

# CALCITE



Journal of the Highland Caving Group  
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# Journal of the Highland Caving Group

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**Cover:** Stephen McCabe also known as 'lampman', with part of his light collection.

**Photo:** Joe Sydney, HCG

## Australian Mine Lighting

Stephen James McCabe

The following article outlines some of the more prominent Australian Mining Lamp manufacturers. Some are known to collectors merely by the lamp alone. However a few of the makers have never been documented before. This type of article is a first for an Australian caving journal. The text below, reprinted with permission, is from an article printed in French, German and English in *Grubenlampen Info*, 2 June 2001, pp114-128. Reprinted with permission.

Australia has recorded some of the first, if not the first use of both acetylene and electricity in underground metal mining. Clemmer in his book *American Miners' Carbide Lamps* 1987 page 15 notes that H. Hooke carried out experiments underground with a portable acetylene gas generator in 1897. These tests were conducted at Hillgrove and not Millgrove (as the book states) Mining District. Henry Hooke was a Mines Inspector with the Chief Inspector of Mines Branch of NSW. He began employment on 1 July 1896 in this capacity with the Mines Department. Electricity was first used underground at the Ellenborough Mine, Bendigo, Victoria in 1882. Two years earlier successful experiments in lighting a limestone cave with electricity was carried out at Jenolan Caves, NSW. These 1880 experiments were replaced by a more permanent steam driven dynamo installed in the Grand Arch in 1886.

From humble yet ground breaking beginnings, an industry in this country evolved and for a period supplied the necessary lighting apparatus for the mines of this nation. Some of these manufacturers are documented below.

### Pinnacle Engineering Works

William Sargeant came out from England with a forming trade background he settled in Ballarat. According to Archive Records, held in the Library of Ballarat, a William Sargeant resided at 19 Ripan St, North Ballarat in 1896-97. In 1903 he was listed as a 'Contractor'. William had four children, three male and one female. Two of the sons, Charles Walter and Harold, obtained diverse engineering experience from different Ballarat mine companies. Charles completed an apprenticeship as a patten

maker and became quite an expert in this field.

Charles founded Pinnacle Engineering in about 1924 as a backyard operation. There is no mention of the company in the 1923-24 Melbourne and Victorian telephone directory. It was not until the early 1930's that the company was listed as trading from 317 Exhibition St. This building or in the very least some space was leased from Leggetts Products who manufactured heat patch repair kits for inflatable tyres. Pinnacle manufactured the patches as well as the vulcanizer clamps for these kits.

Harold Sargent having just returned from the employ of Broken Hill South Mine went into partnership with his brother Charles. Harold saw an opportunity and a need for locally made mining lamps while in Broken Hill and convinced his brother. At least two designs were experimented with, a forged steel bail and screw thread similar to a Premier King lamp and the other conical again similar in design to what was being used at Broken Hill at the time. The conical style was more workable, these examples can be found with a brass legend rivetted to the top of the water tank. This 'Series I' lamp was made in both aluminium and cast gun metal. In about 1935-36 Pinnacle streamlined their design to produce the 'series II' lamp. This style incorporated features such as a trucking hook, flat steel bail and a well designed die-stamped reflector. Several hybrid lamps have also been noted. One such example was advertised in 1933-34 editions of *Chemical Engineering and Mining Review*.

In about 1937 the Sargeant Brothers went their separate ways, Charles continued on with Pinnacle Engineering while Harold started his own business selling new and used mining equipment which included electric cap lamps. Harold was very successful on his own. He died in 1956.

Meanwhile, Charles required larger premises. A property containing two cottages and a small factory was founded on Little Lonsdale Street. This 35' by 65' area was leveled and a modern factory built. The 'Series II' style was continued but was eventually phased out in 1940.

Pinnacle retooled and changed their design again this time producing the No. 5 model. Each lamp was sold for 17 shillings and six pence. The earliest models have the 'push in' water tank plug however, this set up was somewhat of a failure as



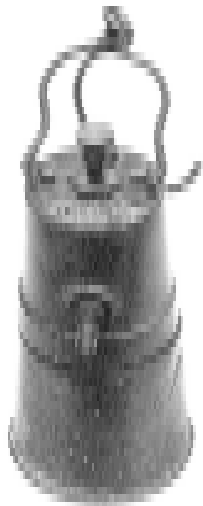
**Figure 1:** Pinnacle Major Carbide Hand Lamp disassembled. S. McCabe Collection. Photo: Ken Keane



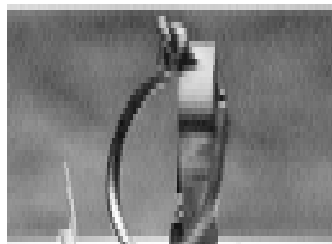
**Figure 5:** Pinnacle Major (Proto-type) Carbide Hand Lamp. S. McCabe Collection.



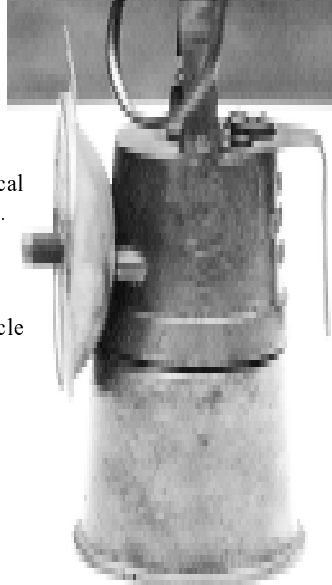
**Figure 2:** (above) Unfinished Mint Pinnacle No.5 Carbide Hand Lamps. S. McCabe Collection. Photo: Ken Kearne



**Figure 3:** (above) Early Colical Pinnacle Carbide Hand Lamp. S. McCabe Collection. Photo: Ken Keane



**Figure 4:** (right) : The Pinnacle Lamp” Carbide Hand Lamp. S. McCabe Collection Photo: Ken Keane



**Figure 6:** Early Conical Pinnacle Carbide Hand Lamp. S. McCabe Collection. Photo: Sandi Hutchinson.

Chemical Engineering and Mining Review, January 10, 1940.

# Miners' Acetylene Lamps



Simple design and robust in construction  
Manufactured in cast Gun Metal  
or Aluminium

Suppliers to the principal Mining Fields  
throughout Australasia.

Write for Quotations—small quantities.

**PINNACLE ENGINEERING  
WORKS PTY. LTD.**

43 LITTLE LONSDALE ST., MELBOURNE.

**Specialties—Repetition Work.**

Selling Agents:—McPherson's Pty. Ltd.,  
N.S.W. and Qld.; Miller & Co. (Machinery)  
Pty. Ltd., Vic. Local Agents in West. Aust.

Figure 7: "The Pinnacle Lamp" Carbide Hand Lamp advertisement.  
S McCabe Collection of Australian Mine Lighting ephemera.

miners complained that it would pop out when climbing and they would lose water. Companies such as McPherson's in Melbourne and Brandts in Sydney aggressively marketed these lamps. The company contracted out all of its casting work originally to O'Connell and Kerr of Kensington then when this company closed Bell Bryant took over at the same address. Pinnacle also relocated to 22 Napoleon Street, Collingwood in about 1964. In addition to the initial purpose as a miner's lamp, the No. 5 was also a valuable motorist accessory and used for inspecting underground cable and sewerage ducts. The lamp has a very special place among Australian cavers and bushwalkers. The NSW Railways also required a modified version of the No. 5.

The No. 5 design was made to about 1980. Charles died in November 1984 at the age of 93, two years after retiring from work. The company continued with Charles' son, John, assuming full control but eventually closed down in Easter 1988. In the years prior to this, the company had a yearly turn over of around 1¼ million dollars.

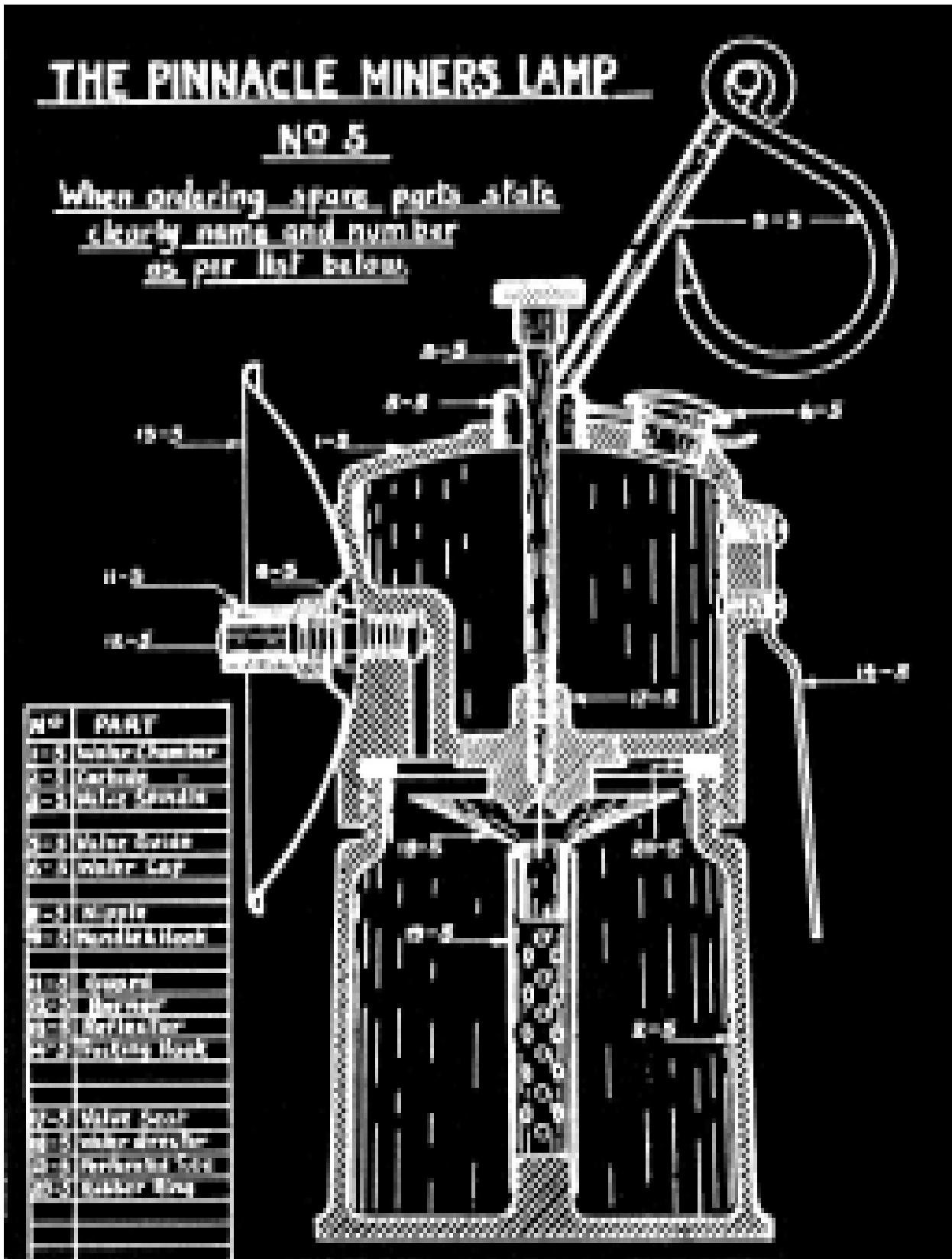
## A. Stockmans

The company known as A. Stockmans was founded in about 1910 at Angaston, South Australia. By 1914 A. Stockmans was operating from Elizabeth Street, Evandale. Then by 1916 the company was listed as trading from 43 William Street, Goodwood Park. However, by 1919 they established themselves at 147 King William Road, Hyde Park.

The company, a sheet metal and plumbing works, manufactured petrol pumps, tanks, bath heaters, incubators and brooders for the poultry industry. The company closed down in 1964. A. Stockmans manufactured an interesting aluminium carbide hand lamp with four distinctive knurled bands (two on the water tank and two on the bottom receptacle). Two examples are known to the author.

## A. Simpson & Son

In 1946 the company, A. Simpson & Son, had an office and warehouse at 41-49 Pirie Street, Adelaide with factories at Gawler Place South, Wakefield, Pirie, Flinders, Angas Street and



**Figure 8:** Pinnacle No. 5 cut away drawing from company advertising pamphlet.  
 S. McCabe Collection of Australian Mine Lighting ephemera.



**Figure 9:** A Stockman's Carbide Hand Lamp.  
Graham McCrohon Collection.  
Photo: Ken Keane.



**Figure 10:** A Stockman's Carbide Hand Lamp.  
Formerly G. Dillon Collection.  
Photo: G. Dillon.



**Figure 11:** A Stockman's Carbide Hand Lamp.  
Graham McCrohon Collection.  
Photo: S. McCabe.

Dudley Park.

The company specialized in iron and tin-plates manufacturing, aluminium ware, brass ware, canister making, and copper smithing. Their product range was very diverse, from cooking ranges to enamelled advertising mattresses to tin-plate printing. After WWII the company submitted applications to employ German scientists.

The mining lamp connection was made by Gerry Dillon after purchasing a conical T valve hand carbide at the 1998 Wilnsdorf Show. It was originally obtained in Broken Hill by Otto Winter, a German mining engineer, in the early 1980s and offered for sale at the show. This style of lamp without brass legend soldered on the back and with the 'T' valve construction is fairly common and was used at Broken Hill, particularly at the Central Mine. It is the only example known complete with legend. The author suspects that all these 'T' valve lamps were made by A Simpson & Son with the legends either breaking off or the company omitting

this final part of production.

**Harold Sargeant & Company**

After Harold Sargeant, an Engineer, left his brother's company, Pinnacle Engineering, in 1937 he set up business at 550 Little Bourke Street, Melbourne. The company imported mining equipment such as helmets and Nife lamps. With his experience and connections gained from working at Broken Hill and Pinnacle Engineering Harold applied and was granted Australia's only design registration for a miner's lamp on 18<sup>th</sup> September 1941. This carbide lamp is known as the Da-Lite and appears to have been made originally for North Broken Hill Ltd as a few examples bare these cast markings on the top of the water tank.

Another example only has the Da-Lite marking with file marks present where the NBH Ltd cast letters were. This cast gunmetal lamp is very well designed with the outside diameter of the water tank machined. The carbide receptacle is roughly cast much like the conical Pinnacle lamps with a textured sand finish. The lamp appears to have been sold with or without a reflector with the latter being more common. Examples of this lamp with either markings are hard to find although NBH Ltd is by far the hardest to acquire. In 1946, H. Sargeant & Company carried out repairs on Royal Australian Naval ships. The company continued until 28<sup>th</sup> June



**Figure 12:** (above) A Simpson Carbide Hand Lamp. S. McCabe Collection. Photo: G. Dillon.



**Figure 14:** H. Sargeant & Company advertisement S. McCabe Collection of Australian Mine Lighting ephemera.

**Figure 13:** (left) A Simpson Carbide Hand Lamp legend (back of lamp, water tank). S. McCabe Collection. Photo: G. Dillon.





**Figure 15:** DA-Lite with reflector  
Formerly G. Dillon Collection.  
Photo: G. Dillon



**Figure 16:** DA-Lite NBH  
Ltd. Carbide Hand Lamp  
S. McCabe Collection  
Photo: Ken Keane



**Figure 17:** DA-Lite (complete) and disassembled carbide  
hand lamps. S. McCabe Collection.  
Photo: Ken Keane.



**Figure 18:** DA-Lite (plain) and DA-Lite NBH Ltd: Carbide  
Hand Lamp. S. McCabe Collection.  
Photo: Ken Keane

1972.

### Kempthorne Pty Ltd

The company known as Kempthorne Pty Ltd was established in 1933 in a backyard garage at 8 Netherlee Street, Glen Iris. The company was originally known as Kempthorne Lantern Works. This company was founded by two brothers, James Selwyn and Eric Owen Coffey, with Selwyn designing and Owen both selling and manufacturing exterior house lighting. The brothers were later joined by two other brothers, Earle and Terence. In 1935 the brothers employed Ken Gordon, a 15 year old who would spend his working life with the company and who would provide much of this text.

In February 1936 the company established itself at 53 Little Lonsdale Street, Melbourne but by April 1937 had moved to 16 Langridge Street, Collingwood and altered the company name to Kempthorne Pty Ltd. In 1939, the factory was taken over by the government for 100 % defence work, mostly for the army and navy. The safety lamp known to be made by the company was part of a range of approximately 20 lamps comprising port, starboard, masthead and engine room lighting. Each unit was stamped with the year of manufacture before passing inspection. According to Ken Gordon all Naval lanterns were capable of burning with a hose playing on them. The safety lamps were tested by introducing a gas jet around the gauze after the bonnet was removed. These lamps were installed predominantly in ship magazines or where ammunitions were stored. The original proto-



**Figure 19:** Kempthorne bonnet Legend.  
S. McCabe Collection.  
Photo: Chris Gregory.



**Figure 20:** (left) Kempthorne Safety Lamp  
S. McCabe Collection.  
Photo: Chris Gregory.

**Figure 21:** (below left) Kempthorne & Hailwood Safety Lamps.  
S. McCabe Collection.  
Photo: Ken Keane.



**Figure 22:** (above) SUN Carbide Hand Lamp (top view showing Legend), S. McCabe Collection.  
Photo: Ken Keane.

**Figure 23:** (right) SUN Carbide Hand Lamp  
S. McCabe Collection.  
Photo: Sandi Hutchinson.

**Figure 24:** (far right) Latter R.A. Tallow Lamp.  
S. McCabe Collection.  
Photo: Ken Keane.

types were supplied by the Navy and came from Scotland, there were no drawings or templates available. The author believes the safely lamp is a near exact copy of the Hailwood type 01 SA miner's safety lamp. No other style of model of safety lamp was made and no more then 200 units were manufactured between the years 1941-1943.

Kempthorne made the gauzes and the bonnet was a metal spinning with the vent holes pierced on a horn press. All brass castings and frame components were

The family lived in a house at Hood Street, Sherwood; a western suburb of Brisbane, Queensland. The sheet metal, lamp and burner factory was established next door. All members of the family were given various jobs and everyone contributed to the success of the business.

Among the lamps the company manufactured was a miner's carbide hand lamp which bears a close resemblance to the ITP Dewar lamp of USA. It appears the company copied this style of lamp which was available in Queensland at the time. This lamp is known as the SUN lamp with most but not all lamps possessing a small brass legend soldered on the top of the water tank. The SUN lamp is unique in Australia as being the only carbide mining lamp to be made of sheet metal and because of this is rust prone. It is also considered to be quite rare especially if in good condition. The SUN lamp was sold throughout Australia, but with little advertising.

Alfred Edward's wife Agnes (nee Dunlop) died in 1931, in 1939 he married Florence Gordon. Alfred passed away in 1955 leaving the factory to Florence. A young employee by the name of Allan Charles Albert Trueman went into partnership with Florence. Allan Trueman eventually bought the business and in turn passed it on to his son Ray. Although family records indicate the sale of the factory took place after 1955, Consumer Affairs Office Records state that A.E Appleton Pty Ltd was registered on 20/5/1947.



machined outside by repetition engineering firms.

There was no profit made from this defence work but after the war Kempthorne was one of only eighteen firms to be named for outstanding contribution to the war effort.

The company continued with the post war boom manufacturing internal lighting but by 1969 the original people behind the company resigned or retired due to non-family share holders making it difficult to continue. The company name still exists today.

### A. E. Appleton & Sons

A Deed of Partnership was drawn up between Alfred Edward Appleton and his sons Edward Vere, Norman Victor and Alfred Dunlop Appleton on the 25<sup>th</sup> October 1926 to manufacture a range of hand lamps and lamp burners including a railroad lamp Alfred had patented in Great Britain and also in Colonial NSW.

According to Len Burns, a now retired long time employee of Appleton who the author interviewed in April 1993, the last lot of mining lamps were pressed out in 1942. Two versions exist and centre around the bail arrangement and how it is fitted to the water tank. The earlier model has the bail directly riveted to the water tank with either steel or copper solid rivets. Later models employ the a spot welded tab on the water tank and then hinge off this.

The company still exists as Appleton Traffic Equipment Pty Ltd located at 17 Pradella Street, Darra a short distance from the original site at Sherwood with Peter Trueman, Allan's grandson,





**Figure 25:** R. A. Tallow Lamp with unusual side stamping.  
Graham McCrohon Collection.  
Photo: S. McCabe.



**Figure 26:** (above) Early R.A. Tallow Lamp  
S. McCabe Collection.  
Photo: Sandi Hutchinson.

managing the company.

**Robert Anderson**

Robert Anderson, the maker of the R.A. Tallow lamp, was the son of Hamilton Anderson and Jane Sterret who married in 1828. Robert was born in February 1830 at Dulray Ayresshire, Scotland. Robert’s mother died when he was quite young and Hamilton married Ellen Mein.

Hamilton and his second wife along with Robert, two other males (John 10 years, William 5 years) and two females (Jane 14 years and Sarah 7 years) immigrated to Australia on the ship *Thomas Arbuthnot* which arrived on 17 January 1849. Ships records state that Robert, 18 years of age, was already a qualified tinsmith and although he was travelling with his family was considered to be his own man. Hamilton with his wife and family settled at Wallsend, Newcastle, NSW. Robert however worked in Bathurst where he married Frances Charlotte Mills on 22/12/1853 at Pitt Town near Windsor, NSW. Frances is reportedly the first white child born in Bathurst. Robert and Frances had 4 children while in Bathurst. John was born in 1857, Ellen born in 1860, Lucy born in 1862 and Frederick James born on the 4<sup>th</sup> May 1864 at Russell Street.

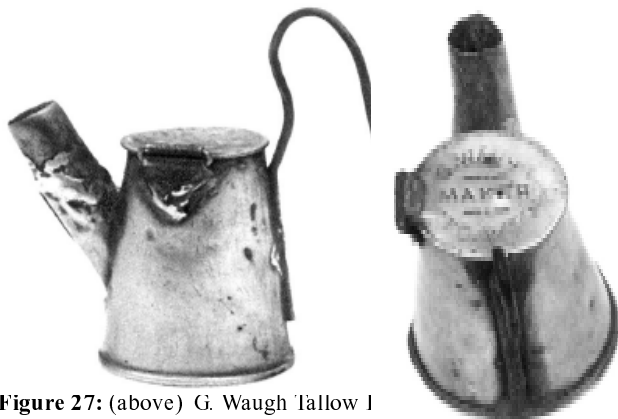
The family moved to Wallsend and into Hamilton’s Darby Street premises where Robert set up his tinsmith shop. It would appear that Robert worked as a tinsmith while in Bathurst. His Tallow Miner’s lamp became very popular in Wallsend. Robert drowned in Throsby Creek, Smedmore on 15/2/1899. Frederick James carried on the family tinsmithing business at Nelson Street in a converted Hotel. The shop front was the old public bar area with the workshop out the back and living quarters up stairs. No Tallow lamps have been found bearing an F.A. or F.J.A. marking so he must have either continued to stamp the lamps R.A. or perhaps left them unmarked. Exact unmarked examples exist, several different models have been noted some even appear to have used recycled brass sheet. Early model lamps have a hole pierced through the lid which was a characteristic of Scottish manufacture. Later models have the vent hole pressed through with a raised ridge around the hole. Fred James Anderson employed his sons in the shop with his wife and daughters polishing and selling the tin ware. Frederick James stopped making the Tallow lamps in about 1924 and closed

the shop soon after. He retired to Marks Point where he died on 13/10/1932.

Several examples of R.A. Tallow lamps have been noted with some having fonts or of an unusually large size. Family records indicate that Robert patented his lamp but an extensive search by the author over a number of years of Colonial and Great British Patent and Trade Mark records reveal that this was not the case. Most examples are made of brass with some being a bi-metal or block tin construction. Additionally a rusted out all steel lamp with the R.A. barely visible has also been studied. A mint brass example in a private collection still has the price of 2/6 (2 shillings and 6 pence) marked on it. R.A. brass lamps are obtainable from time to time depending on your locality, however the bi-metal example appears to be much rarer.

### George Waugh

George Waugh of Stockton Newcastle is another tinsmith who manufactured a Tallow Miner's face lamp. George was born on 23/10/1861 at Larbert Stirlingshire, Scotland. His father was a coal miner. He married Janet Johnson from Clackmanan, Scotland on 2 July 1886 at Linlithgow, Scotland. George and Janet travelled to Australia 'unassisted', therefore their exact arrival is presently unknown. On 26 June 1888 their first son, William George, was born at Stockton, NSW. George manufactured a very rare brass Tallow lamp of Scottish design. His lamp is smaller than the R.A. with a pierced vent hole like standard Scottish Tallow lamps, only two examples are known to the author. George operated his tinsmith shop at the corner of Little Maitland Street and Mitchell Street,



**Figure 27:** (above) G. Waugh Tallow Lamp  
S. McCabe Collection.  
Photo: Ken Keane.

**Figure 28:** (right) G. Waugh Tallow Lamp (lid of)  
S. McCabe Collection.  
Photo: Sandi Hutchinson.

Stockton. While George manufactured the tin ware Janet handled the shop duties.

George and Janet had another five male children, two however died before their first birthday. Thomas J. born 1893, Donald G. born 1897 (died), Hector J. born 1899, Angus A. born 1901, and Alan D. born 1906 (died). They also had two females; Janet born 1890 and Jessie A. born 1903.

George and family stayed at Stockton until 1906 appearing on that years electoral roll however, by 1908 they had moved not only from the area but from the State. It appears the family moved to Malanda, North Queensland. Additionally family descendants of William George, the eldest son, are located in New Zealand so it is possible that they moved there. No information is available regarding his death, more research is required.

### George Hamilton

George Hamilton was born around 1845 in Glasgow Lanarkshire, Scotland to William and Margaret Hamilton. He married Jane Riddle on 31 December 1870 in Scotland presumably Glasgow. At the age of 30, George, his 28 year old wife and 5 year old daughter, Isabella, obtained an Assisted Immigrants passage to Australia on the ship *Earl Dalhousie* which left Plymouth on 26 January 1877 and arrived in Sydney on 7 May 1877. A 101 day voyage! According to ships records there were two deaths and three births on the voyage.

George Hamilton obtained his trade in Scotland and probably made Tallow lamps there before leaving for Australia. Jane Hamilton had a brother in New Lambton therefore he may have sponsored their passage to Australia. The family settled in Lambton Road, New Lambton. By October 1881, George and Jane had suffered the loss of three daughters.

From his tinsmith shop on Lambton Road, George sold his style of Tallow Miner's lamp. Only the face lamp appears to have been made. The lamps were sold throughout Australia as well as to South Africa. Only four examples are known to the author. It is presently unknown to the author when George died.

In 1906 the New Lambton Electoral Roll notes a William Gibson Hamilton of Lambton Road as being a tinsmith. More research is required to ascertain if William is the son of George and Jane



**Figure 29:** G. Hamilton Base, side view of G. Waugh. S. McCabe Collection.  
Photo: Ken Keane.



**Figure 30:** (above right) G. Hamilton Tallow Lamp. S. McCabe Collection.  
Photo: Ken Keane.

working with his father or if he is another tinsmith operating in the same area with the same surname.

The companies included in this article are by no means a complete industry list of mining lamp manufacturers in Australia. Several other lamps are known as well as mining candlestick or spider makers. One carbide cap mounted lamp not mentioned is the Demon Strike Light, its origins are still unknown other than it being made in Australia. This article touches on an industry not previously documented, therefore almost all of the material used came from research through dead company

indexes, BDM records, family history research and correspondence with other collectors nation wide. Many years of research at libraries and archives around the country by the author has gone into these few pages. The original text of this article appeared in the 2001 issue of *Grubenlampen Info*; a German publication produced annually in conjunction with an international mining lamp show held at Wilnsdorf on 2<sup>nd</sup> June 2001, which the author attended.

It is the intention of the author to publish a book on this subject including information on lighting show caves as well as early forms of hand held cave lights. Any additional information would be greatly appreciated and contact with other cave lamp collectors would be most welcome. I can be contacted through the *Calcite* Editor.

The author wishes to acknowledge the help and assistance of the following people who's contribution made this article possible. John Sargeant, Wendy Gain (nee Waugh), Gillian Young (Anderson), Doug Appleton, Peter Trueman, Ken Gordon, the Coffey family, my photographers Sandy Hutchinson, Chris Gregory, and Ken Keane. I am also indebted to the following collectors for opening their collections for study and photographing; Graham McCrohon, Gerry Dillon, and Richard Pytko.



### Iceman had fleas

VIENNA: A 5000 year old mummified Bronze Age man discovered in good condition in the Alps a decade ago had fleas, one of the scientists researching the remains said yesterday.

Professor Konrad Spindler said two specimens of fleas had been found on the clothes of the iceman, discovered in 1991 protruding from a glacier in the Dolomite mountains of Italy.

Scientists are carrying out research on the cadaver which is preserved at the Bolzano Archaeological Museum in northern Italy.

Professor Spindler said no fleas had been found on the body itself, which had been washed before it was examined.

*Reprinted from the Daily Telegraph*

## The Abercrombie Footprint

Glenn Woodley

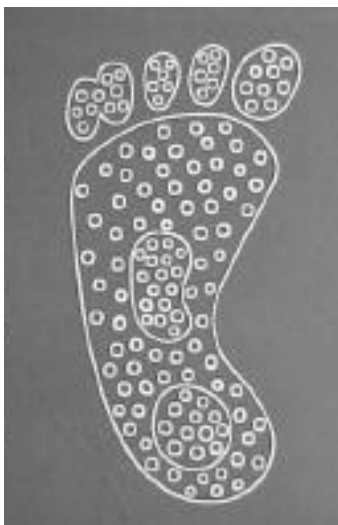
A rare and most interesting floor formation exists within the Grand Arch at Abercrombie, or does it? I was there in the early nineties and came across this curious formation, just near the dance floor that was originally built by the early gold miners. At first sight, it was almost dismissible, however with careful observation this wonder began to slowly present itself to me. What appeared to be raised lines gradually materialised, following their outline I was amazed to find myself standing within a gigantic human footprint!

Approximately 4 to 5 metres long, perfectly formed with five distinct toes, and an even deeper heel mark. The whole inner area of this massive footprint was filled with pock marked ringlets, rather like occurs when a bare foot is pulled from sticky mud leaving suction marks.

I drew this formation and mentioned it to Abercrombie staff, one of whom recalled a late 1800's report of a sighting of the same formation. However no one else evidently has reported or seen it since.

On a following visit a few years later, I went back expectantly to the site, and to my great disappointment, could not see the footprint again. It was as though I had imagined or hallucinated this huge curiosity!

Perhaps silt movement, light angles, or general atmospheric had something to do with it. I did not have the pleasure of knowing Evalt Crabb at the time, so I cannot even lay blame to too much Evalt Estate Fine Wine! Where did it go? Has anyone ever seen or even heard of this illusive anomaly?



Glenn's sketch from memory of the mysterious Abercrombie footprint.

## Stereoviews -A Brief History

Sourced by David Rothery

Stereoview photographs (also called stereographs) are two photographs taken of the same view from slightly different angles, then mounted side by side onto cards; when the images are viewed with a special viewer, they appear as one, seemingly three-dimensional image.

Stereographs were produced continuously during the years 1851-1940, enjoying varying degrees of popularity during that period.

The phenomenon was discovered in the early years of photography, and stereoview photographs were produced commercially by the 1850s, along with the instruments for viewing the images, known as stereoscopes. One stereoscope, a hand-held model which became very popular, was designed by Oliver Wendell Holmes at the end of the 1850s. There were also box-type viewers that sat on a table, and models that could hold several hundred views, using a belt to move the cards through. Stereoscopes and views were often sold by opticians, such as Franklin and Co. at 217W. Baltimore St., where both were available.

Oliver Wendell Holmes was a stereoview enthusiast, calling at one point for the establishment of stereoview libraries, and coining the term "stereograph". He said, "With the Stereoscope by our fireside on a winter's evening, we can walk through the sunny vineyards of Italy; from our armchair look down upon Jerusalem from the Mount of Olives. We can wander through the cities of foreign lands, look upon their wonders of architecture". While such exotic subjects were popular, people were also interested in the places and events in their own regions, and in events of national significance such as wars, disasters, and international exhibitions. Other types of views were those with elaborate theatrical tableaux depicting comical or sentimental subjects.

Source: <http://www.mdhs.org.library/fotofind/PP001ink.html>



David Rothery is an avid stereograph collector. Here Kevin views Dave's stereographs of Jenolan with a hand held stereoscope.

## Yarrangobilly January 2002

Kevin Coller

I was the first to arrive at Cotterill's cottage this year. 2001 was my first visit to this particular part of the world and I looked forward eagerly to this, my second. Because I could only swindle a brief holiday from work and because of various courier activities that were swindled from me, I could only stay a few days and so had to make the most of it. My supplies were also somewhat spartan, but such is life. One must make do!

The weather was much more reassuring than last year. Quite mild, really. Back in Wollongong, Sydney and most of the rest of the state was the haze of bushfires and warmer temperatures. Up high in the mountains the weather was pleasant; that first night after half a litre of port and the white stars 'fairly blazed in the cold and frosty sky.'

No need to rise too early in the morning because it was chilly and dark but at 6.30am. I was surprised to see the car of Geoff McDonnell parked close to mine. When I rose I realised that he had also erected his tent. Must have slept well?

### Y10

After sorting things out with the NPWS, we stashed our stuff and by early afternoon were off to Y10. Y10 is a cave just a few short km's up the road and close by the side of the highway. The short walk from the car leads to a steep doline choked up with blackberries which leads to a small entrance into which a creek flows. The water is cool and very tasty.

We found our way into the cave without getting wet and wound around and down until we entered a largish chamber containing the visitors book. When recording our presence it was surprising to notice how few names had been entered over the past year. Along a passage we came to a canyon section of rimstone pools.

This is a detrog section. Along for some distance with lighting at different angles the pools were pretty and often surrealistic in their beauty. In the middle of the track after a couple of bends and turns is the corpse of a possum that Geoff had been rather keen to revisit. He discovered it last year when it was fresh and he reckons there was fresh blood on the ground. This year the possum was pretty much mummified still with a full coat of fur. The end of the rimstone section was reached and coming back Geoff took many photographs.

We retrogged and descended, after finding our way, down into the depths of *Strawhaven*, which I at least thought was more interesting than the rimstone. Crawling as far as we dared the rest of

the reel of film was expended. The risk of causing damage was too great to crawl up and into what appeared to be a possible lead into more cave, so we satisfied ourselves with what was easily obtained. Geoff reckons this is a very underrated cave and I tend to agree with him.



*Geoff McDonald with dead possum.*

Back to the visitor's book and more navigational problems, which we eventually overcame, and emerged to the warm sunlight. At Cotterill's Alan & Megan Pryke arrived followed shortly after by Nicki and Justin Wilkinson, Peter Bauer & Peter ?.

### Weeks plan!

After more unloading of gear we discussed the plans for the next day. Geoff was committed to do a little PR work with a certain female member of NPWS who he claimed was rather attractive and so on the morrow we would do Y33 and Y34. The rough plan of the week had been to camp at *Eaglesnest* Tuesday and Wednesday nights but with the advent of this lady accompanying us to a wild cave, it was decided that we would do *Eaglesnest* on Sunday. That was okay with me because I had planned to leave on Tuesday and now I was to revisit *Eaglesnest*. A rather good cave. After another cool night we again woke to a frosty morning and stayed in bed a little longer than would normally have been the case. Again the weather was exceptionally mild and pleasant. Y33 and Y34 were more of your sport type caves. They were supposed to be mudholes with Y33 having pretties hanging along the walls and ceilings. The two caves were some distance from camp. We parked not too far from the roadway and walked





*Kevin at Strawhaven.*

down a very long track. There was a light west breeze and the day was pleasant. With the harshness of the vegetation and the possibility of huge march flies tearing naked flesh it seemed sensible to tolerate the relative discomfort of a stout pair of overalls rather than expose too much skin. For those in more summery attire march flies were merciless. We spread out across the hill and scoured each limestone outcrop.

### **Y33**

It was Justin who found Y33 and after rigging the ladder we descended to the sticky floor of this unusual cave. It was mostly canyon with a deep slippery and sticky clay floor. Geoff said it was the wettest he had ever seen this cave. Strange, after all the dry weather during 2001? The pretties were there and at the end of the first lead Alan and Geoff crawled on their stomachs into a photogenic chamber. It was a crawl that seemed to me a good idea at the time. In hindsight, it was probably not such a great idea, but on balance I only got a little muddy when all was said and done. We followed the other lead and that was pretty much more of the same.

### **Y34**

Megan and Alan found Y34. This one had a shorter climb but the floor was every bit as messy as Y33, without much in the way of decoration. Annalise was at camp when we were returned and keen to see some action. Megan and Alan escorted her to Y10 and I believe they returned at midnight. They must have been very quiet?

### **Eaglesnest day**

There was a lock to be replaced and a tour to conduct. Barbara from NPWS was to meet us at about 10am so we relaxed, luxuriating in another gloriously mild morning. Megan, Alan, Geoff, Peter, Anelise, Barbara and myself, were the expedition. After depositing our gear at the lower entrance we climbed to the eerie, snapped some photos and began the business of caving. At first Barbara seemed a little apprehensive and

I began to fear the day would turn sour, but she was soon smiling and doing quite well. Annalise, was instrumental in easing her through some of the more difficult sections. It is absolutely amazing how much of the cave was completely foreign to memory yet other sections were very familiar. The non-pitch stirred memories. Last year, while there was a queue at top and others waiting at the bottom someone had dislodged a *big* rock which had been caught between the narrow walls of the pitch. It stopped about a metre above the heads of those below. I had not witnessed this incident myself, having gone some distance ahead of the main party. When Peter pointed out the boulder, still wedged there one year later, I had greater appreciation for the excitement of those who had been there.

It was a pretty relaxed day through the massive cave and when we got to the gate and the key was applied to the lock, at first it would not enter the lock and then it would not turn it. After much manipulation the key was turned but the lock would not open. Of course, the merits of changing the lock before getting to the inside of the gate were discussed, but as we were inside and committed to fate now, all options were moot. Considering the prospect of returning the way we had come did not enthuse us at all. But, being prepared as always we managed to successfully extricate ourselves and replaced the old lock. It was great relief to us to sit in the sunshine and drink the cool and fresh waters of the creek rather than run back uphill through the extensive passages.

Barbara, who was indeed attractive and quite pleasant company, had enjoyed her excursion and thanked us for bringing her along. Again the combined caving groups have been instrumental in promoting relations with government organisations. Afterwards we went to the office and Geoff obtained for us the key to the tourist caves.



*Barbara at the Y1 gate.*

The path leading from the car park down to *Castle Cave* wound around the valley and the late

afternoon sunlight while playing hide and seek behind some of the taller peaks provided a very pretty and colourful walk for us through sunshine and shadow. As a tourist cave virgin I found it very enjoyable to just walk through a cave. I must have been tired? The size of it was mind boggling. There was too much decoration to stop and look at any one thing. Too much formation to process. Peter, Alan and Annalise took some photos and we went to *Harrie Wood* cave. Again there was too much to take in in such a short time and again, it was impressive. In this cave we discovered the singular phenomena of wiretite and buckettite, products of the joint ventures of man and nature. Which only goes to show that anything we can stuff up nature can fix.

**Glory Hole**

The third and last cave of the day was *Glory Hole* and this one was big with a capital ‘F.’ Walking beneath the *Glory Arch* was a seminal moment in itself. The ground around the outside under the hole was reeking with moss. On the inside the cave was enormous. The chambers from top to bottom would have been, in some cases, around 50 metres. With our tiny and almost meaningless caving lights the blackness of the cave simply swallowed much of their energy. With meandering concrete stairways turning this way and that our journey seemed somewhat Tolkeinesque. We were out by 8pm.



*Group at Y3 entrance.*

The evening was turning cold and the south wind was picking up. By the time we got back to Cotterill’s it was 8.30 and the sky was dark. Quick tea and no bath tonight. With very little wine left I went to bed early.

Throughout the night the wind blew chilly and gusty from the south. It was quite cold. From my bed, through the fuzziness of impending slumber I heard elevated voices and the tinkling of glasses. I suspect they were *drinking!*

Morning came and I was awake early and by 6.30 was sick of staying in bed and wanted to get

outside and do something. The floorboards are extremely creaky and with the thought that there was some merriment last night, I tippy toed out and went for a very long walk along the creek. Beautiful morning. The sun had just peeped over the eastern hills and when I got to the creek the water sparkled gold as steam rose into the warming air. There was not the slightest breeze. In a large tree, crows were arguing their ‘caws.’ Back at Cotterill’s by 7.30 and still only Peter had risen. I decided that enough was enough and as quietly as I could began to pack the gear for my departure. By the time I had breakfasted and abluted, everyone else had got up and were preparing for *East Deep Creek*. I went home.



**Our thanks to Julie Bauer**

HCG expresses its extreme thanks to Julie Bauer for her efforts in resurrecting Calcite and providing the motivation HCG members needed to complete this issue. Members would also like to thank her for all past magazines she has produced.

*Our sincere thanks Julie!!*

From HCG members!



**WANTED**

**Trip reports!**  
**News! Snippets! Anything!**

**Send them to:**  
[jsydney@choice.com.au](mailto:jsydney@choice.com.au)

**Photocredit**

Colin Wood and David Dickford, who supplied the photographs of NavShield 2001 for Calcite 41 would like to credit the following websites:

**Walk Safely - Walk with a Club**

www.bushwalking.org.au

**For Bushwalking Poetry go to**

www.geocities.com/greenaissance

Both sites hold a wealth of information and valuable links to both the bushwalker and bush poet. Please check them out as a thank you to Colin and David for allowing us to print their photographs.

**Bird Eating Bats!**

Spanish researchers report that a species of bat native to their country - the Greater Noctule bat, or Nyctalus lasiopterus - will even eat sparrows. It seems that this Spanish bat, one of the biggest of all bats, will eat birds flying at great altitudes at night. Scientists previously assumed that European bats ate only insects. Now, Spanish researchers have found traces of feathers in the excrement of the giant bat.

Apparently, the bat takes advantage of the sparrows' migration, which has millions of the birds flying over the Iberian Peninsula in spring and fall. During these times, the giant bat will hunt the birds, consuming its prey in flight. During the remainder of the year, the Spanish bat reverts to a diet of small insects.

*Source: Proceedings of the National Academy of Sciences, Aug 7, 2001*

*Research: Carlos Ibanez, Estacion Biologica de Donana, Sevilla, Spain*

**Carbon Dioxide (CO<sub>2</sub>)**

A true gas formed by the oxidation of carbon, occurring in exhaled air, in the products of decomposition of some types of explosives and in the products of combustion of all carbonaceous matter. It is also formed by the action of acid water on limestone, and by the slow oxidation of coal.

It is heavier than air, is slightly soluble in water, and at temperatures below 31.5°C can be liquified by pressure. It is a respiratory stimulant up to 10% when it becomes a narcotic poison. At 26% it is an inhibitor of life and fire, a property made use of in some types of fire extinguishers. It solidifies at minus 80°C.

The Coal Mines Act of 1911 limits the CO<sub>2</sub> permissible in mine air to 1.25%, which may appear very low, but its effects on respiration must be considered together with those of a reduced oxygen content. Its presence is detected in mines by the effect of reduced oxygen on the luminosity of the flame safety lamp. Its absolute determination is made by laboratory analysis of a mine air sample.

David Rothery

*Research: Carlos Ibanez, Estacion Biologica de Donana, Sevilla, Spain*



*A cute comic strip for all budding wanna be writers... the inevitable rejection.*

### Alum caves, smallest in the world!

Joe Sydney and members  
March 23 and 24 2002

Alum caves are nestled just off the Castlereagh highway northeast of the Capertee township. Little is known of these caves so HCG thought it about time it visited the mysterious, Alum caves.

#### Saturday 23 March 2002 From Pub to cave

Capertee pub car park was selected as the most suitable for a Saturday morning meeting location as it was on the main highway and just before the Alum caves turn off. Whilst waiting for a few late comers, Bru and Barbara showed off their new second hand Daihatsu Terios, whilst Evalt with a small group went to visit Col Ribaux, a local, to find out what he knew about limestone caves around the Capertee area.



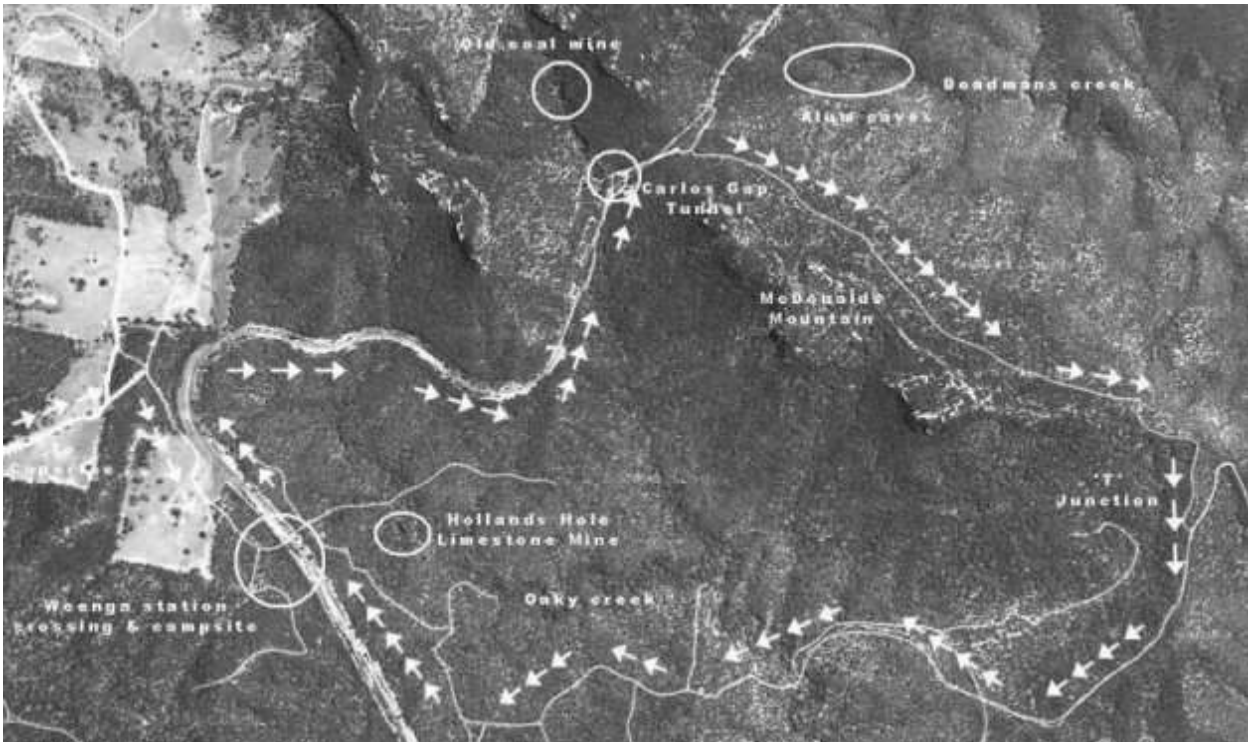
Waiting for club members at Capertee pub \*\*.

The rest of us, headed north and along the railway line towards Carlos Gap. Before our departure, we arranged to meet somewhere close to Weenga Station crossing later that evening.

When the last of the club members arrived, we departed for Alum caves heading north along the Castlereagh highway passing Excelsior Rd and onto the turn off, about 11km from the pub. This turn off road, headed northeast passing through Round Swamp and another 3km approx found the turn to the right that took us to Wallerawang-Gwabegar rail line and Weenga Station crossing. Nothing remained of the old station so we crossed the line and headed north-west, but not before Bryan did his ol Indian trick with ear to track listening for that 84-class locomotive.

The service track that followed the rail line was in good condition with all cars being able to handle the track even along the higher side cuttings. Further along, the rail line soon took a large bend and headed east before another bend turned the rail line northeast to Carlos Gap Tunnel. The topo map showed an interesting area marked as coal mine abandoned so I decided

Google Map with caves and route



to visit this after Alum caves if time allowed.



*Driving along the rail line service track to Alum caves.*

The main section with alum is about 10 meters across and about 2 meters high sloping towards the back. We looked a bit further down stream but didn't find anything of significance so we returned to the cars.



*Getting ready for the search at Carlos Gap tunnel east.*



*Brian's ol indian trick, listening for the next passing train.*



*Barbara makes her way down to Deadmans creek.*

### Carlos Gap tunnel west

After a quick look at the west side of Carlos Gap tunnel, we had to move on over Carlos Gap owing to limited parking space. It was at this point we all saw the rough track heading over the Gap. All cars made it to the top where we noticed the down track to be even rougher. All drivers decided to drive down the track to the east side of the tunnel and head of Deadmans Creek, the start to Alum caves.

### Deadmans Creek and Alum Caves

When we got out of the car at Deadmans Creek, a pungent odor of something dead hit our nostrils so we quickly grabbed our walking gear and dashed into the bush! The start of the creek sides were steep and thick with forest growth however after 100metres and dropping into the creek, it opened with grassy flat floor, which made easy going. We followed the west side for another 100 metres before it started to get rocky. The cave was soon found a few metres above the rocky gully close to a small dry waterfall. It was an overhang conglomerate type cave with speckles of alum balls in the roof and walls. The alum ranged in size from golf to soccer balls and Phil F who is a chemist, commented curiously about its purity so took a small sample. Later, he revealed that the alum is Potassium aluminium sulphate and that these caves must be the smallest in the world!



*Barbara and Jim at Alum caves.*



*Balls of alum in cave wall.*



*Carlos Gap tunnel east \*\*.*

**Carlos Gap tunnel east.**

After walking back up to the vehicles we were looking at the topo and Ian L tried to scale off how long the railway tunnel was with a broken stick. He thought it was about 400 meters and said why don't we walk through it. So a small group of about 7 of us walked through the narrow tunnel (BW, IL, BR, DR, PE, 2 boys). The tunnel curved at the end that we started from and then we could see the light at the other end. We hoped that a train didn't come along even though we had a lookout on the east side. When the brave few returned, we decide to follow the rail line north. (Official records state this tunnel to be 382m long so an Ian L was very close in guessing.)



*Looking up at McDonald mountain from tunnel east \*\*.*

**Gwabegar rail service track and Excelsior limestone quarry**

Time allowed for us to detour and follow the service track further north another 10km to a point where it passed through the gap and into the next valley. There were excellent views of Excelsior limestone quarry in the distance whilst the rail line and track contoured around the western valley edge passing Jump Down Creek. With time running out, we soon decided to turn back to the Carlos Gap mine.

**Carlos Gap coal and other local mines**

This fascinating site still held much of its past history with small-scale rail artifacts and mining equipment lying around the site.

A few started to walk up an old tramway embankment and soon found the small old coalmine. The mine had a face cut into the side of the gully just to the left (west) of the main stream way. It was about 6 metres wide and about 2 metres high and filled with about 20cm of water just inside the entrance. Phil took his boots off and was the first to enter, soon after, a few other brave souls followed. They all walked about 100 metres towards the back of the tunnel and found some bats near the back of the tunnel. The floor started to rise upwards so we abandoned the tunnel vowing to return another day. Back at the cars, Phil and Ian W bid us farewell, as they had to return home.



*Phil in Carlos Gap coal mine \*.*

Research on Carlos Gap mine indicates that it was a coal colliery worked from 1881 to 1901 however evidence showed workings from a more recent unknown period. The Carlos Gap location included the provision of coke ovens and by-product plant, a brick making plant and siding accommodation. A clue about the unknown period is held in the National Library, which shows a photo of the Carlos Gap station name board on the nearby rail line at 27.09.1947. The name of Carlos Gap may also not be its original spelling as an early record shows it to be Carlo's Gap.

Another reference from Oz History Mines shows that the Carlos Gap area was reported to have coal, iron ore and limestone.

Report Title or Subject	Author	Year	Page
Carlo's Gap	Carne, JE	1917	157
Carlo's Gap Coal Mine	Jones, LJ	1919	175
Carlo's Gap Iron Ore	Watt, J Alex	1897	183
Carlo's Gap, Western Coalfield	Hall, LR	1952	105

**McDonald mountain 4WD track.**

Time and sunlight was still on our side so we decided to dive back up Carlos Gap track and take the McDonalds mountain track circuit to the right. We drove along the east side of McDonald mountain for a few kilometres before reaching a steep ridge near the 'T' junction. At this point the slope of the track along the narrow ridge was quite worn and Jim in his Subaru Outback was quite concerned so one of the big 4WDs led the way. Joe in his Subaru Forester soon followed and that seemed to give Jim the needed confidence to attempt the rocky and worn track. Both Subaru's handled the rocky track well.

All cars descended the track safely and we soon found the 'T' junction (right turn) a short distance away. This section of the track was in much better condition than the ridge. After crossing Oaky creek we soon hit another junction (turn right) and headed north back to Weenga Station crossing.



*Joan, Bryan, Ian and Bruce enjoying the campsite.*

**Campsite.**

At Weenga Station crossing we started to look for a campsite and on the west side we noticed a good flat area in the distance. On driving closer we could see a roaring fire and soon found Bryan tending his 3m fire blazing for the camp oven bread bake off which proved most delicious! Evalt and Joan were with him and they had found an excellent campsite overlooking the rail line.

Research on Weenga Station crossing found the following historical information:

- 31-Jul-1916 Opened as Saddington and Hixons Siding
- 1916 Renamed Weenga
- 21-Feb-1933 Closed
- 1-Jun-1935 Re-opened
- 4-Aug-1971 Closed
- Unknown Re-opened

**Sunday 24 March 2002**

**Searching for old quarry limestone**

In the morning, we looked at the map and decided to leave investigating Hollands Hole for another trip. We did note a small old quarry close by just across Weenga Station crossing and close to Oaky creek so it was off for a quick look. We left the cars at the top of the track and walked down to a large flat area. We soon came across some industry artifacts such as stone foundation remains, old boilers and discarded machinery. Close by was a long man made gully that led to a high walled disused limestone quarry filled with water. We spent some time here photographing the workings before heading home after a great weekend.



*Members looking at the entrance to quarry \*\*.*



*Remains of an old boiler \*\*.*



*The old quarry filled with water \*\*.*



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