



Department of
Mineral and Petroleum Resources

MINESAFE

MINING OPERATIONS DIVISION

Merry Christmas!

**Dropping in on
old workings . . .**



**. . . not if you
can 'a-void' it !**

... see inside cover

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Mining thro' old workings

An incident earlier this year highlights some unique hazards associated with open pit mining through previously mined ground.

The incident involved a blast-hole rig which was being used to drill a combination of blast and probe holes in the open pit floor. Drilling was taking place in an area that was known to contain an old rock-filled stope. Shortly after commencing drilling, through what appeared to be mostly broken rock, a large section of ground suddenly gave way, taking the rig with it. Fortunately the machine's cabin and mast became wedged against the side of the hole, preventing it from sliding deeper into the void, and the operator was able to clamber from the rig safely without significant injuries.

Following an investigation, it appears that two ore passes also coincided with the known stope and the overall span of the combined excavations was unusually wide. Both ore passes were apparently empty and the stope was not completely filled with rock fill. It is unclear whether the void in the stope was caused by some of the stope fill material rilling out via the passes, or whether the void developed during or after the fill cycle. The action of drilling a probe hole through loose rock (either broken wall rock and/or rock fill) was sufficient to cause the rock fill above the void to unravel into the void, taking the drill rig with it.

Underground mines often consist of a complex network of voids including shafts, drives, cross-cuts, winzes, rises and stopes some of which may have been filled and others that have been left unfilled. When excavating through underground workings, it is essential to firstly identify the position and determine the status of all the old mine workings. This can be achieved by assessing old mine plans (if available), probe drilling, geophysical methods and where practical, physical inspection and surveying techniques.

To determine the location, dimensions and status of underground voids, it is necessary to delineate an appropriate stand-off distance and establish a safe working procedure such that employees and equipment can work safely.

The mine in question had a standard procedure in place for recognising, recording and marking the presence of old mine workings on and below the pit floor. However, the incident did occur and demonstrated that the standard procedure was open to a number of possible shortfalls:

- The fill in the stope and passes may not have been continuous (e.g. it is possible for broken rock to form a stable arch above a void of reasonable dimension).
- The overall excavation span could have been wider than usually experienced.
- The existence of the passes may not have been correctly recorded on mine plans.
- There was potential for factors such as equipment loading, drilling vibration and water etc. to destabilise an arch of broken rock above a void.

The use of standard procedures relies on an assumption that all factors contributing to a potential outcome are fairly predictable. Unfortunately, ground conditions can change suddenly. What is required is a flexible but rigorous systematic approach to hazard identification (HazID) and risk management that takes into account the full range of potential causal factors at work in an area.

Further, it is recommended that employees participate in the development of work practices, thereby ensuring all aspects are considered and securing a commitment to adhere to them.

For further information, refer to guideline *Open Pit Mining Through Underground Workings* - available on the MPR website.

Guest Editorial



Brad Gordon -

Registered Manager Kanowna Belle, and Deputy Chairman of the Eastern Regional Council of the Chamber of Mines.

When I was a young mining engineer, unions were commonplace in the mining industry and a constant criticism of companies and 'management' was the low standard of workplace safety. At the time, these criticisms were not unfounded and gave some degree of credibility to media stories about unsafe workplaces and practices.

It is therefore not surprising that when union leaders were quoted as saying that: "Emergency Response (or Mine Rescue) capability was getting the cart before the horse", I quietly supported them. I sincerely believed that investment in ER, which was significant, could have been better spent on safety initiatives which prevented injuries occurring, rather than reacting to them - surely ER was not a proactive weapon against serious injuries to our people.

And, to be perfectly frank, as a young professional, safety was one of those issues that consumed time seemingly better spent on finding new ways of increasing production or solving technical challenges. Safety was for the safety officer and he or she was the person that wanted to take your best miners away for ER training.

Then, as happens to many young mining professionals, they are put in charge of a shaft or mine section and one day the unthinkable happens.

"At 2.00am one morning you are woken by the phone call. There has been an accident, a fatality. You go to the shaft and do what you have to do. As it is one

of your guys, you are the one to visit the wife and kids at 3.00am and knock on the door to tell them that they do not have a husband and father any more.

It changes you and very, very quickly you become passionate about safety. A sad part of this story is that it takes a tragedy like this for you to feel this way. Intellectual understanding is elevated quickly to emotional understanding. You start looking for support. You begin to realize that the support was there all along and you just did not manage it well enough. . . . Your ER team."

I will demonstrate to you now why I believe that an ER team is the most proactive weapon a manager can have in his overall safety strategy.

ER teams provide emotional safety:

- There is increased confidence in your people when they witness the capability of the ER team and the care they have for the injured.
- There is increased confidence and emotional safety within the ER fraternity.
- There is increased confidence in each other as individuals.
- The team culture improves acceptance of individuals for who they are. People of a different colour, race or creed are accepted and become more confident.

This confidence is proactive.

The team-based experiences are proactive. Not only for work capacity but also in better equipping our people to handle life's challenges. If we can work collaboratively, then minesites like ours become a fun place to work.

ER teams improve physical safety because they encourage and further develop our "look out for your mates" culture. Commercial safety and risk is also improved because our people get

exposure to the ER team and to the team's thinking and culture, and that rubs off. The result is that things are done quicker, better and cheaper without compromising safety performance. The effect on improved economics has a direct impact on the life of our mines.

ER is proactive because it breeds much more confident disciples for mine safety as long as they continue to wish that their skills are never, ever tested in a real situation. I am sure that we can all think of examples where our ER people have been positively spreading the safety message. We have these ambassadors working for us on shift, 24 hours a day, seven days a week.

ER builds a regional confidence coming out of our alliances with other teams and knowledge of the significant investment the region has in ER capability and ER equipment.

ER is proactive in that employee turnover is reduced. How many ER members do you know who have delayed moving to a new job because they believe they have more to achieve and learn from ER professionals they respect and admire?

If the unthinkable does happen - it could be one of our people, one of our mates or one of our family, then be assured that the industry is more confident. More confident in dealing with any outcome - thanks to you guys and ladies.

I have heard our ER team called "Flash's Boys". (Flash 'Brad' Gordon I assume). This does not disturb me, on the contrary, I am proud, as the GM to be closely associated with the ER Team. For me it demonstrates that our commitment to ER is working - we are supporting each other and there is no doubt that safety is improving.

It is a pleasure to propose this toast:

To many of the people who live in the large cities of our country, this industry has a cowboy, frontier image. You guys and ladies and your professionalism are the antithesis of that.

You challenge yourselves.

You inspire your work mates.

You make credible our industry.

To ER!

Thank you.

Season's greetings

MINESAFE and everyone at MOD wish you the best for the festive season and look forward to working with you **all** in the forthcoming year.

Please remember, the days leading up to Christmas and New Year have

historically sustained noticeably higher accident rates.

Take care of yourselves, look out for your work mates and remain aware of your workplace hazards.

Underground 'Mine Rescue' competition

This year's Underground Mine Emergency Response Competition was held in Kalgoorlie at the soon to be closed Mt Charlotte Operation. Organised by the Chamber of Minerals and Energy, the two-day event tested 15 teams with a variety of challenging underground emergency scenarios, including Search & Rescue, Fire Fighting, Rope Rescue, First Aid, Breathing Apparatus, Skills and Theory. The champion team for 2001 came from Normandy Golden Grove Operations.

Peter O'Loughlin, Chairman of the Mine Rescue Committee, said *"the physically and mentally demanding event is regarded as one of the most fiercely contested in Australia. Everyone is a winner at these competitions because every team gains from the intense experience, which will serve them well for the future". "With feedback provided by the adjudicators, teams walk away better rescuers and looking at this year's competitors, it's reassuring to see the high level of skill. Our miners are certainly in safe hands"*.

Dick Scallan, Chairman of the Chamber's Eastern Regional Council reiterated Peter's views, when he said that these annual events *"assist our minerals industry to continually improve on its world-class safety standards."*

Both men acknowledged the contributions of the 40 judges and 15 casualties on hand at the event - without who the event could not have take place.

MINESAFE praises the efforts of all participants and supporters of the competition and extends a special congratulation to individual and team winners.



Jim reflects on 12 years of MINESAFE



*MINESAFE
interviews and says
farewell to magazine
champion Jim
Torlach*

MINESAFE was a joint initiative of Catherine Stedman and myself, with strong support from Senior Inspector Dave Collie.

The magazine commenced as an eight page quarterly bulletin in October 1989 and was very basic, being offset printed on rough copier paper. The purpose was to:

- Provide and update mining safety information.
- Report industry hazards and their risks, and critical incidents.
- Advise of seminars, conferences and other training opportunities.
- Inform regarding inspectorate activities, introduce MOD staff, and give contact details.
- Provide a forum for the sharing of industry viewpoints.

In-house desktop publishing allowed the first bi-colour headings (black and green) to be produced in December 1991, and September

1996 saw the first use of colour photographs. Increasing use of colour photographs was made in future editions and today many MINESAFE readers comment and look forward to checking out the latest edition's front cover pictures.

A tragic inclusion in the December 1998 edition was the obituary reporting the untimely death of Cath Stedman who had put her heart and soul into MINESAFE for the 10 years since its inception.

Without question, the content of MINESAFE continues to be varied and interesting, and over the 12 years that the magazine has been produced, a great deal of valuable information has been provided to the industry.

The current distribution list stands at around 7000 copies and maintains an upward trend. Registered mine managers, safety and health representatives, suppliers, consultants, tertiary institutions and industry representative bodies constitute the bulk of the distribution list.

Copies are also distributed interstate and overseas, and frequent contact is received, particularly from regulatory authorities, seeking further

information, and advising of experiences and incidents in their jurisdictions.

The continued publication of MINESAFE will remain an essential part of the Division's safety communication strategy. The magazine has impact and a capacity to generate action and interest that is out of all proportion to its production cost.

There will never be a lack of suitable material, and its freshness and originality results entirely from the enthusiasm of Divisional staff in producing a publication which is always relevant and challenging, and maintains an interest in people.

I take this opportunity to again extend an invitation to mining industry practitioners to contact MINESAFE's editorial staff with a view to sharing experiences which may benefit the safety of others.

"I do not know of a comparable publication in the mining safety field within Australia, or globally."

Yours sincerely

Jim Torlach

Seat-belts save lives - believe it !

The wearing of motor vehicle seat belts while travelling on public roads in Western Australia has been compulsory since 1971 and few would disagree that thousands of lives have been saved as a direct result. So much so, that, on public roads forgetting to fasten your seat-belt has become almost like forgetting to close the car door.

CLUNK CLIP – EVERY TRIP.

So why is it that so many persons adopt a different paradigm in the workplace and have to be constantly reminded to wear a seat-belt?

Of the last ten mobile plant fatalities in Australia since 1994, it is more than reasonable (let alone frustrating and despairing) to conclude that at least half of those who chose not to wear the seat-belt provided would have lived had they simply 'buckled up'. The message is as clear as the words in MSIR regulation 4.16 which states:

A person must not, while occupying a seat position in a vehicle to which a seat-belt has been fitted for that seat position, drive or travel in that vehicle at a mine unless the person is wearing that seat belt and the seat-

belt is properly adjusted and securely fastened.

Guilty persons will know that failing to wear a seat-belt on the public road attracts a fine of \$100. In contrast, and worthy of note, an individual who chooses not to comply with MSI regulation 4.16 may be fined \$5000. Consider also, worker's compensation claims for driving injuries may be drastically reduced when it is evident that failure to wear a seat-belt contributed to the injuries sustained.

It is common sense and should be common practice!

The EMU Disaster



A major problem for any mining operation in Western Australia is securing a reliable supply of acceptable water for use in the plant and workings. The word 'acceptable' is used in the broadest sense, as the liquid used on many operations scarcely qualifies as 'water'; being no more than a very strong saline solution. Although innovative chemistry has enabled our industry to 'live' with this material there are benefits to be gained by improving it and the means of doing so are eagerly sought.



Aerial view of the EMU mine - looking northwards.

Such was the situation at the WA EMU (East Murchison United) Gold Project in early 1986, when a 'mined out' pit, called the 450 South, was employed as a catchment for water coming from an ephemeral creek system; the principal 'arm' of which was called "Scotty Creek". A fear existed that a major outflow from 'Scotty Creek' could destabilise the tailings dam wall which blocked its path and might spread the tailings material over the surrounding countryside. The diversion of the flow from this creek would conserve water, (in the 450 Pit), whilst simultaneously preventing erosion of the dam wall. A further precaution was taken to deal with a major flood by extending the dam wall to intersect a second creek, thereby providing an alternative dispersal route. The extension to the tailings dam commenced in August 1988 and was completed in February 1989.

Additional water supply was available from the underground workings of the old EMU shaft and from adjacent borefields. The water management plan also envisaged that 'return' water from the tailings storage facility would also be directed into the 450 South Pit.

The gold plant was partly supplied with water from the 450 South Pit, in addition to the other sources mentioned. From the beginning, the hazard posed by a possible overflowing of the 450 South pit was recognised, but it was anticipated that any resulting overspill would flow into the old EMU workings which, it was believed, had a capacity of approximately 300,000 cubic metres.

As the open pit (Main AG) neared completion a decision was taken to develop an exploration decline.

In mid-March 1989 mining of the portal commenced. The initial position of the portal was to have been in excess of twenty metres above the floor of the pit, however, concerns regarding the stability of the host rock caused the planned location to be lowered to within three metres of the pit floor. The actual decline entrance eventually finished up at pit floor level. Precisely how this happened is still not clear.

Production pressures eventually caused the Main AG Pit to be enlarged towards the 450 South Pit in what was known as the AG Southern Extension. This activity terminated some weeks before the disaster occurred and a separating pillar was left to divide the two pits.

From the early hours of Tuesday 13 June 1989, extremely heavy rainfall in the area caused heavy flows in the creek system to the south and east of the mine. This eventually caused the 450 South Pit to fill to a point where "overtopping" occurred in the area of the separating 'pillar', rapidly eroding the material of which it was composed. The observation was made, subsequent to the incident, that this material may not, in fact, have been 'native' but may have been 'fill' placed in an old underground stope. This caused water to enter the Main AG Pit. As the pillar eroded the amount of water flowing into the Southern Extension increased rapidly, in ways similar to the failure of a dam. Flow from the 'creek system' was such that it continually replenished, the 450 South "dam".

Quoting from the official report: *"A wave of water rushed across the AG Southern Extension, a small portion flowing down the old EMU Shaft while the remainder cascaded over the southern wall of the Main AG Pit. Its flow towards the decline was retarded slightly by a bund of road base material which had been built during the day to prevent nuisance water flowing down the decline"*. This barrier held the water back for a very short time only. A witness estimated that the decline filled in ten minutes.

There were six people in the decline when it flooded. They all died. Five were attempting to retrieve a pump; the 6th person was the Registered Manager who had gone underground to warn



A deluge of water cascades into the open pit.

Can it happen again ?

them of the impending danger and withdraw them. The tragedy was the worst in living memory for the WA mining industry.

In spite of the fact that, as mining provinces go, Western Australia could be considered dry, water related hazards have featured prominently in a number of serious incidents which have occurred over the years.

These have been more frequent than might be anticipated, but apart from EMU, have, so far, not claimed any lives, though much commercial damage has occurred.

In 1992 a rain depression dropped large quantities of water on WA in a very short time. One particular gold mine in the Kalgoorlie area, fortunate to have escaped the major downpour, was flooded by water runoff from upstream catchments some time after the rain depression had passed. It is understood that, as one of the pits looked likely to go "under", it was encouraged to flood (by removing a small bund) so the pit could be used as fresh water storage for general mine use.

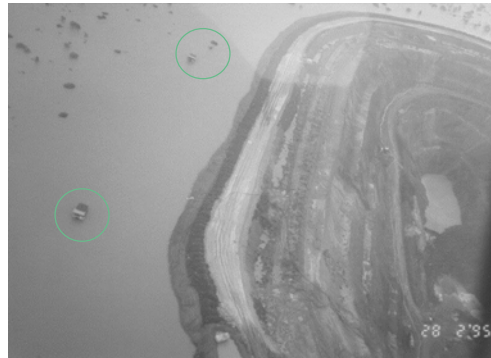
Towards the end of 1994, that mine began planning for underground workings in the pit that had previously flooded. After reviewing the project management plan, MPR were concerned that, given the design of the bunding intended for the proposed project and the history of water discharge through the area, that there was reasonable potential for another flood event during the life of the mine. After a series of discussions between the MPR and mine management, it was agreed that the bund height should be increased and that the construction methods used to build the bund improved to meet with the intended scope of the project.

In February 1995 cyclone "Bobby" performed a feat similar to the 1992 flood in the region, but on this occasion there was no inrush into the open pit or the new decline.

The diversion bund withstood the onslaught, and as the photograph



Aerial view of the flood path around the two open pits



Closer view of the well-constructed water control bunds - note the swimming haul trucks.

illustrates, the additional precautions were vindicated. In fact it is understood that, even with the additional earthworks, the water level peaked only 30cm from the top of the diversion bund.

Bannockburn, a gold mine now closed, was not so fortunate. Bobby's floodwaters overtopped a small safety bund around the pit and filled the open pit and underground workings near the base of the pit to within 20m of the surface in a matter of hours.

Luckily, the notice given of the impending flood was sufficient to withdraw all personnel from the mine. However, not all the mine equipment was recovered from the underground workings.

The flooding resulted in closure of the mine, until it was sold off, pumped dry and re-worked by another mining company.

It maybe stating the obvious that the power of water is all consuming and is often underestimated.

It is imperative, during the mine design stage, that the issue of water drainage is closely looked at and accounted for.

Water diversion/control features must be designed to the volumes of water

expected for a 1 in 100 year flood and take into account the following aspects:

- The elevation, gradient and geometry of all flow paths.
- The likely flow rate.
- The peak elevation of the flood waters at all locations along the drainage path.
- The nature of the materials that the flood water will pass through or against.
- The construction methods and materials used to build diversion bunds are suited to the volume and head of water expected.
- The effect of any roadworks, earth mounds or water catchment and diversion features on the water flow through the site.

Although we are heading towards what is generally known as the "dry" season in WA, many floods have occurred in this period - particularly between January and March. We must take heed of this and make sure our water control strategies are up to scratch now.



The raging torrent pours into the Bannockburn open pit on 27 February 1995. (MINESAFE thanks Scott Donaldson for the video from which this picture frame was obtained.)

Big trucks present big problems



Big does not necessarily mean safe - as demonstrated by these photographs from mining regions outside WA.

ER team rescue - job well done

It was around 3.00 am on 14th September 2001 when the call went out for the Emergency Response Team to rescue the driver of a 150 tonne haultruck which had rolled onto it's side.

Within minutes the emergency response team members were at the accident scene and found the casualty with severe head injuries that had been sustained when his head impacted against the cabin door and frame during the roll-over.

The injured party was conscious and in considerable pain, but undoubtedly his injuries would have been even more serious, had he not been wearing his seat-belt.

The next problem for the rescue team, Pit Supervisor and fellow mine workers was to release the truck-

driver from the seat-belt and lower him from a position which was some 4.5m above the ground.

The seat belt was cut and the injured driver assisted from the cabin and on to a wheel arch where he was



supported either side by two rescue team members. First aid was administered and arrangements put in place for a stretcher and rope rescue

equipment to be positioned.

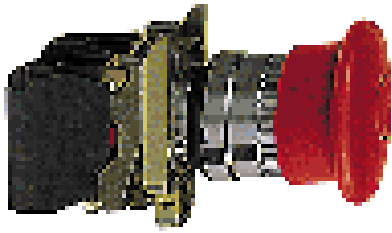
Very soon, the casualty was on his way to the Wiluna Medical Facility in the Company ambulance driven by a rescue team member, and receiving further first aid treatment from two other rescue team members during transit.

Medical staff at the Wiluna facility further treated and stabilised the casualty before he was flown by the Royal Flying Doctor service to Royal Perth Hospital. The truck driver was soon on his way to a full recovery

MINESAFE extends a sincere congratulations to all those involved in what can only be described as:

A job well done!

Emergency stop buttons - Product recall

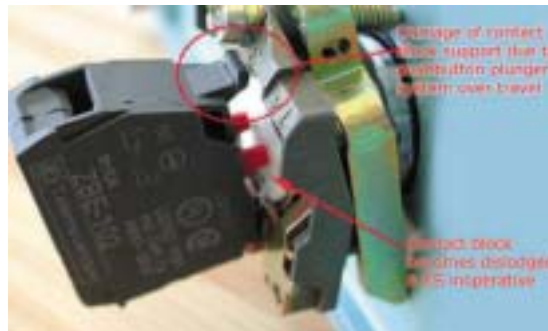


Schneider Electric, manufacturer and distributor of electrical products, has advised that under extreme operating conditions, there is a potential risk for certain types of emergency stop buttons in the company's "Harmony" control & signalling range to malfunction and is recalling all affected items as a precautionary measure.

Malfunctioning may occur in cases where the operating head of the stop button is subjected to extreme operating force, the result of which may cause the associated contact block to become detached. Should this occur, the stop

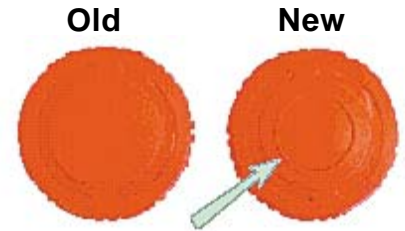
button will not perform its cut-out function when subsequently operated.

The products in question are manufactured under the company's "Telemecanique" brand name, within the Harmony (style 4 & 5) 22mm diameter mounting product lines. All Harmony 22 mm diameter metal (ZB4-B...) and plastic (ZB5-A...) emergency stop heads, whether held on stock or already installed, are affected by this notice.



Rear contact block dislodged by over-travel of operating head.

The company is replacing current operating heads with modified heads bearing distinctive marking (raised ring), as shown in the photograph, allowing for easy "front of panel" identification of old & new devices.



Identification ring, diameter 18mm (diameter 21mm on products with a lock)

Further details, recommendations and how to obtain replacements can be found at the company's website (www.schneider.com.au/EmergencyStop/EmergencyStop.htm)

MINESAFE urges responsible persons at minesites to give immediate effect to this notice and to ensure that all emergency stops are routinely checked and not used as a primary means for isolating plant.

Dredge capsizes on tailings pond

In September 2001, a small dredge (approximately 5.5 metres long) capsized while operating on a tailings pond at a gold mine. The operator made a lucky escape by swimming through a missing cabin window while the vessel was upturned. The incident had an extremely high potential to result in a fatality.

An investigation revealed several deficiencies with the design and operation of the dredge. With sludge build-up on the cutterhead or with the cutter driven into the bottom of the pond, one end of the dredge deck would become submerged. The deck was not watertight due to cracks around handrail stanchions and unsealed deck covers, allowing water to enter the port

hull pontoon. Holes had been cut in the hull compartment bulkheads which allowed the water to flow from one end of the port hull pontoon to the other. When the port hull pontoon was flooded to about 20% of the total hull space the dredge suddenly capsized without warning and the operator did not even have time to open the door of the cabin.

The dredge did not have any hull sounding tubes which allow periodic checks to be carried out for water ingress. Had this been done the incident may have been averted.

Inspections of other dredges on minesites showed some of the abovementioned problems to be present in several dredges.

For further information, refer to Safety Bulletin No.65 or contact Mark Butson on 9222 3607.



Hardly the Titanic - but you could still drown

New look Department

As from 1 July 2001, in line with Government policy, the Department of Minerals and Energy (DME) and the Department of Resources Development (DRD) merged to form the new Department of Mineral and Petroleum Resources (MPR). This merger recognises the importance of the minerals and petroleum resources industry (and its spin-offs) to the economy and way of life of Western Australia.

As part of the merger process, the new Department has reviewed its internal structure to ensure that all of the potential benefits of change are realised for the people of WA. One of the issues that had to be dealt with was the dual role of the new Department as both facilitator and regulator of mineral and petroleum projects.

This has been dealt with by setting up a "Statutory Operations Group" within the Department, under an Executive Director with a direct

reporting line to the Minister for State Development on matters relating to the regulatory functions of the Department. This will ensure that there is always a strong and independent voice to advise the Minister on regulatory matters as a counter-balance to those whose job it is to seek and promote new developments.

As a part of the reorganisation process within the Statutory Operations Group, the Mining Operations Division (which consists of the mines safety inspectorate, the environmental regulatory team, the specialist engineers, occupational health professionals and technologists) has been merged with the Explosives and Dangerous Goods Division (which licenses the storage and transport of dangerous goods and regulates major hazard facilities throughout the State) to form a single unit with responsibility for both occupational and public safety issues and

environmental matters relating to dangerous goods and mining in WA.

The idea is to raise further our level of service, to both particular clients and to the public at large. The process of amalgamation will take some time, as we need to consider the things we do now, the things we will need to do in the future and the ways in which we deliver our services, but hopefully, at the end of the process, we will end up with a robust regulator well able to provide the services necessary to ensure that the benefits flowing from our minerals industry do not come at the cost of detriment to the quality of life of Western Australians.

You can keep informed of the change by visiting the website www.mpr.wa.gov.au.

Please note that Departmental email addresses have changed slightly e.g. - b.nugget@dme.wa.gov.au is now bob.nugget@mpr.wa.gov.au.

Health surveillance and CONTAM update

It is now more than five years since the Mines Safety and Inspection Act came into force. The Act and Regulations require employees to have an initial health assessment within three months of starting work at a mine and thereafter at intervals not exceeding five years. As these are now becoming due, you should check the date of your current assessment and ensure that you have another before it expires.

Employers are responsible for arranging for and paying the cost of assessments. It has been

noted that some companies have been requiring a Health Surveillance Number as a prerequisite for employment and requiring the prospective employee to pay the cost.

This practice does not conform to the Regulations and must cease.

To speed up processing of health surveillance forms MOD no longer issues a card. Anyone who has a medical will now be sent a letter, displaying their Health Surveillance Number and expiry date. This letter must be kept and shown to your employer on request or when you start work at a mine.

PLEASE NOTE that from 31/12/01, atmospheric contaminant sampling results will only be accepted by CONTAM if conducted by a Registered Sampler. For further information contact Hayden Wing - phone: 9222 3228, or e-mail: hayden.wing@mpr.wa.gov.au

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BOB NUGGET
10 NUGGET ST
NUGGETVILLE WA 6000

SAMPLE FORM

You recently attended a health assessment, as required by the Health Surveillance Program for Mine Employees. The health assessment included work history and respiratory questionnaires, lung function and hearing tests and, in some cases, a chest x-ray.

This letter does not indicate whether or not you are medically fit for work. Fitness for work is normally assessed at a pre-employment medical. This letter confirms that you are registered on the Health Surveillance Program run by the Department of Mineral and Petroleum Resources with the following details:

Surname:	NUGGET
Given Names:	BOB
Date of Birth:	13/3/61
Health Surveillance Number:	11112
Expiry Date:	25/10/2006

The Mines Safety and Inspection Regulations 1995 require that health assessments be conducted every five years (the expiry date above is five years from the date of your health assessment). You do not need a health assessment every time you move to a new employer, but you must have a periodic health assessment every five years if you remain working in the WA mining industry.

This letter replaces the Health Surveillance Card which was previously issued by the Department. You should retain this letter and show it to your employer on request or when you start working at a mine.

If you have any queries, please contact the Department of Mineral and Petroleum Resources on (08) 9222 3333.

What's On

AUSTRALIAN CENTRE FOR GEOMECHANICS

Filling with Hydraulic Fills

Perth: 28 February – 1 March 2002

Understanding and Preventing Rockfalls

Perth, 21 March 2002

Three-Dimensional Mapping for Geology & Geotechnical Assessment - Sirojoint Software

Brisbane, 10 April 2002

For further information contact:

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EXAMINATIONS - WA Certificates of Competency

First Class Mine Manager's

Underground Supervisor's

Quarry Manager's

Restricted Quarry Manager's

The above examinations are to be held **STATEWIDE** on Monday 8 April 2002,

(Applications close on Friday 8 March 2002)

Contact: Dept. of Mineral & Petroleum Resources on (08) 9222 3683 or (08)9222 3269. FEE: \$110.00 inc. GST

INDUSTRIAL FOUNDATION FOR ACCIDENT PREVENTION

Conducts regular courses on:

Occupational Safety and Health Training, and Construction & Equipment Skills Training.

Contact: Christine Williams Ph: (08) 9310 0218,

Fax: (08) 9310 8548

Jim retires

On Friday, June 20, 2001, one of the best known figures in WA mining hung up his hard hat and steel cap boots. James Torlach, known as Jim to most people, has let go the reins of the position of State Mining Engineer he held for the past 17 years.



Jim Torlach on his last day with the MOD

Jim was born in Mareeba, North Queensland in 1938 and grew up with mining in his blood. His paternal grandfather spent time as a tin miner in the Herberton area and his mother's father worked on mining plant. While still at boarding school Jim started working at the Mt. Morgan gold mine, a connection he maintained whilst he studied for a degree in mining engineering at the University of Queensland. In 1962 he joined Mt. Isa full time, eventually spending 11 years there, working in a variety of areas of mining.

From Mt Isa he went to the Electrolytic Zinc Co. at Rosebery in Tasmania, where he spent much of his time as Mine Superintendent. After 10 years in Tassie, he moved to Perth to take up the position of SME.

Having adjusted to working with "the bureaucracy", Jim got on with the job of addressing the safety and health needs of the WA mining industry. In his time, he has overseen a substantial reduction in accident rates within the industry and the implementation of world-leading safety and health information systems which underpin this good industry performance. Of significance was the development of the Mines Safety & Inspection Act 1994, in which Jim played a leading role. This placed the concept of "duty of care" firmly within the mining safety legislation.

From its inception in October 1989, Jim has been managing editor of the MINESAFE magazine and its keenest supporter. This issue will be the first not to carry his imprimatur. The production team wish him well in his retirement and look forward to his contribution "from the outside".

Staff Changes

The new Department has brought with it several changes to MOD. Notably, **Simon Thompson** (ex Director of MOD) has moved to the new Statuary Operations Group to work on risk assessment projects. **Tracey Long** (ex Executive Officer) is also a member of the new SOG.

Malcom Russell has been appointed in an acting role to Simon's vacated position, and also heads up the Explosive and Dangerous Goods Division.

Jim Torlach has retired and **Martin Knee** takes up the position of State Mining Engineer (SME).

Bill Biggs is now General Manager Environment and Health.

Ian Marshman, Senior Scientific Officer - Radiation has resigned and now works at Ranger mine in the NT.

John Jance has retired after 25 years of service.

New Publications

AXTAT Procedures (a guide to injury reporting)

Safety Bulletin No. 61 - Precautions for the Use of Gig Rising.

Safety Bulletin No. 62 - Hazards of Collapsing Ground in Mining Operations

Safety Bulletin No. 63 - Dozer Safety In Open Cut Operations

Safety Bulletin No. 64 - Safety Issues Associated with Hydraulic Backfill

Safety Bulletin No. 65 - Design and Operation of Dredges on Ponds

Significant Incident Report No. 110 - Vehicle Over Slope Edge

Significant Incident Report No. 111 - Mine Rescue Team Members Collapse during Exercise Underground

Incident Alert

A high potential near-miss occurred underground when a personnel carrier was reversed into an ore drive and fell over the bench edge of an open stope. Most fortunately, the vehicle teetered on the edge long enough for the driver to clamber out and escape serious injury (or worse). A desperate attempt was made to secure the vehicle with chain before it slipped and fell 15 m.



Vehicle after it was recovered from the open stope

Causes

The incident occurred because:

- The ore drive had not been physically cordoned off.
- An effective warning sign had not been erected.

- Foreseeable risks had not been fully assessed.
- The driver was unaware that the bench edge had retreated 14 m during his R & R break.
- Restricted rear vision when reversing.
- Inadequate communications.

Similar incidents have occurred elsewhere. Earlier this year, at the Tara mine in Ireland, a LHD (bogger) fell 17m down an ore pass that had been filled with mullock. Unknown to the bogger operator, ore in the pass was being mucked from a level below and the machine was working on a hung-up bridge. The bogger fell when the bridge gave way. Fortunately, the driver was uninjured and somehow managed to scramble out of the near-vertical ore pass. Once again, one of the main causes of this problem was poor communication. Neither the LHD operator or his shift boss are still working at that mine.



LHD 17m down an ore pass in Tara lead/zinc mine

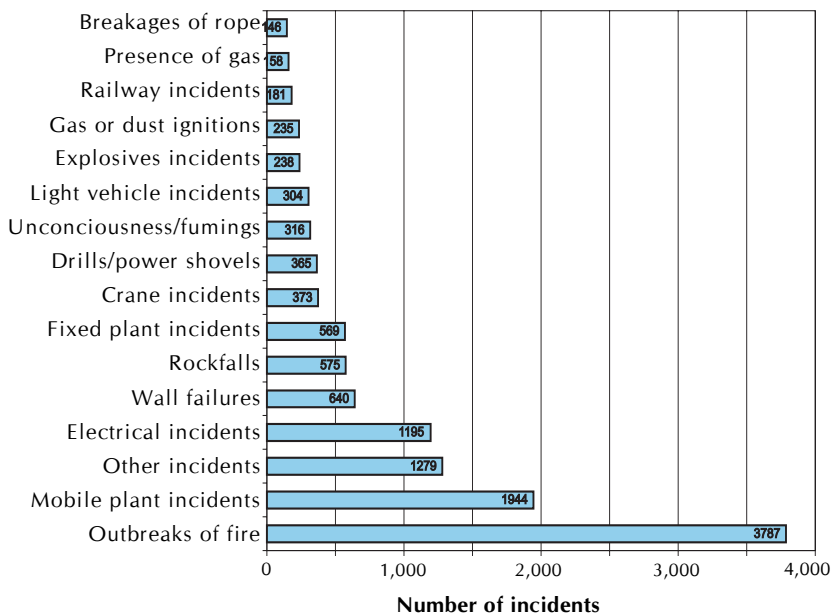
To avoid further incidents:

- Assess current work practices and effect appropriate safeguards.
- Place a physical barrier, capable of preventing vehicle entry, across any access to a vertical opening.
- Erect suitable signs to warn of the presence of vertical opening.
- Ensure employees are aware of workplace changes on return from R & R.
- If rear vision is restricted, drivers must get out and check before reversing.

For further information refer MSIR 10.35, Significant Incident Report 110 and MOSHAB guideline "Vertical Opening Safety Practice"

Watch Out!

Number of incidents reported since 1994



Mobile plant incidents since 1994

