

## **Mine disasters and rescues: Some Australian examples**

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**Key Words:** Beaconsfield; Marvel Loch; floods; rescue.

It is, perhaps, surprising that in such an arid region as the Eastern Goldfields of Western Australia, flooding and floodwaters have been the cause of mine disasters and fatalities. One reason for this is that in a region of such very low and intermittent rainfall little effort is invested in adequately securing mine openings against what is considered to be the remote or unlikely risk of inundation.

### **Marvel Loch**

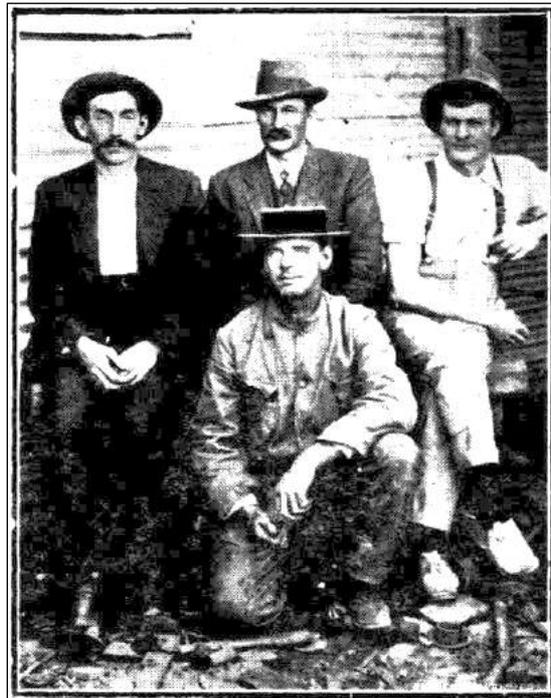
The Marvel Loch gold mine is located 35kilometres south east of Southern Cross in the Yilgarn Goldfield. When Jack Lenneburg discovered it that year, the mine was named after the winner of the 1905 Caulfield Cup. A company was floated in Adelaide to operate the mine and it worked for several years with mediocre results. By 1914 the mine was no longer being worked as a proper company operation but was mainly let out to tributers who extracted pillars and portions of lode left by the company - the tributers being paid a percentage of the gold they recovered for the company.<sup>1</sup> This practice of removing pillars is a hazardous operation in itself, and one which diminishes the safety of a mine.

On the fateful day, Friday 13<sup>th</sup> November 1914, three tributers, James Gorey, Mick O'Brien and Frank Mazza<sup>2</sup> were working underground in the mine, oblivious to a torrential rainstorm above ground, and unaware of the danger about to befall them, as surface floodwaters rushed towards the mine. As the rain continued, a torrent of floodwaters cascaded down the shaft as well as down another surface opening. The back of the 200ft level where the three tributers were working collapsed, trapping them. There is not a lot of clarity about the exact cause, but one contemporary newspaper attributed it to 'the creep caused by the recent rains.'<sup>3</sup> However it seems that the floodwater cascading into the mine scoured out some stope-fill that triggered the collapse. Falling rocks killed Gorey; partially buried O'Brien, pinning him to the ground; and knocked Mazza into a winze. Mazza climbed out of the winze and, disregarding his own safety, set about digging out O'Brien.

Further rocks crashed about them and O'Brien implored his mate to leave him and to get to safety, but Mazza persisted. He extricated O'Brien and dragged him further along the drive to a dead end where the roof was still intact. He then returned to see what he could do for Gorey, but another fall of ground covered the unfortunate victim, just missing Mazza. With only the stub of a candle between them retained for an emergency, O'Brien and Mazza then sat down in complete darkness to await rescue. They were to be there for 84 hours without food and slept huddled together for warmth on the one dry spot on the level.

When the three tributers failed to appear after their shift, and it was apparent there had been a disaster, all the miners in the Marvel Loch region volunteered to help in the rescue. Some went down to the 200ft level and tapped on the rails where they disappeared under a frightening pile of broken rock and were encouraged when they heard a knocking answer. It was obvious that it was impossible to get through the debris, so a tunnel was dug to divert around it to the trapped men. The rescue team worked feverishly in four-hour shifts driving and close timbering the tunnel. The work was tense with the ever-present menace of further cave-ins. Mines Inspector Crabbe arrived to direct the rescue operation, and finally, on the evening of Monday, 16<sup>th</sup> November, the tunnel reached the entombed men and O'Brien and Mazza were rescued.<sup>4</sup>

**Figure 1:** *At the rear (from left) are rescued miner Mick O'Brien, Inspectors Crabbe of the Mines Department who directed the successful rescue operation, and rescued miner Frank Mazza. Seated in front is Marvel Loch mine manager, T. Williams. Inspector Crabbe also directed the dramatic rescue of Modesto Varischetti who had been entombed in the Westralian and Eastern Extension gold mine at Bonnievale in 1907.*



Source: Trove: *Sunday Times*, Perth, Sunday 22<sup>nd</sup> November 1914, p. 3.

The rescue operation was fraught with danger and was lucky not to have ended in tragedy itself. One writer quotes a contemporary observer as saying that 20 minutes after the rescued men had been brought out of danger, 'the whole drive collapsed with a roar heard a mile away in town'.<sup>5</sup> It was several weeks before tunnellers were able to reach and retrieve the body of Gorey.<sup>6</sup>

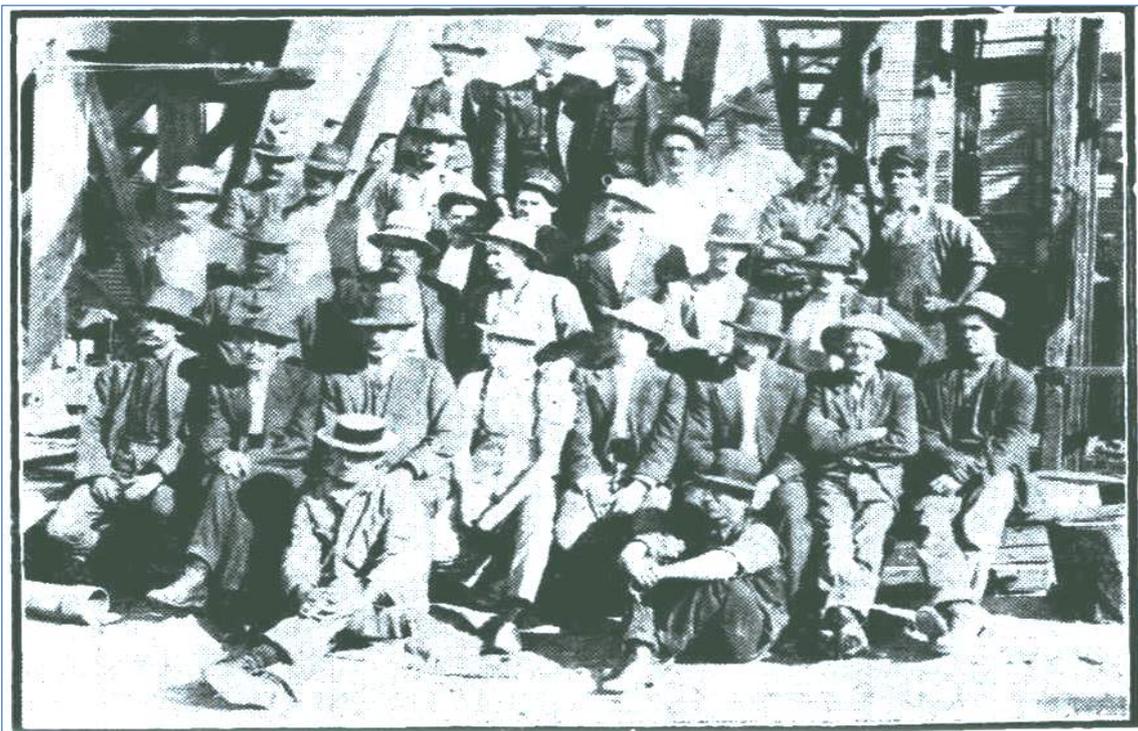
After being checked by a doctor Mazza returned to his wife, and Mick O'Brien decided to go to Perth with his two brothers. He hired a car to take them from Marvel Loch to Southern Cross to catch the train to Perth, and two miles from Southern Cross the hire car, which was an open tourer, hit a stump at speed and the occupants were all

thrown out. Fortunately, none were injured. This prompted the Press of the day to proclaim that Mick

must have been born under a lucky star, for within 48 hours of being rescued from what might have been his tomb in the bowels of the earth he had another narrow escape from death ... Two lucky escapes within 48 hours! We should certainly like to go halves with Mick O'Brien in a ticket in Tatts'.<sup>7</sup>

Most of the men involved in the rescue gave their time voluntarily, except for six who were employed by the Marvel Loch Company. The company, which was on its last legs (it went into liquidation less than 18 months later), offered the men 5/9 per shift, the work being of four hours duration. The men refused to accept this sum and instructed the Miners' Union to take action to obtain the full shift rate of 13/4. In a case before the court in Southern Cross, Magistrate Walter ordered the company to pay the full 13/4 per shift and costs but allowed the company 14 days stay of proceedings to make the payments.<sup>8</sup>

**Figure 2:** *The team of volunteer miners who worked four-hour shifts around the clock, driving and close timbering a tunnel to reach the entombed miners. The man seating in front wearing the boater, is the mine manager, T. Williams, and seated behind him is Inspector Crabbe who directed the rescue operation. The rescued miners Mick O'Brien and Frank Mazza are seated next to him.*



Source: Trove – *Sunday Times*, Perth, Sunday, 22 November 1914, p. 3.

At the inquest into the death of James Gorey held in Southern Cross in January 2015, the jury returned the verdict that no blame was attachable to anyone, adding the rider that,

We express our admiration for the heroic manner in which F. Mazza rescued his mate, Michael O'Brien, and congratulate the rescue party for their untiring

efforts to release their comrades, and also our keen admiration for the untiring and heroic work undertaken by Inspector Crabbe.<sup>9</sup>

Frank Mazza was awarded the Clarke Medal for bravery by the Royal Humane Society of Australasia in 1915. The other recipient of this prestigious award that year was a Japanese pearl diver, Akare Tokesiro. This prompted the Melbourne correspondent of a Perth newspaper to comment that although the Clarke Medal that year had been won in Western Australia, it had been won by a Japanese and another foreigner, Frank Mazza, an Italian. 'Thus, since the war began the Clarke Medal has been won only by foreigners, both representatives of Allies of Great Britain.' Mazza's relatives naturally took umbrage at this and hastened to point out that Frank Mazza was an Australian, born in Daylesford to an Australian mother and Italian father. The Perth newspaper carried a correcting article titled, 'Clarke Medal Hero Not A Foreigner: But A Good Australian'.<sup>10</sup>

Mazza also received a certificate commending him for his brave conduct, which was presented to him by the Minister of Mines.<sup>11</sup> The Minister said that Mazza acted at great personal risk in extricating O'Brien 'with the ground crumbling all around.' Although driven back twice, he succeeded on his third attempt to release his mate, 'just in time to avoid a further fall of earth which assuredly would have overwhelmed them both'. The certificate presented to Frank Mazza read, 'Mazza was true to the best traditions of mining', while Moya Sharp in her *Outback Family History* series writes that Mazza was to carry that tradition beyond the boundaries of mining:

He had stuck by O'Brien in the crumbling depths and he stuck by him in the shell shattered days of World War I. His last act to his friend was to fashion a crude cross and place it at the head of O'Brien's grave somewhere in France.<sup>12</sup>

Mining is a hazardous occupation. Four other miners were killed in mines in the Yilgarn Goldfield in addition to Gorey, in 1914, and there were 26 fatalities in the WA mining industry that year. This is a statewide fatality rate of 2.15 miners killed for every 1,000 miners employed.<sup>13</sup> As appalling as this figure is, it is much less than the fatality rate of 4.64 miners killed per thousand employed in the United States gold mining industry at that time.<sup>14</sup>

### **Eastern Extension mine, Bonnievale**

Inevitably parallels were drawn in the Press between the Marvel Loch mine rescue in 1914 and the 1907 rescue of Modesto Varischetti, who had been entombed in a mine near Coolgardie for nine days.<sup>15</sup> This disaster was also related to torrential rain and unexpected floodwaters. On 19<sup>th</sup> March 1907 the gold fields were drenched when four inches of rain fell in three hours and floods roared down normally dry watercourses. One flood poured down the unprotected shaft of the Westralia and Eastern Extension mine at Bonnievale, seven miles north of Coolgardie. The miners at work were able to climb out of the mine as the floodwaters rose through the extensive mine workings except for Modesto Varischetti, a widower father of five children, who was working alone, and was not alerted to the danger. Varischetti was working in a rise being driven

up at angle of about 45 degrees from the mine's No. 10 level heading towards the No. 9 level and he only became aware that the mine was flooded as the floodwaters entered the rise effectively cutting him off from escape. As the level of water in the mine rose above the level at which he had been working, and indeed above N. 9 level, it was feared that Varischetti had perished.

The mine was not equipped with pumps and attempts were made to clear the mine by baling. When the water level in No. 9 level was lowered sufficiently to gain access, Mines Inspector Crabbe was able to wade 365 feet along the drive to a point above the end of the rise in which Varischetti had been working. When he knocked on the wall rock with a hammer, he was elated to hear knocking in reply. Varischetti was alive!<sup>16</sup> This was joyful news to the crowd at the headframe, however, Crabbe was doubtful that Varischetti could be rescued: he cabled the Minister of Mines;

Varischetti can be heard sounding; and everything is being done to rescue him. I consider the chances of rescue very remote. It is estimated that it will occupy ten days to unwater to No. 10 level.<sup>17</sup>

With some million gallons of water in the mine, baling was a hopeless task and a borrowed pump was rushed into action, but to little effect. Varischetti only had his crib and six candles with him for that shift and was thus in a perilous situation. It was a race against time to save him and to expedite matters, causing Inspector Crabbe to send to Perth for divers, who were rushed to Coolgardie by train, but as they were unfamiliar with underground mines, they could not operate effectively. Fortunately, Frank Hughes, a former diver working as a miner in Kalgoorlie, volunteered for the hazardous task of trying to reach Varischetti, using their equipment. Hughes descended to the No. 10 level and had to grope his way along it underwater by holding on to the compressed air pipe. When he came to an upward bend in the pipe, he knew he was at the rise. He shook the pipe and the imprisoned man, who must have been overjoyed at this sign that rescue might be at hand, replied by shaking it in return. After several attempts the heroic Hughes succeeded and was able to bring candles and food to an excited Varischetti, who had been alone in absolutely stygian darkness for more than a week. On the ninth day the water level in the No. 10 level had been reduced to shoulder height and Hughes was able to bring Varischetti out. Varischetti was able to climb down from the raise with Hughes' assistance but he collapsed on entering the cold water in the level and Hughes had to carry him along the drive. Like the courageous Frank Mazza seven years later, Frank Hughes was awarded the Clarke Medal for bravery by the Royal Humane Society of Australasia.

### **Emu Mine, Agnew**

As a result of flooding, six men lost their lives in the Emu Mine on 13<sup>th</sup> June 1989 in a decline driven from the bottom of an open pit. Immediately south of the larger AG pit, (from the bottom of which the decline was driven), a relatively small open pit (the 450), which had previously been mined, was used to accumulate water for mine process purposes. The mine, located three km west of Agnew, about 370km north of Kalgoorlie, lay in an arid region with an average annual rainfall of 254mm. However, on the day of

the disaster exceptionally heavy and sustained rain caused extensive local flooding.<sup>18</sup> Due to diversion from the creek and the resultant accumulation of water, the afternoon shift was cancelled, and an attempt was made to retrieve major equipment from the decline, including a pump. To achieve this, the underground manager and four men entered the decline on a front-end loader but by this time water was overflowing from the 450 pit into the AG pit. When the mine manager noticed that the neck of ground separating the two pits was eroding rapidly, he jumped in a utility and drove down the incline to withdraw the other men. Just after he entered the decline wall between the pits collapsed and a great deluge of water erupted into the AG pit and down the decline overwhelming him and the men below.

Hoping that the men might have found refuge in an air pocket like Modesto Varischetti, the Police sent down divers who had raced up from Perth, but tragically all six men had perished. Those who lost their lives were Brett Hanson, aged 27, Terrence [sic] Martin 28, Kerry Peters 35, Timothy Proctor 30, Darryl Sandford 27, and Darrin Williams 23.

### **Bronzewing**

Just a year after the Emu mine disaster, three miners were killed in the Bronzewing mine located 83km north east of Leinster, but the liquid rush that engulfed them was not floodwater but slurry mine-fill that was being used to stabilise a worked-out area in a higher level - it comprised sand, cement and water that had been pumped down from the surface as the ingredients in a process to fill a worked out area of the mine. On 26 June 2000, Troy Woodward 26, Timothy Bell 21, and father-of-two Shane Hamill 45, were working 450m underground when they were trapped and overwhelmed as 18,000 cubic metres of sludge, sand slurry, mud and water broke through a storage area and poured 200m down a decline.<sup>19</sup> A rock-face retaining wall had given way, releasing the flood of liquid debris, and the force of the slurry rush was so powerful that it swept away heavy-duty mining machinery.

Fortunately, multiple fatalities are now rare in the WA mining industry and none has occurred since the Bronzewing disaster in 2000. All recent fatalities, and also all multiple fatalities from 1939 on, are listed in 'Fatality Accident Reports Data' in the Mining Fatalities Database of the Western Australian Department of Mines. The worst was in 1977 when five men died due to a kibble falling into a shaft at the Agnew underground nickel mine at Leinster, because of a winder malfunction.

Although Western Australia is usually regarded as mainly comprising a high proportion of desert with very low rainfall, deaths caused by flooding are not unknown in that state. In the period from 1960 to 2017 there were 16 flood fatalities besides those in the mining disasters discussed above.<sup>20</sup> Most of these 16 fatalities were in motor vehicles and resulted from attempts to drive across suddenly flooded creeks.

### **Beaconsfield**

The most famous mine disaster in recent years did not occur in Western Australia, the focus of previous prolonged entombments recorded in this paper, but it did involve a drama. This mine disaster also did not involve flooding but rather, its cause was a small

earthquake, which triggered a rock fall in the mine.<sup>21</sup> This was the Tasmanian Beaconsfield mine disaster on 25<sup>th</sup> April 2006, when one miner was killed and two others were rescued after spending 14 days, much of it in the dark, jammed in a small metal basket known as a telehandler.<sup>22</sup>

When the earthquake struck, 14 men were safely evacuated from the mine, but three were unaccounted for. They were Larry Knight aged 44, Brant Webb 37 and Todd Russell 34. Knight, who was operating the teleloader, was killed in the initial rock fall, while Webb and Russell were saved by the metal frame of the teleloader basket in which they were working at the time.<sup>23</sup> However, it was fourteen days before they could be extricated. The men were initially able to survive by drinking groundwater seeping through the overhead rocks, which they collected in their helmets, and Webb had a single muesli bar with him, which he shared with his mate. It was five days before the rescuers received confirmation that they were alive. A pipe was inserted in a drill hole bored through to them, and they were supplied with fresh food and water and communication equipment, but it took another nine days to tunnel through to them and effect their release.

### **Author's personal note**

The author of this paper was managing director of the company that re-opened and developed Marvel Loch gold mine in 1973, some 35 year after it was previously operated. Mindful of the 1914 disaster, the first task undertaken was to bulldoze a large ditch around the head and sides of the gully-like depression containing the mine, to divert any unexpected floodwaters and prevent them entering the mine workings.

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### **Endnotes**

<sup>1</sup> The mine was subsequently worked sporadically over the years, with efforts spurred by the improved gold prices in recent decades. When it closed in 2012 it had (according to 'Principal Mineral and Petroleum Producers – Gold', *Western Australian Mineral and Petroleum Statistics Digest*) produced an impressive total of 2.16 million ounces of gold. This would be worth \$4.7 billion at today's gold price of \$A2,177 per ounce (October 2019). A Chinese company, Hanking Gold, is now planning to reopen it.

<sup>2</sup> Gorey was married and the father of four children. The 26 year old Mazza was married but then had no children. Mick O'Brien was unmarried.

<sup>3</sup> 'Marvel Loch Disaster', *Border Morning Mail*, Albury, Tuesday, 17 November 1914, p. 1.

<sup>4</sup> 'Marvel Loch Disaster: The Rescue Operation: Two Men Extracted', *The West Australian*, Perth, Tuesday, 17 November 1914, p. 6.

<sup>5</sup> H.H. Wilson, *The Golden Miles*, Rigby, Adelaide, 1977, p. 19.

<sup>6</sup> 'The Marvel Loch Disaster', *Western Argus*, Kalgoorlie, 12 December 1914, p. 17.

<sup>7</sup> 'Marvel Loch Disaster', *Sunday Times*, Perth, Sunday, 22 November 1914, p. 3.

<sup>8</sup> 'An Interesting Case', *Western Argus*, Kalgoorlie, 11 May 2015.

<sup>9</sup> 'Marvel Loch Disaster', *Southern Cross Times*, Friday, 1 January 1915, p. 2.

<sup>10</sup> 'Clarke Medal Hero Not A Foreigner: But A Good Australian', *The Daily News*, Perth, Monday, 6 August 1917, p. 6.

<sup>11</sup> 'Marvel Loch Disaster', *Western Argus*, Kalgoorlie, Tuesday, 25 May 1915, p. 10.

<sup>12</sup> Moya Sharp, 'When the Marvel Loch Mine Fell In', *Outback Family History*, Kalgoorlie, 2015. Mazza family tradition relates that Corporal Frank Mazza was the last non-commissioned officer to evacuate Gallipoli.

<sup>13</sup> Mining Accidents, *Report of the Department of Mines for the State of Western Australia for the Year 1914*, p. 25.

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<sup>14</sup> 'Table 47 – Number of men employed and number killed and injured in metal mines in the United States', in Lucian W. Chaney, *Statistics of Industrial Accidents in the United States*, 1923, p. 47.

<sup>15</sup> 'Entombed in a Mine', *Sunday Times*, Perth, 22 November 1914, p. 3.

<sup>16</sup> Malcolm Uren, *Glint of Gold*, Westralian Classics edition, 1980, pp. 208-213.

<sup>17</sup> 'Mining Horror: Miner Entombed: Heard Knocking For Help. Little Chance of Rescue', *The Daily News*, Perth, 20 March 1907, p. 8.

<sup>18</sup> 'Emu Mine Disaster', *Significant Incident Report No. 11*, by J.M. Torlach, State Mining Engineer Department of Mines Western Australia, April 1990.

<sup>19</sup> *WA State Coroner's Annual Report 2001*, p. 22.

<sup>20</sup> Western Australia Department of Fire and Emergency Services, *WA Post Flood Social Research*, November 2017.

<sup>21</sup> The earthquake was 2.3 on the Richter scale according to Geoscience Australia.

<sup>22</sup> All the main newspapers in Australia, and also on television extensively covered this disaster and the subsequent rescue.

<sup>23</sup> The teleloader basket and a reconstruction of the rock fall above it are on display in the mine museum at the Beaconsfield mine. This display dramatically depicts the restricted and hazardous space in which the two miners survived for 14 days.