MARCH 2022

DIARY

March	***5***	***10:00–14:00***	***Open to the Public Day – Rocks, gems, jewellery, mineral specimens to look at, chat about, or buy. NO MASK, NO ENTRY. Covid-19 protocols still in force. STAY SAFE – GET VACCINATED.***
	12	***14.00***	***ANNUAL GENERAL MEETING***
April	***2***	***10:00–14:00***	***Open to the Public Day – Rocks, gems, jewellery, mineral specimens to look at, chat about, or buy. NO MASK, NO ENTRY. Covid-19 protocols still in force. STAY SAFE – GET VACCINATED.***

Are there any other blue agate deposits in southern Namibia?

Jo Wicht

Many people who are partial to Ysterputs Farm Blue Lace Agate will be aware of the articles that Duncan Miller and I have published in the last two years in this newsletter, and which now also appear on the Friends of Minerals Forum (**see internet links at the end of this article**). We have recently been asked if there are other agate deposits in the same area. A few were briefly mentioned in our first article but not in any detail.

In 2011 and 2015 I was able to explore a few farms in the region of Ysterputs, as well as chat to people who had lived or worked on them. This short article is about the other agate deposits that I am aware of. Their marked positions on the map below are approximate. All farms mentioned are privately owned and may not be visited without the owners' permission.

On the map above, you can see the yellow pin indicating the Blue Lace Agate mine which lies alongside the Blinkpan. It is immediately south of the blue pin for the Ellensbury deposit. All the other blue pins are within an 80 km radius of the main mine, with the town of Karasburg in the east being the furthest away. The blue pins are where I have been told for certain, or have seen for myself, that chalcedony/agate was found. Despite much prospecting and trenching by local miners (and by the late George Swanson in particular), no deposit of the same size or quality as that in the main mine on Ysterputs has yet been found. It would therefore appear that these outcrops are probably stringers related to the main event millions of years ago, when the seam of blue lace agate formed in the crack of a dolerite sill.

What are *stringers?* Mindat.org defines a stringer as: *"A mineral veinlet or filament, usually one of a number, occurring in a discontinuous subparallel pattern in host rock."*

Farm Ysterputs 254 – Ellensbury seam – October 2015

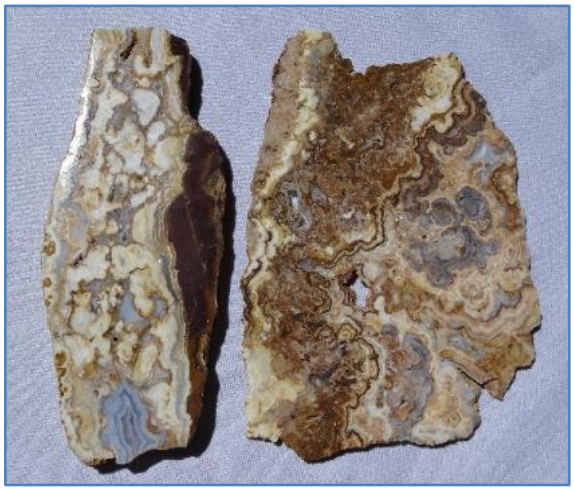
This seam lies approximately 150 m NW of the main deposit. Presumably this would be considered a stringer, as it is not quite in line with the main mine and the seam is very narrow. It is mostly a strong blue colour, and some is slightly striped. Ellensbury was the first blue lace agate to be mined and sold by George Swanson. The name mimics that of the district 'Ellensburg' in the USA, where a similar blue chalcedony was found.

These examples were photographed in situ at the mine in 2015.

Here are early examples of the rich, blue agate found in the Ellensbury seam.

Farm Ysterputs 254 - Crazy Lace area – October 2015

I am not sure if this qualifies as an agate stringer, but the stone is very hard, and has flecks of blue chalcedony in places. It lies about 1 km to the south of the main Ysterputs mine, on the same strike. Overall, its look is very different to the classic blue lace agate, seen below.



Farm Bloukrans 363 - October 2011

Looking again at the map above; furthest to the west is the farm Bloukrans, with its farmstead named "Avondrust"**.** This house lies in a flat, sandy area along the edge of dry Gamkab river. It is abandoned, but in its yard I saw a small

heap of pale blue agate, possibly collected from another area nearby. A family still owned the land at the time I went there and the son mined the Middelpos picture-stone. A year or so earlier he had also spent six months on his own prospecting for blue lace agate on the farms Bloukrantz, Middelpos, and Tunis (the neighbouring farm to the north east).

Farm Middelpos 252 – October 2011

To left: Approximately 1 m wide view of a side wall in one of the trenches showing small pieces of blue chalcedony

Another trench and pieces of chalcedony seen in the area

< I collected these pieces on Middelpos. The width of the largest piece is 22 cm.

There were also small weathered chips of blue chalcedony/agate scattered over quite a large area. Seemingly they were not left over from mining, but indications of the earlier weathering away of softer host rock.

Farm Tunis 253

This deposit extends from the Ysterputs main blue lace agate mine to the north, across part of the pan to Tunis Farm on the same strike. It is only Ellensbury-type chalcedony here. In about 2009 a neighbour spent 6 months searching for a good blue lace agate seam, using dynamite to blast holes down to 25 feet in a lot of places, but didn't find anything of particular value.

Farm Grootplaats Wes 260 (Ysterberg)/Grootplaats 15

The deposit near the Ysterberg mountain is on Grootplaats farm. A lot of material was dug there at one time by George Swanson, but I hear it was all a rather pale Ellensbury-type. A young man now living on this farm made contact with me through my blue lace agate website in 2019. He told me his family farms on Ysterberg, which was adjacent to the late George Swanson's property. He offered to sell me blue lace agate as they take stone from a mine on his farm. I responded and asked him to send me photos, but he was at university in South Africa and only home in the holidays. I never heard from him again.

Karasburg

There are small deposits of chalcedony/agate to the west of the town of Karasburg which lies just under 80 km from the Ysterputs mine as the crow flies. It is alluvial and pale and probably it has not been worked for many years. The local inhabitant, who had the original claim, died many years ago. A Bondelswarts headman from Warmbad told me that a friend of his knew where some blue chalcedony was in the area to the west of Karasburg, but when we were taken to find him, he wasn't at home and we never saw an actual piece of this stone. It is probably the same deposit.

So, based on the account above, it does seem that other blue chalcedony or agate can be found in the area, but it is not as good a quality or quantity as that from the main mine on Farm Ysterputs 254. The other local deposits are probably all *stringers* connected to the main event that took place many millions of years ago.

Treasure any pieces of Blue Lace Agate that you may have, or still acquire.

The links to the earlier Blue lace Agate articles are below.
https://www.mineral-forum.com/message-board/viewtopic.php?p=71970#71970
https://www.mineral-forum.com/message-board/viewtopic.php?t=6531

Lapidary Material

Malcolm Jackson

The FOSAGAMS tour 2021 started in southern Namibia in Karasburg. The reason I chose this route was that our goal was to collect material suitable for lapidary purposes. I had identified four different mineral deposits to visit. Since my return I have worked on Crazy Lace Agate and the Prehnite that I managed to collect on the trip. I have two more to go, being Rose Quartz and Picture Stone.

I have completed the Crazy Lace sphere of 70 mm - **see below.**
The front two pieces of Crazy Lace are the back and front of a highly weathered piece - the top piece I polished. The back righthand piece of Blue Lace can be turned into a lamp by adding a light. (Can you see a sitting man?)

The Prehnite geode, **back left below**, I cleaned and polished the outer rim using an angle grinder with a diamond blade and polished it with flexy diamond pads. The spheres pictured are 40 mm and 90 mm. The 90 mm has a crystalized cavity. I cleaned the specimens with a high-pressure fabric cleaning water gun, after soaking them in a very mild acid and water mix for five days.

Annette Taylor's treasure from the 2021 FOSAGAMS Tour

She says: "I enjoyed the feedback with regard to Malcolm's recent Namibia/Northern Cape tour but would love to share my finds with everyone. It was a tour that met my every expectation, and so much more! All these gemstones, and more, were collected by me at some point on our trip".
See below:

From the Cabinet of Curiosities

This month's curiosity is **Sonoran Sunrise** from the recently-closed Milpillas Mine in northern Mexico. This thin slab consists of bright orange cuprite and green chrysocolla separated by the black copper oxide, tenorite. This was an important ore at the mine and working faces in these areas showed massive green and red ore metres in height. It was also marketed as a popular lapidary material as per the specimen shown. See the Mineralogical Record September-October 2021 Mexico issue for an in-depth look at this mine and spectacular photographs of, especially, azurite. **PR**

Describe your own original curiosity and send it to us with a photo.

Facetips

FACETING IN THE 21ST CENTURY – AN EQUIPMENT GUIDE FOR BEGINNERS

by Duncan Miller

[Revised and updated from original publication: Miller, D. 2012. Faceting in the 21st century – an equipment guide for beginners. *South African Lapidary Magazine* **44**(1):15–18.]

The beginner faceter is confronted by a bewildering array of equipment options. This article is an introduction to modern faceting equipment, to help those just starting out to make sensible equipment choices.

Machines

You need a machine. If you buy a second-hand one, expect to pay anywhere between a couple of hundred rands up to R30 000, depending on make, condition, and accessories. Unless you like rebuilding old equipment, make sure that any second-hand machine you consider buying is in good condition, that the bearings are not badly worn, and that the quill and mast are not bent. Running through Paul Head's calibration and alignment exercise before you buy may save you money and frustration (https://usfacetersguild.org/faceting-machine-alignment/).

The second-hand machines most readily available in South Africa are those of Graves and Ultra Tec, the difference being between a Polo and a Porsche, both of which will get you to your destination. Both Graves and Ultra Tec come in analogue and digital models. You will be able to cut perfectly acceptable stones on any of them, so what you buy is a matter of your budget and perfectionism. The digital models primarily give you greater control over accuracy, particularly when going from a grinding to a polishing lap (more about laps later). There are other advantages to the digital models, like increased speed, fewer setting mistakes, and the ability to follow modern faceting diagrams that give angles to hundredths of a degree. This is not crucial – depending on how obsessive you are. A digital machine is not something you absolutely NEED, it is something you WANT. (Suppliers of these machines are listed at the end of this article.)

New faceting machines come supplied with basic accessories, like a transfer fixture, a table adaptor to enable you to work the table of the stone at 45°, and a basic set of dops – the rods onto which you glue your stone. You probably would want to buy an extra set of dops. You need two of each anyway if you want to cut pairs of stones in tandem. Most manufacturers offer a range of optional accessories. You don't need those to start with, and can order later those you may find you want.

Saws

You will need something to remove bulk material from rough stones. You could buy a small trim saw, but a cheaper and often more convenient option is to use your faceting machine as a saw, using a firm supporting metal or Lucite base plate (old CDs are not stiff enough), a fine 6" continuous rim saw blade, and a large washer to hold these three down on the faceting machine platen. Attached your rough to a dop, insert it in the machine, run plenty of water on the saw, and saw away. Use high speed, and make sure the stone is trailing, so that it cannot jam against the saw. You can preform the main pavilion facets of your stone this way, which can save a lot of time in coarse grinding.

Grinding laps

If you prefer to grind your preform to shape you need a coarse grinding lap, around 260 mesh. For this you can use a so-called 'topper', a thin metal lap with an electro-bonded diamond coating used on top of a metal master lap or base plate. A coarse one wears out quickly, particularly on large stones, but if you plan on cutting only a few stones a year it will last years. If you intend cutting large stones or numerous stones, in the long run the cheaper option is to buy a copper lap and charge it yourself, using diamond grit or paste, and a roller. Neither the coarse topper nor the copper lap need to be particularly flat. At this stage you are just removing bulk quickly.

The next step is medium grinding, for which you need a 600 mesh lap. If you can afford it, the best lap for this is a diamond sintered bronze lap, available from various USA manufacturers. They are expensive, but last a lifetime with only the occasional need for dressing with a fine silicon carbide dressing stick. The alternatives are a 600 mesh topper or a solid steel lap like those manufactured by Crystalite, or another copper lap charged with 600 mesh diamond grit and a separate, dedicated roller. The 600 mesh lap is used to place all the larger facets, and on a large stone all the smaller facets as well. Again, this lap does not have to be absolutely flat, nor the facet meets perfect, because you still have one more grinding step to do.

Pre-polishing laps

Many people use a 1200 or 3000 mesh lap for the final grinding step. The 1200 mesh is losing popularity because it does not produce a very fine pre-polish and when grinding corundum gems it can produce a coarse orange-peel effect on some facets, which is difficult to remove by polishing. The 3000 mesh electro-bonded laps have only a very thin diamond layer, get damaged easily, and wear out quickly. The alternatives are yet another copper lap charged

with 3000 mesh diamond with its own dedicated roller, or charging a tin-based alloy lap with diamond paste. Gearloose Lapidary makes several pre-polish laps suitable for charging with 3000 or 8000 mesh grit, and they are gaining in popularity worldwide. The Batt™ laps are the least expensive (http://www.gearloose.co).

Polishing laps

Established faceters have numerous polishing laps, for use with various different polishing compounds for different stones. Most of these now are redundant. Traditionally, for quartz one used a Lucite lap with a slurry of cerium oxide, but it tends to round the facet junctions slightly. Most other stones, except corundum, could be polished on tin/lead alloy laps with fine synthetic alumina powder, marketed as Linde A. Corundum gems were polished on a cast iron lap with ¼µ diamond paste. You may be able to buy any or all of these laps second-hand. If so, they must be skimmed in a lathe to remove all traces of previous polishing agent, to avoid inheriting unknown grit sizes and any contamination. The modern solutions to polishing problems are from Gearloose Lapidary. The Darkside™ lap can be used interchangeably with polishing oxides as well as diamond, so is as close to a universal polishing lap as you can get. Gearloose also produces various combination laps, with a pre-polish outer ring and a polishing inner ring. If you are careful to avoid contamination this is an economical option, which also avoids having to reset the mast height when going from pre-polish to polishing.

What equipment you buy will depend on your budget, how many stones you intend to cut, and how precise you wish them to be. The total cost can range anywhere from a few thousand to many tens of thousands of rands. Of course, you will also need to buy rough. Some you may be able to get from local gem and mineral clubs; other rough you can source from various dealers. Several well-known South African dealers are listed below. Good rough is never cheap, but why waste your time on poor quality rough. Because faceting is a relatively expensive hobby to start, you should take some lessons first, before embarking on buying your own equipment and then possibly discovering that you don't have the interest, dedication or patience to continue. Several South African gem and mineral clubs offer faceting courses.

Sources

Machines: African Gems & Minerals (gems@africangems.com); Ultra Tec (http://www.ultratec-facet.com)
Saw blades: African Gems & Minerals (gems@africangems.com)
Diamond laps: African Gems & Minerals (gems@africangems.com); Kingsley North (https://kingsleynorth.com/lapidary-equipment-supplies/faceting-machines-supplies.html); Ultra Tec (http://www.ultratec-facet.com)
Polishing laps: African Gems & Minerals (gems@africangems.com); Gearloose Products (www.gearloose.co)
Polishing oxides: African Gems & Minerals (gems@africangems.com); Gearloose Products (www.gearloose.co)
Diamond grits, sprays and pastes: Gearloose Products (www.gearloose.co); Bolt & Engineering 021 555 1290 (diamond pastes from 3 µ–45 µ in 10 ml syringes); African Gems & Minerals (gems@africangems.com) (diamond pastes from ¼ µ–45 µ in 5 ml syringes)
Gem rough: African Gems & Minerals (gems@africangems.com); Brian Norton (https://briannortongemstones.com/)

See the Figures below:

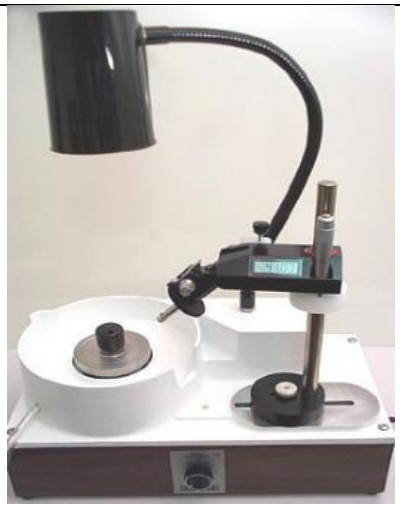


Figure 1 The Graves digital faceting machine

Figure 2 The Ultra Tec V5 digital faceting machine

Figure 3 Using the faceting machine as a trim saw

Figure 4 Copper lap charged with coarse diamond paste from a syringe using a roller

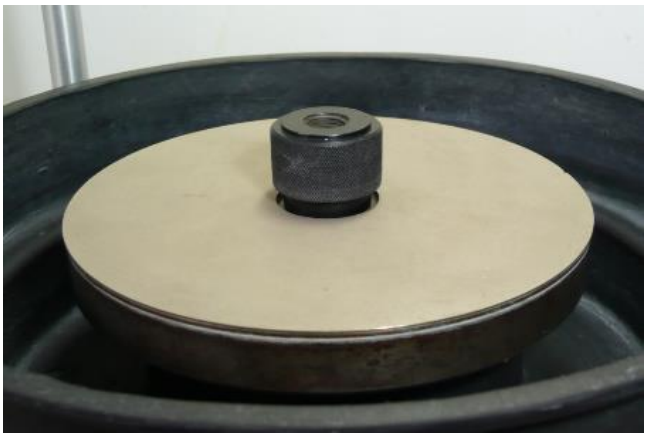


Figure 5 Sintered 600 mesh diamond lap, showing the diamond/bronze layer on the steel backing

Figure 6 Worn 3000 mesh electro-bonded diamond lap

Figure 7 New Batt™ tin alloy lap, for charging with diamond paste as a pre-polish or polishing lap

Figure 8 The Darkside™ polishing lap for use interchangeably with oxides or diamond as a universal polishing lap

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