

American Rockhound®

July/Aug/Sept 2014
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The magazine written by Rockhounds, for Rockhounds



Ghost Mines
Wadeville Quartz

American Rockhound
John Denev

Field Trips
Sharpes Emerald Prospect, NC
Spruce Ridge, WA

Rockhound Art
Featuring Rob Stine

Agate Collecting
Lake Michigan

Western North Carolina
Rockhound Roundup!
Rockhounds Gather For A Week
Of Fun In The Mountains

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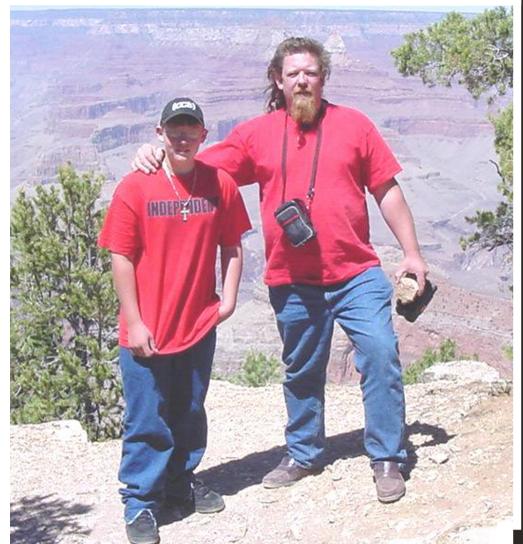
M.A.G.M.A. Gem, Mineral and Fossil Show

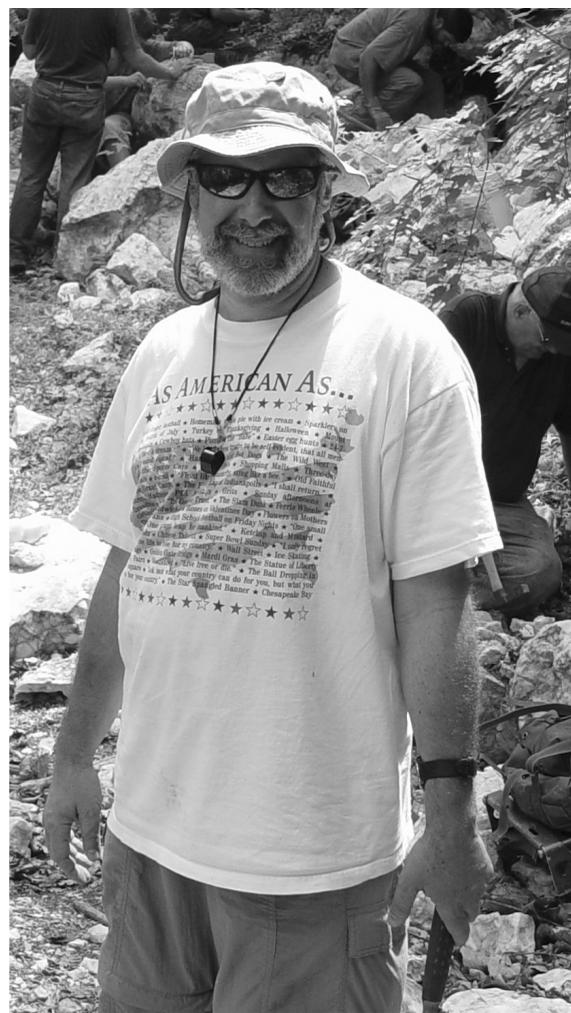
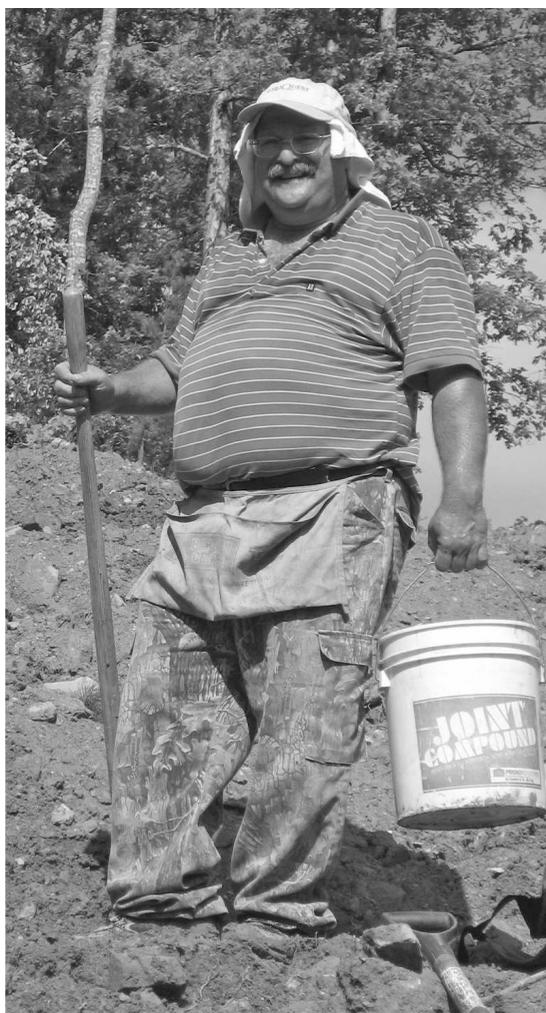
Hiddenite, NC - September

Asheville, NC - March

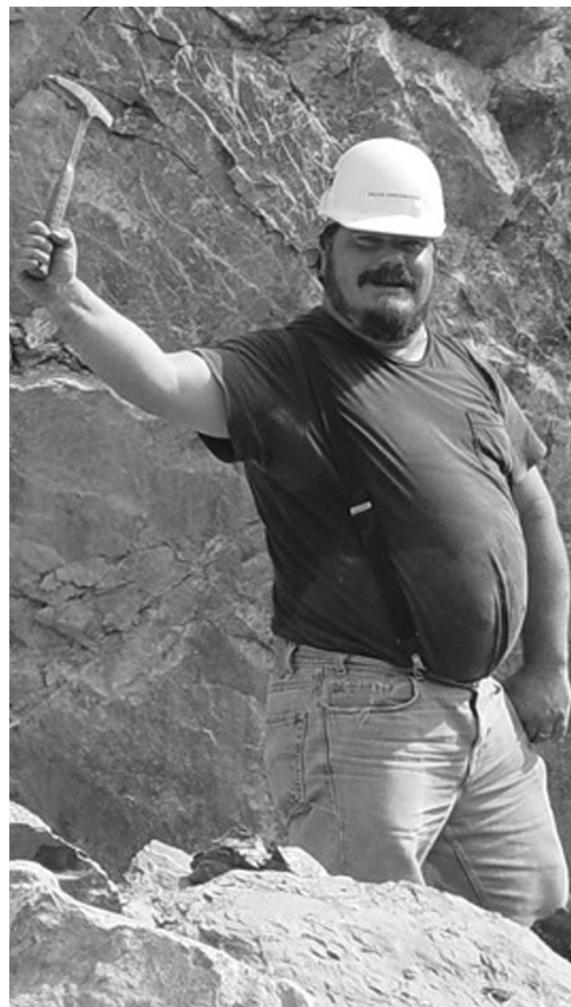
Graves Mountain Open House - October and April

Annual Rockhound Roundup - July





AMERICAN ROCKHOUNDS



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AMERICAN ROCKHOUND



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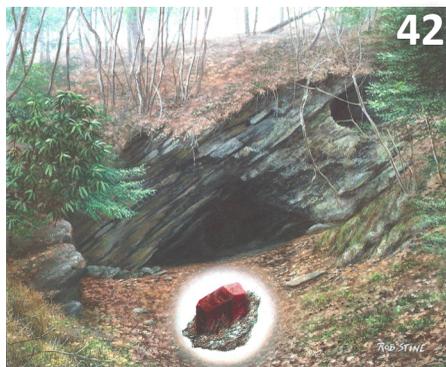
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Thinking Out Loud

Inflation Or Preservation

Richard Jacquot

For the past ten years or so, I have been working with a handful of our members on behalf of the Mountain Area Gem and Mineral Association (MAGMA) attempting to locate, open, or reopen collecting sites for our members. We have been successful at this on many occasions. Most of these sites have been on private property, while some have been through negotiations with the State and local Forest Service. Our prices for a dig have always been in the \$20 - \$30 range, which I think is very reasonable. In recent years, I have heard a lot of complaints coming from rockhounds that it costs too much to collect these days and that they prefer to collect on Forest Service land or at a quarry where there is no fee.

I understand that times are tough, the economy is dead and people just don't have as much money to spend as they used to. But does that really affect the ability to attend a dig that costs \$25 per day? Many of the rockhounds I know have other hobbies they indulge in besides rockhounding: sports, outdoor activities, camping, hunting, fishing, diving. All these things cost as much, if not way more than a day at a mine.

Many people ask me why it costs \$25 and not \$5 a day as is the case with some older known mines. All I can say to that is, you get what you pay for! I have been to many quarries over the years, the pickings are almost always slim and usually just a handful of members that attend these trips come home with anything that is worthy of placing on a shelf in their collection. The Forest Service here in North Carolina and elsewhere has been shutting down locations to collect and we are fighting constantly to try and keep any of these sites open. With very few exceptions, the \$5 a day sites are producing mainly low grade mineral specimens which can be commonly found.

My goal is simple; I try to locate properties that have an abundance of material that would be of interest to collectors. Once I locate a site, I negotiate with the owner in the hopes of opening the

site to collecting. By negotiate, I mean I offer the property owner a fair amount of money for the resource he or she is providing. Remember, gem and mineral specimens found at a collecting site are a non-renewable resource. Once the specimens are all collected, there will not be any more growing at that site. Once a deposit is depleted, it is done. For example, I used to collect at a quartz mine in South Carolina. The site was known for around 100 years as a location to collect crystals. Hand digging only was allowed until 2003 when the ownership changed hands. The new owner decided to dig the site with a large track hoe. I worked with him on several occasions. Many fine specimens were found in a period of about five years, but then the finds began to trickle off. I suggested on more than one occasion to the owner that he put a limit on the amount of material that people were allowed to collect for the small fee he was charging. Other people heard this and influenced him not to do it. For \$20 a day, I watched truckloads of quartz specimens hauled out of the mine during field trips by various clubs.

The Forest Service has been steadily adding new rules, regulations and restrictions on rockhounding. At this time in North Carolina, you are allowed to use a garden trowel or similar small tool to dig with, which, as any serious rockhound will tell you, is a waste of time. Most quarries have either banned collecting at their sites or have limited collecting to a pile of predug rocks deposited in the middle of the quarry floor, which as I mentioned earlier may yield a handful of specimens for a few people. Not exactly a bright forecast for the hobby.

I believe that private property is the future of our hobby. I think that the property owners should be fairly compensated for what they have to offer. It is hard enough to find a property that has anything of value or interest. Convincing the property owner to allow us to come onto their land with a group of people and dig holes all over

the place, well that takes some serious consideration by the owner and a good fair offer for compensation from our group and any others that might want to collect there.

Unfortunately, I have met many land owners over the years that have been burned by other clubs and groups of diggers who have come to their property, given them maybe \$5 a day to collect, dug holes everywhere and left. If 20 people show up, the owner makes \$100 for a day and has a bunch of holes to look at and deal with, hardly worth their time. What's worse than that are the small 'dig crews' that are notorious for promising the owner that their group will bring in a machine, dig for valuable crystals and either pay them a set amount of money, or promise to give them some valuable rocks obtained during the dig. Many times the dig crew keeps the best pieces if any are found and the owner is given a mediocre specimen and lied to, being told that not much was found. At this point, he is left with huge holes dug on his property and little or no compensation. It is no wonder I am told "Hell No" at some places where I try to gain access. Some people won't get burned twice. Once they get a bad impression of rockhounds, it can stick with them for many years. Fortunately, I have been able to convince some owners to give us a chance and they quickly realize that we are not like the previous people they have dealt with.

When I set up a dig at a property, I look at what we are collecting. If it is a common, abundant mineral like staurolite, the cost is fairly low and there is no limit on the amount of material you are allowed to collect when visiting. Other sites may produce good amethyst specimens, these sites usually warrant a higher fee. Some sites are producing very rare and expensive gems and minerals like the North American Emerald Mines in Hiddenite, North Carolina. When MAGMA conducted our digs at the site in 2012, I believe the fee was \$45 per day with a \$10,000 value limit placed on what you could collect. This is still an extremely low fee when compared to other collecting sites that produce specimens of equal value. A good example of this would be the Royal Peacock Opal Mine in Virgin Valley, Nevada (<http://www.royalpeacock.com>). The fees there

range from \$75 to \$190 per day depending on the dig area. Do I think this price is high? Well, yes, it is high compared to what we are used to here in the southeast. Do I think it is unreasonable? No, I think this mine offers quality mineral specimens that are much sought after by serious collectors and casual rockhounds alike. I plan to visit this site when time and life allows.

If rockhounds want to continue field collecting for gems and minerals, they are going to have to decide if their hobby is worth as much as their other interests. Property owners are going to have to be fairly compensated if we want to continue to collect on their land. Reasonable fees and limits on the amount of material at some sites is warranted, maybe not all, but small sites with limited resources need to be regulated if we want to have places to dig in the foreseeable future. Finding collecting locations is getting harder and harder every day, we all need to keep our eyes and ears open to potential sites. If you find a site, treat the owner in a fair way and everyone will benefit in the long run.

As for the \$20 – \$30 per day that our club usually charges for a dig, that is not inflation, it is preservation, for a hobby that we all love! 🏹



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BONES TO STONES

FOSSIL HUNTING
THE DEPTHS OF THE
COOPER RIVER

Richard Jacquot

In 2006, I had been hunting gems, minerals and fossils in the southeastern United States for close to 20 years. Living in the mountains of Western North Carolina, my main focus was the gems and minerals that our great state is known for, but, with the “grass is always greener” thinking, I would routinely travel the southeastern coast in search of fossils. I have always had a fascination with fossils, the feeling you get when you find a stone that was once part of a living, breathing creature that roamed the earth or swam in the oceans thousands or millions of years ago is hard to explain. There is always the thrill of the find, like when you find a great crystal specimen, but knowing the fossil was once alive is an even bigger thrill for me.

I have visited many great sites to collect fossils including coastal Georgia, Summerville, South Carolina, Harleyville, South Carolina and numerous quarries and road cuts. An old friend and MAGMA club member, Jerry, was always telling me of his dive trips searching the rivers of Florida and South Carolina to find fossils and artifacts. In June of 2006, he convinced me to take his course on SCUBA diving. I took the course which included some checkout dives in Florida. We finished our training at Ginnie Springs in Gilchrist County, Florida and immediately headed to the Santa Fe River for some fossil hunting, I was hooked!

The following month, we were in Charleston, South Carolina. Our plans were to dive the Cooper River. Much different than diving in Florida with plenty of visibility, the Cooper is considered black water, or limited visibility diving. Most of the time there is close to zero visibility and you need a high powered light to see maybe two to three feet on the bottom. I had made five river dives in Florida, my sixth logged dive was in the Cooper. I was hooked again, on black water diving.

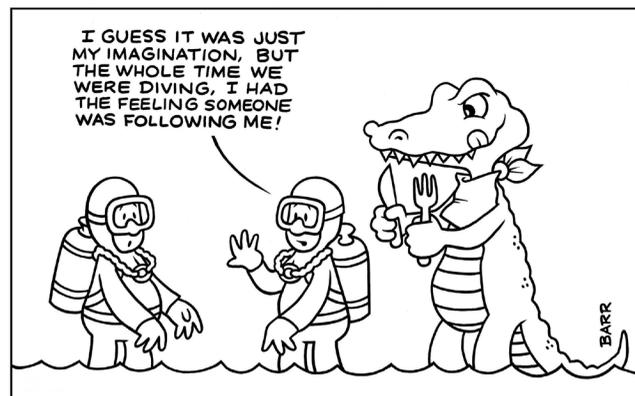
The Cooper River rises in Berkeley County, South Carolina and flows south to the Atlantic Ocean. To the north, the river connects with Lake Moultrie and also to Lake Marion via two canals. As it flows to the south it is joined by the Wando River. Continuing southward, the Cooper joins the Ashley River in the estuary forming the Charleston Harbor.

Charleston was founded in 1680 by English Colonists and African Slaves. Charleston was the first capital of South Carolina. The city is located on a peninsula where the Cooper and the Ashley Rivers join the Atlantic Ocean. By the 18th Century, rice had become the major exported commodity. Rice plantations lined the Cooper River and they were big business from Colonial times until the Civil War. The majority of Charleston’s wealth came from the rice plantations. The remains of these plantations can still be seen today as you boat along the river.

In 1861, Charleston Harbor was witness to the beginning of the American Civil War when Confederate forces fired upon Fort Sumter. When you dive the Cooper River, you will find artifacts dating back to Colonial and Civil War times. Over the years, divers have recovered hand blown glass bottles, pipes, slave tags, cannon balls, bullets, guns, buttons and more. Several ships sank along the river and are marked by buoys. You will find ballast stones and English flint at locations near these ships and there are other vessels that have never been located. You will also find evidence of



This is the gator I met during my first dive in the Cooper River in July, 2006. He stalked me and my dive partner and would not allow us to surface for close to 10 minutes. The boat captain finally ran at him with the boat to get him to leave the area.



Top Right: This tooth was, at one time, the largest *C. megalodon* tooth in the world. It measures 7.102 inches long x 5.07 inches wide (18.04 cm x 12.88 cm). The tooth was found by diver Randy Owens, in a South Carolina river some years ago. The tooth was then sold to the late Vito Bertucci who commissioned professional restoration work to repair the missing enamel. Only the center enamel has been repaired. At the time I acquired this picture for my book 'Bone Hunter' in 2008, it was for sale for \$25,000. Photo courtesy of www.megalodonteeth.com.

Bottom Right: Sandy holding one of the largest *C. megalodon* teeth ever found. Measuring 7 $\frac{1}{16}$ " (17.94 cm). This tooth was found in a river in the southeastern, US by a local fossil diver. At the time of our visit, he had been offered \$35,000 and had turned it down. He later sold it for \$48,000!

the Native American Indians that inhabited the shores of the Cooper. Arrowheads, spear points, pottery and bone needles are just some of what can be found.

The Ashley Formation of the Cooper Group and the Chandler Bridge Formation represent the only Upper Oligocene units recognized in the Outer Coastal Plain of South Carolina. Vertebrate remains are common in the Chandler Bridge Formation, which contains a mix of phosphatic, muddy, calcareous, very fine grained sand that has been termed the 'Ashley Marl'. (*Geology of the Carolinas*, J. Wright Horton and Victor A. Zullo ed., Univ. of Tennessee Press, 1991). South Carolina is divided into five geologic zones or regions. These zones cross the state in a northeast to southwest direction, running parallel to each other. South Carolinas Coastal Plain extends from the Atlantic Ocean to the Upper and Lower Fall Lines. In the Coastal Zones, fossils are found below the fall line, the shoreline of ancient beaches as the ocean inundated (flooded) and receded across the state during our geologic prehistory. As a result, both land and marine fossils are commonly found in the Coastal Zones.

In the Charleston, South Carolina area, the fossil bearing sediments are called Cooper, Ashley and Chandler Bridge. The Chandler Bridge Formation contains the largest fossils. This layer is often exposed during new construction excavations or by the erosion of creeks and rivers. The majority of fossils found in the Cooper River are from the Cenozoic Era, which covers the Paleogene and Neogene periods. It's interesting to note that



fossils from the Cambrian Period such as trilobites are also found in South Carolina. These trilobites are evidence of plate tectonics and South



Johnny Cercopely uses side scan radar on his boat 'Surface Interval' to see what is on the bottom of the Cooper River. This image shows what turned out to be an old wooden barge, probably 1700 – 1800s.



Me and Johnny talk dive gear and fossils on the back deck of the 'Surface Interval' before I jump in for the hunt. Sandy Jacquot photo.



Drift diving for fossils in the Santa Fe River, Florida, September, 2006. This is easy pickings compared to the black water, depth and currents of the Cooper River.

Carolina's connection to the African continent. The Cooper River also cuts into the geologic layers of the Hawthorne Formation, which spans four epochs - the Oligocene, the Pliocene, the Miocene and the Pleistocene. The Pleistocene (1.8 million years to 10,000 years ago) contains the remains of many Ice Age mammals, reptiles and marine life: giant ground sloth, mammoth, mastodon, giant beaver, horse, bison, short face bear, alligator, whale, dolphin, dugong, shark and more.

The Cooper River is best known for the fossilized teeth of the extinct *C. megalodon* shark. The megalodon's size has been debated by scientists for years, with estimates anywhere from 35 feet to 80 feet in length. Just picture a great white shark as big as a tractor trailer with jaws eight feet in diameter! The megalodon lived approximately 23 to 1.8 million years ago during the Miocene and Pliocene epochs and possibly into the Pleistocene epoch. It is said to be extinct today, but the actual date of extinction is still debated. Some people believe that there may still be some megs left, hidden deep in the world's oceans, specifically in the area of the Marianas (Mariana) Trench located in the western Pacific Ocean. The trench is approximately 1,580 miles long and about 43 miles wide. It reaches a maximum depth of 36,200 feet (6.85 miles). There is a lot of room to hide an 80' shark down there! If this were true, it would put them into the Holocene epoch which we currently live in. The teeth from the megalodon can reach up to 7" in size, teeth found larger than 7" are extremely rare and command high prices when sold. Some of the largest meg teeth in the world have come from the Cooper River and other close by rivers in the southeastern US. Along with the *C. megalodon* shark teeth, you can also find great white *Carcharodon carcharias*, megatooth shark *C. auriculatus*, megatooth shark *C. angustiden*, mako *Isurus hastalis*, requiem (bull shark) *Carcharhinus sp.*, tiger shark *G. cuvier*, lemon shark *N. brevirostris* and sand tiger shark *C. taurus* to name a few.

My first dives that weekend in the Cooper went well. I learned all about black water and gators, we even had a gator stalking us and the boat captain had to take a run at it to get it to go away so we could ascend to the surface. Despite the gator encounter, I was thrilled to be there and it has



Whales and dugongs were some of the *C. megalodon* sharks favorite meals. Their bones are commonly found on the bottom of the Cooper River. Most divers do not bother collecting these bones, but the ones that show evidence of shark feeding, like this one, are of interest to collectors. Specimen measures 3¾" x 1⅛" (9.53 cm x 2.70 cm).

become a passion for me over the past eight years.

My fossil collection has tripled in size since I began hunting the Cooper River. In 2008, I had my second book, *Bone Hunter*, published. It details some of the experiences I have had in the Cooper. I am like every other diver that visits this site, I am looking for that world record meg tooth to add to my collection, or the state museum if it is worthy. When hunting fossils in the Cooper, I look for the phosphate gravel beds on the bottom to begin my search. I pick up every bone I see, no matter what it is. I am not a paleontologist, so I do not know what everything I see on the bottom might be. The best way to figure it out is to bring it to the surface for further examination. Usually I can ID most of my finds by referencing some of the many fossil identification books I have in my

library. If that fails, I pack up the mystery fossil and send it, or multiple photographs of it, off to a local museum for identification from the experts.

In 2009, I was on an extended vacation with Sandy traveling the South Carolina, Georgia and Florida coast, hunting and diving for fossils. Our trip started off in South Carolina diving the Cooper River. I had arranged a two day trip with Sandy and our friend Robert Kyle. We had booked the charter dive boat 'Surface Interval' with Captain Johnny Cercopely out of Goose Creek, South



Robert Kyle with his 5½" (13.97 cm) megalodon tooth and a 6" (15.24 cm) sloth claw he found while diving the Cooper River in September, 2009. Sandy Jacquot photo.



Shasta Ground Sloth claw. *Nothrotheriops texanus*. Early Pleistocene 1-1.5 million years, approx. 6" (15.24 cm). Found in the Cooper River, September, 2009, Robert Kyle collection.

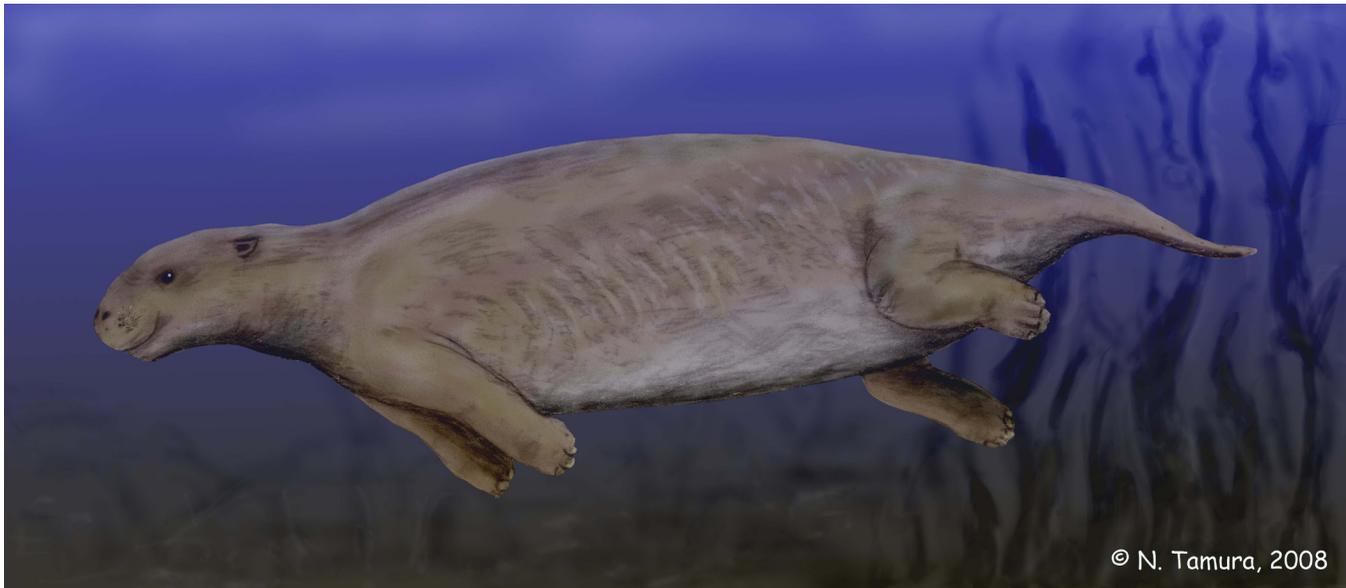
Carolina (www.cooperriverdiving.com). By 2009, I had logged over 200 dives in the Cooper and other southeastern rivers hunting for fossils. This would be Robert's second time diving the river. The first day, Saturday, we were diving at a location known as the Red Banks, which is a hot spot for fossil divers. On Sunday, Johnny took us to a new site he had discovered using a side scan radar. On the bottom, the radar painted a picture of an old wooden barge, likely from the 1700 – 1800s. Robert descended down to the barge while I was floating around on the surface experimenting with some new dive gear I had purchased and trying to get a feel for it. When we got back on the boat, Robert began to empty his goody bag (a goody bag is a bag attached to your dive gear to put fossils in when diving). The first thing he pulled out was a 5½" meg tooth and miscellaneous other fossils, not a bad start. Then he pulled out a fossil and held it up and said "what is this?" Robert was holding a 6"+ sloth claw, one of the finest ones I had seen come from the river! Finding a sloth claw in such excellent condition was rare, in all my dives there, I have yet to find a complete claw, so this was a great find for Robert. After further investigation, the claw was identified as a Shasta Ground Sloth claw, *Nothrotheriops texanus*, early Pleistocene 1-1.5 million years. We conducted a total of three dives that day, one was at a site known as the 'T' where the east and west branches of the Cooper meet. Robert and I both found plenty of fossils. At the end of the day, we said goodbye to our friends and Sandy and I continued on our vacation.

One fossil I collected during Sunday's dives was a skullcap. Each night at the hotel while on vacation, I would take it out and examine it. It was unlike any skullcap I had seen before. It looked almost like a dugong (a sirenian species like the manatee), but was a little different. When I got home, I scoured my fossil identification books with no success. I took several pictures of it and sent them to Dr. Richard C. Hulbert Jr. Ph.D., Vertebrate Paleontology Collections Manager at the Florida Museum of Natural History. Richard is an expert on fossils and he worked with me on the identification of the fossils in *Bone Hunter* in 2008. Richard said it looked like a dugong skullcap, but for a positive identification, I should get in touch with Dr.

Daryl Domning, Professor of Anatomy at Howard University in Washington D.C. Dr. Domning specializes in sirenian (i.e. dugong, manatee, sea cow) fossils.

I contacted Dr. Domning and sent him some pictures of my specimen. Then I had several casts made of the fossil. After examining the skullcap, he believes that it is the parietal-supraoccipital skullcap of a protosirenid sirenian, from the Eocene epoch. It resembles the skullcaps from the Middle Eocene Avon Park Limestone, exposed in the Waccasassa River and other localities in the northwestern peninsular of Florida. These were described by Domning, Morgan, and Ray (*Smithsonian Contributions to Paleobiology* No. 52, 1982) as 'Protosiren sp.' Dr. Domning now believes they represent a different and new genus of protosirenid. My specimen is different from the Florida skullcaps, having prominently upraised temporal crests and indentations on the posterolateral surfaces (for the squamosal bones) that end well below the tops of the temporal crests. It is likely to represent a new genus and species of protosirenid. The specimen was placed in the National Museum of Natural History, Smithsonian Institution, for inclusion in their permanent collection of fossil vertebrates.

Sirenians first appeared during the early Eocene epoch, 56-34 million years ago. Sirenians belong to the group Tethytheria, along with Proboscidea (elephants) and the extinct Desmostylia (Oligocene to late Miocene epoch) and Embrithopoda (late Paleocene to late Eocene epoch). Sirenians started off as four legged hoofed mammals that roamed on land along the shores of the Tethys Sea in the Old World, they were about the size of a small pig. One of the earliest known sirenians was *Prorastomus*. Found in Jamaica, this creature was mainly terrestrial and ate soft plants, it grew to about 5'. The evolution process went from the four legged land mammal (Paleocene to early Eocene epoch). Sometime during the Eocene epoch, they migrated to the water, the front and rear limbs began to evolve. By the end of the Eocene, Dugongidae sirenians appeared and had developed flippers that replaced the front limbs. The rear limbs disappeared altogether and a tail fin (caudal fin) had developed to propel them through the water.



Prorastomus was one of the earliest known Eocene epoch sirenians (56-34 million years ago). Found in Jamaica, this creature was predominantly terrestrial and still had its hoofed front and rear limbs. Prorastomus grew to about 5' in length and fed on soft plants. Photo courtesy of Nobumichi Tamura, website: spinops.blogspot.com, contact: nobu.tamura@yahoo.com.

Today, there are three living species of manatee (Trichechidae sirenian) and one species of dugong (Dugongidae sirenian). They are the only marine mammal herbivores and they are all on the endangered species list. Dugongs and manatees are much larger than their sirenian ancestors. They can grow to almost 14' and weigh over 1,300 pounds. 'Sirenian' comes from the Greek 'sirens'. Sailors would see them and mistake them for a mermaid, a mythical creature with the upper body of a human female who has the tail of a fish instead of legs.

Fossil dugong teeth, rib bones and much rarer, skullcaps, are found in the Cooper River and other rivers in the southeastern US. Dugongs and whales were a favorite meal of the *C. megalodon* shark. Most divers ignore the bones, but the ones that show signs of megalodon shark feeding are of interest to collectors.

This find is another example of how amateur collectors contribute to the knowledge we have of the fossil record. Amateur collectors should be allowed to continue their search for fossils and artifacts while working with the professionals to further our knowledge and discover more new and previously unknown species. The sirenian fossil record is still being explored and hopefully more of this species and other new species will be

discovered.

Diving the Cooper River is not for the casual diver. It is dark and you will most likely be diving alone in depths of 35' to 60'. You should have redundant dive gear with you in case you get snagged on the bottom or have issues with your air supply or other gear. Pony bottle or backup air supply, extra dive knife, extra lights and mask are just some of the items I keep with me when diving the Cooper. I also use an OMS dual bladder BCD (buoyancy compensation device) with 100 lb. lift, in case one bladder fails, I will still be able to surface safely. Good dive training is a must and can be found at most local dive shops. Gear maintenance and top quality equipment are things to pay special attention to when diving black water rivers. The Cooper River is influenced by the incoming and outgoing tide from the Atlantic Ocean. You should learn the tide tables and try to dive the tide for better bottom time without the harsh current. If you plan your dive, you can get in three good dives with little current, about a three hour window. Hazards include gators, sharks, giant catfish, trees and branches, mud balls, recreational boaters that do not look for or see divers and possible equipment failure. On a positive note, you will definitely find a lot of great fossils and artifacts. Here is a funny story I took



Top view, fossil skullcap of new species of protosirenid sirenian, Eocene epoch. $4\frac{5}{8}$ " x $3\frac{1}{8}$ " x $1\frac{3}{4}$ " (11.75 cm x 7.94 cm x 4.45 cm) Found near the 'T' in the Cooper River, September, 2009, Richard Jacquot collection.



Bottom view, fossil skullcap of new species of protosirenid sirenian, Eocene epoch. $4\frac{5}{8}$ " x $3\frac{1}{8}$ " x $1\frac{3}{4}$ " (11.75 cm x 7.94 cm x 4.45 cm) Found near the 'T' in the Cooper River, September, 2009, Richard Jacquot collection.



Left side view, fossil skullcap of new species of protosirenid sirenian, Eocene epoch. $4\frac{5}{8}$ " x $3\frac{1}{8}$ " x $1\frac{3}{4}$ " (11.75 cm x 7.94 cm x 4.45 cm) Note indentation on the posterolateral surface (for the squamosal bones) that ends well below the top of the temporal crest. The indentation is approx. $\frac{5}{8}$ " (1.59 cm) below the top of the crest. Found near the 'T' in the Cooper River, September, 2009, Richard Jacquot collection.



Comparison of fossil skullcaps: Left - *Dugongidae sirenian* (Dugong), from the Cooper River, 5" x 3½" (12.7 cm x 8.9 cm) Unknown epoch. Center - New species of *protosirenid sirenian*, from the Cooper River, 4⅝" x 3⅛" x 1¾" (11.75 cm x 7.94 cm x 4.45 cm) Eocene epoch. Right - *Dugongidae sirenian* (Dugong), from the Wando River in South Carolina, 6" x 3⅛" (15.24 cm x 7.94 cm). Unknown epoch. Some dugong skullcaps are rounded on top, lower and flat while others have temporal crests that are raised in the rear and flatten out as they progress to the front of the skull. The dugong skullcaps are larger than the *protosirenid sirenian*. The Eocene sirenians were much smaller than their more recent cousins. All specimens, Richard Jacquot collection.



Comparison of fossil skullcaps

Left top and bottom: *Sirenian* skullcap (possibly early dugong), photos courtesy Paleo Direct, (paleodirect.com), from the Waccasassa River, Florida, 4.65" x 2.65" (11.81 cm x 6.7 cm) Eocene epoch.

Right top and bottom: New species of *protosirenid sirenian*, from the Cooper River, 4⅝" x 3⅛" x 1¾" (11.75 cm x 7.94 cm x 4.45 cm) Eocene epoch.

The new *protosirenid sirenian* specimen is different from other Eocene sirenians in that it has prominently upraised temporal crests and indentations on the posterolateral surfaces (for the squamosal bones) that end well below the tops of the temporal crests. The indentations are approx. ⅝" (1.59 cm) below the top of the crest.



One of the natives sunbathing on the shore of the Cooper River, this 12' gator is harmless as long as you keep your distance and stay away from its nest.



If you told me this was a crappy looking fossil, I might have to agree with you...This is a fossil coprolite (fossilized feces) found below the Red Banks in the Cooper River. Coprolite is a common find in the river and much sought after by some collectors. Not sure of the species, some have suggested alligator or shark? 4½" x 2" (11.43 cm x 5.1 cm). Richard Jacquot collection.



My son R.J. and I bought this 24' 1961 Lone Star cabin boat in 2000. We planned to fix it up and learn to dive. Almost 10 years later, I finally got it finished and today use it to fossil hunt the rivers of the southeast.

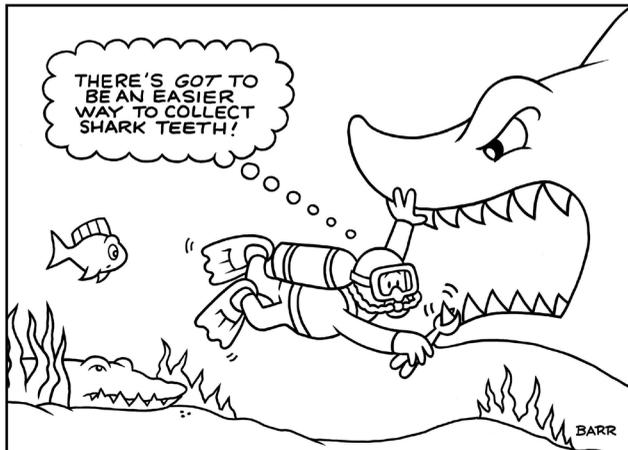
out of *Bone Hunter* to share with you here.

"Little fish can give you a big scare too. Once I was sitting on the bottom, waiting for the current to ease a bit before beginning my fossil hunt. I had stuck my dive knife into the gravel to hold myself in place as I waited. I could see two to three feet around me with my dive light. To the right, I noticed the tail section of a fish swaying in the water. The tail fin was about a foot tall. I decided to reach over and pet the fish. What happened next was scary and funny at the same time. As soon as I touched the fish's tail, the fish, which turned out to be about a four foot catfish, spun around and looked me in the eye. There I was, face to face with the monster head of a really angry catfish. I swear it barked at me! I almost did a back flip trying to get away from that thing. I yelled and almost spit my regulator out. Of course, my mask was magnifying the fish, making it larger than it really was. Panic can kill you on the river bottom. I would hate to be the diver that was killed by a catfish! So remember, don't panic and don't pet the fish."

You will need to obtain a 'hobby divers license' to collect fossils and artifacts in South Carolina. The fee is minimal and quarterly reports are required. The University of South Carolina has a great system and educational programs to teach hobby divers what to look for and help with



My 1961 Lone Star 'Sadeyn Sirenian' at the Cypress Gardens landing. Sandy and I try to get to the Cooper River every summer to hunt for fossils.



identification of their finds. To obtain a hobby divers license, visit the SCIAA website at: www.artsandsciences.sc.edu/sciaa/mrd. They send out quarterly reminders via email for the reports and invitations to various classes and events.

In 2000, I purchased an old cabin boat with my son R.J., we intended to rehab the boat and learn to dive. I finally finished the boat and now use it for my dive adventures along the coast. If you do not have a boat, but you want to dive the Cooper, and have experience as a black water diver, I suggest contacting Captain Johnny Cercopely. He can be reached through his website: www.cooper-riverdiving.com or at his Facebook group 'Cooper River Divers'.

Well I guess this story is great if you are a diver, or want to become one to hunt the river for fossils. I can imagine that a few of you would prefer to stay on land to do your fossil hunting. I will share a couple of locations in the South Carolina area where I have had good luck.

The Ashley River Bridge site is still available and producing some nice material from what I am hearing from some of my club members. I did an article for *Rock & Gem* magazine on this site (*Phosphate Fossil Treasures, Easy Pickings on South Carolina's Coastal Plain*, September 2006, Vol. 36 Num. 9) which can still be purchased at their website (www.rockngem.com). This site is located at exit 216 A off of I-26 East in Charleston, South Carolina. You take the exit, cross over the bridge and pull off at the end of the bridge, under the bridge to the right. Surface hunt the shoreline for shark teeth, vertebrae, fossil clams and more. Be careful of traffic at this site when trying to pull off under the

bridge. Google Earth imagery in March, 2014 shows some construction taking place at the site, which is now a park, so more material may be exposed.

If you travel back to Harleyville, South Carolina, you can visit Harleyville Town Hall for some fossil hunting. Collecting at the LaFarge (Argos) Quarry in Harleyville is no longer permitted, but the opportunity to collect this material is still available. Fossil collecting is now allowed at the Town Hall in Harleyville. The address is 119 South Railroad Ave. Harleyville, SC, 29448. The phone number is (843) 462-7676. Collecting is permitted in a lot next to Town Hall. This is fossil bearing dump material brought in from the LaFarge (Argos) Quarry. The site is approximately the size of a tennis court. Once you arrive, you need to go into Town Hall and let them know you are there to collect. Collecting is permitted anytime during daylight hours. The material from this quarry cuts 80' through the Harleyville Formation (Late Marine Eocene) and the Cross Formation (Middle Marine Eocene). This is the deepest mine in eastern South Carolina. You will find excellent specimens of fossil shark teeth, bones, brachiopods and more. Harleyville is located at Exit 177 off Interstate 26.

I used to spend a lot of time in Summerville, South Carolina hunting the creeks and drainage ditches. I have heard that the city of Summerville is now fining people \$500 if they catch them collecting on public land.

To learn more about diving for fossils in the Cooper River, visit my website at: www.bonehunters.net and take a look at our field reports and check out my book, *Bone Hunter, Black Water Diving for Fossils and Artifacts in South Carolina's Cooper River* (Richard James Jacquot Jr., 2008).

For more information on sirenian fossils, I suggest Dr. Domning's book, *North American Eocene Sea Cows* (Mammalia: Sirenia) (Daryl P. Domning, Gary S. Morgan and Clayton E. Ray, Smithsonian Institution Press, 1982).

An excellent identification book on megalodon shark teeth is Mark Renz's *Megalodon, Hunting the Hunter* (Mark Renz, 2002). Renz also has several other excellent fossil guides, you can check them out at his website: www.fossilxpeditions.com.

Another great guide for fossils is Dr. Richard Hulbert's *The Fossil Vertebrates of Florida* (Richard



***C. megalodon* 'red' tooth, Bonneau Ferry, Cooper River, 4⁵/₈" (11.75 cm), Miocene to Pliocene epoch. Richard Jacquot collection.**



Megatooth Shark, C. auriculatus, Eocene epoch, 2¹/₈" x 1¹/₂" (5.4 cm x 3.81 cm). This auriculatus tooth was found by itself at the bottom of a 65 foot hole near the power lines in the Cooper River. After millions of years, it is still in perfect condition. Richard Jacquot collection.



This large C. auriculatus tooth was found by rockhound Bo Bryant and his son at the Harleyville La-Farge Quarry. If you are lucky, you can still find specimens like this one at the Harleyville, Town Hall site where the fossil bearing ore is deposited for collectors. 3¹/₄" x 2³/₁₆" (8.26 cm x 6.51 cm). Richard Jacquot collection.

C. Hulbert Jr. (Author) and Roger Portell (Illustrator), 2001). Author Steve Alten is a science fiction writer who has written several books on the megalodon shark. Check out *Meg: A Novel of Deep Terror* (Steve Alten, 1997), *The Trench* (Steve Alten, 1999), *Meg: Primal Waters* (Steve Alten, 2004), *Meg: Hell's Aquarium* (Steve Alten, 2009) and his latest e-book *Meg: Origins* (Steve Alten, 2011). After reading Alten's books, it leaves me wondering what is still swimming around in the ocean depths.

Fossil hunting the black water rivers has been one of the highlights of my collecting career. It is a whole new world when you are 50' deep in black water using a light to crawl around in the dark looking for fossils. It can be unnerving when you first try it, but when you find that first good meg tooth, all the other worries and fears go away, and you are just focused on the hunt. 🦈



Muskrat jaw with teeth (mandible), with first and second molars. Order: Rodentia, zibethicus, Cooper River. 1 $\frac{3}{4}$ " x $\frac{3}{4}$ " (4.45 cm x 1.91 cm). Pleistocene to Holocene epoch. Richard Jacquot collection.



Fossil ivory, possible tusk of unknown species, found near the Red Banks in the Cooper River. 4" x 1 $\frac{3}{4}$ " (10.16 cm x 4.45 cm). Richard Jacquot collection.



*Sloth hand bone, (metacarpal, third or middle digit) *Paramylodon harlani* (Harlans Ground Sloth), Oligocene to Holocene epoch, 4 $\frac{7}{8}$ " x 3 $\frac{1}{4}$ " (12.38 cm x 8.26 cm) Red Banks, Cooper River. Richard Jacquot collection.*



Latest Finds

Photos submitted by our readers

Top: Petrified wood specimen collected by Carl and Sandee Barton, Dobell Ranch, Navajo County, Arizona. Specimen measures 8" x 7" x 3 1/2" (20.3 cm x 17.79 cm x 8.9 cm) Collected May, 2014. Carl Barton photo.



Middle: Agatized coral geode collected by Mark Bayles, Withlacoochee River, Georgia. Specimen measures 5 1/2" x 4 1/2" (13.97 cm x 11.43 cm) Collected August, 2014. Mark Bayles photo.

Bottom: Late Cretaceous (80 million year old) amber. Shaped and polished with gnats and other insects, collected by Victor Krynicki, Wayne County, North Carolina. Collected August, 2014. Victor Krynicki photo.





Raising a Dead Buffalo

Sharpes Emerald Prospect **Sharpes Township, North Carolina**

Richard Jacquot

No, I'm not out on the plains of the Midwest giving CPR to one of the downed beasts. Although my CPR certification may still be good? I am in Hiddenite, North Carolina with a top notch team of mine resuscitation specialists attempting to breathe life back into the 'Buffalo Vein Mine'.

Some of you may remember this mine if you live in the North Carolina area. The MAGMA club held a field trip to this site back in January of 2012. We were the only club to ever visit the site before the owner quit working it. Ed Cansler, the previous owner had bought the land from Boyd Adams a few years earlier. Boyd was the brother of Renn Adams who owned the famed Adams Farm that produced the 64.83 carat 'Carolina Emperor' among other major finds. The Buffalo Vein sits across the street from the Adams Farm.

Our group, 'Hiddenite Gems Investment Group LLC' bought the mine from Ed in May of 2014. Our club trip in 2012 was not very

productive, but that was mainly due to little work having been done to open the site. After looking over the area, it seems that Ed has only explored about ¼ of the property, maybe less. He had named the site 'Buffalo Vein' because of a big knob of quartz that protruded near the center of the mine. He dug this vein, which produced around 250 pounds of beryl, according to Mark Randle who helped him work the vein. Ed says the site has produced beryl, aquamarine, smoky quartz, rutile, gem grade muscovite mica, and siderite to name a few. He even claims that Boyd Adams told him that an emerald had been found on the property. We started working the site in July of 2014. Our first digging was to expose what was left of the Buffalo Vein, then make plans to systematically work the rest of the property.

We found small amounts of beryl in the gray smoky quartz, I believe the beryl we found was the outer edges of what remained of the 'Buffalo



A view of the mine when we first got it. Little had been done in the past few years...Time to go to work!

Vein'. After digging deeper than the previous owner and searching the perimeter of the old vein, we declared the 'Buffalo Vein' deceased. No funeral arrangements were necessary as what was left was already six feet under.

After a week at the site with a CAT 320 track hoe, we had uncovered some new veins and a variety of minerals. Smoky quartz, beryl and muscovite mica were the main suspects. Much of the smoky quartz has inclusions of unknown minerals. We have not found an emerald (yet) so we decided to rename the mine. Originally we called it the 'Squirrel Nut Emerald Mine' but then changed the name to the 'Sharpes Emerald Prospect' to reflect the township the site is located in, Sharpes Township. We are just getting started and have all the time in the world. The variety of mineralization at the site gives me high hopes for the property. Some of the crystals we found are very similar to what comes from the Adams Farm and Jamie Hill's North American Emerald Mines.

We hit some smoky veins that were very

interesting. They would start near the surface, maybe a foot or so down and an inch or two thick, then continue vertically into the ground for 12' - 15'. As the veins would continue down, they would get wider, up to 3" - 5". There was some



MAGMA member Tony Jones searches the dump piles for crystals during our club dig.



Light reflecting off this crystal showing multiple stepped crystal faces. These stepped faces are caused by geologic and chemical interruptions during the crystal growth. 3" x 1 7/8" (7.62 cm x 4.76 cm) Collected at the Sharpes Emerald Prospect, July, 2014.

crystallization in the smaller sections of the vein, but at the bottom end, they all seemed to terminate in large, flattened crystals. The crystals are not real pretty, but they are unusual. They have sides that could not grow as they were pinched in the vein, the terminations have maybe 3 – 5 faces showing, very deep dark, almost black color and translucent. They were trying to grow, but ran out of space. One of the largest sections weighs 19 pounds. If this crystal had found room to grow, it would have been huge! We call these crystals 'pancake smoky quartz'. We plan to explore this area more and go deeper. Our thinking is the veins may eventually pocket out, if the flattened



One of the first smoky quartz crystals found during our dig. We found many very dark, almost black smoky crystals, some were transparent and facet grade. 2 1/2" x 1 3/4" x 1" (6.35 cm x 4.45 cm x 2.54 cm).

crystals we have already found are any indication of what may be in a pocket, we are going to have some monster smokies. It would not surprise me to see that at any location in or near Hiddenite. Jamie Hill dug up a 298 pound quartz crystal many years ago in the area, so it could happen here.

We also discovered crystals in the veins that had been broken then separated from their matrix or other crystal sections, we recovered these crystals within several inches of each other. Most showed signs of self healing (see article in this issue on crystallographic continuity). This is an indication that there was some geologic disturbance at the mine in the past. Several crystals were recovered that had numerous stepped faces. These stepped faces occur when the crystal is subjected to geologic and chemical interruptions. These interruptions can happen multiple times while the crystal is forming. As the sides continue to grow, they form tiny terminations that are oriented in the same direction as the main termination. When the crystal is done growing, the side terminations form a skeletal 'girdle' around the crystal giving it a 'stepped' appearance. The more the growth is interrupted, the more step faces will be present.

The muscovite mica is some of the finest I have seen at any of the mines in North Carolina.

Top Right: Dark smoky section of vein material from the Sharpes Emerald Prospect. We found numerous crystals and crystal sections like this one during our dig in July, 2014. 6¾" x 4½" x 3½" (17.15 cm x 11.4 cm x 8.9 cm).

Middle Right: A nice double terminated dark smoky quartz crystal found by MAGMA member Bill Blair. Approx. 1¼" (3.18 cm).

Bottom Right: Extremely dark mud included smoky crystal collected at the Sharpes Emerald Prospect, July, 2014. We found a lot of these dark smoky crystals, from very small, up to a 19 pound single crystal! Specimen measures 2" x 1¾" (5.08 cm x 4.45 cm).

Below: MAGMA member Trudie Murphy shows off her find of two beryl crystals in quartz matrix, found during the MAGMA club dig at the Sharpes Emerald Prospect.





Members of the Mountain Area Gem and Mineral Association work the dump piles and veins in the walls of the new 'Sharpes Emerald Prospect', Hiddenite, North Carolina. MAGMA was the first club to visit this site and we hope to return to the property at least twice a year.

I have visited the Yates Brooks Farm in Cleveland County, North Carolina, many times in the past. Yates Brooks Farm is known for its muscovite mica among other things, but I have never found specimens as nice as the ones we are finding in our mine. I have several excellent specimens of muscovite from the Adams Farm across the street that was collected in the 1960s, it is identical to the specimens we are finding. The muscovite forms as single crystals up to 3" in diameter and up to ¾" on edge, and as clusters that are several inches in size. Many of the crystals are emerald green and translucent.

Our plans are to continue systematic mining of the site in a productive way, so that we are not redigging the same areas over and over. I have worked on dig crews in the past and that seemed to be their biggest downfall. It not only is a waste of time and money for the diggers, it makes the mine less productive. I hope to have the MAGMA club in at least once or twice a year, that of course is up to our investors. But so far, they all seem receptive to our club (maybe because they

are all members).

On July 24th, 2014 we had our first MAGMA club dig at the new mine. Approximately 37 members attended the one day dig. We had worked the Sharpes Emerald Prospect dig into our schedule of events for our annual Western North Carolina Rockhound Roundup which was taking place that week. I was field trip leader with another of our mine owners, Rob Whaley, for the day. Members found beryl, nice muscovite mica and smoky quartz. The best specimens were found by Trudie Murphy, who found a nice fist size specimen of beryl crystals in smoky quartz. Luther Hunt found several flats of gem grade muscovite mica. I saw several nice specimens of facet grade smoky quartz and one excellent double terminated smoky quartz crystal found by Bill Blair. Everyone was happy and expressed an interest in returning, so we are planning another dig for the club in the near future. Stay tuned in future issues of American Rockhound for updates and progress on this site! 🏠

The Curious Condition of Crystallographic Continuity

Richard Jacquot

I first began to study 'healed crystals' back in 2005 when working on a dig at the Diamond Hill Quartz Prospect in South Carolina. The previous owner had located a pocket of phantom smoky quartz, much of which had been through some geologic stresses causing crystal shearing and damage, collapsed pockets, etc. In my article in Rock & Gem magazine (*Phenomenal Phantom Quartz, A new find is made at Diamond Hill, South Carolina by Richard J. Jacquot, May 2006, Vol.36 Num.5*) I described the specimens we found at that time. While researching my article for R&G, I visited the Colburn Earth Science Museum in Asheville, NC. I consulted with geologist and museum curator Phil Potter about these crystals. That is when I first learned about crystallographic continuity. He described it to me like this. While a crystal or crystals are forming, there may be some geologic stresses that may cause them to break or become damaged in some way. Volcanic activity, earthquakes and other stresses have caused the crystal(s) to break away from their matrix, or maybe just the tip or a section of a crystal might be broken and separated from the host rock. If this disturbance happens while the crystal(s) are still forming, they may be subject to crystal healing. The base of the crystal and the separated termination continue to grow. On the broken surface of the departed termination and the base rock, hundreds to thousands of tiny crystal faces begin to form and continue the growth process. These tiny crystal faces are all oriented in the same direction as the original crystal termination, this is called 'Crystallographic Continuity'. This growth process continues as if there was never any disturbance, and depending on how long the crystal still had to grow, the healed faces may be microscopic or much larger. I have seen some healed crystals with ½" crystal faces

showing on the previously damaged areas.

Typically when talking about healed crystals, people think of healed quartz, as it is a common occurrence at many localities. Talking with geologist Wade Edward Speer, I learned that many different crystals are subject to this phenomenon. He states that emerald crystals found at the North American Emerald Mines in Hiddenite, North Carolina have shown evidence of crystallographic continuity. At our nearby Sharpes Emerald Prospect, we have found several large sections of very dark smoky quartz showing excellent examples of this healing. I also have some large healed smoky crystals from the North American Emerald Mines collected in 2012.

To find a specimen of healed quartz, you need to know what to look for. Quartz, when broken shows a conchoidal fracture, similar to glass or obsidian. A conchoidal fracture is not a healed surface, it has no cleavage and follows no natural separations. It is basically a recently damaged (in geologic time) surface and may render the specimen worthless depending on the severity of the damage. A 'healed' crystal will glisten as light reflects off the numerous tiny crystal faces showing on the previously broken surfaces. Some of these surfaces can look like tiny crystals or blocky sections of small crystals. Some that were in early stages of healing when the growth stopped will show waves of crystal faces where the broken edges began to heal and show a flattened face on one side. Healed quartz is much sought after by many collectors and the metaphysical community seeks out these crystals for their healing properties.

Earthquakes and other geologic disturbances can cause a lot of damage. But finding these healed crystals just shows us that nature has a way of creating beautiful things out of otherwise worthless rocks. ✨



Top Left: This crystal shows excellent healing and crystallographic continuity. This 5 lb. 10 oz. light smoky quartz crystal was collected at the North American Emerald Mines in 2012 by Jesse Sackett, in a collapsed pocket we were digging with mine owner Jamie Hill. If the damage were recent, this crystal would be worthless. The crystal is completely healed on all sides and has no recent damage. That, along with the dolomite(?) crystal inclusion in the quartz crystal tip make this specimen worth up to \$8,000 to the right collector. Specimen measures: 8½" x 5¾" x 4" (21.6 cm x 14.61 cm x 10.16 cm). Richard Jacquot collection.



Middle Left: Close-up view of a conchoidal fracture on amethyst (quartz) crystal. A conchoidal fracture is recent damage (in geologic time) and may render the specimen worthless depending on the severity of the damage. Field of view approx. 1" x 1" (2.54 cm x 2.54 cm).

Bottom Left: Close-up view of a conchoidal fracture on amethyst (quartz) crystal. A conchoidal fracture is not a healed surface, it has no cleavage and follows no natural separations. Field of view approx. 1" x 1" (2.54 cm x 2.54 cm).

Opposite Page



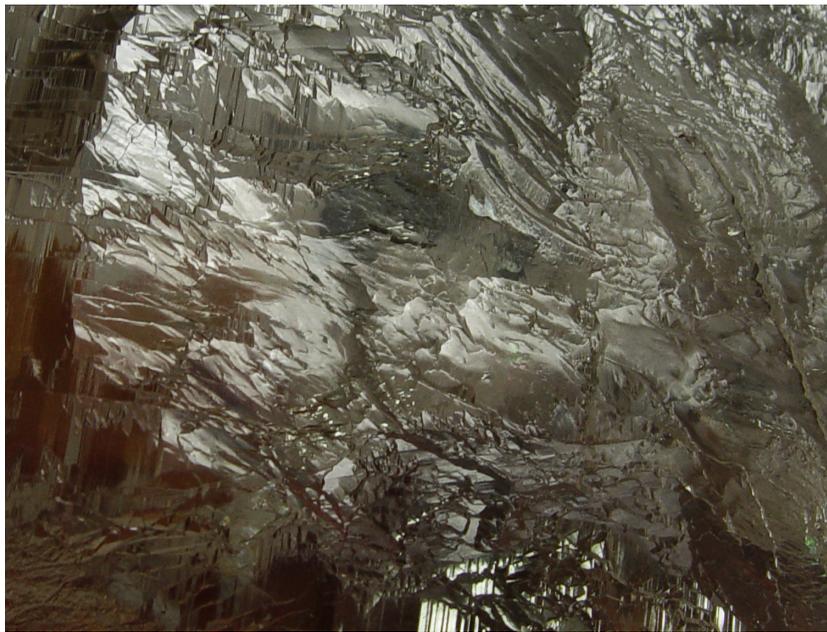
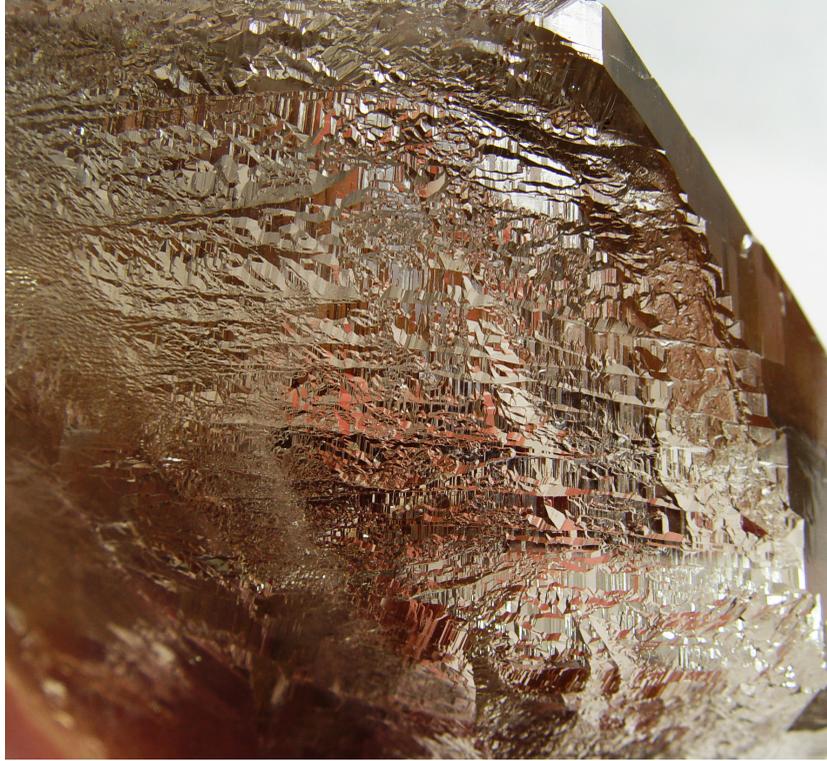
Top Left: Close-up view of healed quartz and crystallographic continuity on the 5 lb. 10 oz. crystal. Field of view: Approx. 2" x 1¾" (5.08 cm x 4.45 cm).

Middle Left: What I call the 'front' of the crystal shows larger crystal healing. Close-up view of crystallographic continuity, the healed terminations are all oriented in the same direction as the main termination. Field of view: Approx. 2" x 2" (5.08 cm x 5.08 cm).

Top Right: Close-up view of healed quartz and crystallographic continuity around the termination of the 5 lb. 10 oz. crystal. Field of view: 2½" x 2¾" (6.35 cm x 6.99 cm).

Middle Right: Close-up view of healed quartz and crystallographic continuity on the 5 lb. 10 oz. crystal. Field of view: Approx. 2" x 1¾" (5.08 cm x 4.45 cm).

Bottom: Close-up view of healed quartz and crystallographic continuity on the 5 lb. 10 oz. crystal. Field of view: Approx. 3" wide (7.62 cm).



American Rockhound

John Denev

Richard Jacquot

I first met John Denev in the late spring of 2003. I had written my first book *Rock, Gem and Mineral Collecting Sites in Western North Carolina* and it was released in January of 2003. John had purchased a copy of my book and was visiting the Sheepcliff Aquamarine Mine in Cashiers, North Carolina, that I had listed in the book. The site had been purchased by a developer and a house was being built on the property. The current owner saw John collecting and told him that the site was being developed for a new home. He told John he could collect in the dump piles while the workers were grading and preparing the area. I received an email from John introducing himself and inviting me to join him at the site.

It was a sunny spring day in 2003 when I arrived at the Sheepcliff Mine to meet John. John had brought along an excellent specimen of North Carolina amethyst that he had collected in the Blue Valley, Macon County, North Carolina area to give me. It is a prized piece in my personal collection today. We spent the next few months together with a few friends working the mine while the construction workers were grading and preparing the new homesite. We would bring a six pack of beer to give to the track hoe operator, he would in turn dig us a trench through the dump piles about 8-10 feet deep and 30-40 feet long. We would spend days collecting fine specimens of beryl and aquamarine and then get another trench opened up.

John is deeply involved in rockhounding. His main interests are amethyst, beryl and corundum and he has several specimens on display at the Clemson University Geology Museum. John joined our club and has been one of our most active members ever since. John's collection of minerals is worthy of a museum. He has collected some of the finest amethyst from North Carolina and South Carolina I have seen, large beryl from the Sheepcliff Mine and Ray Mines in Yancey County, NC and numerous other sites, as well as

rare and unusual specimens from the Diamond Hill Mine. John and his long time friend and digging partner, Marvin Miller, would spend days searching for collecting sites. It was rare if you could get John on the phone during the day, he was usually out prospecting.

This is true even today. At 85, John still spends many hours every week searching for crystals on nearby lake beds close to his home near Pickens,



John with daughter Dianne visiting us at the Colburn Museum Gem and Mineral Show in Asheville, NC in 2010.

South Carolina. John has made some amazing discoveries in the past few years. He and his friend Marvin have found giant amethyst crystals that weigh up to 75 pounds in Moffittsville, South Carolina. He has also found large, excellent specimens of almandine garnet that show four rayed stars. These garnets rival any in the world, when you look at them in the sun, the star seems to float above the garnet. A rough, weather worn smoky quartz crystal found in Greenwood, South Carolina, was later cut by master gem cutter

George Ellis, into the 363 carat faceted stone dubbed the 'Smokin John D'.

John made several trips back to South Dakota in recent years to visit his children out west and collect the agates that the area is known for. John has an excellent collection of Tee Pee Canyon and Fairburn agates. In the past few years John has been using a long handled potato rake that doubles as a walking stick and digging tool. After just a few digs, watching him roll out beautiful crystals with the rake, we decided it was a 'magic' rake, or maybe John just knows where to look?

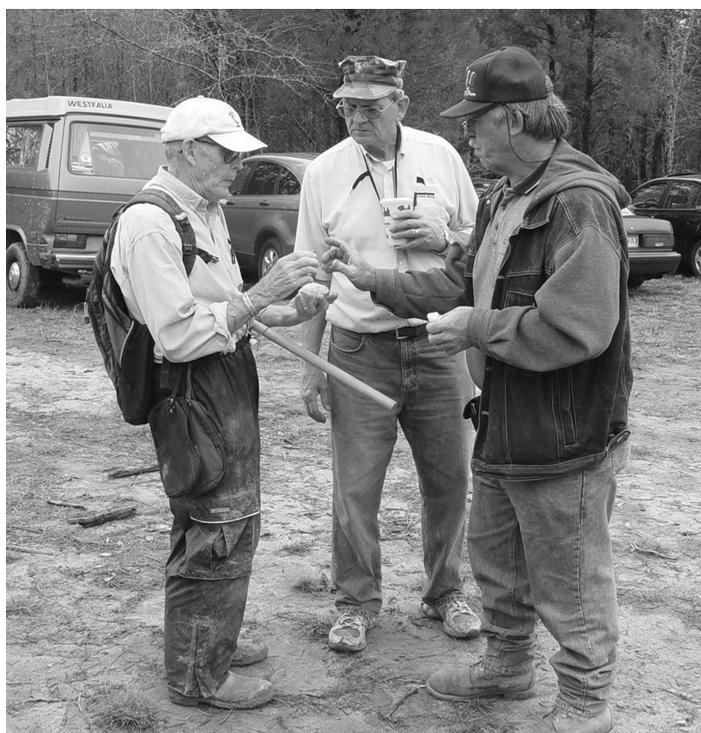
John Lewis Deney was born on January 27th, 1929 in Buffalo, New York. Growing up he attended Kenmore Senior High School and later moved to South Dakota with his family. In 1947 he enrolled in the South Dakota School of Mines and Technology in Rapid City, SD where he excelled in football, basketball and track. He was also an excellent swimmer. John earned a BS in Geological Engineering in 1951. After graduating, he went to work for the Hercules Powder Company from 1951 – 1954. John was drafted into the US Army in 1954 and spent his first 8 weeks training with the 502nd Battalion of the 101st Airborne Division. After training he worked on the Bomb Disposal Squad and attended Ordnance School in Aberdeen, MD and later, Chemical, Biological, and Radiological training. John was lucky to survive the military, here is a story he shared with me about basic training.

"Basic training was done at Fort Knox. Part of the training was throwing live hand grenades. Once they had an accident when a grenade a trainee threw didn't go off. The next guy threw his grenade and it landed just behind the dud and blew the dud up and back to where the men were, the dud then went off killing three trainees. This prompted a new procedure, an EOD man (John) had to be present, and when a grenade didn't go off, practice stopped until the dud was found and exploded. On a very muddy day, I was on duty when one didn't go off. I was walking through the mud looking for it and I heard a click. I knew the firing pin had been jarred by my footsteps and started the firing process. I

had 10 seconds from the click before the grenade would explode, I took two large steps and dived into the mud. I had guessed right and had gone in the right direction as it went off behind me throwing fragments over my head!"

John went on to conduct more hazardous duties for the military, to include draining nerve gas from special artillery shells while wearing a butyl rubber suit. He had to carry a syringe filled with atropine. If the nerve gas touched him, he had 30 seconds to inject himself with the syringe. John's extensive training also had him working as a private contractor for the CIA.

After leaving the military in 1956, John returned to his job at the Hercules Powder Company. John had married his first wife, Betty Sherrill in 1952. In 1957, his daughter Dianne Helen Deney was born. In 1959, he moved his family to Birmingham, Alabama and incorporated his own company, Drilling and Blasting Inc. In 1960, his son, John Lewis Deney (Jack) was born. John went on to work on numerous projects in his field, he worked on the Cal-Sag Canal which helped connect Lake Michigan and the Mississippi River. John's company 'Drilling and Blasting'



John Deney (left) with rockhounds Luther Hunt (center) and Marvin Miller (right) checking out a specimen at the Cunningham Farm in Due West, SC, 2008.

helped build the first static test stand for missiles in the US (The Marshall Space Flight Center). John's years of training made him an expert working with explosives, but he had some close calls and some bad experiences in the early days of his career, here is one of them.

"One of my unforgettable experiences. We were doing the placing of explosives to be detonated, a seismograph would record the shockwave of the detonation. This would show the rock structure and the possibility that oil might be present. This was off the coast of Louisiana and we were in a line 12 to 15 feet apart, out in the water that came up almost to our shoulders. A guy two away from me yelled out because a cotton-mouth snake had struck him in the face. He died before we could get him treatment for the snake bite. It was thought that a swamp buggy had run over the snake and the snake couldn't get out of the way of our approaching line."

John's wife Betty started having some health problems, so John went to work at the Mallory Capacitor Company in Huntsville, Alabama as an assistant to the chief engineer. This cut down on his travel time and he could spend more time at home. Three months later, John was the chief engineer and became a registered professional engineer. After a long illness, Betty died in 1967. John later married his second wife Peggy Brown. She brought along two sons, Eugene (Buddy) Brown and Roger Brown and they had a daughter together in 1970, Jill Lynn Deney. The family

was now living in Easley, South Carolina. John worked at Sangamo Electric Co. and later Brunswick Worsted Mills from 1972 through 1986 and traveled throughout the US and Europe to stay current on new production equipment. John was divorced in 1984. After leaving his job, John was semi-retired and worked at part time sales of



John Deney in 2003, holding a 28 pound smoky amethyst crystal he collected in Moffittsville, SC. We are in the parking lot of a local church, we spent the day collecting amethyst on Gnat Ridge in Blue Valley, North Carolina.

health and life insurance in South Carolina and parts of Western North Carolina.

John is still making the rounds, he attends almost all our club digs and shows and never misses our yearly Western North Carolina Rockhound Roundup. He always has a pocket full or box full of newly discovered crystals to share with the other members. John is also a part time caretaker at the Jackson Crossroads Amethyst Mine in Tignall, Georgia. If you visit the site on a Saturday, you may get a chance to meet him there.

In the past few years, John and I have been

trying to figure out a way to open a mineral museum in the Asheville, North Carolina area. We want to feature minerals from the southeast with special emphasis placed on the gems and minerals of North and South Carolina. Our club members could easily fill a museum with all that we have collected over the years. Of course there will be a special display case in the museum filled with John's specimens. What makes a rockhound a rockhound legend? Look at the life and times of John Deney, and you will know why he is called the 'Legendary John D.' by our members. 🦧



Fairburn agate collected and polished by John Deney. Collected north of Crawford, NE. 3³/₈" x 3³/₄" x 7¹/₈" (8.57 cm x 8.26 cm x 2.22 cm).



John preparing to descend down to examine the entrance of an old mine shaft leading into to an abandoned amethyst mine in North Carolina, 2005.



Black agate collected and polished by John Deney. Collected near Scenic, SD. 3¹/₂" x 2" x 1³/₈" (8.9 cm x 5.08 cm x 3.49 cm).



Banded agate (some call it onyx) collected and polished by John Deney. From Gap Creek, SC. Agate face measures: 1" x 3³/₄" (2.54 cm x 1.91 cm).



Two sides of a Tee Pee Canyon agate collected and polished by John Denny. Collected west of Custer, SD. 4" x 3¼" x ½" thick (10.16 cm x 8.26 cm x 1.27 cm).



Top: The 'Smokin John D.' This 363 carat stone was faceted by master gem cutter George Ellis. Cut from a crystal collected by John Doney in Greenwood, SC. $1\frac{7}{8}$ " x $1\frac{1}{2}$ " (4.77 cm x 3.81 cm).

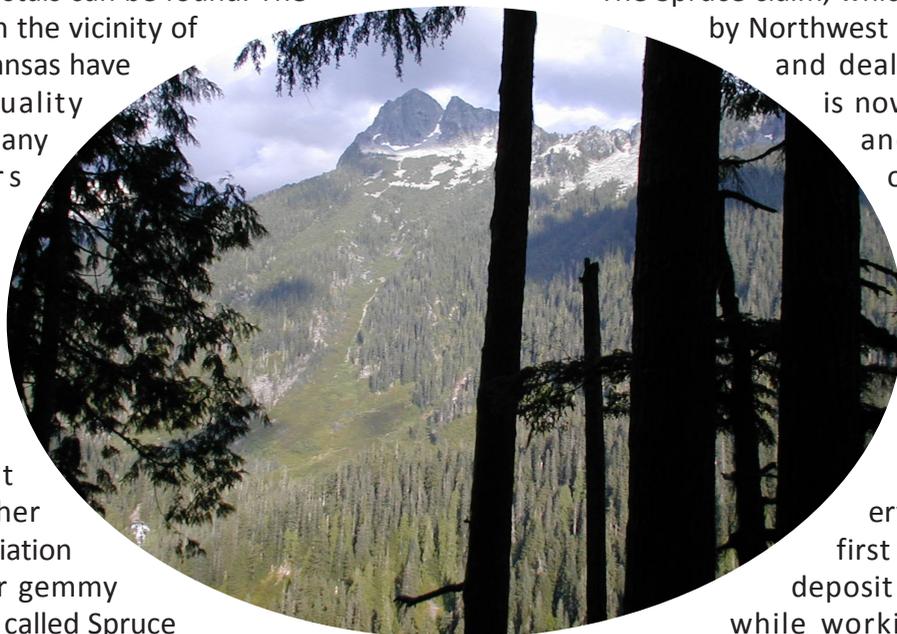
Right: Rough smoky quartz crystal collected by John Doney in Greenwood, SC. This 2,274 carat crystal was faceted by master gem cutter George Ellis to create the 363 carat 'Smokin John D.' Rough crystal measured: $4\frac{3}{16}$ " x $2\frac{3}{8}$ " x $1\frac{3}{4}$ " (10.64 cm x 6.03 cm x 4.45 cm).



SPRUCE RIDGE A CRYSTAL HUNTING ADVENTURE IN WASHINGTON STATE

Jim Landon

There are many localities in the United States where quartz crystals can be found. The open pit mines in the vicinity of Hot Springs, Arkansas have yielded high quality specimens for many years. Others produce smoky quartz or amethyst, but fewer contain other mineral species along with the quartz. One such place that does contain other minerals in association with water clear gemmy quartz crystals is called Spruce Ridge. It is located on the west slope of the Washington Cascade Mountains near the



town of North Bend, east of Seattle, Washington. The Spruce claim, which was developed by Northwest mineral collector and dealer Bob Jackson, is now owned by Bob and a consortium of individuals who have purchased shares of the property from him and now have exclusive rights to mine there. As the discovery story goes, Bob first stumbled on the deposit at Spruce Ridge while working on his masters degree in geology. He ran into a group of professional geologists who were doing



The materials needed to build this cabin at the mine were flown in by helicopter or hand carried up the trail from the Forest Service road. Jim Landon photo.



Bob's caretaker Andy is standing on the mining bench. Note the sheer drop-off to his left and the many open vugs to his right in the cliff face. Jim Landon photo.

survey work looking for ore deposits in the Snoqualmie River Valley and they told him of an outcrop of quartz crystals and pyrite they had found during their survey work. Bob followed their directions (this is pre-GPS times) and made the arduous climb up the slope of Mt. Price through old growth stands of douglas fir and hemlock to the place they had described. He found many quartz crystals lying loose in the talus and litter covered mountainside and eventually stumbled across an open vug in the granite bedrock that

contained a magnificent specimen of quartz crystals with pyrite crystals perched on their tips like golden hats. He carefully removed the matrix specimen intact, carried it down the mountain and back to the university where he showed it to his major professor. His professor promptly purchased the specimen for an amount that Bob could not believe and that was the end of his pursuit of academia and the beginning of his new interests in becoming a professional mineral collector and dealer. Bob rewarded the geology guys



This view shows the point where the trail comes down to the mine face. The pocket I discovered is just above the gray tool bag. It ended up being nearly three meters long and took most of the summer to excavate completely. Jim Landon photo.



These crystal plates are a small portion of what Jerry and I removed from the pocket. The iron staining comes from decomposing iron pyrite and can be easily removed with muriatic acid. Jim Landon photo.



This is one of the narrow ledges that needed to be negotiated to and from the mining area. One unfortunate collector lost his footing while descending the trail from the mine. Jim Landon photo.



Andy spent his summers mining and recovering specimens for Bob's Geology Adventures business. Here he is working on a recently opened pocket of quartz crystals and pyrite. Jim Landon photo.

with a plethora of beer.

Over the years, Bob has developed his business into a venture he has named Geology Adventures. Before he formed his LLC and sold shares of the Spruce property, Bob conducted yearly field dig trips to Spruce on a first come first serve basis through his website: geologyadventures.com. He limited the number of individuals on any given trip to twelve and I was fortunate to be able to participate in three of these trips.

The crystal containing vugs at Spruce are found in a tough granite country rock of the Snoqualmie Batholith that formed during an episode of mountain building several million years ago. As the granitic magma mass forced its way upward from deep in the earth, pockets of high pressure and high temperature steam erupted violently shattering the cooling granite mass in chimney like masses of jumbled rock in a process called out-gassing. These localized areas called breccia pipes contained numerous voids and channels through which super heated mineral laden water circulated and ultimately deposited the quartz and mirror like pyrite crystals.

Getting to and then mining the breccia pipes at Spruce is not a task for the casual miner or collector. The Forest Service road that parallels the Middle Fork of the Snoqualmie River and passes below Spruce Ridge is a bone jarring twenty plus mile ordeal from the town of North Bend on an unmaintained Forest Service road. After parking at the trail head you have a climb that gains 1000' of elevation in half a mile on a trail that snakes through the forest and along narrow moss covered ledges to get to the camp Bob has built over the years to make extended stays more comfortable. To you non-American measurement individuals, that would be 308 meters. Somehow 1000' sounds more dramatic.

To mine the deposit, Bob first used gas powered jack hammers that had to be hand carried to the site along with fuel and other equipment. He later flew in an air compressor by helicopter, after scraping out a pad for it by hand on a ledge above the claim, so now he uses more powerful air powered drilling equipment. Holes are drilled in the granite of the breccia pipe and then loaded with charges of anfo (mining grade ammonium

nitrate fertilizer) and dynamite. Having the other part of Bob's career be as a certified controlled micro-blaster has come in handy as the technical expertise needed in that line of work dovetails nicely with loosening up rock with explosives without destroying the crystals you are hunting for.

The collecting trips I have taken to Spruce have been the stuff dreams are made of. The climb up the mountain through the old growth forest is, to say the least, invigorating and the view from his cabin across the valley is spectacular. On one trip the collecting group I was part of started the climb just before Bob set off charges to loosen up the rock in preparation for our visit. It was quite an adrenalin rush to be on a trail that was well away from the talus slope that has formed the dump for waste rock from the mine and hearing boulders ricocheting off trees and exploding as they careened down the mountain. This was not one of my typical rock collecting adventures.

The area Bob was working was a steep bench that ended in a sheer cliff face with a drop of around 100 meters to the talus slope below. The edge of the cliff had a cable stretched across it with orange plastic netting hung from that. This was designed to keep collectors from going airborne if they lost their footing and started sliding down the slope. In hindsight, I think this was more of a visual reassurance of safety than a real hindrance to gravity taking over. I guess that is why each of us was required to sign a liability waiver before being allowed to participate on the trip.

On the hike up the trail people kept jockeying for position so that they could be among the first to get to the bench. Any time the over-weight and out of breath stopped to recover they were passed by those who followed. It was kind of like participating in a car race. When we got to the bench everyone quickly spread out and started looking for open vugs or places that looked promising where they could start beating on the rock with their tools. The whole cliff face was full of vugs of varying sizes that had been previously cleaned out, but still contained remnants of bright massive pyrite and quartz crystals that had been too difficult to remove. The sight really

gets your heart pumping. On this trip I was not having much luck as I moved from place to place poking and prodding visible cracks looking for some sign of an unopened pocket. As the day progressed I was beginning to think that this trip was going to be a bust. Finally on the east side of the bench where we had climbed down from the trail, I noticed a large, rather flat slab of granite with a barely discernible crack running along its underside. I set to work on it with my chisels and crack hammer and in short order was able to pry the large slab loose. After pushing it off the cliff I went back and noticed an orange iron stained oval about the size of a softball in the face I had exposed. When I tapped it with my hammer a hollow sound emanated from behind the rock face. I placed one of my chisels on the center of the oval, tapped it with my crack hammer and low and behold it broke through into an unseen void. After removing more rock from the opening I found that it led to a large open chamber that was nearly half filled with a dry, grey to black sooty material. I peered into the opening with my flashlight and was greeted with nothing. I started poking at the floor of the cavity with my screwdriver and hit something hard. Switching to a sharpened piece of wood, I pried under one piece and out popped a perfect quartz crystal plate with undamaged crystals. Quickly, I realized that the reason I had not seen anything on the roof of the cavity was that all of the crystal plates that had formed there had broken loose sometime in the distant past and had fallen to the floor. For over an hour I removed plate after plate of beautiful quartz crystals. Soon the bench around me was piled with specimens. The hole became so large that I could literally begin to crawl into it up to my shoulders. This was to be the find of a lifetime.

When I had collected all that I could possibly carry off the mountain, I turned the pocket over to my rock hunting buddy, Jerry Wickstrom, who removed all of the plates that he could carry. Other members of our party circled the hole like so many vultures as they snapped photos and commented on our finds. At the end of the day we wrapped our treasures in newspaper and placed them carefully in our packs and a five gallon bucket I had brought along. I could hardly

lift my pack. The trip back down the trail was very slow and purposeful. Many of the other trip participants passed us as we took frequent breaks to catch our breath. We had a real scare on the way down the trail as one of the trip members lost his balance and fell over the side of the trail landing on his back on the next switchback above us. He was very lucky, because if he had missed that landing the next flat spot was nearly 20 meters below us. All he got was a badly bruised shin. To our amazement his biggest concern was the condition of the specimens he had in his pack. What a rockhound!

We finally reached the trail head with legs feeling like spaghetti and shoulders cramped, but very happy. We loaded our treasures into our vehicles and drove back down that killer road to North Bend and then to Interstate 90 for the long trip back to our homes in Cowiche and Naches Washington.

Bob continues to mine Spruce when time allows and he can get away from other prospects he has claimed in both the United States and Canada. He sells both cleaned and mine run specimens from both Spruce and his other main diggings for fluorite through his website: www.geologyadventures.com. 

Give Yourself A Little Character!

(A Rockhound Character, That Is!)

I AM A ROCKHOUND!

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I Smash Boulders for FUN!



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GHOST MINES
QUARTZ
WITH
HEMATITE
WADEVILLE, NC

Rob Whaley

Discovery

Back in the 1980s, after successfully locating excellent quartz crystals at Shingletrap Mountain and several other sites in northern Montgomery County, I was given a useful tip by Donnie Reeves, who was then operator of the Cotton Patch Gold Mine. He recalled seeing an abandoned highway quarry to the south near Wadeville, NC that he thought might have some crystals I could collect.

It took me several months to locate that tiny quarry, which was way off the beaten path; however, in the meantime I discovered a quartz with hematite inclusions deposit that surpassed all the sites I had dug except perhaps Shingletrap. After 15 years of collecting pink quartz at this site near Wadeville, I had amassed thousands of crystals ranging from a pale purple to a deep cherry red color.

Some prospecting skills were involved (see my article on Shingletrap Mountain in Volume 1, Issue 1), but in the end it was a stroke of luck that led to my best finds; a timber company had logged a 300 acre tract and exposed milky quartz veins and loose pink crystals. The property was free of 'NO TRESPASSING' signs, so I picked around for a few days. It soon became apparent I might be spending quite a bit of time there, so I went to the land owner to secure permission on a long-term basis. This was granted with the sole requirement that the deer hunters leasing the land were also agreeable. After giving the lead hunter a collection of North Carolina minerals



The best dig site at Wadeville. Examples of specimens.



One of the best single crystals, 3" (7.62 cm).



Quartz with hematite, Wadeville.

for his children, an agreement was reached; I could collect rocks out of hunting season with no interference!

Preserving the Site (a.k.a. rockhound paranoia)

The lack of interference became very important in keeping the Wadeville site viable over the years. I could dig at a leisurely pace with no fear of confrontation or arrest. I was stringent about divulging the location. Five years of digging passed without competition from other collectors, and then I let a trusted few collect with me with the understanding they would not come to the site unless I was there. This requirement assured the site would not become overrun with diggers, trashers, and trespassers who would have likely caused it to be closed as so many other sites have been.

I have to laugh at myself now at my paranoia about keeping the secret. I invited geologist Harry Messenger, of Raleigh, as my first guest. I made him wear a blindfold as we reached the close vicinity of the location, letting him remove it only when we were deep in the woods. About that time a steam whistle signaled lunchtime at a factory within earshot; I cringed, thinking this was an ample clue to our whereabouts! Preserving my custody of the site had become an obsession; all true rockhounds can appreciate that state of mind. To the charge of selfishness I plead guilty, but there are mitigating factors; over the years I have shared productive digging sites with scores of collectors.

The integrity of the site I had established worked with one exception. Several years ago, after having seen some of the amazing pink crystals in my collection, one collector got a Montgomery County rockhound pal of his to take him to the site. Shortly after they intruded beyond the 'NO TRESPASSING' signs, they were intercepted by sidearm bearing hunters who escorted them off the property without further ado and the promise that law enforcement would be involved if there were a next time.

Geology

As usual in Montgomery and adjacent counties, the site was located on a steep hillside (actually

both sides of a valley) adjacent to a creek. The quartz veins trended northeast to southwest, and geologic maps show faulting in the area. Specimens were found in small pockets *in situ* in the veins at a depth of 1-2 feet and as float where logging operations had broken up the veins. The host quartz was the brightest milky quartz I had seen in Montgomery County since I had been at Shingletrap. Some large boulders had small cavities full of crystals. Boulders that thudded rather than rang with the blow of a rock hammer almost always had crystal pockets. Another telltale of the presence of crystals inside was pink color on the outside of some boulders.

Specimens

Crystals at Wadeville show diverse colors and habits, ranging from pale pastel pink tabular to deep red euhedral examples. They ranged from opaque to translucent to clear. Most people first viewing them take them to be rose quartz, although they are crystals and not simply massive pink quartz. Inspection with a loupe reveals numerous spherules of hematite which infuse the color into the specimens.

Colors go from totally clear to a deep lavender resembling amethyst to light pastel pink to almost a cherry red; typically they vary according to the density of the hematite inclusions. Archie Craven, a Montgomery County collector, found dark amethyst crystals at a site he teased was not far from the pink quartz location. He would never share the location (and how could I blame him!) One pink crystal I found was capped with an amorphous patch that appeared to be opal with a mammillated habit, which is difficult to account for at this site.

Color zoning and phantoms were common. Beyond hematite, there are inclusions of rutile (rare) and ilmenite (more common). Some crystals have patches of ilmenite on the outside. The presence of ilmenite at Wadeville is not surprising, inasmuch as Conley's *Mineral Localities of North Carolina* (1958) indicated the mineral occurring in several nearby central piedmont locations.

Quite a few of the crystals have tabular habits and double termination - much like the Burgin Mine in neighboring Stanly County. In fact, if you

proceeded due east from the Burgin and crossed the Yadkin River, you would be only a few miles from the pink quartz location. Sizes ranged from ¼ to 3 inches in length, with most in the 1-2 inch range. The only clusters were made up of crystals stacked on one another in undisturbed cavities.

Natural Companions

As much fun as the digging was at Wadeville, the solitude and contact with nature was an equal bonus. You could sit and listen and all you would hear was the wind rustling in the trees. Sometimes the jungle-bird cries of a pair of scarce pile-ated woodpeckers near the creek delighted my ears.

One time the usual silence was broken by a considerable buzz and I looked up out of my hole to see a huge dark swarm of bees meandering in the sky toward my location. After momentary debate I ducked back down in the hole, hoping against hope that the queen would not pick me as a landing zone. They passed harmlessly a few feet over the hole and vanished up the hill.

Another time I was digging intently and felt the presence of eyes; it was a bold lizard who came to watch at the edge of the hole. Apparently one of these friendly beasts slipped into my pack to travel home with me. We'd never had many lizards around the house, but soon a sizable colony had grown there. This overjoyed my cats.

Another interesting encounter involved my first discovery of a black widow spider under a rock I was examining. I got the little tingle of fear then, but later I realized there were many, many black widows at this site, so I turned every rock over with the anticipation of seeing the red hour-glass beneath it.

I'm not fond of poisonous snakes either, but after several years of digging, prying, and turning boulders, I never saw one on the site. However, just last year I was driving down the road adjacent to where I had been digging and spotted a diamondback rattlesnake the size of my arm that had just been run over. Perhaps I had not been so solitary at Wadeville; he might have been my digging companion for years for all I know. 🐍

GRAVES MOUNTAIN OPEN HOUSE, ROCK SWAP & DIG
Graves Mountain, Lincolnton, Georgia October 3rd-5th, 2014 8am-6pm each day
All clubs and rockhounds are welcome to attend!
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Golf cart shuttle available to and from the mine
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Clarence Norman Jr. (706) 401-3173 Food and drinks available for purchase

Rockhound Reflections

Collecting Agate at Lake Michigan

Nancy Holland

This Winter in Chicago has been particularly brutal and the corresponding Spring has been slow in coming. If the sun was out the wind chill brought the temperature down, the rain would pour only on the weekend, or there was ice and snow. Finally in April, the temperature was warm with sun light and no frozen ground so my beloved spouse revved up the diesel and drove me to the Illinois Beach State Park South End.

I have lived in the Carolinas and Virginia Beach for many years and adore the beaches so I was excited just to get out into the great outdoors with my honey: Picking up agates would be icing on the cake. The Easter Saturday traffic was light and in 45 minutes the world around me started to look just like my beloved Sand Hills of North Carolina and the Low Country of South Carolina. The land is a classic alluvial deposit that had been flattened gracefully by glaciers while they had slowly dropped rocks and stones. I was excited to try and find not only the ever elusive lake agate but also basalt, worn granite, alluvial droppings, dolomite, and conglomerate fossil stones.

As we parked the car my ears were overwhelmed by the sound of crashing surf and the sand was warm on my feet. It took me many minutes to realize what was missing - the smell of salt water. But how my heart raced at the sight of the crashing surf and the wind whispered sand. We first stood on the warm sand banks but once we walked down the small drop off, the shore was lined with stones, beautiful water worn pebbles and smooth fist sized rocks. I grabbed the bucket and spun in a circle

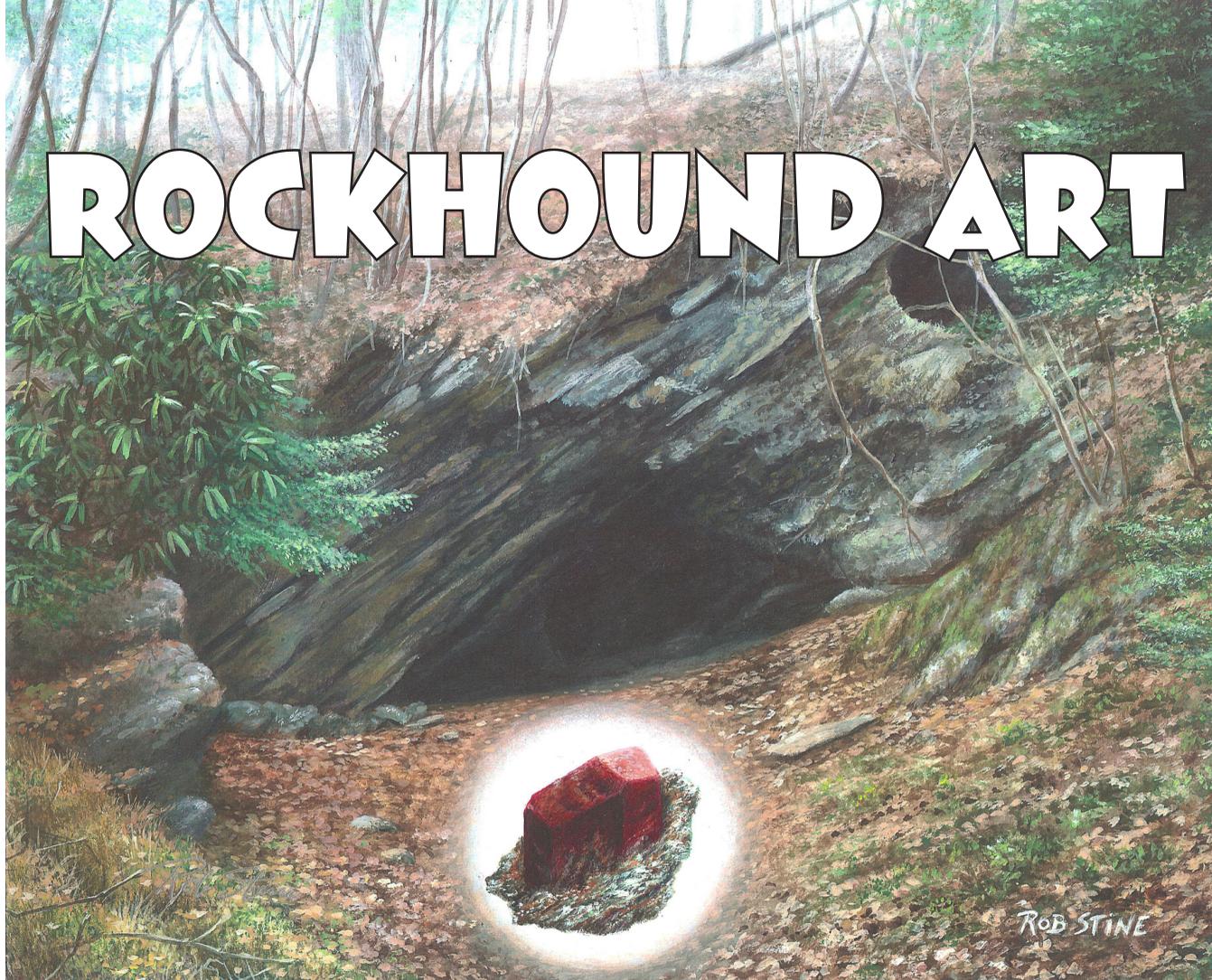
before bunching up my skirt and falling to my knees to look over the beach. On a beach made of stone it was easy to find everything on my list plus two special pieces: man made conglomerate - a brick, and industrial stone - a piece of slag. Let it be said that my dearest husband teased me about being a dragon with its hoard but he was the one that kept coming up to me "Honey, how about this one?" The man who says he would rather watch paint peel found more agates and fossil conglomerates than I did. I am now considering renting him out to other agate hunters by the hour.

I have never been to such a lovely stone beach and not seen a single sea shell. Now my rockhound friends who do cruises or travel abroad have seen these novel beaches but this was the first time I had ever seen a beach of stones. I had to hold myself back from scooping every piece into my bucket. I wear those strange Vibram toe shoes and finally was in the perfect place for shoes made of SCUBA neoprene. The best part of the shoes was when I was picking up stones and the tide washed over my feet; while my feet did get wet there were no super soggy tennis shoes.

There is a resort built there that was designed to be one with the landscape, not an over blown hotel scarring the sand dunes. While I do not know the exact amenities, I plan on finding out. There were also bathrooms at the check in office. Very few people were out there on such a lovely day and I was able to climb over and around dolomite boulders. Should there be beach lovers and rockhounds combined then this public beach is a must visit for any one passing in and around Chicago. 🦿



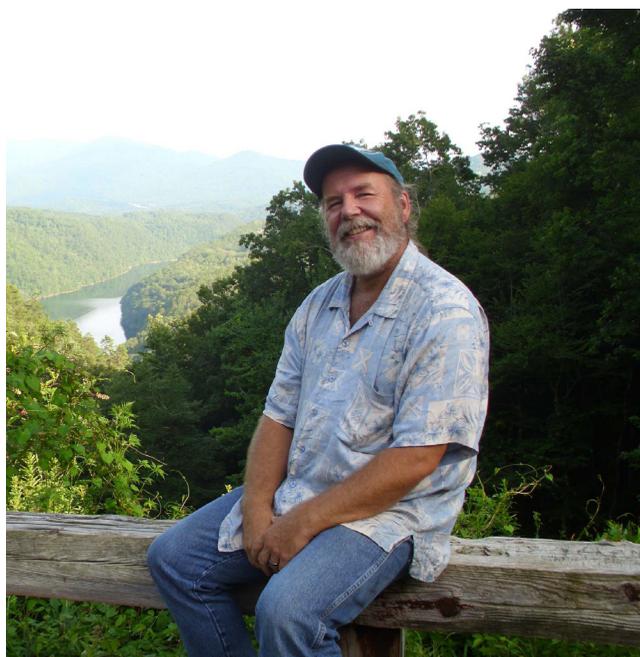
ROCKHOUND ART



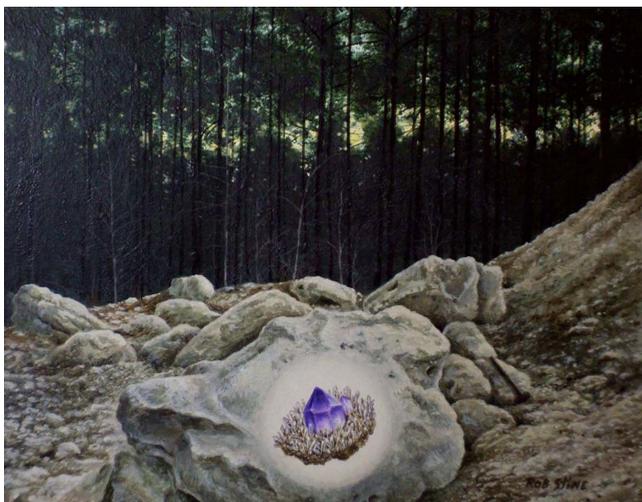
Minescape: Little Pine Garnet Mine, Madison County, North Carolina. To order a print or commission a painting, contact Rob at his email artistrobstine@hotmail.com.

Richard Jacquot
Vicki Stine

ROB STINE was born and raised in Downingtown, Pennsylvania, Chester County. Rob has been surrounded by art all of his life. Exploring the ponds and lakes near his home as a child, he has always had a curiosity for nature, which played a large part in his love of painting nature scenes. Rob attended Penn State studying marine biology, then switched his studies to art, his first love. In Rob's exploration of the USA he has painted many of the scenes of the country. He now resides in the low-country of South Carolina. Rob has been painting as a profession since 1978, specializing in wildlife paintings. Although he uses many mediums, acrylic and gouache are his favorites. He has had numerous limited edition prints published, as well as a series of collector plates, 'A Treasury of Songbirds', with The Bradford Exchange.



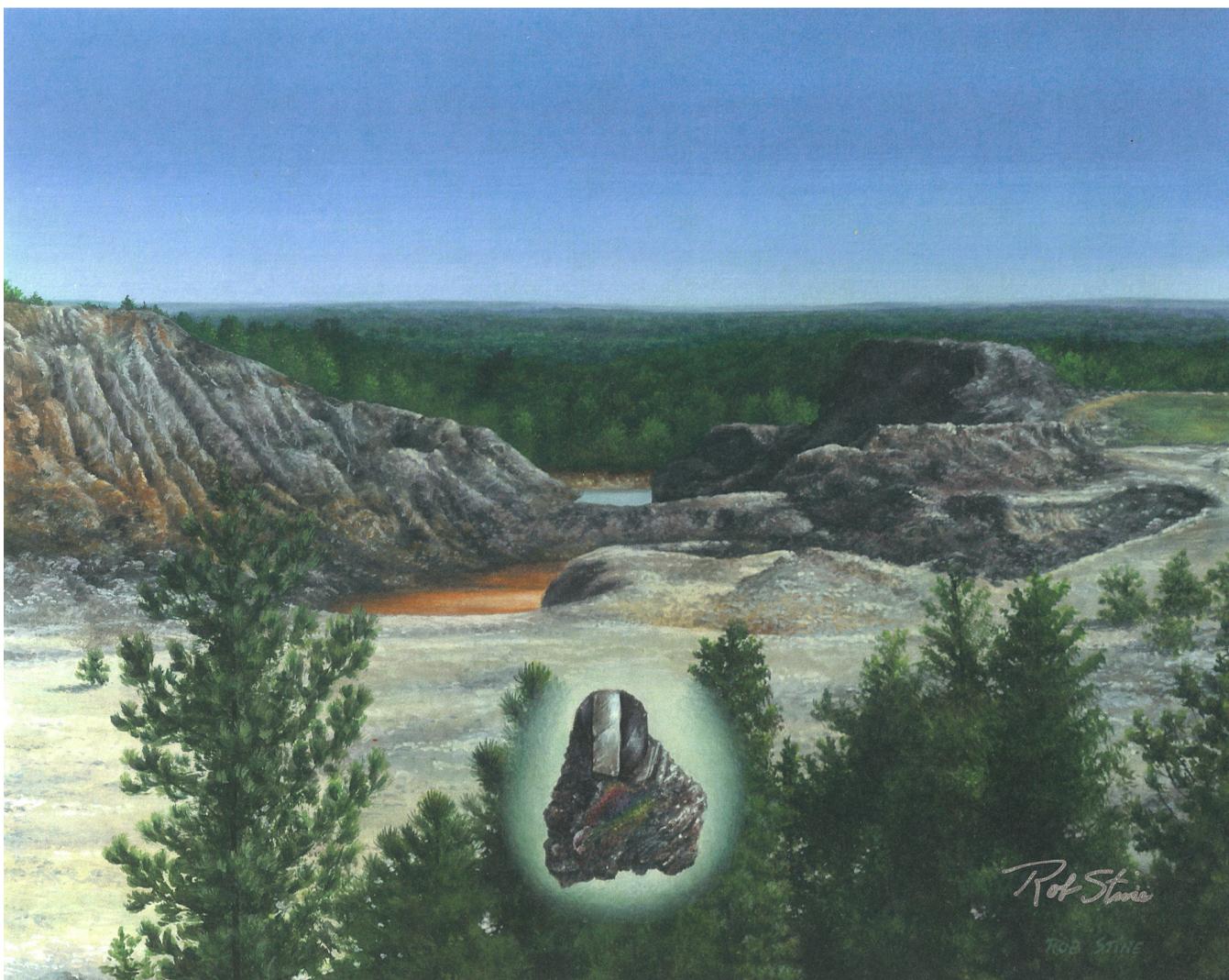
Minescape Artist and MAGMA Club member Rob Stine.



Minescape: Jackson Crossroads Amethyst Mine, Tignall, Georgia. This is Rob's latest creation. To order a print or commission a painting, contact Rob at his email artistrobstine@hotmail.com.

Rob and his wife Vicki joined the Mountain Area Gem and Mineral Association (MAGMA) club several years ago and have been active with the group since. As Rob visited the various mines in the southeast with the club, he began painting scenes of the mines, 'minescapes'. He has created several beautiful works covering some of our favorite collecting sites: Graves Mountain, Little Pine Garnet Mine, Ray Mica Mine, two versions of the Crabtree Emerald Mine. His latest work is the Jackson Crossroads Amethyst Mine.

If you are interested in purchasing a print of one of Rob's paintings or would like to commission him to create something for you, he can be contacted at his facebook page 'VickiandRob Stine'. His email address is: artistrobstine@hotmail.com. 🏠



Minescape: Graves Mountain, Lincolnton, Georgia. To order a print or commission a painting, contact Rob at his email artistrobstine@hotmail.com.



S. SQUIRREL DIGGINS

SQUIRREL DIGGINS HERE. I HAVE BEEN DIGGING QUITE A BIT LATELY, I GOT INVITED TO SOME PRETTY COOL PLACES. IT'S AMAZING HOW POPULAR I BECAME WHEN I WAS FEATURED IN AMERICAN ROCKHOUND MAGAZINE! MY MYSTERY ROCK TODAY IS PYRITE AND FLUORITE. I SPENT OVER A WEEK AT THIS SITE WITH RICK AND SOME FRIENDS. ONE OF THESE PICTURES IS PYRITE IN A PEGMATITE MATRIX AND THE OTHER IS A MASS OF TEAL GREEN AND PURPLE FLUORITE. I ALSO SAW SOME SMALL CUBES OF PYRITE THERE.

WE WERE IN NORTH CAROLINA WHEN WE FOUND THESE ROCKS. I SAW A LOT OF OTHER STUFF WHEN I WAS THERE, A BIRD, A SNAKE. I SAW SOME NICE RED GARNETS IN A ROCK. THERE WAS SOME MICA TOO.

I LIKED THE PYRITE CUBES SO MUCH, I IMMEDIATELY DUG A HOLE AND BURIED THEM, BUT NOW I CAN'T REMEMBER WHERE? IF YOU GUESS THIS SITE AND GO DIG THERE, YOU MIGHT FIND THEM. IF SO, PLEASE MAIL THEM TO RICK SO HE CAN RETURN THEM TO ME!

RICK SAYS IF YOU'RE THE FIRST ONE TO GUESS WHERE THESE PIECES COME FROM, HE WILL GIVE YOU A FREE YEAR'S SUBSCRIPTION TO THE MAGAZINE ON CD! IF YOU THINK YOU CAN GUESS WHERE THIS PLACE IS, SEND RICK AN EMAIL AT [INFO@AMERICANROCKHOUND.COM](mailto:info@americanrockhound.com). IF YOU GUESS THE RIGHT SITE, HE WILL SEND YOU THOSE FREE CD'S. GOOD LUCK!



Pyrite in pegmatite matrix, field of view approx. 1½" x 1" (3.81 cm x 2.54 cm).



Green and purple fluorite in pegmatite matrix, field of view approx. 1½" x 1" (3.81 cm x 2.54 cm).

Rockhound Recipes

Chert Chow Chow

Serves 8-10
Serve hot or cold

Gary Nielson

Ingredients:

- ↗ 1 medium head of cabbage - cored and shredded
- ↗ 4 green bell peppers - cored, seeded and diced
- ↗ 2 onions - diced
- ↗ 2 green tomatoes OR 5 husked tomatillos - diced
- ↗ ½ cup salt
- ↗ 3 cups distilled white vinegar
- ↗ 2½ cups sugar
- ↗ 1 TBS Celery seed
- ↗ 1 tsp Ground turmeric

Cook:

- ↗ In a medium pot (non reactive), combine the cabbage, bell peppers, onions and tomatoes (or tomatillos).
- ↗ Raw veggies should equal approx 2½ - 3 quarts.
- ↗ Stir in the salt, cover the pot and let veggies stand at room temperature for 4-12 hours.
- ↗ Drain in colander.
- ↗ Rinse the pot and add vinegar, sugar, celery seed and turmeric.
- ↗ Bring to boil.
- ↗ Add drained veggies and return to boil, then reduce heat and simmer for 1 hr stirring occasionally.

Raspberry Lemon Druse Dump Cake

Serves 4-6

Gary Nielson

Serve with ice cream if desired

Ingredients:

- ↗ 2 cans raspberry pie filling
- ↗ 1 lemon cake mix
- ↗ 1 can 7-Up or Sprite

Cook:

- ↗ Put pie filling in the bottom of a 12" camp dutch oven.
- ↗ Sprinkle dry cake mix over the fruit and make a level layer.
- ↗ Gently pour soda over the cake mix.
- ↗ Cover and bake using 6-8 briquettes under the dutch oven and 18-22 briquettes spread evenly on the lid.
- ↗ Baking should take approx 45-50 mins.





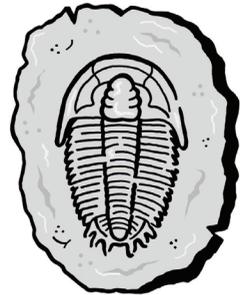
American Rockhound **KIDS' PAGES**

By Steve Barr

WANT TO COLLECT YOUR OWN FOSSILS?

One of the most exciting, fun parts of rockhounding and fossil collecting is finding sites where you can actually go collect your own. To learn about locations where you can legally collect your own fossils close to where you live or in a state your family might visit on vacation, you'll need to do some research.

You can find lots of great collecting opportunities using your computer! Just type something like "fossil collecting site" into your search engine. You can add the name of the state you are interested in to the text in that search to narrow your results if you want to.



Always be sure to check in advance with whoever is in charge so that you're sure they'll be open. Some places are open year-round and others are only available during certain months due to weather conditions.

Since circumstances can change without notice, it's always best to find a website with information about collecting where you want to go. Look for a phone number you can call to make sure you can still go there before planning a trip.

Fossil collecting may require a permit in some areas, and may be illegal in others. So always be certain you can legally pick up specimens by getting permission from the land owner or whoever is in charge.

Here are just a few places I found by searching the Internet for you. There are many more that you can find on your own as well. Happy hunting!

■ **CALIFORNIA - Capitola Beach** Website - <http://www.fossilsforkids.com/Capitola.html>

The town of Capitola, just south of Santa Cruz, has Pliocene era fossils on the beach. You can also find fossilized snails, clams and sand dollars, especially at low tide. Be very careful if you collect around cliffs. Only go at low tide. San Francisco's Ocean Beach has Pleistocene-era marine fossils such as sand dollars. And the Buena Vista Museum of Natural History and Science in Bakersfield sponsors trips to quarries. You can find out more information about their fossil hunting adventures by visiting their website: <http://www.sharktoothhill.org/index.cfm>

■ **COLORADO - Florissant Fossil Quarry** Website - <http://florissantfossils.tripod.com/>

You'll get to unearth fossil insects, leaves, twigs, and pine cones. This quarry has also produced fish and small animals. You will definitely find fossils and unless the fossil is rare and significant to science, you will be allowed to keep it.

■ **FLORIDA - The Peace River** has shark teeth, but also the teeth and bones of large mammals like camels and mastodons. You can hunt in shallow water with a snorkel, or you can check the banks on the river's edge. Just remember that there could be alligators there, so stay safe, don't collect alone and always have an adult with you. You don't need a permit to collect shark teeth, but you do need a permit for any other fossils, so you should get one just in case. Here's a link to Florida's laws on collecting and getting a permit: <http://www.dep.state.fl.us/geology/geologictopics/fossil-collecting.htm>. And, if you're basking in the sun don't forget to look around. Florida beaches can also have good fossils. Manasota Key also has been known to produce neat fossils.

ILLINOIS - Mazonia Fish & Wildlife Area Website - <http://www.dnr.state.il.us/lands/landmgt/PARKS/R2/MAZONIA.HTM>
Mazonia is well known for Pennsylvanian age fossils. A day permit is required to collect fossils and may be obtained from the park office or web site. A reporting form also is available for reporting what was found. Excavations and collecting for commercial purposes are prohibited. In addition, fossil collecting is restricted to March 1 to September 30.

While groups of 25 or more are welcome and encouraged to use the park's facilities, they are required to register in advance with the site office to avoid crowding or scheduling conflicts. At least one responsible adult must accompany each group of 15 minors.

MARYLAND - Purse State Park Website - <http://dnr2.maryland.gov/publiclands/Pages/southern/purse.aspx>
Fossilized shark teeth, bones and shell fragments can be found at low tide in the rocks and sand along the waters edge. Check the tides before you go. Their website features a link where you can look at the tide tables.

NEW JERSEY - Big Brook Preserve Website - <http://cnrecparks.com/big-brook-preserve/>
Read their website thoroughly. Individuals can collect at this site, but familiarize yourself with their rules. Groups of 15 or more need to e-mail them for a permit before visiting. Driving directions and a phone number are also on their website.

OHIO - Caesar Creek State Park Website - <http://caesarcreekstatepark.com/>
You can legally collect fossils here if you get a permit from the park's visitors' center. There are a wide variety of fossils, including trilobites, brachiopods and gastropods.

PENNSYLVANIA - Montour Fossil Pit Website - <http://www.pplpreserves.com/preserves/montour/thigs-to-do/>
This is a Devonian deposit where you can find trilobites, snails, and brachiopods. You'll need to bring rock hammers and chisels to this location. The fossils are found inside shale.

UTAH - U-Dig Fossils Quarry Website - <http://www.u-digfossils.com/>
The U-DIG Fossils Quarry is located approximately 52 miles west of Delta, Utah, near Antelope Springs. You can find out more about the types of fossils you can collect by visiting their website or calling them. They are closed on Sundays.

VIRGINIA - Westmoreland State Park Website - <http://www.dcr.virginia.gov/state-parks/westmoreland.shtml#recreation>
Westmoreland State Park has a beach along the Potomac River where you can find Miocene era fossils. There are lots of different kinds of shark teeth, including an occasional large Megalodon tooth. You might also find fossilized crocodile teeth, dental plates from sting rays, porpoise teeth and whale bones.

WYOMING - Fossil Safari Website - <http://www.fossilsafari.com/>
A fee dig site at a quarry where you can find all sorts of fossilized fish. This location is part of the Green River Formation, and there are quite a few places where you can collect.



The Western North Carolina Rockhound Roundup

A Week of Rockhound Fun in the Mountains of North Carolina

Richard Jacquot

2014 marked the 11th year we have held the Rockhound Roundup event here in Western North Carolina. Our club, the Mountain Area Gem and Mineral Association (MAGMA) started this event in the summer of 2004. We had humble beginnings, our first Roundup was a three day event.



2005: Three Roundup regulars, Lee Fleming (left), John Deney (center) and my dad, Dick Jacquot (right). All three have attended every Rockhound Roundup since we began in 2004. Lee passed away in 2013.

Around forty members gathered to visit a few of the local mines and members brought their favorite specimens to show off. We swapped rocks, told tall tales of past rockhounding adventures, ate great food and sat out by the fire at night, looking at the stars.

Through the years, things have changed quite a bit, with the exception of the food, we still have great food. In 2004, the event was three days long, in 2005 we bumped it up to four days,



2005: The first year we implemented the 'MAGMA Mobile', a 1972 M35 2½ ton military cargo truck that I rehabilitated for use by the club.



2004: A group shot from our Roundup, we had about forty members total join us for that first event.

then five days up till 2009, when we held our first full week event. We now hold a seven day event, Monday through Sunday (seven days of great food) that coincides with the numerous gem and mineral shows that take place in Franklin, North Carolina. Over the past ten years we have grown from the original handful of club members



2007: A handful of rubies and sapphires collected from a mountain creek during the Roundup. Collected by Tom Leary.



2007: Roundup attendees search a creek for sapphires and rubies in the mountains of Western North Carolina.



2006: Nancy Seaver is a happy camper with her beryl in matrix finds from the Ray Mica Mines, Yancey County, NC. She collected the crystals while attending a field trip during the Roundup.



2009: Pink corundum/sapphire in smaragdite from Chunky Gal Mountain, Clay County, NC. Collected by Dave Boring during our Rockhound Roundup.



Top Left: 2011 - A field trip to the Crabtree Emerald Mine in Spruce Pine, NC is part of the regular schedule during the Roundup. Here, members are searching the dump material for crystals.

Middle Left: 2010 - Master Knapper, Rick Bernotas shows off a recently completed spear point he made while giving knapping demonstrations at the Roundup.



Bottom Left: 2010 - Wire wrap and lapidary artist Drew Smith preparing to wrap some crystals at the Roundup.

Top Right: 2008 - Fiona Nagy (left), Jeff Nagy (center) and Ken Sexton (right). Jeff and Ken were two of the first people to start bringing lapidary equipment to the Roundup and giving other attendees demonstrations and lessons on lapidary.

Bottom Right: 2008 - After five years, the Roundup was starting to outgrow my property, by 2010, we had to move to a larger venue.



Top Left: 2012 - Rockhound Jim Potterf has become a regular at the Roundup giving demonstrations and teaching members how to create cabochon pieces on his 'Diamond Devil' cabbing machine. Jim designed and built the machine himself.

Bottom Left: 2013 - Stephen Maliner Colvin (right) and his dad have become regulars at the Roundup. Stephen always has a nice selection of gems and minerals to offer to the members for sale or trade.

Top Right: 2013 - Deb Taylor and her husband Ed have been to the last two Roundups and they always have a blast.

Middle Right: 2013 - Rockhound Dave Boring started a new tradition at the Roundup, a rock raffle. Dave collects tons of great specimens all year long and brings them to raffle off to the roundup attendees. Many of the pieces are raffled off for free!

Bottom Right: 2014 - Dave Boring pulling names to be called during his rock raffle, everyone that attended and participated in the raffle went home with a cool rock! Pat Cummings photo.



attending, to over a hundred people from all over the country who come to join us for a week of festivities. Today, we have members set up giving demonstrations on various aspects of rock-hounding and lapidary: faceting, wire wrapping, cabochon cutting, knapping and more. We show hobby related movies in the evening on a big screen. The Roundup has evolved into a campout/gem show/rock dig/lapidary school all wrapped into one big week long event.

In 2004, the Roundup was held at my property north of Asheville, North Carolina. I have a couple of cleared acres of land that people were able to set up camp. We have a big fire ring and we would put together a make shift shower for the members (all cold water of course). By 2010, the event had outgrown my property and we moved to a new location.

Camp Stephens is a Boy Scout camp just outside the city of Asheville, NC. Located along the French Broad river, this wooded remote location is just three miles from West Asheville. My family has rented this camp from the scouts going back to the early 1980s. We would gather there for family reunions and camp out for a few days. I had not been there in a long time, but after a little research, I was able to locate the current caretakers and make arrangements to use it for the Roundup. The camp is a big step up from my place. It has a huge indoor pavilion, water, electric, bathrooms, showers, and a big kitchen, this place is great! At our last event we had over 50 people camping on site. There is room for campers, motor homes, tents, whatever you like. We have been using Camp Stephens for five years now and we have yet to completely fill the campground, there is always room for more.

The MAGMA Club is currently managing some mine sites that our members get to visit during the Roundup at a discounted fee. We also have arrangements with local mine owners at other sites where we receive collecting discounts. Many of the sites we visit are near Franklin, North Carolina (about an hour's drive from camp) and there are usually at least six big gem shows in town which we visit. In the old days, we had a pretty set schedule of mines we would visit daily during the

Opposite Page

Top: 2008 - This is one of the last group pictures taken at my property at the old Roundup site. We had tripled our attendance in five years and we finally had to move the Roundup to another location.

Middle Left: 2014 - 'Kid Knapper' Will Jordan was set up giving knapping demonstrations along with Rick Bernotas at this year's Roundup.

Middle Right: 2014 - My Aunt Joyce (sitting) and cousin Lucy and her daughter Mara Beth showed up in time for the raffle and went home with a carload of rocks. Mara Beth has lots of brothers and sisters to share them with.

Bottom: 2014 - One of our new trips this year was to the Treasure Valley site in McDowell County, NC. The members were searching for gold, rubies and garnets. Here, the owner Richard Buchanan is giving the members a ride up to Pinnacle Ridge to collect garnets.

event, but over the years, many of the members decided they wanted to visit sites other than those listed on the itinerary. I now hand out direction sheets to all the mines we visit during the week, with GPS coordinates, driving directions and my cell phone number in case someone gets lost. The attendees like this, they can sleep in if they want or get an early start and leave camp anytime to go dig. In the past, we also learned that trying to caravan twenty cars to a mine was no easy task, we usually ended up losing someone!

A typical roundup has various members demonstrating their lapidary skills and teaching others how to create gems from their rocks. Jim Potter sets up his 'Diamond Devil' capping machine and the kids (and adults) get to learn how to cabochon the stones they have found during the days digs. Rick Bernotas and Will Jordan are expert knappers and give demonstrations throughout the week showing people how to make arrowheads and spear points from various materials. Depending on who's attending, we have several wire wrap artists in the group including Drew Smith, Pat Cummings and Ken Sexton. All of them can create some nice wrapped pendants from your rocks and crystals or teach you how to



do it. In the evening, we set up a projector and screen to show a variety of hobby related videos: opal mining in Australia, gem hunting in Afghanistan with Gary Bowersox, rhodochrosite mining in Colorado, fossil hunting the Cooper River and more. Our schedule also includes a big feast on Saturday, where all the rockhounds get together and bring a food dish to share. Those that couldn't stay with us for the week show up and hang out with us for the day, swapping rocks and eating some great food.

Over the years, the number of people bringing rocks to swap and show has increased greatly, the indoor pavilion is a mini gem show and there is a lot to see from the vendors who set up. The past couple of years, we have had a new event for the members with Dave Boring's rock raffles. Dave is an avid collector and is out most days collecting something. By the time the Roundup comes along, Dave loads his truck and trailer with literally tons of rock and mineral specimens and brings them with him to give the members a chance to win one of his prize goodies. We have a rock hunt for the kids. The members all donate some rocks for this and we bury them in tubs of sand and get the kids to sift the sand to find the rocks.

On July 21st – 27th, 2014, we held our 11th Annual Western North Carolina Rockhound Roundup. This year's Roundup was great. We had one of the members cater the feast on Saturday. Gary Nielson and his wife Vickie cooked some fantastic BBQ with all the extras for the group. Gary is a regular contributor for American Rockhound and his food is top notch! Massage Therapist Vicki Stine was giving massages to the tired rockhounds when they would return from a dig. Richard Holmes brought his video equipment and showed a few videos on opal mining in Australia. Rick Bernotas and Will Jordan were giving knapping demonstrations daily. We visited a variety of new mines this year and still had time to check out some of our regular dig sites. I saw a lot of nice material brought back to camp. Several people were set up in the pavilion and outside selling and swapping minerals and I got a lot of great deals. Some members took advantage of the river and went down the street from the camp to rent inner tubes and float down the river.

Dave Boring brought more cool rocks for his raffle and I won a monster green boulder loaded with rubies. Everyone that participated in the raffle went away with nice specimens for their collections. We had more people camping on site than ever before and still had plenty of room left over. The Franklin shows offered a wide variety of minerals and fossils, if I couldn't find what I was looking for at one show, I drove down the street to the next show and found it. There are a lot of different vendors at the Franklin shows so you have a great selection to choose from. While a lot of regulars did not make it to this year's Roundup, I saw a whole lot of new members and it was great meeting them.

I am already planning next year's Roundup. I heard some feedback from people that attended this year, I am going to try to address all their suggestions and make the event even better for future years. The Roundup is always held during the last week of July to coincide with the numerous gem and mineral shows taking place in Franklin, NC. We plan to continue to hold the event at the boy scout camp in Asheville, it is a great venue for our group and we plan to help the scouts maintain and improve the site for future use. Next year, I am looking at having a more detailed schedule for lapidary and knapping demonstrations and detailed location directions and 'how to' instructions for the newer members visiting the mines. Hopefully Gary and Vickie will return with their fantastic BBQ. We are always looking for new mine sites and I have no doubt that we will have some great field trips planned for the group.

The Roundup is open to all clubs and rockhounds, we welcome everyone to join us for a week of fun and mining adventure in North Carolina. I did notice that there were not as many children this year as compared to years past. Then I realized, they were all there, they had all grown and we no longer look at them as children anymore, they are now all young adults! Ten years ago, I was just an old rockhound to them, now I am a really old rockhound. It will be at least thirty years before I am a crusty old rockhound. By that time, the kids will be adults and hopefully running things in the rockhound world. 🦋

Latest Finds

Photos submitted by our readers



Top: 80 carat ruby/pink sapphire collected by Richard Buchanan, Treasure Valley, McDowell County, North Carolina. Collected August 17th, 2014. Keith Buchanan photo.



Middle: Beryl crystal collected by Brian Taylor, Sharpes Emerald Prospect, Alexander County, North Carolina. Specimen measures approx. 1¼" x 1½" (3.18 cm x 3.81 cm) Collected July, 2014. Brian Taylor photo.



Bottom: Corundum in host rock serpentine collected by Dave Boring, Buck Creek, Clay County, North Carolina. It looks like a dinosaur looking over its shoulder. I collected this from Dave at our annual Rockhound Roundup. Dino measures 2" x 1½" (5.08 cm x 2.86 cm).

COLLECTING SITE INFORMATION

Collecting sites are organized by state and county. We will be covering different states and mines in each issue. Sites will be rated to help you decide if the site is appropriate for you or your family. Sites that close and new sites will be updated with each issue. If you have a site in your state that you would like us to include in American Rockhound, you can email me at info@americanrockhound.com with the information (site name, location and contact information, owner's phone number, email and/or website). Only legally accessible sites will be included in our magazine. All sites will be verified before addition to the magazine.

Level 1: Level 1 sites are commercial, usually pay to dig mines, that provide a washing flume and sifting screens to clean your stones. Typically, there will be buckets of mine run material for sale. Some sites offer all native material while others offer enriched buckets that have material in them from a foreign source. These sites are good for kids and beginning rockhounds to get them interested in the hobby. Some also offer 'dig your own' from dump piles where you dig the material, fill your bucket and then wash it at the flume.

Level 2: Level 2 sites are similar to Level 1 sites with the exception that they are actual working mine sites, private property and quarries. These are not 'salted' or 'enriched' sites. These sites offer the more experienced rockhound the chance to dig through dump piles generated by the mines owners. Usually collecting is restricted to the dump areas and access to mine pits and crystal bearing veins is prohibited or they are inaccessible to the casual collector.

Level 3: Level 3 sites are what most serious rockhounds/collectors are looking for. These sites offer hard rock mining with hand tools: pick, shovel, sledgehammer, chisels and other mining tools. Some of these sites may be up a mountain and require a strenuous hike. Some may require hammering and chiseling through hard rock to locate crystal pockets, or removing much overburden to access a vein. Or you may need to be an experienced collector to identify minerals at certain sites. Typically, sites at Level 3 require an assortment of rockhounding tools that most serious collectors have with them at all times in their vehicles. My advice is to contact or research a location before visiting to learn what tools and equipment you need to collect at that site.

Before visiting any site, you should be aware of two things: permission to collect and safety while collecting.

PERMISSION TO COLLECT: Permission to collect at a site should be the first thing you obtain when planning a field collecting trip. Property owners change. Having a copy of this magazine is not a ticket to collect on someone else's property without their permission. **YOU MUST HAVE THE PROPERTY OWNER'S PERMISSION BEFORE COLLECTING ON THEIR PROPERTY!** At the time of the writing of this issue, all the sites listed are open to rockhounding. This could change days, weeks, or months after publication, or not at all. The proper thing to do, is always obtain permission to collect. We will provide as much contact information as possible to make this easier for you. If you visit any site and see "NO TRESPASSING" signs, do not enter that property before making contact with the property owner.

SAFETY: Safety while rock collecting should be your number one priority. If an area has railroad tracks, old mine shafts, high walls with falling rock (quarries) etc. I would not bring any small children to that site. There are many sites listed where children will have fun and you will not have to worry (Levels 1 and 2). You should be aware of old vertical mine shafts in the woods or near dump piles. Some of these

shafts are overgrown with trees and brush and can be hard to spot until you are right on top of them. Some of these shafts are very deep, some are full of water, so be careful. Always tell someone where you are going when visiting an old mine or collecting site. Give them directions to the mine and tell them when you plan to return. If you have a cell phone, bring it with you. Some of the locations listed have a variety of wildlife such as bears, mountain lions, snakes, wild boars etc. I have encountered these animals on several occasions while rock collecting in the mountains and have never had a problem with them. Remember they are more afraid of you than you are of them, and remember, never try to pet a mountain lion or wild hog or try to wrestle a bear, they usually win! You should also keep a first aid kit in your vehicle. Some of the locations listed may be a long way from any hospital. Remember to always wear eye and hearing protection when breaking rocks. I am not telling you these things to discourage you from visiting these sites. I think you should visit any remote collecting area armed with as much information about that area as possible so there won't be any surprises. Happy hunting.

FLORIDA FOSSILS AND MINERALS



Lee County

Fossil Expeditions (Level 2-3)

Contact Information: Mark Renz, (239) 368-3252

Website: www.fossilexpeditions.com

Email: fossilx@earthlink.net

What to collect: Mark Renz will guide you along the Peace River in Florida to collect a variety of fossils from the Eocene to the Pleistocene: Megalodon shark teeth, mastodon, mammoth, dugong bones and a variety of other Ice Age mammals. Many fossils can be found, the experienced collector will be able to identify the rare, hard to find material.

Fee: Varies

Okeechobee County

The Fort Drum Crystal Mine, (Ruck's Pit), Fort Drum, FL (Level 2-3)

Contact Information: Eddie and Debbie Rucks, (863) 634-4579

Website: www.thefortdrumcrystalmine.com

Email: info@thefortdrumcrystalmine.com

What to collect: Fossil shells with golden calcite crystals inside. This has been a favorite of rockhounds for years. Known for the excellent specimens of dogtooth calcite which form inside the fossilized shell remains.

Fee: Varies

The following is from: www.dep.state.fl.us/geology/geologictopics/fossil-collecting.html

“In Florida, it is illegal to collect vertebrate fossils (excluding shark teeth) without a permit from lands owned by the state. State lands include the bottoms of navigable waterways like rivers, lakes and some streams. A permit to collect vertebrate fossils on state lands can be obtained through the Florida Museum of Natural History. There is a \$5.00 fee per year and the permit holder agrees to report their vertebrate fossil finds on a yearly basis. The state has the right to claim any fossils found that are deemed scientifically significant as a condition of issuing the permit. This law applies to both Florida residents and those traveling to the state.

Like shark teeth, invertebrate and plant fossils can be collected without a permit (sea shells, echinoids, and petrified wood). Often times fossil hunters come across human artifacts. The difference between fossils and artifacts is that an artifact represents something that has been shaped or constructed by prehistoric humans while fossils are the remains of ancient life. Sometimes it is difficult to distinguish between the two as prehistoric people occasionally utilized fossils as ornaments and tools. An example of fossil material that can also be an artifact is agatized coral. Prehistoric Floridians utilized this material to construct projectile points and other tools. If you cannot tell the difference then it is best to leave the object where it was found. Collecting of human artifacts on state lands is illegal.”

To obtain a Florida fossil collecting permit, go to www.flmnh.ufl.edu/vertpaleo/vppermit.html

Once you have your permit, there are many locations that are non commercial to collect, sharks teeth, fossil bones, fossil coral and more. Fossil coral can be found in the Withlacoochee River in North Florida and into Georgia. A variety of fossils can be found in the Santa Fe, Suwannee, Aucilla, Withlacoochee and other Florida rivers. If you are a diver, you can find some fantastic material in deep holes where the fossils

and coral settle. You can also visit Venice Beach which is famous for its sharks teeth. Diving offshore at Venice in the bone beds, you may find nice fossil bones and large megalodon shark teeth. Check out my website at www.bonehunters.net and take a look at the field reports from our dive and fossil hunting trips to Florida.

GEORGIA MINERALS



Lincoln County

Graves Mountain, Lincolnton, GA (Level 2-3)

Contact Information: Clarence Norman Jr. (706) 401-3173 or (706) 359-3862

Website: www.americanrockhound.com , click on the 'mine sites' link.

What to collect: barite, jarosite, phosphosiderite, variscite, quartzite, quartz, rutile, ilmenite, kyanite, pyrite, lazulite, pyrophyllite, hematite, goethite, limonite, sulphur, iridescent hematite and more.

Mined many years for industrial kyanite, the mine is now closed to commercial operations, fortunately the site is still open to rockhounds from all over to collect the excellent specimens found there. Graves Mountain is located in north east Georgia, the site is open to collecting by appointment or during the bi-annual open houses (1st weekend in Oct. and last weekend in April). Each person entering the property will be required to sign a release form on the day of their arrival.

GPS Coordinates: 33 44.453 N, 082 31.783 W.

Nearby motels and camping: Cullars Inn, Lincolnton, Georgia, (706) 359-6161
Soap Creek Lodge, Clarks Hill Lake, Lincolnton, (706) 359-3124
Elijah Clark State Park, (706) 359-3458 / (800) 864-7275

Fee: Donation



Towns County, Lake Chatuge, North Georgia

A boat is recommended for these sites as access to the shoreline via private property is limited and restricted. Best time to collect is during winter months (November through March) when the lake levels are at the lowest. GPS coordinates are given to shoreline locations to collect. Surface collecting only, no digging allowed per the TVA (Tennessee Valley Authority) and the North Carolina Forest Service. A public boat ramp is available off of Highway 64 West, just past Highway 175 in North Carolina. Another boat ramp is located at the Jackrabbit Mountain campground off Highway 175, or at the marina in Hiawassee, Georgia.

At both of these sites, you will have to be experienced in hunting corundum and know what to look for, it can be difficult to find for the novice rockhound.

Lower Bell Chalcedony and Corundum, Hiawassee, GA (Level 2-3)

What to collect: Various colors of quartz/chalcedony and white corundum.

GPS Coordinates: 34.97263 N, 83.75160 W.

Fee: None

Lower Bell Corundum, Hiawassee, GA (Level 2-3)

What to collect: Corundum, ruby, sapphire.

GPS Coordinates: 34.97138 N, 83.75396 W.

Fee: None



Troup County

Hogg Mine, LaGrange, GA (Level 2-3)

Website: www.hoggmine.com

Email: Chris Painter at Rockdgr@yahoo.com

What to collect: Rose quartz, beryl, aquamarine and schorl tourmaline.

GPS Coordinates: 32 56.288 N, 085 01.175 W.

Fee: Varies



Wilkes County

Jackson Crossroads Amethyst Mine, Tignall, GA (JXR) (Level 2)

Website: www.americanrockhound.com , click on the 'mine sites' link.

Email: Steve Barr at stevebarr@windstream.net.

What to collect: Amethyst, druzy quartz, rarely calcite.

Jackson Crossroads is a premiere collecting site for world-class amethyst specimens. Famous for its dark purple crystals with a "Georgia Blue Flash". Each person entering the property will be required to sign a release form and pay on the day of their arrival. Minors must be accompanied by a paying adult, and a parent or guardian must sign a release form for them. Children must be at least 12 years of age to collect here. Children under 12 are not allowed on the property. This is a working mine. The main pit is roped off for safety, and entrance to the pit is forbidden. Collecting is allowed in the numerous dump piles that have been generated all over the property.

Fee: Varies

Rockhound News

We are still working with the Forest Service trying to get some sites designated for rockhounding. I have joined the 'Nantahala Pisgah Partnership', representing the Mountain Area Gem and Mineral Association (M.A.G.M.A.) based in Asheville, North Carolina. This partnership is a group made up of individuals representing various other groups that use the forest land in some way: hunting, fishing, hiking, logging, etc. Rockhound Ken Casebeer is in the group representing the Southern Appalachian Mineral Society (S.A.M.S.), also located in Asheville.

We will be submitting a series of ideas from our club members suggesting ways we can improve collecting for rockhounds while at the same time, working with the Forest Service to monitor and help cut down on illegal collecting which is jeopardizing access to collecting sites. Our goal is to get some sites designated, i.e. Ray Mine and Chunky Gal/Buck Creek. We also want the ability to prospect in other areas on Forest Service land for mineral resources that would be of interest to mineral collectors. We want to have rules and guidelines in place which would allow us to reasonably extract minerals from the newly discovered sites in a manner that would not interfere with the environmental, archeological, or other concerns of the Forest Service.

Some of the ideas I have received from our club members include:

- Clean up all trash present when you arrive at a collecting site, even if it is not yours.
- Place trail head signs and maps that show where historic mine locations are located in the Forest Service, so hikers and others who use the forest are aware of their locations and can avoid, or visit them if they so desire.
- Volunteer to help the Forest Service maintain trailheads and other areas in the forest that need attention.
- Signs should be posted at all designated locations, listing the rules, tools allowed, etc., so everyone is clear on the rules when they enter the area.
- A permit or licensing system could be

implemented. Others who use the forest, hunters, fisherman, all pay a yearly license fee for their activities, we could do the same. This system would generate income for the Forest Service that could be used for the signs and other items needed at the designated sites.

- Form a community watch made up of members of various clubs that use the forest that watch for an offender violating the collecting rules. We could hand out information and educate rockhounds on what to do and who to report the offense to. This could be done by the rockhounds.
- Educate rockhounds in the various clubs as to what rules are in effect and guidelines they need to follow when visiting a collecting site. Make the Forest Service and the public aware of important mineral finds from Forest Service land and the significance of those finds, scientific, historical, archeological, etc. Also invite representatives from the Forest Service to attend club meetings and give us first hand interpretation of the rules.
- The economic aspect of rockhounding cannot be ignored. Rockhounds visit areas where collecting is permitted, spending money on gas, restaurants, hotels and other local businesses.

Tim Heafner made a good list of goals and long term plans I would like to share.

Goals:

- Explore and locate previously undocumented mineral deposits in the North Carolina National Forests.
- Collect and preserve native North Carolina mineral specimens.
- Document localities of significant finds and share this information with the Forest Service for future reference.
- Maintain collecting sites in such a way that natural resources, waterways and protected, threatened, endangered and sensitive species are not put at risk.

Long Term Plans:

- Promote the hobby of mineral collecting in a way that encourages responsible collecting practices.
- Work in conjunction with the Forest Service to search for and locate sites that are being abused.
- Provide assistance to the Forest Service as needed to recover abused sites.
- Provide educational materials to members and the public at large as to what responsible mineral collecting is.
- Develop and maintain a strong and cooperative working relationship with the Forest Service to protect and develop mineral collecting opportunities.

MAGMA member Steve Bonney pointed out something I have said for years in part of a statement he made on the American Rockhound talk forum (www.wncrocks.proboards.com).

"I think a very important point to make is that rock and mineral collecting is a long standing

recreational activity on what is now National Forest property. That recreational use was happening long before the National Forests were established. While our hobby can have an impact on the environment, I would argue any recreational activity has an impact on the environment and Forest Service budgets."

Rockhounds have never, and will never disturb the land in any way even close to what was done to it for the past 100+ years by government and commercial mining. We are just collectors looking to add a nice specimen to our shelves.

I want to thank MAGMA members: Palei Leonard, Sam Burgin, Tony Jones, Brenton Fipps, Tracey Moore, Tim Heafner and Steve Bonney for their suggestions and ideas which I will be sharing at the next meeting with the Forest Service in October.

If you have ideas that you want to share that I can take to these meetings, please feel free to email me at info@americanrockhound.com. All ideas are welcome and hopefully I will have good news on our progress in the next issue.



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Richard@bucksfarm.com
(828) 460-2655

Shows

Graves Mountain Open House, Rock Swap & Dig

October 3rd – 5th, 2014
Hours: 8am to 6pm each day.
Fee: Donation.
The show is held at Graves Mountain,

Lincolnton, Georgia. Food and drinks available for purchase. Numerous vendors with gems, minerals and fossils for sale and trade. Golf carts available to shuttle the diggers to and from the mine. All clubs and rockhounds are welcome to attend! For more information, call Clarence Norman Jr. at (706) 401-3173.

Field Collecting

Vertebrate Fossil Hunt

Surry County, Virginia
November 15th - 17th, 2014

Official Field Trip of the Mountain Area Gem and Mineral Association

Molluscan fossils of Miocene and Pliocene epochs. Also shark teeth, whale bones, corals and more. Easy collecting along the riverbank and shoreline. The exposure is nearly one mile long so plenty of room for collecting. There are many species of fossils found at this location. Camping is allowed with water and bathrooms at the campsite.

Rules for camping:

- Alcoholic beverages are prohibited on the property.
- No parking of vehicles in the campsites, vehicles must park in the parking area after unloading gear.
- No climbing steep banks.
- Hand tools only.
- Everyone must sign a liability release form upon arrival.
- Do not crowd others while digging, there is plenty of room for everyone
- Ground fires are not permitted, but there are fire rings in the campsites.
- Swimming is prohibited in the river.

Fee: \$5.00 per person for the weekend. All MAGMA associated clubs are welcome to attend.

For more information, call Rick Jacquot, (828) 779-4501 or visit www.americanrockhound.com.

Sharpes Emerald Prospect

We are planning to do some machine work this fall at the Sharpes Emerald Prospect in Hiddenite, North Carolina. After we have opened some new areas, we will have a three day campout and dig at the mine for the MAGMA club and all clubs associated

with MAGMA. This is planned for sometime in November. Visit www.americanrockhound.com at the MAGMA 'Upcoming Events' page for more information as it is added.

Glendon Pyrophyllite Quarry

I have been in contact with the RT Vanderbilt Company in reference to their bi-annual digs at the Glendon Pyrophyllite Quarry near Sanford, North Carolina. The management said that they will hopefully be open to collecting again in 2015. The MAGMA club will be setting up a fall dig to the site next year if everything goes as planned. We already have our 120 person limit filled for the dig, but I am taking names for the waiting list as someone always drops out. If you are interested in getting your name on the waiting list for this dig, email me at rick@wncrocks.com.

Hogg Mine Open Dig Dates

www.hoggmine.com

Oct 4th, 2014
Oct 18th, 2014
Nov 1st, 2014
Nov 15th, 2014
Nov 29th, 2014
Dec 13th, 2014
Dec 27th, 2014
Jan 10th, 2015

If you would like to submit an article, photos for the Latest Finds section, a field trip report or have an idea or suggestion for something you would like to see in upcoming issues, contact:

Rick Jacquot
(828) 779-4501
info@americanrockhound.com
www.americanrockhoundmagazine.com

If your club or rockhound group would like to advertise or invite other rockhounds to share in your club field trips, send us the information: location, date, what to find, tools needed, fees, directions and contact information. Send submissions to info@americanrockhound.com.



Rockhounding America