



Mine Name	Mine ID	Operator	Activity Type	Region	Activity Date
Grosvenor Coal Mine	MI02976	Anglo Coal (Grosvenor Management) Pty Ltd	Inspection	Central	06/06/2016

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 Jayson Sharpe

Today at 2pm, Monday 6 June 2016 Inspectors Richard Gouldstone and Noel Towers attended Grosvenor Mine. We were met by -

Mr Adam Foulstone (SSE)

Mr Wayne Bull (UMM)

Mr Paul Buddery (AAMC Principal Underground Geotechnical Engineer)

Mr Malcolm Smyth (Technical Services Superintendent)

1.0 Incident - Fall of ground MG102 C Heading inbye 18CT

Our attendance at the Mine had been prompted by the telephone call from Mr Bull to Inspector Graham Callinan at 5am earlier in the day. Mr Bull reported a High Potential Incident in 102 MG 'C' heading where a roof fall had occurred approximately 36m inbye from 18CT. The dimension of the fall was 14m long to 5m high with only 0.8m width to either side of the fall remaining of the roof.

The fall occurred at 22:10pm Sunday 5 June, after the ERZC had noticed rapid movement on a tell-tale at chainage 45m. He directed the shuttle car driver to park the vehicle at the boot end and told the CM crew to tram the Joy 12CM12 outbye to commence Code B secondary support. However the roof failed as the ERZC was again reading the tell-tale he took evasive action, running outbye of the fall. Once the dust cleared he returned to the edge of the fall and guided the four crew members from inbye the fall to safety outbye of the fall. Movement on the tell-tale had been reported from the previous shift and deteriorated quickly at the commencement of the nightshift.

No persons were injured and those involved were offered counselling. It was reported to

Inspector Gouldstone later, that Mine staff on meeting with those involved at camp the following day, the decision was made that the crew members involved return home for the remainder of the tour. Witness statements were taken but a full debrief is still to be done.

Inspector Gouldstone indicated to those present that the notification of the incident ought to have been as soon as was reasonably possible after the event. This could reasonably have been within an hour of the incident.

The Inspectors indicated that they intend to -

- Identify the process the Mine has followed to deal with change management
- Understand how the Mine is to secure the fall by following a risk assessment process
- Discuss with Mine personnel why the failure occurred and what support will be installed in future in 102 MG to prevent a recurrence.

Mining in 102 MG has been halted until these matters have been addressed.

It was accepted by Inspector Gouldstone that development in the Mains could continue as the support regime and mining conditions are different to those in MG 102.

2.0 Introduction Meeting

The circumstances of the fall were related to the Inspectors as described above by the management team.

Initial discussions took place regarding -

- Health of those involved - No physical injuries, counselling was made available to them and they would be managed on their return to work.
- Nature of the fall - Movement on a tell-tale had been reported on Afternoon shift by ERZC of 10mm+ which had worsened to 20mm by 22:10pm on nightshift when the fall occurred as described above.
- Debris Pile - the nature of the debris pile was very well fractured and mainly slate-like in appearance. Slickensides were visible in the cavity with other weak planes visible.
- Support condition - The fall had occurred approximately 10m inbye of the support pattern for 18CT intersection and stopped approximately 20m from the face of the heading. A 8x 1.8mJX bolt per metre(roof) pattern was being utilised and failure had occurred between the 2 outermost bolts. The support pattern had been changed from that installed in 102MG previously by removing the need to install 2x 8.2m Megabolts at 4m spacing. This had been subject to a change management process dated 20/05/16. Inspector Gouldstone asked if a staged reduction in roof support had been considered.

Inspector Gouldstone passed a list of documents to Mr Smyth which the Mine would need to provide (see later). At this stage it was stated by Inspector Gouldstone that Mine must continue its investigation and the Inspectors would need to examine the site.

3.0 Underground Inspection

Prior to moving underground we asked to see the CRO report for the previous shift and Inspector Gouldstone was directed to an electronic copy displayed on screen in the Control Room. There were no entries made on that report. Inspector Gouldstone later discussed this matter with Mr Bull who identified that the off-going CRO had not transferred the desk-top copy to the CRO Report File but was shown later that this had been done.

It is strongly recommended that there is a method of ensuring that this does not happen in the future as transference of safety critical information shift to shift must be assured. Inspector Gouldstone was satisfied that despite this, the on-coming CRO was aware of the situation and there had been appropriate exchange between shift supervisors. In future the CROs will fill the report in on screen removing the need to transfer the information.

The Inspectors were accompanied underground by -

Mr Bull

Mr Smyth

Mr Buddery

Mr Joe Wills (Acting Development Superintendent)

Mr Justin Joubert (SHE Manager)

We travelled to the site of the roof fall and were met by ERZC Mr Boyd Buschmann , Shift Undermanager, Mr Neal Bryan and Mr Jayson Sharpe(SSHR).

Megabolting from the 18CT intersection towards the edge of the fall had commenced and an extra tell-tale had been installed. Two pogo-sticks were also in place and a wooden wedge lodged in the centre line cracking all in place to identify early movement.

The nature of the fall was consistent with the description earlier in this MRE.

There was evidence of gloving on the 3x 1.8m JX bolts which could be seen and strongly suggested that the recovery should, without prejudicing safety, reclaim as much of the bolting materials as possible to assist in the Mine investigation.

It is also recommended that once the 12CM 12 can be accessed safely then all bolting materials and equipment are audited to see that they were within their shelf life, of the correct specification and that the drilling bolting equipment is performing to the specified standard.

Inspector Gouldstone also wishes to be informed of what entrapment equipment is found on the CM when recovered.

There were no obvious features in regard to gas or water make that could be considered as having an effect. It had been reported that although the fall had broken the ventilation ducting the power cable remained live. This had been subsequently isolated.

I spoke with the secondary bolting team in regard to the work in progress which was being undertaken with appropriate controls.

A conversation between Mr Bull and Inspector Gouldstone at 7am Wednesday 8 June confirmed the exact position and dimensions of the fall and confirmed that the outbye side of the fall had been secured. No further movement on any telltales had been detected and the holes drilled closest to the cavity for megabolts remained intact and no drill water was lost into

the cavity.

4.0 Close-out Meeting 6 June 2016

On return to the surface we summarised the current status -

Support to the outbye edge of the fall could continue.

No mining shall take place in 102 MG until a review of the support in 102 MG is conducted to identify the mode of failure and a suitably revised support plan is devised.

A risk assessment is to be conducted to establish the method of recovery of the fall area.

Inspector Gouldstone to read through the documentation provided so far and provide feedback.

Inspectors departed the Mine at 5pm.

5.0 Day 2 Tuesday June 7 2016

Inspector Gouldstone attended the Mine at 9:30am and at 11am met with -

Mr Bull

Mr Buddery

Mr Smyth

I provided feedback from documents listed later in this report some of which were raised before I departed the Mine -

The decision to dispense with installing megabолts as primary roof support at the cut face had been reached after wide ranging discussion and input from technically qualified personnel from both the mining and geotechnical disciplines with the outcome being to move to installing only 8x1.8m JX bolts as Code A support.

There is an anomaly which I asked the Mine to clarify. The Mine Change Management Procedure which I was presented with shows that if a 'low or medium change to the risk category is assessed at Step 2, in change of impact type, then a JSA is to be undertaken and a SWI may need to be written'. It was reported to me that a JSA was not conducted but that crews were consulted through the process. I asked for proof of consultation in that regard. I ask that the Mine produce any risk assessment process they followed which included coal mine workers.

The email from M.Kasangula to M.Smyth with a tool Box Talk for crews outlining the trial of removal of Megabолts and highlighting the installation of tell-tales every 15m is ambiguous. I would ask the Mine to clarify if the decision to close tell-tale centres to 15m has been complied with. The exchanges between M.Kasangula and Undermanager, 5 June which are contained in the fourth document section 7 suggest that he reiterated that they should be installed at 15m centres intervals.

Further feedback from reading documents after I departed the Mine on which I require the

Mine to provide a response -

I could not find training records for all crew involved in mining MG 102 on the day of the roof fall. Only those of Mitch Wynn and Patrick Magriplis were seen.

6.0 Close-out Day 2 Wednesday 7 June 2016

I indicated that I would share my observations so far, with fellow inspectors based upon the comments made in this MRE and the Inspectorate would maintain contact with the Mine.

Mr Bull indicated that the fall of ground ICAM is likely to be begin next week when eye-witnesses will return to the Mine. Input from further senior geotechnical experts who are at the Mine today and later this week will also be received.

I was given a copy of the Geotechnical Design Review completed by, Mambwe Kasangula, Wayne Bull and Paul Buddery post roof fall. I undertook to read it and provide feedback. This, in summary, gives a design which provides a support system which will withstand 'deadweight' conditions.

The risk assessment to recover the fall area is still to be completed and I asked that this is forwarded to myself and Inspector Shaun Dobson on completion.

The Mine is to provide responses to items raised variously through this MRE.

7.0 Document List

The list of documents provided by the Mine is as follows -

5 photographs of the fall area with diagram attached

Hazard & Incident Report Form completed by Brad Meldrum (7032)

Statement - Brad Meldrum (ERZC on nightshift)

Message from - Mambwe Kasangula (Geotechnical Engineer)

Statement - D.Brosnan (Duty Undermanager)

Witness Statement - Luke Palmer

Witness Statement - Frank Mariu

Witness Statement - Mitch Wynn

Witness Statement - Daniel Pantazarcus

Witness Statement - Patrick Magriplis

Tell-tale Record Book entries 8806 on afternoon shift 5/6/16 MG102 C heading

GRO- 6597 -TARP Gateroad Development - Headings signed 01.06/16 by W.Bull, A.

Seccombe, J.Wills

Sequence Plan 80277 - Rev 00 MG 102 18-19ct

Mine Managers Support Rules Maingate Development dated 15/02/16 signed by W.Bull, K.Barnsdale, C.Morton

Mine Managers Support Rules MG 102 18-20CT - Headings dated 31/05/16

Mine Managers Support Rules Maingate Development Intersections and cut throughs Plan A dated 15/02/16 signed by W.Bull, K.Barnsdale, C.Morton, D.Thomasson

Mine Managers Support Rules Maingate Development Intersections and cut throughs Plan B dated 15/02/16 signed by W.Bull, K.Barnsdale, C.Morton, D.Thomasson

Mine Managers Support Rules Maingate Development Intersections and cut throughs Plan C dated 15/02/16 signed by W.Bull, K.Barnsdale, C.Morton, D.Thomasson

Mine Managers Support Rules Maingate Development Ribs - 3.6 cut height, dated 15/02/16, signed by W.Bull, K.Barnsdale, C.Morton, D.Thomasson

Mine Managers Support Rules Maingate Development Ribs - 3.8 cut height, dated 15/02/16, signed by W.Bull, K.Barnsdale, C.Morton, D.Thomasson

Permit to Mine Identifier GRO-7805-PMT-MG102-004

Permit to Mine - MG102-004, MG102 from 18c/t to 40m inbye of 22c/t in B Hdg and 45m inbye of 22c/t in C Hdg

MG 102 1 -19ct Grosvenor Geological and Geotechnical Hazard

MG 102 Panel Mapping and Condition Reporting 03/06 2016, MG 102, B&C 17 -18 drivage & 18ct

MG 102 19 - 36ct Grosvenor Geological and Geotechnical Hazard

Management of Change - Trial removing of 2 x 8.2 @ 4m spacing Megabolts from Plan A of Primary Support from "Mine Managers Support Rules - Headings" only (10 pages with plans)

Emails dating to 27 May 2016 between P.Buddery, A.Seccombe, M.Kasangula, M.Smyth, C.Morton, D.Thomasson regarding MG 102 Trial Secondary Support

Geotechnical Design Peer review MG 102 Secondary Support design to 20CT 29/04/2016

Strata Control Design MG 102 Secondary Support dated 02/02/2016 (11page)

Strata Control Design MG 102 18ct to 48ct dated 28/04/2016 (31page)

Email from M.Kasangula to M.Smyth with a tool Box Talk for crews outlining the trial of removal of Megabolts and highlighting the installation of tell-tales every 15m.

SWI Installing Strata Support and Monitoring

SWI Installing Strata Support and Monitoring

Product Installation Audit- Primary Support dated, 19/5/16, 20/04/16, 31/03/16 for 102 MG

Short encapsulation pull test results dated 5/04/16

Operator Training Manual Underground Strata Equipment

Underground Strata Equipment training assessment document AACT006V1

List of CMW trained

14 Grosvenor Mine Undermanager Shift Reports 29/05/16 to 05/06/16

10 ERZC Statutory Reports from 03/06/16 to 6/6/16

Completed Maintenance Work Orders 06/06/16 showing bolter maintenance

Specifications for JXbolts, resin, Kanga plate, and mesh



Richard Gouldstone
Inspector of Mines
Central Region



Noel Towers
Inspector of Mines (Mining)
Central Region