

“Building a profitable  
mid-tier gold mining business”

# NEWSLETTER

## New reefs discovered in Garden Gully line

Recent drilling has discovered two new reefs in the Garden Gully line increasing the number of new reefs identified this year from two to four, as well as increasing the length of the existing Gill reef. The two new reefs, Grenfell East and Grainger reefs are amongst the largest found to date and are a combination of swarms of quartz veins (spur mineralisation) and solid bodies of quartz. Spur mineralisation can generate large tonnages, but recent mining experience supports a cautious approach, as these systems are geologically complex and typically exhibit lower gold grades.

### Gill reef

The Gill reef was discovered in the March 2007. It is termed a ‘neck reef’ and has formed at the intersection of the Garden Gully anticline and a laminated quartz vein. The cross-sectional size of the Gill reef is interpreted to be 20 - 30 metres high and three to nine metres wide.

### Grenfell East reef

Drilling to the east of the Gill reef has intersected a large, low to moderate grade spur system (swarm of quartz veins). The



zone consists of a one to two metre wide laminated quartz zone, grading around 6 - 10 g/t gold, with an associated low grade spur system, some 10 - 15 metres wide and up to 60 metres high.

### Grainger reef

The Grainger reef was discovered to the north of Gill and Grenfell reefs at a similar depth. It is a large mineralised system with a length of 480 metres ranging from five to 30 metres high and five to 25 metres wide. The

reef consists of a solid quartz zone overlying a spur zone.

### Grenfell reef

The Grenfell reef was discovered last quarter on two sections 460 metres apart. The reef is interpreted to be a saddle reef containing economic gold mineralisation at the upper end of the 6 - 10 g/t gold range. Infill drilling this quarter on section 124,250 mN indicates some structural complexity requiring more investigation.

## Chief Executive Officer's Report

I have just returned from the annual Diggers and Dealers conference in Kalgoorlie. This is a great networking forum for discussion of projects, mining operations and opportunities with our peers in the industry. I am pleased to report that there remains a great deal of interest in the Bendigo story. Our new techniques for exploration targeting in the Garden Gully and New Chum lines, our increased focus on reef geology and our revised approach to grade estimation (see article later in this edition) were all very well received.

There is no doubt that we are in the midst of a sustained period of demand for minerals. This is particularly evident in the iron ore, base metal and coal sectors. There is a general consensus that this “boom” has some years to run yet, driven by very strong demand from China and growing demand from India. There is also a generally accepted view that gold price will increase over the next year or so in light of the burgeoning US trade deficit, falling \$US, inflation, increasing demand and falling production.

We are well positioned to benefit from a rising gold price, not only from our high grade reefs, but also from the large low grade reefs we have found in recent months.

We have reached agreement with Coliban Water, whereby Coliban will now be responsible for distribution of our treated water. We were very pleased to be able to help with the provision of water last summer for numerous community uses. Hopefully with some rain and the Superpipe, water restrictions will be eased in the not too distant future.

I was very pleased with our quarterly report to 30 June 2007, in which we announced the discovery of a further two new reefs in the Garden Gully line, development and drilling continuing to access and define high quality targets, whilst maintaining a strong cash balance of \$72 million.

**Rod Hanson**  
Managing Director & CEO



# Emergency Response Capability Boosted

Emergency Response and Security Coordinator Mark Mooney was delighted to take possession of the new Fire Rescue Vehicle in July. The vehicle is an Isuzu FTS 750 4x4 Truck custom built by Moore Engineering Pty Ltd in Murray Bridge, South Australia.

The vehicle has been specially modified for the mining industry and is the only one of its kind in Bendigo. Additions include seats modified for the wearing of breathing apparatus, a high expansion foam generator and a rescue platform.

Emergency Response Officers & mine rescue team members will use the vehicle to respond to incidents on the surface or underground at Bendigo Mining which involve fires, hazardous chemicals or rescue. The vehicle also has capabilities to carry out pumping and dust suppression. The Fire Rescue Vehicle will now become an integral part of the Emergency Response Team's regular training routine.



Emergency Response and Security Coordinator Mark Mooney shows off the Fire Rescue Tender.

## Historic shaft collapses

Historically there have been five to ten historic mine shaft collapses in Bendigo each year and there is little doubt that these collapses will continue to occur. Research by Bendigo Mining and Government authorities has found no evidence of previous collapses of old workings being related to modern mining activities. Rather, they have been attributed to the settling of the backfill in the shafts; which happens particularly during wet periods. Many of the early digger's during the 1800's filled-in unused shafts with backfill as they went about urbanising the goldfields and then built homes, businesses and roads directly on top of any unused shafts. The poor quality shaft capping that was put in place during the last century has also been a significant cause of collapse (insufficient concrete thickness and inappropriate reinforcement, or use of timber only). Most of these collapses have occurred at relatively shallow depth mines, between 30 to 50 metres.

Historic shaft collapse in Pantons Street, Golden Square (far right) and the Red White and Blue Railway shaft.



## North Deborah Ventilation Shaft

The headframe for Bendigo Mining's third ventilation shaft at North Deborah in Eve Court, Golden Square was erected during July. The North Deborah shaft is an air intake ventilation shaft and so unlike the two ventilation shafts at Adams Street (which are upcast shafts) the visible plumes of condensation coming from underground are not evident. The air is drawn down into the mine 447 metres below the surface by fans installed underground to provide fresh air to workers. The large bucket shape design structure on the surface is known as an evasé, and allows for the shaft to be used not only for ventilation but as an alternative for underground workers to exit the mine in an emergency. A "pod" or man riding cage can be lowered into the shaft to hoist people to the surface using a specially designed emergency egress crane. North Deborah is Bendigo Mining's third ventilation shaft. Two more are located in the rear of the Council yard in Adam Street.



# Coliban Water and Bendigo Mining recycled water partnership

All of Bendigo Mining's treated groundwater is now being supplied to Coliban Water's Epsom to Spring Gully Recycled Water Project. The treated water is an important part of Coliban's overall recycled water project which will benefit all of Bendigo. It will assist in supplying various sports grounds and public gardens with water and will also support some of our rural irrigation areas.

These changes have meant that the community standpipe at New Moon has now closed. We understand that many people will be disappointed but the closure is part of the Company's move to reduce non-essential activities and allow a greater focus on the business of exploration within the Bendigo Goldfield.

Over the past eighteen months the standpipe has provided an opportunity for many residents to access water for their gardens and has also seen great benefit to Lakes Neangar, Tom Thumb and Weeroona. Going forward Coliban Water will be responsible for the distribution of the treated water from the New Moon Plant.



Above; Lake Neangar at Eaglehawk has benefited from the water over the past eighteen months.

## Estimating Grade at Bendigo Mining

Most of the gold in Bendigo occurs as visible pieces of gold, greater than 1 mm in diameter (coarse gold), and is distributed very erratically within quartz reefs. This natural phenomenon is termed the nugget effect.

The nugget effect means that no small sample, for example a single drill intersection, can accurately represent the grade of adjacent section of the reef, as small samples will tend to miss the coarse pieces of gold. To obtain an accurate representative grade of the reef requires many small samples. The challenge at Bendigo is to utilise information available from drilling in determining a reef's grade range.

The Company uses a more fundamental approach which is better suited and appropriate to local conditions. Company geologists now use their accumulated knowledge to make assessments of size

and quality of mineralisation based on the visual examination of core. This geological assessment is backed by assays and the knowledge gained from processing over 170,000 t of ore and a reassessment of core drilled through those mined areas.

This is a new approach and will be refined as more information is gained. The geological grade range estimate is based on a ranking of the key geological textures and minerals visible in the drill core: including quartz percent, quartz textures, presence of free gold and sulphides. The use of this ranking, in combination with assays, provides a meaningful method of estimating the likely gold grade range of the reef.

The Company will no longer report statistically-factored gold grades (mathematically adjusted assays).

## Community Clipboard

### ERC Representatives

The Environment Review Committee (ERC) meets quarterly to review current and proposed mining activities as well as all environmental monitoring results.

Community representatives are Michael McKern (Eaglehawk), Mary Markey and Peter Foreman (Kangaroo Flat) and Aleta Kilner and Rose Walsh (Woodvale). For contact numbers, please call 5447 1834.

### Community Advisory Board

The Community Advisory Board is an important link between the community and the mine. Current members from the Bendigo community are Murray Oakes, Kangaroo Flat; David Richards, Eaglehawk; Dennis Demeo, Raywood; Cr. Rod Fyffe, City of Greater Bendigo; Anne Jones, Kangaroo Flat; Daryl McClure, Bendigo; Marika McMahon, Bendigo; Leighton Rawlings, Quarry Hill; Leon Scott, Eaglehawk, and Maurie Sharkey, of Goornong.

### Need to contact us?

Our 24 Hr Hotline is 1800 640 959

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## Around Bendigo Mining



Above: Revegetation of the bund wall on Diamond Hill has progressed well over the winter. Environmental Officer Paul Ennor takes advantage of the winter sun to spray the weeds.

Left: Mark Birchmore (left) and Martin McCracken (right) have a laugh between shifts.

Below: Peter Panozzo cooks up a feast at the monthly staff BBQ for hungry staff members Matt Hernan (centre) and Tim Churcher (right).



# Blasting & Vibration

## Blasting – Sound and Vibration

Blasting is an essential part of our underground mining operations because at depth the rock is too hard to be excavated without first being fractured. Blasting involves boring holes in the face of the rock and charging them with explosives. Blasts cause vibrations that travel in waveforms through the ground, radiating away from the blast. When the vibration waveforms arrive at the surface they are converted into sound waves audible to the human ear.

The frequency of vibrations from blasting can vary greatly, depending on the distance from the blast and the blasting techniques employed. Bendigo Mining is currently developing its mine at depths of between 700 and 950 metres below the surface, and uses controlled blasting methods which result in only low frequency (less than 30 Hz) vibrations at the surface. The frequency of vibrations from a blast at a much closer distance can be around the 300 Hz. However, from deeper underground (as we are now) the frequencies dissipate as they travel towards the surface and are therefore greatly reduced. A human ear can hear frequencies between 20 Hz and 22000 Hz



but with age we lose the top and bottom limits. These low level vibrations may therefore be audible to the human ear, but do not result in a physical impact at the surface.

## Measuring vibration

Vibration levels set by our mining license conditions are well below the levels known to cause either superficial damage, such as cracking of plaster, or structural damage to buildings on the surface. Vibration is measured in millimetres of movement per second. License conditions require that blasting operations are controlled so that the maximum level of ground vibration must not exceed 10 millimetres per second at any time. Levels must not exceed 5 millimetres per second at any residence on more than 5% of blasts fired in a 12 month period. During the evening hours between 10 p.m. and 7am the maximum level is 2 millimetres per second.

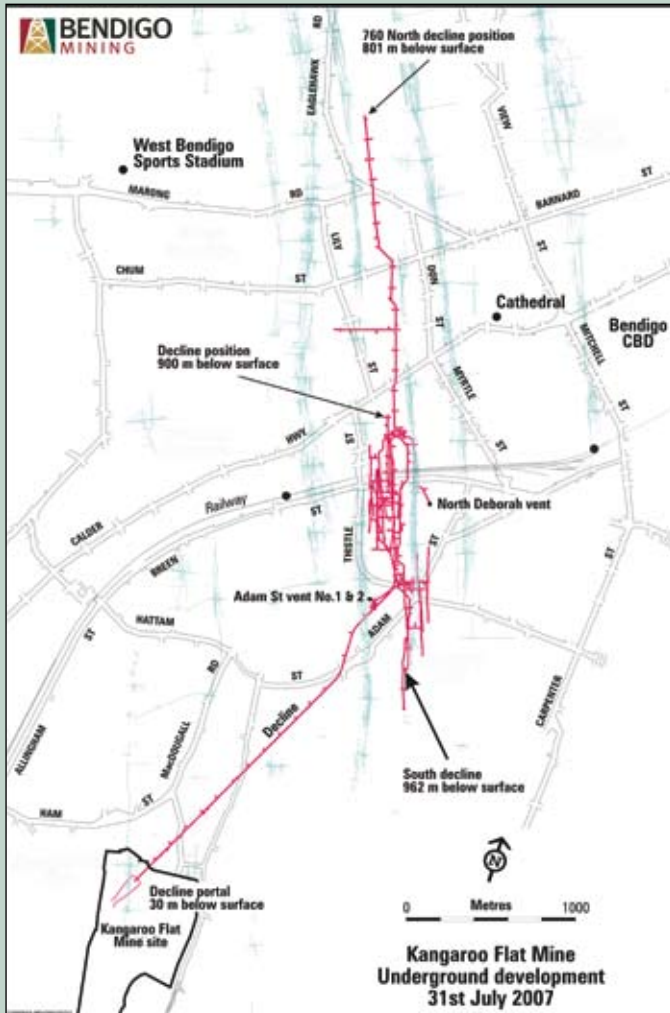
The following table describes a range of activities and the vibration levels they can produce:

Activity	Vibration level (millimetres per second)
jumping	Up to 250mm
heel drop	Up to 150mm
nail hammering	Up to 100mm
walking	Up to 40mm
20 knot wind	Up to 40mm
shutting door	Up to 30mm
sliding door	Up to 10mm

Bendigo Mining carries out blasting typically two or three times each day at any time of the day or night, with the duration of each blast being about 8 seconds.

Mobile vibration monitors are used to collect data at residences above the areas of underground development. Information from every blast is recorded and becomes a reference for future blasts.

## Underground development



## Who's who at Bendigo Mining?

Matt is a geologist and has been with Bendigo Mining for two and a half years. He grew up in Dookie, Northern Vic and attended University at La Trobe Bendigo. Matt has three brothers and one sister.

### Favourite TV show?

American Hotrod

### Music preferred?

Whatever's playing on Triple J at the time.

Footy team? Dookie United!

### Weirdest dream?

I once had a dream, well more of a nightmare about triangulating ore bodies in Vulcan (a geology computer program). I kept getting error messages and crashing the computer...

### Favourite food?

Spaghetti

### Any weird stories you would like to share with the community?

I once spent a weekend washing dishes in a kitchen at a "naturist" retreat, that was pretty weird.

### Hobbies?

Restoring and modifying Valiants.

### Favourite car?

My VF Valiant Hardtop!

