



Wickenburg Gem & Mineral Society, Inc.

P.O. Box 20375, Wickenburg, Arizona, 85358

E-Mail — wgmsociety@gmail.com

www.wickenburggms.org

The purpose of this organization shall be to educate and to provide fellowship for people interested in rocks and minerals; to foster love and appreciation of minerals, rocks, gems, and the Earth.

Membership shall be open to all interested people.

INTRUSIVE IGNEOUS ROCKS

GABBRO

Intrusive (or Plutonic) - form at depth, beneath Earth's surface

To review — intrusive igneous rocks cool very slowly, giving atoms enough time to link up, and build visible crystals. These rocks will be coarse-grained — comprised of interlocking crystals of various minerals. This month we will look at gabbro.

Gabbro is the compositional equivalent of basalt (See Figure 1); however, it is coarse-grained. It is largely composed of pyroxene (such as augite) and calcium-rich plagioclase, with more minor amounts of amphibole and olivine.

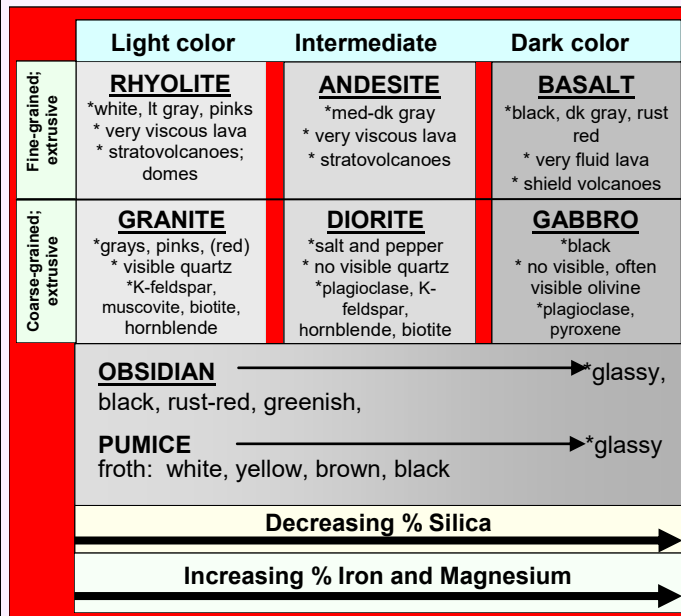


FIGURE 1 Igneous Rock Chart, showing the relative compositions and relationships of the igneous rocks.
Table by Susan Celestian

Gabbro continued on page 3.....

Congratulations and Thank you! to our new club officers:

President - Craig Jones

Vice President - Marty Hagan

Secretary - Judy Zimmerman

Treasurer - Debbie Keiser

Let's give them our support!!!

DUES ARE DUE!



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Meeting Minutes — December 4, 2015

Craig Jones handed out ballots for election of new officers.

We have permission from the Quartzsite rock club to collect rhyolite on their claim. Meet Wednesday, December 9 at 9am in the Wickenburg Alco parking lot.

Debbie Keiser gave the treasurer's report: Best Rock had 175 voters, with Stan Celestian as the winner. The preliminary net profit for the show is \$5,099. The treasurer's report was approved.

Beth Myerson is in Vegas for the rodeo this week. Debbie Keiser passed a thank you card around for everyone to sign for her.

Meeting minutes were read and approved.

Mel Canter reported on the Lake Pleasant field trip.

2016 Membership dues are due to Debbie Keiser.

Some of the leftover door prizes were given to those who volunteered at the Gem and Mineral show.

The meeting adjourned and the Christmas potluck began, followed by a White Elephant gift exchange.

Respectfully submitted,
Susan Jones, Secretary

Win a brand new Estwing rock pick!

CAMMAZ is seeking personal Arizona Mining and Mineral Museum stories to share. Write a brief story about your memorable mineral museum experience (at 1502 West Washington Street or at the former fairgrounds site). If your story is selected as the best one, you will win a brand new Estwing model 30SE rock pick with leather [...]

[Read more of this post](#)

<http://www.wickenburggms.org/>

If you ever have photos from a club field trip, send a couple to Dale, for posting on the website.



Club Christmas Party – Tasty and Fun

The Christmas party took place on Friday, December 4, 2015. There was a light turnout, but the food was excellent, and the White Elephant gift exchange was a hoot. Some of last year's most hideous items re-appeared. I know that sombrero came back, but I didn't get a picture. Rats!



The men had to wait for the women to fill their plates — but there were pul-lenty of tasty tidbits.

Photo by Susan Celestian

Party continued on page 4.....

NOTES FROM THE EDITOR

Have a geological interest? Been somewhere interesting? Have pictures from a club trip? Collected some great material? Write a short story (pictures would be great). I'd like topic suggestions also.

Deadline for the newsletter is the end of the month.

Mail or Email submissions to:
Susan Celestian, editor
6415 N 183rd Av
Waddell, AZ 85355
azrocklady@gmail.com

....Gabbro continued from page 1

What all gabbros have in common are:

- ◆ Basic components pyroxene and calcium-rich plagioclase with amphibole and olivine (iron-rich minerals)
- ◆ Coarse-grained
- ◆ Dense
- ◆ Dark-colored: black to greenish-black

Most gabbro forms at divergent plate boundaries and hot spots — associated with basalt. It is the primary component of the base of the oceanic crust. See Figure 2. It will be found within the continental crust where oceanic crust has been thrust up and incorporated within folded and faulted mountains, where continents collide, beneath where flood basalts bury continental landscapes (such as the Columbia River basalts of Washington and Oregon, or the Deccan Plateau of India), and wherever basaltic magma cools at depth. See Figures 3-4.

FIGURE 2 Gabbros at Oceanic Crust Partial melting of the asthenosphere, where oceanic crusts fractures above upwelling convection currents, results in the formation of basalt and gabbro to build ocean crust. The inset is a close view of the layers comprising the ocean crust. *Image courtesy of the USGS*

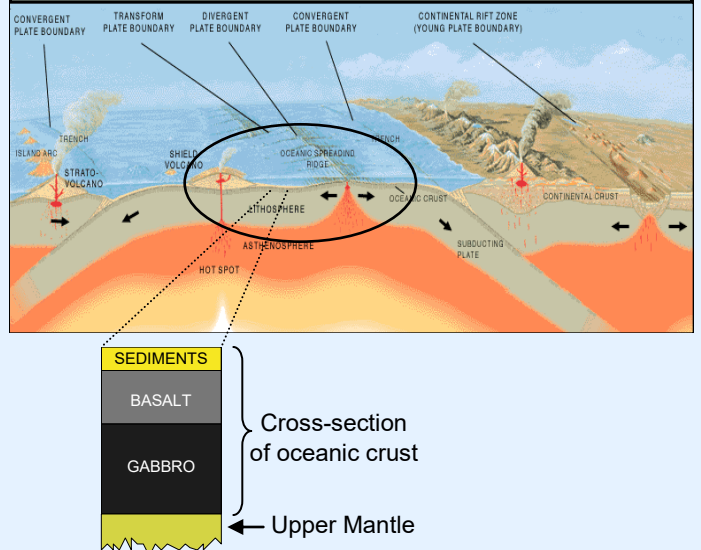


Figure 3 Gabbro You have seen this one before. It is the gabbro that formed about 1 billion years ago, at the Barton Mines Corporation's Gore Mountain Garnet Mine, in North River, New York. It is called an *amphibolite*, as the primary minerals comprising the rock are amphiboles (such as hornblende), although pyroxenes, plagioclase, olivine, and biotite are additional components. The red areas are most commonly almandine garnets.

Photo by Stan Celestian

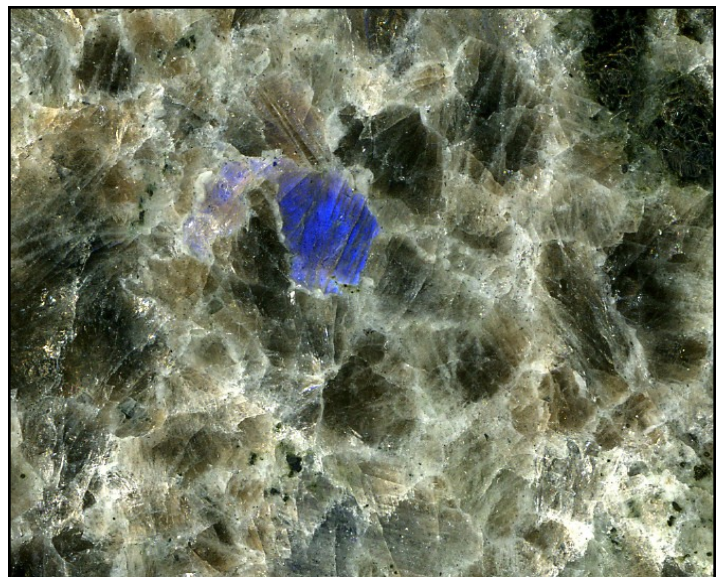


Figure 4 Gabbro This gabbro is called an *anorthosite*, and is composed of mostly Labradorite, a calcium-rich plagioclase feldspar, famous for its play of colors (labradorescence), and also known as Spectrolite or moonstone. This is the Nain Anorthosite (1.29-1.35 billion years old), from the Ten Mile Bay Quarry, Nain, Canada (on Labrador coast).

Photo by James St. John, posted to Wikipedia Creative Commons

.....Party continued from page 2



Karen Coulter was a great ringmaster for the White Elephant gift exchange.



Marty Hagan *tries* to take his time choosing a gift.



All photos by Susan Celestian

Party continued on page 5.....

.....Party continued from page 4



That didn't last long. As Bill Coulter looks on in astonishment, his Christmas basket was whisked away at the speed of sight.

Was there a sale on huge bottles of champagne somewhere? Two bottles were gifted at the party. Looks like Sue Jones will have a Happy New Year!



Dolores Cochran brought some extra Christmas bling. She was the winner of the gold nugget at the show!



Some wheeling and dealing — Terry Warren got champagne, and Paula Roe got a mechanical bank. Terry found the bank on ebay, and traded with Paula.

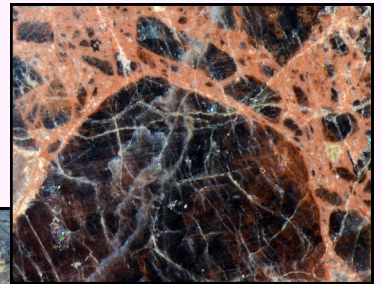


FIELD TRIP DECEMBER 9, 2015 MUSHROOM RHYOLITE

Once again the club visited on the Quartzsite club's mushroom rhyolite claim. Only this time the trip occurred on a relatively dry day — no huge puddles to drive through. Craig Jones swears he is still washing mud, from the previous trip, out of the underside of his Rubicon!



PARK HERE



Obsidian Breccia



LOTS OF COOL & BIZARRE QUARTZ FORMATIONS



This one might be worth something. Stan Celestian thinks it looks like Jesus wearing a backpack and riding a seahorse. 🤪



This is a very lapidary-worthy specimen — lots of texture and color

All photos by Stan Celestian

UPCOMING AZ MINERAL SHOWS

January 8-10 - Mesa, AZ Flag Gem and Mineral Show, Mesa Community College, Dobson Rd, just north of Rte 60; Fri-Sun 9-5; Admission/Parking free

January 8 - February 28 - Quartzsite, AZ Desert Gardens Rock, Gem and Mineral Show; Desert Gardens Show Grounds, Admission/Parking: free. <http://www.xpopress.com/quartzsite-shows-swapmeets-schedule.html>

January 8-10 - Globe, AZ Gila Co. Gem & Mineral Show; Gila Co. Fairgrounds, 900 E Fairgrounds Rd.; Fri-Sat 9-5, Sun 9-4; Single adult \$3, couple \$5, students/children free. www.gilagem.com

January 20-24 - Quartzsite, AZ QIA Pow Wow Gem & Mineral Show, Admission/Parking: free. <http://www.xpopress.com/quartzsite-shows-swapmeets-schedule.html>

January 1-10 - Quartzsite, AZ Tyson Wells Rock & Gem Show, Tyson Wells Show Grounds, Admission/Parking: free <http://www.xpopress.com/quartzsite-shows-swapmeets-schedule.html>

January 29 - February 14 - Tucson, AZ Tucson Gem & Mineral Showcase; 43 different gem, mineral, fossil, bead & jewelry shows - nearly 4000 vendors. <http://www.xpopress.com/tucson-gem-mineral-fossil-jewelry-shows-schedule.html>

January 29 - February 14 - Marana, AZ Miner's Cooperative, Mark Jacobs Sports Park, 6901 N Casa Grande Highway; Daily 8:30-5; Admission: free. <http://tucsonrockgemmineralshow.com/>

February 11-14 - Tucson, AZ Tucson Gem & Mineral Show, Tucson Convention Center, 260 S Church Ave; Thur-Sat 10-6, Sun 10-5; Admission fee.

February 20-21 - Apache Junction, AZ 50th Annual Jewelry, Gem and Rock Show, Skyline HS Gym, 845 Crimson Rd; Sat 9-5, Sun 10-4; Admission adults \$3, students \$1, children free.

March 12-13 - Anthem, AZ Daisy Mt. Club Show and Sale, Boulder Creek HS, 40404 N. Galvin Peak Parkway; Sat 9-5, Sun 9-4; Admission adults/seniors \$2, children free.

If you are travelling, a good source for out-of-state (or in-state) gem and mineral shows AND clubs is <http://www.the-vug.com/vug/vugshows.html> or <http://www.rockngem.com/ShowDatesFiles/ShowDatesDisplayAll.php?ShowState=AZ> For out-of-the-country shows: <http://www.mindat.org/eventlist.php> A good source for a list of Arizona Mineral Clubs and contact information is

UPCOMING WGMS FIELD TRIPS

Wednesday, December 30, 2015
Date Creek for Quartz crystals
Meet at Date Creek Road at 9:00 a.m. (22 mi from Wickenburg on Rte 95); can accommodate any vehicle

DATES SUBJECT TO CHANGE

CONSIDER VOLUNTEERING TO PLAN OR HELP PLAN TRIPS. YOU WOULD NOT NEED TO LEAD EVERY TRIP, BUT KEEP THINGS ON TRACK.

If you all have some place that you would like to go, let Bob Bartlett [623-388-0749](tel:623-388-0749), Marty Hagan [602-469-7770](tel:602-469-7770), or Craig Jones [208-681-4770](tel:208-681-4770) know. We have some dates to fill in. This is your club. Let's go out and have some fun.

Check the website for field trip announcements, especially if you don't have email!

Officers and Chairpersons

- President:** Craig Jones208-523-9355
- Vice President:** Martin Hagan 602-469-7770
- Secretary:** Judy Zimmerman
- Treasurer:** Debra Keiser 928-684-1013
- Program Director:** Dale Keiser 928-684-1013
- Publicity:** currently open position
- Membership:** Roma Hagan 602-469-7662
- Editor:** Susan Celestian 602-361-0739
- Field Trip:** Craig Jones, Bob Bartlett, Marty Hagan
- Show Chair:** Beth Myerson 480-540-2318
- Scholarship Chair:** Steve Hill 928-533-3825
- Historian:** Jeanine Brown 928-684-0489

Meetings are held the **2nd Friday** most months at **Coffinger Park banquet room**. Potluck dessert at 6:30 pm. Business meeting at 7:00 pm. **Exceptions: February and December** meetings are held on the **first Friday of the month**. We do not meet in the summer — **no meetings in June, July or August**.

Membership Dues: \$15.00 Adults per Person
\$ 5.00 Juniors and Students

Meeting Dates for 2016/2017

Wickenburg: Jan 8, Feb 5, Mar 11, Apr 8, May 13, Sept 9, Oct 14, Nov 11, Dec 9

Stanton meets Thursday after the Wickenburg meetings. Jan 14, Feb 11, Mar 17, Apr 14, May 19, Sept 15, Oct 20, Nov 17, Dec 8 (subject to change)

MINERALS IN OUR EVERYDAY LIVES

USES OF GABBRO

Gabbro is a very dense rock and will assume a brilliant luster, when polished. In the stone trade, it is often referred to as 'black granite' — but you now know better! It is also compact and dense, so weathers well; plus it is quite heavy, due to its high iron content. In addition, there are often rare metals that are included in the rock and its minerals.

- ◆ Facing stones
- ◆ Countertops
- ◆ Floor tiles
- ◆ Tombstones
- ◆ Rip Rap (It is a very compact, heavy rock, so makes a great barrier to wave attack along a shoreline.)
- ◆ Metal ores (often mined for chromium, titanium, nickel, copper sulfate, cobalt, gold, silver, platinum)
 - ◆ Curbing
 - ◆ Aggregate
- ◆ Railroad ballast
 - ◆ Jewelry
 - ◆ Sculpture

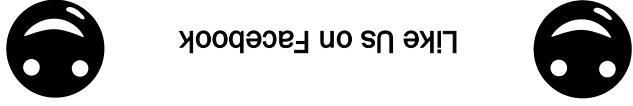


CHRISTMAS LIGHTS in a thin section* of a gabbro (viewed with crossed polarizers) . First, note that the crystals of the various minerals interlock, as each one's growth interferes with that of those adjacent. The striped crystals are plagioclase feldspar, and the brightly-colored ones are pyroxene (such as augite).

Photo courtesy of Banque Nationale de Photos en SVT

*A thin section is a thin (30 micrometers = .001 inch) slice of rock mounted to a glass slide. It is then viewed under a microscope, using polarized light. Different minerals will interact with light differently, allowing the viewer to identify them; and to see other physical characteristics, that hold clues to the history of the rock.

Susan Celestian, editor
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Waddell, AZ 85355



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