



WITWATERSRAND GEM and MINERAL CLUB

Newsletter for January 2014

Welcome to all Gem and Mineral lovers.

WGMC wish all our members a prosperous, healthy and happy year ahead.

We trust you had a relaxed and peaceful festive season.

We hope to see you at all our meetings this year.

JUST A WORD FROM THE NEWSLETTER EDITOR

Good Day all. My name is Claudette. For all that don't know me yet, I have just joined WGMC and have offered to take over from Sharon with regards to the newsletter and related issues. I would like to thank Sharon for the superb job that she did with the newsletters. Should you have any information, notices or input for the newsletter or even positive criticism please feel free to contact me directly at witsgemclub@mweb.co.za or on 072 591 6909. I look forward to meeting all members that I don't know yet.

EVENT CALENDAR FOR 2014

FOSAGAMS outing: GROOT MARICO February 28 – March 2, 2014. Details on page 3

GEMBOREE 2014: To be held over the Easter Weekend, 18-21 April 2014. Details on page 4

OPEN DAY at African Gems & Minerals: More details early in 2014

FOSAGAMS Namibia Tour in August 2014 (information in this regard would be distributed once received)

21st General Meeting of IMA (International Mineralogical Association) during week of 1 - 5 September 2014

WGMC Year-end evening: 26 November 2014 (members only)

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, Room 215G. 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.

Herewith a list of dates for all club meetings in 2014. Please diarise:

Month	Mineral Evenings (2nd Wednesday)	Speakers (last Wednesday)
January	8 th	29 th
February	12 th	26 th
March	12 th	26 th
April	9 th	30 th
May	14 th	28 th
June	11 th	25 th
July	9 th	30 th
August	13 th	27 th
September	10 th	24 th
October	8 th	29 th
November	12 th	26 th

Mineral theme nights take place on the 2nd Wednesday of every month. Herewith a list of the proposed topics:

Month	Theme	What you need to bring/Description
January	Valuation	ZAR based, Bring three (3) specimens
February	(1) Smithsonite (2) International Minerals	(1) Bring selection of Colours (2) Bring 3 specimens
March	(1) Why do I collect? (2) Man-made minerals	(1) Bring 3 specimens (2) Minerals resulting from industrial processes
April	(1) Your favourite African Locality (2) Different types of twinning in crystals	(1) Bring 3 specimens (2) Crystals that are double terminated
May	(1) MOHS table of relative hardness (2) Blue, Violet & Mauve Minerals	Bring your own set
June	African Garnets Brandberg – Goboboseb	
July	(1) Dioptase and associated minerals from Kaokaveldt (2) What is a gemstone? What qualifies?	(2) An open discussion. Please bring examples of minerals you think qualify
August	(1) Meteorite, Palasite & Tektite (2) Tourmaline – The rainbow mineral	(2) Bring as many colours as possible
September	The Feldspar Group Pseudomorphs	
October	Native Silver Thumbnails	
November	Calcite Democratic Republic of Congo	

MEMBERSHIP

Annual membership fees for 2014 are as follows:

- Family Member R240 per year
- Pensioner Member R200 per year
- Students R90 per year

Kindly pay your 2014 club fees and forward the proof of payment to 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:	630522

New members are welcome. To join kindly forward a completed club application form (available from witsgemclub@mweb.co.za) and proof of payment of annual fees to Jono Hotz at jonohotz@gmail.com.

University Access Card for members. These expire at the end of each year, thus to renew kindly contact Bruce Cairncross at the club meetings, who will arrange an access card for you on receipt of the following:

- 2 passport sized colour photographs
- R25.00 in cash
- a certified copy of your ID Document or passport

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 a piece. Those selling minerals at the club, please donate a nice rock to the raffle. Contact Keith Bailey at the club meetings in this regard.

LIBRARY

Massimo Leone is at present still taking care of 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 or on 082 372 0328.

GROOT MARICO

Friday, February 28 – Sunday, March 2 2014

Linda Stone has invited all mineral lovers to join her on this FOSAGAMS outing, which she would be leading as she has done annually for many years. Herewith the details from Linda:

Meeting place and time: Friday (Febr 28) at 16:15 in the parking area of the Petroport opposite Groot Marico
OR Saturday (March 1) at 08:00 on Hannes Palm's farm.

Saturday : We will be visiting the Witkop Fluorspar Mine on Saturday. We will collect Fluorspar and other minerals already found at the mine: Pyrite, Tremolite Needle Crystals, Calcite, Stromabalyte, Manganese Oxide, Goethite, Hematite, Sphalerite and Galena. There-after we will visit old diamond diggings and will be collecting Carnelians.

Sunday we will be collecting Goethite (Limonite pseudo Pyrite) and Conglomerate.

Accommodation: We will be camping on the farm of our dear old friend, Hannes Palm. The farm is situated at the eye of the Marico River. Swimming is possible, so bring along your gear. Bring and braai's will be held in the evenings. Should you prefer other type of accommodation please contact Michael Stanton (River Bend Farm) on 082337781.

For further information and / or confirmation of booking please contact me at 082 5989 117 after 13:30 on weekdays or on Saturdays 09:00 – 16:00.

Please Note: According to the Mine's Act each person must wear safety (sturdy) shoes, a hard hat and a reflective vest.

GEMBOREE 2014

Easter Weekend, 18-21 April 2014

The Gemboree 2014 will be held over the Easter Weekend from 18-21 April 2014, at KLEIN PELLA. The 47th Annual Gemboree is hosted this year by the Cape Town Gem & Mineral Club(CTGMC). Entries close on the 31st of January 2014 and should you still wish to attend kindly email witsgemclub@mweb.co.za for all related forms. All accommodations are done through the CTGMC, and all to arrange their own transport.

If you have booked for this weekend, kindly advice in order for me to forward you all related information on the weekend's events. The above mentioned email could be used.

COMMITTEE MEMBERS

The Club has several vacant committee positions and we welcome new volunteers. Committee members for the year commencing 1st March 2013 are as follows:

Chairman	Vacant –	volunteers NEEDED
Vice Chairman	Vacant –	volunteers NEEDED
Mineral Section	Vacant –	volunteers NEEDED

Treasurer	Jono Hotz	082 4449628	jonohotz@gmail.com
Librarian	Massimo Leone	082 372 0328	mass@thefacetingstudio.co.za

Other Club Contacts

- Raffle Master Keith Bailie
- Access cards Bruce Cairncross

SOCIAL MEDIA

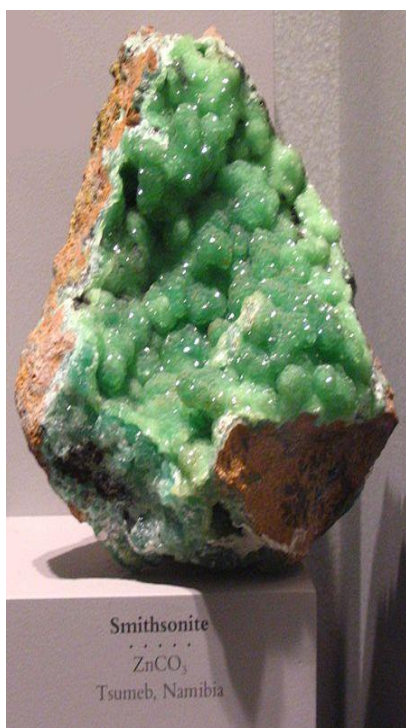
Keep in contact with the world of rock hounds on Facebook <https://www.facebook.com/Witwatersrand-Gem-and-Mineral-Club>. Thank you Stephen Gomersall.

MINERAL OF THE MONTH SMITHSONITE



Smithsonite is a mineral, named after James Smithson, an English scientist who lived c. 1765-1829, who first identified the mineral in 1802. In a secondary clause in his will, he left his fortune to the United States of America—a place he never visited—to create “an establishment for the increase and diffusion of knowledge among men.”

When Smithson began to conduct his experiments on zinc ores, there was much confusion surrounding the mineral that at that time was known generally as calamine. Miners and metalworkers had long known that some kinds of calamine produced zinc, while other specimens—which contained zinc and appeared identical—did not. Smithson’s analysis revealed that what was called “calamine” was not in fact a single substance but essentially two distinct minerals: zinc carbonate (which was later named smithsonite) and zinc silicate (which came to be called hemimorphite). He identified the carbonate as a good ore for zinc and the silicate as a poor one.



Physical Properties of Smithsonite

Cleavage:	{1011} Perfect, {1011} Perfect, 1011 Perfect
Color:	Grayish white, Dark gray, Green, Blue, Yellow.
Density:	4.4 - 4.5, Average = 4.45
Diaphaneity:	Sub transparent to translucent
Fracture:	Brittle - Generally displayed by glasses and most non-metallic minerals.
Habit:	Botryoidal - "Grape-like" rounded forms (e.g.. malachite).
Habit:	Earthy - Dull, clay-like texture with no visible crystalline affinities, (e.g. howlite).
Habit:	Reniform - "Kidney like" in shape (e.g.. hematite).
Hardness:	4.5 - Between Fluorite and Apatite
Luminescence:	Fluorescent, Long UV=gray pale yellow.
Luster:	Vitreous (Glassy)
Streak:	White

Source: <http://webmineral.com/data/Smithsonite.shtml#UteY-TrxuP8>

Smithsonite, or **zinc spar**, is zinc carbonate ($ZnCO_3$), a mineral ore of zinc. Historically, smithsonite was identified with hemimorphite before it was realised that they were two distinct minerals. The two minerals are very similar in appearance and the term calamine has been used for both, leading to some confusion. The distinct mineral smithsonite was named in 1832 by François Sulpice Beudant in honor of English chemist and mineralogist, James Smithson (c.1765–1829), whose bequest established the Smithsonian Institution and who first identified the mineral in 1802.

Smithsonite is a variably colored trigonal mineral which only rarely is found in well formed crystals. The typical habit is as earthy botryoidal masses. It has a Mohs hardness of 4.5 and a specific gravity of 4.4 to 4.5.

Smithsonite occurs as a secondary mineral in the weathering or oxidation zone of zinc-bearing ore deposits. It sometimes occurs as replacement bodies in carbonate rocks and as such may constitute zinc ore. It commonly occurs in association with hemimorphite, willemite, hydrozincite, cerussite, malachite, azurite, aurichalcite and anglesite. It forms two limited solid solution series, with substitution of manganese leading to rhodochrosite, and with iron, leading to siderite.

Source: WIKIPEDIA www.wikipedia.org/wiki/Smithsonite

Smithsonite is located in the following areas in South Africa

- Mpumalanga Province Argent
- North West Province Marico District
Olifantspoort
Ottoshoop
Reivilo
Pering Mine
- Northern Cape Province Aggeneys
Broken Hill Mine
Griquatown
Bushy Park Pb-Zn deposit
Namaqualand
Okiep Copper District

Source: <http://www.mindat.org/minloclist.php?m=3688&l=14468>

GLOSSARY

- **Botryoidal** - A botryoidal texture or mineral habit is one in which the mineral has a globular external form resembling a *bunch of grapes* as derived from the Greek. This is a common form for many minerals particularly hematite where it is the classically recognized shape. It is also a common form of goethite, smithsonite, fluorite and malachite. This includes chrysocolla.
- **Isomorphous** - Describing two or more minerals that have the same crystal form (meaning that the molecular arrangement is identical) but their specific elements are different. Isomorphous minerals contain different elements arranged in the same arrangement and number, such as Calcite (CaCO_3) and Siderite (FeCO_3), where the Calcium (Ca) and Iron (Fe) are interchangeable
- **Rhombohedral cleavage** - Type of cleavage exhibited on minerals that crystallize in the hexagonal crystal system (trigonal), specifically as rhombohedrons, in which small rhombohedrons cleave off of the existing crystal.

READ MORE

- Mindat Smithsonite <http://www.mindat.org/min-3688.html>
- The Mineral & Gemstone Kingdom <http://www.minerals.net/mineral/smithsonite.aspx>
- Smithsonian National Museum of Natural History http://www.mnh.si.edu/onehundredyears/featured_objects/smithsonite.html

PHOTOS



Cuprian smithsonite on dolomite, Tsumeb, 4.4 x 4 x 3 cm



Botryoidal smithsonite from Choix, Sinaloa, Mexico, 18.8 x 11.6 x 4.0 cm



Pink botryoidal smithsonite from Choix, 6.8 x 5.8 x 3.3 cm



Crystals of slightly pink cobaltoan smithsonite, Tsumeb, 6.8 x 4.6 x 3.7 cm