



The purpose of the Gem, Lapidary, and Mineral Society of Montgomery County MD, Inc. is “to increase knowledge and popular interest in earth sciences, geology, mineralogy, paleontology, lapidary arts, and related subjects.”

REGULAR MEETINGS

Meetings are held the 2nd Monday of the month from September to June. The Society will meet on **Monday, September 9, 2013**, in the dining room of the Rockville Senior Center, 1150 Carnation Drive, Rockville. A short business meeting will begin at 7:45 pm, but the room is available to us at 7:30 pm.

This month’s speaker shall be one of our own members, Mr. Dave Tiktinsky, who will provide us with a snapshot into an up and coming sector of mineral collecting, the mineral safari! His mineral safari was to the renowned mineral country of Namibia, to collect and purchase some of the exquisite specimens available there.

Dave has been a mineral collector since he was about 13 years old and grew up in New Jersey. This provided him with the opportunity to collect in various localities, including the world famous Franklin, NJ. His interest in collecting led him to major in Mining Engineering at the University of Arizona. After graduation he went to work at the Nuclear Regulatory Commission on the disposal of high level radioactive waste.

Although his interest in mineral collecting had always remained, activities related to this hobby had been dormant for a number of years. However, about 6 years ago, his interest in minerals was re-kindled. Dave traveled to Maine for collecting trips and attended the Pegmatite workshop a couple of years ago. In order to combine his interests in minerals and travel to more exotic locations, he and his family decided to visit Namibia for a mineral safari. They visited many parts of the country and combined mineral related activities with sightseeing and wildlife viewing. They met many local miners and dealers from this region, which is a hotbed of incredibly diverse and beautiful mineral specimens.

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Deadline for the October issue of *The Rockhounder* is September 25, 2013.

BOARD OF DIRECTORS MEETING

Meeting will be held **Monday, September 16, 2013**, 7:30 pm, at the home of Andy Muir. All Board members are expected to be there. Any member is welcome to attend but kindly let Andy know if you plan to attend at amuir21@comcast.net or phone 301-990-1370.

PRESIDENT’S MESSAGE: HELLO FELLOW ROCKHOUNDERS

As I write this I am headed to the wild lands of West Virginia, about a six hour drive. The area has a pace that is a good deal mellower than the Metro Area. I am searching for the elusive Rockous Prettycous, in the wild! Maybe I’ll get access to the local quarry; maybe I’ll find a new road cut; or maybe a rock will hit me in the head and knock some sense into me. But enough about me.

Last we spoke, I stated no obstacle would stand between you and your mission to, “Go forth and acquire new rocks and great adventures.” God, I love that kind of talk! Well, it’s time to put your butt in gear and get your rocks in here, so we can trade stories. That’s right, it’s meeting season once again! It’s time to reflect on all you have accomplished these past months. “But Andy,” you say, “I’ve been devoured by mosquitos, covered with poison ivy and worked my fingers to the bone. And all I have to show for my troubles is this little box of rock! Truth be told, when I compare my brain to this box of rocks, I think the box of rocks is smarter.” Well of course the box of rocks is smarter, you’re a Rockhound! After all, you’re carrying the box of rocks around, the rocks aren’t carrying you! But don’t let this get you down! Remember those famous words by Popeye the

Sailor Man, "I yem what I yem and that's all that I yem." Be proud of who you are, Rockhound! Show your box of rocks proudly. Never mind what your spouse, children, grandchildren, friends and neighbors might say. Bring your treasures and stories to show and tell! P.S. Only one rock per person, George D.

I'll see you there!

Andy B, Prez

FIELD TRIPS

- **SATURDAY, SEPTEMBER 28, 2013:** Willis Mountain Kyanite Mine; 8:30 am to 1:00 pm, multi-club fieldtrip hosted by The Gem and Mineral Society of Lynchburg, VA, Inc. and the Roanoke Valley Mineral and Gem Society, Inc. A new rule states hats should be no more than 5 years old. This is an OSHA rule that could be enforced. If the mine or other authorities decide to inspect, those that fail the inspection will have to leave. There is a space limited so you need a confirmation to attend – please respond to [Jonathan Harris](#), by September 21st. We should be able to find plenty of white kyanite blades in the massive kyanite quartzite; pyrite; quartz; hematite with some iridescent, red mica, apatite and possibly some blue kyanite and pale green trolleite. Some of the white kyanite here fluoresces a beautiful light blue as well as some of the quartz.
- **SATURDAY OCTOBER 19, 2013:** Denver Quarry aka Kurtz Quarry, Denver, PA. Meet at the quarry office, at 9am. Children under 10 are welcome with a parent present and signing the release form. I am also inviting the Southern MD and Northern Va club to join us. RSVP to [Jonathan Harris](#) by October 15. Mineral types: The quarry mines a limestone that is 480-520 Million years old The formation is rich in dolomite. The typical mineral finds are dolomite, calcite, fluorite, quartz crystals, pyrite, malachite, barite, and sphalerite.

THE LURE AND LORE OF ROCKS: AMETHYST

BY KRISTIN LOLMAUGH

The amethyst is known as the Bishop's Stone and is still worn by Catholic Bishops. The amethyst symbolizes piety, humility, sincerity and spiritual wisdom. It derives its name from the Greek word "amethystos"

meaning "not drunk" or "not intoxicated." It is thought the amethyst is the perfect stone to symbolize The Age of Aquarius.



Photos by Kristin Lolmaugh



Some use the amethyst as a dream stone and to help insomnia. Putting an amethyst under your pillow may bring pleasant dreams, or rub it across your forehead to offer relief from a headache. Ancient Egyptians used the amethyst to guard against guilty and fearful feelings. It is also thought to protect one from poison. It has been worn as protection

from self-deception, as well as a protection against witchcraft.

Leonardo Da Vinci once wrote that amethyst holds the power to dissipate evil thoughts and quicken one's intelligence. Healers have been using amethyst to increase their psychic abilities and intuition for centuries. Cross-culturally, this popular gemstone was used as a symbol of peace and unification. It is also thought to evoke feelings of serenity and calmness in those who wear it.

Amethyst is often used during meditation to provide an overall sense of spiritual balance. Some naturopaths will use amethyst to help treat insomnia and sugar imbalances, and to relieve headaches. Amethyst is used for problems in the blood and in breathing problems. Amethyst crystal clusters are used to keep the air and life force in the home clean and positive.

MINI MINERS Ages 6-9

Next Meeting Date: September 9, 2013

Time: 7:00 - 8:00 pm

Location: Card Room, Rockville Senior Center



Mini Miners Search for Mini Fossils

Photos by Wendell Mohr

FUTURE ROCKHOUNDS OF AMERICA (THE MOCKS)

Ages 10-15

Next Meeting Date: September 9, 2013

Time: 7:45 - 9:00 pm

Location: Sunroom Cafeteria, Rockville Senior Center

Welcome Back – I hope your summer was a good one! We'll be studying gold in September and October. We will have a very special guest speaker at our September meeting, Mr. Walter Goetz, the author of *Montgomery County Gold Fever*, as well as *Fairfax Gold Fever*, and *Maryland Gold Fever*. Mr. Goetz has been doing historical research on gold mining for many decades, and is not only an expert on local mines and mining, but he also has the largest collection of local gold mine documents, mine photos, and memorabilia in existence.

Don't forget to let [Jonathan Harris](#), our field trip chair, know if you will be coming on our special gold panning/historical tour scheduled at Lake Anna State Park for **September 15, 2013**, (Sunday) 1:45 pm. The tour includes gold panning, which will satisfy one of the requirements for the Gold Panning and Prospecting badge. See Jonathan's email from August 8th, or contact him by September 8th (the Sunday before our meeting) to let him know you'll be there.

For more information on the Future Rockhounds of America program, please contact Mark Dahlman at fra_advisor@glmsmc.com or 301-428-0455.

UPCOMING EVENTS

- **September 3, 2013** - The Gem Cutters Guild of Baltimore will present a Special Auction of items from the estate of Hamilton and Madeline Leitch, well known Baltimore area teachers and collectors; Meadow Mill at Woodberry, 3600 Clipper Mill Rd, Suite 116, Baltimore, MD 21211; Preview at 7:00 pm - Auction begins at 7:30 pm, gemcuttersguild.com.
- **September 11, 2013** – Member Tim Morgan will be teaching Advanced Gemology at Potomac Community Center, Wednesdays, 10 am-12:15 pm beginning September 11. The class will end on Wednesday, Dec. 18. The courses are offered through the Montgomery Department of Recreation.
- **September 12, 2013** – Member Tim Morgan be teaching an Introductory Gemology course at the Potomac Community Center, Thursdays, 10 am-12:15 pm, beginning September 12. That course will end on Dec. 19. The courses are offered through the Montgomery Department of Recreation.
- **September 14-15, 2013** – 48th Annual Gem Mineral & Jewelry Show, Zembo Shrine, Third and Division Roads, Harrisburg, PA, Saturday 10:00 am – 6:00 pm, Sunday 10:00 am – 5:00 pm, www.rockandmineral.org, Central PA Rock and Mineral Club.
- **September 15, 2013** – Lake Anna State Park, 1:45 pm. The tour includes gold panning; contact [Jonathan Harris](#) by **September 8th** to let him know if you are coming.
- **September 21-22, 2013** – Morgantown Rock, Gem, Mineral and Fossil Show, Saturday 10:00 am - 6:00 pm, Sunday, 11:00 am - 5:00 pm, the Mylan Park Expo Center located just off I-79 Exit 155 at Morgantown, WV.
- **September 28, 2013** – Geology Walks at Great Falls, 9:30 am – 12:30 pm (also tentatively October 19) Meet at Great Falls Tavern Visitor Center, 11710 MacArthur Blvd., Potomac, MD. Geology Walk from Great Falls to

Mather Gorge on the Potomac. Trip Leader: Dr. Philip Justus. See evidence of past and present geologic, hydrologic, atmospheric, and biological processes (rocks, running water, beach sediment, soil, rock terraces, stream valleys, waterfalls, entrenched meander, landslide, and zoned vegetation). Consider how effects of earthquakes, hurricanes, freeze and thaw cycles, floods, soil erosion and human activities affect this spectacular landscape. Sign-up and information: Rockville Science Center, 155 Gibbs Street, Suite 301, Rockville, MD, 20850, Telephone 240-386-8111, E-mail info@RockvilleScienceCenter.org.

- **September 28, 2013** – Field trip to Willis Mountain, 8:30 am to 1:00 pm
- **September 28-29, 2013** – Franklin Sterling Gem & Mineral Show. Saturday 9:00 am – 5:00 pm, Sunday 10:00 – 4:00 pm, Franklin School, Washington Avenue, Franklin, NJ.
- **September 28-29, 2013** – 49th Annual Atlantic Coast Gem, Mineral & Jewelry Show, Howard County Fairgrounds, Saturday 10:00 am – 6:00 pm; Sunday 10:00 am – 5:00 pm, www.gemcuttersguild.com.
- **October 12, 2013** – Save the date for the GLMSMC auction of last Paul Vance material and more at the Rockville Senior center – details later.
- **Patuxent Lapidary Guild** is offering cabbing and silversmithing classes – visit www.patuxentlapidary.org.
- **November 23-24, 2013** – 22nd Annual Gem Mineral and Fossil Show, Hub Ballroom, Georg Mason University Campus, Saturday 10:00 am – 6:00 pm, Sunday 10:00 am – 4:00 pm, www.novamineralclub.org.

WEBSITES OF INTEREST

BY WENDELL C. MOHR

CORRECTION

The date for the National Fossil Day is October 16, 2013, **NOT** 2012.



Photo Credit R. Weller/Cochise College

Rough Evaluation of Gems, facetingacademy.com/learn-faceting/learn-faceting-free/roughclass/, is a useful tool for valuation of gem rough at John Bailey's Faceting Academy. Color, shape, size and clarity are discussed. Some tools as aids are listed. The site is fascinating and colorfully illustrated. If you have not tried you hand at faceting yet, now is the time to get started by educating yourself here.

Fluorite, geology.com/minerals/fluorite.shtml, is another one of the geology.com mineral series. Visit and enjoy the treatise which includes: What fluorite is, Physical properties, Fluorescence, Occurrence, Uses and grades, and Fluorite Production in the United States.



Cubic Crystals of Fluorite with occasional pyrite crystals. Photo by Giovani Dall'orto. Used here under creative commons license



Lava spine emerging from vent on crater floor. USGS photo by Dan Dzurisin, April 28, 2006.

Mount St. Helens, 1980 to Now—What's Going On? pubs.usgs.gov/fs/2013/3014/fs2013-3014_text.pdf is a comprehensive US Geological Survey and US Forest Service publication by Daniel Dzurisin, Carolyn Driedger, and Lisa Faust about the Washington State newsmaker volcano. Warning: Although he movies are interesting (click on camera symbol on pictures) they are very large files so be prepared for long downloads to view them. Graphics help you understand the eruption and aftermath. The story is not finished and preparations need be made for the future eruptions.

ROCKHOUNDING CLUES AND TIPS

BY C.E. JOHNSON

There are many clues out there in the field to guide us, so we just need to know what they are and what they mean, and of course we need to be observant and curious, or we will be just wasting our time. Assuming that we are already out there in the field, anything that appears uncommon or odd such as rust or stains, sudden changes in color of rock or its grain-size, or differences in compositions, may be worth investigating closely. For instance, rust or stains could be oxidation products of mineral deposits containing one or more metal-bearing minerals such as those of iron, copper, lead, zinc, uranium, tungsten, manganese, nickel, cobalt, molybdenum, bismuth, and silver (in the form of a chloride). Metal-bearing deposits, of course, indicate a mineralized area, so whether or not you are interested in the metals, such an area is very much worth investigating for other types of minerals. However, even many of those metallic minerals often occur in very attractive forms, whether beautifully crystallized or not.

Sudden changes in color of a rock formation could mean segregations or differentiations of some of the rock's accessory minerals (which are more desirable or valuable than the usual common rock-making minerals), or hydrothermal alteration of parts of the rock formations (which is a good indicator of mineralizing solutions in the area). Any increase in texture or grain size of an intrusive igneous rock formation such as one of the granite family, would be especially encouraging for several reasons: because one or more of the rock's accessory minerals would be especially valuable in larger sizes; and such rock formations often breed pegmatites, which are always very much worth exploring because of their very special valuable minerals typically occurring in very large sizes, and often very well crystallized. Of course, probably most of us are familiar with quartz or calcite vein material, and the significance of it, and the presence of certain

indicator minerals, and other clues are always a plus, but I can't include them all in this article.

Lava flows with many cavities (or bubble-holes), are fairly obvious, and they are often happy-hunting-ground for agate material and zeolite crystals, etc. Our best clues are rock formations, to begin with, if we are familiar with them, because areas can be chosen before leaving home, simply by using geologic maps, which describe the types of rock formations shown in any particular area. However, with or without a geologic map, the usual clues as shown above are standard procedure for rockhounds and prospectors.

We always have rock formations wherever we go, and the types of formations determine whether or not any of the above clues will exist in any given area, what those clues will be, and what minerals to expect, so learning enough about rocks and minerals to be able to use geologic maps as a very valuable tool is, of course, the best approach to rockhounding and prospecting, and I highly recommend it. This and your usual visits to the usual pay-to-dig collecting sites complement each other perfectly. There are many potential areas out there, and geologic maps are a great help in choosing which areas are favorable for which type of minerals before leaving home, and, of course, will guide you in the field. It's not necessary, of course, to be familiar with rock formations to explore for minerals, but if you are naturally curious and you enjoy exploring, at least do yourself a favor and take samples and make notes of those curious-looking areas while traveling to and from those pay-to-dig collecting sites, and find out what your rock samples are and what relationship they may have with what kinds of minerals. Surely there's someone in your community that you can ask about it, at schools or libraries, universities or colleges, local U. S. G. S. Offices, or Bureau of Land Management, or forestry service offices, etc. Happy Hunting.

*Via West Seattle Petroglyphs, 6-7/10; via Gem Cutters News, 5/10;
Via The Rock Collector, 4/10; from El Gambrosino, 4/10*

SAFETY MATTERS: MY-SPACE

BY ELLERY BOROW, EFMLS SAFETY CHAIR FROM EFMLS NEWS, JANUARY 2013

Upon an exhaustive search of a dictionary (in paper form and first copyrighted in 1916) I found no definition of “My-Space”. Perhaps it is no surprise to you that I found no information on the term - but what may surprise you is that I’m going to use it anyway. My-Space is a term I use to refer to the space immediately surrounding me. Some of the things I do in My-Space affect only me. Some of the things I do in My-Space affect Your-Space and that is the reason for this Safety Matters article.

I may be wearing safety glasses, steel-toed shoes, and a dust mask while I chip on a rock and eagerly try to extract a nice crystal – with just the right amount of matrix, but the dust I’m creating and the chips that I send flying are entering Your-Space. Even though you are wearing all the proper safety gear, you may not appreciate Your-Space being filled with debris flying over from My-Space.

As you may have now surmised, this Safety Matters article is about being aware of how your activities affect others. It is rather difficult to eliminate the noise from stone grinding, or the oil mist while slab sawing, or the chips from flying while sledge hammering a stubborn outcrop. If, however, someone enters an area where one is creating such a hazard we should be prepared to address any safety issues of the newcomer.

We could call out the potential hazard to the newcomer, cease activity till the newcomer has left the area, or perhaps made sure the newcomer was attired with the proper safety gear. Whatever the issue, we should respect such safety matters because the person entering the area may not be aware of them.

A big issue now-a-days is second hand smoke from cigarette smoking. There are numerous places where second hand smoke is addressed in local laws and ordinances. Most folks are quite aware of the presence of such smoke, it does after all have a distinct scent and color. The problem with some of our rockhound activities is that the general public may not be aware of the dangers of oil mist (or perhaps not recognize it as dangerous). Indeed some hazards may not offer discernible signs (such as flying debris, haze that is too thick to see through or noise so deafening as to be unbearable) Some risks are not all that obvious, for example, the clear liquid over there, the one that looks like water, may really be a mineral cleaning acid.

The thought for this issue is to please start the New Year with an effort to be respectful of the folks who enter “Your-Space”. Please be respectful of the hazards with which you are involved and make sure you address them both for your own protection and those around you. We should all want to have a safe hobby, one we can keep on enjoying.

THE 1970’S PET ROCK CRAZE, HISTORY OF THE PET ROCK



Gary Dahl, a Californian, came up with the idea of a pet rock in 1975 after talking with friends about how pets were too much trouble and cost too much money. He said a pet rock was an ideal pet, easy and cheap. Dahl spent the next two weeks writing the Pet Rock Training Manual, a step-by-step guide about taking care of it and how to train it. He went to a builder's supply store and found a Rosarita Beach Stone that sold for a penny. He packed the stone in a box shaped like a pet carrying case along with the book. The Pet Rock was introduced at a gift show, where the store, Neiman-Marcus ordered five hundred. After a news release showing Gary surrounded by boxes of his Pet Rocks, *Newsweek* did a story and within a few months he was shipping ten thousand Pet Rocks every day. He even appeared on *The Tonight Show*, twice. By Christmas that year, two and a half tons of rocks had been sold; three-fourths of all the newspapers in America had run Pet Rock stories. A million rocks sold for \$3.95 apiece in just a few months making Gary Dahl an instant millionaire. The story of the Pet Rock is a never-ending source of inspiration to create new crazes that sweep the nation and make millions for the genius who thought of them.

Source: Encyclopedia of POP Culture, by Jane and Michael Stern. Harper Perennial Press 1992.

Adapted from Monrovia Rockhounds Newsletter, JULY 2013

BENCH TIPS

BY BRAD SMITH

Foredom Maintenance

If you have a Foredom flexshaft, it makes sense to check it over every so often to be sure it's running properly. But how to do that? You've probably lost the little booklet that came with the unit. Well, being the good company it is, Foredom has put together an extensive set of videos on how to do it.

The series covers set-up, lubrication, replacing a sheath, motor maintenance, and hand piece maintenance. Few if any special tools are needed. You can watch the videos at www.foredom.net/videolibrary.aspx and repair parts are available from most jewelry supply catalogs.

Just a Drop

Hobby shops and model airplane stores carry small plastic dispenser bottles that are handy bench items for putting a drop of oil or glue just where you want it.

The small metal tubing lets you squeeze out very small drops and reach into tight places.

I use the small one on the left for oil when I'm sawing or drilling harder metals like steel. And I use the bottle on the right from a plastics store for the fast drying glues used to join pieces of acrylic.



Layout Tools

Dimensions on some features of a design can be fluid while others must be accurate for the design to work. When precision on a piece is important, good layout techniques are essential.

These are the tools that I rely upon to get holes in the right place, to achieve correct angles, and to cut pieces the correct length.

I like crisp sharp lines to follow, so I often coat surfaces with a dark marker and scribe my layout lines onto the metal. A square makes quick work of checking right angles or marking where to cut, and the thin center punch helps me mark a place to drill holes exactly where I want them.

Finally, a good set of dividers is probably my favorite layout tool. They let me quickly mark a strip for cutting, swing an arc, and divide a line or curve into as many equal segments as I need. I keep at least one set of dividers in every toolbox.



Inventory Record

In an ideal world each of us has a complete pictorial record of all pieces of jewelry in our inventory. We use it for insurance. We use it as a record of what was sent out on consignment. We use it to remember which items we are taking to a show. And eventually, we use it as a record of what we have sold.

Unfortunately, we don't always have time to take good pictures for an inventory. In situations like this I've been able to make a quick record with the help of a color copier. Simply place a number of pieces face down on the glass and make a copy. The quality is more than sufficient for an accurate record.

More Bench Tips by Brad Smith are at [facebook.com/BenchTips/](https://www.facebook.com/BenchTips/) or see the book "Bench Tips for Jewelry Making" on Amazon

DEATH OF A VALUED MEMBER

BY WENDELL C. MOHR

Jacob Philip (Jack) Busch, Born March 31, 1919, Died June 25, 2013.

Jack experienced hardships when prohibition ended the brewer's job his father held. He saw the worst of the great depression years. His first wife died at an early age. His second wife, Jean, died in 1998. But he always had a smile on his face and carried on good conversations on many topics. He had lots of stories to tell you but was also a good listener.

He served in the U. S. Army in Japan. Later he became a hospital administrator at D. C. General. And then he worked for the Labor Department in human resources.

This year our Society celebrates its 50th anniversary. Jack was a member for 49 of those years! His son, Richard, now of San Diego CA, told me that they joined the Society together in 1964! Both have had life-long interest in minerals and geology. Jack was a Life member of GLMSMC, served as President in 1968, Safety Chair 1965, and was a long-time volunteer at the visitor's table at our shows.

In the words of Juan Proaño, "The news of Jack's death had a profound impact on me. Jack was always the cheerful person willing to talk with all members of our mineral club, with interesting stories to tell, and with a great ability to research and share information on the history of the Club. He was very cordial and friendly with me since the first day I joined and thus will always be remembered."

The last couple of years were not easy for Jack due to several medical conditions and several falls. He was blind in one eye and did not have good vision in the other. He moved from his Asbury Methodist Village apartment to their Health Care Center and then to the Assisted Living Center at in mid-October last year. Jack was of sound mind until his death and wrote recently as an article for the June 2013 *Rockhounder* titled "Rockhound Heaven in '67."

Condolences to Jack's family: son Richard and his wife Kathi. (See Richard's web site "Philatelic Mineralogy - Gem, Rock, and Mineral Postage Stamps From Around the World" at mineralstamps.rbnet.net/.)

Jack collected stamps his whole life. Each stamp tells a story and Jack would research each subject in depth thus gaining untold knowledge on many persons, events and topics. He lamented the slow demise of the stamp clubs in Gaithersburg and Rockville as well as the U.S. Postal Service itself. The USPS is losing billions of dollars each year.

Mr. Zip may get zapped. But they are still using "Forever" stamps. And we will keep Jack fondly in our memories forever.



Jack and Richard Photo by W. Mohr

If you are planning a trip and want to know what clubs you might be able to visit, it would be worthwhile to visit the American Federation of Mineralogical Societies website. Check out their newsletter archives at <http://www.amfed.org/news/default.htm>.



“SMART ROCKS” TAKE A SWIM

BY DR. VIVIEN GORNITZ

Stream hydrologists and geologists would like to know where the tons of cobbles, pebbles, and sediment moved by rivers actually wind up. Clearly, they move downstream, but how fast they move, how far they go, how they respond to the continuous jostling they experience, and how they interact with other cobbles along the way are not well understood. Current models that attempt to predict how sediments move in a river are often off by at least a factor of ten. Engineers in charge of protecting bridges, dams, and levees from floods, and naturalists concerned with river ecology need such information, since rivers transport hundreds of millions of tons of rock, sand, and silt each year, worldwide.

Building “smart rocks” is an attempt to gain more such information. In one recent experiment, over 200 brightly painted natural rocks were equipped with radio tags inserted into small drill holes. Four others were brushed aluminum “smart rocks”, cleverly designed to imitate the shape and density of real stones, and outfitted with custom-made electronics to measure and record movements 512 times per second. These aluminum, smart rocks are pricey—costing roughly \$800 each. Of the 200 tagged stones launched in an Idaho stream early in 2011, eventually 150 were recovered. Half had moved 2.5 km downstream, while a few adventurous ones had gotten as far as 6.4 km. A couple of smaller ones even traveled as far as 7 km! The faux rocks were less fortunate. Metal detectors supposed to find the aluminum “rocks” proved worthless—the streambed was full of metal junk—old cans and ranching tools. A curious rancher’s dog spotted one “smart rock” over 2 km from its launch point; one of the researchers accidentally found a second, 900 meters downstream. The other two have wandered off to parts unknown. But the batteries of the two survivors that should have lasted a month had died after only 40 hours. Worse yet, these smart rocks “very accurately recorded no movements whatsoever.” The radio-equipped genuine rocks, however, did yield some useful information on the role of local topography and

channel width affected the distribution of the tagged stones.

Meanwhile, a new kind of smart rock is being tested along Reynolds Creek, Idaho. This type is made by filling rubber molds of natural rocks with wet concrete. A matchbox-sized accelerometer is inserted before the concrete sets. Its battery lasts for months and records the rock’s spatial orientation four times an hour, allowing researchers to determine the movement of rocks along the streambed “from the point of view of the rocks.” For easy spotting and retrieval, the special rocks are spray-painted in gaudy colors. In the spring of 2012, 73 of this new batch of smart rocks, along with 1200 simpler, radio-tagged rocks were launched into the



same stream. Over a 10 km stretch, the experimenters later recovered 33 out of the 73 rocks, and this time most had continued to collect useful data. These initial attempts point out the utility in eventually scaling up the use of smart rocks to examine river networks of all shapes and sizes, even major continental rivers, such as the Nile, or the Mississippi. But further research is needed before such lofty goals can be achieved.

Further Reading: Underwood, E., 2012. “How to build a smarter rock.” *Science*, 338, 1412-1413.

From Bulletin of the New York Mineralogical Society January 2013 via Chesapeake Gem & Mineral Society Chippers’ Chatter

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 All Society correspondence is to be sent to this address except that which is intended for the *Rockhounder* and its editor. Such items are to be sent to the editor’s email address – kristinlolmaugh@gmail.com

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Award Winning Bulletin
EFMLS, AFMS



TIME SENSITIVE
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THE ROCKHOUNDER
 Gem, Lapidary, and Mineral Society
 of Montgomery County, MD, Inc.
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