



CAPE TOWN GEM & MINERAL CLUB

FOR THE STUDY OF ROCKS, MINERALS & CRYSTALS



mineral chatter

THE OFFICIAL NEWSLETTER

DECEMBER 2013

DIARY	DATE	TIME	EVENT
	30		Workshops open on request
DECEMBER	7	10h00	Open Day – Minerals, gems and jewellery to view, buy or chat about
	14	14h00	End of year meeting/party/braai
			CLUB CLOSSES UNTIL LATE JANUARY



What's inside this month?

- *Committee Corner*
- *Events – past and to come*
- *My Collecting, My Collection*
- *Internet Article of the Month*

Happy Christmas and Seasons Greetings to all



COMMITTEE CORNER



2013 has been another successful year for the club, which is now about to enter its 52nd year of existence. More people (26) joined than left us, (7) and we now have 103 memberships, both single and family. This is the highest for many years. We welcome Neil Gradwell and Andrea Hopkins who are the latest to become members. We sincerely thank everyone who has contributed in any special way to helping the Club during 2013 – there are too many helpers to name everyone individually, (although Marion who organises our Open Day, Duncan who has given a record number of faceting courses, Rinda the cake fairy, and Charlie who has steadfastly managed the lapidary workshop, do bear special mention), so please accept this as your personal thank you if you haven't been named in person. We really do appreciate your efforts.

☞ **Please refer to “Events” below for details of our end-of-year get together at the Monthly Meeting, on 14th December. We look forward to having a good turnout on the day.**

☞ **Our financial year ends on 31st December. If you have any outstanding debts (particularly those members who use the workshops) or claims for items you have been asked to purchase, please get them to Remo before 9th December. Remember you must attach original invoices/chits to claim forms (to be found in the office) in order to be refunded.**

☞ **We would prefer that no subscriptions for 2014 are paid until next year. We shall be sending out invoices to everyone in mid-January. We ask you then please to pay promptly. Officially all memberships lapse on 31st December, except for those of new members who have joined since 1st September this year. There will be no newsletter in January, but the one for February will be sent out early to remind you of our re-opening date and other details. The cut-off date for subscription renewals is March 2014. No further information will be sent to those people whose membership remains unpaid after then.**

☞ **Duncan and Carol ask that members please return all borrowed books and magazines to the library on December Open Day or at the December 9th meeting.**

☞ **Our newsletter series on “My Collecting, My Collection” has been very successful. We are aware of one or two more articles in the pipeline, but with such a good membership, there is certain to be another whole year's supply out there, so start drafting yours now for when your turn comes.**

☞ **The club closes on 14th December, and from then on, no access to the clubhouse or workshops is available until late January.**

☞ **Fund Raising Raffles for Gemboree 2014.** The bladed calcite covered in prehnite from the Bloedsuigersfontein site at Calvinia, donated by Rob Smith, was won by Charles Hartlieb. There is a pretty piece of Magaliesberg amethyst available as the next raffle prize.

We look forward to seeing everyone again in the New Year.

EXCO

“A club is its members, not its committee, which must be an aide to those members.”



On behalf of all the members who have learnt to make cabochons in the Workshop over the past few years, Tracy writes:

“Hi Charlie,

I am so sorry that you will no longer be doing workshop.

You are a thorough teacher. My first lesson will stay with me forever: - how to choose, appreciate and get the best of the stone we chose - how to cut. My first time on the cutting machine was scary but the result was so mind-blowing when the beauty on the inside was revealed.

My first cabochons were a highlight for me - to appreciate attention to detail, and the end result to me was so satisfying. You taught me to be thorough when looking for the close-to-perfection result on whatever we were working on and so get a feeling of accomplishment.

Thank you from the bottom of my heart.

Tracy”



Diary of Events

PAST - Monthly Meeting, 9th November: How old is the Earth and how do we know?

Duncan gave us an introduction to the mysteries of radiometric dating. He started with a summary of attempts over the past five hundred years of arriving at some rational estimate of the age of the Earth and then answered the first question of the title of his talk “How old is the Earth” with the statement that it is 4,54 billion years \pm 1%. This he illustrated with some considerable arm waving. Then he

introduced us to isotopes - chemical elements with varying numbers of neutrons. Those with more neutrons than protons tend to be unstable and decay through a number of radioactive decay mechanisms. In the process, any particular radioactive parent element becomes a different daughter element. Geological dating often uses the radioactive decay series of the various uranium isotopes, which eventually turn into isotopes of lead, to date suitable minerals in rocks. Zircon is such a mineral because the crystal structure of zircon easily accommodates uranium when it forms. The lead present in zircon derived from the radioactive decay of uranium can be measured with great accuracy in modern mass spectrometers. Duncan described the analytical process of extracting zircons from suitable rocks, mounting them in plastic and polishing sections so that they can be viewed in a scanning electron microscope, and then sampled by laser in a mass spectrometer. These very sensitive instruments can measure the relative proportions of the various isotopes of uranium and lead in a sample, in parts per billion. Knowing the decay rate from uranium to lead the age of the sample then can be calculated. The oldest known zircons on Earth are about 4,4 billion years old, but these are in sandstones and metamorphic rocks so the original rocks must be older. Because Earth is a dynamic planet no remains of the earliest crustal rocks have been found. The oldest Moon rocks are similar in age. Most of the 70 or so meteorites that have been dated using various different radioactive decay systems have an age around 4,53–4,58 billion years old, and this is thought to be the age of the formation of these meteorites and the inner planets of our solar system. The obvious question is how we know that the radioactive decay rates are constant over such a long period of time. Duncan explained that radioactive decay produces heat. If the decay rates of all the various radioactive systems used in geological dating were much faster in the past the surface of the Earth would have been much hotter and the evolution of life would not have been possible. Radioactive decay rates are determined by the fundamental properties of atoms and very sensitive tests over the past hundred years have not shown any significant variation in the systems used for radiometric dating. In addition, if there had been significant change in the past, it would be revealed in various astronomical phenomena that depend directly on the forces operating in the atomic nucleus. The fact that dating meteorites and terrestrial rocks using a variety of radioactive decay systems produces consistent dates provides significant confidence in the age of the solar system and the formation of the Earth of 4,54 billion years. (24 members attended)



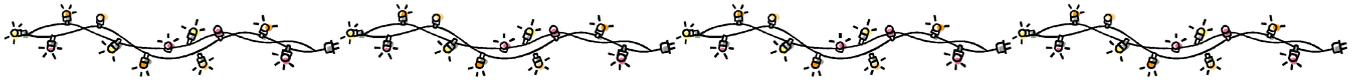
MONTHLY MEETING/CHRISTMAS PARTY, 14TH DECEMBER, 2 PM

Instead of a talk this month, we have organized a Christmas Tombola with a difference. A cross section of approximately 50 mineralogically related items will be up for grabs, e.g. lots of mineral specimens, books, cabbings rough, polished slabs of banded ironstone, books, pottery mugs, and the like. There will be the same number of tickets as there are items, and each item is of relatively similar value. Some items will appeal to some members, and other items will appeal to other members, and a few items will be highly desired by all.

How do you stand a chance to get a prize? Until we see how many people attend the meeting, we will initially say that **each paid-up membership** (whether single or family), identified with a name tag and present at the meeting, **may buy one token for R25**. Once all the tokens are sold, they will be placed in the Sputnik. This will be spun and the owner of the first number drawn out will have first pick out of all the items. The Sputnik will then be spun again and a second number drawn, and that token's owner will have the second choice of all the items, and so on down the line. Each person who has bought a token will be certain to get a prize.

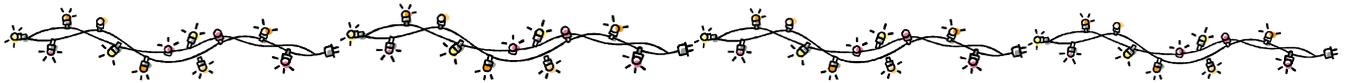
Make sure that you come to the meeting in good time to see what is on offer and to buy your token, so that when your number comes out of the Sputnik you will know what you hope to be able to choose.

Beer and snacks will be on the house after the tombola, and we hope you will stay on and braai too; fires will be lit and wood provided. For this please bring your own food, drink, cutlery, etcetera, as by that time the kitchen will be closed.



“Sultan’s seat” (a design by John Bailey)

Cut by Duncan Miller in demantoid garnet from Namibia, it shows the characteristic high dispersion.



**My Collecting, My Collection
Gisela Hinder**

I got my first inspiration to collect stones and minerals through my grandparents from my mother’s side when I was about 10 years old. They used to bring me little shiny rocks from their travels to the Swiss Alps which I collected. I was born in Germany in a little rural village called Bellnhausen about 100 km north of Frankfurt/Main in Hessen on the 7th of January in 1961. My childhood was mainly spent roaming in the forests and playing with the farmers’ kids and interacting with all the animals they had. My first thought of what to become in life when I grew up was a vet; I hate suffering. Then I wanted to become a medical doctor, and joined the German Red Cross when I was 15 and worked in a hospital in my school holidays and on weekends to finance my car and other expenses. But when my school days were over and the time was ripe to decide what to study I did not know what to do. I then went through the university guide of the Philipps University in Marburg/Lahn and chose Geology and Paleontology, remembering my ‘old’ hobby of collecting stones and skulls (human and animal) when I was a child. I never regretted that I made that decision. Being in nature and trying to unravel the geological processes which made the Earth what it is today is still very special to me. During my studies we undertook several geological excursions to interesting places like the Alps, Harz and Black Forest Mountains in Germany, went across Canada and on a trip to Italy, Sicily and the Aeolian Islands to see and understand sedimentary, metamorphic and volcanic processes which took place millions of years ago or are still happening today.

When my studies were successfully finished in 1988, the outlook of getting a job in Germany was rather bleak. Environmental geology was the big thing to do in Germany at that point in time but I wanted to explore, and maybe even live in a country where the weather was more favorable than in Germany. My school English was very bad and I first sent job applications to companies in Germany, Austria and German-speaking Switzerland. Unfortunately, or fortunately, all came back unsuccessful. One consulting geologist in Hamburg sent me a reply and told me that the type of job I was looking for does not exist in Germany anymore but in Southern Africa, Canada, Alaska and Australia. He also offered me a contact address in South Africa for a mineralogist working at ISCOR. Africa was calling!!! I went to South Africa and Namibia in 1990 for job interviews and was eventually lucky when offered a job as an exploration geologist at ISCOR in Thabazimbi. I started there on the 22nd of November 1990 based in Thabazimbi, exploring for additional iron ore resources in the wider vicinity of Thabazimbi. There I

stayed for six and a half years in a caravan at different places doing Green Fields exploration for base metals in the Crocodile River Fragment north of Brits and Zeerust, volcanic massive sulfides in the Kenhardt, Groblersdaal area and low grade iron ore in magnetite quartzite at Dendron close to Pietersburg. In 1997 I went back to Thabazimbi to work as a mine exploration geologist being responsible for the Donkerpoort West open pit.



The author with her foster son and Chief Geologist at Okorusu Fluorspar Mine

In 1999 my dream eventually became true, to work and live in Namibia, when I got a job offer from Rosh Pinah Zinc Corporation, a zinc and lead underground mine in the south of Namibia. I immediately fell in love with the remote little mining town surrounded by mountains and desert not far north of the Orange River. The south of Namibia has a lot to offer for geologically interested people, only to name a few are the Fish River Canyon, the second largest canyon in the world with the hot springs at Ai Ais, the Roter Kamm meteorite crater, alluvial diamond mining along the banks of the Orange River and marine diamonds at Oranjemund as well as the two zinc mines in and close to Rosh Pinah.

When I was still working in the Thabazimbi Iron Ore mine, I always thought about geo-tourism as a way to teach people about the wonders of geology. People look at so many places in awe but don't know how the things they see came to be. The idea was born to start collecting minerals and information from localities in Namibia and somehow show them to the public. For about 10 years now I have bought and collected minerals from all over Namibia to exhibit one day, and also wish to offer geological excursions. ISCOR became Kumba and Kumba became Exxaro. I was in the fortunate position to own some Kumba and Exxaro shares which I sold when the price was good. I bought two erven in Rosh Pinah and built two houses, one for me to live in and one for the Geo Center.

The Geo Center was opened at the first of March 2012. The main purposes of opening the Geo Center in Rosh Pinah are: Educational (local community, schools, tourists), Geo-heritage (conservation of geological and geo-morphological interesting sites, rocks and minerals, Historic (the history of Rosh Pinah will be preserved), Scientific (research on Rosh Pinah and Skorpion minerals), Economic (developing geo-tourism in Rosh Pinah is of economic benefit to the mines and the community) and last but not least, Planning, organizing and execution of mine visits and other geologically interesting places (students, scientists, tourists) through the Geo Center. Through the Geo Center I have met a lot of interesting people; mainly people who share the love of nature, mineral collecting and travelling.



The coronadite specimen, on the left, from Rosh Pinah Mine is about 3×1 cm. The Jeremejevite crystal (4 cm) in feldspar matrix from the Erongo can be seen in the Geo Center.

What remains to be done in the future is to improve the existing specimens of the center and to get more minerals from all over Namibia. The Geo Center already exhibits a wide variety of minerals and rocks from the two Rosh Pinah mines namely Rosh Pinah Zinc Mine and Skorpion Mine, as well as Tsumeb, Berg Aukas, Otjihase and Rössing, from the Erongo, Brandberg and Tafelkop areas, Sarusas and even a meteorite from the Gibeon swarm, and petrified wood from the 'Petrified Forest' close to Khorixas. A corner in the Center is dedicated to the San people, depicting their life, hunting and accommodation. Bushmen craft in the form of little love bows, knives, bracelets and necklaces are for sale, supporting a San Community in the northeast of the country. Books about Namibian history, the country in general, geology and animal life are also on offer.

Please pop in at the Geo Center when your travels bring you to, or through, Rosh Pinah.



The Geo Center is on the left



Best Internet Article of the Month Fly Geyser in Nevada

Fly Geyser was in fact accidentally created in 1964, when exploration was being carried out for sources of geothermal energy. The borehole was not properly plugged which allowed dissolved minerals to rise and accumulate, creating a travertine mound that is continually growing. Water constantly shoots out, creating more and more terraces over an area of about 30 hectares. The ponds are forming an ecosystem, with small fish and birds enjoying the geyser. Photographs are particularly spectacular as algae give the geyser a variety of colours.

Google: "Fly Geyser, Nevada" and choose your own links.

CONTACTS

TRADERS: Contact Marion on 084 6060 233 or mcoleman05@gmail.com

LIBRARY: Available on Open and Meeting days. Ask Carol or Duncan to unlock for you.

YOUR 2013 COMMITTEE

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Assistant to Treasurer	Carol Coleman	021 558 6308	kcoleman@telkomsa.net
Secretary/Newsletter Editor	Jo Wicht	021 976 3808	joanna.wicht@kingsley.co.za

LINKED SOCIETIES

We exchange newsletters with the following societies. Should you be interested in reading any of them please contact Jo who will e-mail them onto you. If you wish to join any of the clubs, or attend their lectures and outings, please contact the person listed below:

WE ALSO RECEIVE EMAIL COPIES OF NEWSLETTERS FROM THE OTHER FOSAGAMS CLUBS. SHOULD YOU WISH TO HAVE THEM FORWARDED TO YOU, ASK JO TO PUT YOUR NAME ON HER SPECIAL MAILING LIST.

USA and UK FACETING GUILDS – Contact Duncan (embo@telkomsa.net) to join the faceting group if you want to receive these newsletters. This is open to Cape Town Gem & Mineral Club members only.

THE CAPE NATURAL HISTORY CLUB - Visit www.capenaturalhistoryclub.co.za Contact Sheila 021 782 1620

ASTRONOMICAL SOCIETY - Contact Lia at xtrahand@iafrica.com

FRIENDS OF SA MUSEUM - Contact Maxine Davies 021 481 3913 (Wednesdays & Fridays only) samfriends@iziko.org.za

W.CAPE BRANCH OF THE GEOLOGICAL SOCIETY OF SA - website: <https://sites.google.com/site/gssawcb/>

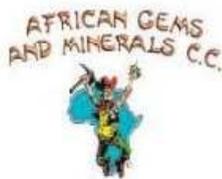
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Duncan Miller is the official southern African regional representative for **ULTRA TEC FACETING MACHINES** (www.ultratec-facet.com) and agent for **GEARLOOSE LAPIDARY PRODUCTS** (www.battlap.com). So if you are considering buying an Ultra Tec or Gearloose's innovative polishing materials, contact Duncan for a quote including shipping, tax, clearance fees, etc. 084 757 9830 or info@xenolithos.com You can read the latest Ultra Tec newsletter at <http://www.ultratec-facet.com/Sometimes/somenew.htm>

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For vast range of semi-precious beads and cut stones at excellent prices contact Vadim Petzer of the **101 Jewellery Emporium** at 082 7714954.

Come and visit **Avalon**, situated at 6 Sarel Cilliers Street, Bellville. We stock a large variety of crystals and various other interesting items. We are open Mondays to Saturdays, 10am-5pm. Contact Rocky: 072 697 4076

Advertising is free to members. Contact Jo to place an ad.

2014 MEMBERSHIP FEES

TOWN MEMBERS: Single: R300 e mail (R35 extra if newsletter is posted because you do not have e mail)

Family: (Principal/partner/with dependent children under 21) R390 e mail (R35 extra if newsletter is posted)

COUNTRY MEMBERS: (Living more than 50km as the crow flies from central Cape Town) Single: R225 e mail (R35 extra if newsletter is posted because you don't have e mail)

Family: (Principal/partner/with dependent children under 21) R275 e mail (R35 extra if newsletter is posted)

STUDENT/AFFILIATE: (Age under 25, registered full-time at *bona fide* college or university, or dependent child of existing member) R150 e mail only

ONCE OFF JOINING FEE FOR NEW MEMBERS: (R20 per application, single or family)

If you ask for the newsletter to be posted and you do have e-mail you must please pay an additional R75.

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TOWN MEMBERS: Single: R290 e mail (R30 extra if newsletter is posted)

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Family: (Principal/partner/with dependent children under 21) R260 e mail (R30 extra if newsletter is posted)

STUDENT/AFFILIATE: (Age under 25, registered full-time at *bona fide* college or university, or dependent child of existing member) R145 e mail only

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The opinions expressed in the articles above do not necessarily reflect those of the Executive Committee. We welcome all contributions related to our hobby and everyone is welcome to send articles for inclusion in the Mineral Chatter.

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