



## NELSON ROCK & MINERAL CLUB NEWSLETTER

June 2016

### COMMITTEE MEMBERS

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### GENERAL NEWS

**Digital file storage** for Club business is being stored on Diane's OneDrive. The directory is viewable but not editable for those granted sharing rights. If you want access, email Diane and she will email you the link .

**Website.** Dave Briggs is overseeing the construction of the club website, check it out at [www.nelsonrmc.org](http://www.nelsonrmc.org)

**SUBS:** If you have not yet paid your subs please contact Hub.

## **CLUB WEBSITE**

Dave Briggs has put a lot of work into setting up a web site for our club.

The site details what our club is about, what we have achieved in the past and what we are currently concentrating on.

It is expected to offer the members details of up coming projects and events, and any news that may be of interest.

It is not finalized and Dave hopes you can have a look at the site and get back to him with any suggestions that might help improve the experience. In fact it will never be finalized as it is expected to continually morph according to current requirements.

So please visit [www.nelsonrnc.org](http://www.nelsonrnc.org)

You can contact Dave by email: [dave\\_ann.briggs@vodafone.co.nz](mailto:dave_ann.briggs@vodafone.co.nz), he would love to hear your views.

## **88 Valley Project**

The club is currently writing a paper on the geology of 88 valley, Wakefield. It is not yet finished but has reached an important stage whereby much of the information has been collated and a Project Report has been prepared by Ian Ladds and Dave Briggs.

The report is in PDF format, and rather than merge the report with this newsletter, I thought it would be better as a stand alone document. Therefore I am attaching the report as a supplement.

When you read the report you will become aware of the complexity of the site and the difficulties faced by those trying to make sense of it all.

This is an exciting moment in our clubs history, as a project of this nature has never been carried out before by our club.

Hats off to all those involved!

## **Collins Valley Quarry Trip** - Sunday 24<sup>th</sup> April

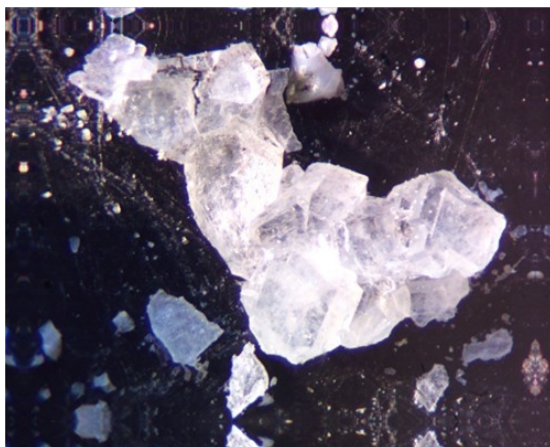
Trip participants – Mike and David Blowers, Diane Toole, Clyde Nicholson, Stephen Eager, Sarah Fitzpatrick, Bazil Baker, Steve Cross, Tez and Zac.Hardwick

The ten enthusiastic participants for the trip met at the Millers Acre Carpark just before 9am. The necessary indemnity authorisation was signed and four carloads headed north out of Nelson on the highway towards Blenheim. By 10am we had left the highway and taken the short road to a car park, not far below the quarry itself. It being the hunting season, we all donned high visibility jackets so as not to be mistaken for deer and we trudged up the track to the Quarry. Even on the track up serpentine and mineral belt debris washed down from the quarry took our attention and the collection of interesting specimen commenced immediately. By the time we were all at the quarry, the party had spread out, fossicking the various piles of mined serpentine abandoned all around the floor of the quarry. Members were vigorously deploying their hammers in the hope of opening up

hidden voids harbouring interesting minerals. The serpentine rocks of this quarry are highly sheared and metamorphosed giving an endless variety to the colours, the shapes and surfaces of the materials we were fossicking. There were shiny slick-slide specimens of black to greenish serpentine, antigorite, actinolite or chlorite and whiter blocks of hydrogrossular or magnesite. Identification of many of these minerals is difficult or uncertain in the field, and even in the laboratory, so our rucksacs were soon weighed down with interesting specimens for future study. Vesuvianite and possibly grossular crystals were visible in some samples, but mostly needing a loupe to see and there were some occasional brighter green minerals amongst the colours some of which were due to isolated copper minerals such as azurite and malachite. Several samples of small crystal clusters in voids or veins were collected, but identification so far not confirmed. Perhaps someone more versed in these materials could give some assistance for the crystals shown below. Near the eastern wall were some blocks of argillite and a well exposed dike. Lunch was taken in the warm sunshine sitting on blocks of serpentine or timber packaging and boxes found in the quarry. After lunch David and Zac disappeared into the surrounding forest to forage for mushrooms. Although an attempt was made to find the old Maori argillite quarry to the north, the area was too overgrown for us to find it.

By mid-afternoon we were back at the carpark loading our finds in preparation for the home run. Mike, David, Clyde and Diane stopped on the way back to examine the Whangamoia fault where it crosses the highway, but everyone was back in Nelson by 4pm.

Thanks to the Nelson Forests Limited for permission to access the quarry.



approximate scale for above micros

<- 1 mm ->





It's not just about minerals  
Dave and Zac collected "Slimy Jacks"  
As tasty delicacies. (Got to wash the  
slime off first though)

## **May Meeting 2016**

We had an update on the 88 Valley Project from Ian Ladds. The write up is a supplement to this newsletter.

We had an update on the club website from Dave Briggs

We had a presentation by Mike Blowers on the history of mineral testing. We learnt that although the Romans had strange ideas on the composition of minerals, they were pretty sharp at identifying them, some of their tests are still in common use today.

One of the most important Roman sources of information is the Naturalis Historia of Pliny the Elder who died in the eruption of Mount Vesuvius in 79 AD. Several books (XXXIII-XXXVII) of his encyclopedia cover metals and metal ores, their occurrence, importance and development.

### **What is the Streak Test?**

The "streak test" is a method used to determine the color of a mineral in powdered form. The color of a mineral's powder is often a very important property for identifying the mineral.

The streak test is done by scraping a specimen of the mineral across a piece of unglazed porcelain known as a "streak plate". This can produce a small amount of powdered mineral on the surface of the plate. The powder color of that mineral known as its "streak".

When out looking for minerals it is a good idea to take your streak test tile and a streaktest tile with known mineral streaks for comparison.

## Streak Colors of Common Minerals

[Andalusite](#) White or colorless (hardness is about the same as the streak plate).

[Anhydrite](#) White.

[Apatite](#) White.

[Arsenopyrite](#) Dark grayish black.

[Augite](#) White to greenish gray. Augite can be splintery and close to the hardness of the streak plate, so brittle fragments, rather than a powder, will sometimes be produced.

[Azurite](#) Light blue.

[Barite](#) White.

[Bauxite](#) White. Often discolored to pink, brown or red by iron staining.

[Benitoite](#) White.

[Beryl](#) Colorless (harder than the streak plate).

[Biotite](#) White to gray (don't be deceived by flakes).

[Bornite](#) Grayish black.

[Calcite](#) White.

[Cassiterite](#) Colorless.

[Chalcocite](#) Grayish black.

[Chalcopyrite](#) Greenish black.

[Chlorite](#) Greenish to greenish-black to white.

[Chromite](#) Dark brown.

[Chrysoberyl](#) Colorless (harder than the streak plate).

[Cinnabar](#) Red.

[Clinozoisite](#) White.

[Copper](#) Metallic copper red.

[Cordierite](#) Colorless (harder than the streak plate).

[Corundum](#) Colorless (harder than the streak plate).

[Cuprite](#) Brownish red.

[Diamond](#) Colorless (harder than the streak plate).

[Diopside](#) White to light green.

[Dolomite](#) White.

[Enstatite](#) White to gray.

[Epidote](#) White or colorless (about the same hardness as the streak plate).

[Fluorite](#) White.

<a href="#"><u>Fuchsite</u></a>	White (often sheds tiny green mica flakes).
<a href="#"><u>Galena</u></a>	Lead gray to black.
<a href="#"><u>Garnet</u></a>	Colorless (harder than the streak plate).
<a href="#"><u>Glauconite</u></a>	Dull green.
<a href="#"><u>Gold</u></a>	Metallic gold yellow.
<a href="#"><u>Graphite</u></a>	Black.
<a href="#"><u>Gypsum</u></a>	White.
<a href="#"><u>Halite</u></a>	White.
<a href="#"><u>Hematite</u></a>	Red to reddish brown.
<a href="#"><u>Hornblende</u></a>	White. Brittle, often leaves black cleavage debris behind instead of a streak.
<a href="#"><u>Ilmenite</u></a>	Black.
<a href="#"><u>Jadeite</u></a>	Colorless (harder than the streak plate).
<a href="#"><u>Kyanite</u></a>	White or colorless (about the same hardness as the streak plate in one direction).
<a href="#"><u>Limonite</u></a>	Yellowish brown.
<a href="#"><u>Magnesite</u></a>	White.
<a href="#"><u>Magnetite</u></a>	Black.
<a href="#"><u>Malachite</u></a>	Green.
<a href="#"><u>Marcasite</u></a>	Grayish Black.
<a href="#"><u>Molybdenite</u></a>	Bluish gray, grayish black.
<a href="#"><u>Monazite</u></a>	White.
<a href="#"><u>Muscovite</u></a>	White, often sheds tiny cleavage flakes.
<a href="#"><u>Nepheline</u></a>	White.
<a href="#"><u>Nephrite</u></a>	Colorless, harder than the streak plate.
<a href="#"><u>Olivine</u></a>	White or colorless, similar hardness to the streak plate. Often sheds tiny granules instead of a powder.
<a href="#"><u>Orthoclase</u></a>	White.
<a href="#"><u>Plagioclase</u></a>	White.
<a href="#"><u>Prehnite</u></a>	White.
<a href="#"><u>Pyrite</u></a>	Greenish black to brownish black.
<a href="#"><u>Pyrophyllite</u></a>	White.
<a href="#"><u>Pyrrhotite</u></a>	Grayish black.
<a href="#"><u>Quartz</u></a>	Colorless, harder than the streak plate.
<a href="#"><u>Rhodochrosite</u></a>	White.
<a href="#"><u>Rhodonite</u></a>	White.
<a href="#"><u>Rutile</u></a>	Pale brown.

<a href="#"><u>Scapolite</u></a>	White.
<a href="#"><u>Serpentine</u></a>	White.
<a href="#"><u>Siderite</u></a>	White, very light brown.
<a href="#"><u>Sillimanite</u></a>	White or colorless (about the same hardness as the streak plate).
<a href="#"><u>Silver</u></a>	Silvery white.
<a href="#"><u>Sodalite</u></a>	White or light blue.
<a href="#"><u>Shpalerite</u></a>	White to yellowish brown, often with an odor of sulfur.
<a href="#"><u>Spinel</u></a>	Colorless, harder than the streak plate.
<a href="#"><u>Spodumene</u></a>	White or colorless (about the same hardness as the streak plate).
<a href="#"><u>Staurolite</u></a>	Colorless, harder than the streak plate.
<a href="#"><u>Sulfur</u></a>	Yellow.
<a href="#"><u>Sylvite</u></a>	White.
<a href="#"><u>Talc</u></a>	White to pale green.
<a href="#"><u>Titanite</u></a>	White.
<a href="#"><u>Topaz</u></a>	Colorless, harder than the streak plate.
<a href="#"><u>Tourmaline</u></a>	Colorless, harder than the streak plate. Specimens often fracture, shedding small particles.
<a href="#"><u>Turquoise</u></a>	White, greenish, bluish.
<a href="#"><u>Uraninite</u></a>	Brownish black, grayish.
<a href="#"><u>Witherite</u></a>	White.
<a href="#"><u>Wollastonite</u></a>	White.
<a href="#"><u>Zircon</u></a>	Colorless, harder than the streak plate.
<a href="#"><u>Zoisite</u></a>	White.



Any mineral that is not as hard as the test tile will leave a streak

Harder minerals leave a colourless streak as indicated in the above list

A ceramic tile has a hardness of 7 on the MOH scale.

## UPCOMING EVENTS

If you have done anything of interest relating to Rocks and Minerals, why not submit a short article for possible inclusion in the next newsletter, as the other members would love to hear about it. This newsletter is great forum for sharing ideas and activities.

**Large tumbler for hire:** Takes two drums. Operates off main. Size: 1m x 300depth x 900high.including table. Grit available. Cost: \$10/month plus the cost of grit. Contact Kevin.

### **Future program (possible, but definitely not finalised– Check your emails for updates)**

<i>June 16<sup>th</sup> Club night</i>	<i>Reefton geology?</i>	<i>John Taylor (Mike)</i>
<i>June 19<sup>th</sup> FT</i>	<i>Canaan Downs</i>	<i>Chris?</i>
<i>July 21<sup>st</sup> Club night</i>	<i>Kauri Gum</i>	<i>Peter Ingram</i>
<i>July 24<sup>th</sup> FT</i>	<i>Mapping and fossils</i>	<i>Ian Ladds</i>
August 18 Club night	Argentina and Uruguay stones	Steve Webb
August 28 FT	Transect across Waimea Basin	Ian Ladds
October Labour Weekend FT	Golden Bay	