



DEPARTMENT: MINERALS AND ENERGY
REPUBLIC OF SOUTH AFRICA
MPUMALANGA REGION
TEL: 013 – 656 1448
FAX: 013 – 6903288

NEWSLETTER MPUMALANGA REGION APRIL / MAY 2007

MINERALS AND ENERGY FOR PROSPERITY
AND DEVELOPMENT

INDEX

- 1 ACCIDENTS
- 2 FATAL ACCIDENTS
- 3 ACCIDENTS FROM OTHER REGIONS
- 4 ACCIDENTS PER MINING GROUP
- 5 INFORMATION SHARING
- 6 NOISE AND DUST
- 7 SELF RESCUERS (SCSR)
- 8 SAFETY ACHIEVEMENT
- 9 FAREWELL

1. ACCIDENTS

During the month of April 2007 the mines in this region reported 19 accidents, of which 2 were fatal accidents and 2 non-casualty accidents.

During May 2007 42 accidents were reported, of which 3 were fatal accidents and 7 non-casualty accidents.

The main accident categories were:-

	APR 07	MAY 07
General accidents	11	22
Fall of ground	6	6
Transport and Mining	1	11
Machinery	1	3
TOTAL	19	42

2. FATAL ACCIDENTS

a. APRIL 2007

1. 2007-04-02 - EGM - 7 shaft

Whilst drilling the face of a cubby off a prospect drive, an overhang in the face collapsed onto the now-deceased.

The support in the prospect drive were in order except for two roofbolts that had to be installed at the face. No work was carried out in the face.

A cubby was blasted into the side of the prospect drive. It was blasted 500 mm lower than the drive. The second blast into the cubby had been blasted. No support were put into the hanging wall yet. Holes were drilled into the sidewall but the permanent support was not installed yet.

A piece of rock of 2m x 0,5m x 0,5m dislodged from the hanging wall of the cubby and struck the now-deceased who was drilling the face of the cubby for the third blast.

Probable/suspected cause/s:

- 1. Poor inspection.
- 2. Undercutting of hanging wall.
- 3. Inadequate barring.
- 4. Failure to identify brow as a hazard.

Remedial action:

- 1. Increased supervision.
- 2. Maintaining hanging wall horizon control.
- 3. Adherence to standards must be enforced.

2. 2007-04-24 - Middelburg Townlands

On 19 April 2007 at 21h40, the duffing attendant in a conventional cut, drill and blast section, was injured by a fall of roof. He, unfortunately succumbed to his injuries in hospital during the early hours of 24 April 2007.

It would appear that the conveyor belt road had been cut by the coal cutter and the now-deceased was engaged in lashing the duff away from the cut in order that the face drill could have access to the face, to drill the holes beneath the cut.

Whilst doing so, a piece of the coal roof measuring about 300mm in diameter and 150mm thick, failed and struck him on his head.

The face had been supported prior to the incident by means of 1,8m full column resin roofbolts which were installed to within 1,0m of the face, however, the fall occurred between the last and second last row of roofbolts.

The dimensions of the roadway were 5,2m high by 6,0m wide which are within the required mining parameters. The No. 2 Seam in the area is characterized by undulations and layering which leads to difficult mining horizon control and ultimately results in an uneven or stepped roof. Inspection of the scene indicated that a portion of one of these layers had fallen on the now deceased.

Probable/suspected cause/s:

Inadequate inspection and barring down after the cutting operation.
Poor mining horizon control.

Remedial action:

Inspection holes should be drilled in every intersection and examined regularly for bed separation.
Ensure proper inspections take place before every operation in the production cycle.

b. MAY 2007

1. 2007-05-09 - Matla No 3 Mine

The now deceased, a miner was killed when he was struck by a shuttle car on its way to be loaded by the continuous miner.

He was standing in the centre of road no3 and the last through road, presumably facing the continuous miner when he was struck in the back by the shuttle car coming in to load.

Probable/suspected cause/s.

The now deceased positioned himself in a hazardous area in the middle of the shuttle car tramming road.

Remedial action :

- 1. The mine must conduct a risk assessment with special reference to communication between continuous miner and shuttle car operators.
- 2. The mine must consider the implementation of a Personnel/Vehicle Detection System (PVD) for the underground production sections.

2. 2007-05-12 - Syferfontein Colliery

The now deceased, a miner was fatally struck by a fall of ground in a tractor road backbye of the production section at approximately 08:30.

Probable/suspected cause/s.

- 1. Failure to identify the hazard associated with geological disturbances.
- 2. Poor inspection and making safe before commencing work.
- 3. A false sense of security might have been created, as the now deceased was familiar with this type of work and might have been complacent.

Remedial action.

- 1. When installing support, the support units (Roofbolts, Shephard's Crook, Split Sets) must be installed immediately after the hole has been drilled.
- 2. The practice of supporting side walls from the top-down must be strictly enforced.

3. 2007-05-16 - Torr Bricks

At about 09:30, a tractor driver was seriously injured when his body was caught between the bucket teeth of a CAT front-end-loader and a Telekon container in a brick yard. The then-injured succumbed to his injuries in hospital later the same day.

The in-loco inspection revealed the following:

1. The Telekon trailer had a flat wheel and could not be used to carry the container. This trailer is generally attached to a tractor when in use.
2. The Telekon container was used to convey broken and reject bricks from the brick-making section to an allocated dump site.
3. The now-deceased, being the tractor driver, approached the front-end-loader driver to assist in transporting the container to the dump site. He attached a steel wire sling to the two front hooks on the container, and whilst attempting to hook the sling onto some of the front-end-loader bucket teeth, his body was caught between the bucket teeth and the container.



Probable/suspected cause/s:

1. The correct equipment, being the Telekon trailer, was not available at the time of the accident.
2. An inappropriate mobile machine was used in an attempt to transport the container.
3. The now-deceased was in a precarious position whilst attempting to attach the sling to the front-end loader bucket teeth.
4. The front-end-loader engine was running and the machine was being manoeuvred at the time of the accident.

Remedial action :

1. Care must be taken to ensure that only the correct equipment is used for any high-risk task.
2. Regular planned-task observations need to be conducted on all employees involving all high-risk tasks.
3. Employers need to ensure that all employees carry out mini risk assessments before commencement of any work where there may be a risk, especially when doing out-of-the-ordinary work.

Simulation of accident



Simulation of accident:-

3. FATAL ACCIDENTS/INCIDENTS FROM OTHER REGIONS.

a. Kloof Mine 4# (2007/05/04)

On 04 May 2007 a night shift water jet operator sustained a fatal injury when the femoral artery in his right groin was severed by the jet of water from his high pressure aqua jet gun during cleaning operations in a breast panel.

In-locoinpection revealed the following :

- The breast panel had been stripped out against a dip sequential grid pillar and sweeping and vamping operations were being conducted prior the cessation of mining operations in the panel.
- Two aqua jet guns were in operation between two adjacent lines of packs installed on dip down the panel. The guns were each manned by a single operator.
- The operator between the lines of packs nearest the face, stated that he had progressed approximately two meters ahead of his colleague when he heard a scream and noticed his colleague lying on the footwall behind the pack next to him.
- The severely injured man/co-worker stated to him that he had cut himself with his gun as he was bleeding profusely.
- No fall of ground took place and the injury was not caused by any deflection of rock from the jet of water. The stoping width was approximately 1, 6 meters at the scene of the accident.
- The next nearest person to the scene was situated at the strike gully winch of the panel. It therefore became apparent that there was some delay prior to the application of proper first aid to control the bleeding.
- The man succumbed to his injuries as a result of severe haemorrhage.

RECOMMENDATIONS:-

A Section 55(1)(a) and (b) in terms of the Mine Health and Safety Act, Act No 29 of 1996 was issued to the Manager to bring the water jet gun to surface in order to test the trigger mechanism. Water jet guns to be paraded and tested at regular intervals. Findings to be logged.

b. Gauteng Mine (15/05/2007)

An employee was found not to have clocked out from underground after completion of the morning shift. The daily blast was held up and search parties were sent down the mine to find the person. The missing person was found dead by a search party the following day at 10:00 in a temporarily abandoned cross cut. The person most probably succumbed due

to heat as there was no ventilation in the area and the temperature was in excess of 40°C. No harmful gasses could be detected.

Circumstances and events preceding the accident.

The now-deceased was a day shift stope rock drill operator.

1. It was reported that the deceased did not drill on this morning as he could not locate his rock drill machine.
2. No other work was apparently assigned to him.
3. Fellow workers saw him during the shift at different locations inside the stope and centre gully and reported that they did not notice anything unusual in his behavior. The last time he was seen by a fellow worker was at 14:00.
4. The stoping raise line stretches across 4 levels and the deceased's working place was at the top of this line.
5. The bottom half of this stoping line was temporarily abandoned due to a seismic event that occurred in this area during the latter part of 2006.
6. A temporary barricade of wooden planks with plastic curtaining was installed in the centre gully below the last working place to prevent hot air from the bottom section contaminating the working area above and to prevent persons from entering the temporarily abandoned area.
7. It is surmised that the now deceased crossed the barricade and went down the centre gully where his body was found two levels down in a cross cut. The first time the mine realised that the now deceased did not clock out was on surface when the shaft clearance procedures were followed.
8. The now deceased worked on this mine since 1982 and had been working in this raise line for the past 18 months.

Learning points:

- Waiting place procedures ignored.
- Ineffective barricades.
- Inadequate control over working gang.

c. Gauteng Mine (31/05/2007)

During night shift after entering their working place (a wide raise), four (4) members of a night shift cleaning crew were overcome by gases from blasting operations.

During the subsequent rescue operations, another five (5) employees were overcome by the same gases. Local Mine Rescue teams (Proto) rescued the remaining team members from this working place.

1. Circumstances and events preceding the incident.

- a) Installation of the ventilation system had not yet been completed prior to blasting.
- b) The wide raise face was drilled, charged up and blasted at the end of the morning shift.
- c) The miner responsible for cleaning this area took his multi-gas measuring instrument with him into the working place (this instrument was tested in the lamp room by the miner prior to going underground, and was found to be in order).
- d) The crew proceeded directly to their working place, where-upon entering the reef horizon they were overcome by gases. It is yet to be established whether alarms emitted by the gas measuring instrument were taken into account by the miner and his crew.
- e) A member of the crew managed to escape from the working place and raised the alarm.
- f) Neighbouring crews attempted to rescue their incapacitated colleagues but were in turn overcome by gas and were withdrawn to a nearby refuge bay.
- g) Local Mine's Rescue (proto) teams were used to rescue the remaining team members.

Learning Points

- Ø Before work commences in any new working place, a multi disciplinary, site specific, issue based risk assessment should be done.
- Ø Working places must be adequately ventilated, in accordance with mine standards before any blasting takes place.
- Ø Supervisors need to be familiar with the requirements of the ventilation layout of their working places.
- Ø Upon any re-entry into a working place, ensure that diligent testing for flammable and noxious gases is performed by the person leading the re-entry team.
- Ø Should personal gas detection instruments give warning of the presence of harmful gas (or gases) exceeding permissible levels, all persons in that area must be immediately withdrawn and the affected area must be barricaded off.
- Ø All workers need to understand the potential dangers related to entering unventilated areas.
- Ø Ensure effective communication of instructions between dayshift and nightshift crews.
- Ø When rescuing persons from an area suspected of containing harmful volumes of flammable or noxious gas, only specialized rescue teams (MRS) should be used.
- Ø Any unventilated working place must be barricaded-off so as to prevent access to such an area until ventilation has been restored.

4. ACCIDENTS PER MINING GROUP:-

	May		Year Prog.		Rate/1000	
	Inj.	Fat.	Inj.	Fat.	Inj.	Fat.
COAL MINES						
Exxaro	1	1	6	1	2.76	0.46
Sasol Coal	5	1	21	2	5.22	0.49
BHP Billiton	5	0	17	1	3.81	0.22
Anglo Coal	2	0	12	0	2.95	0
Xstrata Coal	3	0	12	2	4.62	0.77
Shanduka Coal	2	0	2	1	4.03	2.01
Total SA	0	0	1	0	2.49	0
Anker	0	0	0	0	0	0
Kangra	2	0	7	0	20.4	0
Umcebo Mining	0	0	0	0	0	0
Wescoal	0	0	0	0	0	0
Private coal mines	0	0	0	0	0	0
GOLD & PLATINUM						
Harmony Gold	7	0	23	1	9.44	0.41
Metorex Gold	2	0	8	0	9.69	0
Simmer & Jack	0	0	0	1	1.66	1.66
Aquarius Platinum	0	0	3	1	5.87	1.95
African Rainbow Min.	0	0	3	1	0	0
Private gold & platinum	1	0	1	0	0.7	0
OTHER MINES						
Xstrata Alloys	0	0	3	0	5.45	0
Samancor	0	0	5	0	6.94	0
Other private mines	2	1	8	1	19.47	2.43
TOTAL	32	3	132	12	5.52	0.50

5. INFORMATION SHARING



OCCUPATIONAL HEALTH

Frequently asked questions about TB.

What is TB?

Tuberculosis is a disease that usually attacks the lungs but can affect almost any part of the body. A person infected with TB does not necessarily feel ill – and such cases are known as silent or “latent” infections.

When the lung disease becomes “active”, the symptoms include cough that last for more than two or three weeks, fever, night sweats, coughing up blood, weight loss and loss of appetite.

What causes TB?

TB is caused by the bacterium *Mycobacterium tuberculosis*. The bacterium can cause disease in any part of the body, but it normally enters the body through the lungs and resides there.

How is TB spread?

TB is spread from an infectious person to a vulnerable person through the air. Like the common cold, TB is spread through the air by droplets after infected people cough, sneeze or even speak.

People nearby, if exposed long enough, may breathe in bacteria in the droplets and become infected.

People with TB of the lungs are most likely to spread bacteria to those with whom they spend time every day – including family members, friends and colleagues.

When a person breathes in TB bacteria, the bacteria settles in the lungs. If that person’s

immune system is compromised, or becomes compromised, the bacteria begin to multiply. From the lungs, they can move through the blood to other parts of the body, such as the kidney, spine and brain. TB in these other parts of the body is usually not infectious.

How much of a threat is TB?

According to the World Health Organization (WHO), TB infection is currently spreading at the rate of one person per second. It kills more young people and adults than any other infectious disease and is the world’s biggest killer of women.

In 1993, the WHO declared TB to be “a global health emergency”. Every year 8–10 million people get the disease and 2 million die from it.

About a third of the world’s population, or around 2 billion people, carry the TB bacteria but most never develop the active disease. Around 10% of people infected with TB actually develop the disease in their lifetimes, but this proportion is changing as HIV severely weakens the human immune system and makes people much more vulnerable.

Is TB treatable?

Yes. TB can be cured, even in people living with HIV. DOTS is internationally recommended strategy for TB control. DOTS treatment uses a variety of powerful antibiotics in different ways over a long period to attack bacteria and ensure their eradication. Treatment with anti-TB drugs has been shown to prolong the life of people living with HIV by at least two years.

It is important that people who have the disease are identified at the earliest possible stage, so that they can receive treatment. Contacts can be traced for investigation of TB, and measures can be taken to minimize the risk to others. However, some strains of bacteria have now acquired resistance to one or more of the antibiotics commonly used to treat them, these are known as drug-resistant strains.

What are these drug-resistant TB strains?

Drug-resistant strains can develop by inconsistent and inadequate treatment practices that encourage bacteria to become tougher.

The multidrug-resistant strains are much more difficult and costly to treat and multidrug-resistant TB (XDR-TB) is often fatal. Mortality rates of XDR-TB are comparable with those for TB in the days before the development of antibiotics.

MDR-TB, or multidrug-resistant TB, is a specific form of drug resistant TB. It occurs when the TB bacteria are resistant to at least isoniazid and rifampicin, the two most powerful anti-TB drugs. XDR-TB is TB that is resistant to any fluoroquinolone, and at least one of three injectable second-line drugs (capreomycin, kanamycin, and amikacin), in addition to MDR-TB. This definition of XDR-TB was agreed by the WHO Global Task Force on XDR-TB in October 2006.

What can be done to combat the spread of TB?

The internationally recommended strategy to control TB known as DOTS has five components:-

1. Political commitment to sustained TB control.
2. Access to quality-assured TB sputum microscopy.
3. Standardized short-course chemotherapy, including direct observation of treatment.
4. An uninterrupted supply of drugs.
5. A standardized recording and reporting system, enabling assessment of outcome in all patients.

The Global Partnership to Stop TB is a world movement to accelerate social and political action to stop the spread of tuberculosis around the world. The Stop TB mission is to increase access, security and support in order to ensure that every TB patient has access to TB treatment, cure and protect vulnerable populations from TB. Reduce the social and economic toll that TB exacts on families, communities and nations.

The Partnerships approach is a coordinated and multinational, multisectoral global effort to control TB.

For more information, please contact Dr Audrey Banyini by e-mail abanyini@mhsc.org.za *Note:* This information was extracted from the website of the World Health Organization.

Biomarkers for prediction and early detection of silicosis – Project SIM 03 08 03.

The Mine Health and Safety Council (MHSC) is currently funding a project to identify biomarkers to indicate exposure to silica dust. A biomarker can be used to indicate exposure to various environmental substances, such as dust or nicotine.

In Phase I of the project a short-list of 10 biomarkers were identified for further investigation. Phase II pinpointed those biomarkers (for silica dust exposure) that can be used as very early (leading) indicators for silicosis in environmental surveillance.

In the 2nd Phase the aims were to identify which of the 10 biomarkers identified in Phase I showed, raised or suppressed concentrations in the presence of silica dust exposure, irrespective of the presence of clinical silicosis, over and above any effects due to HIV infection, smoking and age. In addition, the study was aimed at developing the capacity to perform biomarker assays in South Africa.

The study involved the measurement of the 10 biomarker levels in four groups of volunteers who knew their HIV zero-status. Volunteers were asked about their age, work history, medication, and smoking history.

Results showed that 3 out of the 10 biomarkers are significantly affected by exposure to silica dust, to the extent that it would enable researchers to use them as biomarkers of silica dust exposure, independently of any effects due to HIV infection, ARV treatment, smoking, or age.

As the three identified biomarkers showed significant promise to be used as indicators of exposure, it was recommended that Phase III of the project concentrates on the three biomarkers and study their use within the field.

The research is conducted by the National Institute of Occupational Health and the School of Public Health, University of Pretoria under the leadership of Professors Jill Murray and Brendan Girdler-Brown.

To download the full research report, please go to www.simrac.co.za, Reports/Occupational diseases.

6. EXPOSURE TO DUST AND NOISE

Results received and inspections and audits conducted at mines, seem to suggest that some mines in our region have really taken up the challenge of ensuring cleaner, healthier and safer working environments for their employees.

This positive effort is very much appreciated and encouraging for future prospects and attainment of the Health Milestones as set by the Mine Health and Safety Council (MHSC).

Management commitment, training and education are the key areas in ensuring that consistent improved results on occupational health exposure levels are attained.

All mines in the region, including brickworks and quarries are expected to ensure that strategies put in place for attainment of the Health Milestones are maintained and reviewed where necessary so as to ensure compliance as set down by the MHSC.

All employers, unions and employees are therefore urged to ensure that systems in place on reducing personal exposure are **effective and adhered to at all times.**

7. SELF CONTAINED SELF RESCUER (SCSR) MANAGEMENT SYSTEMS.

The Tripartite Technical Committee on Self Contained Self Rescuers has as per recommendation by Miningtek commended the following mines for good SCSR management systems:-

Douglas Colliery North Shaft, Douglas Colliery Ex Hostel Shaft, Barberton Mines Sheba Shaft, Barberton Mines Fairview Shaft, Blackwattle Colliery, Delmas Colliery, Koorfontein Mines and Agnes Mine. Congratulations to you all, Keep up the good work.

8. SAFETY ACHIEVEMENT

Congratulations to Eastside Coal for achieving 2000 Fatality Free Production shifts on 24 May 2007.

9. FAREWELL

Congratulations to Mr David Msiza who has been appointed Regional Operations Manager at our Head Office, Pretoria as from 1 June 2007. His expertise and commitment to making Mpumalanga Region a healthier and safer mining environment will be missed. All the best to him in his new position.

Yours in Health and Safety

.....
LJA BEZUIDENHOUT
ACT. PRINCIPAL INSPECTOR
MPUMALANGA REGION