The Mineralogical Society of Queensland Inc.

NEWSLETTER

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No. 58 **February 2010**

UPCOMING MINSOCQ MEETINGS

MinSocQ meetings are held on the last Wednesday of each month, excepting December, at the Mt Gravatt Lapidary Society **(MGLS)** clubrooms, formally starting at 7.30pm. Anyone interested in minerals and mineral collecting is most welcome, at any meeting. The clubrooms are located at the bottom end of Carson Lane, which is off Logan Road, Upper Mt Gravatt, on the left as you are heading north towards the city, directly opposite McDonald's. There is plenty of free parking available immediately adjacent to the MGLS clubrooms.

March 31: *Mineral suites from the Mt Isa-Cloncurry district*, with contributions from the floor. If you have specimens from the Mt Isa and Hilton/George Fisher mines, from Tom's Mountain, Crystal Mountain, Mica Creek, Gunpowder/Mammoth/Mt Gordon and Mt Elliott mines, and from other localities in the district, please bring them in so that we may all look and learn.

April 28: *Minerals of Madagascar,* presented by Fred Bruvel. Fred is a geologist with the Queensland Geological Survey, and together with his wife Jeannette (a gemmologist) recently spent a year in Madagascar exploring for minerals. If you have specimens from Madagascar, please bring them to this meeting.

May 26: *Mineral suites from the Atherton Tablelands through Georgetown, including Elizabeth Creek*, with contributions from the floor etc. If you have specimens from the Atherton Tablelands, Georgetown and O'Briens Creek, please bring them to this meeting.

June 30: Tentatively, the topic will be the *Joint Seminar 2010*, and *Gemboree 2010*, and minerals and collecting from associated field trips. Bring your specimens collected or purchased at these events, so that we may look and learn.

The presentation by Larry Queen in February was cancelled, as Larry had to be in PNG. *The geology and the minerals of the Iramafimpa Mine, Eastern Highlands Province, PNG*, will be presented at the next convenient opportunity, depending on Larry's availability.

MINSOCQ MANAGEMENT COMMITTEE MEETINGS: Commencing at 6.00pm, prior to the monthly MinSocQ general meetings: 31 March, 26 May, 28 July, 29 September

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2010 MICROMOB MEETINGS starting 10am

March 13: Collecting at the Mt Kynoch Pilot Tunnel at Toowoomba, followed by *Minerals of the Mt Kynoch Tunnel,* chez Kanowski. Meeting details are as follows:

Meeting time 9:30 am at the Blue Mountain Reserve/Reg Veacock Park. How to get there:

- Follow Ruthven Street which is the main north/south street through Toowoomba City to Griffith Street which runs to the left immediately over the railway overbridge on the northern outskirts of Toowoomba. (If you get to Highfields you have gone too far!)

- Turn left into Griffith Street and follow it for approx 0.25 km to the intersection on your right with Old Goombungee Road
- The Blue Mountain Reserve/Reg Veacock Park which is the meeting location for the group prior to proceeding to the collection site, is on your right adjacent to this intersection. There are toilet facilities at the park and there is a Red Rooster on the corner of Ruthven Street and Griffith Street if you wish to get some hot food.
- We will depart here as a group for the collection site which is approximately 1 km further north. At the pilot tunnel site you MUST undergo a site induction and sign-in to comply with Main Roads requirements

➢ If anyone gets lost and needs further directions, or if the weather is inclement, please ring Russell on 0746 390 758 to confirm further arrangements.

BASIC REQUIREMENTS

1 The work site is a Main Roads designated worksite so **all** visitors must comply with Queensland Government Workplace Health and Safety regulations; **all** visitors must undergo a site induction and must sign to acknowledge they have received the induction and sign in and out of the site proper.
2 All visitors **must** wear personal protective equipment (PPE) comprising **long sleeved** shirts/tops/vests, broad brimmed hat, safety boots (or stout boots), safety glasses and sunscreen. Hard hats are not required.
3 No rubbish (food scraps etc) to be left on site.
4 Bring plenty of water.

Following the collection trip members can proceed to the Kanowski residence at 24 Gloucester Crescent for lunch and the usual MicroMob business. The discussion topic will be minerals found at previous collection trips to the Mt Kynoch site.

April 10: At MGLS, the meeting will commence with the obligatory cuppa. The topic will be *Kingsgate minerals*, and will be followed by the customary problem, brag and swap sessions.

May 8: At MGLS, the meeting will commence with the obligatory cuppa. The topic will be the *Mines and minerals of the Cloncurry district,* and will be followed by the customary problem, brag and swap sessions.

June 5: At MGLS, the meeting will commence with the obligatory cuppa. The topic will be the *Mines and minerals of Mont St. Hilaire, Canada,* and will be followed by the customary problem, brag and swap sessions.

2010 DATES and SHOW CALENDAR

Dates below are as accurate as currently possible, but please consider them subject to change. For updates and more details, visit the websites of individual clubs or organisations.

6 & 7 March: North Brisbane Gem and Jewellery Festival, Aviation High School, Widdop St., Hendra

12-14 March: Minerama, Services Club, Glen Innes NSW; arguably one of the biggest and best!

20 March: Gatton Lapidary Club Show, Gatton Showground

20 March: NELFC Annual Gem & Craft Show, Armidale Showground, Armidale NSW

27 March: Bill and Yvonne welcome everybody interested in minerals to the BK Minerals, *'Back from Tucson Show' ...* with lots of fantastic specimens ... 9am, 104 Kooringal Rd, Munruben, Qld 4125; Ph: 3802 1186

April 2-4: Easter Rock Swap, Warwick Showground

April 2-5: *Gemboree 2010*, Devonport Recreation Centre, Forbes St, Devonport**,** Tasmania

May 1-2: Redcliffe gem, mineral, jewellery and craft show, corner of Isobel St & Elizabeth Ave, Clontarf

May 15-16: Lismore Gemfest, showgrounds, Lismore NSW – arguably, the other biggest and best!

May 22-23: *Gunyah Annual Display*, Mt Coot-tha Botanical Gardens Auditorium

May 22: Scientific Seminar, Gemmological Association of Australia (GAA), Rydges, South Bank, Brisbane; MinSocQ members are invited to attend – *a separate attachment provides seminar details and registration form*

May 29: Mt Gravatt Gem Show, MGLS, Mt Gravatt

June 12-14, 2010: the *33rd Annual Seminar, Joint Mineralogical Societies of Australasia*, will be held at the Royal Society rooms behind the Art gallery and South Australian Museum Complex, Adelaide. The theme will be **Australian Collectors and Collecting**. An informal seminar dinner will be held on Sunday night, and a Mineral Market will be held Monday morning. Field trips for the 14th and 15th (Tuesday and Wednesday) are being finalized.

A seminar information and registration form is appended as the last page of this newsletter.

WHAT'S BEEN HAPPENING

MINSOCQ

October 09: Theo's favourite mineral is topaz, and so he presented *Topaz part 1*, focusing on the petrogenesis or occurrence and geological settings of topaz. This authoritative presentation integrated the various types of occurrences with photographs of differing colours and habits from many of the better known topaz localities from around the world, laying the foundation for a future presentation, *Topaz part 2*.

November 09: Tony presented his talk on *Wolfram Camp, far north Queensland*, which he had presented in Zeehan previously. The presentation began with the history of discovery and mining (commencing in 1894), through the various mining campaigns to recent times. It then morphed into the geological setting, and then finished with a flourish with many images of unique specimens of molybdenite, quartz, scheelite, wolframite (ferberite) and native bismuth, drawn from private collections and museums. Well attended, and well received; thanks to those that brought Wolfram Camp specimens for us to admire.

December 09 – end-of-year BBQ: There was a late change of venue, and Judy and Tony stepped in to host this event. It was very well attended; 26 warm bodies, including our hosts; it was great to see Glenys and Lloyd Sinclair from NSW, Vic Tarhanoff from Boonah, Kerryn and Lex Johnston, and Paul Clacher; the Weardens sent their apologies. There were two 'congregations', on the covered back deck, and under the tree, with much mingling between all. After the BBQ (for which Tony did the honours, aided and abetted by George and Lex) it was time for the *Auction Mineralia*. Ron again was the auctioneer, doing his very best to bring the bidding to a frenzy; the auction raised $347 for MinSocQ. Everybody was in a cheerful mood, and enjoyed themselves thoroughly. We extend our thanks to Judy and Tony for the meticulous preparations beforehand, the great venue, and for hosting one of the best MinSocQ BBQs in recent times.

L: The back deck mob, with Tony and Lex firing up the BBQ R: Ron, aided by Tony and Russell, preparing for the auction

January 2010: Ron presented a talk on *The many habits of quartz*. Despite his earlier round of chemo on the day, which gave him a raspy voice, and limited the volume somewhat, true trooper that he is, he delivered with obvious enthusiasm; there is no stopping him when quartz is concerned. Faden, gwindel, 'elestial', twisted, flattened and twinned varieties all received their share of the limelight, with stunning examples from Ron's collection. The

presentation elicited many questions, with much discussion afterwards. Many thanks Ron, much appreciated by us all.

February 2010: Theo stepped in at the last minute, as Larry Queen was out of the country, with an excellent presentation titled *Topaz part 2.* Theo covered the mineralogy of topaz, touching on structure, composition, crystallography, twinning, colour and habits, illustrated with many images. The talk then morphed to the Schneckenstein occurrence in Germany, near the Czech border, and detailed the history of discovery, exploitation and mineralogical studies in some depth. Members brought in their topazes to observe, with Tony having a number of small but truly first class specimens from Australia, and from Myanmar. Trevor had also brought some of his recent acquisitions from Tucson, which included a superbly terminated topaz from China, and a *large* pale sherry coloured topaz from Pakistan. Whilst the latter was a simple elongated prism with simple terminations, nevertheless, *quantity has a quality all of its own!*

MICROMOB

November 09: Fourteen keen micromounters met at Theo Kloprogge's home for another day of studying our minerals. Many discussions started the day with topics like the recent New Zealand Symposium, labelling, lighting and photography including cameras, methods and success stories. We bought a new toy which is described as a mini microscope but is really an adjustable 10x handlens with an LED light. Some time was spent on problems and brag specimens.

After a discussion on the difference between vanadinites and vanadates, Theo led the discussion with bits added by Russell. Then we went on an indoor field trip through a seemingly never ending set of spares. Most of us have expanded our overseas collections by many pieces. Thank you Theo.

This was our last gathering for 2009. It has been another good year of sharing knowledge, specimens and friendship. The 2010 MicroMob calendar has been emailed to everyone and will be handed out to those not on email as opportunity permits. Please note that relevant sections of the MicroMob Calendar are reproduced in the Newsletter!

January 2010: The micro group began the year with a meeting at the home of Sue and Ted Wearden at Old Bonalbo on Saturday 9th of January. There were 11 MinSocQ members (only 2 from Queensland) and 4 Casino club members in attendance. Some arrived the night before while others drifted in during the morning. Our theme of *cassiterite from the New England area* featured high in the morning swaps and brag time as well as in the afternoon. Errol Hagelstein had for show the cassiterite on quartz with which he won the best overseas mineral trophy at the recent New Zealand Symposium, as well as the rather heavy trophy itself.

The weekend continued into the night around the BBQ with tea, and drinks with much hilarity, as many stayed over. Sunday morning began with a lavish BBQ breakfast cooked by our host and others. Then the microscopes came out for more swapping and bragging until the Casino Club held their monthly meeting just before a BBQ lunch. Most people then packed up and went home very much bragged out!! Thank you to Ted and Sue for hosting a wonderful weekend.

Not really micromounts, but stunning Elsmore cassiterite nonetheless; Errol Hagelstein specimens, Sue Ericksson photos.

27th Micro-Mineral Symposium, 23-26 October 2009, Tangihua Lodge, New Zealand

Friday 23rd saw cars slowly arriving at the Lions Lodge in the Tangihua Forest for the Micro-Mineral Symposium hosted by Mat Singleton. As it was BYO tea, reunions were intermingled with meals until the wine and cheese evening commenced. The welcome packs were handed out containing name badges, programs, pen, notepad, local tourist information and even a sample of local fudge.

Mat and his hard working team had prepared a full program, rosters, menu and a lot of fun. Saturday morning started with swapping, showing off special specimens as well as more catching up with friends. The swap table was not as loaded as in some years but there was still a lot to look at, select and pack away. The caption board proved a huge success with several captions posted to each photo.

After lunch it was competition time. The standard was **very** high, so selecting a best specimen was hard, as was proven when we had to go back and decide between two for the Best New Zealand specimen. The outcome was that Dick Dufton won with a cristobalite from Taupo and Neville Berkahn was second with a chalcotrichite from Tui mine. The best Overseas Specimen was won by Errol Hagelstein (MinSocQ member from Coffs Harbour) with a cassiterite on quartz from Elsmore NSW. The best specimen from the 2008 field trip was won by David McDonald with a stibnite from Buchans Lode. The photography trophy was won by Don Stanley with a photo of a water forming on the end of sulfur crystals at Rotokawa .

L: Errol Hagelstein mid background in red shirt in deep 'scope mode R: A cool Ted Wearden is breaking rocks for supper (or as penance?)

Then it was time for the guest speaker. Andrew Saunders spoke on *Microfossils - Working in the World of Small.* It was an introduction to microfossils. He demonstrated hand held microscopes showing plant life fossils. He spoke of the usefulness of mobility, magnification and resolution - the higher the magnification the lower the depth of field, the use of blue filters to cut certain rays to increase the image quality.

It was decided to take the group photo Saturday afternoon for a number of reasons including the forecast rain for Monday. After much indecision we assembled and the photos were taken. Dinner consisted of mainly local foods including roast hogget, kumara, potato and pumpkin plus asparagus followed by a Tangiteroria trifle, fruit salad and ice cream. Joce (head chef) and helpers excelled themselves! After much frivolity on some tables the trophies were presented.

Rod Martin did a presentation on his recent trip to the Inca trail through Peru and Bolivia. After obtaining the medical certificates required Rod and Jill began a six week adventure, a lot of the time above 4,000 metres above sea level, with temperatures from 12° day time and 0° overnight. He spoke of the different geology of the areas as well as several fossicking sites and mine sites on their venture. He also spoke of pink dolphins, anacondas and piranhas.

After Sunday breakfast, it was make your lunch, pack the fossicking gear and hit the road to Aranga quarry where we were on the hunt for chabazite, calcite, okenite, apophyllite, thomsonite, cowlesite, copper, stilbite, gismondine, levyne, green balls (possibly nontronite) as well as the much sought-after cavansite. After some time the magic call happened. The contact zone that contained the cavansite was identified …. and suitably attacked with many blues found. Many exhausted bodies were dragged home to start breaking and sorting their finds for the day.

Monday was auction day and it proved to be very different with Trevor not being there. There were 86 lots on offer with some of these being kitchen excess. The actual mineral content was down from previous years but we still managed to raise $734 towards the 2010 symposium. The auction was over by morning tea time then it was back to the breaking and sorting. Light rain was setting in so the photo decision was a wise one.

The annual meeting took place after lunch. There were discussions on finances, banking problems, late registrations as well as thanks to Mat and Mary for their major effort in running the symposium. Thanks were also given to Joce Andrews for her efforts in the kitchen. Joce had spent many months making jams etc prior to camp, shopping to feed us all - 31 in total. It was decided that the newsletter will go via email for those who want it and hard copy for those who prefer that. The annual subscription is now $5. The 2010 symposium is to be run by Maureen Pask at Kaiteriteri near Nelson on the South island with the field trip being to the Champion mine.

Monday evening Mat presented a slide show of his recent trip to the USA travelling through Nevada and Utah (and to the Thomas Range), Moab (Bingham copper mine), Monument Valley, the Petrified Forest, Death Valley and more. This was followed by a slideshow of the Taupo area presented by Dick Dufton.

Tuesday morning was a very wet start which hampered the clean up and pack up but didn't stop several dedicated folk from burning the paper waste … under brollies. Some time was spent on final farewell chats and as the rain eased a little we made a final dash to the cars at 10am. Another wonderful weekend was over! *Sue Ericksson*

OUR CAR TRIP

Lance Lewis

Not being a particularly active member of the society, I felt perhaps writing an article for the Newsletter may allow me to make some contribution. This relates to a 26 day, 7,000 km car trip undertaken by Keith Berlin and myself, as a look-see and fossicking adventure covering a great deal of Queensland, which we did using two cars to distribute the load and provide backup in case of a breakdown, and as Keith also wanted to collect specimens for his museum.

We stayed in caravan park cabins and motel units for the entire trip; this did somewhat restrict our activities but it was worth it for the comfort. We had so many 'must dos' I feel the best way it is to just relate the trip as it happened, but time and money really controlled the trip, it being my third big one in 18 months.

I do tend to talk a lot, and this does roll over into my writing, so I just hope it does not become too much of a monster. We stopped and looked at many road cuttings, creeks, gullies and anywhere-that-looked-interesting, so I will try to keep to the main points as I see them.

We had been fantasizing about the trip for many years, and during our attendance at the 32nd Annual Seminar, which was a brilliant event that we thoroughly enjoyed, we decided to make it a 'goer'. I have tended to be a lone wolf except for my now past wife/companion, but Keith being a friend for over 30 years, decided to do the Trip. I felt he needed the support as he is relatively new to driving, with age being a consideration out in the back blocks, but driving is one of my great joys. So we planned the trip around our attendance at the Anakie Gemfest.

So here we go, commencing from Keith's place at Booie, at 7am on the morning of Tuesday the 4th of August, 2009. Eidsvold (museum, with a good mineral collection), Cania Gorge for a look-see; I had not been there since before the dam was built, the alluvial gold in Three Moon Creek was the drawcard then, overnight at Monto.

Day 2: Rolleston, fairly uneventful but we did have a few stops, overnight at Springsure. We decided not to bother with the feldspar (we were going to a better area) or the petrified wood, as we both have plenty. I once gave two tonnes of petrified wood to the Queensland Museum. Day 3: Marmadilla Opal Wood deposit 10 km north, there is an abundance of material there, Keith collected two really large pieces, and this being the first real day in the field with 5,000 km left to run, did cause me concern. Emerald, Anakie (Gemfest), Glenalva, this being my 32nd visit, and had camped on 27 occasions, I have a fair sapphire collection. The Willows, a look-see and Keith met with a friend, overnight at Emerald.

Day 4: Anakie Gemfest, where we spent some hours each day (Graves Hill, had a speck), Sapphire, Rubyvale, Reward, (Divide) overnight at Emerald. Day 5: Anakie Gemfest, Rubyvale (Heritage Mine) my third tour, Tomahawk Creek, Mt. Hoy, walked a gully, Keith found a large fossil stump that we only photographed and left in situ, had a dig for an hour with no reward, overnight at Emerald.

Day 6: Anakie Gemfest, Sapphire (Sunday Market, then Big Bessie) overnight at Emerald. Day 7: Barcaldine (museum), Ilfracombe (museum), a fossil area, some good specimens, overnight at Longreach. Day 8: Qantas Hall of Fame; I had been previously, both good, overnight at Longreach. Day 9: Lark Quarry, lives up to its publicity, my second visit, 60 km of dirt road in both directions, overnight at Winton.

Day 10: Hughenden (Flinders Centre, a good dinosaur and mineral display), Porcupine Gorge for a look-see, overnight at Hughenden. Day 11: Moon Stone Hill (feldspar) 160 km north, a 100 of dirt, hot and dry, an abundance of material, I found over a kilogram of feldspar/moonstone in two hours. Keith's find included a piece as big as your fist, weighed 500 grams, another 100 km of dirt road, several cement causeway water crossings, Greenvale Gem Museum, very good, overnight at Greenvale.

Day 12: Lava Plains, 140 km north, very hot and dry, I was attacked by wasps; Keith had a dig for no result, so we left early. Undara Lava Tubes, did the tour, very good, overnight at Mt. Surprise. Day 13: O'Briens Ck, both found a topaz, hot and dry, a cement causeway water crossing, overnight at Mt. Surprise.

Day 14: Einasleigh with 50 km dirt corrugated road, a cement causeway water crossing, 150 km dirt road Forsayth, Georgetown, (The TerrEstrail, Ted Elliott collection, well worth seeing), 50 km dirt corrugated road, a cement causeway water crossing, overnight at Forsayth. Day 15: Einasleigh, with 150 km dirt road, Kidston Mine tour, very impressive, 300 km dirt road with corrugations, a cement causeway water crossing, overnight at Hughenden. (Lots of cement causeway water crossings).

Day 16: Richmond, (Kronosaurus Korner, excellent), visited fossil site, poor rock structure, hot and dry, overnight at Richmond. Day 17: Marine fossil by way (found some good fossils), 100 km dirt corrugated, bulldust road, struck half a kilometre of road works and almost became bogged, had mud built up to the wheel arches on both cars, visited the Combo Waterhole, the Walkabout Creek Hotel at McKinlay, overnight at the Blue Heeler motel Kynuna.

Day 18. Winton (The Waltzing Matilda Centre, excellent) Corfield & Fitzmaurice (very good), the Gift and Gem Centre, reasonable; I had seen before on an earlier trip in 2008, overnight at Winton. Day 19: Opalton, a one shop town, just a look-see and speck, we purchased some specimens from a lady miner, 100 km dirt corrugated, bulldust, both ways, we both went in my car, returned Winton, visited The Australian Age of Dinosaurs Centre, 13 km out on the Winton-Longreach Road, very good, had not long opened but with very big development plans, overnight at Winton.

Day 20: Longreach, Ilfracombe, Isisford (The Outer Barcoo Interpretive Centre, a very good display concept, again with big development of ideas on the back of a recent local dinosaur find), Blackall, Keith met with a friend, overnight at Blackall. We did consider Muttaburra but because of time constraints ruled against it, although I had visited on a previous trip, and alas Cloncurry fell into this category also. Day 21: Adavale, for look-see which proved to be a bad idea, as the town consisted of one hotel come everything, that was closed on Mondays, and of course it was Monday, however the drive was arresting, we stopped and looked at numerous places and took some photos, although being 350 km of dirt road, the big advantage is not much traffic.

At Quilpie, we attended the Information Centre and a couple of rock shops, and called at the St Finbar's Church with its famed boulder opal adorned altar. Keith purchased a mine run opal specimen of excellent quality and we purchased the usual relevant books and DVDs on the local area, as we have done at all said locations, overnight at Quilpie. We considered taking a dirt road alternative route through Adavale to Charleville, but to allow the time required in Charleville opted for the bitumen run instead.

Day 22: Charleville, the Historic House Museum, a very good display; the Cosmos Centre, we only watched the movie in the theatre and meteorite display with lecture; Historic Hotel Corones Tour, a local rock shop, we purchased some specimens; viewed the Vortex Rainmaking Guns, overnight at Charelville. Day 23: Roma, as I required an overdue INR blood test, so I ran ahead at a faster speed than Keith liked to travel, we agreed to meet in Roma around midday; there was a museum just before entering Roma, so I drove back to meet him at the turn-off but it was closed on that day, so we just walked a local creek, and then continued to Roma (the Big Rig, story of Oil) overnight at Roma.

Day 24: Kingaroy, as we had travelled this country on numerous occasions, so other than a few road stops with a bit of fossicking we returned to Keith's place at Booie, and spent the rest of the day unpacking the cars, the weight of the load that Keith had on board was becoming somewhat of a worry as he wanted a big piece of everything for his displays.

I really do not have much room left to write more, but Keith did take over a thousand photos, we had a great time with no real problems and would like to do it all again. I stayed overnight at Kingaroy and returned home to Toowong on Friday the 28th. With my 2 stayovers in Kingaroy, the whole trip took 26 days.

Last Reminder – 2009-2010 Membership: If you wish to remain a MinSocQ member, *please* submit the renewal notice and pay your dues; this is your last opportunity before removal from the mailing list. Contact any Management Committee member if you need a membership form.

The Broken Hill Mineral Club has its own website on www.brokenhillmineralclub.wikispaces.com maintained by Trevor Dart, who is also the club's vice-president and newsletter editor. Their newsletters, from 2008 onwards, are available on this site, and they are of a high standard both in layout and content. The website also contains their calendar of field trips, and MinSocQ members are welcome to join any of their collecting trips if they are in the area. The website also contains other useful information, including field trip reports. Highly recommended!

If you are into meteorites: Robert Walker of Amberly is a keen collector of meteorites, especially those found in Queensland. He has a website devoted to Queensland meteorites: www.qmig.net. For those interested in meteorites, or desiring to make contact with Rob, the website is well worth a look.

VALE KEITH GREGSON

Keith died, quite unexpectedly, on the 8th of November 09. We extend our sympathies to Corey Gregson, Keith's son, Howard Gregson, his brother, and especially to Christine Foskett of Torrington, his friend and partner. Keith was a constant tailgater at many shows, with organised and attractive displays, all specimens fastidiously labelled. Keith was a MinSocQ member of some standing, very knowledgeable about mineral localities, especially around the Torrington-Emmaville area, and was always on for a good chat. For those that knew the real Keith under his seemingly grumpy exterior, he will be sorely missed.

WELCOME NEW MEMBERS

We are very pleased to welcome **Valery and Lindsay Armstrong**, of Lismore NSW, as MinSocQ members. They are keen MicroMobbers, but we also hope to see them at MinSocQ meetings whenever they are in Brisbane, when opportunity permits.

We are also pleased to welcome **Doug Ball** back to MinSocQ. Doug and Lesley now operate a business in Deepwater NSW, in the old Norco Co-Op building, directly opposite the Commercial Hotel. Apart from mineral beads, spheres, and carvings, they sell crystals and minerals. So why not pop in for a cuppa when passing through on the way to Glen Innes or Sydney? Doug can be contacted through his website, www.mrtumbles.com

PETROLOGY 000½ - AN INTRODUCTION TO ARIS, AND MONT SAINT-HILAIRE (MSH)

We may be familiar with the common plutonic igneous rocks, which crystallize slowly (with generally coarse mineral grains), from commonly occurring magmas. These yield granites, granodiorites, tonalities, diorites, gabbros etc. If these magmas are extruded (or exploded) to the surface, they crystallize quickly, yielding volcanic rocks with finer grain sizes overall, to produce rhyolites, andesites, basalts and varied volcaniclastics or tuffs. Pegmatite formation in the coarse plutonic rocks serves to concentrate the incompatible elements, and generate the common pegmatite minerals (from granites: typically topaz, tourmaline, fluorite, beryl, cassiterite, ferberite, molybdenite, as well as coarser feldspars, micas and quartz). In the finer volcanic rocks, groundwater interaction tends to produce zeolites, calcite and quartz in small cavities, many of which were initially gas bubbles 'frozen' as the lava cooled.

In these common igneous rocks, the ratio of available aluminium to the two alkali elements (sodium and potassium) is closely balanced, and in the crystallization process, the alkali elements are all 'used up' to make feldspars (which are sodium, potassium and calcium aluminosilicate minerals). There is generally very little, if any, sodium and potassium 'left over' once the feldspars crystallize.

But there are less common igneous or *peralkaline* melts, which we will simply call phonolitic (as in the fine grained rock named 'phonolite', not related to Telstra or Optus). The coarse grained plutonic equivalents may be termed nepheline syenites. All these have appreciably more sodium and potassium than the available aluminium, and most are also short of silica, so have no free quartz. When such melts crystallize, they generate less common sodium- and potassium-rich minerals, such as aegirine, arfvedsonite, and feldspathoids such as nepheline; there is simply not enough aluminium (and commonly not enough silica) to use up all the sodium and potassium to make feldspars. In the pegmatites of such phonolitic rocks, and in cavities in their volcanic equivalents, a raft of relatively rare sodium- and potassium-rich minerals can thus occur, some of which in fact may be water soluble (and hence even more difficult to collect, and/or clean).

There are in turn even more rare phonolitic melts that, *in addition* to sodium and potassium, are even more enriched in elements such as lithium, beryllium, niobium, tantalum, zirconium, lanthanum, cerium, and other rare earth elements, as well as fluorine, and to a lesser extent, chlorine. These rare or 'weird' melts have a name all

their own, equally weird: the melts are termed **'agpaitic',** and the rocks crystallized from them can be called **'agpaites'**. So, an abundance of leftover incompatible elements lead to an abundance of rare minerals, which are almost never found in the common igneous rocks, or their pegmatites, or their vesicles.

In Australia, phonolitic rocks are generally rare, and occur in small masses. Most have been described from NSW, but in Queensland, the 'Singing Rocks' at Mt Scoria, 16km south of Biloela, may well prove to be phonolitic. A little research may be in order, for at least one MicroMobber. I'm not sure if any truly agpaitic masses have been documented to date.

[In the rare igneous rock category, perhaps the best known in Australia is a carbonatite (by definition, comprising >50% carbonate minerals), known to those that have been to Mud Tank in the Territory. The principal mineral there is dolomite, with lesser calcite, but the rocks are very rich in zircon and apatite, as well as magnetite, and phlogopite mica, now altered to vermiculite.]

The MicroMob has chosen for its meeting on 5th June at MGLS, a theme titled *The Minerals of Mont Saint-Hilaire* (MSH, in Quebec). The MSH locality is a fascinating mix of three main types of rock, two igneous, and one contact metamorphic; one of the two igneous types is an agpaitic phonolite. Not surprisingly, there is a huge range of minerals to be found at MSH, and a goodly number were first described there (46, and more on the way). Many of the other 'rarities' found at MSH were first described in the Lovozero and Khibina Complexes in the Kola Peninsula, and in the Ilimaussaq Complex in western Greenland; all three of these, not surprisingly, are also agpaitic.

Returning to this Newsletter, some of you may know that Vic Cloete has for a while had a fascination with a phonolite in Namibia, at Aris. Not surprisingly, Vic is especially interested in the rare minerals which are to be found there (many of which are sodium- potassium- fluorine- and rare-earth-rich). An article by Vic, with some excellent photomicrographs of selected rarities, appears below. *Ed.*

ARIS PHONOLITE QUARRY, NAMIBIA

Vic Cloete

Namibia is on the southwestern coast of Southern Africa. Namibia is most renowned for its prolific shoreline diamond deposits, stark desert scenery (including the world's highest sand dunes), the plethora of wild animals and the Aris quarry! Also worth mentioning are the Erongo Mountains and the renowned Tsumeb Mines.

Ariskop Quarry is 30km south of Windhoek, the rather impressive capital city. Aris is a phonolitic quarry (silica deficient alkaline rocks) excavated intermittently from one of two fairly large pits for rail ballast, concrete aggregate and road gravel. This deposit is one of several alkaline intrusions between Windhoek and Rehoboth in central Namibia.

Geological Setting: The intrusions are manifestations of tertiary alkaline magmatism along the western margin of Southern Africa, as are the phonolites at Klinghardt Mountains SE of Luderitz in the south and areas of the Koakaveld in the north. A number of mid Tertiary (~34-70 Ma) phonolitic and trachytic bodies appear as domes, plugs, vents and associated hydrothermal dykes, exposed as eroded outcroppings and caps on small hills and buttes, where they intrude quartz-feldspar gneisses, mica schists and amphibolities of the Paleoproterozoic Hohewarte Complex. They form part of the Tertiary Auas Mountains alkaline volcanic field, which extends from Aris to Rehoboth some 65 km south.

Elsewhere in the Auas province there are several areas in which fault-controlled hot springs and hydrothermal alteration occur (mainly silicification and argillic alteration). They are the result of geothermal activity related to the cooling of alkaline magmas at depth (Not my creative analysis; I have not seen any of these, maybe next trip in 2010?)

I have been most fortunate, by positive intent, to visit Aris in 2007 (on safari through Botswana and Namibia with friends) and again in April 2009 (when I undertook to teach there voluntarily, under the auspices of Worldteach, based in USA). My current Aris species count is probably 26 of the 63 species confirmed, (including small and rather *rare* quartz crystals!) and a further suite of some 15 pending positive identification, potentially including one or more new species.

Acknowledged from Aris is the rarity of most species, though the common zeolites, analcime, apophyllite and natrolite line most, if not all cavities, but therein are also the world's best tuperssuatsiaite, well-crystallized dark green aegirine, rare pink to red villiaumite, pink eudialyte, white bladed shazhinite -La TL and shazhinite–Ce (TL from Russia) fibrous white makatite and the most recent new type locality species arisite-La TL (just elevated from MSHUK60 then IMA2009-019). Mindat currently lists 63 minerals, including 4 type minerals and 15 unconfirmed species.

At least a further few remain unidentified, in addition to MSHUK77. The potential for more new mineral species from this locality is exceptional. The known species are congruent with those of Mont Saint-Hilaire and Varrenes in Canada and Mayor Island off the Coromandel Peninsula in NZ. (A note of caution, not all the photos in Mindat are correctly labelled).

Some small discrete zones within the quarries of the extremely hard crystalline Aris rock contain numerous? cavities all of which are crystal lined (I would probably say they are sparse, and it takes a lot of breaking to find them). Cavities are mostly 5-25mm in diameter, with exceptional cavities to about 80-100mm. All are lined with generally well-formed clean microscopic to sizeable crystals of various minerals (up to 5-6 species, even is small vughs!) The sequence of mineral formation is not always clear, but it seems that in cavities the zeolites form initially, with the rarer species forming last.

I have examined the broken rock and can find no pink/orange colour deposition in the matrix surrounding adjacent cavities richly endowed with villiaumite. Aegirine occurs throughout the matrix amongst transparent to opaque blebs with little if any crystal form. Some cavities have been 'intruded' by clays and other alteration materials whilst buried deep within the solid rock mass. Several cavities contain aqueous fluid of formation, but with high concentrations of toxic sodium fluoride! Fascinating stuff!

One can also experience wildlife there; one day a troop of baboons took ringside seats on the upper ledges to watch me breaking boulders. Then they wandered down to inspect my motorcycle parked nearby and then approached me, but raising a 12lb sledgehammer discouraged a closer encounter and they retired to their seating. Aris is a l treat, but a bit out of the way from here for a quick visit.

I also stopped in at the defunct (Pb,Zn) Berg Aukus mine, near Grootfontein, which harbours the best descloizite, with dolomite, goethite, leadhillite, smithsonite, tsumcorite and willemite. 60km north is Tsumeb, which needs no introduction. However the one and only rock shop in the main street has been closed for years. But I'm convinced the garages and back rooms in Tsumeb homes still house tons of world class specimens…. how to get to them remains the challenge! I did manage to buy a nice suite from a rather expensive dealer near Etosha.

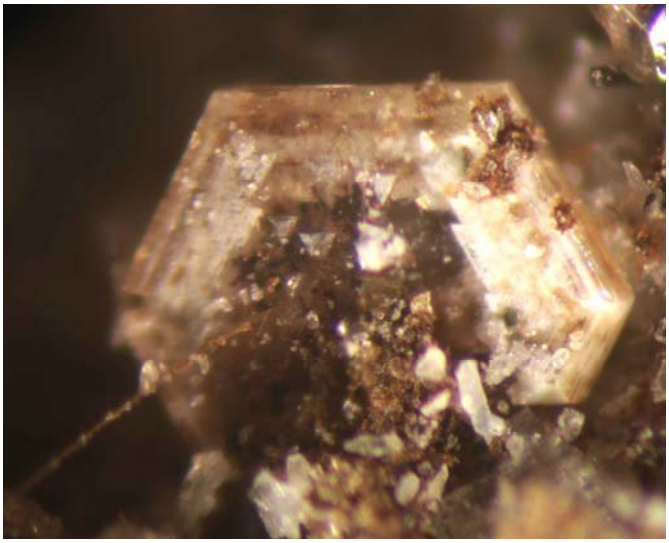
The Erongo mountains were my final destination. A local farmer was delighted to receive a guest for a few days. His wife showed me the treasure she found nearby, a truly huge, almost all gem quality blue beryl of some 200mm and around 2kg.

L: Vic hard at work in Aris quarry, only 35 degrees and much to break R: A 'small' cavity of some 150mm that proved impossible to extract without explosives or jackhammer!

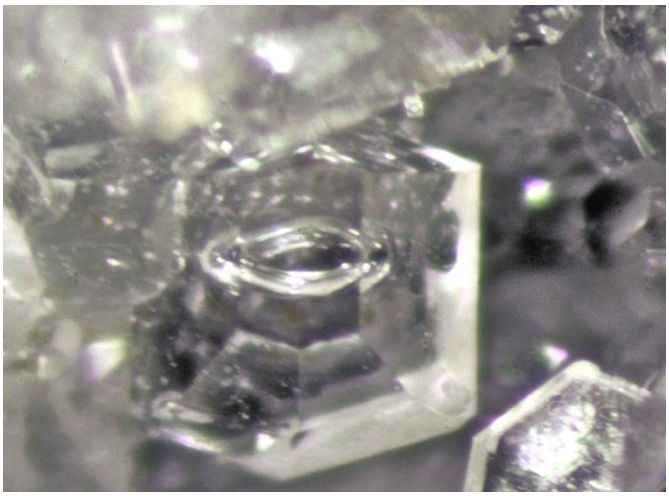
Fortunately the local Namibian miners have set up stalls alongside the highway and I picked out several pristine blue beryls to 50mm and some perfect, clear classics and some most unusual forms of topaz. Unfortunately the best of specimens are carried unprotected in trouser pockets and cardboard boxes so most are chipped and dinged so one has to spend a bit of time there.

Also, the locals have not yet gone much into rare or other attractive minerals which must abound there. The rugged area is substantial, perhaps a few hundred square kilometers, so you'd need a guide and more time than I could afford. I made a few cursory forays but was somewhat intimidated by several very fresh leopard spoors.

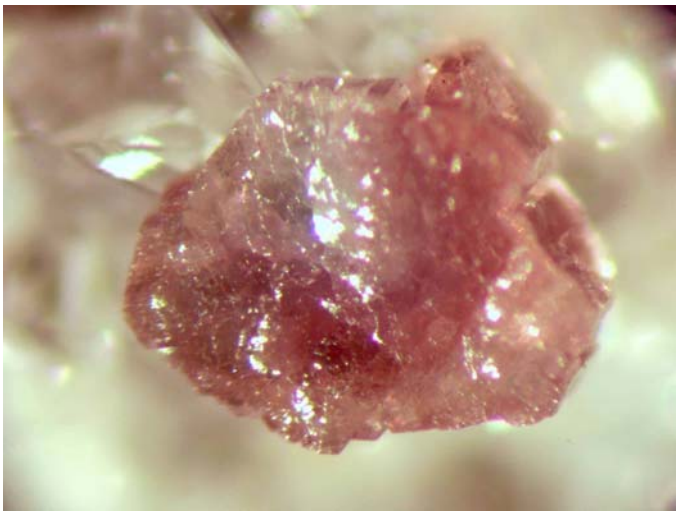
Parts of the geological description herein were adapted from a book by Prof. Bruce Cairncross, titled 'The Manganese Adventure'.



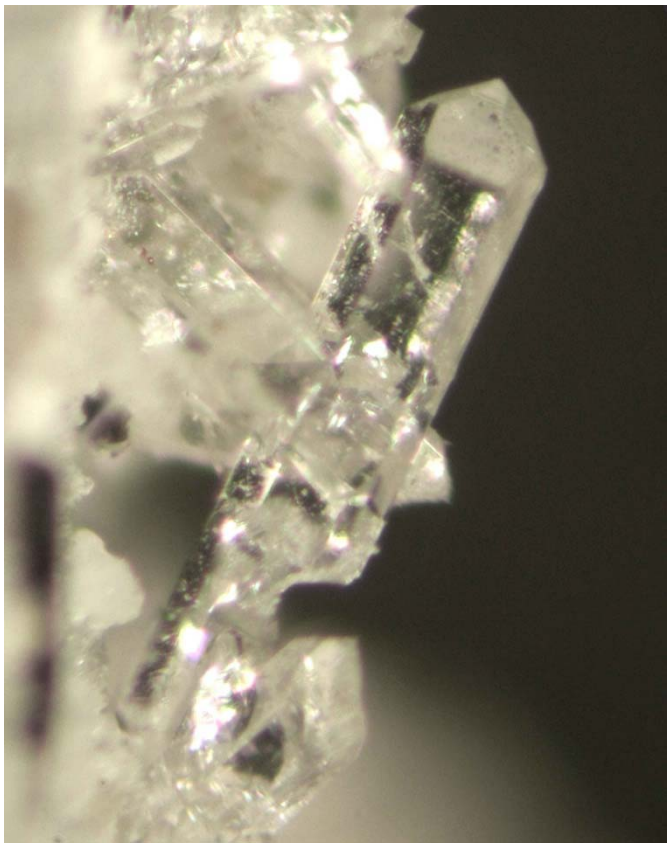
L: Possibly the best yet 5mm cluster of the newly identified arisite (Ce) $NaCe_2(CO_3)_2[(CO_3)_{1-x}(F_{2x})]F$ (hexagonal) R: A lovely 1.2mm arisite (Ce) cluttered with several other species, not game to identify

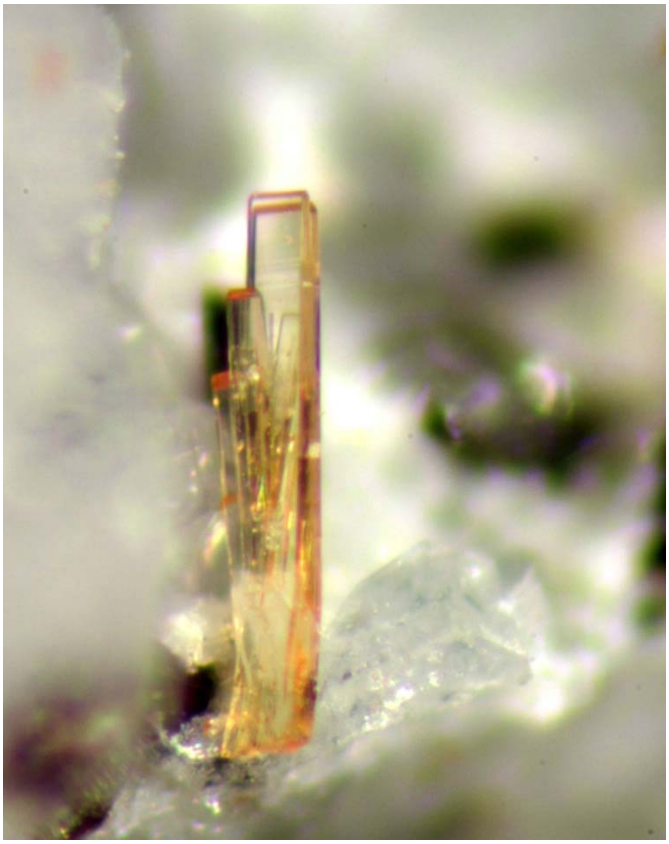


L: I'm authoritatively told it's natrolite but I contend more likely analcime. The bubble is unique, only one found and containing H_2O with appreciable dissolved NaF (all vughs exuding liquids are considered thus); FOV is 1.5mm. R: A typical 5mm Aris recipe, pinky orange villiaumite, NaF (cubic), pale brown tuperssuatsiaite needles ($Na_2Fe_3^{3+}Si_8O_{20}(OH)_2.H_2O$) (monoclinic), with unID tan crystals at core. Near-white suspended micro spheres of fluorite (CaF_2), unID white cluster, black (actually dark green) common aegirine, $NaFe^{3+}Si_2O_6$ (a monoclinic sodic pyroxene)

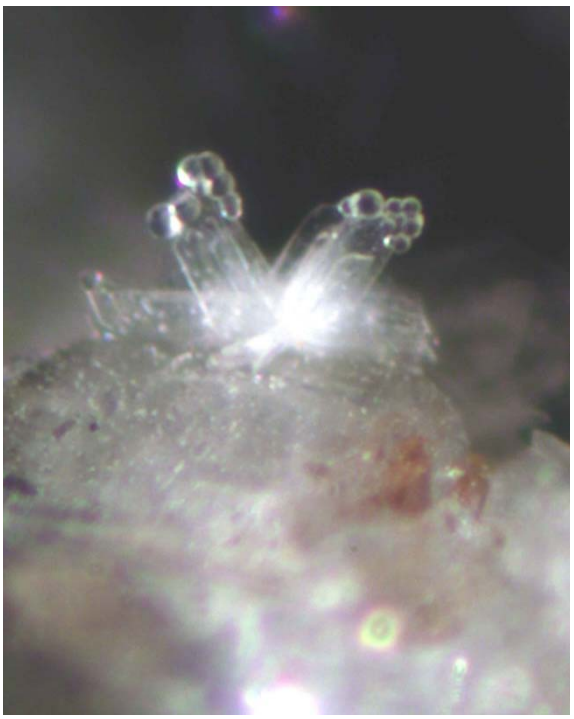


L: A fine 2mm specimen of near white taper terminated sazhinite (Ce) $Na_2CeSi_6O_{14(}OH).nH_2O$ (orthorhombic); note the sparse tuperssuatsiaite threads. The Ce variety is more common than the most rare sazhinite (La) TL! The transparent hexagonally tapered terminated blocky crystals (bottom left and at 3pm) are not yet IDd R: A lucky, most attractive find, 1.5mm pink apatite-(CaF), or $Ca_5(PO_4)_3F$

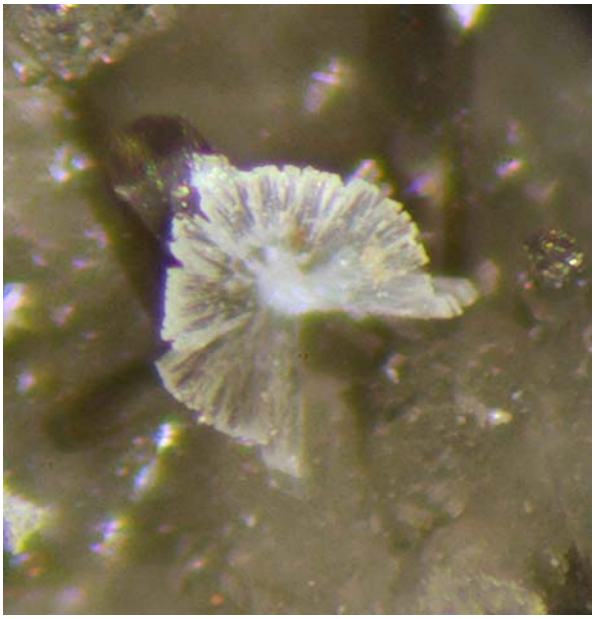




L: Most rare at Aris, a nice 1.5mm quartz! R: an exceptionally fine and rare 1.5mm cluster of nenadkevichite $(Na,Ca)(Ti,Nb)Si_2O_9.2H_2O$ (orthorhombic). [Note that some uncertainty remains as to the real composition of both tuperssuatsiaite and nenadkevichite, with different websites giving different theoretical formulae, not always consistent with actual analyses of these minerals.]



L: 5mm FOV .. where do I start? OK, greenish needles of tuperssuatsiaite below a cluster of flat bladed white microcline $KAlSi_3O_8$. Within that, two clusters of arisite (Ce) The yellowy crystal at top centre and pink lower left are likely villiaumites ; at top right are unID thin flat perpendicular terminated transparent blades, lower right is an unID white cluster, with a few aegirines for good measure R: ~1.2mm FOV, micro transparent fluorite spheres on ultra-thin unID chamfered hexagonally terminated blades (there is muscovite recorded but they are invariably pale green) pink/orange tint would be imbedded villiaumite



L: a lovely spray of your classically unID 'white' species, in this instance note the characteristic wavy appearance of the blades. To complicate ID matters further, several 'whites' comprise more than one species in a single cluster. (I don't consider that these are merely different forms eg, flat terminated and wider thinner blades with tapered terminations adjacent) One specimen has proved to be nontronite clay (most unexpected). Further analyses are pending. R: My 2mm pet Aris pterosaur, morphed to green polylithionite fibres (a mica with composition $KLi_2AlSi_4O_{10}(F,OH)_2$).

SKELETAL QUARTZ

Theo Kloprogge

At the January MinSocQ meeting, after Ron Young's interesting presentation on the habits of quartz, someone asked me about how skeletal quartz formed. Since I did not have an answer at that time I decided to do some digging and here is a summary of what I found.

In skeletal quartz the edges grew more quickly than the faces, so the edges stand out like the frames of a window. Crystals that grow very quickly often develop *skeletal growth forms* - other examples are gold and rock salt (halite) crystals with *hopper* growth, and snow flakes.

In German literature this growth form of quartz is known as 'Fensterquarz', and the translation, **window quartz** is gaining popularity, as it is - at least for quartz - a more descriptive term. Occasionally the terms **frame quartz** and **cavernous quartz** are used. The term skeletal or even 'skeleton' quartz is indeed a bit confusing as the crystals have not been 'skeletized' by dissolution.

The faces on a skeleton quartz will grow from the edges to the centre. Sometimes these faces simply grow as thin transparent plates, then usually several generations of them can be found, separated by empty spaces. Should these plates finally be completed, the watery solution inside will be trapped behind a "window".

When a hydrothermal solution becomes suddenly oversaturated due to tectonic movements small quartz nuclei can form spontaneously. If crystals are already present in the solution then often a rapid growth will be the result, especially on the crystal edges and corners, while the crystal faces grow much more slowly. The origin for this difference can be found in the thermodynamics involved.

During the deposition of atoms on a crystal surface heat is produced. In order for a crystal to continue to grow it has to get rid of this heat. During slow growth of a crystal this is not a problem. However, during very rapid growth from a strongly supersatured hydrothermal solution the heat can be lost the quickest from the crystal edges and corners. As a result the deposition of atoms is therefore preferably at these edges and corners as well.

A similar process can be observed in a rather simple experiment. If one dissolves salt in hot water till no more salt can be dissolved, one has a saturated salt solution. Then one puts a single drop of this solution on a glass slide and observes the solution under a microscope. When the solution slowly cools it will become supersaturated and small salt nuclei will start to form, which will continue to grow in a step-wise growth on the edges.

Skeletal growth can mostly be observed on the edges of the rhombohedral faces of larger crystals. The faces tend to show a stepped build up from the central face towards the edges. Less common is skeletal growth on the edges of the prism faces.

Two possible geological scenarios for the spontaneous formation of supersaturated solutions are:

1) The opening of a stress crack. If the resulting pocket becomes larger due to geological activity this will result in a spontaneous decrease in pressure and as a result a lowering of the solubility of quartz in water. When the pocket fills again with water the pressure will start to increase again. The solution can start to dissolve minor amounts of quartz again (where the smallest crystals from the surrounding host rock are favoured to dissolve). And with a next stage of pocket enlargement the whole sequence of events can be repeated.

2) Water-filled gas bubbles in cooled lava that becomes covered by new hot lave streams. As a result the water will heat up and will be able to dissolve the slightly easier soluble volcanic glass (compared to mineral crystals) resulting in an increase in H_2SiO_4 in solution. During subsequent cooling this H_2SiO_4 results in a relatively rapid growth of the already existing quartz crystals from the now supersaturated solution.

L: Skeletal quartz from Lincoln Co. North Carolina, 4x3x2.7cm R: Halite from Santa Eulalia, Chihuahua, Mexico, 3cm cluster

3 views of skeletal quartz from Minas Gerais, Brazil, 13.4x8.6x5.6cm. All photos from www.mineralatlas.com

JOINT MINERALOGICAL SOCIETIES OF AUSTRALASIA
33rd ANNUAL SEMINAR

Australian Collectors & Collecting 2010

Adelaide
South Australia

REGISTRATION FORM

The 33rd Annual Joint Mineralogical Seminar will be held on the **Queens Birthday weekend on the 12th -14 June 2010 in Adelaide, South Australia.** The venue is the **Royal Society of South Australia rooms** located behind the Art Gallery and South Australian Museum complex. The theme for the Seminar is **Australian Collectors & Collecting** and will host prominent guest speakers talking on a diverse range of interesting topics.

In addition to the formal presentations there will be a **mineral market** on Monday morning with a chance to buy, sell and swap mineral items, and an **informal dinner on Sunday night**. There will also be an opportunity for those who are able, to attend some field collecting excursions for 1-2 days after the seminar has ended. While the details for these have not been finalised, you will require your own transport and equipment.

Name: _____ Email address: _____

Address: _____

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Mineralogical Society member? Please circle Y N

If yes – please indicate which Society: _____

Seminar Registration for Members	☐	@ $60.00 pp
Seminar Registration for Non Members	☐	@ $75.00 pp
Student Registration	☐	@ $30.00 pp
Registration After 30th of April	☐	@ $10.00 pp
Seminar Dinner	☐	@ $40.00 pp
Lunch Saturday and / or Sunday	☐	@ $10 per day pp
TOTAL		$ _____

Please indicate if you are interested in any of the following.
(This information will be used to gauge the level of interest and to allow forward planning).

Catered Lunch Saturday @ $10pp ☐ **Catered Lunch Sunday @ $10pp** ☐

Free guided tour of the South Australian Museum Mineral Collection ☐

I wish swap or sell at the Mineral Market ☐ **I will require a card table** ☐

I am interested in attending field collecting excursions on:

Tuesday 15th ☐ **Wednesday 16th** ☐

Contacts for further information:

Peter Keller *(secretary)*
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Tel: 08 8296 0083 (Home)
Email: micraus@aol.com

For updates & latest information log on to www.mineral.org.au

A completed registration form together with a cheque or money order payable by the **30th of April 2010** to:

The Mineralogical Society of SA
PO Box 433
Modbury North
SA 5092