

1 MARCH 2021



PRETORIA GEM AND MINERAL CLUB  
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PRETORIA 0102

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## GENERAL INFORMATION

### BANKING INFORMATION

Pretoria Gem and Mineral Club

ABSA Bank, Menlo Park

Account: 405 584 9839

### AFFILIATIONS

Federation of Southern African  
Gem and Mineralogical Societies  
(FOSAGAMS)

[www.fosagams.co.za](http://www.fosagams.co.za)

## Note from the Editor

Cleaning the clubhouse during the past few months are well underway. We look forward to welcoming our current and past members and visitors back on the 6<sup>th</sup> of March with a social 'swap and sell' opportunity and a free hamburger or 'boerie' for a special family time together.

Please bring along your 'goodies' to swap or sell and showcase your handcrafted items to others. The management committee, with the help of many other members have done a great deal of planning and preparation to make this a special day.

Particular thanks must go to our two 'female ysters' Dina and Linda, for their many hours in the garden, general cleaning and organising the interior of the club house.

It is always difficult to put names to those who spent many unselfish hours and hard work to create a safe, clean and enjoyable club for everyone, but special accolades must be given to Alan, Eugene, Gideon, Harry, Lex, Petro, Wicus and Wynand for their help to build, clean, provide and repair, often at own cost.

## Safety - Primary Responsibility

'Safety first' is the primary focus at PGMC in order to protect our most valued assets - our members.

It is important that a culture of 'safety first' becomes entrenched within the club.

Creating and championing a 'safety first' mind set is the responsibility of every member.

This underlying organizational culture and safety mind set will determine the degree to which safety is integral to our everyday thought processes and work habits and will be the 'defensive driver' that keeps everyone safe.

Wynand Putter is busy in the process of drafting general safety procedures which we hope to publish in one of our forthcoming newsletters. Alan Crawford in the meantime, erected a safety barrier below the workstations that will prevent injuries to younger members at the club working on the machines.

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## March Birthstone(s)

According to some, March has two separate birthstones. The belief is that specific characteristics of someone born in March may well be an indicator which one of the two stones should be considered as his or her birthstone of influence.

These commonly accepted stones are Aquamarine and Bloodstone.



## Aquamarine

Aquamarine has a rich color that varies from deep blue to blue-green of different intensities mostly the result of traces of iron in the beryl crystal. Naturally occurring deep blue stones are the most valued due to its rarity and is considered to be a symbol of youth, health and hope.

The aquamarine is a form of the mineral beryl that also includes other gemstones such as the emerald, morganite, and heliodor.

Beryl consists of four elements: beryllium, aluminium, silicon, and oxygen. It occurs as free six-sided crystals in rock veins unaffected by shock and weathering that otherwise destroy gem deposits. It is a relatively hard gem, ranking after the diamond, sapphire, ruby, alexandrite, and topaz.

The name aquamarine was derived from the Roman the words 'aqua', meaning water, and 'mare', meaning sea, because it looked like sea water.

## Training and Events

As reported in the February 2021 newsletter, our resident geologist, Markus van der Neut has offered to host a series of training, geological lectures and educational outings to members.

Please support Markus and contact him directly on 083 455 7168, or on his mail address markusvdn@hotmail.com to secure your spot.

Course is free but limited to the first 10 respondents.

- The series of lectures are anticipated to start on Saturday, 13<sup>th</sup> March at about 15h00/15h30.
- The second lecture will be held on the 20<sup>th</sup> March and the third on about the 16th April.
- The idea is to have a lecture every second week thereafter, until the series of lectures are done. After the lectures are complete, it may be possible for Markus to repeat these for the next group of people, if there are additional ones that missed out on the first set of lectures.
- Venue: Clubhouse. Proposed time 15h00 every 2nd Saturday

The first session is planned to cover the topic of 'Geological Maps - a preview' and will include the following (in Markus's own words):

'For those of us who are collectors, be it rocks or minerals, there is probably little that can surpass the joy of finding your own beautiful crystal, mineral specimen or rock. But how do I go about finding these? Often sites are far away, off limits or even kept secret and not readily shared with others. So how will I know where to go and look for crystals, minerals or interesting stones, preferably close to home and with a high probability of success of finding something?

These questions will form the basis of our first lecture on how geological maps can be used in our hobby, be it collecting crystals, crystals or rocks.

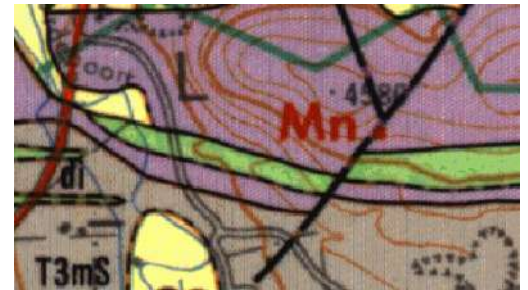
## Training and Events

Or as one member asked me a while ago, 'where can I see some stromatolites in the field'?

There are plenty opportunities in and around Pretoria to look for fascinating rocks, minerals and quartz crystals.

Asking others who may have found examples of these is one way, but what if they don't know? It is in this area that geological maps, such as those published in the early 1970's of the Pretoria and surrounding area can provide a very useful tool in selecting useful target areas.

Below is an example of this, I am not sure how many of you are aware of a manganese mine at the top of the hill (Magaliesberg Formation) near East Lynne? Below is a section of the geological map which shows the position of the mine indicated by the symbol **Mn**.



This is but one example, so if any of you are interested, this could be a good target location.

Not too far away, near Beynestpoort NE of Pretoria a location is shown where mercury, presumed in the form of Cinnabarite, is indicated on the geological map (see extract of map below, symbol **Hg**). Might be interesting looking for that.



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## Bloodstone

The second birthstone for March is the bloodstone or heliotrope that is a form of the abundant mineral quartz.

This particular form of quartz, known as cryptocrystalline quartz, exists as a mass of tiny quartz crystals formed together in large lumps that show no external crystal form, yet each of the component crystals that make up the mass is a genuine crystal.

Green chalcedony spotted with flecks of red is known as bloodstone. Bloodstone is found embedded in rocks or as pebbles in riverbeds and is known to occur most commonly in India, Brazil, and Australia.

The bloodstone is often used for carving religious objects. The Babylonians used this stone to make seals and amulets, and it was also a favourite with Roman gladiators.

In the middle ages, bloodstone was believed to hold healing powers, particularly for stopping nosebleeds. Powdered and mixed with honey and white of egg, it was believed to cure tumours and stop all types of haemorrhage.

Ancient alchemists used it to treat blood disorders, including blood poisoning and the flow of blood from a wound. Bloodstone was also believed to draw out the venom of snakes.

## Training and Events

All these as well as many other examples will be discussed during our first lecture which will start on the 13 March at 15h00/15h30 at our Clubhouse in Menlo Park.

In closing, the locations of the geological maps are generally accurate. However, roads may have changes since 1973 and urban development may have covered mines or prospecting sites. Exactly which ones are still accessible can only be determined by means of a field visit.

Having said that, it is essential that no member(s) access(es) a property without the permission of the owner. In the past far too many sites have become off-limit to us as a club due to trespassers. Not only have precious collecting sites become off-limit to us but the name of our club is also tarnished.

So, for all of those interested, please ask permission first before any such site is accessed. In all the many years of fieldwork I have never had a farmer or owner not granting me access. They are generally very accommodating.

If this sounds interesting and if you would like to explore and learn more about how geological maps can be used successfully, come join us for our first lecture. All that is required is contacting me so that I know how many are coming. Summary notes will be sent to you via e-mail before the lecture.

In our second lecture, tentatively proposed for the 20 March, we will have a practical session focussing on some common rocks that can be found in the Pretoria region.

This will be a continuation of the first lecture in the sense that the participants will get to know some the common rock types indicated on geological maps.

Looking forward to seeing you at our first lecture.'

**Markus van der Neut**

## PGMC Information

### Club hours:

- Thursday Evenings 18h00 and 23h00 (Silver smiting)
- Saturday Mornings 11h00 and 15h00 (General)

### Duty Register:

- Duty register will be advised shortly before the club re-opens in March

### Next Committee Meeting:

- 13 March 2021

### Swap and Sell:

- 6 March 2021

### Mineral Collection Sale:

- First weekend April 2021

### Silversmithing Course:

- To be advised by Bernard Strydom

### Management Committee:

- Harry Harris
- Alan Crawford
- Bernard Strydom
- Dieter Heinichen
- John Morgan
- Wynand Putter
- Markus van der Neut (Co-opted)
- Wicus Hattingh (Co-opted)

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## CALL BACK THE PAST

### 1958

Chairman for this year was Dr. C.N. van Ryswyk and secretary/treasurer was Ernst Jaspers (who later resided in Swakopmund, Namibia).

Two additional committee members, Mrs. M. Rietveldt and Mr. D.H.Marx were elected in June.

A diamond saw was installed in the basement of Mrs. Cooper's shop in Central Street.

### 1959

The records for this year are very sketchy. Dr. van Ryswyk was still chairman and Mr. J.G. Stenvert was secretary/treasurer.

The diamond saw had to be moved to the home of Mr. W. van Beyma. Meetings were held in different places, due to difficulty in obtaining permanent meeting premises. Nine meetings were held, some very informal, which included practical demonstrations at member's homes, and a combined field outing with the Witwatersrand Gem and Mineral Club was held. (Hereinafter referred to as Wits)

Source: Pretoria Gem and Mineral Club 1957 – 1997 by Horst Windisch (1992-10-31)

## New Members

The club welcomes the following new members who joined the club in January and February 2021. We wish them a pleasant stay and many enjoyable moments with us:

- Member 1770 – Gideon Trollip
- Members 1771 and 1772 – Anneke and Angelique du Toit
- Members 1773 to 1777 – Simon, Nikki, Robyn, Keagan and Kaleb Nel
- Member 1778 – Este Shearar

## Membership Subscriptions

**Membership subscriptions for 2021 are overdue and those who have not yet paid are reminded to settle this in March 2021, please.**

Subscriptions can be paid either in cash with the duty officer at the club, or by an EFT payment into the bank account stated on the front page of this newsletter.

Please ensure that your name is referenced in the EFT transmission, followed by an e-mail confirmation to [pretoriagemmineral@outlook.com](mailto:pretoriagemmineral@outlook.com)

Banking details for PGMC can be found on the front page of this newsletter.

## Membership Invitation

We invite members to come forward with new ideas or suggestions to enhance our general club experience.

In addition we would like to update our records of past- and current members, including your date of birth in order for us to celebrate this special day with you.

Next time you visit the club, please stop by the front desk and check if your personal information is still correct or to have it updated.



To our members who celebrated their birthday in February, best wishes and congratulations from us all.

Special warm wishes to a longstanding member of the club, Neil Black who recently celebrated his 90<sup>th</sup> birthday on the 15<sup>th</sup> of February. Wishing you many more active and healthy years to come.



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# MOHS HARDNESS

A common expression 'hard as a rock' can really be a determining factor when you decide on the cut, shape or use of a stone. But how does one determine the hardness of minerals?

A useful tool to measure the hardness of a mineral is to consider using the Mohs scale of hardness.

The Mohs scale runs from 1 through 10, with 1 being the easiest material to scratch and 10 being the most difficult.

A mineral can only scratch another mineral of lesser value on the scale. It is important to know that the Mohs scale (pronounced 'moze'); named after a mineralogist Friedrich Mohs, rates the hardness of gems and minerals. The hardness of a stone indicates the stone's resistance to scratching or how the surface of the gem will respond to contact with a sharp point.

According to the scale, talc is the softest and it can be scratched by all other materials. Gypsum is harder and it can scratch talc but not calcite, which is even harder.

The hardness of a mineral is mainly controlled by the strength of the bonding between the atoms and partly by the size of the atoms. It is a measure of the resistance of the mineral to scratching.

There are ten minerals in Mohs scale, being talc, gypsum, calcite, fluorite, apatite, feldspar, quartz, topaz, corundum, and for last and hardest, diamond.

Because the Mohs scale was invented long ago, it is not an exactly correct determination of hardness, as several minerals are now known to be harder than the diamond.

The Mohs scale may not be perfect, but field geologists still find it very useful

Hardness differs from a gem's toughness, the latter being defined by how well a gem can survive an impact or resist breaking, chipping or cracking.

Toughness may be defined as the resistance a gemstone offers to breakage. In practice we know the frustration of having a stone falling and breaking/shattering after many hours of cutting and shaping. Toughness is considered to include resistance to chipping, cracking or actual breakage.

A mineral suitable for use as a gemstone should generally be tough. A diamond, by example is extremely hard, but not exceptionally tough.

Fluorite is neither hard nor tough and is therefore considered to be fragile. Nephrite is not hard but extremely tough. Stones that are very tough may wear better than much harder stones.

The qualities of hardness and toughness must not be confused.

In the modern context, the Mohs scale is amongst others used to evaluate the hardness of smartphone screens. Most modern smartphone displays use 'Gorilla Glass' that scratches at level 6 with deeper grooves at level 7 on the Mohs scale of hardness.

Mohs Hardness Scale		
Mineral Name	Scale Number	Common Object
 Diamond	10	
 Corundum	9	 Masonry Drill Bit (8.5)
 Topaz	8	
 Quartz	7	 Steel Nail (6.5)
 Orthoclase	6	
 Apatite	5	 Knife/Glass Plate (5.5)
 Fluorite	4	
 Calcite	3	 Copper Penny (3.5)
 Gypsum	2	
 Talc	1	 Fingernail (2.5)

Article extracted from 'Wikipedia, the free encyclopedia'



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Slow but sure progress being made