

1 FEBRUARY 2021



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Note from the Editor

The dictionary describes change as an act or process through which something becomes different. In this life, there is one thing we all have in common, that being 'change'. No matter who we are, where we come from, or how much we run from it, change is bound to happen in all of our lives.

The club has not been immune to change. The general lockdown situation in our country and across the globe presented us with a changed environment, where we had to adjust our lifestyle, our approach to society and much more. This also forced the club in compliance to close its doors until further notice.

In addition, a number of recent management changes in the club presented further challenges. It is with sadness that we learnt of Willem Vorster's resignation as chairman. Willem, over a number of years, has been the face of PGMC and his departure as chairman and patriarch of PGMC will be sorely missed.

But change also presents new opportunities and it is now more than ever important for us to join hands and build PGMC to be the club of choice.

Safety - Primary Responsibility

A new approach to safety has been adopted.

Under the leadership of Wynand Putter, PGMC adopted an approach of 'safety first'. A safety program are being developed that will ultimately lead to the acquisition of a safety compliance certificate. Further action plans include the upgrade of medical and safety equipment and a review of our insurance cover.

Club News - Revival

The management committee having been faced with the changes at the club, met, discussed and implemented a number of new ideas during the past month. Some of these changes hopefully will come as a pleasant surprise to the members.

Amongst others, you are seeing a new face for the monthly newsletter, hoping that it will carry your approval and appreciation. It is intended to feature news on various topics of interest to members such as articles that may be of use in knowledge and self-development to members.

PRETORIA GEM AND
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PGMC is proud to have recognised Linda Stone with life honorary membership.

Linda's many achievements as member of the Pretoria Gem and Mineral Club include amongst others:

- **presently the longest standing ordinary active member of the club, having joined the Club on 1 January 1983 with membership number 25;**
- **servng on the executive committee of the Club from 1984 onwards;**
- **servng on the executive committee of FOSAGAMS from 1987;**
- **servng on the editorial committee of the South African Lapidary Magazine from 2011;**
- **servng on the editorial committee of the South African Gems and Minerals Magazine from 2011;**
- **servng as the current Chairperson of FOSAGAMS where she is actively involved in closer co-operation between affiliated clubs; and**
- **managing programs, field trips and the annual Easter Gemboree in different parts of Southern Africa both for PGMC and also for other clubs in South Africa through the FOSAGAMS platform.**

Congratulations, Linda. We look forward to many more years of friendship.

Club News – Revival

Further change at the club envisages a restructuring of the management committee into a more reorganized, structured and responsible entity, to better serve the needs of the members. These changes will be announced shortly, whereby it is envisaged that the club activities will be broken down into segments of control with dedicated responsibilities to a person or a sub-committee. Examples of this include, but are not limited to the creation of positions of Workshop Control, Marketing and Events, and Safety and Control.

Other changes include amongst others opportunities for enhanced trading, sale and swap events and training and development of skills. Markus van der Neut has been co-opted into the management committee to oversee these activities. We trust that Markus will be receiving support from everyone.

Last, but not least, during the past few weeks of 'lockdown' a number of members joined in cleaning the clubhouse, the gardens, repairing damaged equipment and changing the layout and appearance of the interior. These changes, we trust, will come as a pleasant surprise to the members once the club is allowed to re-open.

Wicus Hattigh, another member co-opted into the management committee, with the assistance of Lex Krabbendam, Alan Crawford and Oliver Green has been busy with a stock-take of tools and equipment, maintenance and repair of equipment whilst Wynand Putter and Rick Kapp have been making changes to the interior of the club house.

Under the visionary leadership of Harry Harris, we look forward to an enhanced 'PGMC Experience' and members are encouraged to become part of the 'revival'.



Training and Events

Markus van der Neut is a Resource Geologist who originally joined as a member of PGMC in 1995. He has been co-opted as a committee member with amongst others a responsibility for marketing and events.

Markus will start a process of geological lectures as well as educational outings during 2021. These outings are intended for those that have a general interest in the outdoors and would like to know more about geology, like to collect rocks or minerals and are interested in geological structures.

The talks and notes will be in English but questions and discussions will be in Afrikaans or English. Although the initial focus will be primarily on the geology of Pretoria and surrounding areas, most of the information will be relevant and applicable to the entire country. For instance, planar cross-stratification is not unique to Pretoria but can be found throughout South Africa and the world. The talks aim to create a greater awareness in people of the general geology around them. The series will consist of:

- theoretical sessions
- practical sessions
- educational outings (mainly in the Pretoria area)

Topics will include:

- using geological maps as a tool to collect rocks, minerals, look for some interesting structures
- rocks and minerals – what is the difference?
- some of the common rocks that can be found in and around Pretoria (practical)
- general overview of the geology of South Africa
- macroscopic properties of Minerals (practical)
- some common sedimentary structures
- physical properties of sedimentary rocks – what conclusions can one draw from these? (practical)

PRETORIA GEM AND MINERAL CLUB





January Birthstone

The birthstone for January is the garnet. The name “garnet” is derived from the Latin “granatum” meaning “pomegranate” because the crystals resemble the pomegranate’s red, round edible seeds.

Most people think of the garnet as a red gemstone, but in fact, it exists in all kinds of colors – such as black – as well as many shades of red and green. It can even be colorless. The garnet’s variety of colors comes from metals such as manganese, iron, calcium, and aluminum. Some varieties even contain mineral fibers that produce the illusion of a four- or six-rayed star within the stone.

Green garnets are most highly prized but are very rare. Emerald green and colorless stones are highly valued, followed by pure red garnets.

In Western society the choice of a “birthstone” comes from the first century Jewish historian Josephus, who believed there was a connection between the twelve stones in Aaron's breastplate (signifying the tribes of Israel, as described in the Book of Exodus), the twelve months of the year, and the twelve signs of the zodiac. Modern lists of birthstones may well ascribe differences to the concept and choice of birthstones.

Training and Events

Proposed educational outings in 2021:

- Irene – calcite crystals in dolomite & large Quartz vein (> 3km long and ± 4m high)
- Irene (Cornwall Hill Estate) – visit to an old quarry to see effect of geological structure on weathering and cave formation (permission still to be obtained)
- Timeball Hill formation
- Faerie Glen Nature Reserve – to see the Hekpoort, Strubenkop and Daspoort Formations
- Magaliesberg Formation
- Red Syenite (Umptekite) at Roodeplaat Dam (permission still to be obtained)
- Bronkhorstspuit – difference between conglomerate and a sedimentary breccia
- Volcanic breccia – Derdepoort

The outings will involve practical applications of what was learnt during the sessions. In other words, there is a direct link between the course content and the outings.

Due to the often-practical nature of the sessions, the number of participants would be limited to about 10 people. If there are more people interested, a repeat of the sessions later in the year will be arranged. The educational outings are however open to all.

The exact dates for both the course and outings will still be communicated in due course and are also subject on the development of the Covid 19 regulations.

Additional Information:

- Course is free but limited to the first 10 respondents
- Start of course and outings to be confirmed
- Notes will be sent out via e-mail to participants prior to sessions
- Venue: Clubhouse. Proposed time 15h00 every 2nd Saturday

Interested persons should contact Markus van der Neut directly on 083 455 7168 or markusvdn@hotmail.com

PGMC Information

Club hours are:

- Thursday Evenings 18h00 and 23h00
- Saturday Mornings 11h00 and 15h00

Duty Register:

New duty register will be advised once the club re-opens in March

Next Committee Meeting:

- 13 February 2021

Swap and Sell:

- To be advised once the club re-opens

Mineral Collection Sale:

- To be advised once the club re-opens

Silversmithing Course:

- To be advised once the club re-opens

Management Committee:

- Harry Harris - Acting Chairman
- John Morgan - Treasurer, Editor and Acting Secretary
- Markus van der Neut - Marketing and Events
- Wicus Hattingh – Security and Office Manager
- Alan Crawford – Workshop Manager
- Dieter Heinichen – Additional Member
- Oliver Green – Lapidary Training
- Bernard Strydom - Silversmithing
- Wynand Putter - Safety

PRETORIA GEM AND MINERAL CLUB





CALL BACK THE PAST

The history of the Pretoria Gem and Mineral Club goes back sixty three years and it is an astounding feat that the club survived and is still very active in a modern environment where so much has changed. This is probably due to the strong leadership the club enjoyed from its founding days. Many a well-respected individual walked the path allowing us, in a new age, to enjoy the fruit of foresight of those well-respected men and women.

The late Col. Gilroy King and his wife Jo, arranged the first meeting of interested persons for the 22nd July, 1957 with the object of forming a Gem and Mineral Club in Pretoria. This meeting was attended by twenty five people, at which meeting Dr. J de Boer was elected Chairman, Mr. T.A.P. Kruger elected Secretary and the name of the Club was agreed upon as the "Northern Transvaal Klipspringer Club"

Meetings were held once a month at the Pretoria Technical College. Some of the first speakers at those meetings were Col. Gilroy King, Dr. C.N. van Ryswyk and Mr. Erich Frey. The first Committee Meeting was held on the 31st July, 1957.

Col. King was also instrumental in the establishment of the Witwatersrand Gem and Mineral Club during the same year.

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

Recent Field Trips

Thanks to William Black, a trip was organised by the South African Micromount Society (SAMS) for the week starting Monday, 21 September. The trip included amongst others, a visit to the Rovic Mine situated in a tri-angel between the towns of Dealesville, Boshoff and Hertzogville in the Free State Province and ended in Springbok in the Northern Cape.

The SAMS club holds a close affiliation with PGMC, the Wits Club and FOSAGAMS, through having common founding fathers and current joint members.

William holds joint membership with PGMS, Wits and SAMS and extended the invitation, through FOSAGAMS.

Linda Stone, Eugene and Petro Oosthuizen and John Morgan joined the trip.

The ROVIC mine is a diamond mine in a kimberlite deposit consisting of two dykes, one of which is associated with two pipes. The diamond grades and qualities of the different kimberlite bodies varied considerably. The mine was considered marginal, and the underground portion was closed following a major accident in the 1990's. In recent years some re-treatment of tailings dumps has taken place, but this has now also ceased.

Particular interest in the mine includes the availability of eclogite xenolith with grossular-rich garnet in a matrix dominated by clinopyroxene.

We were fortunate to collect a number of these rocks at the mine that promise to make beautiful lapidary specimens and spheres as in the picture below.

Eclogite is a common rock type at deeper parts of subducting slabs and helps to keep the plate tectonic conveyor belt in operation by dragging down the subducting slab, but it is rare at the surface. Eclogites are found as xenoliths in volcanic rocks with a somewhat unusual alkaline character (alkaline basaltic rocks, kimberlite, lamproite, etc.). These rocks are frequently accompanied by xenoliths of garnet peridotite. Both peridotite and eclogite can be diamond-bearing, suggesting that they come from deep in the mantle where temperature is much higher than 400 °C (at least 900 °C)



Picture courtesy of Worthpoint



PRETORIA GEM AND MINERAL CLUB



February Birthstone

Amethyst is the modern, as well as traditional, birthstone for February.

Amethyst was likewise consistently designated as the February birthstone in the old Roman, Italian, Polish, Russian, Hebrew, Arabic and the old Indian (Ayurvedic) calendar. Before the gemstone became the birthstone of February in these ancient calendars, amethyst was the main zodiac stone for Pisces and Aquarius, both zodiac signs falling partly on the month of February.

Indeed, amethyst is consistently and most widely accepted as the gemstone for February.

This February birthstone is the violet, or purple, variety of quartz.

Amethyst used to be highly expensive; but since the discovery in the 19th century of its huge deposit in Brazil, the main stone for February ceased being a precious stone. Amethyst also fades in colour with exposure to sunlight, making this February gemstone less durable compared to other gemstones.

The February stone is believed to make its wearer gentle, friendly and agreeable, reminiscent of the zodiac sign Pisces.

New Members

PGMC welcomes the following new members who joined the club since October 2020. We wish them a pleasant stay and many enjoyable moments with us:

Member 1762 – Sunet Coetzee
Member 1763 – Adrian Kelfkens
Member 1764 – Kai Kelfkens
Members 1765 and 1766 – Wicus Hattingh and family
Member 1767 – Jeanette Pearce
Member 1768 – Wayne Mitchell
Member 1769 – Jude Steyn

Membership Subscriptions

Membership subscriptions are charged at a rate approved at the AGM each respective year. The current fees structure applicable for 2020 and 2021 is as follows:

- Ordinary – Principal Member fees are R500.00 per annum
- Pensioner – Principal Member fees are R450.00 per annum.
- Additional Family Member fees are R100.00 per annum (calculated and applicable to each such additional member).
- New members joining fee (per person joining) R30.00
- These annual subscription fees are levied and becomes payable in January of any particular calendar year.

Current Members are reminded to pay their annual subscriptions by the latest February 2021.

Since the club is a non-profitable society, it is largely dependent on receiving annual membership fees in order to operate and cover the cost of operation.

New Members are required to pay annual subscription fees as detailed above and additionally a joining fee of R 30.00 per member joining.

The management committee has decided that new members shall pay the annual fee in the year joining in the following manner:

- New members joining in January, February, March, April, May, June, July and August shall pay the full annual membership subscriptions.
- New members joining in September, October, November and December shall pay the full annual membership subscriptions, with the proviso that this payment will be deemed to also include the full membership for the next year. This means that any new member joining in the months from September 2021 through to December 2021, will be exempted from having to pay the 2022 subscription.

This arrangement is a return to the way the club fees worked previously and is necessary to avoid misunderstandings and also for ease of collection.

Please make payments into the bank account stated on the front page ensuring that your name is referenced in the EFT transmission, followed by an e-mail confirmation to pretoriagemmineral@outlook.com

**PRETORIA GEM AND
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CABOCHONS

The idea of slicing open a rock to see the beauty and colour hidden inside that no one has ever seen before, is a magical experience. Cutting stones into cabochons and faceted gems is a fascinating blend of foresight and technical skill, but one that can be mastered by anyone.

The secret of gem cutting starts with the selection of a stone you wish to cut, shape and polish. Knowing the qualities ascribed to gemstones such as a gem's hardness, cleavage, and inclusions is of great importance in the cutting- and polishing processes and will direct the decision on the best way to cut a stone.

In addition, one is then confronted with multiple choices and decisions, such as the choice of the shape you wish to cut your gemstone into, availability and use of equipment and how to set it up and use it, the use and application of other helpful items such as a dipsticks, polishing wheels and compounds used in cabbing process, common household items that can be used for cutting and polishing and what sides of a cabochon should be polished.

Step 1: Select your material

Not all stones are created equal. They vary in hardness, which affects what cabbing techniques you use. Before you select your material, get familiar with the Mohs scale. Knowing your material's hardness will yield the best results. Select your slab of rock material. Slabs are large, flat pieces of stone that are cut to your desired thickness.

Try to choose slabs that are free of fractures, pits and cracks, which can cause the stone to split during the cabbing process. Shown here is a slab of malachite.



Step 2: Prepare the stone

All cabochons have two sides, the top and the bottom. The top is curved and polished into a dome. The bottom is usually flat and finely sanded, making it easy to insert into jewellery findings. Since the top is displayed, identify a section of your slab that has interesting designs, colors and patterns. Before marking the outline of the cabochon's shape, consider whether you'll use this slab for multiple cabochons. If so, leave some space in between the shapes (shown on a slab of red agate below) or there won't be enough room for trimming and grinding, which can potentially ruin both cabochons. Use a gemstone template to draw the outline of the shape you want to create with a fine-point permanent marker. If you're a beginner, start out with basic shapes such as circles or ovals.



Step 3: Trim

Now that your cab is outlined, it's time to cut out the shape. Using a trim saw, cut close to the template line. Cut straight lines only, never attempt to cut curves with the saw blade. Allow about a 1mm space around the template line for the material that will be removed during grinding, sanding and polishing. This line is a guide and should still be visible once trimmed. While you trim away the excess material, do so in a manner that will maximize the remaining rough stone. This excess material could be used for other projects, so don't be in a hurry to discard it. Once you are done trimming your cabochon, wash it in warm, soapy water to remove any oil or dirt produced from the trim saw.



Step 4: Dop (optional)

The dopping method provides a way to hold your stone while cabbing, which gives you easier control over your cabochon while grinding and polishing. It secures your stone to a stick using a special dop wax or glue as the adhesive. Dopping is a good method to use if you're polishing smaller cabs or delicate cabs. It also saves your fingers from unnecessary abuse.



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You will need a dop pot, dop wax and dop sticks to perform this step. Some dop pots, such as the DopStation shown below, features a handy storage place for your dop wax, dop sticks and other tools.



Step 5: Rough grind

Rough grinding removes excess material left from the trim saw and any irregularities found in the stone so it can be successfully smoothed and polished. It also shapes your cabochon and prepares it for the next step.

Before you move on, you need to have an understanding of what grit means. Grit generally refers to the size of particles embedded in an abrasive material. In cabbing terms, the particles that are embedded in abrasives are diamonds. The finer, smaller diamonds are used for surface finishing while the larger diamonds are used to shape and remove excess material. For example, an 80-grit (or 80#) wheel is a very coarse wheel with large diamond particles, while a 3,000-grit (3,000#) wheel is a very fine wheel with small

diamond particles.

The initial, rough grind is usually done with a coarse wheel, such as an 80# diamond grinding wheel. Completely grind the surface of the stone using the lower quarter of the wheel and the whole width to ensure even wear. Do not grind too close to your template line because more material will be removed as you move on to the fine-grinding and smoothing stages. Once you are done with this coarse wheel, dry your cabochon with a paper towel or clean rag to reveal the scratches. These scratches slowly diminish with each wheel. Drying and inspecting your cabochon after each wheel is an important step and shows your progress.



Step 6: Fine grind

Fine grinding is performed with a wheel that has a higher grit than the previous step, such as a 220# diamond grinding wheel. This wheel continues to shape your cabochon and removes the scratches left on your stone from the wheel before. Just like the previous step, completely grind the surface of the stone. Once you're done, dry your cabochon and inspect. Make sure it's symmetrical and has the proper curvature. Also make sure the coarse scratches from the previous wheel are removed. This is a very important step.

If you don't get all of the scratches out from the previous wheel, you'll have to start all over or settle for a low-quality polish finish.



Step 7: Smooth

This step is usually done by using diamond resin wheels. Resin wheels sand and smooth flat spots, scratches and tiny bumps that are left behind from the hard grinding wheels, resulting in a pre-polished cabochon and preparing your stone for its final polish.

Before you start this step, thoroughly wash your hands and stone and ensure the wheel or polishing pad is also clean. Any grit carried over into the smoothing process will cause deep scratches in your cabochon that are impossible to polish out.

Start with the coarsest diamond resin wheel, such as a 280#, then proceed to the 600#, 1,200# and 3,000# wheels. Thoroughly sand and smooth the entire surface of the stone on each wheel before moving onto the next wheel.

Always dry your cabochon and inspect the scratches after every wheel.

By the time you finish on the 3,000# wheel, the surface of your stone should be very smooth with no visible scratches at all.



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Step 8: Polish

There are many different polishing methods that can be very confusing for beginners. Many cabbing machines come with a polishing kit that is universal and works for most material. That's a good place to start if you're unfamiliar with different polishing agents, methods and pads. The most common polishing agents used in lapidary work are tin oxide, cerium oxide, chromium oxide and diamond paste. These polishing agents are applied to canvas pads, felt pads or leather pads.

Polish the entire surface of the stone until you reach your desired polish. If you notice that the pad is no longer polishing, you'll need to apply more diamond paste to the pad. Using water during this step is not required; however, if you're polishing heat sensitive material, your cabochon can overheat. To avoid overheating, use a small amount of water to keep it cool.



Step 9: Finish the stone

If you used the optional dopping method, remove your cab from the dop stick. An easy way to do this is by putting your cabochon and dop stick in a freezer for 10–15 minutes then peel the wax off of your stone. It should pop right off from the dop stick. If you see any remaining wax left on the cab, carefully scrape it off using a clean, sharp knife.

If you'll be inserting your cabochon into a jewellery finding, you'll need to flatten the back side of the stone. Using a diamond lap, grind the back side of your stone until it's flat with either a flat lap machine or a cabbing machine that can attach a diamond lap.

Polishing girdles completes the stone. A custom-cut gemstone deserves that and after having taken the time to polish all the other facets, one can take the time to polish the girdle



Cabochon information curtesy of Cabking - [How to cab \(cabking.com\)](http://cabking.com)

A useful tip is to always ensure that the wheels and polishing pads you use are clean and not contaminated with grid or residue from previous cuts or sanding.



PRETORIA GEM AND MINERAL CLUB





Membership Invitation

The club is in the process of renewal and members are invited to approach the committee with new ideas or suggestions to enhance our member experience.

We will also appreciate your feedback on the new format of the monthly newsletter.

In addition, the club is keen to update its records of its past and current members. When you next visit the club please stop by the front desk and check if your personal information is still correct. We will also like to have a record of your birthdates in order to wish you well on your special day.

Lastly, please remember that the annual club fees are due in January or February. The current fee structure and banking details can be found elsewhere in this newsletter.



Advertising and Trading Opportunities

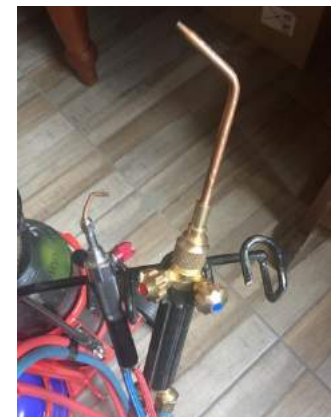
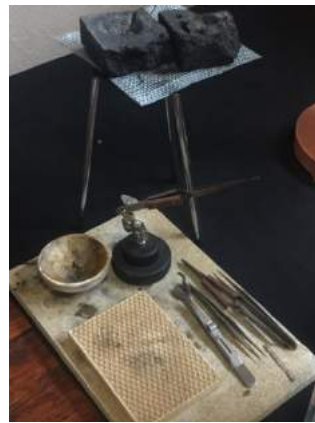
PGMC will allow interpersonal trading opportunities and advertising to its members and non-members on the basis of either paying a commission, making of a donation or payment of advertising space to the club. The funds received from this will be dedicated to a building fund that will be reserved in the balance sheet of the club.

If any member makes use of the opportunity to purchase goods from non-members who advertises on this page, it will be a requirement that the seller has to be informed that the purchase/sale is subject to a pre-agreed arrangement with the club.

Enquiries can be directed to Harry Harris who will negotiate with sellers on behalf of the club. His contact information can be found on the front page of this newsletter.

Silversmithing Equipment for Sale

Linda Hendriks, a resident in Randburg is offering a mobile jewellery work station for sale. Interested members can contact her directly on her cellular phone 082 492 5008. Linda has agreed to make a donation to PGMC if a member of the club acquires the equipment from her. The six pictures below was provided as examples of the equipment on offer.



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