Tea Tree Gully Gem & Mineral Club Inc. (TTGGMC)
Clubrooms: Old Tea Tree Gully School, Dowding Terrace, Tea Tree Gully, SA 5091.
Postal Address: Po Box 40, St Agnes, SA 5097.
President: Ian Everard. 0417 859 443 Email: ieverard@bigpond.net.au
Secretary: Claudia Gill. 0419 841 473 Email: cjjrgill@adam.com.au
Treasurer: Tony Holloway. Email: teatreegullygmc@gmail.com
Membership Officer: Augie Gray: 0433 571 887 Email: teatreegullygmc@gmail.com
Newsletter/Web Site: Mel Jones. 0428 395 179 Email: teatreegullygmc@gmail.com
Web Address: https://teatreegullygemandmineralclub.com

January Edition 2020

"Rockzette"
Tea Tree Gully Gem & Mineral Club News

Editor's Appeal

Hi All,

All the best for 2020.

Thanks to everyone who contributed great content for the club's newsletter (magazine) over 2019.

I'm looking forward to great content again for 2020, and invite more to consider contributing.

Regards,

Mel.

(Nb. The President's Report will resume this location in February 2020.)

Diary Dates / Notices

Happy Birthday
Members celebrating January birthdays:

05th – Alan Cook.
05th – Deane Smith.
11th – Janet Harris.
13th – Janet Jones.
23rd – Mikke Rogers.

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Happy New Year 2020

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See 2020 Club Activity Start dates on page 21.

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General Interest

Pages 2 and 3:
Augie's Jasper Selections for January 2020…

Pages 4 to 6:
Augie's Birthstone Selections for January…

Pages 6 to 8:
Chris's photo take of lapidary collection specimens at Miles Historical Village Museum, MILES, Qld …

Pages 9 and 10:
Allen, Janet and Mel Jones's 2005 White Island Tour …

Pages 11 to 14:
'Newcastle and Rail – The Never-ending Story' …

Page 15:
TTGGMC's Christmas Lunch…

Page 16 to 20:
General Interest, Humour etc…

Page 21:
Members' Noticeboard and Links…

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Club Activities / Fees

Meetings
Club meetings are held on the 1st Thursday of each month except January.
Committee meetings start at 7 pm.
General meetings - arrive at 7.30 pm for 8 pm start.

Library
Librarian - Augie Gray
There is a 2-month limit on borrowed items.
When borrowing from the lending library, fill out the card at the back of the item, then place the card in the box on the shelf.
When returning items, fill in the return date on the card, then place the card at the back of the item.

Tuesday Faceting/Cabbing
Tuesdays - 10 am to 2 pm.
All are welcome. Supervised by Doug Walker (7120 2221).

Wednesday Silversmithing
Wednesdays - 7 pm to 9 pm.
All are welcome. Supervised by Augie Gray (8265 4815 / 0433 571 887).

Thursday Cabbing
Thursdays - 10 am to 2 pm.
All are welcome. Supervised by Augie Gray (8265 4815 / 0433 571 887).

Friday Silversmithing
Fridays - 9 am to 12 noon.
All are welcome. Supervised by John Hill (8251 1118).

Faceting/Cabbing/Silversmithing Fees:
A standard fee of $3.00 per session applies – to be paid to the session supervisor.

In the interest of providing a safe working environment, it is necessary to ensure everyone using the workshops follow the rules set out in *Policy No. 1 - 20/11/2006*.

It is necessary that *Health and Safety* regulations are adhered to always.

Everyone using the workshop must ensure:

- that all club equipment (e.g. magnifying head pieces, faceting equipment, tools, etc.) used during the session, is cleaned, and returned to the workshop after usage.
- that all workstations are left in a clean and tidy state;
- that all rubbish is removed and placed in the appropriate bin;
- and where applicable, machines are cleaned and oiled or dried.

NOTE: The Tea Tree Gully Gem & Mineral Club Inc. will not be held responsible or liable for any person injured while using the club machinery or equipment.

Club Subscriptions:

$25.00 Family	$20.00 Family Pensioner
$15.00 Single	$12.50 Single Pensioner
$10.00 Joining Fee	

The Tea Tree Gully Gem & Mineral Club Inc. is not and cannot be held responsible or liable for any personal injuries, loss or damage to property at any club activity, including, but not limited to, meetings, field trips, all crafts and club shows.
An indemnity is to be signed by all participants before each and every field trip activity they attend.

Augie's Jasper Selections for January 2020

Last month's Newsletter issue marked the end of the series of Agate profiles.

This year we embark on the Jaspers, including an extensive coverage of the members of the "Picture" Jasper family.

We begin the series this month with Madagascan Ocean Jasper. Enjoy!

Ocean Jasper

Ocean Jasper is the trade name given to a Madagascan spherulitic Chalcedony.

This material was first introduced to the public at the Tucson Gem Show of 2000.

It was found only in the north-western Analalava district of Madagascar, where there were 2 separate deposits composed of 4 veins, all of which produced a different coloured material.

The most prolific deposit was on the shoreline near the village of Marovato, but it was only accessible at low tide, being covered by water the rest of the time.

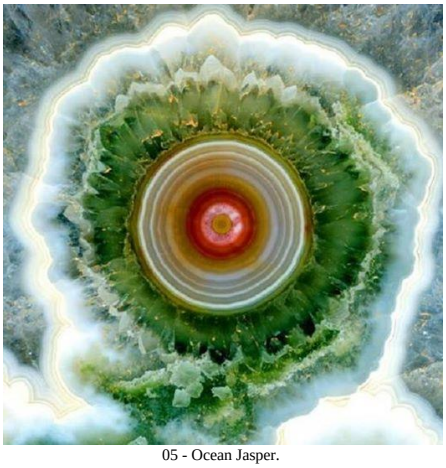
All deposits are now depleted, so there will be no new Ocean Jasper entering the market unless a new deposit is found. The best material was snapped up by collectors and museums some years ago, so the only Ocean Jasper offered for sale now is very low grade. The accompanying photos are of some of the top-grade material, which is now all in private collections.

01 - Ocean Jasper.

02 - Ocean Jasper.

03 - Ocean Jasper.

04 - Ocean Jasper.

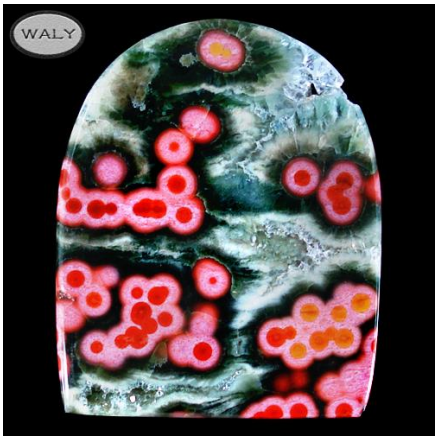


05 - Ocean Jasper.

06 - Ocean Jasper.

07 - Ocean Jasper.

08 - Ocean Jasper.



09 - Ocean Jasper.

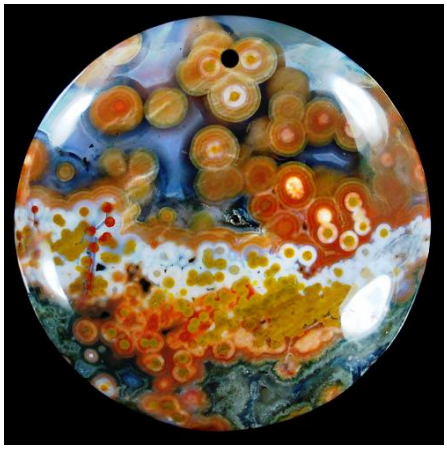
10 - Ocean Jasper.

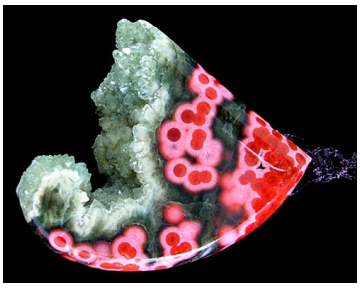
11 - Ocean Jasper.

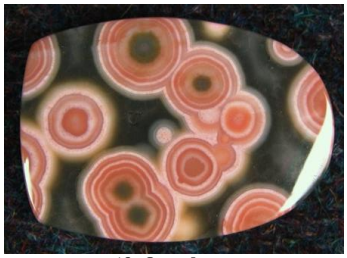
12 - Ocean Jasper.

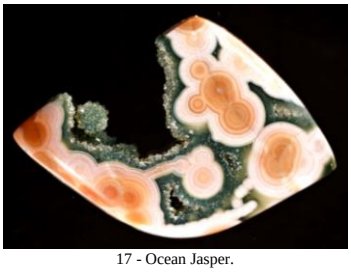
Augie's Jasper Selections for January 2020
Continued…


13 - Ocean Jasper.


14 - Ocean Jasper.


15 - Ocean Jasper.


16 - Ocean Jasper.


17 - Ocean Jasper.

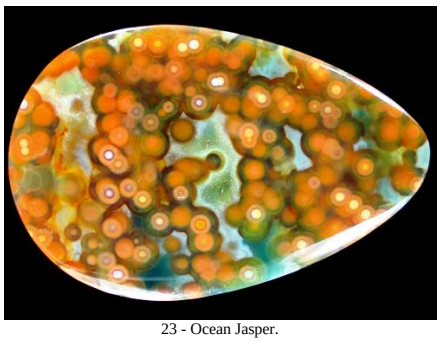

18 - Ocean Jasper.


19 - Ocean Jasper.

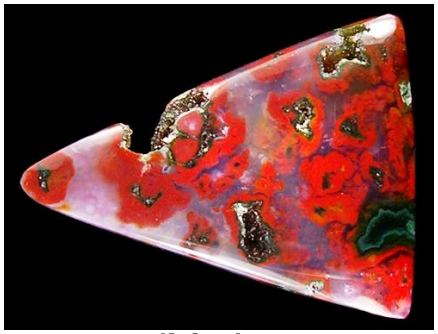

20 - Ocean Jasper.


21 - Ocean Jasper.


22 - Ocean Jasper.


23 - Ocean Jasper.

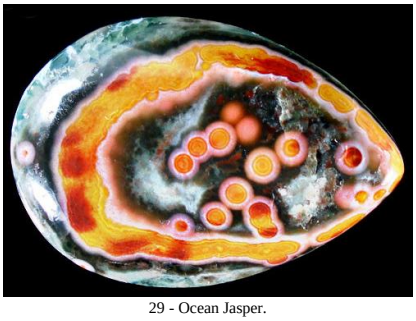

24 - Ocean Jasper.


25 - Ocean Jasper.


26 - Ocean Jasper.


27 - Ocean Jasper.


28 - Ocean Jasper.


29 - Ocean Jasper.


30 - Ocean Jasper.

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Augie's Birthstone Selections for January…

Garnet

Garnet is the birthstone for January. It has been used as a gemstone for thousands of years, having been found in ancient Egyptian, Roman and Greek jewellery.

What colour are Garnets?

"Aha, I know the answer to that one!" you say. "They're red!"

And you'd be right. You'd also be right if you said pink, or purple, or orange, or yellow, or brown, or black, or green, blue or colourless. In fact, like Tourmaline, there isn't a colour Garnet can't be found in. It always used to be said that Garnet occurs in every colour except blue, which held true until the discovery of blue Garnets in Madagascar in the late 1990s.

There are many different types of Garnet, which can be divided into 6 main species, according to their chemical composition. Each species also differs slightly in specific gravity and refractive index.

Pyrope:

a magnesium aluminium silicate - $Mg_3Al_2(SiO_4)_3$. Normally occurs in a deep blood red to almost black, sometimes with a brownish cast.
R.I. 1.73 – 1.76.
S.G. 3.65 – 3.87

1. Pyrope.

Almandine:

an iron aluminium silicate - Fe3Al2(SiO4)3. A deep, clear red.
R.I. 1-75 – 1.83
S.G. 3.95 – 4.30

2. Almandine.

Spessartite:

a manganese aluminium silicate - Mn3Al2(SiO4)3. Normally a yellow-orange colour, although a violet-red variety has been found in Colorado and Maine.
R.I. 1.79 – 1.83
S.G. 3.80 – 4.25

3. Spessartite.

Grossular:

calcium aluminium silicate - Ca3Al2(SiO4)3. Occurs in yellow, cinnamon ("Hessonite"), red, green ("Tsavorite") and colourless ("Leuco Garnet")
R.I. 1.72 – 1.80
S.G. 3.40 – 3.70

4. Hessonite.

5. Tsavorite.

6. Leuco Garnet.

Uvarovite:

a calcium chromium silicate - Ca3Cr2(SiO4)3. One of the rarest Garnets, occurring as a bright Green. Gem quality found only in Russia and Finland.
R.I. 1.74 – 1.87
S.G. 3.40 – 3.80

7. Uvarovite.

Andradite:

a calcium iron silicate - Ca3Fe2(SiO4)3. Varies in composition and may occur in red, brown, yellow ("Topazolite"), green ("Demantoid") or black ("Melanite").
R.I. 1.86 – 1.95
S.G. 3.70 – 4.10

8. Andradite.

9. Topazolite.

10. Demantoid.

Augie's Birthstone Selections for January - Garnet…*Continued…*

Within these species are other sub-species, or "varieties", such as –

Rhodolite:
a mix of Pyrope and Almandine. Often called the Queen of the Garnets, Rhodolite has a distinctive violet tone.

Malaia:
a mix of Pyrope and Spessartite from the Umba Valley, bordering Tanzania and Kenya. Occurs in pinkish-orange to reddish-orange to yellowish-orange.

Merelani:
a lighter green variety of Tsavorite from the same locality.

11. Rhodolite.

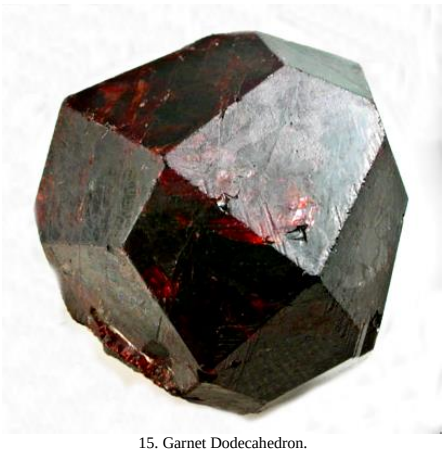
12. Malaia.

13. Merelani.

Recently, "Colour change" Garnets have been discovered in Madagascar, Tanzania, Sri Lanka, Norway and the USA. These stones are Pyrope and Almandine in composition. They appear as a blue-green in natural light and red to purple under incandescent light. This means there is now an alternative to the other two natural colour change gemstones, those being the rare and extraordinarily expensive Alexandrite, and a small percentage of Sapphires.

14. Colour change Garnet.

Garnet forms in the Isometric (cubic) crystal system, commonly producing well-formed dodecahedral (12 sided) crystals.



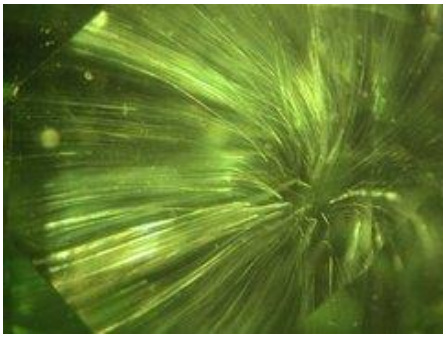
15. Garnet Dodecahedron.

With a hardness of 6.5 – 7.5 and no cleavage, it is a hardy stone and easy to work with.

While normally very clean stones, certain varieties of Garnet do contain inclusions. Amandine Garnets containing Rutile needles will form a star pattern called "asterism". Known as Star Garnets, these are relatively rare, occurring in quantity in only a few places such as India, Russia, Brazil and the U.S.A. Today most star Garnets come from Idaho and India. The stars are always 4-rayed, with one exception – Idaho very rarely has produced 6-rayed stars, though these are so uncommon that they occur in as few as 1 in 5,000 stones.

16. Star Garnet.

Orange Hessonite Garnets contain a veiling known as "treacle" which is an identifying feature of the stone, as with Demantoid, which contains quite unusual "horsetail" inclusions.



17. Horsetail inclusions in Demantoid Garnet.

Summary of Garnet location and deposits

Pyrope:
China, Madagascar, Myanmar, South Africa, Sri Lanka, Tanzania, USA.

Rhodolite:
Brazil, India, Sri Lanka, Thailand, USA.

Almandine:
Brazil, India, Madagascar, Sri Lanka and the United States. Smaller deposits exist in Austria and the Czech Republic. Almandine garnet star-stones are found in India and the United States (Idaho).

Spessartite:
Brazil, China, Kenya, Madagascar, Myanmar, Namibia, Sri Lanka, Tanzania, USA. The best specimens come from Namibia and are known as "Mandarin Spessartite".

Grossular:
Canada, Kenya, Mali, Pakistan, Russia, South Africa, Sri Lanka, Tanzania, USA.

Hessonite:
Brazil, Canada, Madagascar, Sri Lanka, Tanzania, USA.

Leuco Garnet: Canada, Mexico, Tanzania.

Tsavorite: Kenya, Tanzania.

Andradite: Russia.

Demantoid: Russia, China, Korea, USA, Zaire.

Melanite: France, Germany, Italy, USA.

Topazolite: Italy, Switzerland, USA.

Uvarovite:
Canada, Finland, India, Poland, Russia, USA.

18. Blue Garnet.

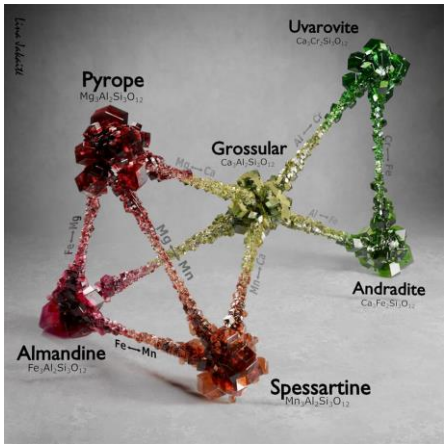
19. Mozambique Purple Garnet.

Continued next page…

Augie's Birthstone Selections for January - Garnet…*Continued…*

20. Mahenge Garnet.

21. Garnet - All 8 species.



22. Garnet family.

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Photos taken and contributed by Chris Browne…

Lapidary Collection

Miles Historical Village Museum

141 Murilla Street, MILES, QLD 4415.

No M.H.S. W52 – Pentoxylon, Cobar, MILES, QLD.

The background of the Lapidary Collection, included next, was found at the Museum's website (click/tap on the following hyperlink… **http://mhv.org.au/collection-item/lapidary-collection/**

Background of the Lapidary Collection

Specimens donated by Mr. Norman Donpon of Meandarra, and Mrs Geertruide (Trudy) Hattink of Logan City.

The collection contains over 4000 lapidary items from the local region, Australia and around the world, this collection is acknowledged as being the largest collection of its type in regional Queensland. The collection has historic significance as it illustrates a point in geological history for the region.

The Lapidary collection contains a large range of petrified wood specimens from the Miles district and around Australia including cycads and conifers; semi-precious and precious gemstones; mineral specimens; and fossils.

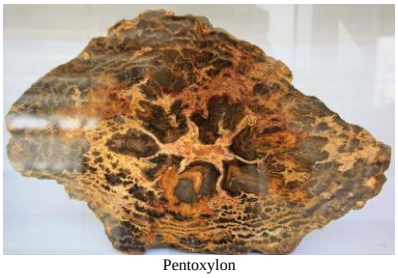
The collection is historically significant as it illustrates the geological processes occurring within the sediments of the Great Artesian Basin, in the land west of the Great Dividing Range; preserving specimens of plant life of the Jurassic Age (180 to 135 Million years ago)

All the specimens donated by Mr. Norman Donpon are of high quality and have been cut and polished by specially designed machines he built for this purpose. The specimens are presented in their natural state with no lacquers applied to enhance their appearance.

The Collection has great social value to the local community and to the Village as an important tourist attraction.

Chris's Photos taken at Miles Historical Village Museum…

No M.H.S. Q53 – Araucaria Mirabilis (Pinecones) – Jurassic – Patagonia, ARGENTINA.



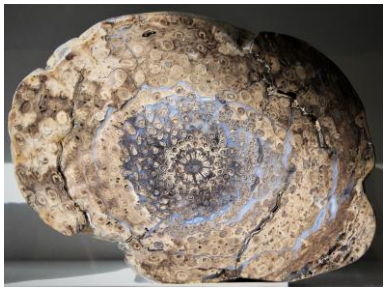
Pentoxylon

Pentoxylon.

Araucaria Mirabilis (Pinecones), Patagonia, ARGENTINA.

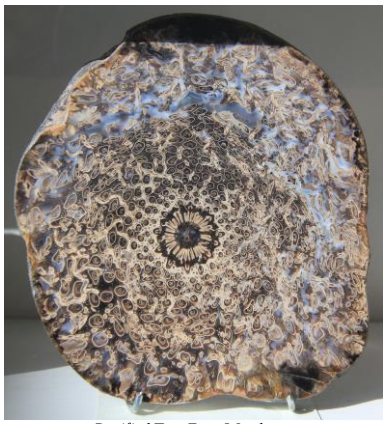
Pentoxylon.

Petrified Wood, Chinchilla.



Petrified Tree Fern, Wandoan.

Chris's Photos taken at Miles Historical Village Museum - *Continued…*


Petrified Tree Fern, Wandoan.


Petrified Wood, Miles Area.


Petrified Casuarina, Miles Area.


Petrified Casuarina, Miles Area.


Agate Geode, Agate Creek, Qld.

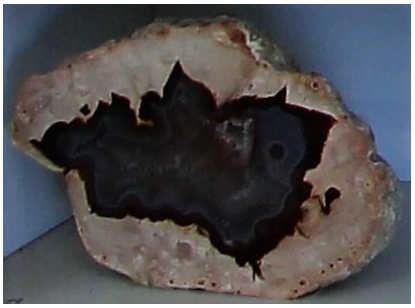

Agate Geode, BRAZIL.


Thunder Egg, Agate Creek, Qld.


Thunder Egg, Agate Creek, Qld.


Thunder Egg, Agate Creek, Qld.


Thunder Egg, Mount Hay, Qld.


Thunder Egg, Mount Hay, Qld.

Chris's Photos taken at Miles Historical Village Museum -
Continued…

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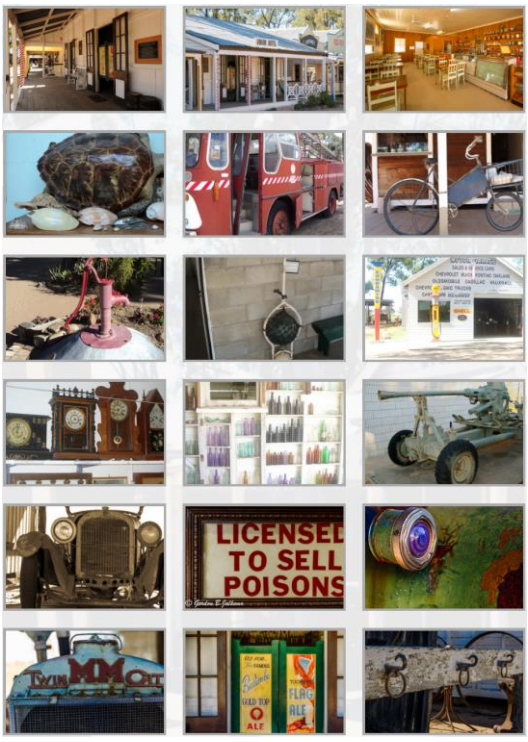

Miles Historical Village Museum
141 Murilla Street, MILES, QLD 4415.

http://mhv.org.au/collection-item/lapidary-collection/

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Contributed by Mel Jones…

White Island Overview.

Whakaari/White Island

Extract from Wikipedia, the free encyclopedia…

https://en.wikipedia.org/wiki/Whakaari/White_Island

Whakaari/White Island ([faˈkaːɾi]; also known as just **White Island**) is an active andesite stratovolcano situated 48 km from the east coast of the North Island of New Zealand, in the Bay of Plenty. It is New Zealand's most active cone volcano, and has been built up by continuous volcanic activity over the past 150,000 years.[1] The nearest mainland towns are Whakatane and Tauranga. The island has been in a nearly continuous stage of releasing volcanic gas at least since it was sighted by James Cook in 1769. Whakaari erupted continually from December 1975 until September 2000, marking the world's longest historic eruption episode, according to GeoNet, and also in 2012, 2016, and 2019.

The island is roughly circular, about 2 km in diameter, and rises to a height of 321 m above sea level. It covers an area of approximately 325 ha (800 acres). [2]The exposed island is only the peak of a much larger submarine volcano, which rises up to 1,600 m above the nearby seafloor. Sulphur was mined on the island until the 1930s. Ten miners were killed in 1914 when part of the crater wall collapsed.

The main activities on the island now include guided tours and scientific research. Access to the island is allowed only as a member of a tour run by a registered tour operator.

A large eruption occurred at 14:11 on 9 December 2019, which resulted in seventeen fatalities and many injuries, most suffering severe burns. Forty-seven people were reportedly on the island when it erupted. A second eruption closely followed the first.

Allen, Janet and Mel Jones's
2005-02-09 White Island Tour.
(Pictures and Video only)

Departing Whakatane…heading for White Island – 48kms away.

Nearly there…with mixed feelings of excitement and fear.

Transferred via rubber dinghy from boat to an alien world!

Ruins of a 1920s sulphur processing plant.

Start of the tour around White Island – Allen and Janet.

Surrounded on three sides by volcanic activity.

Sulphur fumaroles.

Sulphur fumaroles.

Sulphur Crystals.

Heading towards the crater responsible for recurring eruptions.

Main crater filled with hot acidic water.

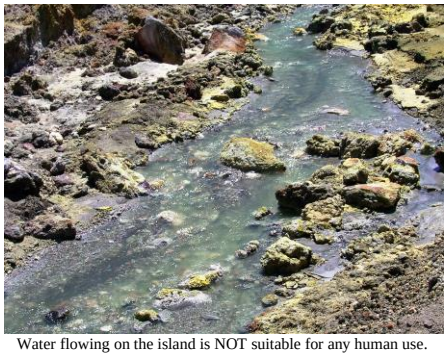
Allen, Janet and Mel Jones's 2005-02-09 White Island Tour – *Continued…*

Main crater filled with hot acidic water.

Higher view.

Hot acidic water flowing from crater lake plus fumaroles beyond.

All resources including water for human use must be transported in.



Water flowing on the island is NOT suitable for any human use.

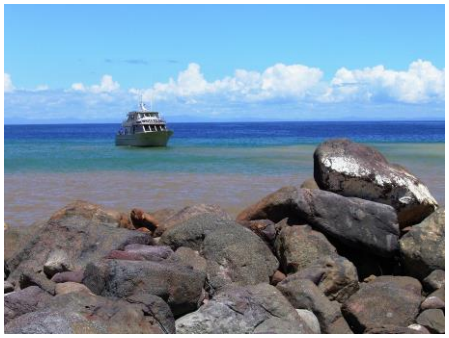
Heading back to view the ruins.

Another view of a 1920s sulphur processing plant.

Rusted out machinery used in 1920s – 30s to process sulphur.

Rusted out, buried remains of a tractor.

Returning to our landing point. (NB Water is stained brown due pollution caused by volcanic activity.)



Waiting to re-join the boat via rubber dinghy.

Leaving White Island after a boat tour around its perimeter.

Click/tap on the following hyperlink to access our 2005 video clip of the tour…

https://youtu.be/1DzoSgKhOhY

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Click/tap on the following hyperlink to access a 2013 YouTube video of volcanic activity on White Island…

https://www.youtube.com/watch?v=rpuBrkmU9hs

***

Click/tap on the following hyperlink to access a December 2019 YouTube videos of volcanic activity on White Island and its disastrous impact on those touring the island, their families, and those otherwise involved in the consequences…

https://www.youtube.com/watch?v=xvuhtG1c2II

https://www.youtube.com/watch?v=Ce3y7sT1tXk

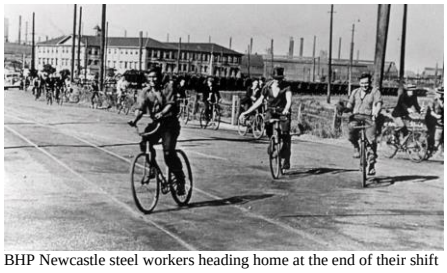
https://www.youtube.com/watch?v=q8eqfwpzrj8

***

Contributed by Mel Jones…

'Newcastle and Rail – The Never-ending Story'
by Garry Reynolds
Part 15A of 24…

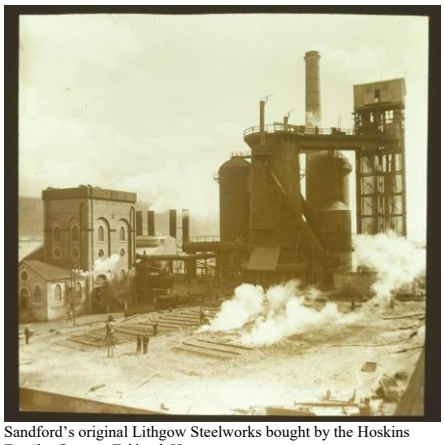
The Newcastle City waterfront today where Aborigines once fished from canoes, convicts hewed coal and a railway system developed and disappeared over a period of 160 years. Source: *Familypedia*.



BHP Newcastle steel workers heading home at the end of their shift during WW2. *Source: Newcastle Herald*.

Approaching WW2

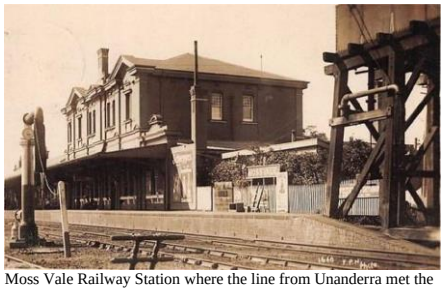
BHP's Steelworks Management had been proactive in preparing for possible war in the 1930s. With hindsight, the merger of Australian Iron & Steel at Port Kembla with its much bigger and wealthier rival BHP in Newcastle was an important move. This came after epic struggles by the Hoskins Family to survive in the Illawarra after shifting from iron and steel production at their unviable Lithgow site.



Sandford's original Lithgow Steelworks bought by the Hoskins Family. *Source: Eskbank House*.

The building of their Port Kembla Steelworks had depended on the construction of the Moss Vale to Unanderra Railway to bring limestone from Marulan down the Illawarra Escarpment. The 57 km line was built on a long steep 1 in 30 grade for nearly the first 20kms from Unanderra on the Illawarra Plain which added to operational costs. It had taken a lot longer and cost twice as much to build from when approved by Act of Parliament in 1924 till being opened in 1932 in the Great Depression.

It was an acrimonious deal. Neither the AIS Steelworks Management nor the NSW Government fulfilled all their obliagtions under the construction agreement due to financial constraints.



Moss Vale Railway Station where the line from Unanderra met the Main South Line. *Source: Flickr*.

The Hoskins had failed to carry the tonnages over the Line that they had contracted to do, while the Government were two and a half years late in completing the Line. In the ensuing court battle, AIS was ordered to pay the NSW Government 25,000 pounds in damages – a large sum in tough times.

No. 17 shined up but not for long at the Newcastle Steelworks. *Source: Flickr*.

The Depression continued to restrict the Hoskins' ability to make the Port Kembla Works more efficient. However, in 1933, when they managed to scrape some finance together and build a hightech tin sheet mill to satisfy a growing market demand that BHP Newcastle could not meet, it turned into an expensive technical nightmare. Ironically, while AIS was trying to wrap up new markets with new technology, it was so short of spare parts that at times the whole Works would have to shut down because of the failure of a single component. Still, throughout the Depression the Company was able to make a small profit.

A breathrough came in in 1933 when a prominent English steelworks executive was in Australia for discussions with BHP on a proposed project. Before leaving for the UK, he had a chat with the Hoskins and casually floated the idea that as the Australian market was so small it might be advantageous if AIS and BHP were to merge.

With the seeds sown, in mid-1935 the Hoskins raised the subject of a merger with their old friend, Essington Lewis of BHP. During a visit to Newcastle, from BHP's Melbourne Head Office, Lewis sent a letter to the AIS Head Office inviting Cecil and Sid Hoskins to meet him at Central Railway Station, Sydney, as he was changing trains on his way back to Melbourne. The massive merger deal was agreed at the Railway.

Soon, senior BHP engineers from Newcastle inspected the Port Kembla operation to determine its potential and to rationalise the joint steelworks' product mix. BHP reacted quickly to their report and authorised the expenditure of 325,000 pounds to upgrade the Works.

Port Kembla Steelworks coke ovens with rail facilities. *Source: ABC*.

Another major step which would enable BHP to be positioned for war was taken soon after the merger - the acquisition of additional land from the State Government. The Port Kembla Steelworks site grew from 160 to 800 hectares accompanied by a major expansion program including a new blast furnace.

No sooner had this been completed, than WW2 broke out. BHP's Newcastle and smaller Port Kembla Steelworks were quickly mobilised to supply iron and steel to the emerging munitions industry.
Critically, Essington Lewis was appointed by the Commonwealth Government to the powerful position of Director General of Munitions where he made an outstanding contribution.

The 'Little Engine that Could' at the Newcastle Steelworks. *Source: Flickr*.

Meanwhile, to cater to the demands of war, an electric steel plant was built at Port Kembla and its workshops focused on making machine tools, marine engines and munitions to complement the massive stream of war materials and profits being generated by the Newcastle Works.

In 1939, the Newcastle Steelworks had 3 blast furnaces and 13 open hearth furnaces with a capacity of 1 million tons of steel a year. These were highly productive arising from the capital investment and technical innovation introduced by Essington Lewis in the 1920s and 1930s.

BHP was achieving outstanding production results to fight the War. The average annual output of pig iron and ferro alloys per blast furnace reached 221,000 tons in Australia, compared to just 160,000 tons in the US and even lower in the UK and Germany.

In the heat of total war, BHP Newcastle turned the switch to full tilt. Its move to a 3-shift 7-day a week roster saw artillery shell production reach 3,500 a week. The New South Wales Government Railways, which tended to muddle through crises, had to lift its game to meet the massive increase in demand for materials and transport of substantial increases in production from the Steelworks.

There were all kinds of constraints to be overcome in both the Railways and the Steelworks now the outbreak of war meant shortages of vital metals and tools at a time when they were sorely needed. There was pressure on BHP's Newcastle Research Divisions to develop the ability to produce tungsten carbide - a hard metal used for machine tools - and magnesium metal, which had been sourced previously from Germany.

The Newcastle Steelworks, and its internal rail network was a hive of activity with new plants being built to produce previously imported products.

BHP's Newcastle Steelworks and rail system working flat out in 1940. *Source: Newcastle Herald.*

A RAAF Beaufighter in the heat of operations using parts from the Newcastle Steelworks. *Source: Bing Images.*

BHP also achieved a significant advance in armaments manufacture with the development of substitute bulletproof steel using manganese, silicon, and chromium with one of the beach sand elements.

Steel produced in Newcastle went into Owen and Bren guns as well as aircraft motor cylinders and gauges for the engines in the RAAF's Beaufort bombers and Beaufighters.

By 1942, there were nearly 9,000 workers at the Newcastle plant, but despite continuing demand for steel, production began to fall although the Works would still produce 295,000 shells. But manpower shortages and delays in the transport of raw materials, caused by the War's toll on ship numbers, had caused employment to drop to 8,217 in 1943.

Intriguingly, the wartime shortage of vessels, despite contributing to the Steelworks difficult position, opened a new avenue in boat building. More than 50 ocean-going tugboats were constructed at the Steelworks for the US Army and the British Navy.

One of 50 tugs built at the Newcastle Steelworks during WW2. *Source: Newcastle Herald.*

By 1945, coal was scarce and the need to use low-quality ore and limestone railed in from NSW rather than shipped from South Australia due to the shortage of vessels, forced costs up and decreased output at the Newcastle Steelworks.

A crowded BHP Newcastle site after much development during WW2. *Source: Flickr.*

After the War, the steel industry worldwide was in an even more parlous state than Newcastle's as far as worn out equipment creating a massive demand for new plant. This left little available for Australia, and by 1946 production had decreased again. An industrial dispute and coal rationing added to the problems.

To overcome the critical national labour shortage, the Federal Government established mass immigration schemes in 1947. These were vital to the Steelworks' immediate future and had a significant long-term impact on the make-up of the BHP workforce and the growth and character of neighbouring residential suburbs in Newcastle.

Then problems escalated with a 10-week national coal strike by 23,000 miners in 1949 causing No.1 and No.2 coke oven batteries to sit idle for 2 months and the Newcastle blast furnaces put out of commission for 58 days. Under the direction of the Chifley Labor Government, it was the first time Australian military forces had been used during peacetime to break a strike, in this case to work mines.

Newcastle coal miners in the 1940s. *Source: ABC.*

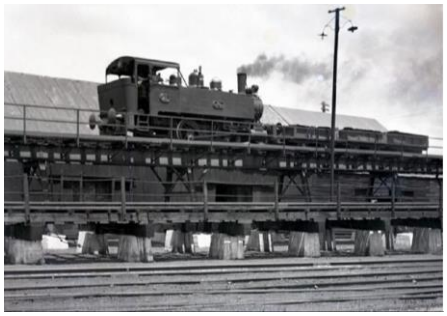
The coal industry only started returning to normal production levels in 1950. The Newcastle Steelworks resumed modernisation and expansion programs that would continue through the booming 1950s as Australia's steel industry struggled to keep up with the production requirements of a retail boom. Increasing prosperity was generating growth in sales of cars and whitegoods creating a demand for steel that exceeded supply by more than a million tons. To fill the gap, steel imports soared to more than 500,000 tons in 1950 and BHP Newcastle looked to increase production with a sense of urgency. A major project was launched to reclaim more land from the Hunter River and the Harbour to build more capacity.

At the same time, the first computerisation was being introduced to the administrative functions then the production line. By the 1980s, BHP Newcastle would become one of the most sophisticated computerised steel plants in the world. In contrast, through the 1950s the BHP internal railway network was still dominated by steam.

Dependence on rail

Externally, the Works received its iron ore supplies by ship from Whyalla and also exported some of its steel product by sea. Limestone for the blast furnaces and the lime kilns also came by sea and was unloaded at the ore stockpile. However most other raw material shipments, in particular coal, some coke and steel scrap arrived by rail, while a large part of the shipment of final products was also by rail.

Narrow-gauge Loco No.30 made by BHP Newcastle for its own Steelworks. *Source: NIHA.*



A BHP Tank Locomotive making its way through the Works. *Source: Flickr.*

Historical railway expert, Garry Glazebrook, estimates in the mid-sixties, as the Newcastle Steelworks was forging ahead, over 300 trains per day were operating in the Hunter Region. There was an extraordinary diversity in the mix ranging from coal trains hauled by Australia's largest steam locomotives, the 60-class Beyer Garratts sometimes double heading, to express passenger trains capable of operating at speeds of up to 130 kilometres per hour. These were hauled by 38-class steam locomotives, many of them built in Newcastle.

The Region's rail hub at Broadmeadow was very busy with 20 tracks plus sidings and two large roundhouses sharing another 80 short tracks. There were around 150 NSW Government-operated steam locomotives based at Broadmeadow's roundhouses and the separate roundhouse at Port Waratah, as well as a fleet of steam locomotives operating on privately-owned coal lines.

Garratt-hauled mixed goods near Narara heading for Broadmeadow. *Source: David Patterson.*

The Newcastle Steelworks generated a great deal of traffic as did the large Port Waratah Coal Loader which was still served by ancient steam locomotives built as far back as 1910.

Over 100 passenger and freight trains headed through Broadmeadow most days towards Sydney. The passenger trains coming back mostly terminated at Newcastle Station or headed North-West or to the North Coast towards the Queensland Border.

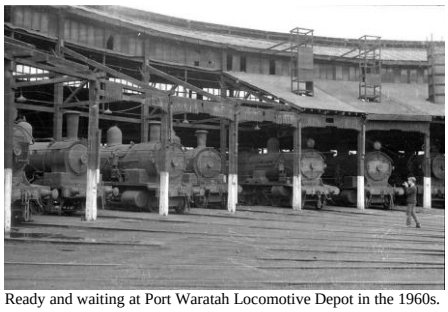
Loco 3804 powering the 'Newcastle Flyer' out of Stanmore heading to Newcastle in 1965. *Source: Patterson.*

Loco 3825 working with the 'Newcastle Flyer' & the Hawkesbury River Bridge in the distance. *Source: Flickr.*

Goods trains also took the routes North and strings of empty flat wagons were returned to the BHP Steelworks. There were numerous local pick-up goods trains trundling around the Hunter Region.

Large ore trains daily travelled all the way from Broken Hill, 1,300kms away, to Sulphide Junction for smelting and superphosphate production at the industry cluster near Cockle Creek.

Of course, there were many steam-hauled trains running from the widespread collieries feeding coal to the Port Waratah Coal Loader for export (mostly steaming coal), as well as coal and coke trains to BHP to produce more steel.



Ready and waiting at Port Waratah Locomotive Depot in the 1960s. *Source: Piccsr.*

Trains running to the Newcastle Steelworks and from the Port Waratah Coal Loader. *Source: Newcastle Star.*

There was also a series of coal trains which fed voracious power stations strategically located in the Hunter Region for producing and distributing electricity across the State.

Innovating to survive

During this period in 1962, an innovation was introduced at the Newcastle Steelworks that was to change BHP's operations forever - basic oxygen steelmaking (BOS). The BOS system would eventually replace open hearth steelmaking as it lived up to its claims to be the greatest breakthrough in steelmaking techniques in the 20th century.

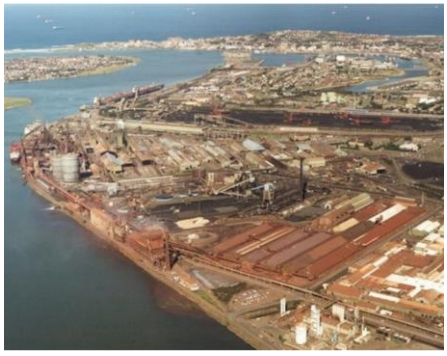
The outcome was that one 200-ton Basic Oxygen Furnace produced 50% more steel than all 14 of the old open hearth furnaces put together. The BOS system increased BHP Newcastle's steelmaking capacity to 1.6 million tons a year, which in turn demanded new or enlarged production units up and down stream and carriage of inputs and outputs by the NSW Railways.

A BHP centre-cab locomotive. *Source: Railway Pictures.*

In 1964, BHP replaced steam locomotives with diesels made up of five 660hp 70-ton end-cab locomotives, plus twenty 540hp 75-ton centre-cab locomotives. All were built locally but based closely on General Electric designs, similar to those found in America.

A BHP end-cab locomotive built by Goninan & Co in Newcastle. *Source: NIHA.*

By 1970, the Steelworks was benefiting from the preceding decade's investment in new plant and equipment enabling it to achieve new levels of efficiency. But by the end of the 1971, it was obvious an increasingly tight economic climate was not going to ease and operations were reduced because of insufficient orders. Nevertheless, numerous improvements continued to be made.



The sprawling BHP Steelworks dominated the landscape and the City of Newcastle. *Source: NIHA.*

The beginning of the end

By 1974, storm clouds started gathering over the Newcastle Steelworks. BHP warned that not only had the market for steel, both inside and outside Australia, slumped, but it showed little sign of recovering. *Continued next page…*

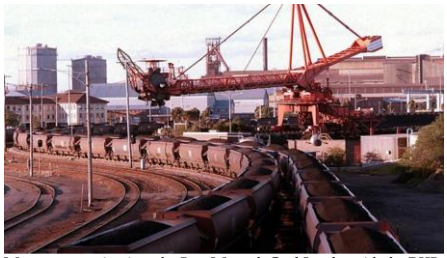
The beginning of the end – *continued…*

Costs were rising dramatically, and the BHP Board expedited the introduction of efficiency measures.

Almost going back to the days of William Sandford at Lithgow, BHP recognised that the industry downturn could only be weathered with the total commitment of all involved. It broke new industrial relations ground for the Company by organising an economic briefing for union representatives. They were told that the Steelworks was dependent on export business to maintain its current level of operation, which was only 80% of capacity. Directors also warned of the rise of South East Asian steelworks as aggressive low-cost competitors.

While orders and prices at the end of the seventies gave a hint of optimism, it was a false dawn as few realised that the steel industry generally was at the start of a long downhill ride, part of a worldwide recession triggered by skyrocketing oil prices.

In such a volatile situation, the NSW Railways found it difficult to plan for the future around the Newcastle steel industry. It struggled to cope with the rapidly growing coal export industry and pressue on the network feeding into the Harbour coal loaders. Ironically, increasing amounts of coal were being exported to the Asian steel-making competitors in Japan and South Korea who were taking BHP's markets!



Wagons streaming into the Port Waratah Coal Loader with the BHP Steelworks in the background. *Source: Daily Telegraph*.

BHP Steel's situation reflected international trends, but it was more worrying because Australian domestic demand had plummeted faster than international demand.

Alarmed, the Federal Government came to the rescue with the 'Steel Industry Plan of 1984 - 1988'. The three-way agreement between Government, the steel unions and BHP, provided a five-year assistance package of bounty payments up to $71.6million a year, a quota on imports, and an import-watch system.

Reassuringly, confidence and stability were restored to the steel industry. In return for this measure of protection, BHP was obliged to upgrade its plant and reduce costs. In Newcastle, the plan heralded an unequalled period of investment that would see $450 million spent on capital works over 5 years. It would also see the start of a new era in industrial relations with the entire workforce pulling together to reach one common goal - survival.

Every major trade union in the Steelworks signed up to the 'Newcastle Steelworks' Development Agreement', signalling the start of a new consultative era in planning and industrial relations. It seemed like a new dawn yet again.

The massive coke ovens at BHP Newcastle. *Source: NIHA.*

Soon, the general expectation of good returns on shareholder funds, industrial relations harmony and an ability to grow and meet domestic and overseas demand was seemingly being realised.

The move towards providing high-grade, value-added, specialist steels for the export market appeared to be paying off when BHP Steel achieved a record $92 million profit in 1988 but it was not to last. While the Steelworks marked its 75th birthday in 1990, the celebrations were muted with the Australian steel market slumping by 20% from its peak 1989 levels.

The Final Years

Still, all seemed to be under control, when in 1992, a combined cost-reduction scheme coupled with the statement by the BHP Board that it would continue integrated steelmaking operations at Newcastle, yet again reassured governments, dependent businesses and the nervous Newcastle community. Significant expenditure was proposed on plant and environmental improvement with the introduction of new technology.

What could go wrong?

A gas holder coming down during demolition at BHP Newcastle's Steelworks. *Source: NIHA.*

By the time the Newcastle Steelworks celebrated its 80th birthday in 1995, even more serious concerns were mounting across all the stakeholders. Alarmingly, some maintenance men revealed that they had been "putting patches on patches" for the last 5 years.

A strong hint of a final future was given when BHP said its industrial land to the West of the Steelworks would not be required by the Company and was set aside for a future industrial park, later called 'Steel River'.

On 29 April, 1997, BHP announced the end of the Newcastle Steelworks. The Board said that iron and steelmaking would be phased out by the end of 1999, with the loss of 2,500 jobs.

The existing rod and bar mills were to be retained along with an expanded wire mill operated by other companies. Feed for these operations at Newcastle would be supplied from Whyalla in South Australia.

That was the death knell for the Steelworks at the end of a string of false dawns. Premier Bob Carr denounced the closure as 'boardroom betrayal'.

On 30 September 1999, iron and steel making ceased and the plant closed. All structures barring a few heritage-listed buildings began to be demolished.

Leaving on the last day when the final 2,000 workers and 1,000 contractors were terminated at BHP whereas peak employment had been 12,000 people. *Source: Newcastle Herald*.

The internal rail network was ripped up and the massive site, reclaimed from the Harbour 85 years before, was remediated for reuse, possibly as a container terminal.

Demolition at BHP Newcastle. *Source: NIHA.*

The end of steelmaking at Newcastle as the plant is demolished. *Source: Central Western Daily*.

The BHP Steelworks site cleared. *Source: Newcastle Herald.*

To be continued with Part 16 of 24 next month…

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TTGGMC 2019 Christmas Lunch

The lunch was held at the clubrooms on Sunday 8th December. This is a collection of video clips and snapshots to record the event.

Click/tap here to watch the 2019 Christmas Lunch Video…

Members signing in – (L > R) Betty, Chris, Helen, and Brenda.

Augie assisting Ian in the final stage of preparing the club's traditional leg of glazed ham for the Christmas Lunch.

Augie handing out the first of two quizzes.

Ian indicating that lunch food is now ready in the other room.

First in…first served. L > R - Alan, John, Graham (hidden), Cheryl, Augie, Pat, Michael, and Tony.

Those lined-up at the door and beyond are patiently waiting.

Chris and Helen provide a cheerful pose, while on the waiting line.

Tender and tasty ham…thanks Ian.

Augie (white top) handing out pens to record quiz answers.

Augie calling out the answers to the business icons quiz.

Alan (blue top) attempts to catch a quiz prize tossed by Augie, but it falls short and hits the bottle.

Ken, the first winner of the Christmas Hamper raffle, draws the ticket for the second winner…Judi.

3rd prize, a bottle of Johnny Walker Red Label, was won by Peter.

Ian calls out the answers for the second quiz.

Augie is the winner of the second quiz and is seen here ready to clap her hands on the prize tossed to her by Ian.

*** Merry Christmas ***

Contributed by Janet and Mel Jones…

Janet and Mel's Train Chasing Safari Saturday 5th of October 2019

Pichi Richi Railway's diesel locomotive NT76 heading from PRRs depot at Quorn to Port Augusta to haul the *Afghan Express* train to Woolshed Flat.

On Saturday 5th of October 2019, (which reached 42 degrees in the shade that day in the Port Augusta/Quorn region) we joined fellow train enthusiasts and chased Pichi Richi Railway's (PRRs) *Afghan Express* from Port Augusta, South Australia to Quorn, South Australia.

However, on this occasion the *Afghan Express* joined up with PRRs *Pichi Richi Explorer* at Woolshed Flat, South Australia, and travelled as one train special to Quorn.

Because of the heat and extreme fire risk on the day, diesel locomotives were used in lieu of the usual steam locomotives.

Diesel Locomotive NT 76 hauled the *Afghan Express* from Port Augusta to Woolshed Flat, and Diesel Locomotive NSU 52 hauled the *Pichi Richi Explorer* from Quorn to Woolshed Flat, where they met, and joined to makeup the one train special from Woolshed Flat to Quorn.

PRRs Motor Inspection Car MIC 126 and a '*Barwell Bull'*, Brill Model 75 Railcar 106 and carriage were also featured in the combined train consist from Woolshed Flat to Quorn.

Early, on the same Saturday morning, we decided to travel from Port Augusta toward Quorn, on the off chance that we may meet a diesel locomotive heading from PRRs depot at Quorn to Port Augusta to haul the *Afghan Express* (as already indicated) and so it was, we did meet NT 76 not too far from Woolshed Flat. This led to some unexpected video opportunities prior to the main events for the day.

The resultant day's video snippets were grouped into a four-part video collection:
Part 1 – Diesel Locomotive NT 76 engaged in preparations ready to haul the *Afghan Express*;
Part 2 Diesel Locomotive NT 76 seen hauling the *Afghan Express* from Port Augusta to Woolshed Flat;
Part 3 Complex train shunting operations at Woolshed Flat; and,
Part 4 The combined locomotives and trains seen at various locations from Woolshed Flat to Quorn.

The following pictures are extracted from video Part 4 of 4…

Combined *Afghan Express* and *Pichi Richi Explorer* trains hauled by diesel locomotives NSU 52 and NT 76. Seen here having just left Woolshed Flat and now on the slow climb to the Summit, then onto Quorn.

PRRs Motor Inspection Car MIC 126 following a short distance behind the main train.

The gradient looks much steeper here, but that may be an optical illusion.

Watch the videos and hear these diesel locomotives at work.

Road and rail are very close at this point…picture taken out through the open car window as we travel along.

Now that is too close and hazardous…chap looks like he has already encountered barbed wire as indicated by his torn shirt.

The long train seen here about to crossover *Flinders Ranges Way.*

The hard-working locomotives are very close to the Summit.

The long train finally arriving at the Quorn Railway Station.

Watch the 4 videos making up the 4 key parts of the day's activities by clicking/tapping on the individual hyperlinks below…

(My favourite for the day is Part 4 of 4)

Train Enthusiast's Video Diary 2019-10-05 Part 1 of 4

Train Enthusiast's Video Diary 2019-10-05 Part 2 of 4

Train Enthusiast's Video Diary 2019-10-05 Part 3 of 4

Train Enthusiast's Video Diary 2019-10-05 Part 4 of 4

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Contributed by Mel Jones…

‘The Bird – Australian Magpies’

(Gymnorhina tibicen)

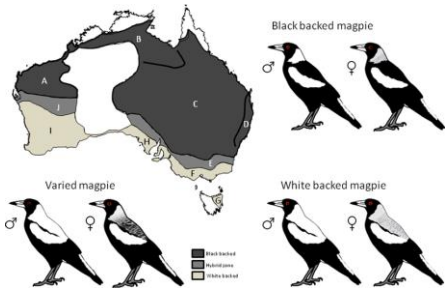
Most mornings we wake up to hear at least one magpie warbling in a gum tree in our yard. It is a pleasant experience despite being smothered at times by the increasing noise of passing traffic on Hancock Road.

Ever since September 1975, magpies have shared their existence with us; feeding, nesting, breeding and raising their young. I’m not sure of how far their territory stretches, but it appears to include a cluster of houses adjacent to us and a portion of a nearby park on Shannon Rise. Observations during walks up along Grenfell Road past the Tea Tree Gully Golf Course suggest there may be three sets of magpies along that stretch.

There is one experience that we had with a magpie that involved a large bird aviary that I had built in the backyard in the late 1970s and was dismantling in 2007. I had removed most of the bird netting except for some left partially unfastened on the roof; to be removed in due course. The next day I noticed a magpie was tugging at the bird netting; pulling at it in all directions including attempts to fly up and away with it. Eventually, when the magpie had given up, I cut up 20 small strips of the netting (roughly 120mm x 35mm) thinking that maybe the bird was after the netting for nesting material.

Well the next day some of the cut netting was missing. Over the next few days more went missing until it was all gone. I searched the trees in our yard and eventually found what looked like the foundation of a nest high in the tall blue gum next to our letter box. A check using binoculars verified that the foundation of the nest was made up using the bird netting. Eventually, the nest was completed, and two magpies were raised.

I have left cut bird netting strips out on two occasions since, when I have seen a magpie fossicking for nesting material. On the first occasion, the netting was used for a nest in a large gum tree in a neighbour’s yard. On the second occasion the netting was not taken.



The following is an extract taken from Facebook and written by Zoe Elizabeth...

‘Australian Magpies are the best things ever and here is why…

1. They are the dogs of the sky:
They are so playful and silly, and have you ever watched baby maggies play? It's the best thing ever. e.g. one of them might get a small stick and run around with it and then its sibling snatches it off them and then it runs away and then they go and roll around in the sprinklers and it’s so cute. Also, they can hear grubs wriggling in the lawn…but baby maggies are still learning to catch them so they pounce on them and just don't catch anything.

Young magpies playing.

2. They enjoy sunbaking:
Have you ever seen a maggie laying down with its wings splayed looking all dead? well, no, it's most likely not dead... it's sunbaking.... and looking damn silly doing it.

3. Swooping:
Only 10% of magpies swoop. Those maggies only swoop when they have live young in the nest…not eggs. And, they don't swoop when you enter their territory...it’s when you're in the small radius surrounding their nest. But don't forget, it’s only about 10% that may do this.

4: Territorial:
Once magpies find their territory, they will live there for their entire life which can be like 25 years (if dickheads don't interfere). THEREFORE, if you have maggies near your house/ work/ somewhere you go to often etcetera, then chances are they have been there for a long time and you are seeing the same ones.

5: Recognise familiar faces:
Those same maggies that you see all the time KNOW WHO YOU ARE BY YOUR FACE. Thus, once they know you're not a threat they are fine with you and you can gain their trust if you give it a whirl... maybe put some oats out on the lawn or some frozen then thawed mince mixed with 'Wombaroo' and they will be your best friend.

Feed me, feed me, feed me…

6: Did you know, last "swooping season", I befriended the mum and dad maggie on my street and fed them treats every day and one morning...omg this was the best...the mum was sitting in our little front garden where I fed her and she was with her two little fresh fledglings just sitting there not able to keep their heads up and kept falling asleep and fighting with each other and they were so young and little and had the little pink soft bits at the sides of their beaks and I don’t know, but I feel like she was showing them to me? I don't know if they do that but hey, I wouldn't put it past them. Or maybe she knew my front yard was safe and it was a good place to start them off. But either way...what an honour.

7: Ok this is my favourite thing about maggies. So, they mate for life and share 50/50 responsibility for raising their kids. BUT if for some reason the dad maggie gets taken or killed (or culled)... within HOURS another male magpie will go to the nest and go to the female "hello I will happily help you raise your kids" and she says "ok, why not" and he will then go above and beyond taking on the dad duties…foraging, feeding the kids, protecting the nest etc. SO, HE IS BEING THEIR STEPDAD! Prettyyyyyy prettyyyyyyy kewwwlll.

8: This is the last one (although I could go on). When magpies need to leave their parents territory and find their own and a mate, sometimes it takes them a while so all these single funny drifter maggies join together and make a big flock and hang out until they find a mate and I think that is just so funny.

9: Ok I lied...one more. Baby magpies learn their calls from their parents. So, when you hear young maggies quietly warbling and muttering and singing to themselves, IT MEANS THEY ARE PRACTISING!

10: WAIT: I forgot...maggies are experts at mimicking sounds…google it! There's a maggie at the park where I take my dog that mimics a Carnaby's cockatoo and it’s the best cos they are my fav birds too…2 in 1 deal.

Anyway folks, sorry about this. I just love magpies so much and I want people to think about them as funny, cute, highly intelligent birds that just run around with the most beautiful warble and to not think of them as swoopy boys...10% don't forget.

Far out that was a long one.

Sincerely, Zoe Elizabeth.’

Continued next page…

'The Bird – Australian Magpies' – Continued…

Extract from Birds SA…

https://birdssa.asn.au/birddirectory/australian-magpie/

Photo Credit: John Spiers

Australian Magpie

Gymnorhina tibicen

With their striking black-and-white plumage, it is no wonder they are a favourite mascot of numerous footy teams and other organisations. Their caroling, even late at night, is one of the most Australian of sounds, and they are regarded as one of the best songbirds in the world. Both sexes sing and often do so together (caroling) or by taking turns (duetting). They can have a substantial repertoire which includes mimics of other birds and animals found in their territory. Sometimes they will sing for long periods on their own (called 'warbling').

Although obvious all year round, you may well notice magpies most in spring when some of them stridently defend their young and their territories by swooping down on you. This is always a big news item but very few injuries result from magpie swoops. Most of the time the birds are just trying to keep people away from their nests. Avoiding an area where swoops are known to occur a few weeks in the year is the best way to avoid being swooped.

Magpies are generalist feeders taking a wide range of insects as well as small animals, such as lizards. They feed almost exclusively on the ground, using sight to detect prey on the surface and their excellent hearing to locate prey beneath the surface. The stance they take with their head cocked to the side, when listening to precisely locate hidden prey before plunging their beak into the ground, is characteristic.

Magpies form long-lasting pair bonds but there is much extra-pair mating. They are also sedentary and territorial, with the same pair staying in an area for years. Co-operative breeding, with offspring of the previous generation staying on to assist with raising the next brood, has been observed in magpies. The nest is a large cup of twigs placed high in a tree and typically open to the sky.

Magpies are closely related to butcherbirds and woodswallows. They come in numerous sub-species. Broadly there are two forms: - a white-backed form found south and west of Port Augusta and a black-backed form found to the north and east, with a broad area of intermediate forms between these two areas.

Description

With their striking black-and-white plumage, and large pointed bill, and beautiful song, Australian Magpies are arguably one of our most recognisable birds.

Where to find it

Australian Magpies can be found across all South Australia.

An interesting website to visit…

Click/tap on the following hyperlink…

Danielle the Magpie Whisperer

Click/tap on the following hyperlinks to access videos of magpie activity uploaded to YouTube…

The Magpie Whisperer - Visiting Australian Magpies Around My Neighbourhood…

https://www.youtube.com/watch?v=f8Cy_dEdexk

Bonnie Thomson - Australian magpie playing with a dog…

https://www.youtube.com/watch?v=qoaEBb4IN4Q&feature=youtu.be

Warro – Australian magpies singing – or – The 4 Tenors…

https://www.youtube.com/watch?v=jx_96dgYySU

Two Stones – Australian magpie imitates alarm, other birds, and a dog…

https://www.youtube.com/watch?v=FBsEj2sz0qE

MyAussieMagpie - Aussie Magpie barks like a dog - The amazing Mimicking Magpie…

https://www.youtube.com/watch?v=Csbw0L870V0

yatezy9 - Magpie crowing like a rooster or clucking like a chicken…

https://www.youtube.com/watch?v=X9lx2MWWX-g

Abe Anand - You won't believe this Magpie's song…

https://www.youtube.com/watch?v=Ib-5EPcnf9Q

crissydolls - Magpie singing,whistling and mimicking human speech VERY SMART…

https://www.youtube.com/watch?v=ZcG5heJm5EI

The Magpie Whisperer – My Best Friend Boots, the Magpie…

https://www.youtube.com/watch?v=mpNwLJTeB9s

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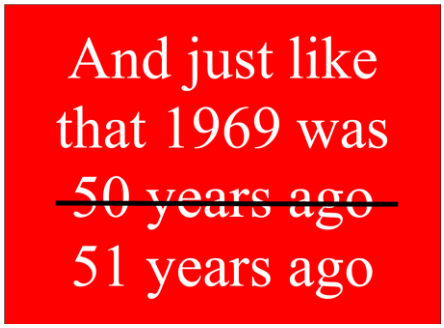

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Prompted by an emailed video clip from Doug Walker…

Let's Go Boating

Insane boat fails compilation 2020! #3

Click/tap on the following hyperlink to view video on YouTube…

https://www.youtube.com/watch?v=lwc7NZpkElM

https://www.youtube.com/watch?v=_sve2o486PE

Boat Fails Compilation

Click/tap on the following hyperlink to view video on YouTube…

https://www.youtube.com/watch?v=-J6TTeL-wNs

Horrible Boat Crashes #1

Click/tap on the following hyperlink to view video on YouTube…

https://www.youtube.com/watch?v=98FQS-tcLPE

Crazy Boating Fails #9 and 2019

Click/tap on the following hyperlink to view video on YouTube…

https://www.youtube.com/watch?v=oqU-pz0fOws

https://www.youtube.com/watch?v=EoIIuLoTS0w

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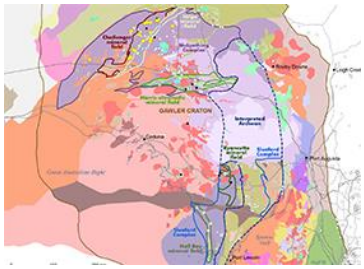
Features

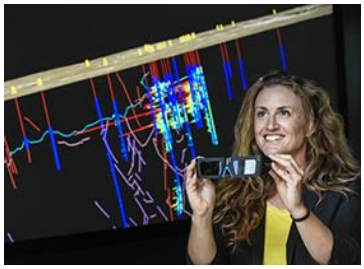
New Hallett Cove geological map
Explore a natural science treasure
Click/tap here to read more...



Discover Gold
Gold mineral systems of the Gawler Craton.
Click/tap here to read more...

News

Accelerated Discovery Initiative
Investing in mineral exploration, data and innovative technology.
Click/tap here to read more...



ExploreSA: The Gawler Challenge
Unearthing South Australia's next big mineral deposit.
Click/tap here to read more...

Excellence in energy and mining
2019 Premier's Awards.
Click/tap here to read more...

Moving forward
What's next for South Australia's mining laws.
Click/tap here to read more...

Discovery Day
Gold mineral systems of the Gawler Craton.
Click/tap here to read more...

Connecting globally
Latest developments in structural geology, tectonics and solid earth geophysics.
Click/tap here to read more...

Click/tap on picture above to download the journal.

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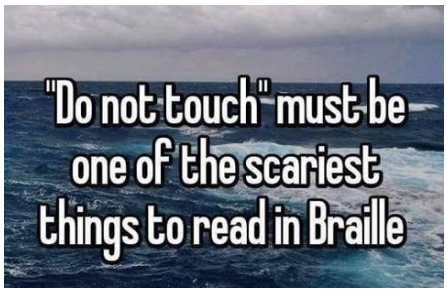
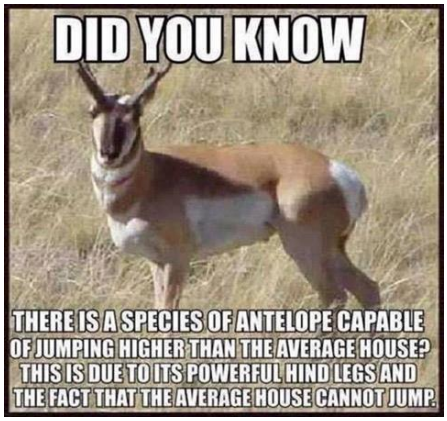
Contributed by Doug Hughes…

Analytical Approach to Life





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Contributed by Doug Walker…

Five Answers We Have All Been Waiting For!

Q: What is an Australian kiss?
***A**: It's the same as a French kiss, but 'down under.'*

Q: What do you do with 365 used condoms?
***A**: Melt them down, make a tyre, and call it a Goodyear.*

Q: Why were hurricanes normally named after women?
***A**: Because when they come, they're wild and wet, and when they go, they take your house and car with them.*

Q: Why do girls rub their eyes when they get up in the morning?
***A**: Because they don't have any balls to scratch...*

Bonus Question & Answer…
Q: What is a man's ultimate embarrassment?
***A**: Running into a wall with an erection and breaking his nose.*

Nominated as the world's best short joke
A 3-year-old boy examined his testicles while taking a bath. 'Mom', he asked, 'Are these my brains?' 'Not yet,' she replied.

***

Contributed by Doug Walker…

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Contributed by Doug Walker…

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Contributed by Doug Walker…

1 to 9 of 81 Crazy Things You Probably Didn't Know About Australia

This picture is not quite the same as item 1, nevertheless, it's a fair representation.

1) Australia is as wide as the distance between London to Moscow.
2) The biggest property in Australia is bigger than Belgium.
3) More than 85% of Australians live within 50km of the coast.
4) In 1880, Melbourne was the richest city in the world.
5) Gina Rinehart, Australia's richest woman, earns $1 million every half hour, or $598 every second.
6) In 1892, a group of 200 Australians unhappy with the government tried to start an offshoot colony in Paraguay to be called 'New Australia'.
7) The first photos from the 1969 moon landing were beamed to the rest of the world from Honeysuckle Tracking Station, near Canberra.
8) Australia was the second country in the world to allow women to vote (New Zealand was first).
9) Each week, 70 tourists overstay their visas.

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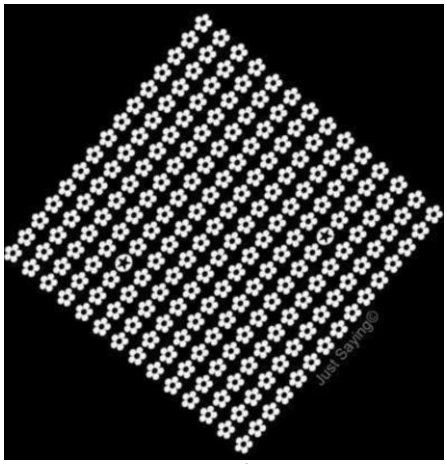
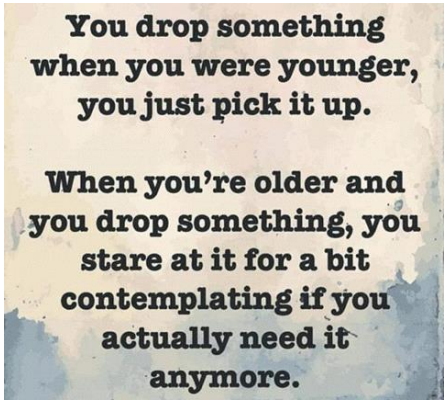
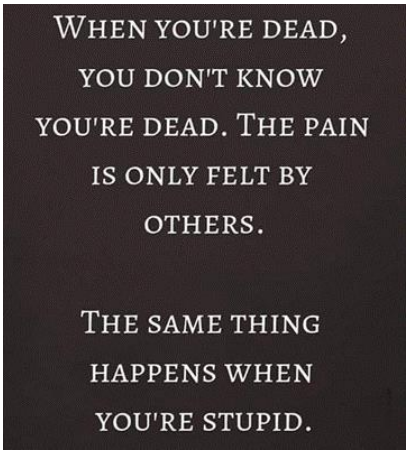


How many stars can you find in 10 seconds?

Contributed by Doug Walker…





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Mineral boxes and flats for sale

Mineral box sizes

Sold in bundles of (10)or 100

3.5 x 3.3cm.....($1.50) $12.00
4 x 4cm.....($1.50) $13.00
5 x 5.2cm.....($2.00) $15.00
6.2 x 7.5cm.....($2.50) $18.00
7 x 7cm.....($2.50) $19.00
7 x 9.5cm.....($2.50) $20.00
8.5 x 9.5cm.....($3.00) $22.00
9.5 x 9.5cm .....($3.50) $23.00
13 x 9.5cm.....($4.00) $25.00
13 x 12.5cm.....($4.50) $30-00

Flats sizes

395 x 265 x 50mm.... $2.50
400 x 270 x 75mm.... $3.50 **NEW SIZE**
398 x 290 x 98mm $4.00

Greg Vort-Ronald
0413796279 or **luv2paint@iprimus.com.au**
all boxes and flats are folded together, no staples required
(Prices subject to change)

GEM QUALITY CABOCHONS FOR SALE

90+ different varieties

Suitable for jewellery makers or collectors

Agate	Fossil Coral	Obsidian (Snowflake)	Rhodonite
Amazonite	Gel Chrysocolla	Obsidian (Flower)	Rolling Hills Dolomite
Amethyst	Hungarian Agate	Obsidian (Spiderweb)	Rosetta Lace Agate
Ammonite	K2	Ocean Jasper	Ruby in Matrix
Apache Gold	Labradorite	Orthoceras	Ruby in Zoisite
Aquamarine	Lapis Lazuli	Owyhee Blue Opal	Scolecite (pink)
Asteroid Jasper	Larimar	Parral Dendrite Agate	Septarian Nodule
Azurite	Larvikite	Peanut Wood	Seraphinite
Bloodstone	Lepidolite	Peruvian Blue Opal	Solar Quartz
Blue Lace Agate	Malachite	Peruvian Pink Opal	Sonora Dendritic Opal
Botswana Agate	Maligano Jasper	Petrified Palm	Spiderweb Jasper
Brecciated Jasper	Marcasite	Petrified Palm Root	Stromatolite
Bronzite	Marcasite in Quartz	Picasso Jasper	Sunstone
Bumble Bee	Marcasite (Nipomo)	Pietersite	Thulite
Burma Jadeite	Maw Sit Sit	Pinolith	Tigereye
Blue Chalcedony	Moonstone	Polish Agate	Tigeriron
Charoite	Morado Opal	Polychrome Jasper	Turkish Stick Agate
Chrysocolla	Moroccan Seam Agate	Poppy Jasper	Turquoise
Covellite	Moss Agate	Prehnite	Turritella
Crazy Lace Agate	Noreena Jasper	Psilomelane (Dendritic)	Unakite
Dendritic Agate	Obsidian (Gold Sheen)	Pyrite Druzy	Verdite
Dendritic Opal	Obsidian (Silver Sheen)	Pyrite in Quartz	
Dinosaur 'Gembone'	Obsidian (Copper Sheen)	Rainforest Jasper	
Eudialyte	Obsidian (Mahogany)	Rhodochrosite	

Top quality stones at very reasonable prices

EFTPOS available

Viewing by appointment only (St. Agnes or T.T. Gully)

Contact - Augie Gray on 0433 571 887

Useful Internet Links

2019/2020 Australian Gem & Mineral Calendar: Click here...
Adelaide Gem and Mineral Club: Click here...
AFLACA-GMCASA: Click here...
Australian Federation of Lapidary and Allied Crafts Association (AFLACA): Click here...
Australian Lapidary Club Directory: Click here...
Australian Lapidary Forum: Click here...
Broken Hill Mineral Club: Click here...
Enfield Gem and Mineral Club Inc: Click here...
Flinders Gem, Geology, and Mineral Club Inc: Click here...
Gem and Mineral Clubs Association of South Australia: Click here...
Gemcuts: Click here...
Lapidary World: Click here...
Metal Detectors - Garrett Australia: Click here...
Metal Detectors - Miners Den Adelaide: Click here...
Metal Detectors - Adelaide Agent for Garrett Australia: Click here...
Mineralogical Society of SA Inc: Click here...
Murraylands Gem and Mineral Club Inc: Click here...
NQ Explorers: Click here...
Prospecting Australia: Click here...
Southern Rockhounds: Click here...
Tea Tree Gully Gem and Mineral Club: Click here...
The Australian Mineral Collector: Click here...

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2020 Happy New Year

2020 Start Dates

Tuesday Faceting class resumes on 14th January
Wednesday Silver class resumes on 15th January
Thursday Lapidary class resumes on 16th January
Friday Silver class resumes on 17th January
Club monthly meetings resume on Thursday 6th February

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