

Northwest
Micro Mineral
Study Group

MICRO PROBE



Spring, 2021

VOLUME XIII, Number 3

NO MEETING SCHEDULED

President's letter

I miss you all !!! Or is it the freebee tables I miss? How about both. 😊

It is still too soon to meet in May. Too many do not have their vaccines. I hope that by November we can get together and share experiences, hugs/handshakes/elbow-bumps, and, of course, bits of rock specimens. My pile of sharable flats is getting larger even though I have traded small boxes with a couple of guys elsewhere in the USA.

I have been attending a variety of club meetings across the USA, mostly on the East coast, using Zoom. At one meeting I had a very happy surprise when Don Howard (with Genie in the kitchen in the background) was one of the attendees. Not having seen him for a year, I was almost jumping up and down in my chair until I could say "Hi".

Bruce Kelly, Doug Merson, and Julian Gray have also been spotted at a lot of these meetings. I hope that more of you have found some source of socializing and learning that is safe and compatible with your needs. Maybe some of you have been able to get out for a field trip or two.

I was even able to give a presentation to one club on the Sardinian specimens I purchased as part of the Allen and Barbara Lundgrun collection. I have two other presentations scheduled later this year. It is a new experience, not only using Zoom, but to give a presentation on Zoom where you share your screen, and while looking at your screen, you talk to it instead of to the people. Weird feeling.

I sincerely hope all of you, and your loved ones, have been staying safe and healthy. I truly look forward to seeing all of you at our meeting in November.

Beth Heesacker

Waipouaite from Aranga Quarry

Rod Martin & Jocelyn Thornton

Waipouaite is the first new mineral to be described from NZ since 1997 and was published in the Feb newsletter of the IMA Commission on New Minerals, Nomenclature and Classification.

IMA No. 2019-095

Waipouaite $\text{Ca}_3\text{V}^{+5}_4\text{O}_9[\text{Si}_2\text{O}_5(\text{OH})_2][\text{Si}_3\text{O}_7(\text{OH})_2]\cdot 11\text{H}_2\text{O}$

Aranga Quarry, Aranga, Kaipara District, Northland Region, New Zealand
(35°44'06" S, 173°34'47" E)

Peter Elliott* and Anthony R. Kampf *E-mail: peter.elliott@adelaide.edu.au

New structure type Monoclinic: $P2_1/c$; structure determined

$a=12.843(3)$, $b=23.589(5)$, $c=11.560(2)$ Å, $\beta=115.54(3)^\circ$

11.78(100), 9.54(16), 7.85(19), 6.29(32), 5.92(31), 5.22(21), 3.140(18), 2.850(17)

Type material is deposited in the mineralogical collections of the South Australian Museum, North Terrace, Adelaide, South Australia 5000, Australia, registration number G34802

How to cite: Elliott, P. and Kampf, A. R.: Waipouaite, IMA 2019-095, in: CNMNC Newsletter 53, Eur. J. Mineral., 32, <https://doi.org/10.5194/ejm-32-209-2020>, 2020.

In 2001 Jocelyn saw tiny black prisms on chabazite associated with okenite and cavansite, and asked around for any thoughts on identification. Judy Rowe suggested babingtonite, which Bill Birch had recently identified with zeolites in Victoria. Jocelyn thought she might have given some to Judy for proper identification, but nothing was ever said. Now these crystals have been identified. Jocelyn still has two mounts with the waipouaite in cavities with chabazite without okenite, and one has a cavansite away from the vug, and the other has 6 or 7 extremely small cavansites in the cavity, and there is a film of a pale tan clay (?) mixed with the waipouaites.

Then Rod Martin found much more of the little black/green mineral, associated with the large white calcite, okenite and golden calcite over chabazite, and gave it to Peter Elliott, who has worked on it along with Tony Kampf in Los Angeles. We are extremely grateful to these mineralogists who are prepared to help us. The first choice of name was arangaite, but because arangasite already exists, this name was rejected, and waipouaite was chosen, as the quarry rock is the Waipoua Basalt.

Waipouaite appears as dark olive green plates and, rarely, as balls/prisms. The mineral is frequently associated with okenite and especially so where ferroan calcite is present. The best way to find specimens is to carefully check the broken edges of okenite specimens. The waipouaite is always under the okenite but where ferroan calcite is present then it may also

occur between it and normal calcite. The crystals are between 0.1 and 0.2mm long (as found to date) but stand out very clearly against the white okenite. There is also a little bleeding of the green colour into the okenite. Usually the crystals occur in small groups but single crystals are common as well and in rarer cases there will be clusters of 20-30.

Unfortunately, much of the earlier recovered okenite was dirty and stained and beyond cleaning so has been discarded. But where available the okenite can be prised off the underlying crystals to expose the waipouaite.



Fig 1. *Large cluster and single waipouaite between calcite and ferroan calcite.*



Fig 2. *Ball of waipouaite with still a light coating of okenite, along with ferroan calcite and chabazite. FOV 1.3mm.*



Fig 3. *Balls of waipouaite on the boundary of a ferroan calcite and chabazite. The covering okenite has peeled off and there also appears to be a couple of tiny blue cavansites present. The olive-green colour is hard to see in this specimen. FOV 1.5mm.*



Mat Singleton brought the okenite with the golden calcite for symposium giveaways and Jocelyn took a fist-size chunk when Mat was about to take the rejected specimens away. It appears below, with detail above showing the waipouaite on this specimen on larger calcites and under okenite.



Waipouaite, like cavansite, is a calcium vanadium silicate, and at Aranga, vanadium is also present in some other minerals, giving a bluish tinge to apophyllite and a greenish tinge to some thomsonites. Vanadium, a fairly widespread element in sedimentary and magmatic rocks, is used in steel manufacture and alloys. The titanomagnetite sands, mined in North Waikato Head for the Glenbrook Works, that contains about 0.3 to 0.4% of vanadium, has been exported at times. Perhaps there was a shortage of iron minerals in the Waipona Basin?

Most collectors think of the red vanadinite as the vanadium mineral. Aranga has two rarer varieties. We hope this lock-down time may be used for other collectors to carefully check any Aranga material collected at the time when cavansites were being found, on both the okenite and also on the chabazites.

The Micro Minerals of the Las Choyas Geodes, Aldama Municipality, Chihuahua, Mexico

By Beth Heesacker

My interest in these geodes started a few years ago when I was Show Chair for the Clackamette Mineral and Gem Club. One of the dealers that I invited to vend at our show brought these Las Choyas geodes, among others, to the show along with a geode breaker. The kids, and the kids-at-heart, got to break open the geodes that they purchase and be the first ones to see the treasures inside.

The problem with me was I spent all my free time looking over their shoulders. Some minerals could be seen with the naked eye but there was a fascinating array of very tiny minerals that, of course, I could not see since they were micros.

I found out where he had purchased his geodes and found them on the internet. I ordered some and the hunt was on. Now about 300 pounds of geodes later, I think I have most of the minerals in my collection.

Mindat list 18 minerals:

Beidellite	Mordenite
Birnessite	Opal
Calcite	Pyrolusite
Cryptomelane	Quartz
Goethite	var. Agate
Gypsum	var. Amethyst
Hematite	var. Chalcedony
Hollandite	Ramsdellite
Hydroxylapatite	Ranciéite
var. Carbonate-rich Hydroxylapatite	Siderite
Kaolinite	Todorokite

The rest of this article probably can be best completed by using the PowerPoint slides I have made for presentations during our Covid quarantine. I have about 250 slides of different minerals and variations and I am sure that you do not want to see them all here in the Micro Probe, so I have selected just a few to get you interested.

I am not good at all at identifying minerals so many have question marks, many others may be misidentified, etc. My quartz and calcite may be mis-identified along with the others. I trust other peoples' labels, but these geodes do not have labels inside when I break them open. I have done some research on Mindat, so all errors are mine. My apologies to all you experts and would very much appreciate any corrections that you can make. Thanks in advance.

Area, Geology and the Geodes

Desert
Feldspar rich ash flow tuff altered to montmorillite clay
Underlain by Cretaceous limestone
Liebres Formation, 44 million years old

Geodes first discovered in 1960
First production in 1965, El Mesteño Claim
Mine depth averages 100 ft.
Owned by Hector Carrillo family, Gem Center USA

Geodes are about 20% hollow
Walls consist of Siderite, Chalcedony, etc.
Interior - Quartz, Calcite, various iron and manganese oxides, and others

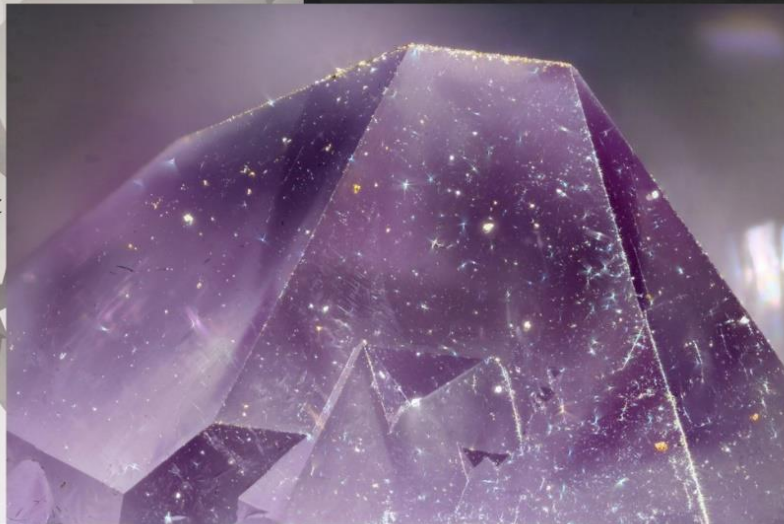


Our geode cracker, built by Paul Heesacker

Interior and exterior of a typical Geode



Quartz
var: Amethyst



LC119 fov 4.5mm



Quartz?



LC34 fov 9.5mm

Quartz
on ?



lc21 fov 4.5mm

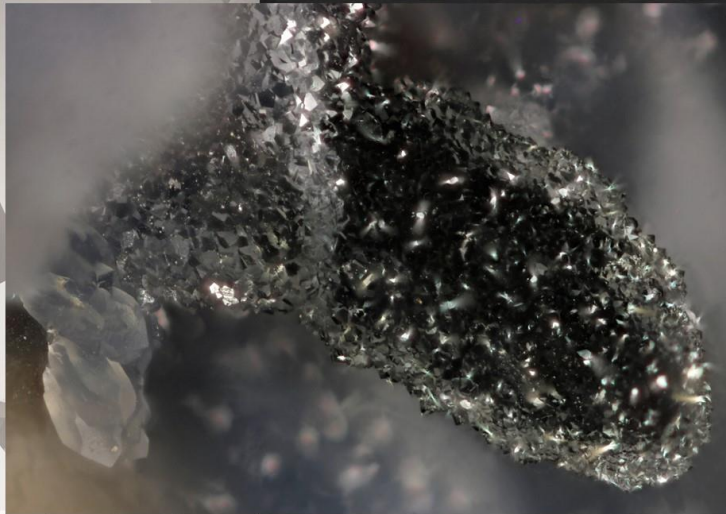
Quartz var Milky
and ?



lc6c fov 3.25mm

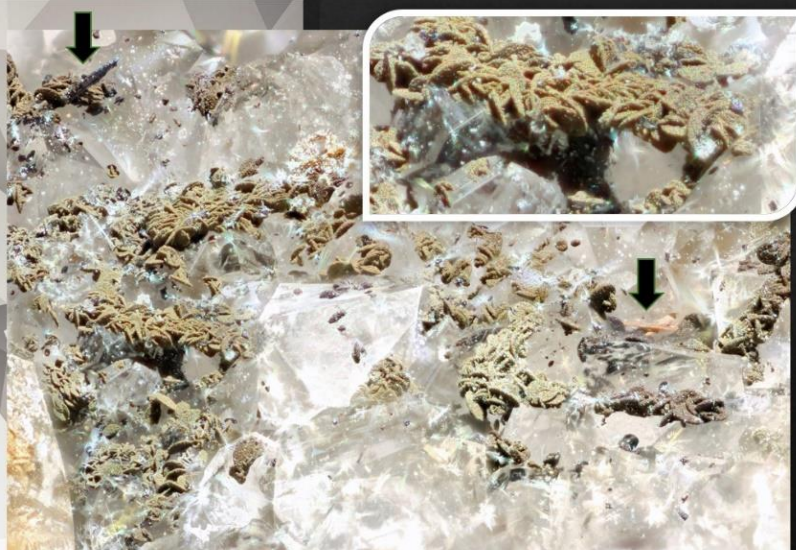
Smoky Quartz?
and ?

lc6b fov 4mm



Hemetite
rosettes
and ??? on
Quartz

LC158 fov 4.5mm



Todorokite
on Quartz

LC83 fov 4.5mm



Calcite



LC106 fov 4mm

Calcite
on
Hematite



LC25 fov 4.5mm

Hematite
in Quartz



lc27b fov 4mm

Calcite
on
Goethite

LC7 fov 4.5mm



Rancieite
or
Pyrolusite
on Quartz

LC5 fov 4.5mm



Ramsdellite

LC110 fov 2.5mm



Ramsdellite on
Quartz

lc16 fov 3mm



Goethite needle
Goethite blade

LC11 fov 3.5mm



Todorokite on
Ramsdellite on
Goethite blades

LC68 fov 3 mm



? on Todorokite
on Quartz

lc11 fov 3mm



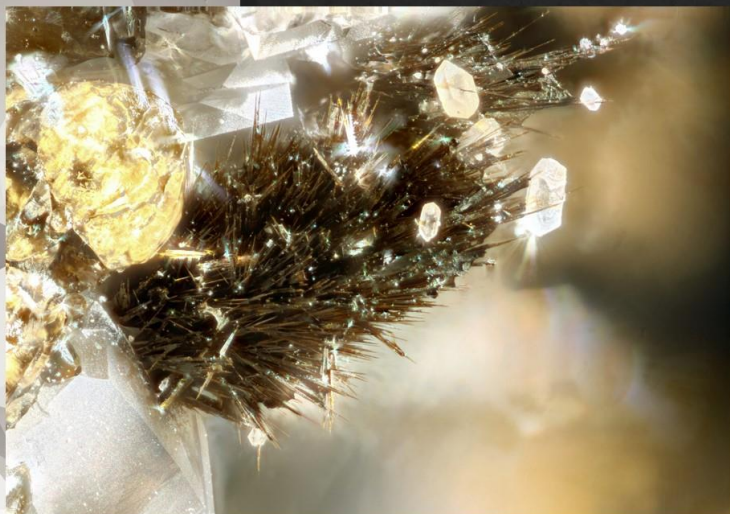
Todorokite on
Goethite needles

LC32 fov 3.5mm



Quartz on
Goethite needles
on Quartz

LC31 fov 4mm



Todorokite on
Ramsdellite on ???
on Quartz



LC80 fov 3mm

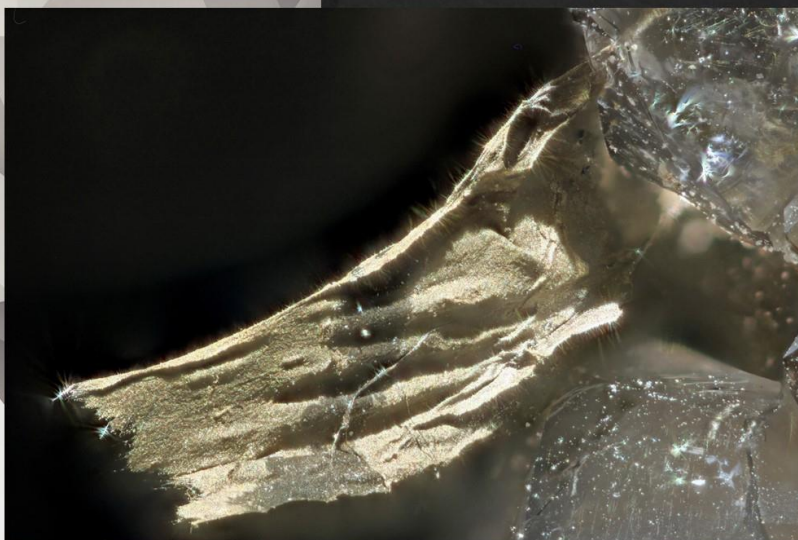


Todorokite on ?



lc12 fov 3.5mm

Todorokite



LC29 fov 4.5mm

Todorokite
on ? on
Quartz



LC77 fov 4.5mm

Todorokite on
Ramsdellite
on Goethite blades



LC69 fov 1.5mm

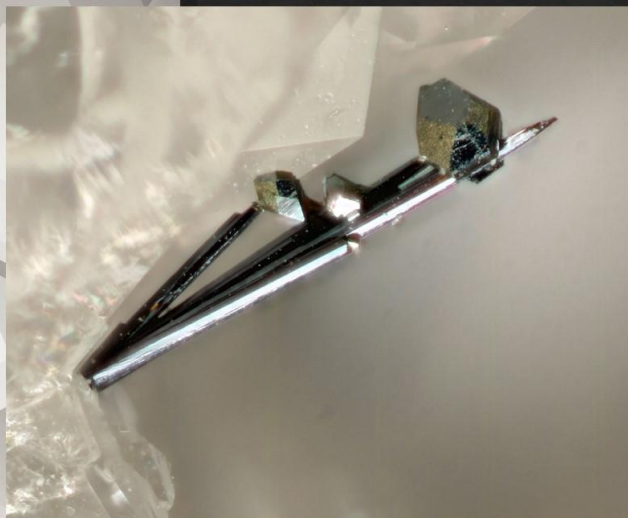
Todorokite
needles



LC72 fov 4.5mm

Ramsdellite
on
Hollandite

LC162 fov 2mm



Siderite and
Goethite blade
on ???

LC51 fov 2mm



Siderite?

lc17 fov 2.5mm



Mordenite



LC43 fov 4.5mm

Goethite blade
inclusions in ???



LC71 fov 2.5 mm

? And Quartz



lc61 fov 4mm

Opal? on
Goethite

LC117 fov 4.5mm



Opal?

LC104 fov 4.5mm



Cryptomelane
dendrites

LC86 fov 4.5mm



THE MICROPROBE

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**IN LIGHT OF THE FACT THAT WE HAVE BEEN UNABLE TO MEET TOGETHER
FOR THE PAST YEAR, WE HAVE ELECTED TO EXTEND THE MEMBERSHIP
DUES FROM 2020 TO COVER MEMBERSHIP FOR 2021 AS WELL.**

THERE WILL BE NO NEW DUES UNTIL MEETINGS RESUME.