



# WITWATERSRAND GEM and MINERAL CLUB

## Newsletter for JUNE 2015

P O Box 3708 Cresta 2118 South Africa  
C1 Lab Room 215, 2<sup>nd</sup> floor Department of Geology  
University of Johannesburg Auckland Park

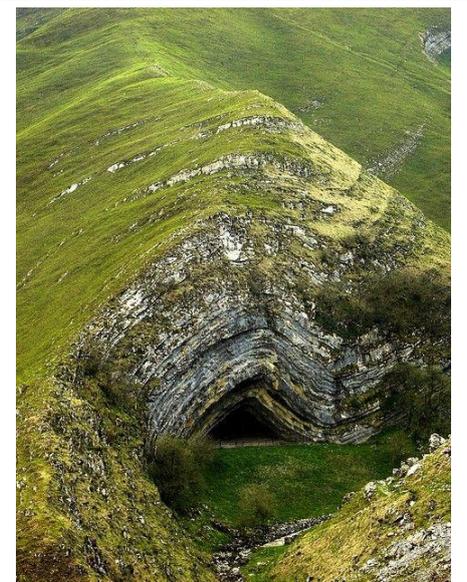
### JUST A WORD FROM THE EDITOR

Welcome to your June 2015 newsletter.

Details of the FOSAGAMS Vivo outing from 8-11 July 2015 is enclosed on page 2. Please contact Linda Stone directly should you have any queries in this regard.

The Southern Africa Gem Cutting Challenge 2015 is now open to all who wish to contribute to raising the standards of gem cutting. Details of this challenge can be found on page 3 of the newsletter.

If you have visited a site recently worth talking about, please share with your fellow club members and forward a short paragraph to [witsgemclub@mweb.co.za](mailto:witsgemclub@mweb.co.za). Should you have any gem or rock related news or articles, please share with us for our monthly newsletter.



### EVENT CALENDAR

THEMED EVENING : 10<sup>th</sup> June 2015

- (1) Prehnite from Africa (bring specimens);
- (2) Hydrogrossular garnet, the non-crystalline garnet (bring examples either rough or polished)

SPEAKER EVENING : 24<sup>th</sup> June 2015 – Alan Naismith will present a slide show regarding “diamonds in the desert”

FOSAGAM Vivo Outing : 8 to 11 July 2015

Southern African Gem Cutting Challenge 2015 – Entries to be submitted by 24<sup>th</sup> November 2015

WGMC Year-end evening: 25 November 2015 (members only)

## FOSAGAMS - Vivo Outing 2015

The yearly Vivo adventure, hosted by FOSAGAMS will start at 11:00 on Wednesday, July 8<sup>th</sup> and end late afternoon on Saturday July 11<sup>th</sup>.

Minerals to be collected include Agates, copper related minerals, Corundum, Dragon Stone, Garnets, green Quartz, Ice Land Spar, Jasper, Quartz and Unakite. You will visit the Shaft 5 (the old Messine Mine), as well as the local dealers who in the past sold Aventurine, Jasper, Magnetite, Rhodonite, Rose Quartz, Unakite and lots more.

Ari and Sannie Kruger owns a game farm called 'Dankbaar' which is situated near Alldays, and are kind enough to accommodate all (rooms in main house or caravanning) visiting.

It is advisable to wear the appropriate gear since you will be covering some tough terrain. Please keep in mind that snakes are commonly found in this area. One of the sites to be visited is a mine, and according to the Mine's Act you have to wear a hard hat, a reflective jacket as well as sturdy shoes. The malaria mosquito has been detected as far as Mopani. Be sure to take precautionary measures. Please bring along a torch. 'Dankbaar' is also subjected to load shedding.

**The following accommodation is also available** (In all cases a 50% deposit is required. The balance to be paid in cash on arrival):

- **Rooms:** (The main house and 'jaghuis'): R200.00 pppd sharing. Children under the age of 18 are free of charge. Linen and towels will be provided. Facilities are shared.
- **Camping and caravanning:** R75.00 pppd. Children under the age of 18 free of charge. Please remember to bring an extension cord. Bathroom facilities will be shared.

**The following facilities are available:** Braai and a fully equipped kitchen (gas stove, fridge, freezer, cutlery, crockery), a cold store, tables, and chairs.

As it has always been a custom, Sannie will supply either pap en sous / a potato dish every evening.

**Directions:** The coordinates are: S 22°37.55,6 E 29°22.42.0 . From Polokwane (Pietersburg) take the R 521 to Alldays. Turn right on the Bronbeek Road (This road is about 1,5km before Alldays). Be on the lookout for the 22km and 23km at the 'Ari en Sannie' sign board. Travel down this road, fenced on the one side with game fencing for 8km. When approaching the MTN tower the farm house will be visible.

**Booking:** Call Sannie Kruger at 071 0487 381 to book your accommodation. Please contact Linda Stone afterwards to confirm the booking. She will need the names, surnames, cell numbers and booking details from you as well as those accompanying you. The information required should be send to her via SMS only at 082 5989 117. If you have any other queries, feel free to contact Linda after 13h30 on weekdays or during the day on Saturdays.

### **Ari and Sannie Kruger's booking details:**

Bank: ABSA

Account holder: A.J. Kruger

Account number: 4074272986 (Cheque)

Branch: Pietersburg

Reference: Your name and surname

The closing date for bookings and deposit payments are the 3<sup>rd</sup> July 2015.

## “THE SOUTHERN AFRICAN GEM CUTTING CHALLENGE 2015”



Competition entries to be in by **Tuesday, 24th November 2015**.  
Entry forms available on request from [witsgemclub@mweb.co.za](mailto:witsgemclub@mweb.co.za)

The competition this year will require an entry fee per stone entered of R50.00 (\$6.00) non-refundable per person. (Please note for this year-Pensioners will pay a flat fee of R50 regardless of number of entries).

Competition is open to –

**“ANYONE WHO WISHES TO CONTRIBUTE TO RAISING THE STANDARDS OF GEM CUTTING IN THE REGION AND BEYOND”**

The purpose of this competition is firstly, for everyone to have fun and there-after to encourage participation with a view to improve the (novice) or hobbyist standards of excellence in stone cutting in our region.

The judging panel will consist of veteran cutters from various backgrounds to ensure that the entries are judged fairly. The final panel will be announced in due course.

### **Faceted Stone Challenge: Competition Rules.**

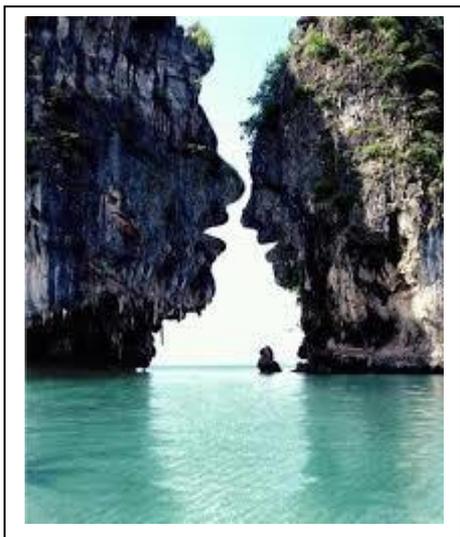
- 1) One stone per competitor may be entered
- 2) The stone entered for 2015 is any stone except quartz.
- 3) The required shape is for each contestant to choose as they wish.
- 4) Entrants are allowed to slightly alter certain angles on the prescribed design should they feel that this will enhance the character of the stone
- 5) Overall size of the stone to be within a 1mm tolerance of **7mm** diameter.
- 6) Entire stone to be polished, although the girdle can be excluded. This is therefore optional to the entrant.
- 7) Entrants must please supply a self-addressed and postage paid envelope for purposes of return mail.
- 8) **“The Southern African Gem Cutting Challenge”** and its members take no responsibility for loss or damage to entrant’s stones, although the utmost care will be taken to ensure that nothing untoward happens to the competition stones whilst in the care of the **“The Southern African Gem Cutting Challenge”**. This equally applies to postage to and from the event.
- 9) **“The Southern African Gem Cutting Challenge”** reserves the right to display and photograph the entries for advertising and promotional purposes before returning them to entrants. In so doing, **“The Southern African Gem Cutting Challenge”** may promote the winner and runners up in the competition.

### **Cabochon Stone Challenge: Competition Rules**

- 1) One stone per competition entrant per division i.e entrants may enter both divisions as each division will be treated separately with their own prizes.
- 2) There are 2 divisions in the cabochon section now:
  - a) Division A : for cabs entered that have a hardness level of 7 or more
  - b) Division B : for cabs entered that have a hardness level of less than 7.
- 3) The entry may be of any type of stone e.g. jasper, agate, sodalite, sugilite, garnet, tourmaline, etc.....
- 4) Only standard forms will apply, i.e. oval or round shape
- 5) A condition of entry is that the stone must be entirely hand worked i.e. no tumbling or use of machine faceting assistance will be accepted.
- 6) Entire stone can be polished, although polishing of the flat back is optional.

- 7) The entered stone must have – a) flat back, i.e. the bottom of the stone must be entirely flat  
 b) a back bevel  
 c) symmetrically domed top.
- 8) Entrants must please supply a self-addressed and postage paid envelope for purposes of return mail.
- 9) **“The Southern African Gem Cutting Challenge”** and its members take no responsibility for loss or damage to entrant’s stones, although the utmost care will be taken to ensure that nothing untoward happens to the competition stones whilst in the care of **“The Southern African Gem Cutting Challenge”**. This equally applies to postage to and from the event.
- 10) **“The Southern African Gem Cutting Challenge”** reserves the right to display and photograph the entries for advertising and promotional purposes before returning them to entrants. In so doing, **“The Southern African Gem Cutting Challenge”** may promote the winner and runners up in the competition.

## MEMBERSHIP



**Annual membership fees** until 28 February 2016, are as follows:

- Ordinary Member R250 per year
- Family Member free if with ordinary member
- Pensioner Member R150 per year
- Students R90 per year (over age of 17 or bona fide full time student)

Kindly pay your club fees and forward the proof of payment to [jonohotz@gmail.com](mailto:jonohotz@gmail.com) . This will enable you to continue to participate and enjoy the club’s benefits. Fees are payable to the Treasurer, Jono Hotz. The WGMC Banking details are as follows:

Standard Bank	Cheque account
Account number:	200551744
Branch code:	006305

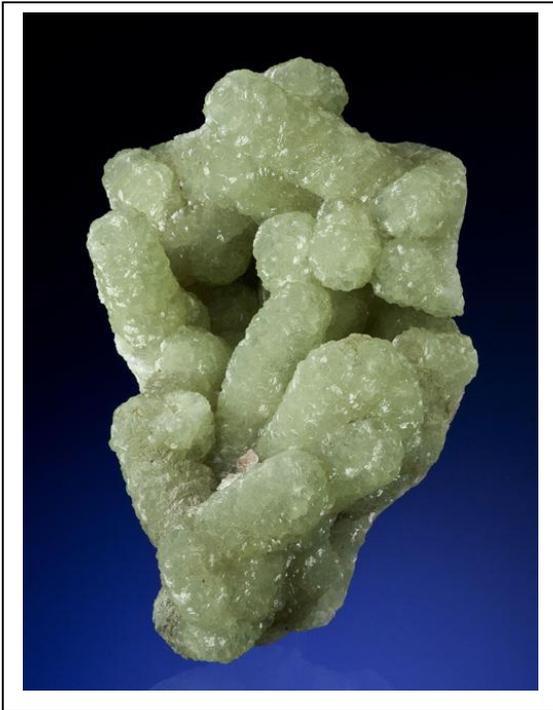
## COMMITTEE MEMBERS

The following members were re-elected at the AGM on the 25<sup>th</sup> March 2015 to serve on the committee

Chairman	Massimo Leone	082 372 0328	<a href="mailto:mass@thefacetingstudio.co.za">mass@thefacetingstudio.co.za</a>
Vice Chairman	Kevin Hean	083 267 5342	<a href="mailto:rhombyc@mweb.co.za">rhombyc@mweb.co.za</a>
Secretary	Althea Crundwell	082 338 9236	<a href="mailto:wgmc.secretary@gmail.com">wgmc.secretary@gmail.com</a>
Treasurer	Jono Hotz	082 444 9628	<a href="mailto:jonohotz@gmail.com">jonohotz@gmail.com</a>
Editor	Claudette Denner	072 591 6202	<a href="mailto:witsgemclub@mweb.co.za">witsgemclub@mweb.co.za</a>

Other Club Contacts (non-committee members)

- Raffle Master Keith Bailie 082 928 9515
- Access cards Bruce Cairncross 082 599 2133
- Mineral Section Damian Kislign 072 203 1351
- Librarian Massimo Leone 082 372 0328



**Identifying Prehnite** - Prehnite is a inosilicate of calcium and aluminium with the formula:  $\text{Ca}_2\text{Al}(\text{AlSi}_3\text{O}_{10})(\text{OH})_2$ . Limited  $\text{Fe}^{3+}$  substitutes for aluminium in the structure. Prehnite crystallizes in the orthorhombic crystal system, and most often forms as stalactite or botryoidal aggregates, with only just the crests of small crystals showing any faces, which are almost always curved or composite. Prehnite is typically semi-transparent to translucent with its colour usually being yellow-green to apple-green. Prehnite is considerably hard with a rating of 6 to 6.5 on the Mohs scale. It has a specific gravity ranging from 2.82 to 2.94 and a refractive index of 1.611 to 1.669. Prehnite is in the orthorhombic crystal class, usually found in radiating botryoidal (grape-like) aggregate forms, and rarely as tabular and pyramidal crystals. When heated, prehnite crystals can sometimes give off water. It has a brittle tenacity and an uneven fracture. When polished, prehnite has a vitreous to pearly luster. Prehnite may be confused with apatite, jade or serpentine.

**Prehnite Origin and Sources** - Prehnite occurs in the veins and cavities of mafic volcanic rock. It is a typical product of low-grade metamorphism. Primary deposits of prehnite are sourced from several locations around the world. Some of the most important deposits come from Africa (Namibia, South Africa), Australia (Western Australia, Northern Territory), Canada, China, Germany, Scotland, France and the United States (New Jersey, Pennsylvania and Virginia).

In April 2000, a rare orange Prehnite was discovered at the famous Kalahari Manganese Fields in South Africa.

Prehnite forms in both odd and distinct formation habits. It most often occurs as rounded or bubbly crystal masses, and commonly forms odd-shaped epimorphs after Anhydrite, Glauberite, and Laumontite. These epimorphs are remarkable for having hollow centers of a dissolved early-stage mineral. Elongated Prehnite formations are almost always rounded at the head and resemble fingers, and they are affectionately called "Prehnite Fingers" by collectors. A particularly desirable formation, known as a snakehead, describes an elongated Prehnite epimorph with a widened head.

Prehnite sometimes has a brown ferrous coating, which can be removed with chemicals. Some dealers treat specimens by oiling them with lubricants to enhance luster.

Prehnite was first described in 1788 for an occurrence in the Karoo dolerites of Cradock, Eastern Cape Province, South Africa. It was named for Colonel Hendrik Von Prehn (1733–1785), commander of the military forces of the Dutch colony at the Cape of Good Hope from 1768 to 1780 (<http://en.wikipedia.org/wiki/Prehnite> )



Translucent green Prehnite epimorph casts after elongated Anhydrite crystals to 50 mm long. The Anhydrite formed first, then was partially overgrown with Prehnite, finally the Anhydrite dissolved. Note the Prehnite is open along one side.



A rich curving shell of rare orange Prehnite crystals covering most of the matrix, from NChwaning II Mine, Kalahari Manganese Fields, South Africa (4.0 x 3.0 x 2.3 cm)

#### READ MORE

<http://www.gemselect.com/gem-info/prehnite/prehnite-info.php>

<http://m.minerals.net/mineral/prehnite.aspx>

<http://www.researchgate.net/publication/250085210> Prehnite from the Kalahari manganese field South Africa and its possible implications

## THEMED EVENING

### (2) Hydrogrossular, non-crystalline garnet

**Hydrogrossular** is a calcium aluminium garnet series (formula:  $\text{Ca}_3\text{Al}_2(\text{SiO}_4)_{3-x}(\text{OH})_{4x}$ , with hydroxide (OH) partially replacing silica ( $\text{SiO}_4$ )). The endmembers of the hydrogarnet family (grossular, hibschite, and katoite) depend on the degree of substitution (x):

- grossular:  $x = 0$
- hibschite:  $0.2 < x < 1.5$
- katoite:  $1.5 < x < 3$ .

Hydrogrossular is a garnet variety in which a  $\text{Si}^{4+}$  is missing from a tetrahedral site. Charge balance is maintained by bonding a  $\text{H}^+$  to each of the four oxygens surrounding the vacant site.

Hydrogrossular is found in massive crystal habit, sometimes grown in with idocrase.

Hydrogrossular is translucent to opaque, and found in green to bluish green, pink, white, and gray. The cause of the green color is chromium, and possibly iron. Pink hydrogrossular is caused by the presence of manganese. Hydrogrossular may have dark gray to black small inclusions. It has similarities to jade, and has the misnomers *Transvaal jade*, and *African jade*.

Hydrogrossular is sometimes used as a gemstone, being cabochon cut, or made into beads. Sources for green and pink hydrogrossular are South Africa, Canada, and the United States. White hydrogrossular is sourced from Burma and China (<http://en.wikipedia.org/wiki/Hydrogrossular>).

Hydrogrossular garnet – also known as "Transvaal Jade", massive, translucent to sub translucent to opaque, green due to chromium and pink due to manganese or mixed colours, even texture, polishes well. Examples of rough stones:



Hydrogrossular  
various green, dark and light



Hydrogrossular  
light pink



Hydrogrossular  
pink and light green mixed

#### READ MORE

<http://www.itv.com/library/hydrogrossular-garnet-58-gemstone-info.html>

<http://www.afrigemtec.co.za/rough.htm>

<http://www.tosots.com/crystal/large+transvaal+jade+rough/788>

<http://www.jewelpedia.net/the-chemistry-of-the-garnet-group/>

[http://gemstonemagnetism.com/garnets\\_pg\\_5.html](http://gemstonemagnetism.com/garnets_pg_5.html)

#### SPEAKER OF THE MONTH

**Alan Naismith**

#### DIAMONDS IN THE DESERT



After collecting degrees in Engineering Geology and in Rock Mechanics and working with the National Coal Board Open Cast Executive for 4 years, Alan left England's green and pleasant land to gain experience in designing bigger and better open pits in Zambia – and ended up in underground mining at Mufulira!

After two years of enjoyment, he drifted down south to work with Rand Mines which was entering its last throes as a mining company. It was a challenging time with operations in gold, coal, chrome and asbestos mines all requiring rock mechanics input. Alan was appointed head of Rock Mechanics when Dave Ortlepp moved across to Anglo American and held the post for four years.

There followed a three year period running a mining supply company and then eight years lecturing rock mechanics, finance and mining at Wits University before Alan moved across to the newly formed AngloGold as Head of Rock Mechanics. During this time there was a concerted effort to reduce accidents and improving rock mechanics practice featured highly in all strategic plans.

There-after followed another two year stint in Zambia, this time with Konkola Copper Mines and involved both surface and underground operations. The challenge there lay in keeping operations profitable with a copper price at 65 cents per pound!

And then on to SRK Consulting where the world opened up! In addition to working in Zimbabwe, Zambia, Mozambique, Lesotho and Botswana, Alan has consulted on operations in Peru, Chile, Tasmania, Mongolia, Kazakhstan and Fiji!

And now, in semi-retirement, Alan is enjoying putting something back through mentoring young engineers while spending some "me" time gardening, improving birding and photographic skills, learning bonsai and enjoying involvement with SANPARKS Honorary Rangers through their West Rand Division.

Alan will present a talk on "Diamonds in the Desert" showing some of the technical trials and tribulations involved in establishing a new underground diamond mine in the Central Kalahari Game Reserve, Botswana.

## **CLUB MEETINGS**

The club meets every second and last Wednesday of each month at 19h00 for 19h30, excluding December, at the University of Johannesburg, Auckland Park, Department of Geology, Second Floor, Lab C1 Room 215. Please use the entrance off Ditton Road, the building is directly opposite the mentioned entrance and parking is available to the left (limited) or around the turning circle to the right (plenty available). We welcome all visitors. Tea, coffee and biscuits are available at a donation of R4.00.

## **LIBRARY**

Massimo Leone is at present updating the library and will give assistance to members wishing to borrow books. Should you have any books (old or new) on minerals, geology or lapidary that you wish to donate to the library, please contact Massimo at [mass@thefacetingstudio.co.za](mailto:mass@thefacetingstudio.co.za) or on 082 372 0328.

## **ACCESS CARDS**

The access cards we had are no longer operative and it is not possible to get new finger print ID access cards for club members. A list of the club members with their corresponding vehicle registration numbers will be held at Security at the Access Gate 2 (off Ditton Road) for future reference. If it ever becomes an issue that a club member is denied access at the entrance, then the security guard can check that person(s) name against the list and see they have permission to come onto campus to attend the club meeting. Thank you to Bruce Cairncross for assisting in this matter.

## **RAFFLE**

The monthly raffle takes place on the last Wednesday of every month. Raffle tickets are on sale in the meeting room on the night at R10.00 each.

Those selling minerals at the club, please donate a nice rock to the raffle. Contact Keith Bailey at the club meetings in this regard. We are requesting all mineral and gem dealers to please donate a specimen or two for the raffle. Keith would be happy to assist.

## LINKED SOCIETIES

We exchange newsletters with the following societies. Should you be interested in reading any of them please contact [witsgemclub@mweb.co.za](mailto:witsgemclub@mweb.co.za) and I will email them onto you. If you wish to join any of the clubs, or attend their lectures and outings, please contact the person listed below:

- |                                     |                 |  |
|-------------------------------------|-----------------|--|
| • FOSAGAM                           | Linda Stone     | <a href="mailto:president@fosagams.co.za">president@fosagams.co.za</a> |
| • South African Micro mount Society | Alison Rose     | <a href="mailto:samicromount@gmail.com">samicromount@gmail.com</a>     |
| • Nelspruit Gem & Mineral Club      | Paul Vermaak    | <a href="mailto:paulvermaak1@gmail.com">paulvermaak1@gmail.com</a>     |
| • Pretoria Gem & Mineral Club       | Lex Krabbendam  | <a href="mailto:krabben@mweb.co.za">krabben@mweb.co.za</a>             |
| • Cape Town Gem & Mineral Club      | Malcolm Jackson | <a href="mailto:jacksonhome@telkomsa.net">jacksonhome@telkomsa.net</a> |

## SOCIAL MEDIA

WGMC is on Facebook. Please join our group to receive the latest news on our meetings and speakers.

<https://www.facebook.com/Witwatersrand-Gem-and-Mineral-Club>.

## ADVERTS

### TURN YOUR MODEST DISPLAY INTO A MASTER PIECE!!

Various Perspex Mineral stands for sale.

Please contact Jenny for brochure.

JenEric Mineral Stands

Cell: 084 810 156

E-mail: [stampcard29@gmail.com](mailto:stampcard29@gmail.com)

## DISCLAIMER

If you have received this email in error, or wish to be added/removed from our mineral related mailing list, please REPLY to [witsgemclub@mweb.co.za](mailto:witsgemclub@mweb.co.za) with subscribe or unsubscribe in the subject line

## AT THE END

You made it this far. Thank you for taking the time to read through the WGMC newsletter. Remember that if you have something to add or share with your fellow members please feel free to email the details to [witsgemclub@mweb.co.za](mailto:witsgemclub@mweb.co.za).

Ciao,

**Claudette**

**Wits Gem & Mineral Club**

**Newsletter Editor**

