



## Proceedings of the 23<sup>rd</sup> AMHA Annual Conference



***“Mining - From the Mountains to the Sea”***

**Traralgon, Victoria**

**25 – 29 September, 2017**

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**Review Panel:** Sandra Kippen, Nicola Williams.

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Loy Yang power station. (TM Williams, 2017)

Walhalla. State Library

Coglan, JM, ‘The State Coalmine and Wonthaggi’, p.81.



## President's Foreword

### Mining - From the Mountains to the Sea

On behalf of the AMHA Executive and Conference Organising Committee I welcome you to Traralgon for the 23<sup>rd</sup> Annual Conference of our Association. The theme of this year's conference, '*Mining: From the Mountains to the Sea*', is most fitting for a venue such as Traralgon, located between the rugged mountains of the Great Divide and the shores of Bass Strait. The mountains to the north have a rich gold mining heritage, and the surrounding Latrobe Valley a long and proud history of coal mining. Offshore are the historically important and still active oil and gas fields of the Gippsland Basin, and the first attempts to produce petroleum in Australia were in 1924, on the edge of this basin at Lakes Entrance.

The Gippsland region has provided great mineral and energy wealth to Australia, with the mines at Walhalla producing more than 1.8 million oz of gold, present value ca. A\$2.9 billion. Brown coal mining has been the foundation and backbone of Victoria's energy system, and continues to be important, while the Gippsland Basin is the premier petroleum producing region of Australia and a major source of gas. Given these local attributes this conference will have a strong emphasis on the history of gold and coal mining in the region.

The Organising Committee has arranged a pre-conference field trip to Walhalla, where participants will be able to experience the historic ambience of the early gold mining days, and visit the Long Tunnel Extended gold mine. Half-day tours and a post-conference field trip will focus on coal mining, with visits to brown coal areas of the Latrobe Valley, and the historic black coal mines of Wonthaggi-Korumburra. The extensive program of oral and poster presentations will highlight aspects of the regional mining history, but also range across other topics and areas.

Our annual conferences are only possible with the support and hard work of dedicated volunteer members. Ian Scott, Matthew Churchward, Jim and Marge Enever, Johanna and Barry Sykes, Nick and Mike Williams, have been planning and preparing this conference for two years. Their efforts are greatly appreciated. Mel Davies, our indomitable AMHA Secretary-Treasurer, has also played his usual and much appreciated supporting role from Perth headquarters.

The AMHA is keen to engage with the broader community, and we rely on their interest and support to assist our conferences. We are most grateful to Federation University for hosting the conference at their Gippsland Campus in Churchill, and particularly thank Alan Scarlett, Campus Manager/Executive Officer. The Mayor of Latrobe City, Ms Kellie O'Callaghan, has graciously provided use of the Macfarlane Burnett Room, Latrobe City Council Offices, for registration and the Civic reception. We also gratefully acknowledge assistance from Linda Brock (LCC), Peter Synan and Val Walker (Sale Historical Society), Maureen Brown (Sale Memorial Hall Committee), Susie Gumley (Traralgon Tennis Club), Walhalla Board of Management, Old Brown Coal and Coal Creek Museums, and the Jumbunna Hall Committee.

This year we are most fortunate in having Professor Geoffrey Blainey, AMHA Patron, as our Keynote Speaker, and Lt Colonel Bernard Mullholand as Guest Speaker at our public meeting. The 23<sup>rd</sup> AMHA conference promises to be a most informative and enjoyable event.

Ken McQueen



September 2017

Dear Conference Delegates,

Welcome to the Gippsland campus of Federation University Australia. The University is the major dual-sector provider of education in regional Victoria, with campuses at Churchill, Ballarat, and the Wimmera.

It is particularly fitting to host a mining history conference at this University. Both the Churchill and Ballarat campus histories reach back into a rich heritage of technical education for the mining industry and its employees.

The School of Mines at Ballarat, formed in 1870, is one of the oldest in Australia and the first form of post-school education in the region. After various changes in the 1960s and 1970s, the School of Mines was incorporated as part of the University of Ballarat in 1990. Today Federation University, the successor organisation to the University of Ballarat, maintains a campus at the old School of Mines Building in the Ballarat CBD.

The Churchill campus traces its origins back to the Yallourn Technical School from 1928 until its transfer to the Churchill campus site in 1970. After various name changes, including a long period of association with Monash University, the Churchill campus became a part of Federation University in 2014.

Despite numerous administrative changes over the decades, what has remained constant is our commitment to the regions and regional people as well as an appreciation of our past traditions.

I trust you will have a productive and enjoyable conference and hope that you might also find time to enjoy the natural and historic wonders of the Gippsland region.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Helen Bartlett".

Professor Helen Bartlett,  
Vice-Chancellor and President



### **From the Mayor, LaTrobe City Council**

On behalf of Latrobe City Council and our community, it gives me great pleasure to welcome delegates of the 2017 Australasian Mining History Association to Latrobe City.

Following a number of ventures, Latrobe Valley began providing power to Melbourne in 1924, and so commenced the start of a massive power industry that generates nearly 90 per cent of Victoria's power. The discovery of both gold and coal have shaped our history, linked remote settlements in the mountains to the supply towns in the valley, and established links with road, rail, and sea transport. Mining has played a significant role in the development of our towns, providing employment for many generations and greatly contributed to the rich multicultural community that we have today.

The theme for the 2017 Conference, "Mining – From the Mountains to the Sea" is certainly apt. The hillsides around the north of the valley dotted with abandoned mine shafts and relics from the search for gold, while the valley showcases the extensive open cut mines and majestic power stations.

I am sure you will appreciate the mining heritage of Latrobe as well as the progressive, vital city that has evolved. I wish the 2017 AMHA Conference every success and warmly invite you to return to our city.

Cr Kellie O'Callaghan

Mayor

***Bus Transport Schedule: See the mudmap in your satchel for bus pickup and dropoff places and times.***

**Sunday 24<sup>th</sup> September.**

Depart Traralgon Railway Station for Walhalla Tour, **8.30am SHARP**. Warm clothes and sturdy footwear recommended. Bus drop-offs on return from tour.

**Monday 25<sup>th</sup> September.**

Depart Traralgon Railway Station for Federation University, 7.30am, after earlier pickups.

Depart Federation University for Traralgon, 6.30pm, drop-offs as designated.

**Tuesday 26<sup>th</sup> September**

Depart Traralgon Railway Station for Federation University, 8.15am, after earlier pickups.

Depart Federation University for Council Offices, for the Reception, 5.00pm.

**Wednesday 27<sup>th</sup> September.**

Delegates will make their own way to the Traralgon Tennis Centre either for the 9.00 – 10.30 AGM, or to catch the buses which will leave the Centre for the Brown Coal Tour at 11.00am:

Depart Traralgon Tennis Club **11.00am SHARP**.

Return Traralgon Railway Station 5.35pm, drop-offs as designated.

**Thursday 28<sup>th</sup> September.**

Depart Traralgon Railway Station for Federation University, 8.15am, after earlier pickups.

Depart Federation University for Traralgon, 4.30pm. Drop-offs as designated.

**Friday 29<sup>th</sup> September.**

Depart Traralgon Railway Station for Sale Tour, 8.00am, after earlier pickups.

Arrive Powder Magazine 9.15am.

Depart Sale Memorial Hall for Traralgon, 5.30pm.

**Saturday 30<sup>th</sup> September.**

**8.00am**, depart Sykes' (10 Retreat Rd), for those who have dropped off cars for parking over the weekend. Then pickups as scheduled. Final departure **8.30am** from Traralgon Station carpark.

Return to Traralgon Station Sunday 1<sup>st</sup> October, ~4.00pm, drop-offs as scheduled, then on to Sykes' for cars.

***Traralgon Taxis:*** 32 Rocla Road. Phone **03 5174 6339**

# Conference Proceedings

## Monday 25th September 2017

8.00am onwards, Registration

8.50 - 9.00 General announcements, David Kippen.

9.00 - 9.10 Welcome by **Ken McQueen**, President of the AMHA.

9.10- 9.20 Welcome from Federation University, **Professor Leigh Sullivan**, Deputy Vice-Chancellor (Research).

### Introductory Session

Chair: Ken McQueen

9.20 - 10.30 **Keynote Address:** *Mulling over our Past*  
**Professor Geoffrey Blainey, Patron AMHA.**

10.30-11.00 **Morning Tea**

### First Session: Gold and Quartz

Chair: Ross Both

11.00 – 11.30 Geoff Anderson: *Deep Quartz Reef Mining in the Gippsland Mountains in the C19th.*

11.30 -12.00 Matthew Churchward: *“Everything in Good Repair and Equal to Requirements”.*  
*The Engineering Behind Australia’s Greatest Quartz Mine.*

12.00 - 12.30 Jim Enever: *A Story of Cement. The Tangil Gold Field.*

12.30 – 1.30 **Lunch**

### Second Session: Social and Local

Chair: Adrian Hutton

1.30 - 2.00 Gael Shannon: *Repurposing a Mining Ground.*

2.00 - 2.30 Lloyd Carpenter: *From Goldfields Ruin to Pop-Culture Icon: The Cardrona Hotel.*

2.30 - 3.00 Nic Haygarth: *The Saga of Jewelled Nights, or Gender Identity on the Tasmanian Osmiridium Fields.*

3.00 – 3.30 **Afternoon Tea**



## Third Session: Communities and Influence

*Chair:* Greg Dickens

3.30 - 4.00 Anne Both: *Slavery's Contribution to Mining: British Company Mining in the C19th.*

4.00 - 4.30 Leigh McKinnon: *Protesting Protection: Criticism of and Resistance to the Chinese Protectorate System on the Victorian Goldfields.*

4.30 - 5.00 Robin McLachlan: *"Missed Too Many Boats". Australian and New Zealand Klondike Stampede Who Stayed On.*

5.00 - 6.30 **Social get-together** at Federation University, including **evening entertainment (John Warner)**. Please bring your chorus sheets (in your satchels).

7.15 **Advisory Committee Meeting**, Grand Junction Hotel, corner of Franklin St and Princes Highway.

## Tuesday 26<sup>th</sup> September

### Fourth Session: Mining and Culture

*Chair:* Paul Macgregor

9.00 - 9.30am Erik Eklund: *Gold and the Rise of Industrial Mining: International and Regional Case Studies.*

9.30 - 10.00 Duncan Money: *'A Second Arizona': American Mining Engineers and the Development of the Copper Belt, 1926-39.*

10.00 - 10.30 Benjamin Mountford: *The Pacific Gold Rushes and the Struggle for Order.*

10.30 - 11.00 **Morning Tea**

### Fifth Session: Politics and Environment

*Chair:* Matthew Churchward

11.00 - 11.30 Peta Belic: *Mining History Congestion: Australian Mining History Being Compressed Between a Mountain, the Sea and a Neoliberal Reality.*

11.30 - 12.00 Ken McQueen: *Early Gold Discoveries in Australia: Their Influence on Theory and Practice, Particularly in Victoria.*

12.00 - 12.30 Lynnette Peterson: *'There is Nothing New': Mining and the Environment.*

12.30 - 1.30 **Lunch**



## **Sixth Session: Practical Mining Men**

*Chair: David Kippen*

1.30 - 2.00 Peter McCarthy: *Rediscovering Walhalla 1984-1987*.

2.00 - 2.30 Alissa Flatley and Ian D Rutherford: *History of River Diversion Designs within Australian Mining*.

2.30 - 3.00 John Warner: *Gippsland Mining Man*.

3.00 - 3.50 **Afternoon Tea and Poster Session. Four Posters:**

Chris Boron: *Whale Strandings and Seismic Surveys in Tasmanian waters – Is There a Correlation?*

Ross Both: *The Silver-Lead Mines of Glen Osmond, South Australia: Take Your Pick*.

David Kippen: *The Lady of the Swamp: From a Fortune in the Mountains to Poverty Near the Sea*.

Elizabeth McQueen: *The Horrific Results of Accidental Explosions at the Long Tunnel and Long Tunnel Extended Goldmines, Walhalla, Victoria*.

## **Seventh Session: WMC**

*Chair: Mel Davies*

3.50 - 4.30 Gilbert Ralph: *An Illustrated History of Western Mining Corporation (WMC)*.

6.00 – 8.00pm **Council Reception** at LaTrobe City Council Offices, 34-38 Kay Street, Traralgon.

## **Wednesday 27<sup>th</sup> September**

9.00 – 10.30 **AGM** at **Traralgon Tennis Club**, corner Franklin and Davidson Streets, Traralgon.

11.00 - 5.30 Bus tour of **Brown Coal Sites, Lunch at the Old Brown Coal Mine Museum**.

Evening Free, or **Public Lecture**, 7.30 – 9.00pm, **Traralgon Tennis Club**.

**Lt Colonel Bernard Mulholland, ‘General Sir John Monash, Engineer, Soldier and Nation Builder’**. MC Ken McQueen.

## ***Thursday 28<sup>th</sup> September***

### **Eighth Session: Chinese Mining in Victoria and New South Wales**

*Chair:* Brian Hill

9.00 – 9.30 Paul Macgregor, Diann Talbot and Andrew Swift: *Chinese Gold Mining in Northeast Victoria – a C19th Success Story*.

9.30 – 10.00 James Lerk: *On the Tail End – Chinese Mine Tailings on the Bendigo Goldfield*.

10.00 – 10.30 Barry McGowan: *Economics, Organization and Society: Chinese Mining Communities on the Braidwood, Kiandra and Adelong Goldfields of Southern NSW*.

10.30 – 11.00 **Morning Tea**

### **Ninth Session: Social and Family Aspects of Mining.**

*Chair:* Nic Haygarth

11.00 - 11.30 Louise Blake: *Tribute Mining and Family Life on the Upper Goulburn Goldfields, 1870-1880*.

11.30 – 12.00 Lloyd Carpenter: *Living in a Tiny Stone Box: Myths and Miners' Houses*.

12.00 – 12.30 Ross Both: *'It's Lovely Down the Pit My Lad': Songs and Poems from Australian Coalfields*.

12.30 – 1.30 **Lunch**

### **Tenth Session: Aspects of Coal.**

*Chair:* Jim Enever

1.30 - 2.00 Roger Kellaway: *Alfred Selwyn and the Mersey Coalfield 1851-1855*.

2.00 - 2.30 David Kippen: *Mining Sub-Basaltic Brown Coal Around Thorpdale: 1880s to 1960s*.

2.30 - 3.00 Barry Sykes: *Briquettes: An Overview*.

3.00 - 3.30 **Afternoon Tea**

## Eleventh Session

*Chair:* Ken McQueen

3.30 - 4.00 Farewell to **Federation University**. Response from Alan Scarlett.

*6.30 for 7.00 Conference Dinner. Premier Function Centre, 29 Grey Street, Traralgon. Entertainment: 'Coal Valley Male Choir'.*

## *Friday 29<sup>th</sup> September*

08.00 Depart by bus from Traralgon Railway Station for **Sale, and visits to the Port of Sale, the Old Powder Magazine, the Shipping Canal, and the historic Swing Bridge**, designed by John Grainger.

12.30 - 1.30 **Lunch** in Sale Memorial Hall.

## **Twelfth Session: Some Different Stories**

*Chair:* Wendy Carter

1.30 – 2.00 Kal Ellwood: *Aboriginal Miners of Cape York Peninsula 1890 to ca. 1950.*

2.00 - 2.30 Nic Haygarth: *'Magnificent Marble': Quarrying the Ida Bay Karst, Southern Tasmania.*

2.30 - 3.00 Leonie Knapman and Stephen Imrie: *Oil Shale Mining in New South Wales.*

3.00 - 3.30 Geoffrey Randall: *A History of the Blinman Copper Mine 1859-1916.*

3.30 - 5.00 **Farewell Afternoon Tea.** Tidying and re-arranging the hall.

## **Close of Conference**

5.30 Bus departs from Sale Memorial Hall for Traralgon.

Saturday 30/9, Sunday 1/10. Post Conference Tour.

## ABSTRACTS, in order of presentation.

### **Mulling Over Our Past**

Geoffrey N Blainey

Australian historian and academic. Emeritus Professor, University of Melbourne

In this plenary address, Geoffrey Blainey will think about and review the long history of Australian mining. Amongst the topics he will touch on are the importance of the industry to this nation; its unpredictable ride on the roller skates of public opinion; the changing attitudes of historians towards mining; the heroes and villains of the industry; and the valuable role of the AMHA.

## Deep Quartz Reef Mining in the Gippsland Mountains in the 19<sup>th</sup> Century

Geoff Anderson<sup>1</sup>

<sup>1</sup>Mine Manager, Long Tunnel Extended Mine, Walhalla, Victoria, Australia

Work commenced at the Long Tunnel Extended Mine (LTEM) in 1865, following the 1862 discovery of spectacular amounts of alluvial gold in Stringers Creek in what is now Walhalla. LTEM is one of eight similar mines that occupied leases along Cohen's Reef that all commenced operations about the same time, and is typical of the publically listed mines that mined auriferous quartz to significant depths in the mountains of North Gippsland. Contrary to the views of some local historians, these mines were extremely well designed and well managed.

Cohen's Reef, like most auriferous quartz reefs in Victoria, runs in a north-south direction and dips steeply to the West. Prior to the commencement of mining, quartz was visible on the surface for a length of five kilometres, and in LTEM and the neighbouring Long Tunnel Mine, the reef has been mined to a depth of over 950 metres. More than forty tonne of gold was extracted from the reef, with 13.7 tonne coming from LTEM.

The reef was accessed by a 300 metre long adit and a deep vertical blind shaft to the sump depth. Five Cornish boilers were located underground adjacent to the shaft collar and produced steam to power air compressors, pumps, winding gear, and later, electrical generators.

At approximately 30 metre intervals, cross-cuts were constructed from the shaft back to the reef, and drives were constructed along the line of the reef in each direction to the boundary of the lease. Stopping was then commenced above the drives. This paper will elaborate on the stopping process and the way in which the quartz was removed for processing. The gold extraction process consisted of stamper batteries, grinders, amalgamation with mercury and finally, vaporization of the mercury to leave free gold ready to be cast to ingots. The processing plant operated at a recovery efficiency of 90%.

Walhalla will be a venue for a pre-conference tour and visitors will have an opportunity to visit and tour the LTEM. The paper will give a better understanding to Mine visitors as to what happened, and answer the questions of why, and how.

Parallels will be drawn with other quartz mines on the reefs in the Walhalla area and elsewhere in North Gippsland. Peculiarities of the LTEM will be elaborated and reasons for the choosing different approaches in similar mines elsewhere will be discussed.

## **Everything in Good Repair and Equal to Requirements” The Engineering Behind Australia’s Greatest Quartz Mine**

Matthew S. Churchward<sup>1</sup>

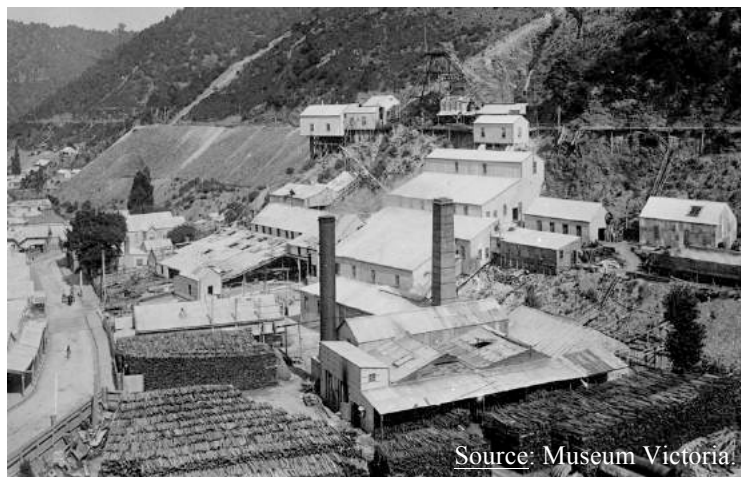
<sup>1</sup>Senior Curator, Engineering & Transport, Humanities Department, Museums Victoria

On 26th March 1908, Victorian Premier Thomas Bent opened the new battery house of the Long Tunnel Gold Mine using a gold key made from the product of the mine. Twelve months later a new 350 horsepower first-motion Corliss-valve winding engine was quietly started without fanfare at the head of the company’s unique incline shaft, completing the final piece in one of Australia’s most expensive and up-to-date quartz mining plants.

Throughout the mine’s 51 year life, the Long Tunnel was a showcase for innovative and progressive engineering, and the quality of the company’s engineering staff played a key role in the mine’s success. For almost two-thirds of this period the company was guided by David Ramsay Thomson, the Scottish-born engineer, who arrived at Stringer’s Creek in October 1867 to take up the position of General Manager. Despite 13 years’ prior experience in Victorian gold mining, Thomson had the wisdom to seek advice and guidance from Henry Rosales, manager of the already fabulously successful Walhalla Gold Mining Company, which held the neighbouring ground. The influence of Rosales, who had worked at Clunes, can be seen in the early arrangement of the Long Tunnel’s crushing plant and pyrites treatment works, including features such as multitubular boilers, Brown & Stanfield’s patent concentrators (1869), Hope’s patent stone breaker (1872), and Munday’s patent buddle (1875). For haulage, the Long Tunnel Co took a unique approach, installing a large pneumatic winding and pumping engine in an underground chamber in the heart of the hillside at the end of their long adit. It would be the first of six winding plants installed by the time the workings reached their final depth of 3,475ft (1,059 m).

In 1874, James Roxburgh McNeill was recruited from Langlands Foundry to work as mechanical engineer for the company. He oversaw a complete renovation of the crushing plant, introduced his own patented inventions and built an air compressor for the first pneumatic rock drills.

Other innovations during the Thomson and McNeill years included nitro-glycerine explosives and electric-fired blasting (1880), electric lighting (1883), the Newberry-Vautin chlorination process (1888), Triumph vanners (1894), and more fuel efficient compound air compressor and battery engines (1898). During the early 1900s, further innovations included high-speed steam engines, electric pumps and generators (1906), while the steam plant was upgraded with water-tube boilers, economisers, superheaters and condensers.



**Figure 1:** ‘A Marvel of Perfection’ Surface Machinery Installations at the Long Tunnel Gold Mine, Walhalla, circa 1909.

Regrettably, within five years of the new quartz mill opening, Victoria’s most famous gold mine had closed and the extensive plant was sold off before the massive 1,250 pound stamps had crushed enough stone to barely wear out their first set of shoes. It is ironic that more money was spent on machinery for mining and extracting the final 150,000 oz of the Long Tunnel’s golden wealth, than were expended producing the first 80% of the mine’s output, and generating the phenomenal returns that saw it achieve immortality in 1886, as the first Australian mine to surpass a million pounds in dividends.

## A Story of Cement: The Tangil Gold Field

Jim Enever

CSIRO, retired

The Tangil Gold Field formed part of the encompassing Russell's Creek Gold Field on the southern slopes of the Great Dividing Range in central Gippsland. Discovered in 1860, the Russell's Creek Gold Field was found by a Government prospecting party formed specifically to search for gold in Gippsland. In this regard it was different from many of the other mountain gold fields nearby that were discovered by individual prospectors coming south across the range. Fig.1 *The waters of Blue Rock Dam now cover the Tangil Gold Field.*



Like the Russell's Creek Gold Field in general, the Tangil Field, located on the lower reaches of the Tangil River, was essentially an alluvial field working the stream gravels. Some relatively productive quartz reefs were worked, but the Tangil Gold Field was most notable for the relatively high proportion of gold won from 'cement'. Cement was the name given to re-worked alluvial gold that had been bound up with detrital material to form a weak re-constituted rock like material. Although not unique to the Tangil Gold Field, the 'cement' of this gold field was particularly rich in patches, prompting the Government geological surveyor R. A. F. Murray to comment;

During the middle sixties the discovery was made of rich gold bearing cement...in the Older Tertiary deposits beneath the basalt on the hill side ... east of the Tangil River, opposite the township. The place was known as the Cement Hills...Some of the cement was very rich, and I remember having seen a hand specimen in which the water-worn gold fragments, up to ¼ ounce in weight, were in almost equal proportion to the accompanying quartz pebbles and sand.<sup>1</sup> The working of the cement required perserverance and innovation, as well as an ounce of luck.

<sup>1</sup> R. A. F. Murray, *The Tanjil or Russell's Creek Gold-Field*, Geological Survey of Victoria, Bulletin No 38, Victorian Government Printer, 1916. P12



## Repurposing a Mining Ground

Gael Shannon

Historian, 25 Stanbridge Street, Daylesford, Victoria, Australia 3460

Close to Daylesford's touristy main street is a walk through a magical reserve where a stream runs through bushland now regrowing on a former gold-mining ground.

In a beautiful setting among hills surrounded by forest, the twin towns of Daylesford and Hepburn Springs in Central Victoria have been the focus of health tourism for more than a hundred years. The district has 97% of Australia's mineral water aquifer.

Alluvial gold had been picked up by John Egan in August 1851 on the banks of a creek now inundated by the creation of Lake Daylesford. Gold seekers scrambled up the streams from there, and the water was soon discoloured through panning, puddling and sluicing.

By 1856, shafts and drives, mullock heaps and huge infrastructure made it possible to go down to the former creek beds, or to intersect the north-south sandstone reefs that might contain quartz reefs that might contain gold. By 1859, 3400 diggers were in the field.

My interest is the Crown Land Reserve intensively mined between 1852 and the 1950s, including the Deep Lead Cornish Mine on the Ajax and Argus Reefs, (some shafts reached a depth of 700') and the Long Tunnel under what became known as Italian Hill.

Mining left the hill denuded of trees, and woody weeds such as gorse, blackberry and broom became established in the disturbed soils. In 1994, the then Victorian Department of Conservation and Natural Resources proposed selling the 47.5 hectare parcel for housing development. A group of concerned residents formed an action plan to clear the fire hazard and to save the patch of urban bush, as both a historic precinct and a reserve for the establishment of the, largely lost, flora and fauna of the Central Highlands. Today the management of Cornish Hill as a crown Land Reserve is responsibility of a Committee of Management.

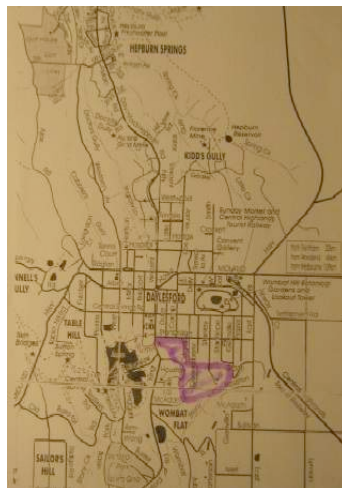


Fig. 1 Map of Daylesford with crown reserve outlined

## From Goldfields Ruin to Pop-Culture Icon: The Cardrona Hotel

Dr. Lloyd Carpenter

Faculty of Environment, Society and Design, Lincoln University, New Zealand

### *Abstract*

The Cardrona Hotel is famous in New Zealand: for Heritage New Zealand, it is the country's most photographed hotel<sup>1</sup>; for television consumers, it is the Speights Beer pub<sup>2</sup>; for Architectural Historians it is a quintessential example of 'false-front' frontier architecture<sup>3</sup>, while for historians, it is a remnant structure in what was once one of the principal mining areas of Otago<sup>4</sup>. I will detail the history of Cardrona field, paralleling the mining history with stories of the hotel and its quixotic owners and the recent use of its image by beer marketers, to reveal how this crumbling structure has emerged in the popular imagination to become a pop-culture icon.



**Figure 1:** The Cardrona Hotel, photographed by L. Carpenter, 2005.

<sup>1</sup> Heather Bauchop, 'Cardrona Hotel False Front', Heritage New Zealand Pouhere Taonga website, available at [www.heritage.org.nz/the-list/details/2239](http://www.heritage.org.nz/the-list/details/2239) accessed 29 March, 2017.

<sup>2</sup> Chris Hutching, 'New Owners for 'Southern Man' pub', *National Business Review* (NZ), February 5, 2013, online edition available at <https://www.nbr.co.nz/article/new-owners-%E2%80%98southern-man-pub-ch-135374> accessed 29 March, 2017.

<sup>3</sup> Claire Findlayson 'A Brave Front', *Heritage New Zealand Magazine*, Winter 2012, pp 6-7.

<sup>4</sup> James McNeish, *Tavern in the Town*, A.W. and A.H. Reed, Wellington, 1957, pp 221-230; F.W.G. Miller, *Golden Days of Lake County*, Otago Centennial Historical Publications, 1949, pp. 184-7; J.H.M. Salmon, *A History of Gold-Mining in New Zealand*, Government Printer, Wellington, 1963, pp.84-7; 117-8.

## The Saga of *Jewelled Nights*, or Gender Identity on the Tasmanian Osmiridium Fields

Nic Haygarth<sup>1</sup>

<sup>1</sup>Associate, School of Humanities, University of Tasmania

By tipping Russia into revolution and civil war, World War One granted Tasmania a world monopoly on ‘point metal’ osmiridium. This naturally occurring alloy of iridium and osmium was used to make the tips of fountain pen nibs. At that time, more than two million fountain pens were being produced per year by brands such as LE Waterman, Parker, Swan and Sheaffer. In October 1919 the price of osmiridium peaked at £42 per ounce, compared with less than £6 per ounce for gold.

The Adams River osmiridium rush of 1925 was underway when the silent movie of Marie Bjelke Petersen’s best-selling romance novel, *Jewelled Nights*, set on the Savage River osmiridium field, was splashed into cinemas. This challenge to Hollywood dominance of Australian cinemas was mounted by Australian-born, ex-Hollywood idol Louise Lovely and her American movie producer husband Wilton Welch. Three hundred thousand Melbournians alone are said to have watched the story of the Melbourne society belle who evades a marriage of inconvenience by posing as a (male) Savage River digger.

While Bjelke Petersen’s storyline and Lovely’s lead performance were both unbelievable, an underlying truth shone through *Jewelled Nights* the book, and possibly also through *Jewelled Nights* the movie. Women did not have to hide their gender to have a place on the mining fields, where there were female diggers, wives, bush nurses and school teachers. Bjelke Petersen, an unmarried woman who lived with a female ‘companion’, knew that the osmiridium fields offered non-conformists like her anonymity of the kind that was impossible in Hobart society. Perhaps this discovery was the true inspiration for *Jewelled Nights*.

**Figure 1:** Tea break, *Jewelled Nights* movie shoot at Jos Hancock’s hut, Flea Flat, Nineteen Mile Creek osmiridium field, Tasmania, 1925. Stars Louise Lovely and Gordon Collingridge are nearest the camera at left. Hobart cameraman Tasman Higgins is at extreme right with his camera and clapper board.



Source: JH Robinson photo, Colin Dennison Collection, University of Tasmania Archives.



Source: Humphries family photo albums.

**Figures 2 and 3:** Trans-gender osmiridium digger Frances Hazel Humphries, pictured as a girl c1905 (left) and as a man (right) c1931, was the subject of rumours that she/he was the inspiration for the story of *Jewelled Nights*.

## Slavery's Contribution to Mining: British Company Mining in 19<sup>th</sup> Century

Anne L Both

Burnside Historical Society SA

Mines are considered to be successful when financial gain is provided to the operators in terms of production tonnage, methodology, or the machinery employed. Often the only attention paid to persons associated with any successful operation is to the mine's owner, the manager, the engineer and sometimes the finder of the deposit being exploited and the ability of the owner to overcome technical difficulties or inhospitable terrain. Almost forgotten are the miners, be they paid workforce or forced labour working in often inhumane working conditions. In spite of the official Abolition of Slavery, it remains a phenomenon in countries such as India and many former African colonies.

This paper examines the use of slave and forced labour with reference to 19<sup>th</sup>C Brazil and Cuba. Past work conditions and its effects can be gleaned from sparse records only. Modern times on the other hand provide eyewitness accounts, diaries and company or government reports as sources for a picture of the slave condition related to mining.

The laws which outlined rights and treatment of slave workers underline attitudes and changes which occurred over centuries. Whilst there was a push from early 19<sup>th</sup> century Abolitionists to end all slavery, be it in agriculture or mining, this was largely ignored in Brazil and Cuba, which unlike other Latin American countries remained as colonies until the latter part of the nineteenth century. In response to increased demand following European industrialization, both countries underwent a resurgence in mineral exploitation under the management of British companies. For many years these companies continued to use as the bulk of their workforce both freed and manumitted slaves, as well as slaves newly imported (some of them illegally). Mines such as the St John d'El Rey Company at Morro Velho (Minas Gerais Brazil) operated with slave labour in contravention of the British-Brazilian Treaty of 1826, until in 1888 the country gained independence from Portugal<sup>1</sup>. And in Cuba the British company Consolidated Copper Mines of Cobre Association at Santiago de Cuba continued to utilise the labour of both former slaves and newly imported "bozales" in contravention of an Anglo Spanish treaty of 1817<sup>2</sup>. Both countries deemed slave labour essential to the development of their economies and continued to be

dependent on a considerable slave population until post-independence, when the non-slave work force could be boosted by immigration mainly from former colonial sources.

<sup>1</sup> Childs, M. D., *Master-Slave Rituals of Power at a gold mine in 19<sup>th</sup>C Brazil*. History Workshop Journal v.53, no.1, 2002, pp.43-72

<sup>2</sup> Roldan de Montaud, I., *The Cuban Copper Cycle in 19<sup>th</sup>C Cuba, 1830-1868*.



## Protesting Protection: Criticism of and Resistance to the Chinese Protectorate System on the Victorian Goldfields

Leigh J. McKinnon<sup>1</sup>

<sup>1</sup>Golden Dragon Museum, 1-11 Bridge Street, Bendigo, Victoria, 3550

In this paper I will be looking at recorded instances of resistance and protest against the Chinese protectorate system on the Victorian goldfields in the late 1850s, as well as letters and petitions of support from non-Chinese residents of the colony. Two years ago at the Darwin AMHA conference, I presented a paper on these themes, which focused on the Bendigo goldfields, but here would like present some of the wider picture of an at times co-ordinated campaign of protest which spread across such goldfields as Bendigo, Beechworth, Castlemaine, and Ballarat. Within this broader setting I will also attempt, where possible, to bring forward some of the individual voices of the Chinese miners involved, as well as that of their European supporters. At the time, the situation faced by the Chinese under the Protectorate and its heavy residence tax drew some comparison with period of digger hunting and unrest preceding the Eureka Rebellion in 1854; likewise this paper will also pay attention to some possible continuities of method and rhetoric between the opposition to the Chinese Protectorate, and the earlier popular movements on the goldfields.

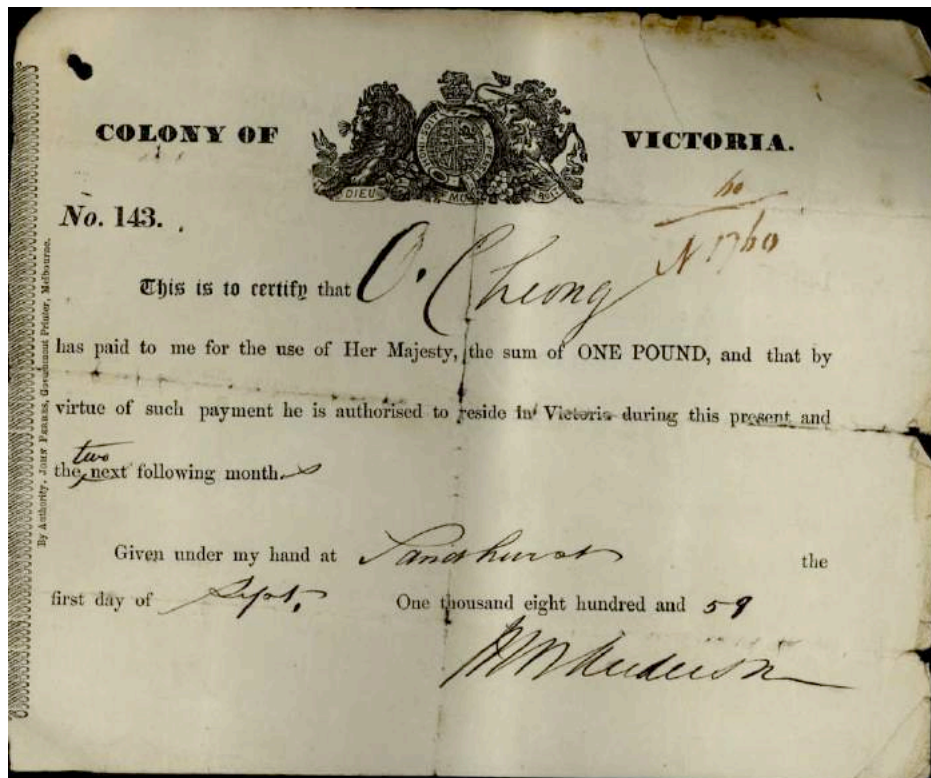


Fig 1.

Residence ticket of Sandhurst (Bendigo) Chinese interpreter O Cheong 柯瑞璋, proof that he had paid the £1 fee which entitled him to stay in Victoria for a further three months. Educated under the British sinologist and missionary Rev. Dr. James Legge, O Cheong was a leading go-between for the Chinese and European communities on the Bendigo goldfields during the Protectorate era.

Ref: NAA: A712, 1860/N1839

## **“Missed too many boats”**

### **Australian and New Zealand Klondike Stampeters Who Stayed On**

Robin McLachlan

School of Humanities and Social Sciences, Charles Sturt University, Bathurst, NSW, 2795, Australia

A boat whistle sounds on Dawson City’s river front. The departure of the last sternwheeler of the year marked a time for decision. What was it to be? To board for the journey “outside”, or stay put for the coming winter, and - perhaps – catch the boat next year? To have “missed too many boats” became a common expression to describe those who chose to stay on year after year, perhaps never to leave the Yukon for home or to go on to new ventures elsewhere.

The majority of Australians and New Zealanders who came in the 1898 Rush, disappointed with the Klondike, were not inclined to stay longer than was necessary, with most leaving within a few months or, if on a claim, perhaps sticking it out until “clean up” in 1899. But there were those, both men and women, who stayed on, missing the last boat year after year. Some ended their days in the north, while others gave it a good few years before finally shifting on to somewhere else, perhaps to Alaska or south to Vancouver or even the Texas oil fields. A handful eventually returned home, in some cases decades later.

Drawing on the biography files of the Klondike Diggers Project, this paper will explore the stories of some of the men and women who stayed on after the rush ended in 1899. Among them: A grumpy prospector from Coonabarabran, and a homesick digger from Tasmania. A prospector who helped pioneer the Westralian goldfields, and another who did the same for dredging on the Klondike. A lawyer from New Zealand and his crack shot wife. A music hall singer and her teenage daughter. A Dawson City auctioneer (sled dogs a specialty) and, nearby, a bathhouse keeper (and nothing else!). A bigamist from Victoria, and a boxer who became a war hero. The antipodean expatriates formed a varied community, collectively offering different reasons for staying on and individually revealing different outcomes from their decision to miss the last boat.

The boat whistle has fallen silent, its sound replaced with that of the churning paddles of the year’s last boat. Next year?

## **Gold and the Rise of Industrial Mining: International and Regional Case Studies**

Erik Eklund<sup>1</sup>

<sup>1</sup> Director, Centre for Gippsland Studies, Federation University Australia

Gold rushes of the modern era produced a lively raucous rush culture that has dominated our representation of gold mining history. In the immediate period after a new find, alluvial gold was the focus for a mixed group of lone miners, sometimes in informal or unofficial combinations.

The rise of industrial mining in the latter half of the nineteenth century involved the formation of joint stock companies, the increasing differentiation of miners, managers and owners, and the application of new, more sophisticated technologies for mining and smelting gold. This paper charts the shift from rush mining to industrial mining on a number of fields, including the Klondike in Canada, the Transvaal in Southern Africa, as well as in Ghana and Fiji.

Given our location in the Gippsland region, the paper will also consider some of the regional goldfields which support the overall contention (such as Walhalla) and other smaller finds (particularly in the East Gippsland area) which never made it to the industrial phase. The ongoing reoccurrence of these smaller short lived alluvial rushes complicates the overall picture, as does the continued importance of what Gavin Hilson has called 'artisanal mining' in developing countries.



## **'A Second Arizona': American mining engineers and the development of the Copperbelt, 1926-39**

Duncan Money<sup>1</sup>

<sup>1</sup>School Postdoctoral Research Fellow, International Studies Group, University of the Free State

Contemporary visitors to the Northern Rhodesian Copperbelt during the interwar years often remarked on the similarities between this part of Africa and other mining regions around the world. Such similarities were deliberate, as American mining engineers, and the international mining companies which employed them, consciously sought to emulate and reproduce ideas and practices from other mining regions.

From the late nineteenth century, copper deposits were usually discovered in areas remote from existing infrastructure, populations or state authority. As these regions were drawn into the mining industry, and incorporated into the world economy, profound similarities emerged. Rich historical material exists detailing the features of individual mines or mining regions, yet there has been virtually no attempt to place these individual studies within a connected or comparative perspective. This paper intends to begin to do so by exploring the connections between the Copperbelt and other mining regions around the world. Through an examination of the international circulation of American mining engineers, it will seek to identify and explain the emergence of similarities on the Copperbelt.

## **The Pacific Gold Rushes and the Struggle for Order**

Benjamin Mountford<sup>5</sup>

<sup>1</sup>David Myers Research Fellow, La Trobe University

Concerns about crime and disorder, and how to manage those challenges, predominate in contemporary official and published accounts of the Pacific gold rushes, and in regional and national historical studies produced since. During the last two decades several comparative and global analyses have begun to map some of connections and distinctions between the struggle for order in the Californian and British colonial contexts.

This paper focuses in on some of the specific historical threads that connected the struggle for order in California and Britain's settler colonies during the 1850s and 1860s. It pays particular attention to the presence of the 'Sydney Ducks' in gold rush San Francisco and their eventual suppression by the city's first Committee of Vigilance. In doing so, it sheds new light on the extent to which Californians' and Britons' anxieties about the potential impact of gold rushes, and their ideas about how they should be managed, were often closely inter-linked.

## Mining History Congestion: Australian Mining History being Compressed between a Mountain, the Sea and a Neoliberal Reality

Peta E. Belic

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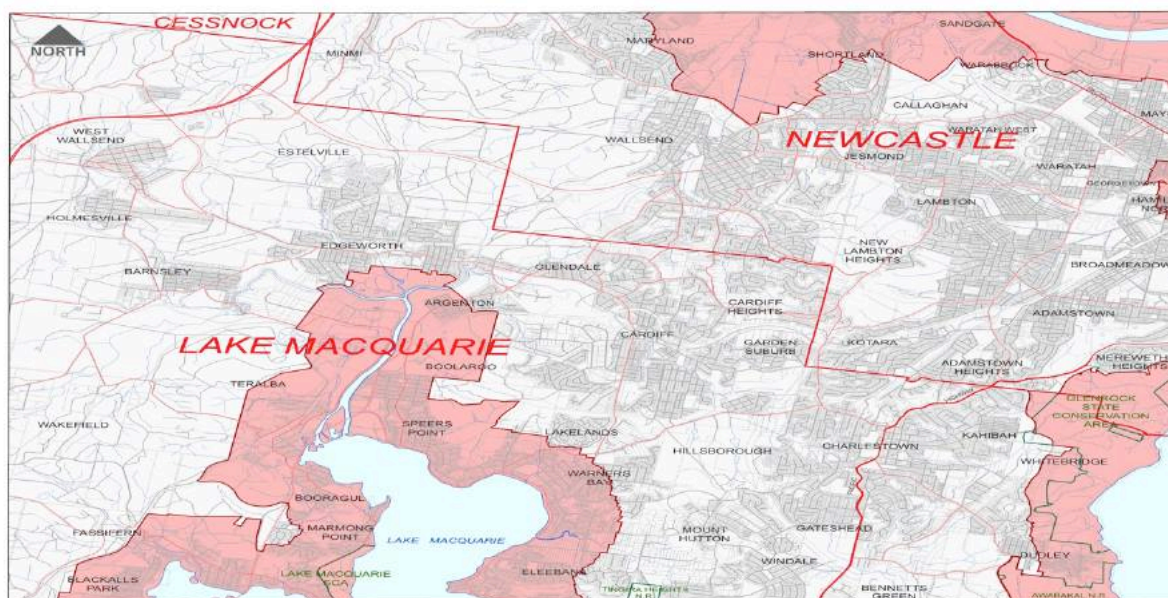
On the New South Wales east coast, between the mountains that guard the Hunter Valley, and the sea, is the city of Newcastle, and immediately below this city is another, the City of Lake Macquarie. Unlike its more famous ‘big brother,’ Lake Macquarie has no actual city centre, and is little more than an administrative zone loosely occupying the usable land around the massive salt water tidal lake that is Lake Macquarie.

This paper will focus on the area north west of this contrived city, as defined by land around the major creek coming off the lake, Cockle Creek, and its various tributaries and creeks (Fig. 1), and limited by the ever looming Mount Sugarloaf. Amongst the sprawling arms of these creeks, the early European history of coal mining in the nation was lived, by workers and their families.

This paper will consider the physical sites of mining recorded since the 1900s in this informal yet locally recognised geographical region. It will discuss the way the evidence of a coal mining past has and is being slowly eroded, and forced into an ever reducing physical zone of importance. This paper will also consider the economic and political implications of modern neoliberalism, and the way these interests are working in opposition to the protection of physical industrial heritage and community attachment to this past.

Finally, the author will consider the physical heritage remaining in this area, and the way historians, social scientists in general, and community groups, can work to protect this heritage and the other sources of history left available to them. The author hopes this study will be a narrative of hope, and a call to action for all historians, in the face of the attempted destruction of our industrial past.

**Figure 1:** Map of Coastal Zones in Newcastle and Lake Macquarie (including Cockle Creek)



Source: NSW Coastal Zones Map 2, <http://www.planning.nsw.gov.au/~media/Files/DPE/Maps/map-coastal-zone-map-2.ashx>

## Early Gold Discoveries in Australia: Their Influence on Theory and Practice, Particularly in Victoria

Ken McQueen

IAE, University of Canberra, ACT, 2601

There were numerous gold discoveries in Australia well before the famous gold rushes initiated by Edward Hargraves in May 1851 at Lewis Ponds Creek, New South Wales. There are vague reports of gold finds by convicts working west of the Blue Mountains after 1814, and in 1820 a Russian expedition found gold in the same area. In 1823 Assistant Surveyor James McBrien reported gold at the Fish River, near Bathurst. Scientific explorers, Jan Lhotsky (1833) and Pawel Strzelecki (1839) found traces of gold, both alluvial and with sulphides, during their travels of SE Australia. The geologist, the Rev. W.B. Clarke, observed gold in 1841, 1843 and 1844, and from 1843-44 the shepherd Hugh McGregor mined small quantities from a quartz reef near Wellington. William T. Smith explored for gold and in 1848 found good specimens in quartz and attempted to claim a reward.<sup>1</sup> At Montacute in South Australia, gold was found in a copper gossan in 1846 and before 1850 there were more than twelve reports of gold in the area of Victoria. These early discoveries lacked evidence of large exploitable deposits and were downplayed by government authorities nervous of disrupting the economic and social *status quo*. In the mid-19<sup>th</sup> century, prominent British geologist Roderick Murchison proposed that gold deposits occur along parallel mountain belts at particular meridians. This theory was based on his observations in the Ural Mountains, and the known distribution of other gold-bearing ranges in Siberia, the Andes and later, the north American Cordillera. In 1844 he inferred the existence of gold in Australia, from comparison of the geology of the eastern highlands, as described by Strzelecki, with the Ural Mountains, and with full knowledge that signs of gold had already been discovered.<sup>2</sup> In Australia, W.B. Clarke developed his own more geometric version of the meridian theory, noting that the eastern Australian highlands were at 90° to the Urals. In 1847 he predicted the occurrence of significant gold, based on this theory, and information on the geology of the Urals combined with his own knowledge of Australian geology and gold occurrences.<sup>3</sup>

These theoretical predictions were overwhelmed when Edward Hargraves, fresh from the California diggings, realised he might be able to spark a gold rush. The numerous diggers attracted would likely find and prove the exploitable gold. Once this had happened, efforts to find more gold were influenced by theory, some of which proved useful, but partly by coincidence. Clarke was commissioned to search by the NSW Government and headed to the high country close to his favourite meridian. As well as a pan he carried a barometer, believing that the best alluvial goldfields would be found at a particular elevation. Too high and the gold would not yet have been released from the eroding mountains; too low it would be eroded away or buried. Clarke also drew on his geological knowledge to provide practical hints to the thousands of prospecting gold diggers. Theory predicted that reef gold, thought to form near-surface by sublimation of emissions near the atmosphere, would not persist to depth and Murchison even claimed that reef gold would not pay. It took the efforts of practical miners, particularly on the reef mines of Victoria, to disprove this theory. There was theoretical debate over the best gold 'country' of slate vs granite and fanciful ideas on the origin of deep leads. Practical observations and new discoveries ultimately forced much revision of theory.

<sup>1</sup> K. Windle, E. Govor, A. Massov, *From St Petersburg to Port Jackson*, Australian Scholarly Publishing, Melbourne, 2016, p. 28; L. R. Silver, *A Fools Gold*, Jacaranda Press, Milton, Qld., 1986, 170 pp.

<sup>2</sup> R. A. Stafford, In: *Australian Science in the Making*: Cambridge University Press, 1990, pp. 69-99.

<sup>3</sup> W.B. Clarke, 'Geology – Comparison of Russia and Australia', *Sydney Morning Herald*, 28 September 1847, p. 2. W. B. Clarke, 'Gold', *ibid.*, 29 May 1851, p. 2.

## **‘There is Nothing New: Mining and the Environment**

Lynnette Peterson<sup>1</sup>

<sup>1</sup>School of Geography, University of Melbourne, Australia

‘What has been will be again, what has been done will be done again, there is nothing new under the sun’. Ecclesiastes 1:9<sup>1</sup>

Humans have long accepted, valued, and used the resources nature has provided. Plants and animals provide shelter, clothing and food, and resources mined from the earth itself provide the means of enhancing life. Over many, many millennia the use of resources such as ochres, minerals and metals has enabled humans to change gradually from the subsistence, nomadic lifestyle of the earliest peoples to the sophistication of civilization as we know it today.

As this journey has progressed, so has the need for, and use of, these resources increased dramatically. Today, very few of Earth’s human inhabitants are free from some dependence on these resources.

In this paper, I’ll be discussing some of the ideas and attitudes about Nature and the resources she provides, from the benefits to humankind of using them, to the perceived and actual ‘cost’ to the environment of doing so. Many of these ideas and attitudes have varied little over time.

<sup>1</sup><http://biblehub.com/niv/ecclesiastes/1.htm>

## Rediscovering Walhalla 1984-1987

Peter L McCarthy<sup>1</sup>

<sup>1</sup>Retired mining engineer, 1 McRae St Elphinstone 3448

Intensive underground exploration in the period 1984 to 1987 at Walhalla, Victoria resulted in the estimation of an Inferred Resource of 550,000 tonnes at 5.1 g/t of gold. This was considered sub-economic. Looking back, the more important outcome was the examination of many underground areas that had been closed and mostly flooded since the mines closed around 1910.

Previous mining at Walhalla had occurred in five phases from 1870:

- Small scale open cut mining of outcrop on the hill slopes.
- Driving of adits to the orebody at Tram Track level with overhand stoping to breakthrough. Tram track level was the level of the original timber tramways which serviced the mines.
- Driving of adits at creek level with stoping to Tram Track level.
- Driving of adits at creek level and excavation of chambers containing pumping and winding equipment to allow sinking of vertical shafts.
- After 1902, sinking of an inclined shaft at minus 49 degrees to a depth of 1100 metres.

The author was consulting engineer and occasional mine manager for the project, which was owned by Walhalla Resources (later Walhalla Mining). The workforce varied from 12 to 35 miners, depending on the phase of work. Access was gained through three adits at Tram Track level, two adits at creek level, and the Long Tunnel Extended adit which is still open as a tourist mine. Access from creek level was difficult, as extensive mullock heaps had covered the portals from above, requiring careful surveying before spiling in through the mullock to find the portals in solid ground.

Discoveries included the remains of a double-spool flat rope winder, shaft cages, a pump bob, boiler brickwork, Cornish pitwork and lower balance bob, brick-lined smoke flue, adits, crosscuts and drives. The Inclined Shaft was recovered to a depth of 288 metres, or 382 metres down the incline. About 1600 metres of old development was refurbished using small bobcat loaders. Finds that were removed were donated to the Long Tunnel Extended tourist operators.

Following the exploration phase, accesses were mostly closed for safety reasons, and the collar of the inclined shafts was blasted down and buried on orders of the Department of Minerals and Energy. Some exploration has continued in the decades since, though without further development into old mining areas.

## History of River Diversion Designs within Australian Mining

Alissa J. Flatley<sup>1</sup> and Ian D. Rutherford<sup>1</sup>

<sup>1</sup>School of Geography, University of Melbourne, Parkville, 3010

Water use and mining operations often have a distinct connection. Alluvial mining practices utilise water in a wide variety of ways, and both the retrieval and removal of water was often undertaken within historic mining practices. Early river diversions were created to drain creeks in order to gain access to precious river beds, and water was also required by alluvial gold miners, with complex water networks being created to divert water towards mining claims for methods such as ground sluicing, (Figure.1) hydraulic sluicing and racing construction.<sup>1</sup>



**Figure 1:** Ground sluicing at a mine site.<sup>2</sup>

The success of mining operations relied heavily on the effective use of river diversion techniques and seasonal water supply. Colonial Victoria was home to some of the most complex river diversion networks throughout history, although most river diversions would have been local, small-scale and predominantly unrecorded.<sup>3</sup>

River diversions are just one of many mining activities that leave a very visible scar on the landscape, and modern mining river diversions typically concentrate on the removal of water from the mining site. This presentation offers an examination of historic water uses throughout mining within Australia, and explores the role that historic diversion construction has within more contemporary diversion designs.

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<sup>1</sup> Davies, P., Lawrence, S., and Turnbull, J., 2015. Historical maps, geographic information systems (GIS) and complex mining landscapes on the Victorian goldfields. *Provenance: The Journal of Public Record Office Victoria*, issue no. 14.

<sup>2</sup> Brough Smyth, R., 1980. *The Goldfields and Mineral Districts of Victoria*, Reprint of the original 1869 ed. (Melbourne: Queensberry Press, 1980). pp.127-128.

<sup>3</sup> Cosgrove, D., 1990. An elemental division: water control and engineered landscape. In: Cosgrove, D., Petts, G., (eds) *Water, engineering and landscape*. Belhaven Press, London, pp.1-11.

## Gippsland Mining Man

John Warner

Singer-songwriter and Historian

*Pithead in the fern* is a collection of songs that grew out of my work as a volunteer at Coal Creek in the 1990s. I acknowledge the significant role Margaret Walters played in the writing and editing of these songs as well as the shaping of the tunes in the folk idioms.

My thesis is that in South Gippsland, coal mining was intended to supply fuel for steam locomotives. Electrical power came later, so coal's first function was to fuel the locomotives which opened up South Gippsland to rural and industrial development.

Coal Creek Historical Village attempted to reflect the sort of community the miners would have known. Working there, reading some of the local history, and speaking to locals such as Brian Blake, editor of the Sentinel Times, whose father was a miner at Coal Creek, gave me some great material for songs.

I am a singer-songwriter more than a historian, so while the history and the technology fascinate me, ultimately I tell these stories in song and occasionally verse.

Danny Spooner demonstrated what a powerful vehicle song was for the mining workers of Britain, America and Australia. I have tried to write my own songs in this tradition, by catching the intangibles of dialect, technical language and the moods of weather and landscape.

Mine, then, will not be a technical paper, but a broad, impressionistic work in which the miners, railway workers and ancillary folk of many types are portrayed in their shaping of South Gippsland from the mountains to the sea.

Coal, of course is controversial these days, and I have complex feelings about it as an environmentalist but also one who recognises what a mighty history the age of coal has given us.

Finally, my aim is to excite you to celebrate the story of Gippsland mining. These are songs with choruses and that is deliberate since we who sing commemorate anew those who shaped our world through their effort and struggle.



## **Four Posters**

### **Whale Strandings and Seismic Surveys in Tasmanian Waters – Is there a Correlation?**

Chris Boron

Retired Petroleum Registrar for Mineral Resources Tasmania and Historian

Hobart, Tasmania

The search for offshore hydrocarbons in Tasmanian administered waters began on 11 April 1960, with the awarding of Tasmanian Exploration Licence 1/1960 to the Broken Hill Proprietary Company Ltd, (BHP). The Licence covered the entire Bass and portions of the Gippsland, Otway and Sorell Basins, so encompassed most of central Bass Strait.

Each State and Territory administered its waters jointly with the Commonwealth up until 1 January 2012, when the National Offshore Petroleum Titles Administrator (NOPTA) and the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) commenced operations and title responsibility, from offices located in Perth and Melbourne.

Tasmania no longer plays a role in administering petroleum titles in Tasmanian offshore waters.

About 80% of Australia's cetacean (whale) strandings, up until 2012, occurred in Tasmania, where on average there was a single or mass stranding (three or more) every 12 days.

Since the early 1960s, offshore seismic surveys have been periodically undertaken in Tasmanian waters to explore for oil and gas. A total of 126 surveys had been undertaken or planned for completion up until 2012, which was the analysis period. Each survey lasted from a few days to 1-2 months. The timing of these surveys was compared with those of major strandings.

Seismic surveys use an acoustic signal generated by compressed air, not explosives. The seismic signal decays rapidly with distance – with ambient levels considered to be 80-120db, depending on sea state. The sound level gets down to ambient levels at about 10-20 kilometres from the seismic vessel.

As a precautionary measure, seismic vessels operating in Tasmanian waters were required to keep a lookout for whales and cease seismic operations if whales approached within two kilometres.

Industry had adopted a procedure of soft-start ramp-up of air guns (gradually increasing the sound as operations started) to reduce impact on all marine mammals by giving a gentle progressive warning and reducing the chance of startling them.

Timing seismic surveys to avoid peak whale migration periods was also a key mitigation and precautionary principle adopted by Tasmanian environmental regulators.

The data analysed shows no direct correlation between any whale stranding and a seismic survey in Tasmanian waters. Strandings have been occurring long before the introduction of offshore seismic surveys.

Strandings may occur during future surveys, but a lack of past correlation suggests such strandings would be coincidental.

## The Silver-Lead Mines of Glen Osmond, South Australia: Take your Pick

Ross A. Both

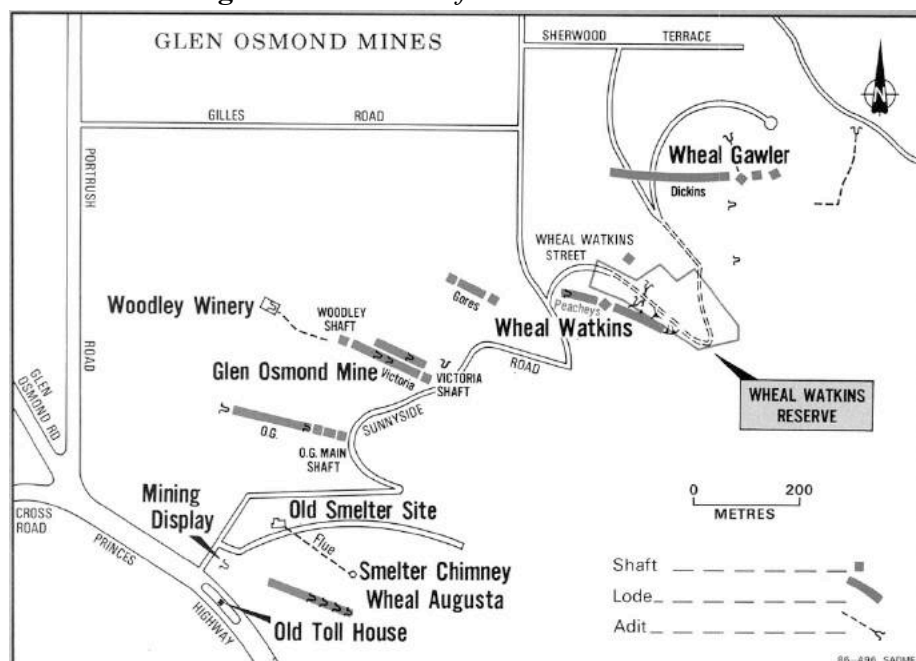
23 Windsor Street, Fullarton, South Australia 5063

The silver-lead mines at Glen Osmond, located in south-eastern suburban Adelaide (Fig. 1), are of national historical significance, being recognised as Australia's first metalliferous mines.<sup>4</sup> They were worked in the 1840s and again briefly in the late 1880s to early 1890s. Their discovery came at a critical time in the history of South Australia, as the colony was in desperate financial circumstances. Although the mines failed to justify their early promise they attracted the interest of Cornish miners, and created the impetus for further mineral exploration. This was the start of Australia's first mining boom, with major discoveries of copper at Kapunda in 1842 and Burra in 1845.

In 1960 two young men, Richard Wright and Michael Bosworth, found a miner's pick while exploring the Glen Osmond Mine (Fig. 1), which had last been worked in 1892. They recently donated the pick to the Burnside Historical Society, and it was decided to prepare an exhibit featuring the pick in the Burnside Community Centre, as a means of increasing public awareness of the significance of these historic mines.

The pick is similar to a typical Cornish miner's pick, the main difference being that one end is "chisel-shaped" rather than pointed. It is likely that the pick was made locally with the design adapted to suit mining in the slate rocks that host the Glen Osmond mines, whereas the majority of the mines in Cornwall occur in granite.

**Figure 1: Location of Glen Osmond Mines.**



Source: Both and Drew, 2008.

<sup>1</sup> Ross A. Both and Greg J. Drew, 'The Glen Osmond silver-lead mines, South Australia: Australia's first metalliferous mines', *Journal of Australasian Mining History*, vol. 6, 2008, pp. 21-45.

## The Lady Of The Swamp:

### From A Fortune In The Mountains To Poverty Near The Sea.

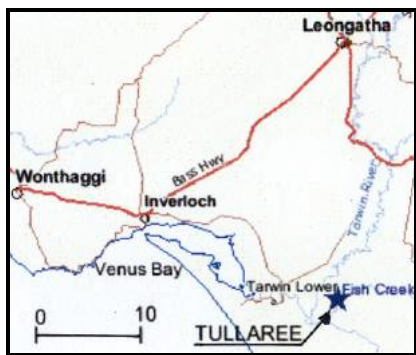
David V. Kippen.<sup>1</sup>

<sup>1</sup>Member Australasian Mining History Association.

**Introduction:** This poster tells a Gippsland mining history story with a difference. Margaret and Jeanie Clement, born into wealth created by the Walhalla goldmines in North Gippsland, ended their days poverty stricken in a decaying mansion in the midst of swampland near the Tarwin River in South Gippsland. Margaret's disappearance in May 1951 has spawned many theories ranging from murder or kidnapping, to her falling into the river and being washed out to sea,<sup>1</sup> or did she simply die and her body sink in the swamp? Sixtysix years later the mystery remains.

**A Wealthy Family:** Their father, Peter, came to Victoria seeking gold. Failing to strike it rich in Ballarat, he moved to Walhalla and began delivering groceries by packhorse. He went on to make a fortune from mining shares, principally in the Long Tunnel mine in which he was a director for many years.

Peter Clement married Jane Thomson at Walhalla in 1876. Their four daughters and two sons



were: Flora 1877, Jeannie (No record on BDM Website) 1878, Margaret 1881, William 1883, Peter 1885 and Anna (Annie) 1890.<sup>2</sup> Margaret and Jeannie used their share of their father's estate to purchase *Tullaree*, a large prosperous grazing property on rich reclaimed swamp land near Buffalo in South Gippsland. With an entourage of servants, they were social leaders,<sup>3</sup> and the property prospered while their brother Peter managed it, but he married in 1912 and moved to South Yarra.

**Descent into Poverty:** The sisters were society belles, not farmers or business women. Dishonest or incompetent managers, combined with their continued extravagant lifestyle, put them in debt. "Word got out that the Clement sisters were ripe for the picking."<sup>4</sup>

The drains silted up, the swamp returned and, surrounded by water, Tullaree fell derelict. Margaret and Jeanie's life sank into squalor but they refused to leave the decaying mansion. For years Margaret waded out through water up to waist deep and walked 11 km to Buffalo for supplies.<sup>4</sup>

**The End?** Jeannie died in 1950 and seventy year old Margaret, who then lived alone, disappeared in May 1952. Despite an extensive search "The Lady of the Swamp", as she was dubbed by the press, has never been found. Foul play was strongly suspected but no one has ever been charged.

The police file is still open but inactive.

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<sup>1</sup> Argus Melbourne, Vic., Friday 20 February 1953, page 8

<sup>2</sup> Victorian Register of Births, Deaths and Marriages Records accessed on line.

<sup>3</sup> Richard Shears, *Swamp: Who Murdered Margaret Clement?* New Holland Press, 2008, Reprinted 2017.

<sup>4</sup> Ibid

<sup>5</sup> Sunday Herald, Sydney, NSW, Sunday 1 June 1952, page 1

## **The Horrific Results of Accidental Explosions at the Long Tunnel and Long Tunnel Extended Goldmines, Walhalla, Victoria**

Elizabeth McQueen

1 Sherwin Place, Melba, ACT, 2615

Mining was, and still is, one of the most hazardous of occupations. Miners can be killed or injured by a plethora of causes and events including rock falls, premature explosions, falling down openings, crushing by heavy machinery, underground fires, underground flooding, asphyxiation, and poisonous gas and dust inhalation. Many mining histories focus on the success and wealth generated by particular mines, but rarely is attention paid to the human cost. The Long Tunnel and Long Tunnel Extended mines at Walhalla were two of the more successful gold mines in Victoria producing 25.3t and 13.7t of gold respectively.<sup>1</sup> However, these mines were also the scene of horrific accidents. Several examples related to blasting are described.

On the 2<sup>nd</sup> November 1886, Walter Kelly, Frederick Cornish, John Penrose and A. Simpson began their morning shift in the main shaft of the Long Tunnel Extended mine. After descending the shaft they started boring two holes and had only bored a short distance when there was an explosion. Cornish was killed instantly and Kelly, who was seriously injured with both legs and an arm broken, died the same afternoon. A report by the mine manager, Mr Parker, to the district inspector of mines suggested that the explosion must have been of a misfired shot from the previous shift, triggered by the concussion of the hammer on the drill. Cornish left a wife and four children residing in Devonshire. Kelly, who had worked at the mine for nearly two years, was the sole supporter of a widowed mother.<sup>2</sup>

Near midnight on Thursday 9<sup>th</sup> November 1905, Thomas Rutter was working with mate Edward Sparke, clearing a choked pass in the No. 20 level, north block of the Long Tunnel Extended mine. They had driven a pipe into the rubble and inserted a charge of dynamite, which they intended exploding with a primer and long fuse. Rutter told his mate to go down the adjacent travelling way while he fired the charge. Sparke had not gone far when he heard a hissing sound and immediate explosion. He called out 'are you all right Tom' and Rutter replied 'I am coming down, but I am done for'. With Sparke's help he managed to climb down 50 feet of ladders and was taken to the surface. On inspection, Dr Allester found the injured man's bowels protruding through a hole in the stomach, a large piece of flesh blown out of one thigh and another piece out of an arm, the shoulder cut and body badly bruised. Rutter remained conscious, sending for a JP to make out his will in his wife's favour. He died at 2 pm the following day. It was thought that Rutter, who was very short sighted, may have put a candle near the primer and fuse or that some burning material had fallen down the pipe on top of the charge.<sup>3</sup>

On the 16<sup>th</sup> June 1908, there was an explosion in the incline shaft of the Long Tunnel mine. A hole from a previous misfire was mistakenly being cleaned out when the remaining charge exploded. James Kerr had one of his hands almost blown off and received horrible wounds to the abdomen, arm and face, losing one eye. His left arm and right hand had to be amputated. He died the next evening. Kerr, a single man, had only worked at the mine for two shifts and was filling in for a sick man. Four other miners were also injured, one with a minor wound from a splinter of bone from one of his two badly injured mates.<sup>4</sup>

<sup>1</sup>Rudi Paoletti, *The Long Tunnel Extended Gold Mine*, Paoletti's Maps and Videos, Langwarrin, Victoria, 24 pp;

<sup>2</sup>'Fatal Explosion in a Mine – Two Men Killed', *Riverine Herald*, 4 November 1886, p. 2; 'Mining Accident at Walhalla', *Traralgon Record*, 5 November 1886, p. 2.

<sup>3</sup>'A miner Killed – Terribly Injured by an Explosion', *The Age*, 11 November 1905, p. 12.

<sup>4</sup>'Five Miners Injured', *Morwell Advertiser*, 19 June 1908, p. 2.

## **An Illustrated History of Western Mining Corporation (WMC)**

Gilbert Ralph, MBE, OAM

In this presentation, Gilbert provides an illustrated account of the history of WMC from its foundation in 1933, introducing some of the main characters behind its success, including, among others, W.S. Robinson, Sir Colin Fraser, Sir Arvi Parbo, and Hugh Morgan. He also outlines some of WMC's major discoveries and acquisitions (and failures), that included ventures into aluminium, talc, iron ore, nickel, mineral sands, petroleum, natural gas, phosphate, lead-zinc, copper, uranium, silver and of course, gold. At nearly 25,000,000 ounces, it produced more gold than any other company in Australia. Its most remarkable discovery, however, in 1975, was of the huge multi-mineral deposit, overlain by 350 metres of sediments, at Olympic Dam in South Australia. Production of copper, uranium, gold and silver at Olympic Dam began in 1988. Geographically, the company's activities have involved not only Western Australia, but all other states in Australia (except Tasmania) and overseas in Brazil, Canada, Chile, the USA, Malaysia, and New Zealand. The story came to an end in June 2005 when WMC was taken over by BHP Billiton.



Sir Arvi Parbo



Sir Lindesay Clark

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## Chinese Goldmining in Northeast Victoria - a 19<sup>th</sup> Century Success Story

Paul Macgregor, Diann Talbot, Andrew Swift

Historians, The Uncovered Past Institute

In 1868, Reverend William Young's report to the Victorian parliament stated that there were 7,000 Chinese in the Ovens Mining District, in northeast Victoria, a much greater number than Bendigo (4,500) or Ballarat (3,100).<sup>1</sup> Yet this scale of Chinese gold mining endeavor - the largest Chinese mining enterprise in southern Australia in the 19<sup>th</sup> century - is now barely recognised in the histories of the northeast, nor indeed, in general gold mining histories. In most earlier histories, the Chinese are barely mentioned. Even a more recent book, Brian Lloyd's *Gold in the North-East* (2006)<sup>2</sup>, provides minimal attention to the Chinese, although he reports that they were a large minority. In those books which do offer at least a chapter on the Chinese, such as Carole Woods' *Beechworth: A Titan's Field* (1985)<sup>3</sup>, the focus has been mostly on riots and race relations. More recent histories such as Vivienne McWaters' *Beechworth's Little Canton* (2002),<sup>4</sup> Diann Talbot's *The Buckland Goldfield* (2004),<sup>5</sup> and Barry McGowan's *Tracking the Dragon* (2015),<sup>6</sup> have begun to bring greater attention on the Chinese of the northeast, however the focus has remained largely on race relations and social life.

This paper will attempt an overview of Chinese gold mining in the region, as a *mining* history. From the 1850s to the 1880s, Chinese were a major part of gold mining in the region. The key locations of Chinese mining were in Beechworth and surroundings (Spring Creek, Stanley, Woolshed, Three Mile Creek and Six Mile Creek), the upper Ovens Valley (from Bright to Harrietville), the Buckland Valley (where Chinese actually returned after the 1857 riot), Yackandandah, Mitta Mitta, Omeo, and Chiltern/Indigo.

As in much of Victoria, Chinese diggers continued to work as alluvial miners after the drought of 1864/65, whereas many Europeans either left mining, left Victoria, or transferred to underground workings. The Chinese practice of working favoured alluvial methods, particularly a systematic approach to large-scale ground sluicing. They worked in organized cooperative teams of 10-20 miners, using an efficient division of labour. They kept the cost of labour low by growing their own vegetables, buying imported Chinese foodstuffs on a wholesale basis, and operating communal kitchens. Hence they could make alluvial workings pay where Europeans would give up. This paper will argue that the northeast suited Chinese alluvial mining better than did other parts of Victoria, due to the greater level of annual rainfall in the region, plus the run-off from the spring snow melt, both providing greater surety of water supply over a longer period each year.

<sup>1</sup> Rev. William Young, 'Report on the condition of the Chinese population in Victoria, presented to both Houses of Parliament', Victoria, 1868; reprinted in IF McLaren, *The Chinese in Victoria: official reports & documents*, Red Rooster Press, Melbourne, 1985, pp. 49-58.

<sup>2</sup> Brian Lloyd, *Gold in the North-East: A history of mining for gold in the old Beechworth Mining District of Victoria*, Histec Publications, Brighton, Vic, 2006.

<sup>3</sup> Carole Woods, *Beechworth: A Titan's Field*, The United Shire of Beechworth in conjunction with Hargreen Publishing Company, North Melbourne, Vic, 1985.

<sup>4</sup> Vivienne McWaters, *Beechworth's Little Canton*, self-published, Beechworth, 2002.

<sup>5</sup> Diann Talbot, *The Buckland Valley Goldfield*, self-published, Victoria, 2004.

<sup>6</sup> Barry McGowan, *Tracking the Dragon: Thematic History of the Chinese people in the Rutherglen/Wahgunyah region of the Indigo Shire, Victoria: A report to the Rutherglen Historical Society and the Wahgunyah History Group*, published by the author, 2015.

## On The Tail End; Chinese Working Mine Tailings on the Bendigo Goldfield

James A Lerk

Local Historian Bendigo.



Chinese-created tailings heaps in Long Gully/Sparrowhawk area.

Photograph: Allan Doney ; Circa 1953

Bendigo, Victoria is Eastern Australia's richest goldfield. When the news of its wealth reached Southern China it resulted in a significant number of Chinese coming to this goldfield. Almost from the outset the Chinese were not welcomed. Culturally and linguistically they were so different from the Caucasians that they were considered to be a threat to the livelihood of those diggers already established. The Chinese rapidly went on to the treatment of the alluvial tailings left behind by the Caucasians who were far more roughshod in their management of alluvial material.

A plethora of restrictive legislation was introduced by the Victorian Colonial Parliament, under pressure from the majority of the population who were the diggers and these laws made it increasingly difficult for the immigrant Chinese to do any work other than that rejected by the Caucasians. As they were forced to do work that no others would undertake, the Chinese were at the tail end of the processing chain, mainly involved in re-treating alluvial tailings and sludge. With the advent of quartz reef mining beginning in 1853 and this becoming the primary source of winning gold over the next decade, the Chinese then began to take an interest in the crushed quartz tailings as well.

This paper will examine the roles of a number of Chinese in the processing and stacking of the battery tailings. It will discuss their social and financial situations and their relationships with the mining community and the mining companies, for whom their work was essential to prevent sludge and slime from inundating watercourses and eventually making its way to the major rivers and ultimately to the sea. Part of the working life of one tailings operator, Tac Yow, will be examined as closely as the available documentation allows. In fact, very little documentation exists in relation to the Chinese working the tailings. Most of the information is drawn from local newspapers which generally helped to reinforce the negative aspects of the way in which the Chinese and what they did was perceived and portrayed.



## **Economics, Organisation, and Society. Chinese Mining Communities on the Braidwood, Kiandra and Adelong Goldfields of Southern NSW**

Barry McGowan

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The economics, organisation and society of the Chinese miners on the Braidwood, Adelong and Kiandra goldfields in Southern NSW make a fascinating story. However, several stereotypes need to be challenged, in particular that the Chinese miners were an amorphous mass, who worked mainly abandoned ground and tailings, and were rarely seen on new rushes. Also challenged is the assertion by many historians, that most goldfields were hotbeds of racism and violence.<sup>1</sup>

Many Chinese miners clearly lived and worked under a strong paternal framework, such as the secret societies (*hui*), *kongsis* or district associations. This mode of organisation was critical to their success as miners, and is in part a reason for the benign state of race relations on all three goldfields. The Chinese miners were the European miners' market, buying the latter's claims for a good price and allowing them to exit their claims profitably, and sooner than would otherwise have been the case.<sup>2</sup>

I also argue that the proximity of the European and Chinese claims and villages, and the familiarity, one race with the other, also helped foster good race relations. The over-arching control of the fraternal organisations also helped, though there were some exceptions.<sup>3</sup>

With the decline of alluvial mining, more and more Chinese miners moved into the European villages and towns, some still fossicking, but most working as market gardeners and in other occupations. The economic and social success of miners such as Quong Tart helped pave the way for this process. The fraternal organisations and loyalties were soon abandoned for the newer attractions of family, church and other organisations and activities.<sup>4</sup>

It is a little-told success story, devoid of the dramas and confrontations that occurred at Lambing flat and the Buckland.

<sup>1</sup> Geoffrey Serle, *The Golden Age. A History of the Colony of Victoria, 1851-1861*, Melbourne University Press, Melbourne, 1963, pp. 320-335; Kathryn Cronin, *Colonial Casualties. Chinese in Early Victoria*, Melbourne University Press, Melbourne, 1977, pp.41-62.

<sup>2</sup> Barry McGowan, 'From Fraternities to Families. The Evolution of Chinese Life in the Braidwood District of New South Wales (NSW)', *Chinese Southern Diaspora Studies*, Volume Two, 2008, pp.4-33; *Sydney Morning Herald*, 11 May 1861; Barry McGowan, *Dust and Dreams. Mining communities in South-East New South Wales*, UNSW Press, 2010, pp.29-33, Barry McGowan, *Tracking the Dragon. A History of the Chinese in the Riverina*, Migration Heritage Centre New South Wales, Sydney, Powerhouse Museum, Sydney, Museum of the Riverina, Wagga Wagga, 2010, pp.7-10

<sup>3</sup> McGowan, *Dust and Dreams*, pp.122-127; McGowan, 'From Fraternities to Families', pp.4-33.

<sup>4</sup> McGowan, *Dust and Dreams*, pp.235-243, 249-251; McGowan, 'From Fraternities to Families', pp.4-33; Lindsay Smith, 'Cold Hard Cash. A Study of Chinese Ethnicity & Archaeology at Kiandra, New South Wales', MA, ANU, 1998, pp.48-55.

## **Tribute Mining and Family Life on the Upper Goulburn Goldfields, 1870-1880**

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Recent goldfield scholarship has shown that drawing on a range of archival records, material culture, and personal correspondence to weave the stories of individuals, families and networks into an analysis of goldfield communities can illuminate broader themes associated with the global phenomenon of the nineteenth century gold rushes.<sup>1</sup> The extent to which we can weave together the intimate connections between individuals and family networks depends upon the richness and availability of our sources.

In letters that miner Lawrence Chubb wrote to his family in England in the 1860s and 70s we have a rare qualitative source on Gaffneys Creek, a remote mining settlement in north-east Victoria, during the period of tribute mining on the Upper Goulburn goldfields.<sup>2</sup> In his letters Lawrence details the ordinary intimacies of family life, swaps news and gossip on family, friends and mutual acquaintances, and provides an account of his mixed fortunes as a tribute miner. Lawrence's wife, Esther is not invisible in this correspondence, but her experiences and activities are inevitably framed by his class and gendered expectations of marriage and family life.

In this paper I discuss how I'm using these letters to uncover the experiences of mining families in this period of tribute mining on the Upper Goulburn goldfields, which forms part of my doctoral research on women on the Upper Goulburn goldfields. Were Lawrence's mixed fortunes as a tribute miner indicative of mining activity generally in this period, and did he and Esther's experiences of marriage and family life on the goldfields reflect that of other mining families? To what extent are the stories we tell about this period of mining activity influenced by the kind of sources we have access to?

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<sup>1</sup> Charles Fahey and Alan Mayne, eds, *Gold Tailings: Forgotten Histories of Family and Community on the Central Victorian Goldfields*. Australian Scholarly Publishing, Melbourne, 2010.

<sup>2</sup> Letters of Lawrence Chubb from the Victorian goldfields: manuscript, 1864-1883, Manuscript Collection, State Library of Victoria.

## Living in a Tiny Stone Box: Myths and Miners' Houses

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The architectural heritage of the Central Otago gold rush is celebrated in iconic structures like the Cardrona Hotel and assorted commercial buildings relocated to Old Cromwell town, but the hundreds of stone cottage ruins scattered across the province receive little attention. Visitors to the historic reserves throughout Otago gaze with wonder at tiny roofless stone or mud-brick hut ruins, wondering at how people lived in such cramped spaces.

Examination of photographs and archaeology suggests that in most cases, they didn't. I will discuss the true nature of miners' housing, tracing evolution of housing from canvas to stone, then iron and brick. I will show that, far from a cramped, miserable existence, the occupiers of miners' houses lived comfortable lives in surprisingly substantial dwellings.

Miners' Cottages at Welshtown, Bendigo Scenic Reserve, Otago, New Zealand



**Figure 1:** Welshtown, Otago. Source: L. Carpenter, 2010.

## **‘It’s lovely down the pit my lad’: Songs and Poems from Australian coalfields**

Ross A. Both

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*Show me the way to dig coal,  
I’m always on the min.  
I fired a little shot about an hour ago and the whole damn mine fell in.  
This gutser’s blunt as hell, I’ll never bore this hole.  
And you’ll always hear me singing this song,  
Show me the way to dig coal.<sup>2</sup>*

(A parody on ‘Show me the way to go home’. Min – minimum rate the miners were paid. Gutser – a steel chisel used in the hammer and tap method for boring holes for explosives)

Songs and poems have played an important role in the camaraderie of coal miners and their families. As Lithgow miner Jim Champion told folklorist/social historian Warren Fahey: ‘Music was very important to our community and we loved to hear songs, poems and stories about miners. It made us feel as one.’<sup>3</sup>

Songs and poems were more than entertainment; they were the product and reflection of the culture of coal mining communities, and were a means by which emotions such as grief, sorrow and anger could be expressed.

Humour is a common theme and takes many forms – from light-hearted to satirical, and even quite dark humour. Other common themes are the arduous and dangerous nature of work in the mines, as well as the miners’ feelings of resentment over their exploitation by colliery owners. Industrial disputes and mine disasters are also recorded in song and verse.

The presentation will include some sound clips from recordings.

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<sup>1</sup> Mick Lawson, ‘It’s lovely down the pit my lad’, *Singabout*, vol. 1, no. 2, 1956, p. 12.

<sup>2</sup> From Joe and Lyn Chambers and Fred Brown, Wonthaggi, Victoria, recorded in 1998 by Rob and Olya Willis for the National Library of Australia.

<sup>3</sup> Warren Fahey, *Ratbags and Rabblers: A Century of Political Protest, Song and Satire*, Currency Press, Sydney, 2000, p.48.

## Alfred Selwyn and the Mersey Coalfield 1851-1855

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Alfred Selwyn, the Colonial Geologist of Victoria, was sent to Van Diemen's Land in March 1855 to examine the prospects for coal mining in that colony. The specific objective was to find a way forward, given repeated failure to develop a profitable mine. The final week of his short secondment was spent on the Mersey coalfield where somewhere between £20,000 and £40,000 had already been spent in digging shafts, laying down tramlines and building houses for miners who had been brought from Britain. Total shipments to date had only amounted to 12 dray-loads of coal, this figure used to promote the sale of shares in the Mersey Coal Company in 1853.

Selwyn's report on the Mersey coalfield is significant in the history of Tasmanian geology. The current paper, however, uses the report as an aide in unravelling the murky early history of the coalfield. Selwyn examined the various workings developed in the four years before his visit, though some were already abandoned. While locations have been largely provided by the geological mapping undertaken in 1861 by Charles Gould, the historical explanations behind the various features have been confused or neglected. Easier access to historical data has underwritten this attempt to fill in the gaps in the early history of the field.

The paper looks separately at the three divisions within the Mersey coalfield made by Selwyn in 1855, viz:

- The workings at Denny's Gorge. These were the earliest and are historically the most confused, owing to the involvement of William Boswell Dean. Dean worked at different times as his own man, as an early member of the Mersey Coal Company, and finally as a member of the Don Colliery syndicate. Selwyn saw this area as having the highest quality coal and in mineable amounts, but that the four and a half miles of broken country separating the mine from the closest wharf on the Mersey estuary made profitable working improbable.
- The operations of the Mersey Coal Company, principally the deep shaft located on the headwaters of Figure of Eight Creek. Selwyn claimed the shaft had been started below the coal strata and the money expended had been totally wasted. This news cut the company from funding, and despite efforts to open up new resources; it was never again a significant factor on the Mersey coalfield.
- The operations of Zephaniah Williams, principally the deep shaft south of Tarleton, which Selwyn believed had also been started beneath the coal horizon. Williams led a vigorous counterattack in the press, challenging Selwyn's ability as a geologist. While work at the deep shaft was never resumed, Williams and others started to find and work coal along the west bank of the Mersey accessible by adit or shallow shafts albeit in small blocks.

Particular attention throughout is given to factors which explain why the Mersey coal missed the opportunity to produce coal at the market highs of 1853 and 1854. When production actually started in 1855, the leading operators were burdened with the high costs associated with the Victorian gold rush boom, and were facing lower prices for coal. Mining continued for many years – the last mine closing in 1961 – but only as small scale operations.

## Mining Sub-Basaltic Brown Coal around Thorpdale: 1880s to 1960s

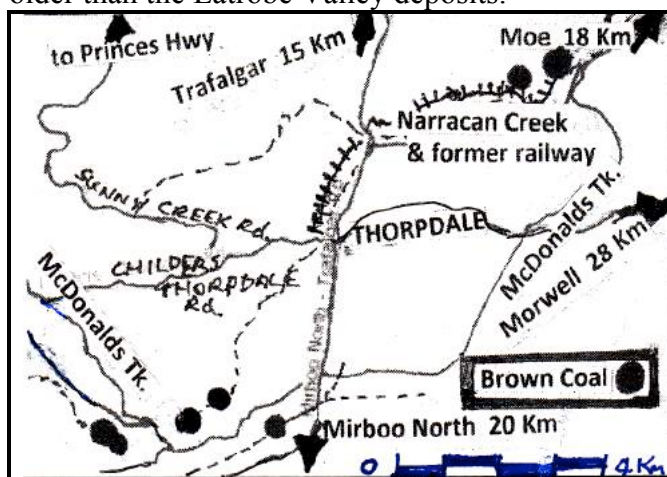
David V. Kippen<sup>1</sup>

<sup>1</sup>Member Australasian Mining History Association.

### Introduction

This paper considers the almost forgotten short lived brown coal mines that formerly existed in the Narracan Valley/Thorpdale/Childers area of Gippsland, particularly during and, for a short time after, world war two.

Thorpdale lies in the Strzelecki Ranges some thirty to forty kilometres south west of the major Latrobe Valley coalfields. The Thorpdale brown coal deposits are apparently separate from and older than the Latrobe Valley deposits.<sup>1</sup>



**Black coal** was mined in the lower Narracan Valley for a short time during the 1890s, and several thin black coal seams were also reported in the Thorpdale district, but none of the Thorpdale sites was commercially mined. These mines and finds are outside the scope of this paper

**Brown Coal (Lignite)** was first reported in the district by Assistant-Surveyor G T McDonald, following his 1860-62 survey for a stock route (McDonalds Track) along

the Strzelecki ridges from near Western Port Bay to Morwell.<sup>2</sup>

When the Thorpdale district was settled in the 1870s, selectors noted coal outcrops along various creeks, and a great future was confidently forecast for the district with its fertile soil, good rainfall and of course the coal, both black and brown. In the 1890s attempts, or proposals, were made to mine brown coal at several district sites, but despite local enthusiasm these ventures were short lived and had largely ceased by 1900 due to lack of markets for this lower grade fuel.

The Thorpdale coal resources then largely lay dormant until fuel shortages caused by World War Two opened an opportunity for a Melbourne entrepreneur, Jack Clifford Whiteacre, to tap them. In the 1940s he opened two of the previously known sites, but only one, the contiguous Corovuna/Moolamoona mines at Childers, was still operating by 1950.

These mines supplied some raw brown coal for domestic and industrial use in Melbourne, but their main customers were local butter factories, and a little supplied to local households.

### Conclusion

The small scale manual underground mining of sub-basaltic brown coal operated at a significant disadvantage compared with the large scale mechanised open cut mines in the Latrobe Valley, and finally ceased in the mid 1960s.

<sup>1</sup> D. E. Thomas & W. Baragwanath, *Geology of the Brown Coals of Victoria, part 1*, Mining and Geological Journal, September 1949 Vol 3 (6), Mines Department, Melbourne. Pp43 & 44

<sup>2</sup>*The Argus* (Melbourne), Vic. Thursday 1 January 1863, page 6 Col 3.



## Briquettes: An Overview

Barry Sykes<sup>1</sup>

<sup>1</sup>Local and Mining Historian, Traralgon, Victoria

The making of briquettes from compressed Latrobe Valley brown coal began not with the advent of (Sir) John Monash' State Electricity Commission at Yallourn in 1921; but with the Great Morwell Coal Coy. in 1895. These early efforts eventually failed, and by 1899 the venture was defunct.

In 1924, as part of the establishment of the S.E.C. at Yallourn, a large briquetting plant began operation, and by 1927 its annual output reached one million tons. The peak production was in 1964-65, when it exceeded 10 million tons, and resulted in some 34 trains a day running from Yallourn, as transport to the various depots in Melbourne.

From 1968 the Yallourn plant began to be phased out, followed by the later demolition of the Yallourn township itself, in order to mine the coal beneath it; and the newly-built Morwell plant eventually took over all briquette production. Also at this time, the 15km 90cm gauge Inter-Connecting Railway between Yallourn & Morwell became important for coal conveyance.

Initially, two types of briquette were produced: a larger one for domestic usage, and a smaller one for industrial usage. As domestic demand dwindled, the larger version was phased out; and in the final years, only the smaller industrial size was produced. These were still sold in bulk for commercial users, such as hospitals and the local butter factories, whilst the remainder were bagged and sold to domestic users.

One interesting by-product of briquettes was the advent of the nearby Char factory.

Char was a form of "roasted" briquette that was used in industrial situations, where briquettes were unable to generate the high temperatures needed to anneal steel or other metals. Apparently char was used where coal was either unavailable, or was too expensive.

Finally, with the eastern expansion of the Yallourn open cut, the ICR was cut off, trucks took over from the trains, until finally it became uneconomic to continue to produce briquettes, even for the firing up of the power stations after maintenance.

Now briquettes are imported from Germany for this task.



Fig. 1. Great Morwell Coal Coy. Briquetting plant, 1895.



Fig. 2. Great Morwell Coy. Mine.  
Coal being transported across  
LaTrobe River.



## **Aboriginal Miners of Cape York Peninsula 1890 to ca.1950.**

Galiina (Kal) Ellwood  
James Cook University

Cape York has had very little attention from historians, despite a history that is quite different from the rest of Queensland. One neglected history is that of the Aboriginal prospectors, miners and mining entrepreneurs of the early 20<sup>th</sup> century. From Romeo and his mate Bill Baird finding gold and tin in the 1880s, to the tin and gold miners of the 1950s, mining on the Cape owes more to Aboriginal initiative than do most areas in Australia.

Romeo, in partnership with non-indigenous prospectors William Baird and Jack Duval, was described as an ‘intelligent Aboriginal, who can pan off a dish like an expert, and also knows how to use his fists to some advantage’<sup>1</sup>. He discovered the Mt Romeo tinfield with Baird in 1888, and the Batavia goldfield in 1892, causing a rush which created the town of Bairdsville. Baird was speared by local Aborigines in 1894 and Romeo joined the Native Mounted Police to hunt down his killers. He died in Cooktown in 1915. Romeo’s sister married a relation of Baird and began a mining family which worked tin and gold as far south as Innisfail.

Aborigines were not only prospectors and miners on the Cape, but entrepreneurs. Pluto, the “Black Tracker of Gold”<sup>2</sup>, came from the Burdekin River area and was gaoled in Rockhampton for burglary. From there he went to the Cape in 1895, where he worked with packers Johnny Wilson and his Aboriginal partner Friday Wilson. Pluto found and worked the Iguana Mountain Goldfield (Choc-a-block) in 1905, and continued prospecting the region, making several new discoveries on and near the Batavia field until his death in 1916. The discoveries include Plutoville, named for him. Unusually, he was able to take up claims despite not being exempted from the 1897 Protection Act, which took away an Aborigine’s ability to take up land tenures. Pluto not only had a substantial bank balance but employed other Aboriginal miners on his claims, and his wife Kitty, a local Batavia River woman, found rich leads at Lower Camp, later called Wenlock, in 1915. She made another rich find in Kitty’s Gully in 1922, this small goldfield being one of the richest in Queensland in the 1930s. There were several orders to remove Kitty to Yarrabah Mission, but she managed to stay on the field until 1939. She was finally given a house at Lockhart River mission, and a Government pension, for her services to the mining industry.

Frederick “Friday” Wilson was the only Queensland Aborigine to have an officially registered gold mining lease in his own name, and purchased other GMLs, as well as running other businesses on the goldfields such as a blacksmith’s shop on the Blue Mountain goldfield. He had been adopted by the Wilson family when found as a ten month old infant near the Laura to Coen track. When he was old enough he began work with his adopted brother Johnny Wilson carrying, and inherited the dray when Johnny died, going briefly into business with Pluto. He mined gold on the Rocky River, Blue Mountain, Ebagoolah and Batavia fields on the Cape. His family also continued the mining tradition, working for the Fishers on the Wenlock. There are many other Aboriginal miners and mining families on the Cape; Romeo, the Plutos and Friday are just the most notable. Separate from them are the Torres Strait Islander miners of Moa Island, mining wolfram Island-style in the 1930s and 1940s.

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<sup>1</sup> Anon., ‘Batavia River Rush’, *Western Star and Roma Advertiser*, 3 December 1892.

<sup>2</sup> ‘Mining Notes’, *Worker*, 13 February 1913.

## **‘Magnificent Marble’: Quarrying the Ida Bay Karst\*, Southern Tasmania**

Nic Haygarth<sup>1</sup>

<sup>1</sup>School of Humanities, University of Tasmania

The Ida Bay Railway tourist attraction south of Hobart is marketed as Tasmania’s last bush tramway, but it is much more historically significant than this. The surviving six kilometres of narrow gauge rail are a remnant of a mining operation spanning about 70 years, which was ended by federal government intervention. The railway line served Blaneys and Benders Quarries in the Ida Bay Karst, a deposit of limestone containing a cave system more than 30 kilometres long. This cave system was the subject of tourism from the 1890s, and is renowned for its unusual hydrology, vertical sinkhole entrances, helictites (twisting stalactites) and cave fauna, including a large population of glow-worms. Reservations gazetted here in 1917 and in 1988 are landmarks in Tasmanian conservation, yet quarrying of the Ida Bay Karst continued until 1993, with caves being exposed in quarry faces. This paper is about the relationship between the mining operation and the cave system within the mineral deposit being mined. It examines the history and heritage of the mining operation, the gradually developing knowledge of the significance of the cave ecology, and the conflict between industry and conservation that resulted.

\* Karst refers to a landscape characterised by the dissolution of carbonate rocks by water, typical features of which are sinkholes and caves. In Australia karst typically consists of limestone, dolomite or magnesite rock.

**Figure 1:** Cavers awaiting transport on Australian Commonwealth Carbide’s rail motor, which was hauling a load of limestone from its quarries, Ida Bay, south-eastern Tasmania, 1954.



Source: Ken Iredale photo.



Source: Arthur Clarke photo.

**Figure 2:** Midnight Hole, 177 metres deep, one of the vertical entrances to the Ida Bay cave system, south-eastern Tasmania.

## Oil Shale Mining in New South Wales

Leonie Knapman<sup>1</sup> and Stephen Imrie<sup>2</sup>

<sup>1</sup>Author and Historian, Mittagong, NSW 2575

<sup>2</sup>Historian and Bushwalker, Dargan, NSW 2786

The peculiar oil-bearing substance known as kerosene shale, torbanite or bog head was first noticed when the shale oil extraction industry began operating in Australia during the nineteenth century. The majority of oil shale mining which has taken place in Australia has been confined to NSW, with a few exceptions occurring in Tasmania, Victoria and Queensland. Today there are still remains at many of these early once thriving shale mining and industrial sites. Ruins and many of the old mining, retorting and refinery sites can still be found, where one can easily imagine how things used to be.

The first white man to sight Mount Kembla Mountain was Captain James Cook, on April 28<sup>th</sup> 1770, who said the round mountain looked like a hat. Then in 1796 Matthew Flinders recorded the mountain as Hat Hill, later verified by Surveyor James Meehan in 1816 as being Mount Kembla<sup>1</sup>. It had been reported that Oil shales were discovered in Australia by a French scientific expedition in the early 1800s<sup>2</sup>, then in 1849, the Reverend W B Clarke was credited with the discovery of a good outcrop of Kerosene shale on the northern slopes of Mount Kembla, some five miles south-west of Wollongong settlement. On the 10<sup>th</sup> of May 1853, he wrote “*There are oil bearing shales or carbonaceous deposits behind Mount Kembla in the Illawarra, from which I selected specimens in the year 1849 and I believe such will be found to exist elsewhere. The shales do not produce so much oil as the Cannel Coals and when used up in retorts appear to be of the character of Charcoal*”. The first local production of oil from shale began when small capacity horizontal retorts were installed at America Creek at Mount Kembla<sup>3</sup>.

Twenty years after Sydney Cove was settled, escaping convicts and explorers tried to cross the Blue Mountains, and graziers began to search for new areas. All were stopped by impenetrable bushland and mountains, but using information from earlier explorers, Blaxland, Wentworth and Lawson decided to stick to the ridges. By May 1813 they were successful, Bathurst was founded, and inland exploration continued. In 1822, James Blackman and a small party successfully explored a route from Wallerawang to the present day Rylstone. The route of the historic and now busy Great Western Highway runs through land found to be rich in shale, and the shale mining Industry grew in the 1860s. In March 1865 shale was discovered at Hartley, though samples had been known from that locality since the early 1800s<sup>4</sup>. Soon mining companies were springing up inland, including at Joadja Creek in the Southern Highlands of NSW, and up past the Capertee and Wolgan valleys, some seventy five miles northwest of Sydney. The NSW torbanite (fine grained black oil shale) was rich in oil, and for years the better grades of shale were exported for gas making. The industry remained relatively dormant throughout Australia until during the early 1890s until World War 1, when there was a resurgence of interest and production at Newnes. This was the last major operation until Glen Davis was established in the late 1930s.

<sup>1</sup> K C Stone, *A Profile History of Mt Kembla*.

<sup>2</sup> Michael Organ, *Personal Communication*.

<sup>3</sup> A P Fleming, *The Pioneer Kerosene Works at America Creek. 1865-1878*. Reprinted 1976.

<sup>4</sup> Carne, 1903, p.185, *The Kerosene Shale Deposits of NSW. 1903* (Assistant Gov. Geologist) No.3.

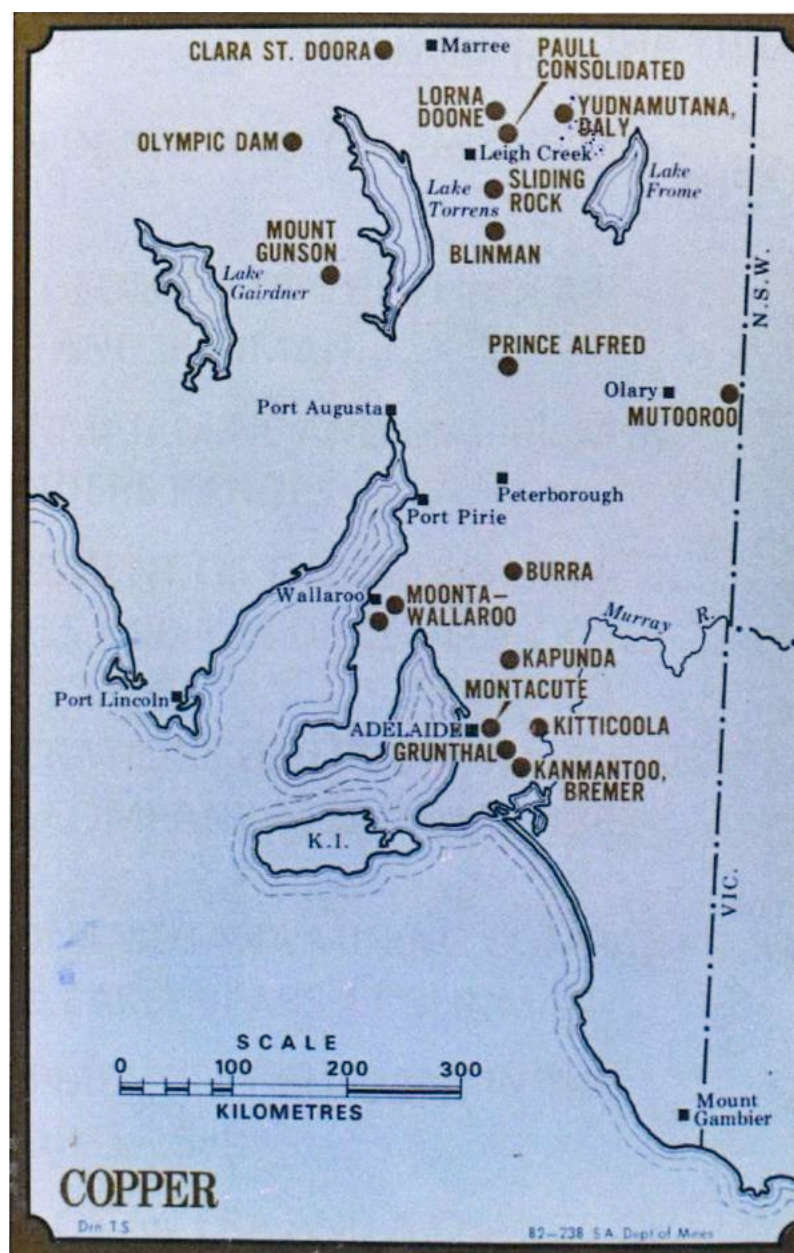
## A History of the Blinman Copper Mine 1859-1916

Geoffrey Randall

Historian, PO Box 758, Lyndoch, SA, 5351, Australia

This paper examines the story of the Blinman Mines and surrounding community from its initial discovery in 1859, and how the prosperity of what was once the largest community in the northern Flinders Ranges waxed and waned with the changing fortunes of the mine. In the course of its history, the mine met success and difficulties that were allied to climatic conditions, changes in the grades of ore, in transport, changing markets, and worldwide fluctuation in the price of ores. The changing scenarios will be detailed in the paper, as will be the final phase in operation of the so-called Tasmanian Copper Company.

**Figure 1:** Location map of South Australian Copper Mines.



Source: S.A. Department of Mines, 82-738

## Biographies of Presenters, in Alphabetical order.

### **Geoff Anderson**

Geoff Anderson worked for Gold Mines of Kalgoorlie in the early 1960s and commenced studying Mining Engineering at the Kalgoorlie School of Mines. Finding the remuneration as cadet engineer fell short of sustaining the Kalgoorlie lifestyle, he returned east and commenced the second year of an engineering diploma at Warragul Technical College. He progressed to Caulfield Institute of Technology and finally qualified as a Civil Engineer in 1975. It was a long hard road, supported by work as a stope miner in the Battery Mine at Renison Bell, Tasmania.

Geoff worked in Local Government in Victoria and NSW, finally leaving Australia in 1980 to work for the Snowy Mountains Engineering Corporation in the Philippines. In 1985, he became an independent consultant and managed projects in Thailand, Indonesia, Laos, Vietnam and Cambodia. In 2013, Geoff completed a Masters Degree in Mining Engineering at Ballarat University thus completing a Kalgoorlie goal set five decades previously.

Geoff is a member of the Walhalla Board of Management, comprising volunteer members appointed by the State Government to manage State owned properties in Walhalla. The Long Tunnel Extended Mine is one of these properties and Geoff is the Mine Manager.

### **Peta Belic - Student Travel Grant 2017.**

Peta is currently a History PhD candidate at the University of Newcastle, and her PhD thesis, "When the Grass Roots Died: Finding and Understanding an Australian Coal Mining Community in the 1980s", was submitted earlier this year. The present paper is based on some geographically defined local history research not included in the thesis, but which fits well into the conference themes.

Peta intends to pursue a career as an academic historian, and hopes, during the conference, to reacquaint herself with academics met throughout her PhD candidature, particularly those with an interest in mining and other expressions of labour history. Many of the conference speakers, at the cutting edge of their field, will be able to suggest ideas for her future directions in establishing herself as an early career academic; she also hopes to organise some collegial projects with mining historians from areas beyond NSW.

### **Geoffrey Blainey – Plenary Speaker.**

Geoffrey Blainey produced his first book about mining in 1954. He has written books on the history of some of the great mineral fields, especially Mt Lyell, Mt Isa, Broken Hill and Kalgoorlie; as well as the huge aluminium industry based on the bauxite discovered in the Darling Ranges in Western Australia. His history of Australian mining, *'The Rush That Never Ended'*, first appearing in 1963, was much enlarged in the following four decades. He also wrote a biography of Essington Lewis, *'The Steel Master'*, whose career was centred on BHP.

At Melbourne University he was in turn professor of economic history, Ernest Scott professor of history, and dean of the arts faculty during the years 1968 to 1988. Amongst the Commonwealth

government institutions he chaired were the Commonwealth Literary Fund, the Australia Council, the Australia-China Council, and the National Council for the Centenary of Federation.

He has strong links with Gippsland. He first went to school in Leongatha, then a smallish dairying town just across the ranges from the site of this week's conference.

### **Louise Blake**

Louise Blake is a professional historian with a background in women's history, family history, archives, and material culture. She is in her final year of a PhD at Monash University, investigating how alluvial and quartz mining activity influenced women's experiences on the Upper Goulburn goldfields, and how their economic, social and cultural activities helped shape mining settlements in the region. To date, her research has been published in *Lilith: A Feminist History Journal* and the *Journal of Australasian Mining History*.

### **Chris Boron (poster)**

Chris Boron (retired 2012) was the Petroleum Registrar for Mineral Resources Tasmania from 1993 to 2012.

He was an inaugural member of the Australian Offshore Environmental Assessors' Forum, which reviewed environmental legislation pertaining to marine seismic surveys, exploration and development production drilling, and other activities in the marine environment.

He was also an inaugural member of the International Offshore Petroleum Environment Regulators Forum, and an active former state committee member for the Petroleum Exploration Society of Australia.

As a member of the Australasian Mining History Association, Chris has a particular interest in mining history, archaeology, heritage, and a progressive approach to the rehabilitation of disused and abandoned mine sites.

### **Anne Both**

Anne Both, who has presented several papers at AMHA conferences on a variety of topics, has mining in her family background. She has a special interest in its social and safety aspects. After a career in Nursing and Nursing Education she taught unemployed care workers, students of English in Spain, and University of Third Age students Spanish in South Australia. The seeds of her interest in mining history were sown when in the late 1950s she worked in the mining town of Queenstown Tasmania.

### **Ross Both (paper and poster)**

Ross is a retired geologist with wide interests in mining history - probably too wide to be sensible. One such interest has led him to collaborate with folklorists and folk musicians in the compilation of a database of songs from Australian mining fields.



## **Lloyd Carpenter**

Lloyd Carpenter is a Lecturer in Maori Studies at Lincoln University in Christchurch, New Zealand. In 2016, he edited *Rushing for Gold – Life and Commerce on the Goldfields of New Zealand and Australia* (Otago UP) with Lyndon Fraser. As well as writing on the Treaty of Waitangi and the New Zealand Land Wars, he continues to write on the mining history of Otago, focusing on the use of water for mining, the architecture of the goldfields, mining technology, and on the interpretation of mining heritage sites.

## **Matthew Churchward**

Matthew originally trained in mechanical engineering, later undertaking a Masters Degree examining the development of mining machinery manufacturers in Victoria during the 19th century. In 1989-90 he undertook the Victoria Steam Heritage Survey for Museum Victoria, researching the history of steam power in Victorian industry and completing extensive fieldwork, documenting and recording some 2,000 examples of historic steam equipment throughout the state. He has also worked for various government departments as an Industrial Heritage Consultant. Since 1994, he has been employed as a curator in engineering and transport with Museum Victoria, undertaking research, exhibition development, collection development and documentation, machinery restoration and conservation projects. Current research interests include Australian mining, engineering and transport history with an emphasis on Victorian transport infrastructure, horse-drawn vehicles, immigrant shipping and local engineering and manufacturing history.

## **Erik Eklund**

Professor Erik Eklund is the Director of the Centre for Gippsland Studies at Federation University. He has published extensively on Australian mining and social history, including his 2012 book, *Mining Towns: making a living, making a life*.

## **Kal Ellwood – Special Grant 2017**

Galiina (Kal) is currently a PhD candidate in History and Cultural Heritage at James Cook University (Cairns Campus). Her PhD Thesis title is *A shared history forgotten: the Aboriginal prospectors and miners of tropical Queensland, from pre-contact times to ca.1950*. Kal is of mixed settler Australian and Australian Aboriginal descent and has a particular interest in Aboriginal cultural continuance and the shared histories (heritage) of North Queensland. She is a historical archaeologist and runs a consulting business, BamaGadja Heritage.



## Jim Enever

Jim is a retired mining engineer with a career in mining research, mainly spent at CSIRO. After retiring, Jim went back to study to complete qualifications in archaeology and history. Jim writes mainly on some of the more unusual aspects of Victorian mining history, and has published a number of papers in the Journal of Australasian Mining History. This current paper deals with one of the lesser known Victorian mountain gold fields.

## Alissa Flatley – Student Travel Grant 2017.

Alissa is a PhD candidate in the School of Geography at the University of Melbourne. Her research looks at the environmental values of mining river diversions, drawing on historic diversion performance to inform contemporary river diversion design. Alissa completed a Master of Science in Hydrogeology and has a background in earth surface processes, concentrating on the legacy of land use changes. Her PhD thesis concentrates on river diversions within the Pilbara, WA where river diversions are frequently carried out on small dryland tributaries. Alissa is interested in both historical mining practices throughout Australia, and the role of water in shaping both the landscape and its subsequent recovery

## Nic Haygarth

Based in northern Tasmania, Nic Haygarth is an experienced freelance historian and prolific published author. He is particularly known for his work on the history of rural, regional and remote areas of Tasmania, including the mining fields, dealing with issues such as highland industries, industrial heritage and conservation. He was awarded a PhD by the University of Tasmania in 2003 for a biography of Tasmanian mineral prospector James ‘Philosopher’ Smith, which he turned into a book, *Baron Bischoff: Philosopher Smith and the birth of Tasmanian mining*, in 2004. His other books include *The wild ride: revolutions that shaped Tasmanian black and white wilderness photography* (2008); *A peopled frontier: the European heritage of the Tarkine area* (2008); *The Norfolk Plains: a history of Longford, Cressy, Perth and Bishopsbourne, Tasmania* (2013); *Wonderstruck: treasuring Tasmania’s caves & karst* (2015); and (with Simon Cubit) *Historic Tasmanian mountain huts: through the photographer’s lens* (2014); and *Mountain men: stories from the Tasmanian high country* (2015). His new book *On the Ossie: Tasmanian osmiridium and the fountain pen industry* will be published in August 2017. In 2012 he served as the history representative on the Tasmanian Heritage Council. He is a voluntary associate of the University of Tasmania.

## Roger Kellaway

After two years in New Zealand studying for a Master's degree, Roger came to Australia to work as a research assistant examining the movement of sand dunes in the Simpson Desert. Australia was supposed to be a stop on an overland trek back to Canada, but it became his permanent home when he took up a position with the Department of Geography at the University of Tasmania. Over the years he completed a PhD in agricultural geography and taught various

aspects of both physical and human geography. His research interests, however, were in the field of historical geography. A lot of his work focused on the interactions between Tasmania and New Zealand, such as intercolonial migration and the geopolitics of Macquarie Island. Migration often came with a mining impetus: Otago gold one way and Zeehan silver the other.

Now in retirement, Roger continues to research various topics. This will be the third presentation he has made to an AMHA conference since giving away formal work. He has commitments over the next twelve months to prepare a paper on infant mortality in Launceston in the 1890s and another on the end of the Great War in the Brown's River district.

### **David Kippen (paper and poster)**

David grew up in Gippsland, including three years spent in the Thorpdale district where he started school in 1950. He completed form five at Warragul High School and Grade one of a Diploma at Warragul Technical School, then worked in Pathology at the West Gippsland Hospital, Warragul, for four years before spending twelve months on a working holiday in England. Since returning to Australia he has lived in Bendigo, married Sandra, and while working, obtained tertiary qualifications including a Bachelor of Business, Bachelor of Arts, Graduate Diploma in Education (Secondary), Master of Commercial Law and Diploma of Financial Planning. His work history takes in a year labouring in a meatworks freezer section, seventeen years in the State Public Service (Government Tourist Bureau and Department of Agriculture), a term teaching, thirteen years as a Consumer and Tenancy Adviser, and sixteen years as a Financial Planner.

His interest in mining stems from living in Bendigo, an historic mining centre, and time spent during his twenties helping to reopen an abandoned gold mine. Sadly no gold was found.

Memories of a visit to the Moolamoona Brown Coal Mine at Childers around 1950, and time available since his retirement in December 2015 sparked his interest in preparing a paper about coal mining around Thorpdale.

### **Leonie Knapman**

Leonie Knapman was only a few weeks old when she was taken into her first coal mine at Tongarra on the South Coast of NSW. Her mother would read by lamplight, keeping her husband Bill Goodwin company as he prepared the mine for the workers on the Monday. In 1939 the family moved to the new town of Glen Davis where her father worked in the shale mine. He was later asked to look for a coal seam. He prospected the area and found coal in the lower part of the valley known as Running Stream, and he managed this mine until Glen Davis closed. In 1954 the family moved to Mittagong where Bill managed an Anthracite Mine. Leonie and husband Greg have continued to visit early sites of abandoned mines, including many she had not visited with her father. At this time they met Stephen Imrie who had the same early mining interest. Along with Stephen they have continued to explore early mining sites. Leonie's interest in mining led to the publishing of books on the shale and coal mining towns of Joadja Creek and Glen Davis.

## **James A Lerk**

James A Lerk's family were amongst the post war migrants to Australia. In early 1954, two years after their arrival, the family settled in Bendigo when the last of the gold mines were still operating. There were plenty of reminders of past mining activity, including mullock and tailings heaps, abandoned plant, all fascinating places to explore.

After studying art at the Bendigo School of Mines, James travelled and worked overseas for two years, and on his return he qualified as a technical school teacher in the visual arts. James has had a long-standing interest in history, and has helped through practical action to save important elements of Bendigo's character and history. For two and a half decades he was the education extension officer at the Central Deborah Gold Mine.

He has a number of self published books to his credit, the latest in 2016, *'Gold, Blood, Sweat and Fear, Bendigo's Diamond Hill and its Gullies'*. James has contributed over a thousand articles on historical subjects to the Bendigo Weekly, in his column called *'Discover Bendigo'*.

## **Paul Macgregor**

Paul is an historian and heritage consultant, and was the curator of Melbourne's Museum of Chinese Australian History from 1990 to 2005. His specialty areas are colonial, 19th and early 20th century histories of Australia and China. He has published widely on Chinese Australian history, and is currently researching Chinese joss houses, merchants and storekeepers in colonial Victoria. He is a member of the Board of Management of The Uncovered Past Institute, a not-for-profit organisation which runs archaeological projects based on public participation. The Institute's next project is an excavation, in October 2017, of the Chinese mining village at Harrietville in northeast Victoria.

## **Peter McCarthy**

With more than 46 years of experience in the mining industry, Peter has been responsible for underground and open pit mine feasibility studies, mine valuations, and technical studies for projects in Australasia, Asia, Europe and Africa. He has published more than 60 technical papers and articles in his areas of interest including mining history, and has served as a non-executive director of five public gold mining companies. He was chairman of Unity Mining Limited from 2005 to 2013 and is a past President of the Australasian Institute of Mining and Metallurgy.

Peter has held Mine Manager's Certificates in Victoria and New South Wales, and has degrees in Mining Engineering and Mineral Economics. He is a Life Member and board member of the Sovereign Hill Museums Association, an Honorary Fellow of The Australasian Institute of Mining and Metallurgy, a Chartered Professional Engineer, a member of the CSIRO Mineral Resources Flagship Advisory Council, and a Member of the Australian Institute of Company Directors.

## **Barry McGowan**

Barry McGowan is a Canberra-based heritage consultant and historian and an Honorary Senior Lecturer at the College of Asia and the Pacific at the Australian National University, Canberra. He has written extensively on the history and heritage of Australian mining communities, and on

the history and heritage of the Chinese people in rural and regional Australia. His most recent publication, on the history of the Chinese people in the Rutherglen/Wahgunyah region of northeast Victoria, was commended in the 2015 Victorian Community History Awards and the 2016 Indigo Shire Heritage Awards.

In June 2016, together with Ms Genevieve Mott, Barry completed a thematic study of the Chinese people in the Orange region of central west NSW, and an exhibition on that work was launched at the Orange Museum in May 2017. Barry is currently updating the study to incorporate new material on the Orange-Wellington connection. He will be presenting papers on the Chinese people in Australia at Nagasaki, Japan, and at Xian and Beijing Universities later this year.

### **Leigh McKinnon**

Leigh is the research officer at Bendigo's Golden Dragon Museum, where he works giving tours, helping people with Chinese-Australian family history, and when time permits, researching and writing on the history of the Chinese in the Victorian Goldfields region. Leigh studied western classics and Chinese language as an undergrad at La Trobe University, before moving on to Monash to pursue studies in medieval Latin philosophy, and co-authoring a translation of the work of 13<sup>th</sup> century music theorist Johannes de Grocheio. After returning to Bendigo, Leigh has been lucky to be able combine a long standing interest in local goldfields history with his earlier studies of Chinese language and culture through his work at the Golden Dragon Museum.

### **Robin McLachlan**

A long-ago Yukon resident, Dr Robin McLachlan is an Adjunct Associate Professor in History and Cultural Heritage Studies at Charles Sturt University, Bathurst. For the past decade, if intermittently so, he has been working on the Klondike Diggers Project. This project seeks to identify those Australians and New Zealanders who took part in the Klondike Gold Rush of 1897-99, and attempts to recover something of their individual stories and experiences. From time to time, findings from the project's ever expanding files are presented at AMHA conferences. One of Robin's favourite definitions of history is "gossip well told". (E.G. Hubbard, 1856-1915)

### **Elizabeth McQueen (poster)**

Elizabeth McQueen is a retired teacher. She completed a Teaching Certificate at Armidale Teachers College and a B.Ed. in early childhood learning at Charles Sturt University. She has also worked as a SPELD ACT special tutor for students with learning difficulties.

### **Ken McQueen**

Ken is Adjunct Professor of Geochemistry and Landscape Evolution at the University of Canberra, having recently retired. He has a keen interest in mining history and has published

numerous articles on mining activity and historic mine sites in Australia, particularly related to technical and geological aspects. Ken has a BSc Honours degree from the University of New England and a PhD in Geology from the University of Western Australia. He has worked at the Universities of Western Australia, Melbourne, ANU and Canberra and was for 13 years a project leader and Assistant Director of CRC LEME, a cooperative research centre developing improved methods for mineral exploration.

## **Duncan Money**

Dr Duncan Money is a Postdoctoral Fellow at the International Studies Group, University of the Free State, South Africa. He was awarded his PhD from the University of Oxford in 2016 for his thesis on a social history of white migrants on Zambia's Copperbelt.

## **Benjamin Mountford**

Dr Benjamin Mountford is a David Myers Research Fellow at La Trobe University. From 2008-2015, he was at Oxford, where he was the first Michael Brock Fellow in Modern British History.

## **Lynnette Peterson**

Lynette's background is in both history and physical geography, and her MA focused on the Victorian Government Report of the Royal Commission held in 1859 to consider 'the best method of removing the sludge from the gold fields'.

The term 'sludge' referred to the waste material left after washing (puddling) surface alluvium to extract the gold, which was the predominant method of gold mining in the Bendigo (Victoria) area at that time. Fieldwork enabled Lynette to locate and map an area of over 700km<sup>2</sup> to the north of Bendigo which, even today, has a surface coating of the sludge.

The question 'How did they get away with this?' is what Lynette is exploring in her PhD project, which is looking at the development of environmental controls in Victorian Mining Legislation, from the 1850s to the 1920s.

## **Gilbert Ralph**

Gilbert Ralph spent more than forty years in the mining industry, as an engineer in Adelaide, Port Pirie, Kalgoorlie, Perth and Melbourne. He was also involved in operations management, corporate affairs and as a director. Gilbert retired in 1994 from a position on the Executive of WMC, following which he served as a consultant to the industry.

## **Geoffrey Randall**

Geoffrey Randall is an amateur mineral collector who has been collecting minerals and fossils for the last fortyfive years. As a result of working in the famous Burra copper mines in South

Australia's mid-north, he became interested in mining history, an interest that led to extensive research on mines in the Flinders Ranges, and at Burra and Kapunda. Subsequently, he wrote a number of papers which were published by the South Australian Mineralogical Society between 1983-2000. Following completion of qualifications at Adelaide University, he published histories of the Teetulpa Goldfields, and various mines at Waukaringa.

## **Gael Shannon**

Melbourne-born, Gael Shannon is of the generation that saw the development of Victoria's heroic brown coal industry, touring the open-cut mine, exploring the cooling pond and its freshwater crocodiles, driving through the steamy valley to summer holidays in eastern Victoria.

She is an amateur historian, her interest honed through collaboration with husband Danny Spooner. They met when both were working at the University of Melbourne, and have for many years 'performed' history where the researched text is illustrated by songs and slides. Their house in Daylesford, Central Victoria, sits above a former gold-mining ground that is the subject of her presentation.

## **Andrew Swift**

**Andrew** has been a mining heritage consultant to various state and local government agencies since the mid 1990s. He worked on heritage feature surveys, site mapping and assessments of historic mining sites throughout the eastern ranges of Victoria in 2003-5, especially in the Upper Ovens, Buckland, Mitta Mitta, Upper Dargo and Dart River goldfields. He has also produced a number of local mining history documentaries, and currently works as Cultural Heritage Officer for the Mt Hotham Alpine Resort. He is a member of the Board of Management of The Uncovered Past Institute, a not-for-profit organisation which runs archaeological projects based on public participation. The Institute's next project is an excavation, in October 2017, of the Chinese mining village at Harrietville in northeast Victoria.

## **Barry Sykes**

Barry Sykes is a Traralgon resident; a railway & mining historian, has two sons who are engineers in the mining industry; and is a long-time AMHA member.

Professionally, he worked in the Victorian Education Department's Special Services Division, in both the east and southwest of the state, and as part of this, he pioneered the Train of Knowledge concept.

Barry is the author of two books: "*Change Here For Outtrim*" (1997), and "*Mines, Lines, People & Places*", (2012), both with the theme of South Gippsland's mining industry and its towns. He is currently working on a new book, which outlines the history of the Traralgon Fire Brigade.

## **Diann Talbot**

Diann is one of the pre-eminent historians of the Ovens and Buckland Valleys, and has a particular interest in the Chinese miners and pioneers of the district. She is an active member of both the Bright and Harrietville Historical Societies/Museums, and is particularly interested in

the relationships between sites, artefacts and people's histories. Her most recent publication is *Who is She?*, a history of the women of the Chinese communities of the Ovens Valley. She is a member of the Board of Management of The Uncovered Past Institute, a not-for-profit organisation which runs archaeological projects based on public participation. The Institute's next project is an excavation, in October 2017, of the Chinese mining village at Harrietville in northeast Victoria.

### **John Warner: Gippsland Mining Man**

*Pithead in the fern* is a collection of songs that grew out of my work as a volunteer at Coal Creek in the 1990s. I acknowledge the significant role Margaret Walters played in the writing and editing of these songs as well as the shaping of the tunes in the folk idioms. My thesis is that South Gippsland coal mining was intended to supply fuel for steam locomotives. Electrical power came later, so coal's first function was to fuel the locomotives that opened up South Gippsland to rural and industrial development.

Coal Creek Historical Village attempted to reflect the sort of community the miners would have known. Working there, reading some of the local history, and speaking to locals such as Brian Blake, editor of the *Sentinel Times*, whose father was a miner at Coal Creek, gave me some great material for songs.

I am a singer-songwriter more than a historian, so while the history and the technology fascinate me, ultimately I tell these stories in song and occasionally verse.

Danny Spooner demonstrated what a powerful vehicle song was for the mining workers of Britain, America and Australia. I have tried to write my own songs in this tradition, by catching the intangibles of dialect, technical language and the moods of weather and landscape.

Mine, then, will not be a technical paper, but a broad, impressionistic work in which the miners, railway workers and ancillary folk of many types are portrayed in their shaping of South Gippsland from the mountains to the sea.

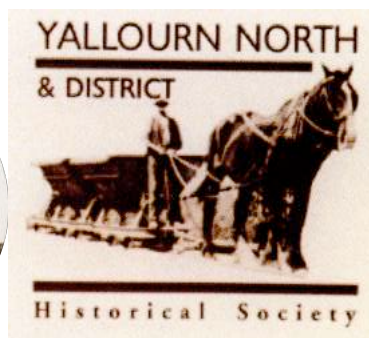
Coal, of course is controversial these days, and I have complex feelings about it as an environmentalist but also one who recognises what a mighty history the age of coal has given us.

Finally, my aim is to excite you to celebrate the story of Gippsland mining. These are songs with choruses and that is deliberate since we who sing commemorate anew those who shaped our world through their effort and struggle.

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