

Wayne County Gem and Mineral Club News

September, 2017

Always Looking for Places to Dig!



Linda Schmidtgall is WCGMC Rockhound of the Year (see page 5)



<http://www.wcgmc.org/>
[FACEBOOK link](#)

PICNIC PICS-pg. 6



Cancrinite from the Rutter Pluton in Ontario (see page 4)

Next Club Meeting

Friday September 8th, 7:00 PM

Presbyterian Church, Maple Court, Newark, NY

PROGRAM: Summer Collecting Finds

We have all had an active summer of collecting minerals and fossils. BRING your finds to this meeting. Bring them to show off, bring them to share, bring them to trade. Or perhaps you have a mineral or a fossil that you cannot identify? Bring that along.

Saturday, September 9th

WCGMC Saturday workshop

When: 10:00 AM til mid afternoon

Where: The Weiler's Barn and Club Workshop
6676 E. Port Bay Rd, Wolcott, NY

Rules: BYOR (Bring your own rocks) to saw, grind, polish or even facet. Training on equipment is available. Eye protection is required. \$5/adult to offset maintenance costs

St. Lawrence County Field Trip Sept. 15-17 (Friday-Sunday)

Sites and logistics are being worked out, but we have had requests for Benson Mines and Bush Farm and we'll likely visit Rose Road. Powers Farm and Selleck Road are options and there are others that can be determined by those who elect to go. We will try to visit two sites on Friday, two on Saturday and one on Sunday before returning home. **Please let Fred Haynes know if you plan to attend. Final plans will be made at the September meeting.**

September 16, 2017

is

**COLLECT
ROCKS
DAY**



Did you know that [September 16th is COLLECT ROCKS DAY.](#) No kidding, it really is. Many overlook this important annual holiday, but WCGMC will be honoring the day this year with a 3-day trip to St. Lawrence County. It is a Saturday this year, so even if you are not with us up north, take a trip to your favorite Lake Ontario beach or your favorite Finger Lakes stream and collect a special rock or two. You can label it ROCK DAY 2017 and cherish it forever.

It is time to renew your membership.

Renewal for the 2017-2018 year is due in September. We thank the 40 members who took advantage of our show offer to renew in June. Others can renew at the Sept. meeting or mail payment to: WCGMC, P.O. Box 4, Newark, NY 14513. Just \$15 individual, \$20 family for a full year of fun. *Check the home page of the club website if you are uncertain of your membership status.*



Measuring Specific Gravity

By Fred Haynes



How do you try to identify an unknown mineral? If you are like most folks you start with color, which can help, but can also mislead. Trace elements and other types of inclusions can alter the color or many minerals. Does it have crystal faces? Maybe, but often not. Can you see a cleavage direction? Can you even distinguish crystal faces from cleavage? Calcite has rhombohedral cleavage, galena is cubic, but then fluorite is a cubic crystal with octahedral cleavage. That isn't even fair. Luster helps with metallic minerals. Hardness can be helpful, but no one wants to scratch a prize find.

What about density, or more accurately **specific gravity** (sg). If it is magnetite or galena you can tell it is dense when you pick it up, but what about other minerals with specific gravity closer to the common minerals? Or heavy minerals that are not magnetic? Is there a method to easily measure specific gravity?

Well, yes there is, and I stumbled on such an elegant presentation of the method that rather than summarize it in my words I sought permission to copy here. John Betts provided me permission to use the description from his website. [LINK](#)

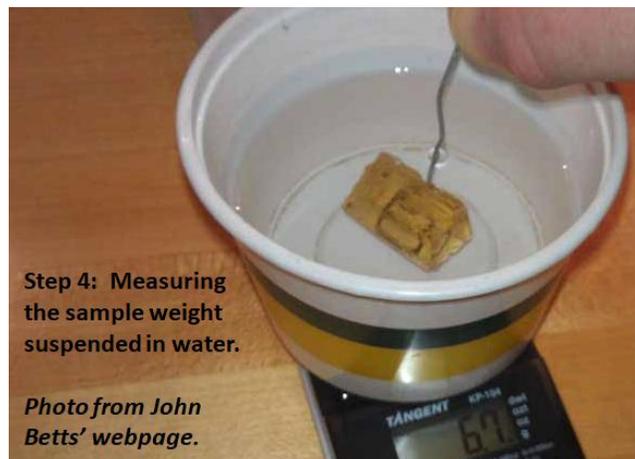
Equipment:

1. plastic cup
2. pencil and paper to record weights
3. inexpensive digital scale
4. bent paper clip
5. a specimen to be tested

Five-step method:

1. Turn on scale; insure it reads zero.
2. Weigh the sample dry and record weight.
3. Place the cup filled with water sufficient to submerge the sample and set the scale to read zero. This is calling taring the scale.
4. Suspend the specimen from the paper clip in the water without touching the bottom or sides, and record the weight reading in water. Be careful not to rest your hand on the cup also.
5. Divide the first (dry) weight by the second (suspended in water) weight.

THAT IS ALL THERE IS TO IT. YOU ARE DONE. THE RESULT IS THE SPECIFIC GRAVITY OF THE SPECIMEN



Step 4: Measuring the sample weight suspended in water.

Photo from John Betts' webpage.

Step 4. The sample weighs 6.7 in water. This same sample weighed 17.6 when placed directly on the scale dry. $17.6 / 6.7 = 2.627$. This mineral is scapolite, with a sg of 2.5 to 2.8 depending on the percentages of end member marialite (Na) and meionite (Ca). With the lower value here, it is likely towards the marialite end member.

OK, but you might ask, what is specific gravity? **Specific Gravity** (or sg) is the ratio between the density of an object, and a reference substance. With minerals and most substances, we use pure water as our reference substance. The units cancel so that **specific gravity is unitless**. As long as you measure the dry and suspended weights in the same units, you can use grams, ounces, tons, carats, or your own made up unit. Because the density of pure water is 1 gm/cm^3 , the specific gravity of minerals is equivalent to the density when expressed in those units. But it is not the same. Density carries units; specific gravity does not.

One caveat: The method will only work with pure substances. It will not work with specimens of mixed mineralogy or those that have started to alter, either externally or internally.

Simple and succinct, but does it work? I decided that before I could place this method onto the pages of this esteemed journal, I must test the method myself. So I lined up nine known minerals and one unknown and went to work with my Harbor Freight scale, my little cup of water, and my slide rule (OK, calculator). After dropping my specimen off the clip a few times I experimented with string instead of a paper clip, but in the end I decided that carefully bending the clip to hold each mineral was a preferred method.

So how did I do? The chart below shows all the minerals I tested. They are ordered by increasing specific gravity with quartz in the upper left to magnetite in the lower right. Several yielded specific gravity results that match the known mineral values almost exactly. John Betts suggests one should expect measured values to be within 0.05 of the true specific gravity of the substance being measured. A few of my measured values fall outside that range. Let's discuss some of those misses.

Calcite is CaCO_3 and has a specific gravity of 2.71. My specimen yielded 2.80 and was repeated +/- 0.02. A bit of magnesium in the calcite or some intergrown dolomite could be the culprit. Dolomite has a specific gravity of 2.84. Or perhaps the orange color or this calcite is caused by a heavy element like iron or manganese. Assuming you knew this was calcite, the specific gravity measurement is actually telling us that something heavy is present, but not what it is.

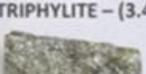
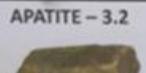
The grossular garnet is a mild miss, outside the lower error of 0.05. Careful inspection of the piece shows a small amount of a second mineral on the backside, perhaps calcite. A simple spot of acid confirmed this. I guess I could try to dissolve off all the calcite and retest, but I did not.

The magnetite miss (4.65 measured vs. 5.17 actual) is the largest percentage miss of the bunch. But this is a weathered piece from the mine dumps at Marmora, Ontario. It is reasonable to expect some alteration. Oxidation to hematite cannot explain this as the specific gravity of hematite is 4.9-5.3, but incorporation of water or hydroxyl groups with minerals like limonite or goethite could. The small piece does look like solid magnetite though and I could not find a portion that was not magnetic.

Scapolite is a solid solution between sodium end member marialite (sg: 2.5-2.62) and calcium end member meionite (sg: 2.66-2.73). The recorded measurement here of 2.73 suggests this specimen might tend towards the meionite end member in composition. Information about some tourmaline solid solutions (like the dravite-uvite series) might also benefit from similar analysis of specific gravity.

Finally, Linda Schmidtgall found an outlier crystal while we were collecting almandine garnet in River Valley, Ontario. She actually had three, but only one was isolated sufficiently to permit the measurement. The crystal yielded 3.55, and it seems most likely it is a pyroxene, perhaps close to hedenbergite, the calcium-iron clinopyroxene which has a sg of 3.55.

Specific gravity values reported in this note are from webmineral.com

<p>QUARTZ - 2.65</p>  <p>Dry Weight - 0.398 oz. In water - 0.148 oz. SG = 2.69</p> <p>BRAZIL</p>	<p>Unknown (???)</p>  <p>Dry Weight - 0.412oz. In water - 0.116oz. SG = 3.55</p> <p>Is it AUGITE (3.51)?</p> <p>ONTARIO</p>
<p>SCAPOLITE - (2.56-2.73)</p>  <p>Dry Weight - 0.490 oz. In water - 0.179 oz. SG = 2.73</p> <p>Kamur, INDIA</p>	<p>TOPAZ - (3.5 - 3.6)</p>  <p>Dry Weight - 1.312 oz. In water - 0.370 oz. SG = 3.55</p> <p>Minas Gerais, BRAZIL</p>
<p>CALCITE - 2.71</p>  <p>Dry Weight - 0.959 oz. In water - 0.342 oz. SG = 2.80</p> <p>Eganville, ONTARIO</p>	<p>GARNET (Grossular) - 3.59</p>  <p>Dry Weight - 0.881 oz. In water - 0.250 oz. SG = 3.52</p> <p>Lake Jaco, MEXICO</p>
<p>TOURMALINE (Dravite) - (3.0-3.2)</p>  <p>Dry Weight - 0.733 oz. In water - 0.243 oz. SG = 3.01</p> <p>Yinnietharra, AUSTRALIA</p>	<p>TRIPHYLITE - (3.4 - 3.6)</p>  <p>Dry Weight - 1.989 oz. In water - 0.552 oz. SG = 3.60</p> <p>Palermo Mine, NH</p>
<p>APATITE - 3.2</p>  <p>Dry Weight - 0.754 oz. In water - 0.236 oz. SG = 3.19</p> <p>Tory Hill, ONTARIO</p>	<p>MAGNETITE - 5.17</p>  <p>Dry Weight - 1.294 oz. In water - 0.278 oz. SG = 4.65</p> <p>Marmara, ONTARIO</p>



My results, including a dry weight measurement on the topaz (upper right) and a submerged measurement of dravite.



SITE OF THE MONTH: RUTTER PLUTON, FRENCH RIVER, ONTARIO



by Ashley Pollock (NPGS Field Trip Leader)

It rained and then it stopped and then it rained again as we drove north to start our week long summer collecting trip. But when we met our Wayne County Club friends at our first collecting stop along the French River south of Sudbury, the clouds had parted and the week of fun began.

The Rutter Pluton is a nepheline-syenite intrusion within/straddling the border of the Grenville Front Tectonic Zone (GFTZ) of the Grenville Province. The 10 km long, 2 km wide igneous body is dated at 975 million years. Like much of the Precambrian terrain in Ontario, the igneous rocks have been metamorphosed to a gneissic texture. Mineralogically, the pluton consists of nepheline, albite (plagioclase feldspar), potassium-feldspar, and biotite mica. Quartz is absent.

But it is the accessory minerals that excite everyone, most of which occur within late-stage, coarse-grained pegmatites. Some are considered rare and include hastingsite (an amphibole), aegirine-augite (a pyroxene), magnetite, titanite (sphene), zircon, apatite, graphite, corundum, molybdenite, carbonates, sodalite, & cancrinite.

One such known occurrence is within a small cleared area on the property of Flat Rapids Camp, who graciously permitted us access to collect for a small fee. We thank them for allowing us access to this small, but mineralogically interesting site.



One mineral perplexed me in the field and still does. The acicular sprays of green aegirine generally rest on a red mineral in the coarse-grained pegmatite, a very pretty red-green combination indeed. In the [Mindat online description of the Rutter Pluton](#) site, the red mineral is labeled nepheline. But there is also a grayish mineral seen in the rocks that looks more like nepheline to me. Furthermore, Sage (1997) lists potassium feldspar as a major component of the actual location where we collected and I suspect that the red mineral from the pegmatite phase of the Rutter Pluton might be feldspar? If anyone knows the composition of this mineral, I'd love to hear from you. Photo by Ashley Pollock

Editor's Note: Three of us (Linda, and Debbie, and yours truly) joined with members of the Niagara Peninsula Geological Society (NPGS) and the Scarborough Gem and Mineral Club for a 6-day trip to Sudbury and Cobalt area sites in Ontario in mid-August. We thank Ashley Pollock of the NPGS for planning the trip and contributing this piece to our newsletter. For more and pictures on our Rutter Pluton visit, see [Ashley's 8 page post to the WCGMC club Facebook page](#).



Our collecting friends from WCGMC at the Rutter Pluton: from left to right: Debbie takes a "gneiss" break from collecting, Linda wonders if her find is a keeper or a leaverite, and Fred wonders what the heck he has found. Photos by Ashley Pollock

We did not find all the listed minerals for the site, but we did find really neat acicular green aegirine and bright orange cancrinite (see page 1 photo), both in sufficient quantity for everyone to be satisfied. Sodalite was less evident on this visit than on my only previous visit in 2011, but small splotches of the bright blue mineral were available to collect.

References:

- Sage, R.P., 1997, Alkalic Rocks of the Sudbury Region, 43rd Mtg. on Lake Superior Geology, Field Trip Guidebook V. 43, part 6, see page 36 ([Link](#))
- Wilson, M., 2010, French River Occurrence, Biggood Township, Sudbury District, Ontario, Mindat photo postings. ([Link](#)).

2017 WCGMC ROCKHOUND OF THE YEAR is Linda Schmidtgall

Nine years ago, Linda Schmidtgall retired from a career as a bank manager and looked around for something to do with her newly acquired, hard earned time. She had always enjoyed looking at and collecting rocks during her travels and when she saw an ad for the Wayne County Gem and Mineral Club, she decided to attend a club meeting. We are sure glad she did.

Fast forward those nine years: Linda is now a mainstay of virtually all the club's activities. She is the steward for the club's large collection which she has carefully sorted and organized over the past 3 years. If you have received a club rock in a raffle, as a gift, or at the workshop Linda is most likely responsible. She attends virtually all of our field trips and always helps with logistics. Typically she is among the last standing at the end of a long field day, still looking for that last Herkimer, that last garnet, or the ultimate terminated green apatite. When we throw a party like our annual Christmas event, Linda is behind the scenes planning the entertainment, the rock giveaways, and all the marvelously clever centerpieces, etc. Truly, we have not yet found anything she cannot do.

For this, and for much more, Linda Schmidtgall is WCGMC's 2017 Rock Hound of the Year.

Did we mention that Linda likes to dig holes?

Thunder
Bay,
Ontario
August,
2016



Moat Mtn.,
NH
June, 2016

Cobalt,
Ontario
July, 2017



A Eurypterid Hunt



On August 12th, Stephen Mayer led a small group of club members on a Eurypterid hunt. This time they did not have to travel to Ridgemount, Ontario to hunt for, and find, New York's official State Fossil. Rather they visited two known sites in western/central New York. One site was not productive, but a roadcut in Litchfield yielded numerous heads, telsons, and thoracic segments. Just before the end of the day, Stephen split a rock and unearthed the *Eurypterid remipes* shown to the left.

In addition to the eurypterid sites, the group visited Cole Hill in North Brookfield. Lots of brachiopods and bivalves were collected, but the only trilobites found were *Dipleura dekayi* heads and tails. Repeating Gary Thomas' full large enrolled *DiPleura* found several years ago at Cole Hill has proven to be most difficult.

The WCGMC annual picnic: lots of fun, food, and rocks among friends.



Member finds in August: A. Susan Jones found a 30 pound rock full of garnets along the Lake Ontario shoreline, a fine garden piece indeed. B. Jason Dobbs shows off some labradorite collected in Keene. C. Asher Whitney found sulfur with calcite in the Pinecreek Quarry, Jersey Shore, PA. D. Christine VanNeel uncovered a bed of *Longispina mucronata* brachiopods while digging at Green's Landing. All of these finds and much more are posted on our [club Facebook page](#). Keep posting your finds there for all to see.

Wayne County Gem and Mineral Club Upcoming Schedule - last update August 30, 2017

Fall days are shorter, but they are also cooler. No reason to slow down collecting and we do not plan to. We have a weekend trip planned to St. Lawrence County in September and will most likely add additional dates when we meet in September. **Bold dates are firm**, others remain tentative. And we will return to meeting the second Friday of each month and holding a workshop Saturday. Other events will most certainly join this list. Keep in touch by attending meetings, visiting the webpage, checking on Facebook, or just contacting us.

September 8 (Friday evening): Our first fall meeting in Newark (7:00-9:00 PM)

September 9 (Saturday workshop) -- 10:00 AM til mid-afternoon. Time to cut and polish summer finds.

September 15-17 – 3 days of collecting in the western Adirondacks. Logistics to be determined once we know who wants to go. See page 1 for more info. *Contact Fred Haynes for details.*

October 1 (Sunday, 1:00-4:00 PM): sale of rough rocks from club collection, lots of variety, by the pound

Location: 1267 Wiley Rd. in Savannah (*Linda Schimdtgall's home, call her for details*)

October 7-8 (Sat. – Sun.) – Walworth Quarry (7:00-2:00 PM Sat, 7:00-noon Sunday) Arrive early for safety briefing. Hard hats/bike helmets, safety glass, sturdy shoes are required (*contact Fred Haynes for info*).

October 13 (Friday evening) – Monthly Meeting in Newark - October workshop not yet scheduled.

October xx – We have not been to Penn-Dixie in 2017. Maybe a weekday trip? (Monday or Tuesday?)

October 21 (Saturday) - Ace of Diamonds for Herkimers, a final trip before they close for the season

November 10 (Friday evening) – Monthly Meeting in Newark - November workshop not yet scheduled.

November 11-19 – We are looking for interest in a 9 day trip to Arkansas and other southern locations.

Arkansas for quartz, maybe wavellite, NC for pegmatites and more, perhaps for geodes?

Logistics and sites will be determined by those who have interest. WE NEED TO PLAN

THIS SOON, so we need to know who is interested. *Talk to Linda or Fred.*

WCGMC is always looking for a place to dig.

UPCOMING SHOW OPPORTUNITIES

September 16-17 – Mid-Hudson Valley Gem and Mineral Society Annual Show – Gold's Gym and Family

Sports Center – 258 Titusville Rd., Poughkeepsie, NY Show Theme is GARNET

Visit <http://mhvgms.org/> for details including map

October 28-29 – Rochester Gem, Mineral, Jewelry, and Fossil Show and Sale (Rochester Lapidary

Society), NEW LOCATION: Total Sports Experience, 435 West Commercial Street, East Rochester, NY

Visit <http://www.rochesterlapidary.org/show/index.htm> for details



They say this is red agate with white opal and botryoidal chalcedony and that it is from Nevada. But you can not fool me. I know a slice of raspberry caramel meringue pie when I see it.

2017-NEW LOCATION
ROCHESTER GEM, MINERAL, JEWELRY AND FOSSIL SHOW & SALE

AT OUR NEW LOCATION: TOTAL SPORTS EXPERIENCE
 435 WEST COMMERCIAL STREET, EAST ROCHESTER, NY 14448
 JUST OFF INTERSTATE 490

Kid's Activities, Educational Displays, Demonstrations, Raffle,
 Beads, Crystals, Fossils, Minerals, Jewelry, Carvings, Spheres,
 Straw Draw, Hourly Door Prizes & Much More

SATURDAY, OCTOBER 28TH 10:00 A.M TO 6:00 P.M.	SUNDAY, OCTOBER 29TH 10:00 A.M TO 5:00 P.M.
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ADMISSION \$6.00

KIDS 12 & UNDER FREE WITH AN ADULT
 SPECIAL: 2-DAY PASS ONLY \$9.00

[//www.rochesterlapidary.org/show/](http://www.rochesterlapidary.org/show/)

Wayne County Gem & Mineral Contacts

ELECTED OFFICERS

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Jerry Donahue – VP Chester145322@yahoo.com
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Bill Lesniak – Treasurer/Webmaster
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Board of Directors

Ken Rowe gotrox88@twc.com 315-331-1438

Linda Schmidtgall lees@tds.net 315-365-2448

Gary Thomas gftomas956@gmail.com 585-489-2162

Fred Haynes fredmhaynes55@gmail.com 585-203-1733

Visit us on Facebook:

<https://www.facebook.com/groups/1675855046010058/>

APPOINTED POSITIONS

Bill Chapman – Field Trip Chair
batnpill@empacc.net 607-868-4649

Fred Haynes – Newsletter Editor
fredmhaynes55@gmail.com 585-203-1733

Bill Lesniak – Website Coordinator

Glenn Weiler – Workshop Coordinator

Linda Schmidtgall – Collection Curator

Eric Elias: GEMFEST Show Chair

thecrystalnetwork@hotmail.com

Fred Haynes – Facebook Administrator

Club meets 2nd Friday of each month starting in Sept.
Social meeting at 6:30 PM.

Regular meeting at 7:00 PM

Park Presbyterian Church, Maple Court, Newark, NY

Website – <http://www.wcgmc.org/>

Dues are only \$15 individual or \$20 family for a full season
of fun. Renewal is in October. Send to:

WCGMC, P. O. Box 4, Newark, NY 14513

First Class, Dated, Meetings & Time Values
The Photo is always welcomed



Wayne County Gem and Mineral Club
P.O. Box 4
Newark, New York 14513