



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.

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Treasurer: Russell Fischer. Email: rfischer@bigpond.net.au

**Mar
Edition
2015**

"Rockzette"

Tea Tree Gully Gem & Mineral Club News

In this edition...	President's Report	Meetings, Courses & Fees.
<ul style="list-style-type: none"> • Diary Dates • Stop Press • President's Report. • Club Activities. • Meetings, Courses & Fees. • Mineral Matters - Quartz (Part 3 & Part 4). • General Interest - Lapidary • General Interest - Other • Members Notice Board. • Useful Internet Links. 	<p>Hi All, I spoke to the TTG Council two weeks ago about the cracks in the clubrooms. I was told that they will be repaired by the end of the financial year. The planning for the 2015 Exhibition is under way; only 3.5 months to go. Any suggestions will be gratefully appreciated. Regards, Ian.</p>	<p>Meetings Club meetings are held on the 1st Thursday of each month except January: Committee meetings start at 7.00 pm. General meetings - arrive at 7.30 pm for 8.00 pm start.</p> <p>Faceting (times to be advised) <i>Course 10 weeks x 2 hours Cost \$20.00.</i> <i>Use of equipment \$1.00 per hour.</i></p>
<p>Diary Dates</p>	<p>Club Activities</p>	<p>Lapidary (Tuesday mornings) <i>Course 5 weeks x 2 hours Cost \$10.00.</i> <i>Use of equipment \$1.00 per hour.</i></p>
<p>2015</p> <ul style="list-style-type: none"> • March 21st & 22nd, 2015 Canberra Lapidary Club, Canberra Rock Swap, Exhibition Park, ACT. • April 3rd to 6th, 2015 National GemBoree, Horsham, VIC. • May 1st to 3rd, 2015 Murraylands Gem and Mineral Club Rockarama 'Crystal and Craft Fair' incorporating SA Metal Detecting Championships. • June 20th to 21st, 2015 Tea Tree Gully Gem and Mineral Club Exhibition (Biennial). 	<p>Competitions Competitions have been suspended indefinitely and are currently replaced with members showcasing an interesting part of their collection.</p> <p>Field Trips No fieldtrips planned during Summer months.</p> <p>Library <i>Librarian - Augie Gray</i> 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.</p> <p>Silver Craft Friday mornings - 9 am to 12 noon. Cost \$20 for new short course attendees. All are welcome.</p>	<p>Silver Craft (Friday mornings) <i>Course 5 weeks x 2 hours Cost \$20.00.</i> <i>Use of equipment \$1.00 per hour.</i></p> <p>While some consumable materials are supplied by the club, trainees must supply any additional requirements.</p> <p>Trainees who use the club equipment (for example, magnifying head pieces, faceting equipment, tools, etc.) must return them to the workshop after usage. Trainees are also encouraged to purchase and use their own equipment.</p> <p>In the interest of providing a safe working environment, it is necessary to ensure individuals using the workshops follow the rules set out in <i>Policy No. 1 - 20/11/2006</i>.</p>
<p>Stop Press</p> <ul style="list-style-type: none"> • Box (small, tissue, shoe, etc.) and 'Grab Bag' Appeal - required for this year's Exhibition. • Thank you to Pat Fischer for preparing and supplying the club with 'grab bags' ready for the 'Exhibition' mineral stall in June. • See 'Members Notice Board' for additional 'Meeting Reminders/Updates' (Last Page). • April meeting moved from Thursday 2nd April 2015 to Thursday 9th April 2015. 	<p>Friday mornings - 9 am to 12 noon. Cost \$20 for new short course attendees. All are welcome.</p> <p>Tuesday Craft Tuesday mornings - 11 am to 2.30 pm Faceting, etc. All are welcome. Contact Doug (08 7120 2221) if you would like to learn faceting.</p> <p>Wanted - The faceting group occasionally has members wishing to buy a 2nd hand faceting machine & accessories. Could anyone with one not being used please contact: Doug Walker 0871202221 or Russell Fischer 0417083227</p>	<p>It is necessary that <i>Health and Safety</i> regulations <u>are</u> adhered to at all times.</p> <p>Trainees must ensure: that all work stations 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.</p> <p>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.</p>
<p>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 activities, including, but not limited to, meetings, field trips, all crafts and annual shows. An indemnity is to be signed by all participants before each and every field trip activity they attend.</p>		<p>Club Subscriptions \$25.00 Family. \$20.00 Family/Pensioner. \$15.00 Single. \$12.50 Single/Pensioner. \$10.00 Joining Fee.</p>



Quartz, Anstey Hill Quarry, S.A.



Quartz, Ashton Quarry, S.A.



Quartz, Anstey Hill Quarry, S.A.



Quartz, Arkaroola Bore, Flinders Ranges, S.A.



Coated Quartz as found, Ashton Quarry, S.A.



Quartz, Arkaroola Bore, Flinders Ranges, S.A.



Quartz var. Smoky, Black Top Quarry, S.A.



Similar Quartz with coating removed, Ashton Quarry, S.A.



Quartz, Ashton Quarry, S.A.



Quartz, Bridge Road Quarry, S.A.



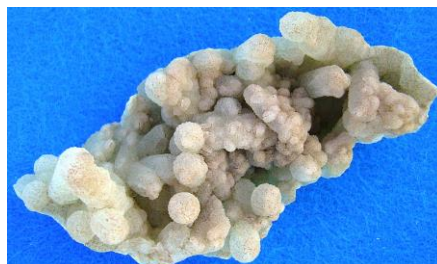
Quartz var. Smoky, Black Top Quarry, S.A.



Quartz var. Smoky, Black Top Quarry, S.A.



Quartz, Bridge Road Quarry, S.A.



Quartz (Nail Hole) Blue Mine Creek, Arkaroola, S.A.



Healed Quartz, Bridge Road Quarry, S.A.



Quartz, Kapunda, S.A.



Quartz, Bundaleer, Spalding, S.A.



Quartz, Kapunda, S.A.



Quartz (Drusy) Linkes Lode, Flinders Ranges, S.A.



Quartz (Jap Twin) Montacute Quarry, S.A.



Quartz, Linkes Lode, Flinders Ranges, S.A.



Quartz var. Smoky, Olary Region, S.A.



Quartz, Montacute Quarry, S.A.



Quartz var. Amethyst, Mt Gee, Arkaroola, S.A.



Quartz, Dolomite & Chalcopyrite, River View Quarry, S.A.



Dolomite and Quartz, Montacute Quarry, S.A.



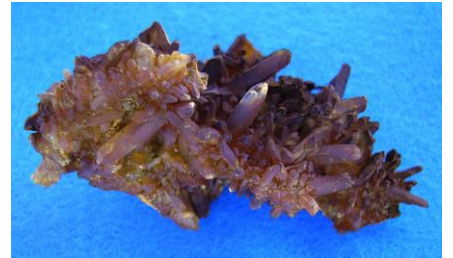
Quartz, Dolomite & Chalcopyrite, River View Quarry, S.A.



Quartz, Stonyfell Quarry, S.A.



Quartz and Chalcopyrite, Moonta, S.A.



Quartz, Stonyfell Quarry, S.A.



Quartz, Tea Tree Gully, S.A.



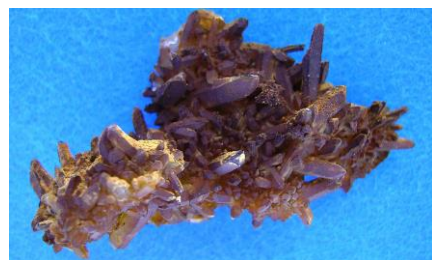
Quartz, Mt Gee, Arkaroola, S.A.



Quartz, Wadnaminga, S.A.



Quartz, White Rock Quarry, Magill, S.A.



Quartz, Stonyfell Quarry, S.A.



Quartz, White Rock Quarry, Magill, S.A.

The meaning of 'Crystal Clear'?

- 1) Readily seen, perceived, or understood.
- 2) Free from what obscures or dims.
- 3) *Admitting light so that objects beyond can be seen.*

While sorting some photos of a quartz crystal found at White Rock Quarry, Magill, South Australia, I noticed what I thought was my reflection along the length of a crystal face. Then I realised this could not be so as the crystal was placed in a west-east position in relation to the camera and myself. The reflected image was in a south-north position, that is, along the length of the crystal.

More photos were taken with the crystal moved to various positions. The image, when seen in these additional photos, appeared imbedded in the crystal's form; therefore, it could not be a reflection of an external object. However, the image only appeared when the crystal was rotated to a specific angle with the camera or the naked eye; causing light refracting a negative image into a positive one.

The predominant striations on the long faces of the crystal (typical of quartz crystals from the stated location) also refracted images of interest.

Curious to explore this phenomenon, I enlarged the images in a photo editor. The photos were not manipulated or altered in any manner; just cropped and enlarged.

Below is a collection of the original photos...

Note predominant striations in all images and my perceived image of a person in photos 2 and 3. Photo 04 striations refract a series of paneled scenes.



Photo 01

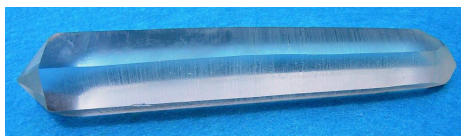


Photo 02



Photo 03

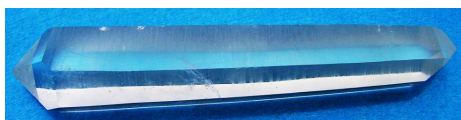
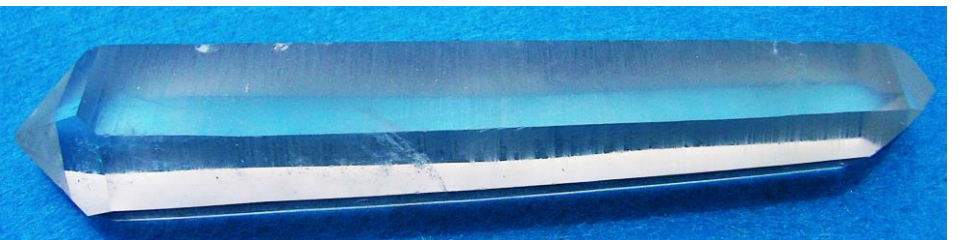
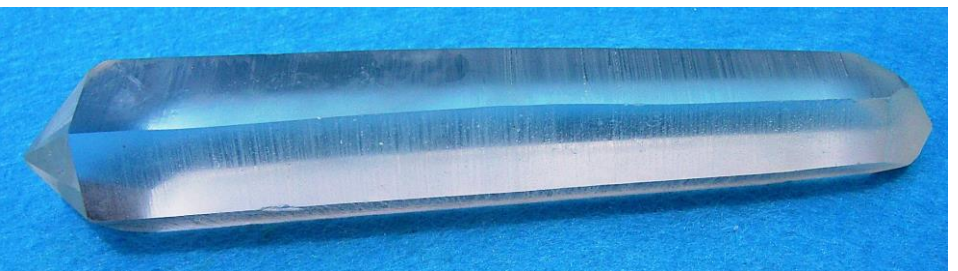
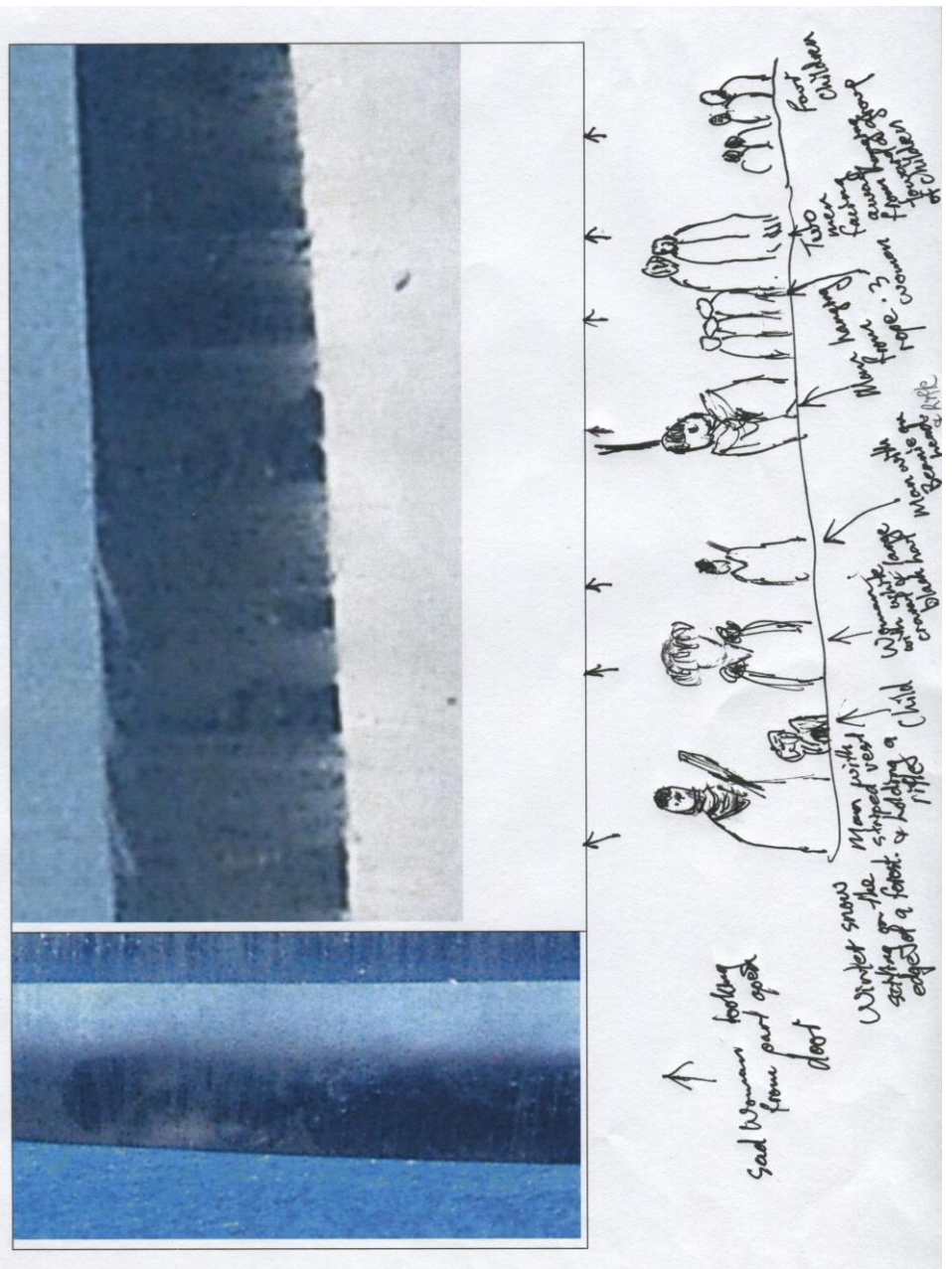


Photo 04

To the upper right is the amazing result from cropping and enlarging the crystal photos; including my unintentional, but nevertheless, macabre interpretation. **Squint your eyes; it helps in clarifying the images.** Freaky! Crystal clear: *'Admitting light so that objects beyond can be seen'*. Mel.



Reference contributed by Doug Walker...

<http://skywalker.cochise.edu/weller/students/polishing/project.htm>

Cochise College

Geology Home Page

Roger Weller, geology instructor
weller@cochise.edu

Gem Polishing

Leticia L. Basurto

Physical Geology

Spring 2007

Cutting and polishing a Raw Gemstone

History

Where did gem cutting get its start? In prehistoric times 70,000 BCE man banged and hammered away with his tools of stone, rubbing one stone against another, polishing the stone by using sand, also man chiseled and carved out symbols and primitive writings on hard rock and cave walls. In doing so, man learned the great secret that some stones are harder than others and they are capable of inflicting scratches on other less hard stones.

This is how drilling and butting became possible. Drilling was the first of the lapidary arts, and it shows itself as far back as 1,000,000 years ago. In these times people learned that rocks could be broken or fractured. Butting was the shaping of a gem through rubbing one gem against another harder mineral type.

At one time man compared the smooth polished effect from the stones that came out of a river and a stream. Man concluded that something was bringing a smooth and polishing effect to the stones in these streams. It was believed that other particles in the river working to complement the action of the constantly running water.

By 3,000 BC man had developed lapidary skills to such a level that cylinders made of serpentine, were commonly used. Before Christ, lapidaries had pretty much conquered the challenges of sawing, chipping, drilling, and faceting. The work was crude but there is much work that is still with us today.



Many diamond cutters used a small box beneath their manipulations, as in the picture on page one. This was called a butters box to catch the rubbings or diamond dust, whose grit was so tiny it was later used in the polishing process. The technique was used until more refined techniques were introduced.

In the 1400's was when the breakthroughs went into full swing. Louis de Berquen, of Bruges, Flanders, was acknowledged as the Father of Modern Diamond Cutting, in 1476. His introduction of absolute symmetry, improvements in the polishing process and the development of the pendeloque shape. He developed the horizontally mounted metal grinding wheel (skeif).

He covered the metal wheel with diamond dust suspended in oil. The oil kept the diamond particles on the rotating wheel rather than allow centrifugal force to sling them away. This led to great advances in polishing technology and control of the stones that had been cut.

SHAPES

The Bead and Cabochon known as "Glyptic" was the first gemstone cuts used by man. It was the first choice for jewelry making and ornamentation. These stones were shaped by rubbing them with other stones and polished by using sand as an abrasive. These cuts go back to the 7th millennium. The examples below are some of the early Roman gemstone cuts with several variations of cameo and intaglio.



Photo is from "Lapidary History Early Gemstone Cuts"

A cabochon is a shape that is simply rounded as opposed to a faceted cut. In the 1400's, gem cutters were limited to the cabochon, due to the limited technology available. A cabochon is used to describe a cut of a gemstone that is not faceted. When cutting a cabochon, the small amount of light that is able to pass through the stone is due primarily to its crystalline structure and optical qualities. Cutting a stone cabochon is usually applicable to opaque gems, although transparent semi-precious gemstone can also be cut cabochon cut. Below are some more examples of cabochon cuts. Cabochon cutting, or cabbing, is often done by simply holding the stone with the fingers of both hands. This allows the twirling of the stone to form smooth curves and avoid flat areas during grinding, sanding, and polishing. A typical cabbing machine holds several wheels representing different series of diamond or silicon carbide grit (80, 220, 280, 600, 1200, 14,000) turned by an arbor and motor, and a water supply that provides a coolant/lubricant to wash away debris and keep the stone from overheating as it is ground and sanded on progressively finer wheels.

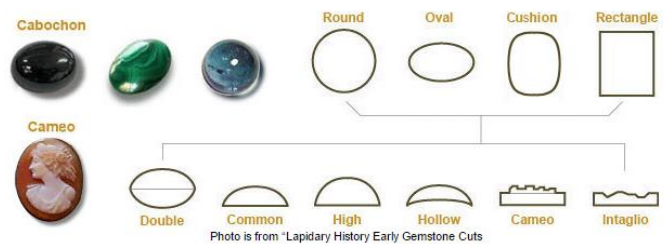


Photo is from "Lapidary History Early Gemstone Cuts"

Other types of cuts are faceted cuts, which are usually done on transparent stones. Faceted gemstone and diamond were introduced in European jewelry during the late 13th and 14th centuries. Flat facets usually in a high symmetrical pattern, are cut and polished over the entire surface of a stone.

A stone that is faceted is dopped, usually with adhesive wax, on a metal dopstick to control the positioning of the cutting angle. The facets are then ground, sanded, and polished on a rotating lap, while rotating water acts as a coolant /lubricant. When one side top or bottom of the stone is finished, the other side of the stone is transferred to a dopstick on the opposite side. In recent years facetors have acquired techniques such as concave facets, grooves, and combinations of faceting and cabbing to produce new forms in faceted stones. Below are some photos of the construction of the gem cutting machine. Next is the model of the gem cutting machine and the image of the diamond cutters engraving using his books in 1694 and using a foot powered cutting wheel.

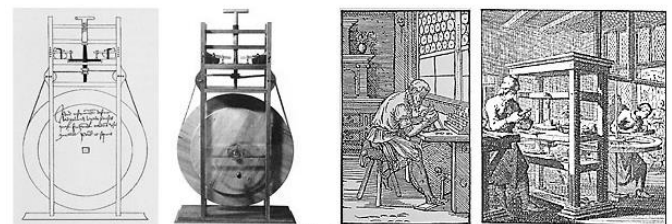


Photo is from "Gem Cutting & The History of Faceting Gemstones"

Continued next page with 'Cutting and Polishing'.

CUTTING AND POLISHING

The steps to cutting and polishing a stone are:

Marking: A rough stone is always marked to determine the direction of the grain or cleavage. The natural shape of the stone will be important in deciding how to cut the stone.

Cleaving: When a stone is struck along its grains to split it.

Sawing: The stone is cut closer to the shape of the finished cut without any facets. When sawing the stone there is water or oil moving at all times to prevent overheating. The sawing can also give stone unwanted fractures. Sawing is when all the unwanted material is removed from the stone to get closer to desired cut. The next page is an image of a saw cutting a raw stone close the shape wanted.

Grinding: The stone is on a dopstick or held with the fingers to move around to each wheel. Each wheel has a different grit ranging from 80, 220, 280, 600 grit. This process is for shaping and sanding of the stone. This machine also needs coolant to prevent overheating.

Sanding: Sanding the stone is the same process as grinding, but with finer abrasives

1,200 and 14,000 grit. This step is to remove deep scratches.

Lapping: Lapping is similar to grinding and sanding. The process is usually done on a rotating or vibrating flat disk known as a lap, this is to create flat surfaces on a stone. Laps are usually made of cast iron, steel, or a copper-bronze alloy.

Polishing: Polishing the stone is done on a felt, leather, cloth, cork, wood, tin, tin-lead or lucite laps. The wheel is wet with a polishing agent such as a metal oxides - aluminum oxide (alumina), cerium oxide, tin oxide, chromium oxide, ferric oxide (jeweler's rouge), or silicon dioxide (tripoli). This is the last procedure and it is to remove any rough marks left by coarser grits.

PERSONAL EXPERIENCE



I marked and cut my stone closer to finished shape. I used a tile saw in place of a saw for cutting gemstones.



I sanded off parts of raw stone remaining. This is a rough grinder.



I heated the stone, put wax, and placed it on dop stick.



Stone is on dop stick ready to be sanded and shaped from wheel to wheel (80, 220, 280, 600, 1000, 14000) grits. This is a standard grinder.



Final step is to polish, I used cerium oxide on leather wheel, needs to be wet to remove any rough marks.

SOURCES

- <http://www.tradeshop.com/gems/howcut.html>
- <http://www.gemsociety.org/info/history.htm>
- http://www.khulsey.com/jewelry/history_facetted-gem-cutting.html
- http://www.khulsey.com/jewelry/kh_jewelry_gemstone_cutting_history.html
- http://www.khulsey.com/jewelry/gemstone_cutting_technology.html

Lapidary Workshop 17-02-2015.



Gwen - wire wrapping craft.



Wow!



Russell and Wendy - faceting

Contributed by Doug Hughes...

Why we must never let print newspapers die...continued...



☺☺☺

Contributed by Wendy Bailey...

Lucky Us! We do not suffer from Canadian Boredom.



<<< And look, kids are the same there too!

Handy Hints

Handy hint 1 - flexible vacuum

To suck up hard-to-reach gunk under your fridge, or behind a bookshelf, insert an empty paper towel roll into the end of your vacuum cleaner and bend, or flatten it, to squeeze into these difficult spots.

Handy hint 2 - buying capsicum

We're not sure why, but a capsicum with three bumps on the bottom is sweeter than one with four. Oh, but four bumps makes for a crunchier, firmer capsicum, so you should weigh up crunch vs. sweet when picking out your pepper!

Handy hint 3 - fend off weeds

Instead of tossing your daily rag in the recycling bin, use the newspaper as mulch and deter noxious weeds. Simply wet the sheets and put the layers around your plants and garden beds, covering with soil as you go. The weeds won't be able to get through the wet newspaper layers.

Handy hint 4 - so cheeseey

Wrap cheese chunks in aluminium foil and store in the fridge to keep your cheddar fresher for longer and to keep mould out.

Handy hint 5 - mozzies be gone!

If you have the kind of blood that attracts mosquitoes like a moth to a flame, then listen up. To keep the pesky blood suckers at bay, place a fabric softener dryer sheet in your pocket. Mosquitoes are repelled by the scent and you'll smell like summer breeze all night!

Handy hint 6 - crispy leftover pizza

To reheat a pizza so that the base is out-of-the-oven crisp, heat your leftover slices in a fry pan on low-medium heat on the stove until warm and wave goodbye to the days of soggy microwave pizza.

Handy hint 7 - reopening envelopes

If you seal an envelope and realise you've forgotten to include something inside, just place it in the freezer for an hour or two and voila, the envelope will unseal without a trace!

Handy hint 8 - the power of garlic

Add garlic immediately to a recipe if you want a subtle taste and towards the end to blast it with flavour.

Handy hint 9 - getting rid of ants

It may sound cruel, but if you have an ant problem, desperate times call for desperate measures. Put small piles of polenta where you see ants and they'll gobble it up, return 'home' and won't be able to digest it. Your ant problem (and the ants) will soon be dead.



The boss was concerned that his employees weren't giving him enough respect, so he tried an old fashioned method of persuasion: He brought in a sign that said, "I'm the Boss," and taped it to his door.



I was in the six item express lane at the store quietly fuming.

Completely ignoring the sign, the woman ahead of me had slipped into the check-out line pushing a cart piled high with groceries. Imagine my delight when the cashier beckoned the woman to come forward looked into the cart and asked sweetly, "So which six items would you like to buy?"



Women and cats will do as they please, and men and dogs should relax and get used to the idea.



Boss...



Three friends from the local congregation were asked, "When you're in your casket, and friends and congregation members are mourning over you, what would you like them to say?"

Arthur said, "I would like them to say I was a wonderful husband, a fine spiritual leader, and a great family man."

John commented, "I would like them to say I was a wonderful teacher and servant of God who made a huge difference in people's lives."

Paul said, "I'd like them to say, 'Look, he's moving!'"



Contributed by Doug Walker...

Why?

Why do supermarkets make the sick walk all the way to the back of the store to get their prescriptions while healthy people can buy cigarettes at the front?

Why do people order double cheeseburgers, large fries, and a diet coke?

Why do banks leave vault doors open and then chain the pens to the counters?

Why do we leave cars worth thousands of dollars in our driveways and put our useless junk in the garage?

Ever Wonder...

Why the sun lightens our hair, but darkens our skin?

Why can't women put on mascara with their mouth closed?

Why don't you ever see the headline 'Psychic Wins Lottery'?

Why is 'abbreviated' such a long word?

Why is it that doctors and lawyers call what they do 'practice'?

Why is lemon juice made with artificial flavouring, and dish washing liquid made with real lemons?

Why is the man who invests all your money called a broker?

Why is the time of day with the slowest traffic called rush hour?

Why isn't there mouse-flavoured cat food?

Why didn't Noah swat those two mosquitoes?

Why do they sterilize the needle for lethal injections?

You know that indestructible black box that is used on airplanes? Why don't they make the whole plane out of that stuff?

Why don't sheep shrink when it rains?

Why are they called apartments when they are all stuck together?

If flying is so safe, why do they call the airport the terminal?



General Interest.



Patrick Gunderson clips contributed by Augie

Patrick Gunderson Mineral Photographs uploaded to MinDat: <http://www.mindat.org/gallery-16344.html>

Patrick Gunderson Blog on MinDat: [Patrick Gunderson Blog on MinDat.](#)



Contributed by Doug...

A distraught senior citizen phoned her doctor's office.

"Is it true," she wanted to know, "that the medication you prescribed has to be taken for the rest of my life?"

"Yes, I'm afraid so!", the doctor told her.

There was a moment of silence before the senior lady replied, "I'm wondering, then, just how serious is my condition because this prescription is marked 'NO REPEATS'."



The reason Politicians try so hard to get re-elected is that they would "hate" to have to make a living under the laws they have just passed.



Because they had no reservations at a busy restaurant, my elderly neighbor and his wife were told there would be a 45 minute wait for a table.

"Young man, we're both 90 years old," the husband said. "We may not have 45 minutes." They were seated immediately.



Meeting Reminders/Updates

- The Tea Tree Gully Gem and Mineral Club Exhibition will be a biennial affair, held on the opposite year to the Enfield show, that is, the next TTGMC Exhibition will be held on Saturday 20th and Sunday 21st of June, 2015.
- April meeting moved from Thursday 2nd April 2015 to Thursday 9th April 2015.

Wanted

Mineral photo opportunities.

I'm looking for opportunities to photograph mineral specimens (South Australian in particular) for future newsletter "Mineral Matters" articles.

Do you have mineral specimens that you can make available to be photographed?

I'm prepared to take these photos at your nominated location or at the club rooms, whichever suits you.

Specimens do not have to be first prize winners - what matters, is that they are clearly identifiable, and present as a reasonable example from a known location.

Hope you can help me out on behalf of the club.

Mel Jones

08 8395 1792

mel.jones@bigpond.com

Newsletter Content & Contributions

Contributions for the newsletter need to be passed on to me no later than one week before each club meeting.

As the current caretaker for the club newsletter, I will be emailing members a link to the copy on the Monday prior to the meeting.

Please consider contributing some of your photos and stories for all to enjoy. These do not have to be mineral related.

I look forward to your ongoing assistance and also seek your timely, frank feedback so that the newsletter continues to meet the club members' interest.

Mel Jones

08 8395 1792

mel.jones@bigpond.com

Useful Internet Links

2014 Australian (& some NZ!) Gem & Mineral Calendar: <http://www.mineral.org.au/shows/shows.html>

Australian Federation of Lapidary and Allied Crafts Association (AFLACA): <http://aflaca.org.au/>

AFLACA-GMCASA: <http://aflaca.org.au/members/gem-and-mineral-clubs-association-of-south-australia-gmcasa/>

Gem and Mineral Clubs Association of South Australia (GMCASA): <http://www.gmcasa.org.au/>

Adelaide Gem and Mineral Club: http://sacommunity.org/org/197578-Adelaide_Gem_%2526_Mineral_Club#.Uta7ufRDt8E <http://www.adelaidegmc.websyte.com.au/>

Broken Hill Mineral Club, The: <http://brokenhillmineralclub.wikispaces.com/>

Enfield Gem and Mineral Club Inc: www.egmc.infopage.com.au
<http://southaustralia.localitylist.com.au/yellowresult.php/goal/Detail/ckey/26988>

Flinders Gem, Geology and Mineral Club Inc:
http://www.lapidaryworld.com/flinders_geology_gem_and_mineral_club.html

Mineralogical Society of SA Inc: <http://www.sa-minsoc.websyte.com.au/>

Murraylands Gem and Mineral Club Inc: <http://www.murraylandsgmc.org.au/>

Southern Rockhounds: Website - <http://www.southernrockhounds.com.au/home>
Facebook - <https://www.facebook.com/SouthernRockhounds>

Yorke Peninsula Gem and Mineral Club Inc: <http://www.coppercoast.sa.gov.au/page.aspx?u=754&c=16913>