The BACKBENDER'S GAZETTE

The Newsletter of the Houston Gem & Mineral Society

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President's Message

by Raymond Kizer

With all the rain Houston has been getting lately, it has certainly gotten greener—but it is still not as green as Ireland. It rains somewhere in Ireland almost every day, so needless to say it is the land of green. Green is everywhere you look. Lovely rolling green pastures, emerald green lakes, and soft-shouldered mountains covered in a layer of blanket peat—also green, by the way.

Having just returned from a trip to Ireland, I would like to share some of the geology I witnessed on my tour. Ireland has a rich and varied geologic history dating back over 2 billion years. All of the major rock types are present there including igneous, sedimentary, and metamorphic. But the most noticeable and striking features in Ireland's topography were shaped during the Pleistocene ice ages and Holocene. During the last million years, Ireland experienced up to 10 cold glacial periods, each ending in a warm interglacial phase. Not all of these phases are represented in onshore Ireland, but they are defined in offshore sediment cores that detail these cycles throughout the Pleistocene period. The last major ice sheet to cover Ireland during the Midlandian glacial phase began to grow ~70,000 years ago and

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Upcoming Programs

by Paul Brandes

July 22, 2014—A Photographic Tour of Hawaii: Steve Blyskal and Sigrid Stewart will take Society members on a fun-filled photographic tour of Oahu and the Big Island of Hawaii for this month's presentation. They will talk about the many volcanoes, waterfalls, lava fields, tall mountains, rain forests, turkeys (really!), and other interesting facts and show photos featuring pounding surf, breaching whales, sunsets, and maybe even a ukulele duet. Please plan to attend!

August 26, 2014 An Evening with Joe Budd: Joe Budd is a mineral and jewelry photographer whose work has been featured in such magazines as Rocks & Miner-

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Every article published in the BBG is edited for grammar and content. No flaming is allowed.

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Purpose of HGMS

The objectives of this Society are to promote the advancement of the knowledge and practice of the arts and sciences associated with the collecting of rocks, minerals, fossils, artifacts, and their identification and classification; the general lapidary art; the collecting and identification of gemstones; the designing and execution of jewelry or metalcraft; and to provide the opportunity to obtain, exchange, and exhibit specimens and rough or finished materials.

Membership dues are $40 for an adult membership, $60 for a couple, $75 for a family (including all children aged 5-18), $25 for a youth membership (ages 5-18), and $500 for an adult life membership. Advertising rates: $70 for 2 months, ¼ page; $150 for 6 months, ¼ page.

MEMBER: American Federation of Mineralogical Societies & South Central Federation of Mineral Societies.

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All meetings are held at the Clubhouse which is located at 10805 Brooklet near the intersection of Highway 59 (Southwest Freeway) and Sam Houston Parkway (Beltway 8). See the calendar inside the back page for when the different Sections meet. The General Meeting is the fourth Tuesday of each month at 7:30. The HGMS Web site address is **http://www.hgms.org**.

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reached its maximum ~22,000 years ago. The final recession of this glacial ice was completed about 12,000 years ago. It left the beginnings of the topography evident today.

Driving (on the left side) of narrow country roads, you can see all of the same glacial features I witnessed as a kid growing up in Michigan—rounded and smoothed landforms with Eskers, Drumlins, terminal Moraines, Glaciofuvial deposits, U-shaped valleys, and intermountain lakes. Okay, Michigan doesn't have many mountains left to form intermountain lakes. I only know of one, but you get my point—it was easy to recognize these geologic features as they were part of my childhood.

Ireland still has some active mines—mostly stone quarries for building materials like limestone and slate, but they still have at least one active coal mine. Most of Ireland's electricity and its heating for over a century has been accomplished though the burning of dried peat which formed after the last glacial episode during the Holocene. If you want to see the rock in place, you can go to the Burren in west central Ireland or anywhere along the Irish coast. Some truly impressive sights are the Cliffs of Moher, and my favorite—the Giant's Causeway—is a spectacular example of columnar basalt. It is so impressive that it is used in modern textbooks on Geology. If you get the chance to visit Ireland, the geology won't disappoint, and neither will the Guinness.

Upcoming Programs continued from page 1

als and The Mineralogical Record. For this evening's presentation, Joe will talk about some recent projects which will include a great deal of mineral eye candy. He will share some high-end pieces photographed recently and will talk about the latest major project he just wrapped up, the Texas Collectors' 2nd edition for The Mineralogical Record. Joe will also share a more artistic project he has been working on--hyper-close-up photos of minerals. Be prepared to see some amazing photos and to learn a little about how such photos come to be.

September 23, 2014: **A Woman's Perspective on Mineral Collecting:** When Gail Copus Spann discovered the world of minerals a number of years ago, she found herself in a hobby dominated by men and very few women collectors. She also discovered along the way that women have a very different collecting style from men—a style that she explores in this presentation. Along with her husband Jim, they are actively involved in the Perot Museum of Nature and Science in Dallas, TX, and are avid fine mineral and gem stone collectors, with a collection rivaling many museums. Their mission in the hobby is to encourage more young people to learn the importance of minerals and to start collecting on their own. This will surely be an evening for the ladies of HGMS (oh, and the men can come too!)

In Memoriam--Steve Winford McCaleb

October 7, 1947–June 6, 2014
by Matt Dillon

(Includes information from Steve's In Memoriam page:
https://www.facebook.com/steve.mccaleb.9?fref=tl_fr_box)

Steve lived his life to the fullest. He served his country in the Army, then spent his career in the petrochemical industry. He was a fan of geology, spent the last years of his life dedicated to his rock polishing craft, and was a member of the Houston Gem and Mineral Society. Known best for his sense of humor (which he had right up until the end), he never met a stranger and was loved by all who knew him.

His "going-away" party was held on Tuesday, June 10 at the Del Angel Funeral Home in Pasadena, TX. He is interred at the Houston National Cemetery.

Steve made two trips to collect with me, John Anderson, and a few others, over to the San Carlos (Manuel Benavides is the official town name), and it is about 16 miles south of Lajitas, Texas, in the Mexican State of Chihuahua).

I believe Steve was 66 years old when he passed away. He was one of several club members who helped me with my move to Beeville, and he was a great guy to go collecting with. His main hobby was making spheres, but he also liked to tumble-polish agate and petrified wood. He built a tumbler that could handle up to 100 pounds of rock.

In Memoriam—Steve McCaleb and Emile "Smitty" Smith

by John Anderson, The Miner

My friend D.R. "Matt" Dillon and I had lunch with HGMS member Steve McCaleb just one week before Steve's death. It has been about a year since our other lapidary friend, Emile "Smitty" Smith, died. You will remember Smitty because for many years he sold polished rocks at the Houston's International Gem & Jewelry Show. I had the privilege of traveling with both of these fine gentlemen to a remote location in Mexico and collecting rocks, so I wanted to write something on their behalf from what I observed on those trips with them**.**

Both of these gentlemen, just plain and simple, "loved to find rocks," and

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both had the ability by the great lapidary hobby to bring forth the beauty that many times is hidden. Remember, all rocks and minerals are beautiful because there are no two alike—just like us.

My View: Steve and Smitty are both standing on the hill of life looking down through past years with all of their great experiences of life and the great and beautiful rocks that they have found during their life. As they continue farther up the hill of life, their strength seems to fade, and they become like a speck that mingles with the clouds until they are one. Their friends and relatives on this side of the hill of life lose sight of them as they approached the summit. They all say goodbye to them with sadness. At that very moment, just as they reach the top of the hill, they become not what they were before but something now that is perfection in every way. Their friends and family, who have made that trip before and have been waiting patiently for them, are rejoicing that they now have made this journey because they are eager to show them the beauty of what God had planned for them. Some of that beauty is in the perfect rocks they have been looking for their whole life and were not able to find.

Mineral Section Programs

by Paul Brandes

July 16, 2014: This workshop will focus on getting the Mineral Sets together for the November show and sorting through Art Smith's donations to the Mineral Section.

August 20, 2014: Workshop topic to be announced.

September 3, 2014: Welcome back! Typically our first regularly scheduled meeting after the summer hiatus, this evening's presentation will be a synopsis of each member's summer mineral collecting adventures. Plenty of time will be available for short presentations, show and tell, and socializing with other members. Attendees are encouraged to bring and display their summer field finds (clean or not) as well as summer purchases. Refreshments will be available.

September 17, 2014: Minerals of New Mexico: The state of New Mexico is famous for its mineral riches. From Kelly Mine smithsonite and Blanchard fluorite to San Pedro gold and the famous mining camps of Lake Valley, White Oaks, and Red River, the Land of Enchantment boasts a number of exciting localities for the mineral collector and mining historian alike. This, the fourth in our series of locality presentations, will be an opportunity for Section members and all HGMS members to gather for an evening of New Mexico geology, minerals, mining locations, and a little history thrown in. All HGMS Members are encouraged to attend and to bring specimens from their collections for show and tell. Members will also be encouraged to share their stories of mineral collecting in New Mexico and of available collecting localities. Refreshments will be provided.

The Famous Silver Mines of Kongsberg, Norway.

by Dr. Nathalie Brandes
Member of the Houston Gem & Mineral Society

In the summer of 1623, the children of two farmers were tending livestock in rural Norway when they found some rocks that caught their interest. They took the rocks home and showed their parents. One of the fathers recognized these rocks as silver, smelted them, and tried to sell the metal in nearby villages. Suspecting that the farmer was selling stolen silver, local authorities arrested him. To secure his release, he revealed where the ore had been discovered. Later that year, the Silver Works at Kongsberg were established, and for the next 335 years they were an important part of Norway's economy and industrial development (Helleberg, 2000).

One of the many statues in Kongsberg, Norway commemorating its mining heritage. Photo by P. Brandes.

The city of Kongsberg is located approximately 70 km west southwest of Oslo at 171 m above sea level (Groven and Niklasson, 2005). The area of ore-bearing rock is about 15 km wide, trending along a north-south line for about 30 km (Larsen et al., 2005). The region is located along the transition between the southern and middle boreal forest (Moen et al., 1999). Forest cover of Norway spruce and Scots pine dominates the landscape with ground vegetation that includes heather, bilberry, lingonberry, mosses, and lichens (Groven and Niklasson, 2005).

The oldest bedrock in the Kongsberg area is ~1.6 Ga. Two events of deformation and metamorphism affected the area—the first at ~1.5–1.6 Ga and the second at 1.1–1.2 Ga (Jacobsen and Heier, 1978). The history of these rocks can be summarized into four basic stages. The oldest rocks began as volcanics with geochemistry similar to island arcs as well as some sediments. These rocks were intruded by gabbros and diorites followed shortly thereafter by the first event of deformation metamorphism. This amphibolite to granulite facies metamorphic event resulted in quartzo-feldspathic gneisses, dioritic gneisses, and amphibolites. Gabbro and dolerite later intruded the rocks. Lastly, the Meheia and Helgevannet granites were emplaced penecontemporaneous to the second event of deformation and metamorphism to amphibolite facies at 1.1-1.2 Ga (Jacobsen, 1975; Jacobsen and Heier, 1978). Ultimately, these events created bedrock consisting of quartz-plagioclase-biotite gneiss, mica and chlorite schist, amphibolite, and granite gneiss (Bugge, 1917; Starmer, 1985).

The ore deposits at Kongsberg are a five-element-type (Co-Ni-As-Ag-Bi) vein system (Halls and Stumpfl, 1972; Bugge, 1978; Johnsen, 1986; Kissin, 1992; Marshall, 2008). The age of the hydrothermal system that formed the veins has been dated at 265±3 Ma and is genetically related to the Oslo Rift (Ineson et al., 1975; Ihlen, 1986). Kissin (1988) noted that the elevated heat flow associated with rifts can mobilize formational brines to form five-element-type deposits. The silver in the deposits is derived from the black shales of the Oslo region, which have been calculated to contain more than enough silver to account for the Kongsberg deposits (Frøyland and Segalstad, 1992; Segalstad, 1996; Segalstad and Raade, 2003). The ore formed about 3 to 4 km deep from fluids 200 to 300° C with salinities as high as 35% NaCl equivalent (Segalstad, 1985, 2000; Larsen et al., 2005). The bedrock of the Kongsberg area includes sulphide-rich zones locally known as fahlbands (Gammon, 1966). When the hydrothermal fluids encountered the fahlbands, they chemically reacted and formed the famous silver deposits (Segalstad, 2001). Minerals found in the hydrothermal veins include quartz, pyrite, calcite, baryte, fluorite, galena, sphalerite, chalcopyrite, silver sulphosalts, argentite, native silver, and pyrrhotite. "Coalblende," a bitumen compound likely derived from the Oslo Rift shales, is also found in the veins (Neumann, 1944; Johnsen, 1986, 1987; Bancroft et al., 2001; Segalstad and Raade, 2003).

Looking down the River Lågen, Kongsberg, Norway. Photo by P. Brandes.

After the discovery of silver, King Christian IV of Denmark-Norway established the mines in 1623. The following year, the town of Kongsberg was founded on a waterfall of the River Lågen to provide power for the stamp mill and smelter (Helleberg, 2000). At the time, the mining industry in Norway was not well-developed, so miners, engineers, and mining officers were imported from Germany to develop the silver mines (Nynäs and Midttømme, 2007; Helleberg, 2010). Firesetting was used during much of the history of the mining district as the main way to soften and break rock. The first use of black powder for

An example of a fireset drift in the Kongens Gruve (King's Mine). Photo by P. Brandes

blasting occurred in 1659, but it wasn't until the mid-1700s that blasting was commonly used. Firesetting, however, continued to be used to create horizontal works because of its low cost. The problem of ventilation was solved with the use of an "adit loft," which was created by dividing the adit by wood or brick into a lower level where the miners worked and an upper level for the smoke. After the use of dynamite was introduced in 1872, firesetting was abandoned, its last recorded use in 1890 (Berg, 2004). The mines were initially dewatered using hand pumps, but waterwheels were soon installed to operate pumps. Many canals and aqueducts that were used to bring water to power the wheels can still be seen. Steam power and electricity were introduced to the mines in the 1880s (Helleberg, 2000).

For much of the Kongsberg Mining District's history, it was the largest mining operation in Norway (Moen, 1967; Berg, 1998; Helleberg, 2000). As early as the 1600s, the mines offered workers desirable benefits such as sick pay, free medical care, pensions, and primary and secondary schools for children. In 1757, the Norwegian Mining Academy was established in Kongsberg to train mining engineers (Nordrum and Berg, 2004; Nordrum, 2008). The high point of mining in the district occurred in 1770, when 78 mines employed about 4000 workers (Nordrum, 2008). By 1805, however, much of the best ore had been extracted, and most of the mines closed (Helleberg, 2000). Because the Mining Academy was still located in Kongsberg, in 1811 it was decided to establish Norway's first university in the city. The following year, however, this decision was changed and the university was established in Christiania (Oslo), and the Mining Academy was closed in 1814 (Nordrum and Berg, 2004). Fortunately, promising ore zones were discovered in 1816, and many mines reopened (Helleberg, 2000). Peak yearly production was achieved from 1915 to 1916 when 13 tonnes of silver were produced (Nordrum, 2008). Despite declining production, mining continued into the 1950s. The last silver from the Kongsberg Mines was smelted in 1958, ending 335 years of operation that extracted 1350 tonnes of silver (Helleberg, 2000; Nordrum, 2008).

The Norsk Bergverksmuseum (Norwegian Mining Museum) in Kongsberg, Norway.
Photo by P. Brandes

Get last-minute news about club events by sending a note to Jim Kendall at kendal_ja@yahoo.com

The Norsk Bergverksmuseum (Norwegian Mining Museum) in Kongsberg has preserved many artefacts from the mining operations, including them in displays explaining the history of the mining district. In addition, the museum's vault contains hundreds of spectacular wire silver specimens on display. The museum also maintains surface facilities of the Kongens Gruve (King's Mine) and offers an underground tour of the mine via the Christian VII adit.

The famous Kongsberg Silver from "The Vault" at the Norsk Bergverksmuseum.
Photo by P. Brandes

REFERENCES:

Bancroft, P., Nordrum, F.S., and Lyckberg, P., 2001, Kongsberg revisited: Mineralogical Record, v. 32, p. 181-205.

Berg, B.I., 1998, Gruveteknikk ved Kongsberg Sølvverk 1623-1914: Senter for Teknologi og Samfunn (STS) Rapport 37, 586p.

Berg, B.I., 2004, Firesetting: breaking rock with fire at Kongsberg, Norway: De Re Metallica v. 3, p. 43-47.

Bugge, C., 1917, Kongsbergfeltets geologi: Norges Geologiske Undersøkelse, v. 82, 272p.

Bugge, J.A.W., 1978, Norway *in* Bowie, S.H.U., Kvalheim, A., and Haslam, H.W., eds., Mineral Deposits of Europe, v.1: Northwest Europe: London, The Institution of Mining and Metallurgy and the Mineralogical Society, p. 199-249.

The Christian VII adit. Guided tours enter the King's Mine from here.
Photo by P. Brandes

Frøyland, M. and Segalstad, T.V., 1992, Geochemistry of lead-zinc sulfide ore deposits in the Fiskum area, southern Norway [abstract] *in* Geirsdóttir, Á, Norðdahl, H., and Helgadóttir, G., eds., The 20th Nordic Geological Winter Meeting: Reykjavík, Icelan-

dic Geoscience Society, p.44.

Gammon, J.B., 1966, Fahlbands in the Precambrian of southern Norway: Economic Geology, v. 61, p. 174-188.

Groven, R., and Niklasson, M., 2005, Anthropogenic impact on past and present fire regimes in a boreal forest landscape of southeastern Norway: Canadian Journal of Forest Research, v. 35, p. 2719-2726.

Halls, C. and Stumpfl, E.F., 1972, The five-element (Ag-Bi-Co-Ni-As) vein deposit—a critical appraisal of the geologic environments in which it occurs and of the theories affecting its origin: Proceedings, 24th International Geological Congress, Section 4, p. 540.

Helleberg, O.A., 2000, Kongsberg sølvverk 1623-1958: Kongsberg, Forlaget Langs Lågen, 374p.

Ihlen, P.M., 1986, The metallogeny of the Kongsberg district *in* Olerud, S. and Ihlen, P.M., eds., Metallogeny associated with the Oslo Paleorift: Sveriges geologiska undersokning, Ser. Ca 59, p. 30-32.

Ineson, P.R., Mitchell, J.G., and Vokes, V.M., 1975, K-Ar dating of epigenetic mineral deposits: an investigation of the Permian metallogenic province of the Oslo Region, southern Norway: Economic Geology, v. 70, p. 1426-1436

Jacobsen, S.B., 1975, Geochronological, geochemical, and petrological investigations of Precambrian rocks in the Kongsberg area [Cand. real. thesis]: University of Oslo, 268p.

Jacobsen, S.B. and Heier, K.S., 1978, Rb-Sr isotope systematics in metamorphic rocks, Kongsberg sector, south Norway: Lithos, v. 11, p. 257-276.

Johnsen, O., 1986, Famous mineral localities: the Kongsberg Silver Mines, Norway: The Mineralogical Record, v. 17, p. 19-36.

Johnsen, O., 1987, Silber aus Norwegen. Zur Bergbaugeschte und über die Mineralienschätze: Emser Hefte, v. 8, p. 1-48.

Kissin, S.A., 1988, Nickel-cobalt-native silver (five-element) veins: a rift-related ore type *in* Kisvarsanyl, G. and Grant, S.K., eds., Proceedings Volume, North American Conference on Tectonic Control of Ore Deposits and the Vertical and Horizontal Extent of Ore Systems: Rolla, University of Missouri-Rolla, p. 268-279.

Kissin, S.A., 1992, Five-element (Ni-Co-As-Ag-Bi) veins: Geoscience Canada, v. 19, p. 113-124.

Larsen, A.O., Nordrum, F.S., Döbelin, N., Armbruster, T., Petersen, O.V., and Erambert, M., 2005, Heulandite-Ba, a new zeolite species from Norway: European Journal of Mineralogy, v. 17, p. 143-153.

Marshall, D. 2008, Economic geology 2. Melt inclusions of native silver and native bismuth: a re-examination of possible mechanisms for metal emplacement in five-element deposits: Geoscience Canada, v. 35, p. 137-145.

Moen, K., 1967, Kongsberg Sølvverk 1623-1957: Oslo, Universitetsforlaget, 482p.

Moen, A., Lillethun, A., and Odland, A., 1999, National atlas of Norway: vegetation: Hønefoss, Norwegian Mapping Authority, 196p.

Neumann, H., 1944, Silver deposits at Kongsberg: Norges Geologiske Undersøkelse, v. 162, 133p.

Nordrum, F.S., 2008, The Kongsberg silver *in* Ramberg, I.B., Bryhni, I., Nøttvedt, A., and Rangnes, K., eds., 2008, The Making of a Land—Geology of Norway: Trondheim, Norsk Geologisk Forening, p. 266.

Nordrum, F.S., and Berg, B.I., 2004, Historical mineral collections in the silver mining town of Kongsberg, Norway *in* Winkler Prins, C.F. and Donovan, S.K., eds., Proceedings of the VII international symposium "Cultural heritage in geosciences, mining and metallurgy: libraries, archives, museums": Scripta Geologica Special Issue 4, p. 229-235.

Nynäs, H, and Midttømme, G.H., 2007, Dams as storytellers in Norway: Wasserwirtschaft- Hydrologie, Wasserbau, Boden, Ökologie, v. 97, n. 10, p. 25-26.

Segalstad, T.V., 1985, Sølvdannelsen i Kongsberg sølvforekomst [abstract]: Malmgeologisk symposium "Nye malm typer i Norge," Bergverkenes Landssammenslutnings Industrigruppe,

Bergforskningen, p. 100.

Segalstad, T.V., 1996, The ore mineralization at the Kongsberg silver mines, Norway *in* Jamtveit, B., ed., Fractures, Fluid Flow and Transport in Fractures, 10th Kongsberg Seminar, 8-10 May 1996, Kongsberg, Norway: Oslo, Department of Geology, University of Oslo, p. 6-7.

Segalstad, T.V., 2000, Native silver from Kongsberg *in* Roaldset, E. and Sjulsen, S.E., eds., Highlights—Selected Attractions: Oslo, Natural History Museums and Botanical Garden, University of Oslo, p. 34-39.

Segalstad, T.V., and Raade, G., 2003, Scandium mineralizations in southern Norway—geological background for the field trip *in* Raade, G. and Segalstad, T.V., eds., Scandium 2003– International Symposium on the Mineralogy and Geochemistry of Scandium: Norsk Geologisk Forening Abstracts and Proceedings, n. 2, p. 57-85.

Starmer, I.C., 1985, The geology of the Kongsberg district and the evolution of the entire Kongsberg sector, South Norway: Norges Geologiske Undersøkelse Bulletin 401, p. 35-58.

Success - Science Olympiad - 1st and 10th places

by Neal Immega - evil geologist
Photos by Neal Immega

The Houston Gem and Mineral Society always supports students who are attempting the earth sciences portion of the Science Olympiad competition, and this time they won BIG. We supported two teams this year, and **they won 1st and 10th in the national competition.**

First In the Nation - Rock and Minerals. Michael Yu and Regina Chen

The Science Olympiad is a country-wide competition involving 7,000+ teams (50,000+ people) on a wide variety of topics, including several from the earth sciences. In some school districts, this is an important event with serious school sponsorship.

The competition involves identifying 100 minerals and rocks, some of which are rather obscure. Fortunately, we have a HUGE inventory of specimens, most of which were collected by Art Smith, and that gives us a tremendous advantage because we can supply several different-looking specimens for many of the minerals. I confess that I get a gleeful pleasure showing the students that common quartz can have 10+ appearances and that you have to look deeper to see the crystal shape. I was equally devious with rocks, providing five different colors of slate (including the rare red slate from NY). You might think that I enjoy bedeviling students. ☺

10th in the Nation - Rocks and Minerals. Marshall and Ryan Hartung

Our first place winners are Michael Yu and Regina Chen from Clements High School in Fort Bend ISD. They borrowed two five-gallon buckets of identified samples and came back for several tutoring sessions. My other team is Marshall Hartung and his younger brother Ryan from Riverwood Middle School in Kingwood, TX who tutored the rest of his teammates. My follow-ups with them were by e-mail. They scored 10th in the nation. These are serious kids. Bright kids make teachers look good, and these only complained a little when I showed them obviously (?) different specimens that turned out to be the same thing. Strange observation—the local and state competitions required the students to work without a reference hardess set, but they got to use one at the national level.

Michael said that the Science Olympiad is adding Paleontology next year and wanted to know if I would help! OF COURSE!

When he was alive, Art Smith had a problem getting the specimens back. So this year I required a deposit of $250 for a collection—and it has worked. I tell the parents that I do not want their money, just the rocks back!

Care and Feeding of the Air Abrasive (Swam blaster) Working at Houston Gem and Mineral Society

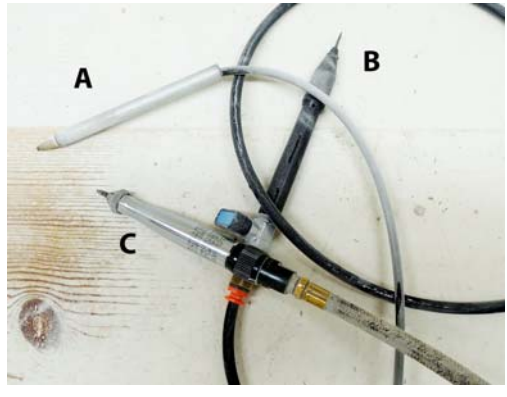
by Neal Immega
Shop Foreman

Summary: This is the interim final report in which we worry about EVERYTHING I can think of to control humidity.

Every serious fossil collector needs access to a preparation station with air abrasive and pneumatic tools. It is a terrible pain to keep an air abrasive unit working because it destroys itself by handling compressed air laced with abrasive. I sometimes think the Crystal Mark people designed our **Swam Blaster** using automotive engineers fired from FORD (Fix Or Replace Daily). The machine's "keeper" has to be able to replace 10+ hoses and little rubber bladders, handle hoses that pop off their fittings DAILY (it seems), and deal with regulator failures. To top it off, the part supplier (www.Paleotools.com) handles all the repair parts for the fossil trade but does ***not*** have the catalog of the vendor (crystalmarkinc.com) on their Web site, and they do not seem to know the machine. The reason I go through all this pain is that nothing else is as good at preparing a fossil.

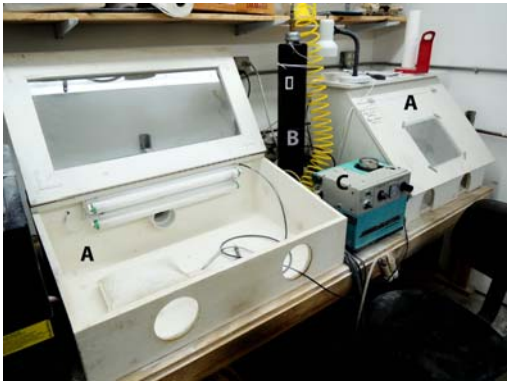
All this moaning and groaning is the normal process of keeping the machine working, and I am not going to talk about that. I am going to address the problem of keeping the abrasive particles moving by keeping the compressed air dry. In this article, I will detail our setup because some of our ideas may be valuable to others who have to work in a high-humidity environment. If you live in Phoenix, Arizona, you can skip the whole article.

Setup: At our cleaning station we use three tools: air abrasive wand, Microjack 5 impact tool (from Paleotools), and a Chicago Pneumatic CP9361 (widely available from industrial supply houses). Each tool removes rock 10 times better that the previous tool.



A: Blast Tip from **Swam Blaster**.
B: **Microjack 5**.
C: **Chicago Pneumatic** CP9361.

Our next picture shows our air tools room setup with blast cabinets for two operators, a silica gel tower for dehydrating the air stream, and the Swam Blaster. Off the picture to the left is the bag filter unit to keep dust out of the air. When we bought the equipment, the filter unit was the most expensive item. Cheaper filter units made for woodworking shops do not have fine enough filters to be effective. I have seen other installations where the powder is sucked from the blast cabinets and blown outside—not the best idea, but certainly the cheapest.

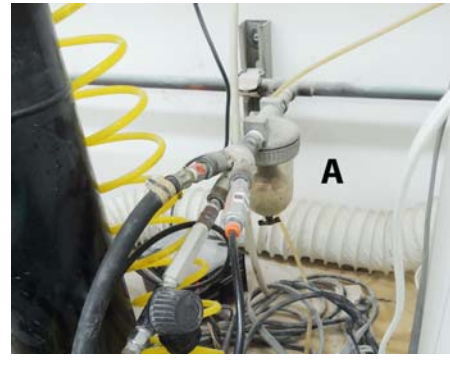


A:Blast cabinet. B: Silica Gel tower.
C. Swam Blaster

Dolomite: We use Crystal Mark dolomite powder because nothing else works as well. The powder must be dry, or it clumps in the Swam Blaster chamber and does not feed. A really cheap improvement (not shown) is to keep a supply of powder in a slow cooker, such as a Crock-Pot®, set on low (all the time) to ensure that the powder dries out before it is loaded. At the end of the day, the operator puts a new supply of powder into the slow cooker. We tried to reuse the powder, but a 50-micron screen gets caked immediately and passes nothing. It is irritating to have to buy expensive powder. If anyone has an idea, let me know.

Air Tank Bleed: The first step in drying the air is our 5-hp compressor with an 80-gallon tank (not shown). The tank is so large that a substantial amount of water condenses on the inside as the air cools, and we keep a continuous-bleed valve open on the bottom to drain the water.

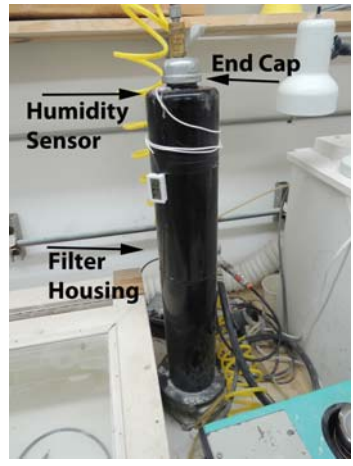
Additional cooling happens inside the 10 feet of 1-inch copper pipe used to deliver the air to the air tool room, and this requires a standard water removal bowl, shown right (A).



Standard commercial in-line
water separator (A)

Silica Gel: Much more water removal is necessary. In the air path, we mount an oil filter housing that is filled with 1.5 gallons of silica gel beads. This unit came from Surplus Center (surpluscenter.com) but they do not have it anymore. (See phonto on next page.) If I had to make another, I would use a piece of 2-inch pipe with threaded ends and pipe caps, and stand it vertically with a screen on the bottom end to keep the beads out of the fitting. I threaded the end cap to take a standard air hose fitting. The galvanized caps are thick enough to tap well. We got our silica gel from a firm that receives parts from overseas, and all the boxes come with gel packs for humidity control. For some strange reason, all the gel packs say "do not eat." ☺ By our actual measurement, 1.5 gallons of gel can absorb 4.5 pounds of water. Clay is a cheaper control agent, but it does not have nearly the capacity of silica gel, so we do not use it. Also, it is dusty and might clog things up worse. Another source of silica gel is Fresh Step® Crystals cat litter. Big pet stores like Petco have it, and it is not all

that expensive. The silica gel can be regenerated by heating at 250 degrees, or overnight in a slow cooker set on low. We get about six months between gel changes by using 1.5 gallons of silica gel. Don't even think of using a Crystal Mark dryer that contains one cup of silica gel beads. They said that I could get three months of drying from their one-cup gel package between regenerations, but this California firm has no idea about the humidity in Houston.



Oil filter housing filled with silica gel.

Sensor: When should you recharge the gel stack? I put a remote-reading cigar humidor hygrometer inside the case and closed the hole with E-6000 glue. Fredrich Electronics has a store on EBay (http://stores.ebay.com/Fredrich-Electronics). The item to look for is a Remote Digital Hydrometer (about $18). The previous picture has an arrow to the hole I drilled into the filter housing, and the white rectangle below is the readout. Pay attention—lots of units out there claim "remote reading temperature and humidity," but they ***only read the temperature remotely***.

Chamber Heater: You might think that all the previous devices would be enough, but even with all these in place, the powder in the chamber would still clump overnight and not feed. I attached a 25-watt heater to the abrasive chamber of the Swam Blaster, and things are better.

Amazon.com sells Kat's 24025 25-watt 1"x5" universal hot pad heater for $20. It has an adhesive backing, but that peels off the canister, and I now wire it on. The chamber gets quite hot, and I would use a 10-watt heater if I could find it. In the meantime, I use a setup/down transformer bought from Amazon.com. The unit is identified as a Goldsource STU-100 and is easily configured to produce 75 volts (or others) from standard house current of 110 volts. I do not see how water vapor would get into the chamber overnight, so it may be that the benefits are from heating the incoming air and thus reducing the relative humidity. I do not know. I am just trying everything.

Rear view of the powder chamber of a Swam Blaster with the orange heater.

One final measure that seems to help is to put 2 dime-sized chunks of limestone into the chamber with the powder. The expectation is that they will rattle around and "break up" the powder. This is pure desperation.

Alternative: Companies who are serious about water control use an inline cold trap to precipitate out the water. These can easily cost thousands of dollars, but you might be able to get one used. Harbor Freight offers one for $400, but the one we bought from them has NEVER worked. I'll bet that we still would need a gel stack as a final step for a refrigerated dryer. The dew point for refrigerated dryer air is about 37°F while, ideally, a desiccant dryer takes the dew point down to -50°F.

Conclusion: This dryer setup works pretty well and would not cost more than $200 to build from scratch if you have a well-stocked parts box.

I am told that water vapor is a greenhouse gas. Is this why Houston is so HOT? ☺

Feel free to share this information with anyone who has the same problems. If you are interested in discussing air abrasives with me, I am at n_immega@swbell.net. **Please tell** me if you have a better scheme.

The Miner's First Trip to San Carlos, Mexico

by John Anderson
Member of the Houston Gem & Mineral Society

Before I start my story, you must forgive me for any misspelled names because it has been eight years since I made that trip, but the facts are correct to the best of my recollection.

About eight years ago I was talking to Tony Lucci, a new friend that I met at an HGMS meeting, and he mentioned that another HGMS member, D.R. "Matt" Dillon, was orchestrating a trip to a remote area in Mexico to hunt for lapidary-quality rocks. Tony went there the previous year and had some great photos. The name of the place where the group was going is called "La Gloria Bed & Breakfast," located In the Mexican State of Chihuahua, in a small town originally called San Carlos. Years ago it was renamed "Manuel Benavides," but everyone still referees to it as San Carlos.

Tony told me there was an opening on this trip if I wanted to go. It took only 20 seconds for me to say "Yes," because it sounded like it would have an abundance of lapidary-quality rocks according to what Tony collected last year. He said we would be collecting agate and jasper on private land, and the best part was we would be able to collect on different ranches, offering us a greater variety of lapidary-quality rocks.

In 1975 I was transferred to Houston, Texas from my birthplace in Southern, California, and now I no longer lived near my best source of lapidary rocks. I became a rockhound about 1947, and quality lapidary-type rocks were only about a 3–4 hour drive from my home. I was really looking forward to this trip because I hoped to relive the "high adventure" experiences that I had enjoyed so many years ago.

Most of the people from Houston had a 12-hour drive to the Three Palms Inn in the town of Presidio, Texas, and it is the border town with Ojinaga, Mexico. All of us

stayed there because it had a pretty good restaurant, and its rates were good. The next morning our caravan of cars crossed over to Ojinaga, and we drove almost ¾ of the way through the town and then turned off to the left onto a bumpy dusty road.

This road was so dusty that a wall of dust followed our vehicle as we traveled, so we all spaced our cars a good distance apart to lessen the choking dust. We traveled in the dust for over 2 hours through canyons and some small, barren mountains—no trees, but lots of creosote bushes and cactus. The only thing that would like to call this area home would be a lizard. Every bush through this area had a spine or some other weapon that was always trying to do us in. We saw a few ranches trying to make a living on it, and we wondered how they could. Tenacity describes the type of people who settled Texas. When we arrived at the edge of the town of San Carlos, we turned to our right onto a dirt road for about ¼ mile to La Gloria Bed & Breakfast. The proprietor, Gloria Rodriquez, greeted all of her old and new clients with equal amounts of gusto, making everyone feel welcome. We quickly unloaded our luggage, went to our respective rooms, and prepared ourselves for an afternoon rock trip.

About 30 minutes later two old trucks arrived; one was a flatbed that had some automobile seats bolted to the back of the truck for the passengers. The other pickup truck had about the same seating arrangement, but the seating was a little more cramped. Both of these vehicles looked as though neither of them could drive even one mile down the road from where they were parked without falling apart. Bailing wire was used extensively throughout both trucks, and that probably was the only reason they were there now. Their tires were bald, and I marveled at how they could even hold any air pressure. “Chuy” was the boss who owned the trucks and arranged for helpers whom we would pay to help dig and also to carry the gunny sacks of rocks back to our trucks. Chuy had paid for permission for our group to collect rocks on these private ranches, so he was a very important person for this operation. To say something positive concerning these trucks and all of their bailing wire and the bald tires, it never became a big problem. When any problem occurred with one of the trucks, be it a motor or a tire problem, they just fixed it and then proceeded on sometimes to even rougher terrain. I was amazed. Even if I had a special-4 wheel drive vehicle, I would still be nervous to drive in the areas where they drove constantly.

Back to our story: That day we went to Ranch o Tenajo which was probably less than 35 miles from San Carlos on an even bumpier, dusty, dirt road, until we reached Ranch o Tenajo and parked our vehicles. At this spot, we were on the left side of a large canyon at the washes’ end. The canyon sidewalls rose upwards, creating an additional high mountain on both sides of the canyon wash. You could see that it must have taken tremendous amounts of water from the higher elevation to create this big canyon, and that it must have taken hundreds of millions of years to form.

To the right side of the canyon wall, the mountain rose very quickly and looked like it had at least a 40% grade, making it not suitable for me to try a climb that day. The main group all seemed to gravitate to the left side of the canyon, and they ended up on a slightly flattened area that had a gentler rise for about a ¼ mile before reaching the steeper slope of the higher mountain area.

I began following the group, but I kept going higher on different cow paths, heading

more toward the major mountain peak in the distance. As I climbed higher and higher, I started finding small pieces of a beautiful red jasper-agate. As I continued climbing, I stayed on a cattle path that kept getting steeper for about a mile or so until I reached the crest of the mountain. I found a deposit of the jasper-agate weathering out in fist-sized pieces.

I have gone back to that spot on every trip to San Carlos with equal success, but on my last trip there I could not find that exact spot. I do not know the reason why I could not find that area again, but maybe the reason is that there is no direct trail or cow path, because they start and stop constantly, creating a big guessing game. Guessing the right path is the only true way in finding the area with the beautiful red jasper. If I am ever able to go back to San Carlos, I hope that I will find that deposit again, God willing. On one of my other trips to Ranch Tenajo, I climbed the right side of the canyon mountain and I did find a nice large beautiful agate nodule that I will never cut.

On this day, and all the other days, that we were rock hunting, we never saw any other people except for our own group, and a lot of times not even them very often. I was in heaven because we were in such a place that it was so devoid of trees and water, but it has another kind of beauty that many times will take your breath away. If you would have any kind of a problem while hiking and needed help, the only thing that would find you right away would be the buzzards, and to me that was "living the high adventure syndrome."

Back to my story about my first rock collecting at Ranch o Tinajo: As I dragged myself and my jasper-agate back toward our truck, they started blowing the truck's horn, indicating that it was time for all of us to leave and head back to La Gloria. We all found lots of great agates and jaspers that day, and everyone was feeling great and looking forward to the famous "La Gloria's dinner" that night that the old timers kept bragging about. After we reached La Gloria, we all cleaned up and rushed to the dining table area. We were not disappointed with Gloria's culinary endeavor, for it was great. After dinner, we all just talked about our adventures that day and also what the old-timers thought we would be finding the next day. Our next day was almost like the day before, but this time we went to an area called Tapado, where Matt Dillon originally found Bouquet Agate some years before. This beautiful Bouquet Agate, as the name implies, has different-colored dendritic plumes that actually make the agate look like a bouquet of different-colored flowers. These agates are not plentiful, and you have to be lucky to find one, but the norm now is that you need to dig for them.

In getting to Tapado, we had to drive many miles in and out of a sandy wash without getting stuck until we came to a group of bushes, where we stopped. Behind the bushes was a wash which we followed up for less than a mile and then had to climb over some huge boulders before reaching this good collecting area. I looked throughout the area very thoroughly for any Bouquet Agate that still might be found on the surface and also a good spot that looked like it would be a good place for me to dig. These Bouquet nodules were weathering out of basalt, and if you were extremely lucky, you just might find one on the surface or perhaps just the tip of one.

In all of my 40 to 50 years prospecting for any type of metals—precious or not—or even lapidary-type rocks, when I need a power nap I just take one. I always carry in my

backpack a ground cloth that is exceptionally strong that I just unroll under a creosote bush or any shaded area and take a power nap for 10 to 15 minutes. I have done this for many, many years and have never been bothered by snakes or fire ants. But I should say that I look at the area closely before I do any napping. I guess I am not crazy because I found "Chuy," our guide, doing the same thing that I was during in the heat of the afternoon.

Back to our story: Our third day we went to "Rojo" which means red, and we were not disappointed because everyone found some great agates and jaspers, and I believe I found some Blood Stone jasper. Remember, that was eight years ago.

Each night we had a different—and better—meal, as though Gloria were trying to outdo the last meal she had cooked for us. If you have never had the experience of good home-cooked Mexican food, you are in for a great experience. Usually during our meals there was a little conversation, but sometimes you could hear the muffled soft sound of someone saying, "Wow, now that is what I call a good meal," and also a grunt and groan of satisfied eating.

Our fourth day was a rest day when Jim Collins and I tried our luck at fishing, and we had no luck at a small lake miles away from San Carlos. On our last day of rock-hunting before we headed home, we went back to Papado because the group again wanted to try and find some more of that beautiful Bouquet Agate.

I have a story about a dog that was at La Gloria, and the dog's name was Blackie. He was a big slender dog. Blackie had lots of ticks and fleas on him when we arrived, so I got busy each evening after our evening meal and tried to rid this dog of its ticks and fleas. I had his ticks and fleas under control by the end of the week when we left for our homes. Possibly four months later, I made another trip to La Gloria. Blackie was there and greeted everyone with lots of happiness, jumping up and down on everyone—but when he saw me, he planted himself in front of me and started moaning and groaning as if trying to talk to me and saying I really missed you. Everyone who saw that demonstration was touched by the animal trying to express itself.

I have gone many places in the world, and when I get back into the US, I always feel a sigh of relief, so it's not just in returning from Mexico that I feel that way.

In conclusion, on this trip I was able to relive some of the great experiences that I had as a young man, and I found some great agates. On behalf of the Mexican people whom I have dealt with while in Mexico, all have been honorable and hard-working. But one of their really great talents is being able to repair almost anything without much in the way of tools. It is a wonder.

I continued going on these trips to San Carlos, Mexico about two times a year for a total of about four years, and on those trips I was able to not only forge a better relationship with the people that I had known, but also to meet some new great lapidary hobbyists. I may forget a few of the names of the people with whom I rock hunted, but those who immediately come to mind are Matt Dillon, Tony Lucci (for telling me about the trip), Robert Rosenkranz, Joan Riley, Blanca Lopez, James and Julie Collins, Steve McCaleb, Emile "Smitty" Smith, Steve Wheeler, Preston and Janet Adcox, Ron Talhelm, Beverly Mace, Jim Puckett, Alec Galia, Dean Lagerwall, and Sam Norwood.

I want to especially thank D.R. "Matt" Dillon for orchestrating these trips because without him doing so, I would not have been able to associate with those people and to relive my old childhood dreams of "living the high adventure experience." Thanks, Matt.

General Meeting Minutes

06-24-2014

by Nancy English, HGMS Secretary

The meeting was called to order by 1st Vice President Paul Brandes at 7:40 p.m. He thanked everyone for coming out to the meeting tonight.

Attendance: The meeting was attended by 21 regular members, two new members, and three visitors.

The Vice President asked the visitors and new members to stand and be recognized. The new members were Louis Weinberg and Jennifer Gerrung. Jennifer brought a jar of amethyst nuggets to share with all attendees. Also visiting this evening were Justine and Christy Norris. Adeene Denton, the recipient of our 2014 scholarship, was also present. Adeene will be presenting the October General Meeting program on Himalayan Geology.

Drawing: Beverly Mace won the drawing for the Rainbow Obsidian door prize tonight.

Minutes: Karen Burns moved to approve the minutes of the May General Meeting as published in the BBG. Nancy Fischer seconded, and the membership passed the motion.

Show-n-Tell: Steve and Sigrid Stewart showed the members rocks they collected in Durango, Colorado. Beverly Mace showed rocks collected by the Youth Section on their recent field trip to the Mt. Ida area of Arkansas.

Section Reports

Since there were no immediate issues to discuss concerning the Sections, Margo Bedman moved to postpone the Section Reports until after the program. Steve Blyskal seconded the motion, and it passed. Due to the length of the excellent program, the Section Reports were not presented tonight.

Program: Paul Brandes introduced our program for tonight: **"Texas Topaz"** by speaker B. Diane Eames. Diane is a fine jeweler, Graduate Gemologist (GIA), and gem cutter. She specializes in the Texas state gem, topaz. Diane and her husband Brad Hodges discussed how and where to find topaz in Mason County, and they passed around several rough samples of topaz and quartz to show the differences and the easiest ways to identify each. Diane also displayed the Texas Cutters Collection, a fine display of cut topaz from rough found in Mason County. Texas faceters throughout the state had cut the topaz into beautiful jewelry. Participants were amazed by the variety of topaz shown, and they asked many questions concerning where to find their own specimens as well as where to find jewelry made from Texas topaz.

There will be NO Board of Directors meeting Tuesday, July 1. The Vice President and Secretary determined that a voting quorum would not be present for the July Board meeting. Since there was no pressing business to discuss, the meeting was canceled. The next Board meeting will be August 5, 2014.

The next General Meeting is Tuesday, July 22. The General Meeting will feature a program on Hawaii by Steve and Sigrid. You will be treated to volcanos, waterfalls, lava fields, tall mountains, rain forests, turkeys (really!), and other interesting facts and photos including pounding surf, breaching whales, sunsets, and maybe even a ukulele duet.

Silent Auction: The monthly silent auction will resume at the July General meeting. Mary Ann Mitscherling was ill and unable to attend the meeting, so there was no silent auction tonight. We all hope you get well quickly, Mary Ann.

Refreshments: Provided by Nancy English.

The meeting was adjourned following the presentation.

Adjourn: Karen Burns moved to adjourn the business meeting, and Margo Bedman seconded. The motion passed unanimously, and the meeting was adjourned at 9:00 p.m.

No Board Meeting Was Held in July

Prior to the meeting, it was learned that a number of Board members would be unable to attend the scheduled July 1 meeting--enough that the Board would not be able to conduct business due to lack of a quorum. Therefore the meeting was canceled. Since there was no pressing business needing to be addressed this month, it was not rescheduled for a later date. The next Board meeting will be August 5, 2014.

Safety Article. Hey! Are "Preppers" Really That Wrong?

by Owen Martin
SCFMS Safety Chairman
from SCFMS Newsletter 5-6/2014

Okay—just to get things going, I'm close to my annual "Prepare for Hurricanes" article, but figured I'd take this opportunity to get a jump on the issue. Especially since "preppers" seem to be getting vilified by certain government organizations and media outlets these days. As that old joke goes, "What do a tornado and an Arkansas divorce have in common? Either way someone's losing a mobile home!"

The last few years we've had some really nasty spring storms in the SCFMS areas, and it poses the question of what to do.

Historically folks in our region would build storm cellars, but the nature of modern construction has turned up its nose on the issue. That was, at least until a few years ago when we experienced the disaster of the Tuscaloosa and Joplin tornados. Since then there has been a huge increase in the manufacture of "dig and drop" modular storm shelters. We've installed at least a dozen of these modular shelters at my work sites in

the last two years. With purchase of the small shelters averaging less than $4000 per unit and installation costs being minimal, it was truly a "no brainer." Our shelters in the Fort Worth and Shreveport areas were used five times last year! The shelters worked great.

So I'm not saying that these modular shelters are for everyone, but if you can afford one and think you need one, they are a great and overall inexpensive way to keep yourself and your loved ones safe.

Here's an example of one from the Hillsboro Storm Shelter Web site. There are lots of options out there, and I only show this as an example of what some look like. Get online and do some research if you are interested. Happy hunting!

As always, "BE SAFE" and I'll talk to you soon! Owen

SAFETY COMES IN CANS
I CAN - YOU CAN - WE CAN

Bench Tips

by Brad Smith

Get all 101 of Brad's bench tips in "Bench Tips for Jewelry Making" on Amazon. http://amazon.com/dp/0988285800/

Sawing Small Tubing

When making a hinged bracelet, I needed to cut 16 pieces of small-diameter silver tubing. These were to be just approximate lengths, and trimmed to final size after soldering. Not having a tube cutter, I had trouble holding the tubing on the bench pin while trying to saw through it.

So here's what I did. I drilled a hole in the side of the bench pin just large enough to slide the tubing into and almost as deep as the length I wanted of cut tubing. Sawing became quick and easy. With my free hand, I inserted the tubing and held it from rotating while sawing off each length.

Secret Ingredient

Those of us who use paste solders sometimes find an old tube has dried out. There should be some way to recondition it, but what to use? Calling tech support at the suppliers didn't work for me. Either they don't know what the ingredient is, or they won't tell you the secret.

None of us likes to waste an expensive material, especially at $16–20 a tube, so I've often experimented with ways to rejuvenate it. Mixing in a liquid flux doesn't work—when the liquid starts to boil off, it spatters the solder in all directions.

But after several failed experiments, I finally found a way that does work. My secret ingredient is Vaseline petroleum jelly. Mix in just enough to restore the consistency to something that's usable. If you use too much, the lump of solder will flow over a wide area as soon as the torch starts heating it.

If your solder is in a syringe, it can be a little difficult to get the plunger out. I find the easiest way is to poke a hole through the solder from the tip to the rubber plunger (a bur shaft was the right size for my tube). The hole allows air to enter between the solder and the plunger, allowing the plunger to be slowly withdrawn. Once the solder is out of tube, you can easily add the Vaseline, mix it up, and spoon it back into the syringe.

Do You Know What Argentium Sterling Silver Is?

by Vicki Hathaway
from Alberta Geological Survey Rock Chips 12/2013 via The Clackamette Gem, 12/2013, via Rocky Mountain Federation News 1/2014

Traditional sterling silver is 925 parts fine silver and 75 parts copper. Argentium sterling silver is similar, except that some of the copper in the alloy has been replaced with germanium. Germanium prevents oxygen from penetrating the surface of the metal, which allows argentium to resist both tarnish and firescale, making it a joy to work with—less firescale means less pickling, less polishing, and less labor. However, there are a few key differences to remember:

- Argentium sterling silver can be fused with less distortion than fine silver.
- Argentium sterling silver melts around 1410 degrees F (760 degrees C)—lower than traditional or fine silver.
- Fine silver does not change color when heated, and traditional sterling turns dark grey with firescale. Argentium will stay white or get a light-grey scale. This can be removed easily with an oxidizing flame, pickling, and/or a light sanding.
- Use separate solder boards, bricks, files, pickle, and polishing tools for Argentium sterling silver. Shared tools can contaminate clean Argentium sterling silver with base metal, which can cause it to tarnish, develop firescale during heating, or to not polish as beautifully.

THE BATON ROUGE GEM & MINERAL SOCIETY SHOW
and
SCFMS REGIONAL CONVENTION SCHEDULE
Marriott Hotel
Hilton Ave.

Show Times: Saturday, August 9 10:00 – 5:00
Sunday, August 10 10:00 – 5:00

SCFMS Activities: Saturday, August 9 in the Beauregard Room

Breakfast with the Editors and Webmasters: **8:00**
SCFMS Meeting: **1:00**
SCFMS Awards Banquet: **7: 00**

Sunday, August 10th in the Beauregard Room

Rolling Rock Club Meeting: **8:00**

Room Rate Discounts will be available

From Geologem 10/69 via MWF Newsletter 3/01
via T-Town Rockhound 5/01

Show Time 2014

August 9-10	Baton Rouge, LA	SCFMS/Baton Rouge Gem & Mineral Society Marriott Hotel, 5500 Hilton Ave. cajunladi@cox.net; www.brgemandmineral.org
August 16-17	Bossier City, LA	ArkLaTx Gem & Mineral Society Bossier Civic Center, 620 Benton Rd. larockclub@gmail.com; www.larockclub.com
August 23-24	Jasper, TX	Pine Country Gem & Mineral Society The Event Center, 6258 State Hwy. 190W 5 miles west of Jasper; Jonetta Nash jonetta.nash@yahoo.com
October 3-5	Austin, TX	Austin Gem & Mineral Society Palmer Events Center, 900 Barton Springs Rd. showchairman@austingemandmineral.org www.gemcapers.com
October 4-5	Stafford, TX	The Bead Market Stafford Centre, 10505 Cash Rd. rebekah@thebeadmarket.net www.thebeadmarket.net
October 10-12	Metairie, LA	Gem & Mineral Society of Louisiana Best Western Plus Landmark Hotel 2610 Severn Ave.; gemshow2014@gmail.com
October 10-12	Mount Ida, AR	World Championship Quartz Crystal Digging Montgomery County Fairgrounds Fairgrounds Rd. director@mtidachamber.com www.mtidachamber.com
October 11-12	Temple, TX	Tri-City Gem & Mineral Society Mayborn Civic and Convention Center 3303 N. 3rd St.; Chip Burnette burnette@aceweb.com www.tricitygemmineral.org
November 1-2	Amarillo, TX	Golden Spread Gem & Mineral Society Amarillo Civic Center, 400 S. Buchanan St. Wanda Finley, finfran@midplains.coop
November 7-9	Humble, TX	Houston Gem & Mineral Society Humble Civic Center, 8233 Will Clayton Pkwy. 5 miles east of Bush Intercontinental Airport 1 mile east of Hwy. 59 www.hgms.org; show@hgms.org

2014	August					2014
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
					1	2 10–5 Shop Open 10–12 Youth Section
3 10–4 Shop Open	4	5 7:30 Board Meeting	6 NO Mineral Section 10-3 Shop open	7 7:30 Archeology Section	8	9 10–5 Shop Open
10 10–4 Shop Open	11 1:00 Day Light Section	12 7:30 Show Committee	13 6:30 Faceting Section 10-3 Shop Open	14	15	16 10–5 Shop Open 10-12 Youth Section 1:30 Beading Section
17 10–4 Shop Open	18 7:30 Lapidary Section	19 7:30 Paleo Section	20 7:30 Mineral Section 10-3 Shop open	21	22	23 10–5 Shop Open
24 10–4 Shop Open / Shop Open 31	25	26 7:30 General Meeting	27 10-3 Shop open	28	29	30 10–5 Shop Open 9 a.m. –Noon Parking Lot Swap & Sale

2014	September					2014
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
	1 Labor Day	2 7:30 Board Meeting	3 7:30 Mineral Section 10-3 Shop open	4 7:30 Archeology Section	5	6 10–5 Shop Open 10–12 Youth Section
7 10–4 Shop Open	8 1:00 Day Light Section	9 7:30 Show Committee	10 6:30 Faceting Section 10-3 Shop Open	11	12	13 10–5 Shop Open
14 10–4 Shop Open	15 7:30 Lapidary Section	16 7:30 Paleo Section	17 7:30 Mineral Section 10-3 Shop open	18	19	20 10–5 Shop Open 10-12 Youth Section 1:30 Beading Section
21 10–4 Shop Open	22	23 7:30 General Meeting	24 10-3 Shop open	25	26	27 10–5 Shop Open
28 10–4 Shop Open	29	30				

The BACKBENDER'S GAZETTE

The Newsletter of the Houston Gem & Mineral Society

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