January 2015 at 11:06am the day shift longwall crew were in the process of double chocking the tailgate end of the face, the shearer was not running, the AFC was running. After the shearer hydraulic pumps had started (cutter heads had not started) coal mine workers observed an orange flame and heard a popping sound under the tailgate end of shearer, the shearer was parked over the tailgate drive of the AFC.

The shearer operators shut the hydraulic pumps down and the face Deputy hit the Emergency Stop dropping power across the face. Initial investigations by the Deputy located an opening in stone material that had been pushed up over the tailgate drive cover plate. A small opening through the stone identified the area believed to be the location of the ignition.

The area was isolated and contact was made with UMM Les Marlborough who contacted Deputy Chief Inspector of Mines Russell Albury. After discussions with UMM Les Marlborough, Deputy Chief Inspector Russell Albury gave permission for the shearer to be moved away from the tailgate drive cover to allow an investigation by the mine in an attempt to identify the source of the ignition requiring cleaning off the tailgate drive area.

Gas readings in the general body at the shearer location were recorded by the Deputy as 0.2% Ch4 Maingate side of the shearer, tailgate drive general body 0.2% Ch4, tailgate roadway outbye the face 0.4% Ch4 following a check of the dog leg sensor recorded 0.7% Ch4. Ventilation quantities were recorded entering the district as 54.7 and 40.4 cubic meters per second.

After removing material off the tailgate drive cover the Deputy detected off scale Ch4 >5.00% at the rear of the tailgate drive sprocket.

We discussed a range of possibilities as to the ignition source and gas make. The lower coal seam I was advised, the displacement is approximately 3 meters with an insuti gas content of 6 cubic meters per ton. Floor heave has occurred in a number of roadways. (During my inspection floor heave outbye of the tailgate face was evident, water was disappearing into the floor cracks).

Inspection:-

In the company of UMM Les Marlborough, Operations Manager Andrew Morris, Shift Undermanager Shane Berrimon and SSHR Paul Green we travelled underground. I took the opportunity to inspect Slurry Dusting trials that have commenced at D heading 6ct and later shotcreting of rib corners at 17ct D heading. I pointed out a number of areas of damaged rib support, SSHR Paul Green advised that an audit has been carried out and prioritised for remedial rib re-support will be implemented.

On maingate 110 face all sprags were deployed, I noted that there are numerous outer sprags missing or damaged. I was advised that poor design of the sprag was the primary reason as impact from roof material damages the sprags and that the OEM has re-engineered sprags ready to be fitted when they arrive on site.

I recalled Inspector of Mines Ram Bhattacharjee had issued a Directive (21st August 2012) during an inspection of Longwall 109 following an injury to a coal mine that had been attributed to missing and/or damaged sprags. Operations Manager Andrew Morris responded that at that time coal mine workers walked in the front of the chock legs, this is not the case on 110 face. While this may be the case, exposing coal mine workers during repair of sprags and lack of face control does expose coal mine workers to a hazard, the replacement and repairs of sprags need to be expedited.

Walking conditions inside the chock walkways required operators to crouch from 40# towards the tailgate, there are a number of mechanical issues contributing to shield heights the mine officials are aware of and are attempting to resolve with the OEM. While there are identified OEM issues contributing to poor walkway conditions every effort to regain control of the face to improve safety conditions for coal mine workers in the walkway is paramount.

I was met at the tailgate by Deputy Marcus Ford who had placed a No Road tape and information tag across the walkway. Deputy Ford was the day shift Deputy when the ignition occurred and we discussed the sequence of events leading up to and after the ignition. A gas reading was taken behind the isolated tailgate drive sprocket and the Altair gas detector recorded >5% Ch4, general body 0.2% Ch4.

Prior to leaving the surface I requested the face Deputy to carry out a series of gas tests through inspection plates on the maingate side of the shearer. Gas tests were:- Pan 85 0.55%; Pan 97 3.75%; Pans 103, 115, 145 and tailgate >5% Ch4.

Water draining from a pipe in the tailgate was running into a cavity in the floor outbye the face, I speculated if the water and floor heave may have been a contributing factor as the source of gas in the return AFC race.

Discussions focused on the removal of the gas from the AFC return, I requested if possible a venturi be set up at an accessible safe location to flush the return AFC chain, if successful cease the airflow and monitor the tailgate drive sprocket to gauge the gas make.

UMM Les Marlborough outlined a control to prevent another possible ignition by installing a series of spray bars to remove the possibility of sparking, the sprays would be inserted at inspection plate locations maingate side of the tailgate drive, a spray bar/water venturi would also be set up above the tailgate drive sprocket.

Close Out Meeting:-

A brief close out meeting was held with Underground Mine Manager Les Marlborough and Operations Manager Andrew Morris. A Risk Assessment will be carried out later in the afternoon, cavity pumping to be completed. I advised that I will return to site prior to the running of the AFC chain and be present on the longwall face during this operation, I left site to manage my fatigue for a later return to site.

Keith Brennan
Inspector of Mines