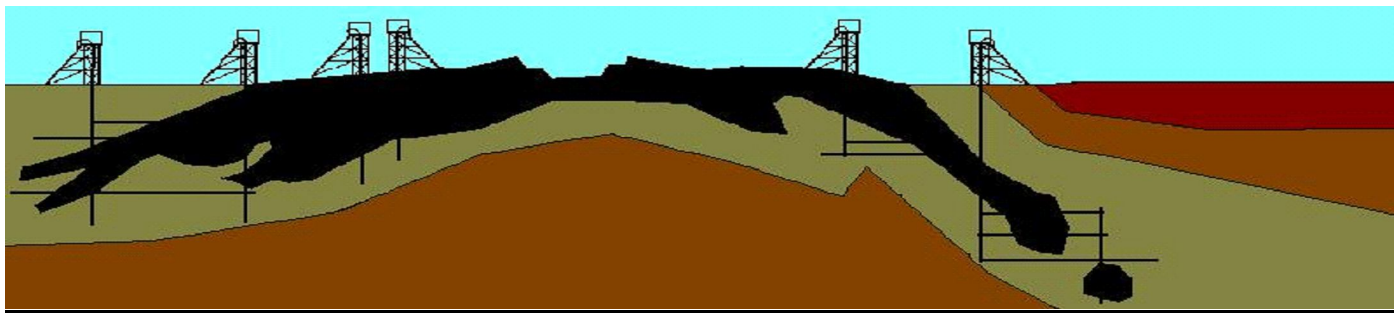


THE LINE FROM THE LODGE



Volume 10, Issue 2

June 2009

The Newsletter of The Broken Hill Mineral Club Inc.

PO Box 747 Broken Hill. NSW. 2880. (ABN:11502101481)

Inside This issue

- Feature Article: Gem Minerals and Precious Stones of the Broken Hill Region
- Field Trip Reports
- Puzzle Page
- Rock - On 2009 Info

SUBSCRIPTIONS

2009 Annual Membership to the Broken Hill Mineral Club Inc. is as follows

Full Membership - \$25
Associate Membership - \$15
Family Membership - \$40
Child Under 16 - \$5
Newsletter Subscription - \$5

**For Community Inc.
Membership add an
extra \$3.50 per person**

WINTER EDITION

Hi all and welcome to the June edition of the club newsletter. Yes, it is late, unfortunately things didn't go to plan, but now its done and out.

In this issue I have included the full story on the gem minerals found around Broken Hill, based on a talk I gave at the May meeting, so some of you will recognise the photos.

Also in this issue are reports on our field trips so far this year and some information about the up-coming show.

The club room at the Community centre is currently used for our meetings and the air-conditioner has been installed. This investment has been a welcome comfort during our meetings of late as the cold weather set in. Being reverse cycle it will also be a comfort in the hot summer months. The room is close to being used for lapidary workshops, but we still need to build benches for the machinery and have the water connected. Once this is done we will meet OH&S requirements and we can open the room to the public, specifically on the Community Centre's market days.

We are also investigating some fund-raising activities including the making of mineral boards, that can be sold at the clubroom.

We are also holding monthly raffles with a first prize of \$100 worth of petrol in each. These have so far been very good and credit must go to Brian Paul who has sat over at Centro Plaza selling the tickets.

With the recent refurbishment of the Geocentre, we have acquired some of their old display cabinets. These are clear plastic covered and lockable, meaning that we can use them to set up permanent mineral displays at the room. We have also acquired some suitable for temporary displays and these will be used at the September show for displays of local minerals. In this we are calling for samples to put together some displays, possibly - Broken Hill Line of Lode, Broken Hill District or even a single display from an individual member's collection. We have four cabinets to fill so any suggestions or offers will be accepted.

Until next time...

TD

CLUB CONTACT DETAILS

PRESIDENT

Mr Les Creswick
347 Chloride Street.
Ph: (08) 8087 5460

VICE PRESIDENT & NEWSLETTER EDITOR

Mr Trevor Dart
405 Chapple Street
Ph: (08) 8088 7907

SECRETARY

Mrs Carol Weber
502 Radium St
Ph: (08) 8087 2983

TREASURER

Mrs Josie Hill

SENIOR FIELD OFFICER

Mr Trevor Dart

POSTAL ADDRESS

PO Box 747 Broken Hill.
New South Wales.
Australia. 2880

EMAIL

bhminclub@inet.net.au



Gem Minerals and Precious Stones of the Broken Hill District

A gemstone can be defined as any naturally occurring solid material used as adornments by people. The material usually chosen will have certain properties that make them favourable to be chosen and these include, colour, clarity, hardness and resistance to wear. As a result most gemstones have a relative hardness above seven on Moh's Scale (seven being the hardness of quartz). There are many gem minerals and precious stones found in the Broken Hill and neighbouring Olary districts. There are also a number of major precious stone deposits within the surrounding area, outside of the Willyama Complex rocks

While there is quite a bounty to be found, let it be known that...

facetable quality material is very rare

as most of the material is surface weathered and flawed. This is one issue that many visitors to the district do not realise as previous publications written for fossickers about this region, state what can be found but do not point out that the minerals are not facet quality.

Quartz

Quartz is the most common silicate mineral found on Earth and has a hardness of 7 on Moh's Scale

The gemstone varieties of Quartz include

- ◆ Rock Crystal – Clear and Colourless
- ◆ Smoky Quartz / Morion – Shades of Black
- ◆ Rose Quartz – Pink
- ◆ Amethyst – Purple

Quartz is quite common in the Broken Hill district and many quartz seams outcrop across the ridges of the Barrier Ranges. The neighbouring Adelaidean Rocks also have a high quartz content and numerous veins criss-cross the shales and siltstones around the Tarrowangee area. Some of the quartz veins have clear or smoky cores and may be the source of facet quality pieces.

The most notable deposits of amethystine quartz are found on McDougall's Well station, 90 kilometres north of Broken Hill and occur as veinlets in

Willyama Complex rocks. Many of these veins have been exploited over the last thirty years and numerous plates of crystals have been recovered. Much of the near surface amethyst has been altered to pale green by exposure to sunlight, while at the north of the field smoky quartz is common.

Good samples of rock crystal has been recovered from Kings Bluff, near Olary. The dumps from the old gold diggings are quite extensive and contain many pieces of crystalline quartz. These were mined in the 1890's when prospectors followed the quartz veins that cut through the quartzite ridge. With the rise of the lapidary clubs and it's popularity in the 1960's, these old fields were once again in favour, not for the gold but the quartz crystals, some of which were facet grade.

Other mines in the Olary district are known for smoky quartz crystals, such as the Dominic Mine on Bimbowrie, where large clusters were found during beryl mining in the 1960's and 1970's.

Cryptocrystalline varieties of quartz include agates, cherts, and jaspers. These are found on the plains to the north and east of Broken Hill. Some paddocks on properties in the Tibooburra and Milparinka areas north of Broken Hill are littered with agatised (or petrified) wood.

Opal is famous from the White Cliffs field, 200 km northeast of the city.

Beryl

Beryl is a silicate mineral with a hardness of 8 on Moh's Scale

The gemstone varieties of Beryl include

- ◆ Heliodor – Yellow
- ◆ Aquamarine – Blue
- ◆ Emerald – Deep Green
- ◆ Morganite – Pink
- ◆ Goshenite – Colourless

Beryl has been found in numerous pegmatite bodies across the Willyama Complex, especially those found in the Thackaringa Hills, 30 kilometres west of Broken Hill and on Boolcomatta and

Gem Minerals and Precious Stones of the Broken Hill District - Continued



Bimbowrie Stations, north of Olary in South Australia. Most commonly the beryl is yellow, however some aquamarines and emeralds have been found. The beryl crystals have been quite large and single crystals over a metre in diameter were reported to have been found.

The most famous of all the beryl mines in the district is the Triple Chance Mine. It formed the hub of several pegmatite bodies mined in the southern part of the Thackaringa Hills. Other beryl mines in the vicinity include the Lady Beryl, Egebek, Spar Ridge and Bakers Lode mines.



The main deposits in the Olary district were due south of Bimbowrie Station and included the Dominic, Maggie and Varischetti mines, while to the south east of Old Boolcomatta were the Woman in White group and Cathedral Rock quarries. Some very large quarries were opened up on Wiperaminga Hill, north of Boolcomatta Station for feldspar, however beryl was also found.



Garnets

The garnet group of minerals contains many varieties and a range of colours.

Some of the varieties include

- ◆ Almandine – Red, Iron rich.
- ◆ Spessartine – Red, Manganese rich
- ◆ Pyrope – Orange
- ◆ Andradite – Green to Black – Calcium rich
- ◆ Hessonite – Orange to Pink

Almandine garnets are found throughout the Broken Hill district with the biggest and best from the Thackaringa Hills, both north and south of the Barrier Highway. Here there are several locations where well formed garnets



Left: Gem mineral samples from the Broken Hill and Olary Districts.

*Top: Quartz varieties from McDougall's Well Station,
Middle Left: Garnet - Andradite from the Ethudna area on
Plumbago Station, via Olary.*

Middle Right: Beryl from the Triple Chance Mine

*Lower Middle: Garnet - Almandine from Irelands Mine on
Thackaringa Station.*

Bottom: Spheene from Ascot Vale Station

Gem Minerals and Precious Stones of the Broken Hill District - Continued

were found. The most famous deposit was Ireland's Mine where garnets the size of softballs were common in a chlorite schist. These garnets were well formed and had good shape, however facetable pieces were few. Other small patches of garnets can also be found nearby and good tumbling material has been found.

Spessartine garnets are common within the ore zone of the Broken Hill line of lode. Again, these are not suitable for faceting and only a fool would cut one that was. The fact that a facet grade sample in the raw crystalline state is much more valuable than the faceted stone you would cut, should hopefully deter anyone from destroying such a rare piece. The reason for the rarity is due to the blasting methods used for extraction. Very few samples survive without any cracking or flaws.

Andradite garnet is found in the calc-silicate rocks that outcrop in the north-western corner of the Olary district, particularly on Plumbago Station around the Ethudna and Tower Hill Mines.

Sphene

Sphene is the gemstone name for the mineral Titanite. This mineral has one of the higher dispersions of all gemstones and makes spectacular faceted stones. A special occurrence of sphene occurs on Ascot Vale station 30km south of Broken Hill. It exists as a small pit on a calcite vein inside a gabbroic intrusion. First opened up in the 1950's it was mined for facetable stones and only a handful of gems were recovered.

Spinel

The spinel group of gemstones are basic aluminium oxides and contains several members with a range of colours. Spinel form octahedral crystals with sharp pyramidal points. The colour of the spinel is attributed to metal impurities. The most common member of the spinel group found in the Broken Hill region is the zinc rich variety – Gahnite. These are related to the Broken Hill style lode horizons and outcrops extend for over 250km across the Broken Hill block.

Chiastolite

This is one semi-precious stone that is renowned from the district. Major deposits occur on Bimbowrie, Boolcomatta and Kalabity stations in the Olary



*Above and Right:
Chiastolites from the
Olary District*

district. Samples over 12 inches long were once found on the famed Mount Howden site, however over zealous collecting has denuded the original deposit. Chiastolite itself is a form of the mineral andalusite, with a distinct cross form when cut across the crystal length. They were cut, polished and used as crucifix ornaments for religious purposes, sold as "lucky" crucifix stones. Chiastolites are comparatively soft compared to most gemstones and as such are easily scratched.

Other Gem Minerals

There are other gem minerals found throughout the Broken Hill and Olary districts. Many are associated with other gem minerals, however their abundance is much less and they are often overlooked.

Some others include

Tourmaline – Most commonly the black variety Schorl, however green is noted at Euriowie and on Kalabity.

Corundum – Rough Sapphires occur in the kyanite from Radium Hill and are noted in rocks near the Whites Tank Garnets

Rhodonite – from the line of lode has been faceted or polished.

While the Broken Hill is renowned as an important source of fine mineral specimens, it should not be ignored that the gem cutter can still find good material at sites across the region, even though the facet grade samples are few and far between.

FIELD TRIP REPORTS

Over the last few months we have visited the Thackaringa Garnet fields in March, the Sphene Pit and Copper Blow in May and Kings Bluff in June.

At Thackaringa, we searched both sides of the Barrier Highway to find good collecting sites for garnets and staurolites. South of the highway near the old sillimanite quarry is an outcrop of black mica schist with well formed garnet crystals and staurolite crystals. While this outcrop had been well picked over in the past, there was still plenty of material lying around to fill our bags. Andrea Schultzer gets the pack horse award for the sheer quantity of rock carried back to the car (most of which will probably end up decorating the garden). The garnets here, although small form very nice little clusters, while the staurolites range in size from 1-4 cm in length and have a red-brown hue.

North of the highway is the White's Tank pit that the club visited following the last Rock-On and rediscovered an area where deep red lustrous garnets occur in black mica schist. We also discovered large blocky staurolite crystals that had been washed out of a white feldspar vein and some were nearly two inches in length. Our brief visit this day resulted in some more nice larger garnets along with good matrix specimens.

Our trip in May was out to the Sphene Pit and the Copper Blow. Both of these locations have been visited before, but it has been over four years ago and most in attendance had not previously been there.

At the sphene pit we tried some serious sieving and found a few larger crystal fragments, but unfortunately no full spectacular crystalline pieces. It would be right to say that the dumps have been really turned over, as a lot of dirt was moved in a few short hours.

We headed over to the Copper Blow for lunch and then fossicked for malachite samples around the large open cut. One dump showed great promise and after some heavy digging and breaking a few larger rocks, Pete Spangler opened a

crack containing fresh and clean rosettes of malachite needles and some exceptional samples were found. Another nearby dump also showed promise, but time and light ran out on the day, so this one will have to wait till next time.

The last field trip was down to Olary and the Kings Bluff goldfield to look for quartz crystals. It has been a few years since the club last visited this location and only one person (aside from the field officer) in the group had been there before. We were also met there by David and Sarah Tiller and their children, from Balaclava. David, who most members would know via our joint field trips with the Port Pirie club, had driven past Kings Bluff many times and never actually stopped for a look. This was a perfect opportunity for him to finally fossick there.

Finds were frequent and many nice crystals recovered. Although it was small, Josie Hill found the best crystal - a double terminated twin, with complete clarity and an adamantine lustre.

During the day several members explored the area around the diggings, culminating in the obligatory climb to the top of the bluff.

In conclusion, each field trip over the last few months has been rewarding and good days had by all who attended.

TD.



Above: The Kings Bluff goldfield as seen from the top of the

ANOTHER ROCK SWAP AT THE SEPTEMBER MEETING

At our September meeting there will be another "Rock Swap". Bring along a selection of mineral samples or cutting material to swap with other members. This could be a good prelude to our "Rock-On" show later in the month or a chance to clear out excess material you have cluttering up the shed.

PUZZLE PAGE



WHERE'S TERRY?

Task: All of these photos feature one of our club members - Terry Weber - look for the beard and hat.

How many of these locations can you identify? And can you identify any of the other members and / or visitors with him?

The answers will be published in the next issue.



Answers to the "Where the Hell are We" puzzle in the last issue.

- A - Mount Gipps Station: shack at Hores Mine.
- B - Plumbago Station: old stone hut ruin near the Mount Victoria Copper Mine.
- C - Byjerkerno Tin Fields: old stone chimney ruin at the Huel Byjerkerno Mine.

- D - Woolcunda Station: Terry Weber down a hole at the desert rose diggings.
- E - Wertago Station: old steam engine at the Great Wertago Copper Mine.
- F - Purnamoota Station: David Tiller's 4x4 going over the edge of the escarpment near the Mount Eltie Fluorite Mines.
- G - Arkaroola, Northern Flinders Ranges: old boilers at the Yudnamatana Copper Mine.

ROCK-ON IN SEPTEMBER



The Broken Hill Mineral Club Presents...

BROKEN HILL GEM & MINERAL SHOW "ROCK-ON" 2009

When : 24th - 28th September 2009

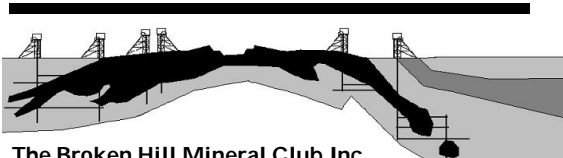
Where : Broken Hill Events Centre,
Racecourse Road, Broken Hill NSW.

An invitation to all mineral, gemstone, or lapidary enthusiasts to come to Broken Hill in the Australian outback...

- ◆ To set up a stall, to buy, sell or trade minerals, gemstones and lapidary items.
- ◆ To see the sights of the historic Silver City and the surrounding district including Silverton with its focus on the arts and crafts of the outback.
- ◆ To meet up with old mineral and gemstone collector friends or make new ones from clubs Australia and World wide.
- ◆ To go on organised mineral fossicking trips within the mineralogically diverse Broken Hill district.

Camping facilities available on site.

Caravan Parks, Motel / Hotel
accommodation available in Broken Hill.



The Broken Hill Mineral Club Inc.



With only three months to go, all is on track for our show in September. We have had considerable interest and entries have been coming in, including several mineral dealers requesting space in the main pavilion, something we haven't had at previous shows.

As it approaches we need now to start advertising to the public in Broken Hill, so that as many local people support our show. We have had good support from the city in the past and now that we have moved closer to town (for some people Silverton was too far away) we hope that more will come out to the event.

Very soon you should start to see flyers appearing around the town and we will have a television campaign over the two weeks prior extending over the whole Southern Cross viewing area.

At both the August and September meetings we will have a roster available for members to sign up for the show. We need people manning the gate and the show office. See Trevor to put your name on the roster for either the Saturday or Sunday or both.

We are also asking for samples to put in the sandpit for the kids. Hopefully some of you have some excess material collected on our field trips over the last year that you don't really need and are willing to donate for this activity. Remember that it will be children digging through the sand in search of the goodies, so please make sure the donations are safe for them to handle. Quartz crystals, garnets, beryls etc are good.

Lastly, we will also need help in the days before to set up the pavilion and mark out camping sites. Again see Trevor if you are available to help prior to the show.



Above: Children digging for goodies at the last Rock-On. Hopefully this activity will be fun again this year and trigger interest - and possibly get some more young members.