



Website Newsletter of the Cape Town Gem & Mineral Club

<http://ctminsoc.org.za/newsletters.php>

OCTOBER 2023



Azurite with Malachite, Milpillas Mine (courtesy of Wilensky Exquisite Minerals)

DIARY

October	7	10:00–14:00	Open to the Public Day – Rocks, gems, jewellery, mineral specimens to look at, chat about, swap, sell or buy.
November	4	10:00–14:00	Open to the Public Day – Rocks, gems, jewellery, mineral specimens to look at, chat about, swap, sell or buy.

Horror Stories: From Graven Images to the Real Thing



By Peter Rosewarne

Introduction

In a previous Minchat article I bemoaned the discrepancy I frequently found between the beautiful, captivating image of a mineral specimen on a dealer's website (*the Graven Image*) that seduced me (*Siren Call*) into making a purchase and the rather different reality of the specimen in my hand (*the Real Thing*). I've had a few more of those moments recently, with some acquisitions from new sources, for me, of minerals from Pakistan and Afghanistan. As I am always looking for a new topic for an article, I thought I could conjure up one about these experiences and share them with you.

A drawback to the modern way of writing using a computer is that the reader doesn't get to see the stains left by tear drops on the writing paper as the pain of reliving a harrowing experience hits home. However, with a box of tissues to hand, I'll recount some stories for you. For obvious reasons, dealer/image sources are not given nor are any details on price or technical information but in all paired examples, the second image is my photograph.

Warning: Parental guidance is recommended for readers of a sensitive nature.

Horror Stories

Figure 1a below shows the dealer's image of an attractive *smithsonite* specimen from Choix, Mexico, that lured me out of retirement, while **Figure 1b** is my photograph of the same specimen. There's no comparison really is there, even allowing for my amateur photographic skills? How he got that attractive mauve colour I have no idea. However, the dealer was decent enough to give me a 50% credit when I queried the change in appearance.



Figure 1a



Figure 1b

Figure 2a is of a lovely-looking *scapolite* crystal on *marble* from Afghanistan which seduced me but seemed to lose some of its allure in the post, as shown in **Figure 2b**. And I can't even blame it on the SA Post Office as this came by courier.



Figure 2a



Figure 2b

Next, we have a *diopside* specimen from Afghanistan in **Figure 3a** below which had an alluring and vibrant green colour in the Graven Image, but which had faded a bit by the time it got to me (**Figure 3b**). And it had damaged crystals on all but one side. The dealer's response to my complaint was, verbatim, "No, my friend I send this specimen as per picture. From the deposit of Afghanistan it will come naturally like that. No one can touch. Please do not disappointed from me. I apologize and sorry if I can do anything wrong. Honestly I send as you see in the picture." You can't really argue with that reasoning, can you? And the specimen had travelled a long way.



Figure 3a



Figure 3b

Next is another Mexican smithsonite in **Figure 4a below**, with an attractive green colour and lustrous appearance but the Real Thing, as shown in **Figure 4b**, is rather nondescript by comparison.



Figure 4a



Figure 4b

Smithsonite is featuring a lot here and I don't mean to give it a bad name as it is one of my favourite minerals, but here's another example in **Figures 5a and 5b**, also from Mexico.



Figure 5a



Figure 5b

Again, how the dealer got that attractive blue colour is a mystery to me.

I could have included some of the minerals described in my Minchat article on, "What's Hot in Dubai, 2022?" such as *croonerite*, *sisuluite* or *razzamatazite*, but they were all horror stories, with no Graven Images. The Orange Theme NPA Show mentioned in that article has yet to be organized, although one specimen of croonerite was on display in Pietermaritzburg in August but was controversially sent home after two hours because of a lack of display space.

Concluding Remarks

Apologies for deviating from the straight and narrow again but I felt that my story had to be told and I assume there isn't a dry eye in the Club? Anyone else got a sob-story to share of being lured by the Siren Call of a Graven Image of a mineral specimen on the Internet only to have your illusions shattered by the Real Thing? As an antidote, below are some specimens that did live up to their Graven Images.



Elbaite

Smithsonite

Elbaite

Vivianite

Smithsonite

References

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Rosewarne, P.N. (2022), *What's Hot in Dubai, 2022?* MinChat No. 147, April 2022. Cape Town.

Famous Mineral Specimen Producing Regions – Part II: Mexico



by
Peter Rosewarne

Introduction

Mexico has been producing minerals for centuries, initially mostly *silver* for coinage and industrial use but since about the 1940s world-class specimens of firstly wulfenite and later mimetite, legrandite and smithsonite, to name but a few non-silver-based minerals, have been reaching the specimen market. The latter grouping includes acanthite, pyrrargyrite, stephanite and polybasite but they mostly don't produce particularly photogenic specimens and so are not included here.

The Mineralogical Record has devoted *nine* issues to Mexico (The Mexico VII issue is ignored because it deals with the above silver minerals), indicating its importance in the mineral specimen collecting world, and the hopeless task of trying to condense it all into one Minchat article. Some world-class collections were based solely on Mexican

¹ Sonora Sunrise as a fitting header: cuprite in chrysocolla with black tenorite, Milpillas Mine.

minerals, e.g. the Miguel Romero Collection. As usual, the focus here is on aesthetic specimens with minimal technical stuff, apart from under Geology, and the images included herein are a mix of world-class with some lesser Rosey Collection specimens, and heavily weighted with my favourites.

Mexico

General Information

Mexico is the 15th largest country in the World and bridges North and Central America. The capital, Mexico City, sits at 2 240 m above mean sea level. Of passing interest, it was built on a drained lake and the residual clays have been further dewatered by over-abstraction of groundwater, causing subsidence. The Spanish Conquistadors invaded in the sixteenth century and things were never the same afterwards. However, they did commercialise the mining of silver from the plentiful deposits, e.g. at Fresnillo, after running out of religious artifacts and other plunder to melt down, and this started the enrichment of Europe and the Americas.

Geology and Mineral Regions

The tectonic setting of Mexico is shown in **Figure 1**, with the bulk of the country on the North American Plate² (NAP) and the southern extension of the San Andreas Fault running through the Gulf of California. The NAP and the Pacific Plate are sliding or rather grinding past each other and cause the proliferation of earthquakes recorded along the east coast. The Middle American Trench runs along the Pacific coastline of Mexico and is a major subduction zone. It is responsible for the numerous earthquake epicentres along this coastal stretch (the Benioff Zone³) and for the belt of volcanoes that stretches from west to east across the lower third of the country as subducted oceanic crust is heated at depth and returns to surface as lava or as dykes and stocks at deeper levels (see **Figure 2**). The surface geology consists of relatively recent sediments of Cretaceous to Quaternary age, with plenty of limestone/dolomite, some granitic and dioritic intrusions and rhyolitic and andesitic lavas. Many of the main mineralisations are due to carbonate replacement, with acidic fluids generated by oxidation of the primary metallic sulfides and deposition of carbonates and arsenates in voids created by the circulating acidic fluids.

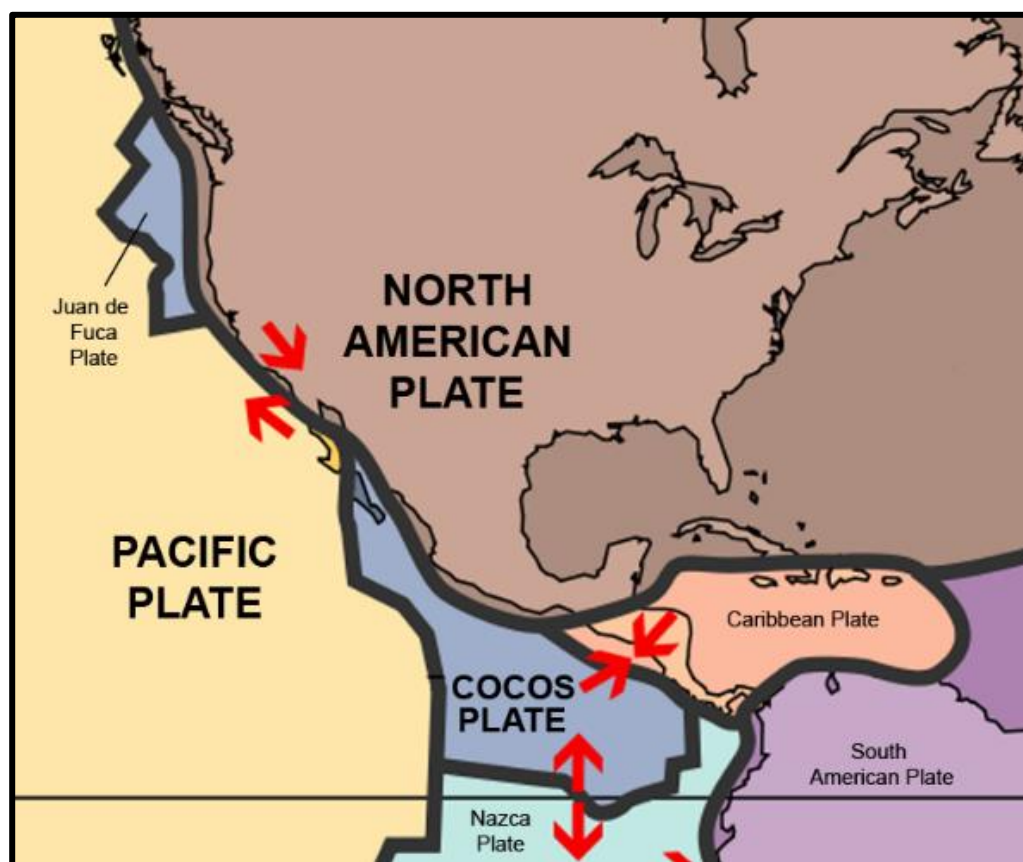


Figure 1: Tectonic Setting

² According to plate tectonics, the Earth's upper c.100 km, the lithosphere, moves over the underlying semi-molten but denser asthenosphere, as a series of plates, with converging, diverging or slipping/grinding boundaries.

³ A planar zone of seismic activity on continental margins and island arcs associated with a subducted plate.



Figure 4a: Wulfenite, Ahumada Mine (© The MIM Museum, ex. Miguel Romero collection)

4b below
Liquorice Allsort



Figure 5 left: Wulfenite on Calcite, Ahumada Mine (The Rosey Collection)

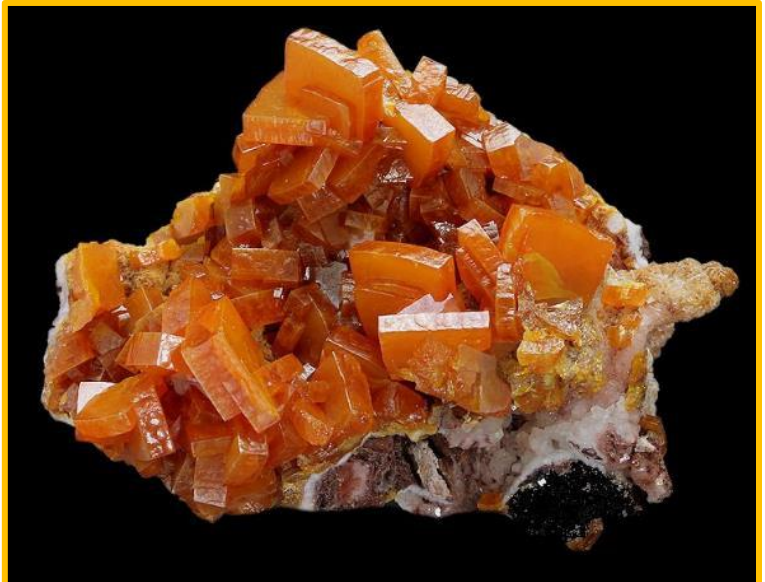


Figure 6: Wulfenite, Erupción Mine (ex. The Rosey Collection)

Wulfenite from the Ojuela Mine is usually yellowish in colour and occurs as blocky crystals on *limonite* and also thin plate-like crystals, as shown in **Figures 7** and **8**, respectively. Some choice specimens came out on a bed of green, velvety mimetite.



Figure 7 left: Wulfenite, Ojuela Mine (The Rosey Collection)

Figure 8 right: Wulfenite, Ojuela Mine (ex. The Rosey Collection)



Another favourite mineral of mine is smithsonite, a *zinc carbonate*, and I also went on a binge-buying spree for this mineral in my early days of addiction and have had lapses in the recent past. I tried to collect every colour and had/have blue, green, yellow, brown, mauve, pink, 'silver' and colourless examples. Some examples from the San Antonio Mine of the Santa Eulalia area are shown in **Figures 9** and **10**. To me, that lustre is irresistible.

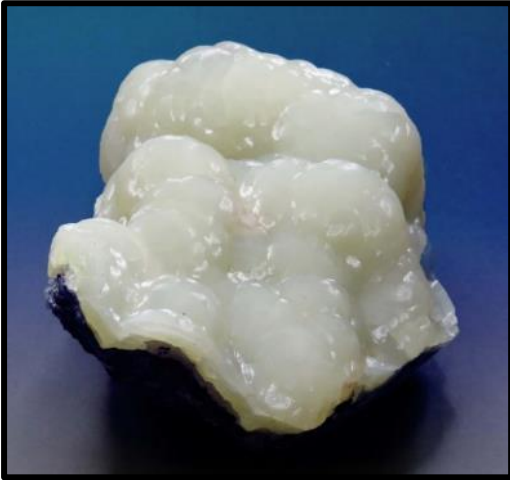


Figure 9 left: Smithsonite, San Antonio Mine (The Rosey Collection)

Figure 10: Smithsonite, San Antonio Mine (The Rosey Collection)

Yellow and mauve varieties from the Rufugio Mine, Choix, are shown in **Figure 11**.



11a



11b

Figure 11: Yellow and Mauve Smithsonite, Refugio Mine, Choix

11a The Rosey Collection: **11b** courtesy of Weinrich Minerals

The Ojuela Mine is a famous mineral specimen producing area with world-class adamite (zinc arsenate), *para-adamite* (same composition, different crystal class), wulfenite, and especially legrandite, also a zinc arsenate, having been found there. A total of 117 species of mineral have been found there. One of the most famous specimens is the Aztec Sun (18,7 cm) legrandite which was the centrepiece of the Miguel Romero Collection, but is now in the Mim Museum collection, shown in **Figure 12**. There are no examples of legrandite in my collection because it is too expensive, e.g. a thumbnail specimen including matrix going for \$500 in May 2023.

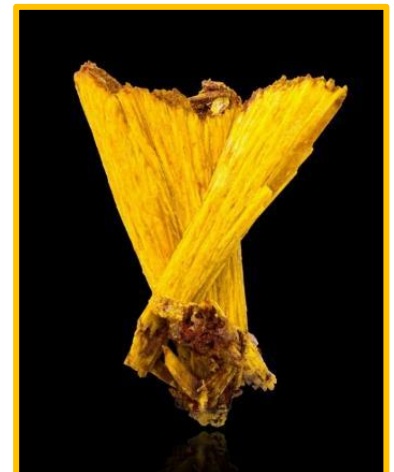


Figure 12: The Aztec Sun, Legrandite, Ojuela Mine (© The MIM Museum)

Adamite comes in shades of yellow, green (*cupro*) and very rarely blue, and pale, purple-tipped (due to traces of *manganese*) crystals and botryoidal masses, as illustrated in **Figures 13** and **14**, respectively.



Figure 13 left: Purple-tipped Adamite Crystals on Limonite, Ojuela Mine (ex The Rosey Collection)

Figure 14: Pale Green Botryoidal Adamite in Limonite (The Rosey Collection)

The Las Vigas and Guerrero areas are famous for their beautiful *amethyst* crystals, the former occurring in cavities in andesitic lavas originating from the volcanoes mentioned earlier. Examples are shown in **Figure 15**.



15a



15b

Figure 15: Amethyst Crystals, Las Vigas (15a) (The Rosey Collection) **and Guerrero (15b)** (ex. The Rosey Collection)

Because of space and size limits, it is almost criminal that I am only including three images of specimens from the Milpillas Mine, a site that has produced azurite, malachite, olivenite and brochantite specimens to match or better the World's "best of". During its operating life from 2006 until closure in 2022 it produced thousands of superb specimens despite the mine owner's official policy forbidding the collection of specimens. With the pumps now turned off, the water table is rising to its former level, which is 100 m above the ore body. Look at **Figure 16** (15 x 31 cm) to see what I mean about quality... (see also front page of this newsletter)



Figure 16: Azurite with Malachite, Milpillas Mine (courtesy of Wilensky Exquisite Minerals)

Figure 17 shows azurite crystals on a bed of velvety malachite; another Milpillas classic.



Figure 17: Azurite on Malachite (courtesy of Collector's Edge Minerals)

Figure 18 shows some exquisite olivenite crystals from the Milpillas Mine.



Figure 18: Olivenite, Milpillas Mine (courtesy of Fabre Minerals)

The World's best examples of botryoidal mimetite come from a find at the Congreso-León Mine, Chihuahua, in 1968. They came from a 20' × 30' × 40' cavern and about 2 tons of specimens were removed over a three-month period.

An example is shown in **Figure 19**, on the following page.



Figure 19: Mimetite, Congreso-León Mine, San Pedro Corralitos, Chihuahua (ex. The Rosey Collection)



And last, but not least, raspberry grossular from a small claim in the Sierra de Cruces. **Figure 20** shows dodecahedral grossular crystals in a matrix of skarn material composed mainly of quartz and calcite. The pink to red colour is caused by traces of manganese. Blocky tetragonal crystals of yellowish vesuvianite also occur in the deposit.

Figure 20: Raspberry Grossular, Sierra de Cruces (The Rosey Collection)

Concluding Remarks

So, there you have it, Mexico, Part II in this series of famous mineral producing areas/countries and a veritable treasure-trove of fabulous wulfenite, adamite, smithsonite, legrandite, mimetite and amethyst specimens amongst many others. And that is not even including the silver sulfosalt minerals that are also world famous. Going as far as having a Mexico IX for the Minchat is probably going a bit too far, but a Mexico II would certainly be justified to include all the great mineral specimens I've left out. The next country we'll look at is Pakistan with its world-class elbaite, aquamarine, topaz and garnet specimens.

Adios amigos.

References

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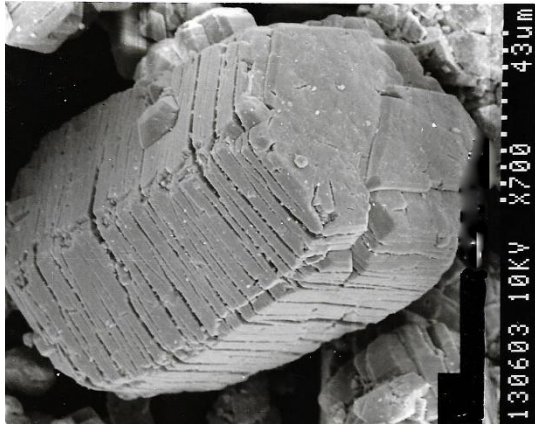


'Participating' dealers/collectors:

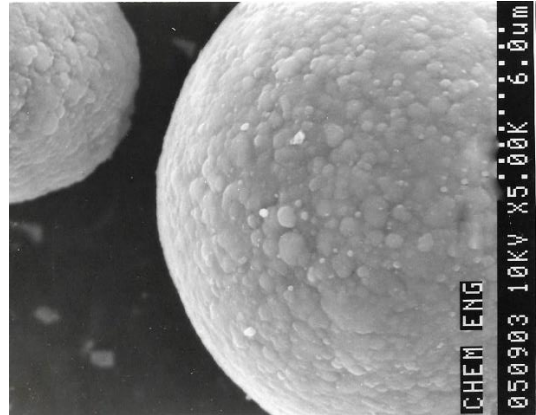
Collector's Edge Minerals; Fabre Minerals; The MIM Museum; Weinrich Minerals; Wilensky Exquisite Minerals; The Rosey Collection

Weird Pictures taken during many Years of Electron Microscopy.

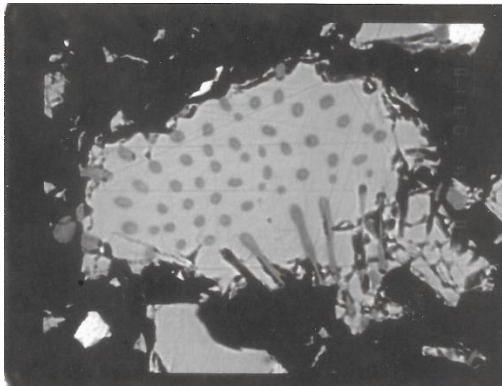
Thanks, Lesley!



1. Loaf of bread?



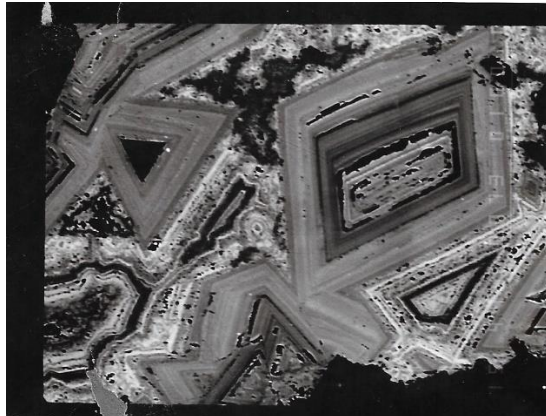
2. Interplanetary Space?



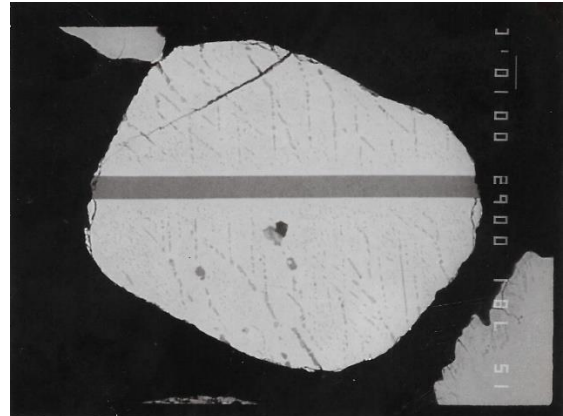
3. Polkadot Iron ore?



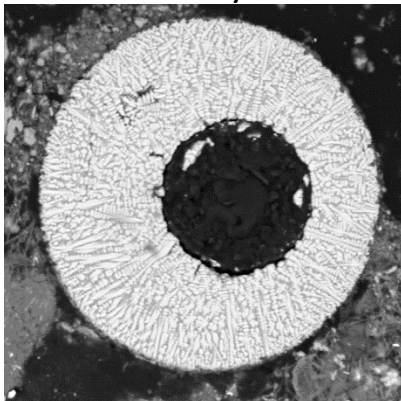
4. Microfossil?



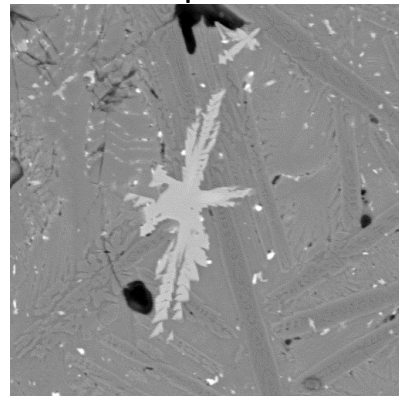
5. Crazy Maze?



6. Liquorice Allsort?



7. Jam Doughnut?



8. Angry Seagull

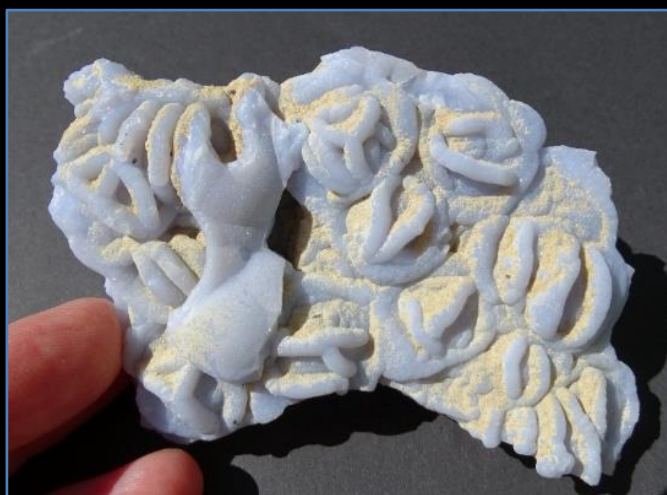
Answers can be found at the end of the newsletter.

From the Cabinet of Curiosities



This month's curiosity is, er, yes, is what? Columbia Records are convinced that it is the original lyrics to 'Bob Dylan's *Tangled up in Blue* song of 1975. Dr Vermeer the well-known art critic thinks it could be a long-lost sculpture by Picasso from his Blue Period, stolen from the Tate Gallery in the infamous heist of 1976. On the other hand, Professor van der Merwe of Stellenbosch University thinks it could be agatised fossil worm burrows and a crab claw from the Cretaceous Period. Or is it just a heap of sour worm sweets?

What do you think it is? Reply to capetowngemmineralclub@gmail.com



“FACETIPS – A Gem Cutter’s Notebook” by Duncan Miller.

The faceting articles published over the past few years in the Mineral Chatter have now been compiled into a single 128-page document. The pdf file is available for download for free from <http://ctminsoc.org.za/articles.php> for those interested in having all the articles together.

SEM picture answers

1. Kaolinite, 2. Chrome hydroxide, 3. Wustite in troilite, 4. Molybdenite in loellingite, 5. Smithsonite, 6. Ilmenite in hematite, 7. Ferrosilicon, 8. Chrome-iron spinel in slag.

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