

Oct/Nov/Dec 2014
Volume 1, Issue 4

American Rockhound®

The magazine written by Rockhounds, for Rockhounds

American Rockhound

Terry Ledford

Specimen Preparation
and Cleaning

Field Trips

DoBell Ranch, Arizona

Saddle Mountain, Washington

Montgomery County, North Carolina

Ghost Mines

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in the U.S.A.



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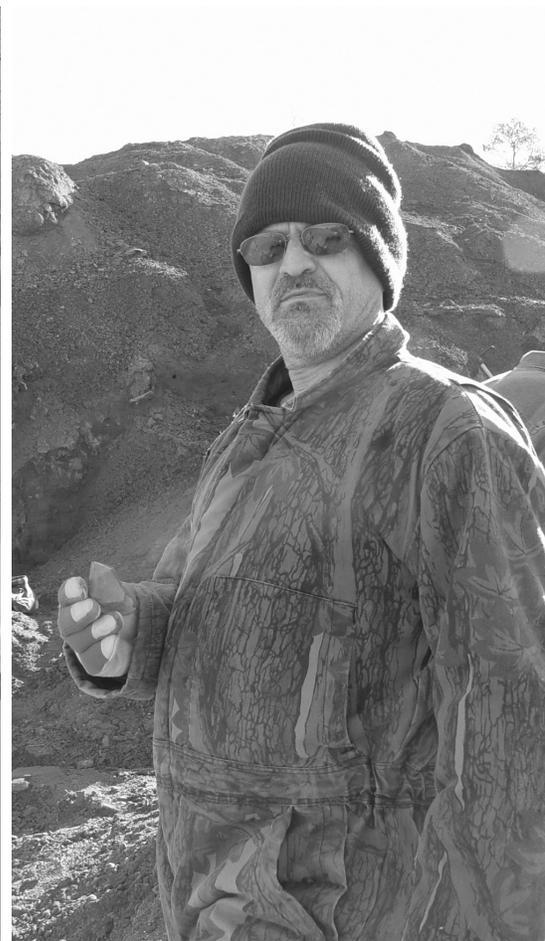
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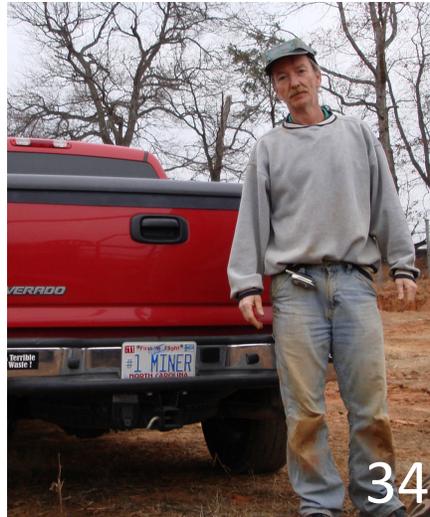


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On the front cover: Petrified logs at the Petrified Forest National Park, Carl Barton photo, 2014. Inset: Top view of a 60 lb. (27 kg) petrified log section collected in Arizona by Victor J. Jacquot II in 1937.

On the back cover: Petrified logs at the Petrified Forest National Park, Carl Barton photo, 2014.

Thinking Out Loud Rockhound Safety

Richard Jacquot

With the recent death of friend and fellow rockhound, Terry Ledford, I have been thinking a lot about safety while collecting. What happened to Terry was tragic, but could it have been avoided? Terry was working a new site in Alexander County, North Carolina in hopes of finding valuable minerals, including emeralds. He was working this location with digging partner Mark Randle. The day Terry died, he was at the site alone. He had gone to get the track hoe out of the pit to get ready to dig at another location the following week. The best guess by some people, is that while at the site, he saw something that caught his eye which lured him into the pit at the base of the wall for a closer look. It was then that the wall collapsed killing him.

Everyone says "He should not have been there alone." The fact is, everyone in this hobby has collected alone, I would guess that many of us collect alone the majority of the time. I know that I have been in the very same position as Terry on many occasions myself, I never even gave it a thought, until now. I dig with my club routinely and we always follow safety protocol, but when you are alone, sometimes you take chances.

If Terry was not alone, would he be alive today? No one can say for sure, but I can say this. If I was working with someone at a dig site and we saw something at the base of the wall, a vein, a pocket exposed, or a crystal that looked interesting, I am almost positive that we would have both been in that pit to take a look. There would then be two deceased rockhounds. If one of us was on the machine while the other was looking at the wall when it came down, would the machine operator be able to save the person? After reviewing the photos and footage from the news of that site, I doubt it. Tons of dirt and rock is going to kill you within a minute or so, regardless of who was there to see it come down. Are you, as a machine operator willing to dig frantically through the dirt

to save your friend, chancing killing that person with the machine? It has happened.

All that aside, I believe that we should always have someone with us when digging at sites where there are high walls, whether it be an active quarry, a private dig or any other site that may be questionable. After this accident, our group (Hiddenite Gems Investment Group LLC) held a safety meeting, and we decided that even though we are not under the scrutiny of the NC mining regulators, we would proceed with our digging activities as if we were. No walls higher than 8', everything will be terraced and no one will be at our mine alone when working near any walls, no matter what the height.

There are other safety concerns while collecting that should also be considered. On many occasions in the past I have visited and collected at old mines in the mountains of North Carolina. I have searched underground workings with a headlamp and hand held lantern. I cannot tell you how many times I have walked up on a vertical shaft that is filled with water in these mines. Usually the water is about 10' or so below the surface and there is no ladder or other way to climb out of the shaft if you fell in. I was always alone when I encountered these things. Imagine falling into one of these shafts. You are in the dark, no way to climb out, the water filling the shaft is likely coming from an underground spring, so very cold. How long do you think you would last? Many old mines have collapsed in places, you always have to worry about a ceiling coming down on you. The best thing to do is avoid going into these mines in the first place. I admit that I have done it in the past, but as I get older, I realize that no rock is worth my life. There is a certain amount of risk associated with mineral collecting and prospecting, you have to weigh the situation you are about to indulge in, and decide if the risk is worth the rewards. If the

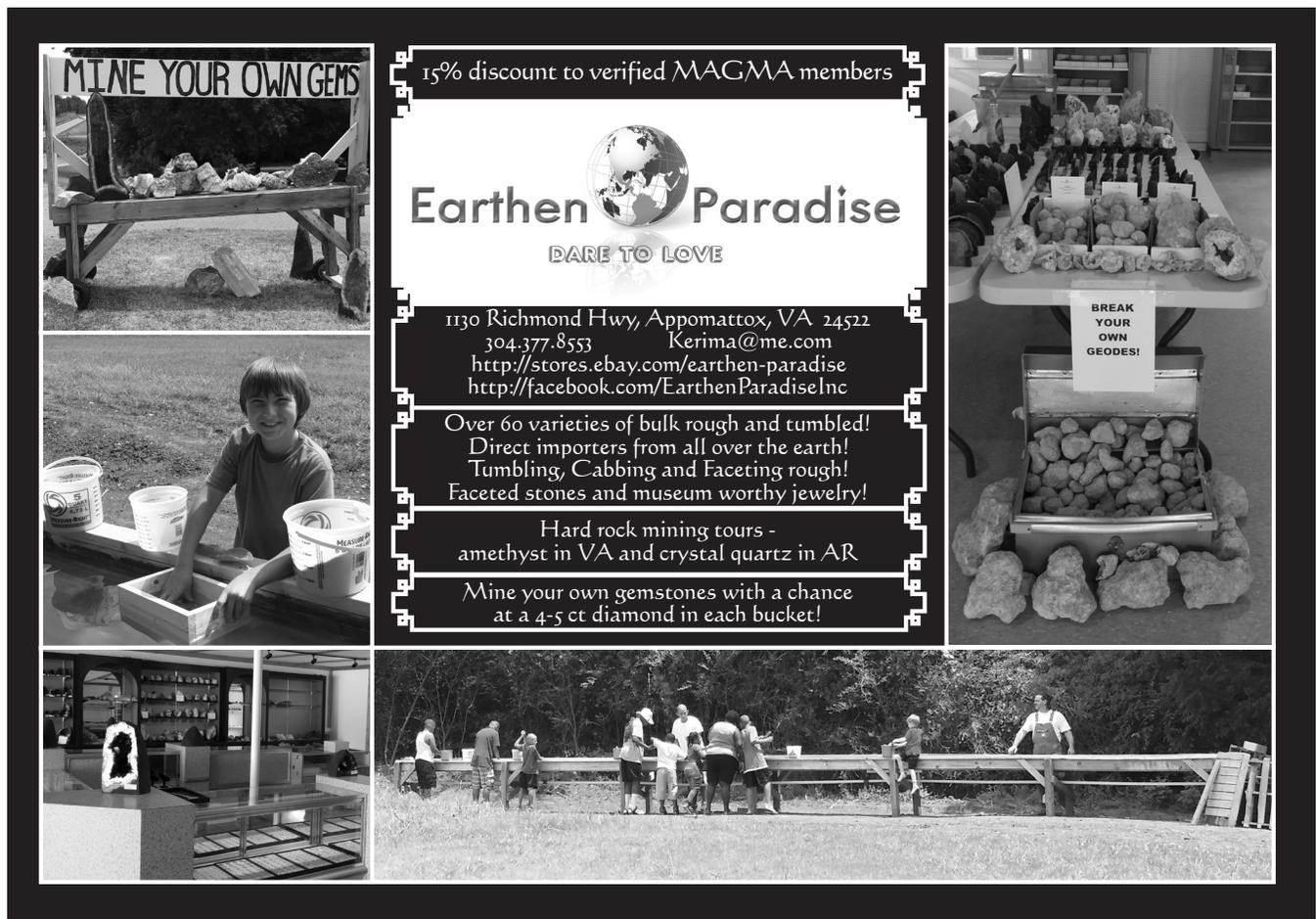
risk will put your life in jeopardy, it is never worth the reward.

Safe and proper mineral collecting can be done at any site. Follow the rules and never take chances. I have found after 15 years of working mines with machines, that open pit mining with easy to access pits and terraced walls with safe wall height is usually the safest way to go. Never tunnel or undercut a wall to chase a vein. It may take a little longer, but removing the overburden is the best option. Wear a hardhat and other safety equipment when appropriate. When using heavy equipment, always have someone on site that is familiar with the equipment. Equipment failure has caused many deaths over the years and could have been prevented in many cases with proper machine maintenance. Always wear your seatbelt when operating heavy machinery. A lot of people think they are fast on their feet and can jump out of a machine if it were to turn over,

a lot of people have been cut in half thinking that!

When out collecting, let someone know where you are going and when you plan to return. Carry a cell phone with you if possible. Don't get into a dangerous situation. Think it out, there is a safe way to do things, it may take longer, but you will be around to enjoy the rewards. Better yet, bring someone with you; two heads are better than one when figuring things out.

Lastly, consider the impact on others if something happens to you. Who will take over your responsibilities if you die? I know I have a lot of people counting on me for various reasons and I don't want to leave them alone in life. So the next time you set out to explore and collect, think of them when you get the urge to do something risky. I hope we never lose another friend or fellow rockhound to something like this. If it takes more time and slower, more meticulous excavation, then so be it. 🏠



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THE PETRIFIED FOREST ARIZONA

Richard Jacquot

My introduction to the colorful petrified wood from Arizona happened many years ago. Not long after my grandfather, Victor John Jacquot II (Jake), passed away in 1984, I was visiting my dad, Richard James Jacquot Sr. in Maryland. I noticed a large section of tree trunk sitting in his basement. Upon closer examination, I realized that the tree was a 60 pound (27 kg) section of a petrified log. Dad told me that his family made a couple of trips out west when he was a kid, first in 1935 and again in 1937. My grandfather

collected the piece during the family trip in the fall of 1937. My dad was 6 years old at the time. During the 'Jacquot Family Tour of 1937' they visited several classic locations, national parks and monuments including the Petrified Forest,

Above: This postcard shows one of the early images from the Petrified Forest in 1899. I would like to visit this location today and take another picture to see how the landscape has changed with all the wood that has been removed and stolen from the park over the past 100+ years.



Petrified wood tree trunk section collected by my grandfather in Arizona in 1937. The piece weighs approx. 60 pounds (27 kg) and measures 11 ½" x 8 ½" tall (29.21 cm x 21.59 cm).

Carlsbad Caverns, Tombstone, the Grand Canyon and some Native American Indian reservations before they continued on to California to visit the rest of the Jacquot clan. The family was packed in my grandpa's 1935 Chevy with a small utility trailer in tow to hold all the goodies they would collect.

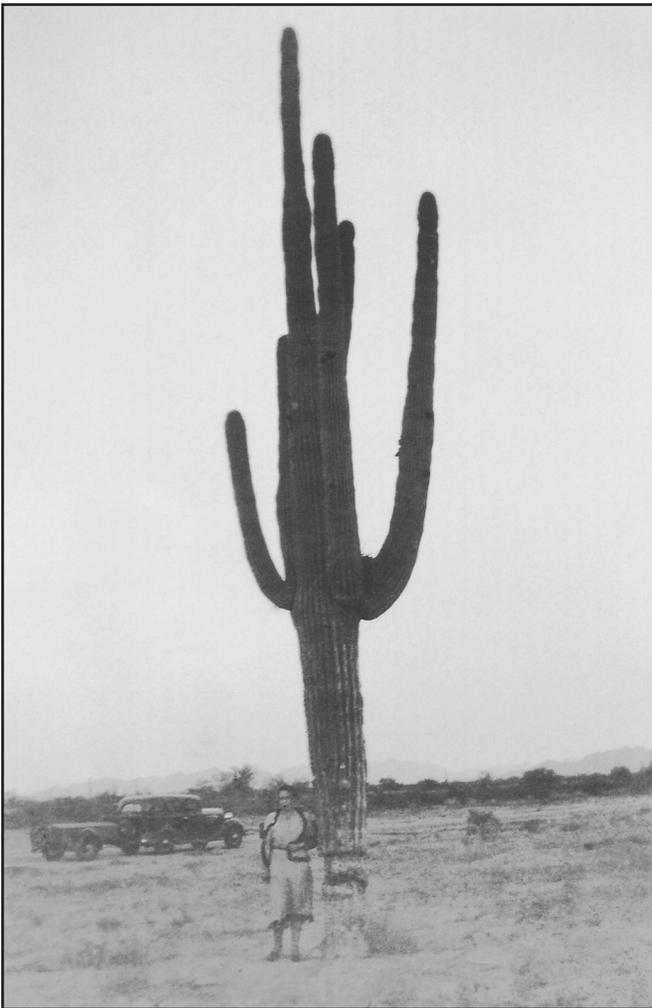
Collecting weird and unusual items and objects runs in the family. My grandfather would visit us on Sunday each week for dinner when I was a kid. He would always bring a family heirloom or two to give to me and my sister. A stuffed horned toad, steer horns, a witch doctors rattle, a gun rack made of buffalo hooves and horns were just a few things we received. My mom told me I should start collecting something as a hobby. I didn't know what to collect when I was little, so she suggested horses. I built a shelf and found as many horse models as I could to put on my shelf. Soon, I strayed from the horses, tried collecting stamps, coins and bugs and eventually

began rock collecting at 8 years of age.

Being a longtime rockhound, I was intrigued with the large section of petrified wood, so Dad told me to take it with me when I left. At that time, I was young and had little resources to afford a trip out west, but I added it to my ever growing bucket list of places to go and things to do. (I have recently realized I need a bigger bucket!) In the spring of 2002, I finally had the opportunity to head west. My son, R.J. was 13 and had just begun summer vacation from school. Dad wanted to visit his brother (Uncle Jack) in Colorado Springs, Colorado. We decided to make it a multi-week road trip and visit as many places as possible while we were out there. Being the rockhound, I planned the trip to hit many collecting sites on the way. The Petrified Forest was at the top of my list. In June, 2002, with our motor home (also with a small utility trailer in tow), Dad, R.J. and I headed west. On the way, we hunted petrified wood in New



Victor J. Jacquot III (Uncle Jack), standing on a petrified log in the Petrified Forest National Monument, Arizona, September, 1937.



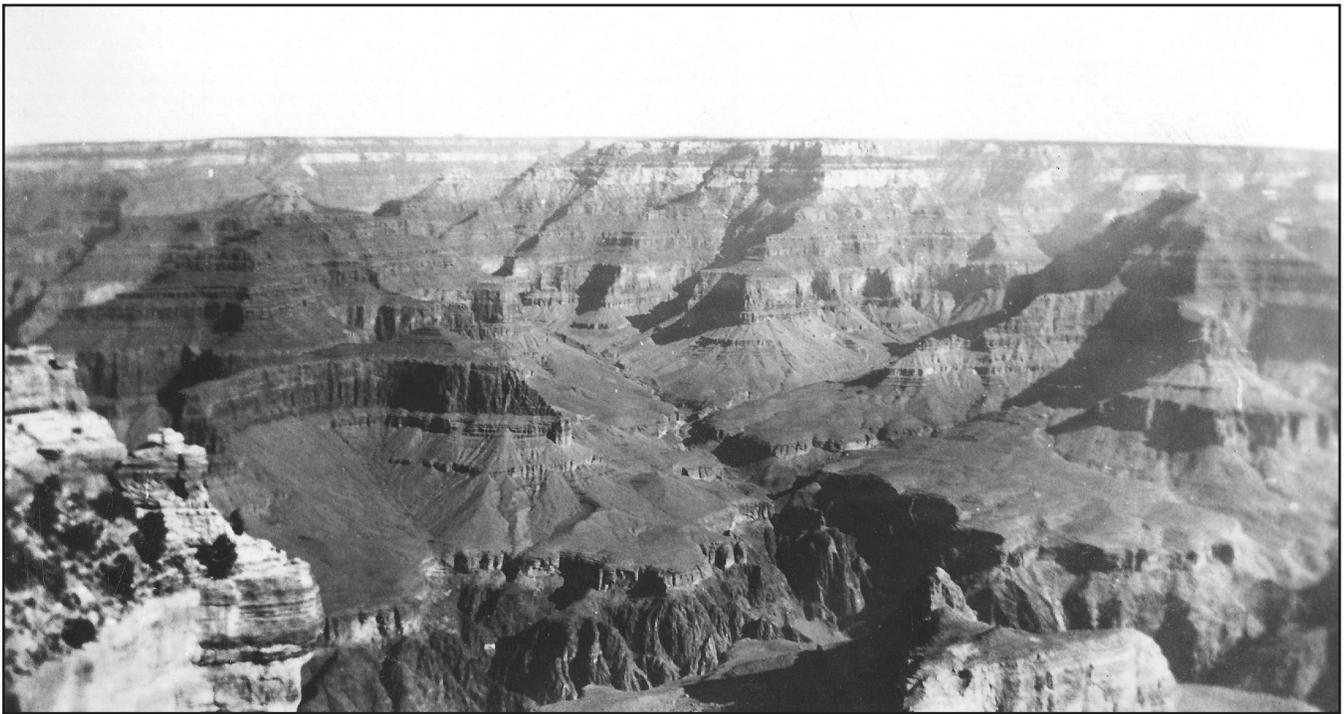
Grandmother, Ruth Dingman Jacquot next to a cactus in Arizona, September, 1937.

Mexico and got stuck in the sand, which is funny as the family also got stuck in the sand back in 1937. After several days and a few collecting stops, we arrived at the Petrified Forest.

Early History

The Petrified Forest was first discovered a few thousand years ago by the Native Americans that inhabited the land. At one time, the Navajo believed the logs were the bones of a monster named 'Yietso' or 'Great Giant'. They believed their ancestors killed the giant upon their arrival in the southwest centuries before. Native American ruins, petroglyphs and artifacts dating back almost two thousand years are commonly found in the forest. One of the oldest villages in the Petrified Forest is 'Flattop Village'. Located in the southern portion of the park, it is believed to have been occupied by the Anasazi people prior to 500 A.D.

The area now known as the Petrified Forest was not recognized until the middle of the 19th century. Early explorers travelled through the area but did not realize what the petrified wood was. On September 28th, 1851, Captain Lorenzo Sitgreaves discovered petrified wood while leading an army expedition through western New Mexico and eastern Arizona, several miles south of the current park. In 1853, Lieutenant Amiel



The Grand Canyon, September, 1937.

W. Whipple discovered a large deposit of wood known today as the Black Forest, located in the northern section of the Petrified Forest. In 1855, the first photos and report were published on the discovery.

Within the next few years, more petrified wood deposits were discovered and people began to take notice. Word of mouth, publication in books and newspapers spread the news. People from

all over the country began to come to see this marvel and collect a piece of this fascinating material. In 1878, U.S. Army General William T. Sherman suggested that two of the petrified logs be collected for the Smithsonian Institution in Washington, D.C. The following spring, a small detail of soldiers collected two segments of logs and loaded them onto wagons and hauled them



My grandfather, Victor J. Jacquot II, showing off his collection of various horns he collected out west in 1935.

to Fort Wingate. At the time, the local Indians were curious as to why these white men would want bones from the monster that their ancestors killed. One of the specimens was shipped to the Smithsonian and put on display. Over time, more and more wood was carried off by visitors to the area. Boxcar loads of the wood were shipped to the east coast to be made into



My dad, Richard J. Jacquot Sr. (right) and Uncle Jack sitting on the running board, stuck in the sand in Arizona, October, 1937. The funny thing is, I got our motor home stuck in the sand on our visit in 2002.



My dad, Richard J. Jacquot Sr. with his mother, Ruth Dingman Jacquot, at Tombstone, Arizona, January, 1935.

tabletops and other ornamental objects. Many large logs were dynamited on site by early rockhounds looking to collect the amethyst, citrine and quartz crystals that grew in the cavities in some of the logs. A mill was built at Adamana (a town founded in 1890) to crush the petrified wood for use as abrasives, though it was never put into operation, as another, cheaper material was discovered for the

abrasive use. We should all be thankful for this. Who knows how much wood would have been lost to this industry!

The colorful wood drew the attention of famed mineralogist George Frederick Kunz, and in 1893, Kunz named the area 'Chalcedony Park'. It wasn't until 1895, 40 years after the first news of the site was made public, that the U.S. Congress was initially petitioned by the Arizona Territorial Legislature to designate the area as a national park. Congress would not pass the bill. Paleobotanist Lester F. Ward of the U.S. Geological Survey visited the area in 1899 and also recommended that the site be designated as a national park in a report published in 1900. On December 8th, 1906, 55 years after the first discovery of the petrified wood, President Theodore Roosevelt created the nation's second national monument, the Petrified Forest National Monument (the first being the 'Devils Tower' Wyoming, also established in 1906 by Roosevelt). In 1932, 53,000 acres were added to the Petrified Forest National Monument. In 1958, legislation was approved by President Dwight D. Eisenhower to designate the area as a national park to further protect the petrified wood, fossils and artifacts in the area. This was completed in 1962 by President John F. Kennedy. The

Petrified Forest National Park was established.

Back to the Future: 2002

We arrived at the Petrified Forest via Interstate 40 West. This brings you in at the top half of the park and winds through the park for about 30 miles to a visitor center at the southern end. The views were fantastic. The giant petrified logs, Painted Desert and remains/artifacts of the ancient man that inhabited the area are something every rockhound should see at least once. Dad, R.J. and I spent the day roaming the park in our R.V., taking pictures and video. The rockhound in me was screaming to collect just a small piece to put on my shelf, but I was able to keep control of myself and be satisfied with my pictures.



This beautiful red piece of petrified wood was collected by me and my son R.J. at Stewart's Petrified Wood, 15 miles east of Holbrook, Arizona, June, 2002. 5 7/8" x 5 3/4" x 4" (14.92 cm x 14.61 cm x 10.16 cm).



My son, R.J. Jacquot III, in front of the south end visitor center at the Petrified Forest National Park, June, 2002.



The author (me) standing next to Old Faithful, a large petrified tree at the Petrified Forest National Park, June, 2002. R.J. Jacquot photo.

Much of the land that surrounds the Petrified Forest is privately owned and collecting could be done at some of these properties for a small fee, for those that wanted to take home a piece of this colorful wood. We visited Stewart's Petrified Wood Shop, located 15 miles east of Holbrook, Arizona on I-40. We picked up some colorful specimens for our collection. Stewart's is still in business and you can visit their website at www.petrifiedwood.com for more information.

At the time of our visit, the park service told us that 12 tons of petrified wood material is removed illegally from the park yearly and that it is diminishing the resources of the park. I totally agree that no one should remove anything from the park, period, if it is to be preserved for future generations. I had to wonder at some of the 'souvenirs' that I have acquired over the years that were made in the 1940s, 50s and 60s. Bookends, wall hangings, weird looking ashtrays and other odd items that I have picked up at rock shows, old collections, yard sales, eBay and other online sources. All of these claim to be from the Petrified Forest National Monument or Park. So where did the wood to make these items come from? It is obviously wood from Arizona, the labels on the items claim that they are from the national park? If so, why would they use this wood to make (sometimes cheesy) items to sell in the gift shop, while at the same time telling visitors it is illegal to collect even a fragment of the wood from the park? I decided to call the park service and ask them. The ranger I spoke with informed me that the Petrified Forest National Park contains about 15% of the petrified wood in Arizona and that the other 85% is located on private property. The park service purchases wood from these private entities for souvenirs to sell in the gift shop. The labels will say they are from the park, since they are sold in their gift shop. He advised that this has been the practice for decades since the congressional mandate that they follow would not legally allow them to use any wood that is actually from the park.

Petrified Forest Today

It has been 12 years since our visit and the 'Jacquot Family Tour of 2002' out west. In 2004, President George W. Bush signed a bill that doubled the size of the park to over 218,000 acres. I have wanted to get back out there and was considering a trip to see the current conditions of the park and maybe do an article on the collecting status on nearby private property. I heard of a great site called the DoBell Ranch for petrified wood collecting and began researching the site when I saw a post made by one of our club members, Carl Barton, on our American Rockhound talk forum of his recent trip to the DoBell Ranch with his wife Sandee. I contacted them and asked if they would do a field trip report for our magazine. I got way more than I expected. Sandee is a geologist and routinely writes for her local club newsletter in Virginia. She not only wrote us a great field trip article with all the details of the DoBell Ranch, she also gives a great description of the geology of the Petrified Forest, it's prehistoric past and how the wood was formed.

The Petrified Forest is still a top site for rockhounds to visit and I hope to make it back out there someday soon. When you visit the Petrified Forest, be sure to take many photos and video, but leave the rocks as you find them. Just think of it as leaving them in their matrix, everyone likes a specimen in matrix for display. This is a fantastic place to visit and it should be preserved for future generations to enjoy. 🦕

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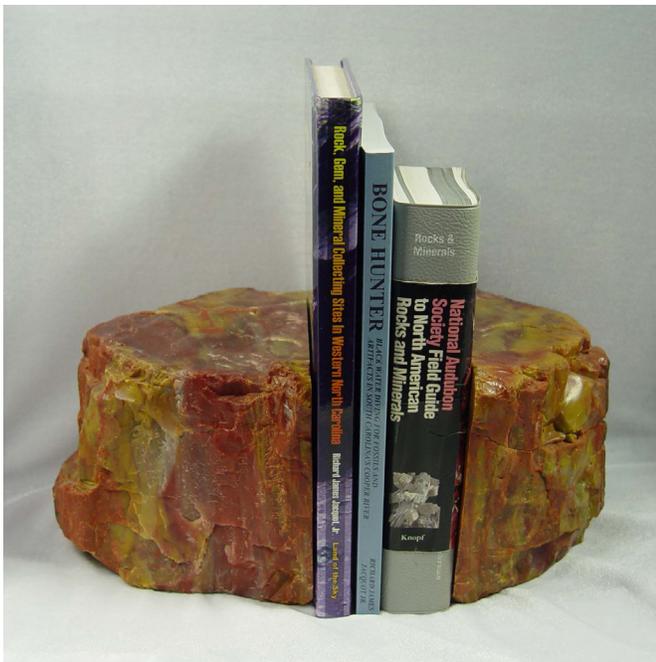
<http://www.nps.gov/pefo/planyourvisit/brief-administrative-history.htm>.



Souvenir wall hanging from the Petrified Forest National Monument or Park, circa 1950s or 60s. 8 ¼" (20.96 cm) diameter.



This souvenir ashtray is from the Petrified Forest National Park, circa 1960s. I purchased this piece from eBay to include in this article. 7 5/8" (19.37 cm) diameter.



Colorful bookends like these are a common souvenir that can be purchased at the gift shop at the Petrified Forest National Park. This is an old set that I acquired at a rock show in Asheville, NC.



This red hunk of petrified wood was collected in Arizona in the 1950s by Mr. Tweedy, of Tweedy Garnet Mine fame in Burke County, NC. 4 ½" x 6" x 4" (11.43 cm x 15.24 cm x 10.16 cm).

ROAD TRIPPING PETRIFIED WOOD DOBELL RANCH, ARIZONA



Sandee Barton, Ph.D.

For the first time in over 35 years, I did not work during the summer. Instead, I went with my husband on a major road trip which lasted four months. Wooo-hoooo! We are members of our local rock club and of the National Park Travelers Club so we combine rockhounding with visiting National Parks on any trip we take.

As Carl planned our extended vacation, he asked if I wanted to dig at the DoBell Ranch for petrified wood. Oh my, thoughts flew through my head. Being a geologist, I have several nice specimens, not to mention a 3 gallon bucket of petrified wood from Saskatchewan, Canada. And, being a rockhound, I've accumulated another bucket or so of petrified wood from unknown places, which of

course, like all good rockhounds, I plan to identify someday, when I have time! (wink-wink). Anyhow, as these thoughts flew through my head, my last thought was, "Is it possible to have too much petrified wood? Hummm, no, I don't think so." Therefore, my answer was an enthusiastic, "Yes, of course!" and the DoBell dig was on the agenda.

We made plans to camp at the Meteor Crater RV Park so we could spend several days with Carl's two brothers, sister, and seven year old nephew while visiting the Crater, the Grand Canyon, and the Petrified Forest National Park. Digging at the DoBell Ranch would be the perfect opportunity to try and turn his family members into rockhounds! I was secretly hoping the digging wouldn't be too



Opposite page: Sandee and Carl Barton on the Crystal Forest Trail at the Petrified Forest National Park. Carl Barton photo.

Top: One of the larger pieces of petrified wood that can be found along the Crystal Trail in the Petrified Forest National Park. Carl Barton photo.

Left: The Crystal Trail is located in the southern portion of the park. It is here that you will find the majority of the beautiful specimens that make up the park. Carl Barton photo.

difficult.

We started the day by visiting the Petrified Forest National Park, which was established as a National Monument in 1906. In 1962, its status was changed to a National Park in order to protect the treasures within it; collecting even the tiniest fragment of rock/wood is prohibited.



A new generation of rockhound is born. Sandee Barton with nephew Zack on his first rockhounding adventure at DoBell Ranch. Carl Barton photo.

The purpose of National Parks is to preserve, protect, and educate which is a good thing. It truly is sad to see old pictures of the Petrified Forest with an abundance of rocks, and then compare those pictures with what is seen now. Unfortunately, many tourists ransacked the area in the early 1900s, removing large specimens leaving gaps in the landscape. And even today, many visitors take small pieces thinking no one will notice, however, those small pieces do add up and change the scenery for those who will visit in the future.

Currently, the Petrified Forest National Park covers over 146 square miles and has three visitor centers. We decided to begin at the north entrance and drive the 28 mile scenic road to the south end which is near the DoBell Ranch. We stopped at the visitor centers, and were enthralled by the petrified wood, the Painted Desert and the sculpted rocks we saw along the drive. Most memorable was the Crystal Forest and Trail; a short, blacktopped, handicapped accessible trail from which amazing views can be seen. Oh my goodness, there were beautiful, huge logs of petrified wood just lying next to the trail! And, although I was amazed at the sheer size and amount of the solid logs, I was stunned by the crystallized wood. By walking along the path we



Jason tours the old DoBell Ranch homestead and original store site, circa 1936. Site is now a museum for the ranch where you can tour the original home. Carl Barton photo.

were able to see logs that had large pore spaces allowing quartz, citrine, and amethyst crystals to grow inside the open space. Absolutely gorgeous! Carl was certainly busy taking pictures for me along this route.

As we were walking, my brother-in-law started asking me how these petrified trees formed and why they were located at this spot and not somewhere else. Oh my, he gave me the perfect opening to practice one of my lectures!! Okay, okay, so I didn't subject him to a full blown two-hour geological lecture on various forms of preservation and depositional environments. But, if he had asked more questions...

Simply put, that area of the United States had a very different environment than it does now. During the Triassic (251-200 mya), this part of the southwest lay almost on the equator. Imagine a broad floodplain with marshes and stream channels that stretched between high mountain ranges in the southern or central Arizona with the lower country being towards the north. There were forests of tall conifers (pine trees) lining the borders of the marshes and shifting waterways. Mosses and ferns were also abundant, however grasses and flowering plants were missing as they had not evolved yet. Periodically, floods from the mountains would envelop the area forming



Gordon DoBell, grandson of Frank DoBell unearths an intact petrified log on the day of our dig. The log was estimated at 4 ft. in diameter and 25 ft. long (1.22 m x 9.14 m). Carl Barton photo.



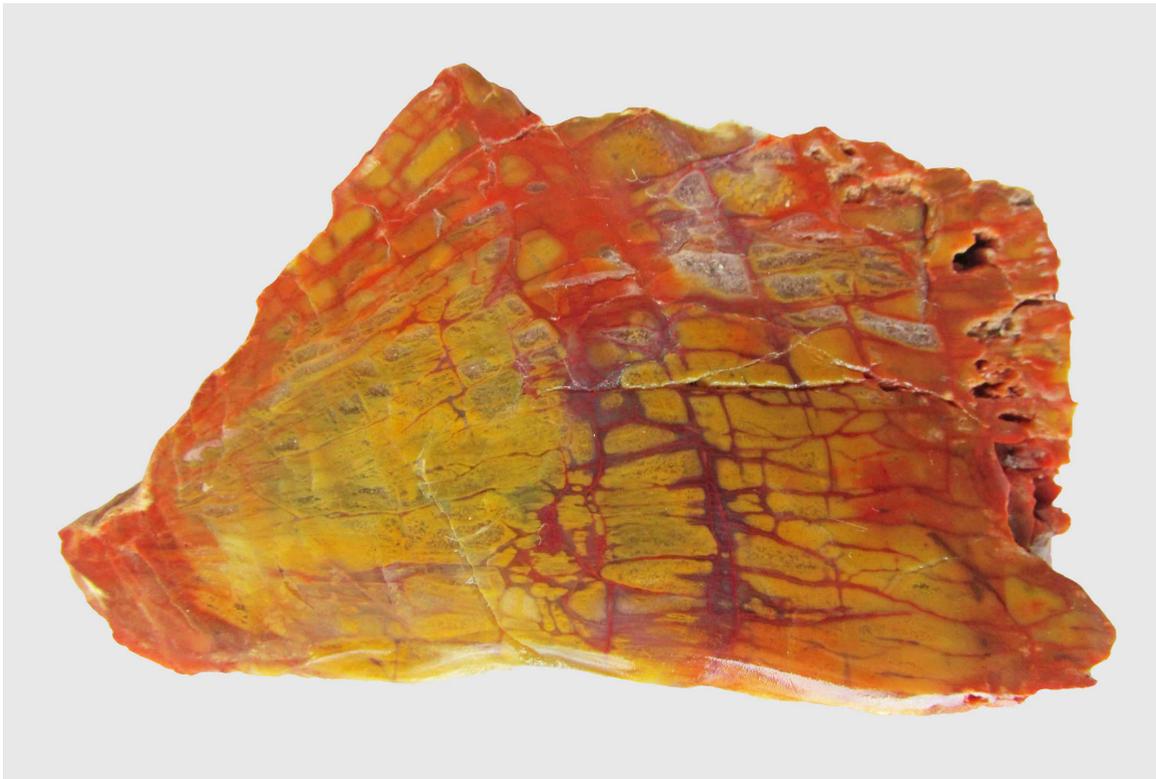
DoBell Ranch dig with family. Front row, left to right: Jason & Shannon. Back row, left to right: Tonya & Carl (authors husband). Sandee Barton photo.



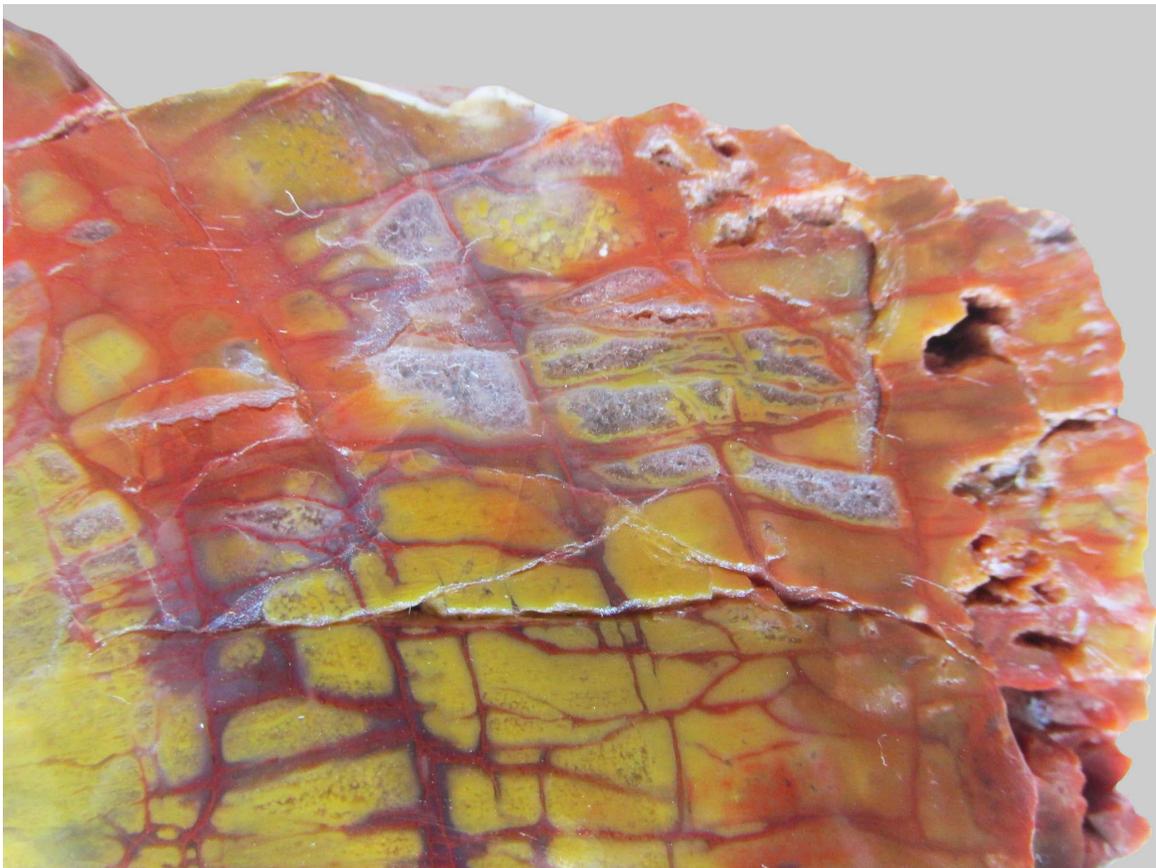
Examples of Arizona petrified wood that we found at the DoBell Ranch dig site within 15 minutes. Carl Barton photo.

new stream channels. The rushing water of the new channels would cut into old banks, topple trees and other vegetation which would then be carried along in the fast moving muddy streams. Eventually, the water would lose velocity and the debris would be deposited. Concurrently, towards

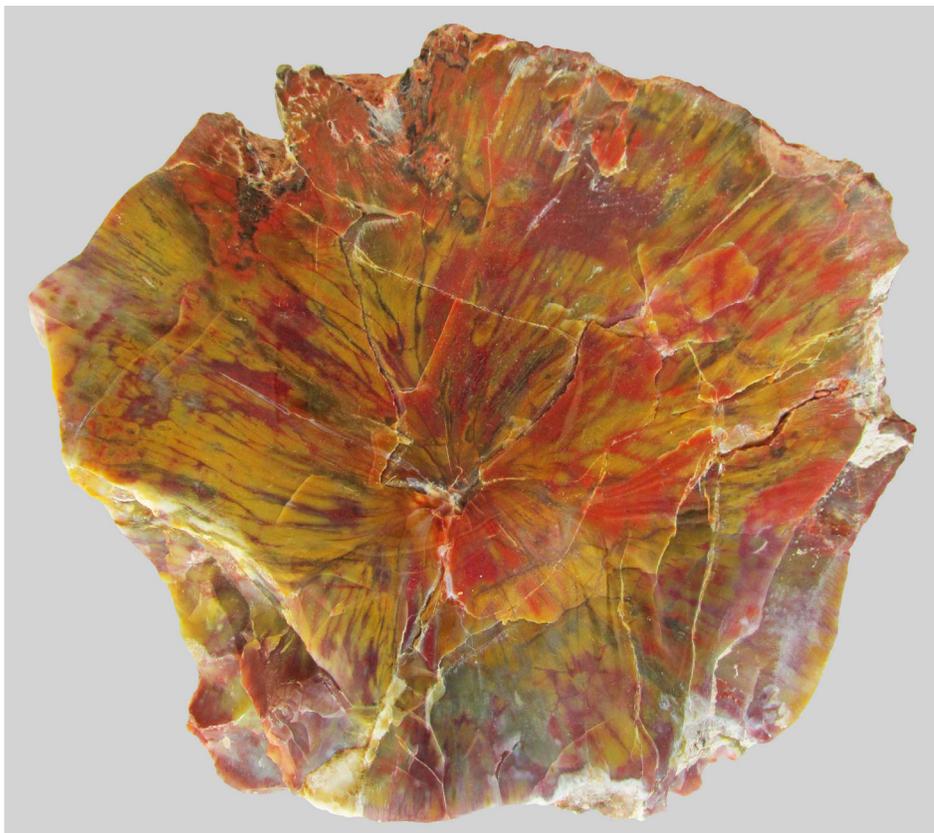
the west, volcanoes would intermittently erupt sending up clouds of volcanic ash which would drift and cover the area, subsequently adding to the sediment layers. Can you imagine such a sight? It must have been amazing! Anyhow, additional floodwaters containing ash, coarse



Petrified wood from DoBell Ranch, Arizona. Collected by Carl and Sandee Barton. Polished by Carl Barton. 5" x 2 ½" x 1" (12.7 cm x 6.35 cm x 2.54 cm) Carl Barton photo.



Closeup of crystals in specimen above.



Top left: Petrified wood from DoBell Ranch, Arizona. Collected by Carl and Sandee Barton. Polished by Carl Barton. 6" x 4" x 1" (15.24 cm x 10.16 cm x 2.54 cm) Carl Barton photo.

Top right: Petrified wood from DoBell Ranch, Arizona. Collected by Carl and Sandee Barton. Polished by Carl Barton. 7 ½" x 4" x 4" (19.05 cm x 10.16 cm x 10.16 cm) Carl Barton photo.

Bottom: Petrified wood from DoBell Ranch, Arizona. Collected by Carl and Sandee Barton. Polished by Carl Barton. 7 ½" x 6 ½" x 2" (19.05 cm x 16.51 cm x 5.08 cm) Carl Barton photo.

sand, and pebbles would then cover the logs burying them in those sediments. Sometimes, the standing trees of the floodplain were inundated by the water and subsequently, they would be preserved standing in place.

How do geologists know this? They examined the sediment layers and preserved trees for clues. Many of the logs are lying on their side and appear battered with limbs and roots broken off. As well, much of the bark has been scraped away. All of this evidence indicates that the logs were rafted by floods or mudflows, rolled around, and eventually piled into log jams within the stream channels. The amazing part of the story is that these logs were quickly buried in an oxygen-poor sand, or volcanic ash before the wood could decay. This quick burial helped to preserve the original logs, most of which are *Araucarioxylon arizonicum*, an extinct conifer species.

In order to turn the wood into rock, special conditions have to occur. The first step was met by the rapid burial of the wood by sediments. The second step involves the ground water which became saturated with silica from dissolution and alteration of the volcanic ash that was in the river-deposited sediments. You see, volcanic ash is composed of microscopic fragments of unstable silica. Therefore, the groundwater percolating through the sediments can easily become charged with silica. Step three happens when the silica rich groundwater permeates the tissue and open spaces of the wood. Over time, the silica replaced the individual cell walls with microscopic quartz crystals, hence preserving the original tissue structures of the wood. Unfortunately, in most logs, the cell walls were destroyed and the microscopic structures lost as the petrification process continued.

In the gift shops I saw beautiful pieces of petrified wood; the colors ranged from various tones of yellow, red, blue, and green. Black was also a common color. The prices made my jaw drop! All I kept thinking was, "we are going on a dig, and we will find something. You do not need to buy a piece of wood at those prices!" Besides, I would rather find my specimens than buy them if possible. Anyhow, the colors of the wood are due to different mineral oxides in the silica. Iron

compounds will impart various reds, yellows, and browns. Copper oxides will produce blue and green colors, whereas manganese and carbon produce black.

After seeing the gorgeous pieces at the park, I was ready to go dig. I was especially excited because we had our seven year old nephew, Zach, with us. Previously, I had given Zach a box of rocks (labeled, of course) and he had spent hours looking at and playing with them, along with asking me questions. Seemed like he might be a rockhound in the making! However, I knew the true test would be, how he would stand up to a dig?

The DoBell Ranch is located at the southern end of the National Park, and can easily be missed. Thank goodness Carl is a dedicated rockhound and had thorough directions! Old Highway 180 used to run right past the DoBell Ranch and 'Grandpa Frank' used to sell the petrified wood from a stand on that highway to tourists. The ranch house is still standing and can be toured, along with the museum at the front of the house. The petrified wood specimens were stunning; the pieces at the gift shops paled in comparison!

Tonya DoBell enthusiastically greeted us with open arms, a huge smile and plenty of laughs. She truly was a joy to meet and I look forward to visiting her again. She gave us a tour through the museum and house, and afterwards told us to just drive down the road to the pit and collect whatever we wanted. Tonya mentioned to be careful of the bentonite ash...it would suck our boots off if we weren't careful (she was speaking from experience and so am I!). She also mentioned to stay away from the Bobcat (machine, not animal). But, other than that, we could collect whatever, wherever in the pit. Oh my goodness, really? We drove the trucks over to the pit, but I still didn't know what to expect. I thought this might be a hard dig. I was wrong, wrong, wrong. This was one of the easiest digs I have ever been on. Seriously. Even before we got into the pit, I had Zach picking up small pieces of wood that were just sitting on the edge: small beautiful deep red and yellow pieces which would be perfect for tumbling.

To tell you the truth, I just didn't know where to start! The wood was allllll over the place. I slowly made my way into the pit, picking up pieces and

putting them to the side, hoping I'd remember to collect them...they just all didn't fit in my arms! At the bottom of the pit, Gordon DoBell, on the Bobcat, was excavating a HUGE log which was probably about four feet in circumference and at least twenty-five feet long, that we could see; much of it was still buried.

I swear, I could have stayed there all day poking around and digging, but within an hour or so, five cat litter boxes had been filled. I was amazed at how quickly the time went by, but then again, it usually does when rocks are involved! I was thankful for having Carl's brothers and sister help us. That extra muscle really helped when hauling, loading, and lifting the buckets into the truck. Zach had a fantastic time and says he wants to go

on more digs. Yes!!! Another rockhound has been created and we are looking forward to taking him on many more digs with us.

You can contact Gordon or Tonya DoBell by calling 928-524-3349 or writing them at P.O. Box 691, Holbrook, AZ 86025 to arrange a dig. You won't be disappointed! 🏠

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FAVORITE FINDS - PETRIFIED WOOD



Petrified wood, from a ranch in the North Dakota Badlands near Dickinson, ND. Largest piece weighs 41 lbs (18.6 kg), 26" x 8" x 8" (66.04 cm x 20.32 cm x 20.32 cm) Rick Bernotas collection and photo.



Petrified palm wood with blue chalcedony, Three Rivers, Texas. 4.61" x 2.64" (11.71 cm x 6.71 cm). Dave Boring collection, acquired from Cindy Briggs.



Petrified wood, Dodge Ram full of petrified wood from a ranch in the North Dakota Badlands near Dickinson, ND. Rick Bernotas collection and photo.

SADDLE MOUNTAIN

WASHINGTON STATE



Jim Landon

Both Washington and Oregon are well known for their petrified wood. Cut and polished specimens grace collections all around the world and have been well studied by paleo-botanical researchers since the turn of the century. Since moving to the Yakima Washington area from Nebraska, I have had many opportunities to tromp the canyons and valleys of central Washington in pursuit of petrified wood. Joining the Yakima Gem and Mineral Club was instrumental, in that I have been able to garner lots of information from individuals who have lived and rockhounded in the area for years. Two of these rockhounds, Joe Smith and Fred Cannon who are now passed, were consummate story tellers and relayed tales of places they had visited and treasures they had discovered. There was the story of finding an enormous petrified sycamore log on what is now part of the Yakima Training Center and the equipment they had to improvise

to follow the specimen underground. There was the tale of when they were nearly buried when the wall of a pit they were digging on Saddle Mountain collapsed in on them burying one to his waist and the other to his chest. Both survived to dig another day, but the lesson of what to do and not to do when digging has been passed on to those of us who follow in their footsteps. The article that follows is a short summary of what I have been able to learn and discover about the

Above: The view from the crest of Saddle Mountain of the Columbia River and the cut it has made in the Saddle Mountain anticline is spectacular. Jim Landon photo.

Right: Jerry Wickstrom (left) and Howard Alexander (right) in the process of excavating a large petrified wood log section that was buried in solid basalt. After removing the palagonite rind from around the log, a section can be broken off for removal. Jim Landon photo.

PETRIFIED WOOD





People have been removing petrified wood from a horizon that was initially exposed at the surface and now is a very unsafe tunnel back into the rotten basalt. Digging like this should never be done on Saddle Mountain because of potential cave-ins. Jim Landon photo.



Sections of a six foot diameter tree with its root system that was still standing in a vertical position, was dug from this ten foot deep hole by several clubs over several years. The pole was used to help get in and out of the hole. Jim Landon photo.



Rockhounds young and old can have a great time digging for petrified wood on Saddle Mountain. These first timers have many years of collecting ahead of them. Jim Landon photo.

geologic forces that both formed the terrain of central Washington and gave rise to the fantastic deposits of petrified wood that is now eagerly sought by rockhounds.

During the middle Miocene, a series of volcanic events changed the landscape of much of central Washington State and adjacent northern Oregon. Geologic forces caused a stretching and thinning of the continental crust in what are now the Blue Mountains of southeast Washington and north-west Oregon, giving rise to one of the most spectacular flood basalt events in geologic history. Thousands of north/south trending narrow fissures opened up spewing vast volumes of hot fluid basaltic lava periodically over several million years that gradually filled an extensive basin

in what is now central Washington State and entombing a succession of temperate forests that were found there. The first of these events called the Imnaha flood basalt flow, started around 17 million years ago and buried the lowlands of central Washington. It was followed by an even greater eruptive series that deposited the Grande Ronde flood basalts (16.5 million years) which buried most of the Imnaha flows and traveled all the way to the Pacific Ocean, following the path of the ancestral Columbia River. In places these basalt flows reached a depth of several thousand feet. This was followed by the Wanapum flood basalts (14.5-15.5 million years ago). In Vantage Washington, this flow buried the drainage of a watershed and lake that contained the water-logged remains of large numbers of different tree species. This site is now a state park called the Ginkgo Petrified Forest. It has a fantastic display of cut and polished rounds of the trees that were found there, including the first ginkgo ever found in North America.

Periodic episodes of basalt eruptive events continued with the Saddle Mountain flow being the last, some 10-13.5 million years ago. The Saddle Mountain flows filled stream channels that had formed during extended periods of erosion in older flows. It is in these basalts that Saddle Mountain age forests were buried and preserved. After the basalt fissure eruptions had ceased, the



This row of old power line poles goes down the ridge that has the petrified wood on it. Jim Landon photo.



The white zone where the basalt flow made contact with an old paleosol is where most of the fossil wood on this part of Saddle Mountain is found. Lots of loose petrified wood can be recovered down-slope from this contact zone. Jim Landon photo.

vast areas they covered were later folded into a series of roughly east-west trending anticlines that now dominate the landscape with Saddle Mountain being part of one of these ridges. The fossil wood of the Saddle Mountain area can be found in several different kinds of depositional



After the log section was broken free, it was winched out of the hole using a cable. Jim Landon photo.

environments. Some trees were entombed directly in the basalt flows and are now preserved as entire logs in either a prone or standing position. One such specimen removed several years ago in chunks was over six feet in diameter, twelve feet tall, and had an intact root system. Trees buried in this manner have a rind of a yellow clay like material around them called palagonite which

formed from the reaction between the molten basalt and water. The basalt adjacent to these contact zones is filled with a myriad of gas vesicles that came from steam as the molten rock at 1,200 degrees centigrade flashed any water it came in contact with to steam. Every time I encounter one of these logs it amazes me that they were not completely carbonized or consumed by the immense temperatures. Trees preserved in this

manner are highly agatized and can sometimes retain a detailed record of their microscopic cell structures.

A second depositional environment has wood preserved in what looks like diatomite and clay like lake deposits. The soil is a chalky white with numerous scattered basalt pebbles embedded in it. Fossil wood from these areas tends to be smaller in diameter and often in more fragmented



These specimens are typical of what can be found on Saddle Mountain. Most of it is good for tumbling. Jim Landon photo.



These pieces of the roots of the big tree were left on the rim of the excavation. I can only imagine what had been hauled out of that hole. Jim Landon photo.



Much of the intact limb sections like these were flattened post-burial before they were replaced by silica. Jim Landon photo.

pieces, although I have found several complete rounds over the years. Growth ring preservation tends to be rather variable with some being quite good while others are lacking. Rather than this wood being agatized it tends to be more opalized.

The third way I have found fossil wood at Saddle Mountain continues to be the most puzzling. There is a ridgeline with a band of a fossil paleosol (fossil soil) that can be traced for several hundred yards along a ridge that has an abundance of agatized fossil wood fragments lying at the contact between the paleosol and the basalt flow that buried it. The wood from this locality appears to have been buried as log and branch sections that were flattened post burial before they were replaced with silica. None of this material displays internal growth rings and could not be identified as petrified wood be it not for the distinctive grain pattern that has been retained on the surface of some pieces. The concentration of pieces is so great that a five gallon bucket can easily be filled from an area of a few square feet when the layer is uncovered.

Along with the petrified wood a material called 'bog' by the locals is fairly common in some areas. Bog consists of silicified masses of organic material which contain branches, needles, and occasionally conifer cones. Some of these masses weighing hundreds of pounds have been uncovered. To me it looks like tree trimmings that have been run through a chipper shredder and then buried. This material tends to be more opalized than agatized but the combination of branch sections and surrounding organic material can look quite pleasing when cut and polished.

All of the petrified wood localities I have encountered on Saddle Mountain follow a trend that is parallel to the slope of the anticline that formed the ridgeline. Much of the fossil wood layer still remains buried beneath the enclosing basalt, but in those places where a ravine or canyon has eroded into the flows, specimens can usually be found. Area rockhounds have sought out these exposures for many years as is evidenced by both small and large diggings that are scattered all over the collecting area.

Rock clubs from all over Washington State and adjacent Oregon and Idaho make periodic trips to

Saddle Mountain to dig fossil wood. This locality is also popular with ORV enthusiasts who make use of the extensive trail system for motorcycle riding. Much of the area is under the jurisdiction of the Bureau of Land Management which does allow petrified wood collecting. However, Saddle Mountain is composed of a checkerboard of public and private land, so anyone desiring to collect there must be aware of the boundaries and not trespass on private grazing land. To get to the digging area our club in Yakima frequents, you drive east out of the town of Mattawa Washington on HW 24SW. Make sure to stop by the 76 Gas Station in Mattawa and stock up on their killer chicken. At the R Road Junction, you take a left which heads through the extensive apple orchards and vineyards that can be seen on both sides of the gravel road. After crossing a large irrigation road you will come to a tight fork in the road, the road to the right heading to a private ranch, and the one to the left going across a cattle guard. You will want to take the left fork at this point. This gravel road will head north toward Saddle Mountain and follow a set of power lines. Continue on this road passing over another cattle guard that marks the boundary for BLM land. On the left you will see a kiosk with posted information on petrified wood collecting and a map that delineates where the boundaries for public and private land are located. Continue on this gravel road which gradually climbs up the flank of Saddle Mountain. There will be many twists and turns and the road gradually becomes rougher although it is passable by cars with lower suspensions. You will come to a fork in the road with the left fork making a sharp turn to the left. Take the right fork instead and continue up the ridge toward a large microwave array that can be seen on the horizon. As you get closer to the microwave towers, you will see an old wooden pole power line on your right that parallels a valley. There are two dirt roads on the right that lead to the digging areas. If you are in the right place, you will begin to see pits and holes all over the south facing ridge. Any of these have produced petrified wood in the past. If you are new to the area and are going to plan a trip, I suggest that you either contact one of the local rock clubs or the BLM before making a trip. That

way you will not get lost on the many roads that crisscross Saddle Mountain or trespass on private grazing land.

Spring and fall are the best times to dig on Saddle Mountain. The summers can be brutally hot and there is no cover of any kind. The weather is changeable and there is usually some kind of wind blowing. Be prepared with proper clothing and plenty of water. The equipment you will need to dig for wood consists of shovels, picks, trench shovels, gloves, buckets and hand tools. Rattlesnakes and scorpions have been encountered by diggers in the past although I have never seen any. It would be a good idea to take along a cell phone in case of emergencies. A word of advice is 'don't tunnel' in areas where the rock is unstable even if you are tempted to continue to follow a petrified wood layer.

If you are into studying fossil wood cell

anatomy, a must read is the monograph titled *The Middle Miocene Wood Flora of Vantage, Washington, USA* (ISBN 90-71236-69-3) written by Elisabeth Wheeler from the Department of Wood and Paper Science, North Carolina State University and Thomas Dillhoff from the Evolving Earth Foundation and Burke Museum in Seattle Washington. This publication has a detailed description of the different tree species that have been found in the Vantage Washington Petrified Forest along with excellent photomicrographs of their cell anatomy. Another great source of information that is accessible on the web can be found at www.evolvingearth.org. This site has a ton of information on the Miocene woods of eastern Washington, a monograph on individual descriptions, and a glossary of terminology that is commonly used when studying and characterizing fossil wood cell features. 🦋

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NORTH CAROLINA PETRIFIED WOOD

Richard Jacquot

Over the years, I have built up a huge collection of petrified wood from all over the United States. In 2000, I was working on the estate of deceased rockhound Ken Kyte. Ken had done a lot of hunting in Mississippi and out west, I have 5' logs from the Biloxi River, large pieces from Texas, Arizona, Nevada, etc. Acquiring his collection made up the bulk of my petrified wood, but I had never collected any petrified wood in North Carolina myself. While working on my article on the Petrified Forest in Arizona, Sandy asked me if I was going to include any other articles in this issue on North Carolina. I hadn't really thought about it, but then I thought, why not petrified wood. I had never made an effort to collect any, but had always wanted to. Plus it would go great with the Washington State and Arizona articles. We would have wood covered from coast to coast!

I did some minor research and learned that a lot of nice material could be found in Montgomery County, NC in the area in and around the Uwharrie National Forest, which lies in the Piedmont region of the state. Several years ago, I received an email from a club member telling me that he had found some nice petrified wood in a couple of creeks in that area, including a log that weighed over 100 pounds! I never followed up on the email, but figured it was time to check it out. I called Steve Barr and we set a date to try and find a good area to hunt.

On a Saturday in October, we headed out. Once in Montgomery County, we began looking for creeks to search. We found some good ones. Over the years, I have acquired a lot of petrified wood from North Carolina through old collections, so I had a good idea of what to look for. After searching about 30' up the first creek, I found the first piece. Over the next three hours or so, we both found numerous nice specimens that filled our five gallon buckets fairly quickly. Considering we were visiting

the site in the fall and everything was covered with dead leaves, we did well. The wood ranged in size from about one inch to some pieces that weighed several pounds. Almost all the wood was black due to the tannin in the water from the decayed organic material. A few pieces showed the color underneath to be a light tan and brown of varying shades. The water in the creek was anywhere from a few inches to a few feet deep along the banks. The trees overhanging the creek made it hard for the sun to break through, but when it did, we were able to spot some pieces in the shallow areas. We mainly looked for gravel bars and spent our time combing them for signs of the wood. Some of the wood found was rounded and extremely water worn while other pieces with less wear still showed bark patterns and knot holes.

The wood was formed during the Triassic period, 250-200 million years ago, in a similar way as the Arizona petrified wood. This process is well described in the 'Road Tripping: Petrified Wood



Steve Barr shows off a nice specimen of petrified wood he found on a gravel bar in the creek we were searching in Montgomery County, North Carolina.



We looked for gravel bars like this one in the creek to search for the petrified wood.

and the DoBell Ranch, Arizona' by Sandee Barton in this issue, so I won't repeat it here. The tannin stained pieces are easily cleaned with either super iron out or muriatic acid. I soaked the pieces in the acid for about two minutes and the stain came off. Some remained black while others were shades of brown and tan. Some of the pieces had a glittery look when turned in the light (like those glittery vampires in the movie *Twilight*). I looked at those pieces under a loupe to discover that they were covered with microscopic quartz crystals filling the vugs and creases in the wood. If these crystals were larger, it would look very much like the petrified wood from Brilliant, Alabama. I believe that more visits to these creeks is in order in hopes of finding larger crystallized pieces, although I have

never heard of any like that in the area.

By that afternoon, we both had a good haul and decided to hunt some other areas. At the next creek, we pulled over and spent about 45 minutes hunting. We found a few scattered pieces, but it did not seem as prolific as the first location. But, we did not spend as much

time looking since it was getting later in the afternoon. I think a thorough check would reveal more specimens. I plan to return to do that soon.

If you plan to hunt petrified wood in the area of the Uwharrie Forest, make sure you follow current Forest Service rules and regulations. I would contact the Ranger in Troy, NC for current rules. We were surface collecting, so there was no issue with us digging, but to be on the safe side, check with the ranger. Be sure to bring rubber boots or waders to navigate the creek, unless you just like getting wet. I would also bring newspaper to wrap specimens and plenty of buckets if you plan to spend the day hunting. The best time of year to visit would likely be the spring and summer when there is less debris in the creek and on the gravel



Petrified wood, Montgomery County, NC. A few of the pieces I brought home ranging in size from 1" to 12" (2.54 cm to 30.48 cm). The piece at the top right is a section of petrified bark about an inch thick.



A few pieces I found after searching the creek for an hour or so. Notice that a couple of the pieces are heavily water worn while the others show more definition and patterns.



Top: Petrified wood, Montgomery County, NC. My favorite find of the day showing knot holes and covered with micro quartz crystals. 5 ½" x 4" x 3" (13.97 cm x 10.16 cm x 7.62 cm).

Right: Petrified wood, Montgomery County, NC. Opposite side of my favorite find. 5 ½" x 4" x 3" (13.97 cm x 10.16 cm x 7.62 cm).

Bottom: Petrified wood, Montgomery County, NC. A few pieces cleaned up, smallest piece is 4" (10.16 cm) long, largest piece is 9 ½" (24.13 cm) long.

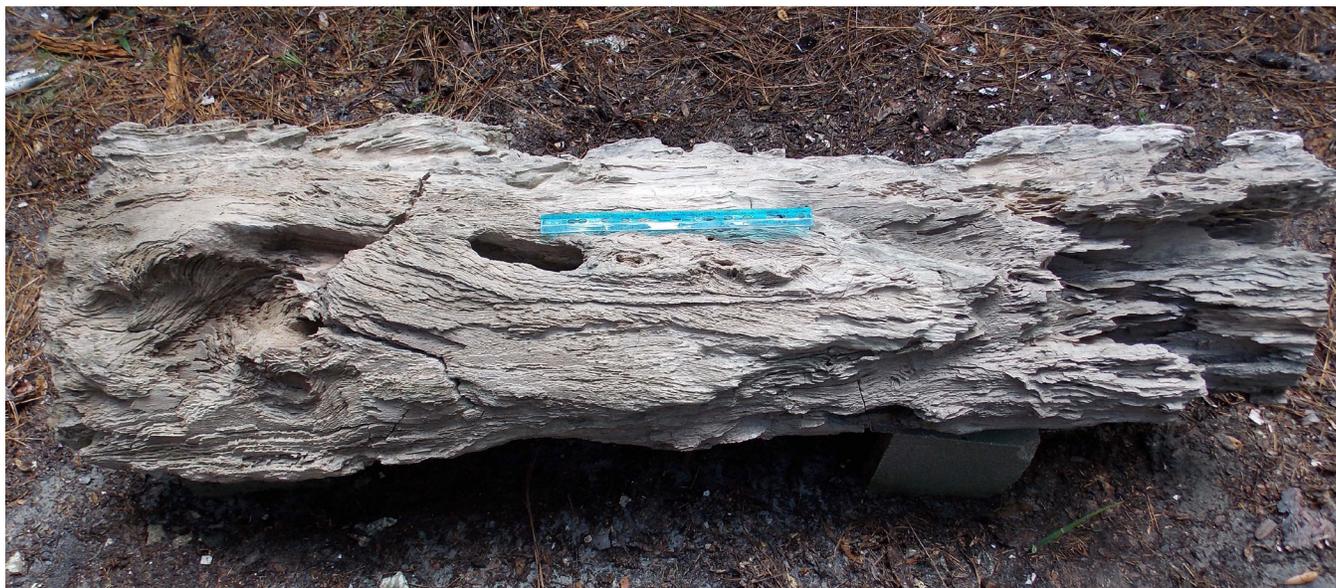


bars. The bugs may be worse so bring plenty of bug spray.

We plan to return to the area when the weather gets better and the ground is less covered. It would be nice to locate a 100 pound log to add to the rock garden, and more of the smaller crystallized pieces to put on the shelf. For me, it is good to finally add some North Carolina wood to my collection that is self collected. I always appreciate the ones I find, better than the ones I buy. 🐿



FAVORITE FINDS - PETRIFIED WOOD



FAVORITE FINDS - PETRIFIED WOOD

OPPOSITE PAGE

Top left: Petrified wood, Bone Valley, Polk County, Florida. 6" x 3 1/8" x 1 1/2" (15.24 cm x 7.94 cm x 3.81 cm). Ray Glave collection and photo.

Top right: Petrified wood, Bone Valley, Polk County, Florida. 3 3/8" x 4 1/8" x 3" (8.57 cm x 10.48 cm x 7.62 cm). Ray Glave collection and photo.

Middle left: Petrified wood, Bone Valley, Polk County, Florida. Four Corners Mine tailings pile. 4 1/4" x 1 3/4" x 1 3/8" (10.80 cm x 4.45 cm x 3.49 cm). Ray Glave collection and photo.

Middle right: Petrified wood, Bone Valley, Polk County, Florida. Four Corners Mine tailings pile. 6 1/2" x 2 7/8" x 2 3/8" (16.51 cm x 7.30 cm x 6.03 cm). Ray Glave collection and photo.

Bottom: Petrified wood log, Bone Valley Phosphate Mine, Polk County, Florida. 5' 3" long (1.52 m) x 19" (48.26 cm) wide at widest point. This piece weighs approx. 400 lbs. (181.4 kg). It was removed from a washer pit with a boom on the back of a tractor. This was collected in 1991. Ray Glave collection and photo.

Right: Petrified wood collected by John Lichtenberger. Lawrence County near Willow Wood, Ohio. 3" x 2" X 2" (7.62 cm x 5.08 cm x 5.08 cm). John Lichtenberger collection and photo.

Bottom: Petrified wood collected by John Lichtenberger. Virginia Fall Line, James River, near Colonial Heights. Long piece: 10" x 3" X 3" (25.4 cm x 7.62 cm x 7.62 cm). Short piece: 5" x 3" (12.7 cm x 7.62 cm). John Lichtenberger collection and photo.



American Rockhound
Terry Ledford
1956 - 2014



Richard Jacquot

Anyone who has ever done any serious mineral collecting in North Carolina knows the name 'Terry Ledford'. Terry's family has been mining the mountains of Western North Carolina for decades. His father was a miner, his grandfather was a miner, his brothers were miners, it was in his blood. Terry was a native of Mitchell County. Born on September 26, 1956, he was the son of the late Ted Ledford and Lora Aldridge Ledford. As a kid, Terry had a weekend rock stand where he sold rocks and minerals. As he got older, he began working with his father and brothers mining at various sites and learning skills that would eventually lead him to become one of the most successful gem hunters in North Carolina.

I first met Terry back in the early 1990s in his hometown of Spruce Pine, NC. Terry ran a rock shop with his girlfriend Jean and brother Gary on Hwy. 226, selling gems and minerals, almost all of which they had collected. I would visit the shop with my longtime friend and digging partner Bill Mintz, Bill grew up with Terry's Uncle Earl who also worked at the shop, we would visit and talk with them about our mining adventures. At the time, Terry still held part ownership in the Crabtree Emerald Mine, he would let us collect at the mine to search the dumps for emeralds. The Ledford family operated the Crabtree for several years until it was finally closed in the 1980s. In the late 1990s, Terry began doing a lot of collecting at Graves Mountain in Lincoln County, Georgia, searching for the prized rutile crystals that the mountain is famous for. He made some great finds at Graves; rutile, giant boulders of lazulite in matrix and some of the largest single bipyramidal lazulite crystals ever found. In 1997, he and Jean discovered an excellent pocket of rutile crystals, which he later took west to the Tucson Arizona Gem Show. The specimens were well received by collectors and potential buyers in Tucson and they had a very successful show. He wanted to specialize in Graves Mountain minerals, and over the next few years, he did just that.

Eventually, Terry began to expand his mineral collecting to other areas. His interest turned to Hiddenite, North Carolina. Known for the rare mineral Hiddenite (the gem variety of spodumene)



June, 2011. Terry watching for veins and pockets as the machine works the wall at the Adams Farm in Hiddenite, NC. Mark Randle photo.



Gem hiddenite crystal collected by Terry Ledford at the Adams Farm, Hiddenite, NC. Approx. 1 3/4" (4.45 cm.)



Gem hiddenite crystal collected by Terry Ledford at the Adams Farm, Hiddenite, NC. Approx. 1 1/4" (3.18 cm.)

and world record emeralds, Terry was ready to try his luck there. In 2001, he formed a partnership with Renn Adams, owner of the Adams Farm. In the past, this site had produced many great emeralds including the 1,493 carat twin crystal found by rockhound Robert 'Red' Reitzel. For the next several years, Terry and Renn mined and collected numerous hiddenite and emerald crystals. Some of the largest hiddenites ever found were sold to various museums and collectors. In 2007, Terry



2008. Travis Hartin (left), Terry Ledford and son Christopher Ryan Ledford (right) at the Jackson Crossroads Amethyst Mine in Tignall, GA. Linda Hartin photo.



March, 2009. Travis Hartin (left), Terry Ledford and Renn Adams (right) at the Adams Farm, Hiddenite, NC. Linda Hartin photo.

acquired ownership of the famous Jackson (Jackson's) Crossroads Amethyst Mine in Tignall, GA. He already owned several acres of land around the mine and now had total control of the site. He was splitting his time digging between Georgia and North Carolina, and having a lot of success at both locations. He also prospected at other mining operations in various states.

Terry was well known to North Carolina mineral collectors, he was a regular at the Grassy Creek Gem Show in Spruce Pine, NC as well as shows across the country including the Tucson, AZ and Denver, CO shows. If you wanted a top quality



June, 2007. Happy times, Terry Ledford during a MAG-MA dig at the Jackson Crossroads Amethyst Mine in Tignall, GA, Sandy Hill photo.

specimen of emerald, hiddenite or amethyst, you visited Terry's 'Ledford Minerals' booth during the show. He was also the major supplier of minerals from the North American Emerald Mines in Hiddenite, NC, owned by his longtime friend, Jamie Hill.

One of his greatest finds came in August of 2009. He was working the Adams Farm when he unearthed a 310 carat emerald crystal, so dark he could barely see light through it. This crystal was later cut into the 64.83 carat 'Carolina Emperor' the largest cut emerald in North America. Just two years later, in April, 2011, he was again at the Adams Farm with digging partner Mark Randle when they discovered a pocket containing several large emerald crystals. Along with the Carolina Emperor, the largest crystals from this pocket, weighing in at 1,225 carats, 685 carats and 591 carats were donated to the North Carolina Museum of Natural Sciences in 2012. For the past two years, Terry had worked primarily with Jamie Hill and Mark Randle at the North American Emerald Mines. Terry and Mark were also working at a separate property in Hiddenite, prospecting for emeralds and other minerals.

On September 17th, 2014, Terry was killed when

Opposite page: August, 2009. Terry in front of the pocket at the Adams Farm in Hiddenite, NC, with the recently extracted 310 carat emerald crystal that would later be cut into the 64.83 carat 'Carolina Emperor' (shown inset). Photo courtesy of Mark Randle.

a wall at the prospect they were working collapsed on him. One of the greatest gem hunters in North Carolina history was dead at the age of 57.

Terry was preceded in death by his longtime girlfriend and companion, Jean Tipton, his brother Gary and his nephew Josh Ledford. He leaves behind his wife Cheryl Ledford, his son Christopher Ryan Ledford and his wife Rachael. His stepdaughter Katie Butler, stepson Eli Macey and grandchildren, Crystalline, Kellan, Violet, and Sage, and his step grandchildren, Joshua, Emily, and Chase. His nephew, Phillip Ledford, his brother, Teddy Ledford and his uncle, Earl Aldridge.

On a personal note, I want to thank Terry for the positive encouragement he gave me when I was forming the Mountain Area Gem and Mineral Association (M.A.G.M.A.) back in 2003. He

thought what we were doing for rockhounding with our club was a great thing, and MAGMA was the only club he ever joined. I never spent much time collecting with Terry, although I knew him for over twenty years, I was always out doing my own thing, working to make my own place in the mineral world. I did enjoy five great days of collecting with him and Mark Randle at Jamie Hill's North American Emerald Mines in 2012. It was fun collecting with them and I will look at the specimens I kept from that dig and enjoy the memories they bring.

Terry is at peace now, with God, who he strongly believed in, and his family and friends that passed before him. I'll bet they are out right now on the trail of the greatest amethyst and emeralds any of us could ever imagine! 🍷



Picture this: Two dozen or so rockhounds spread around on a hillside in Hickory, North Carolina in the summer heat. They are digging feverishly in exposed quartz veins for the treasure of high-quality amethyst and smoky crystals.

An anticipated thunderstorm arrives with torrential rain punctuated by lightning stabbing the sky in all directions. How do these dedicated (crazed?) collectors respond to the prospect of imminent death? Drive away in their cars? Scurry for cover under huge earth moving machines, the tallest objects on the scene? Not on your life (or theirs)! They merely crouch a little deeper in their holes and continue to dig. The lure of what they are finding exceeds the possibility of losing their lives.

I was one of those foolish few. When the storm struck, my vein was located in a slight ravine which quickly produced a torrent of rushing orange water nearly washing me away at one point. Later I made my wife, Barbara, laugh out loud. When I got home all my skin and clothing were covered with a sopping red clay mud. All she could see of my skin were the white circles around my eyes, which had been protected by glasses.

The first specimens I saw from the Tate Boulevard area were in Grant Teague's rock shop in Hickory. He had



GHOST MINES AN OCCURRENCE AT TATE BOULEVARD

Rob Whaley

found them when a small rail yard had been built paralleling Tate, about 1,000 feet to the northeast. The eventual major site on Tate Boulevard was discovered only when a large-scale excavation for an industrial park adjacent to the highway was undertaken some time after the rail yard was completed.

Shorty Peeler was a rockhound and mineral dealer from Double Shoals, NC, in Cleveland County. I was visiting him one summer day in 1990 or thereabouts when a fit of generosity overcame him and he said, "Youngster, (I was over 40 years old, about

his age) people been findin' reel good mud-included smoky quartzes and ammeytheest up in Hickry." It didn't matter that he'd already been up there digging for six weeks, I was thrilled he'd finally gotten around to telling me about it.

Months later, after I and scores of other diggers had found thousands of superb smoky and amethyst crystals, the site was posted "no trespassing". Buildings were erected there and to my knowledge there's been no collecting at the Tate Boulevard site since then. The suite of minerals at Tate included quartz, opaque aquamarine, muscovite, feldspar, rutile, and garnet, all in well-formed crystals. The quartz veins ran through decayed pegmatite and red clay.



The most distinctive feature of quartz specimens found at Tate is how the crystals terminate. Like smoky and amethyst from Hiddenite, the material from Tate shows what I call 'terraced' surfaces; they resemble the contour lines on a topographic map. Many are scepters and reverse scepters. Quite a few are tabular. Few are euhedral, most having rather strangely irregular, even jagged shapes where they terminate.

Most of the specimens I saw from Tate were thumbnail or small cabinet size. I did find one five-pound cluster that was gemmy smoky with clay inclusions that transitioned into a plate of small amethyst crystals. Because the vein in which it occurred had been run over by a bulldozer, this large specimen had parted into three specimens, each a great one in its own right. One of these was a gemmy smoky crystal about two inches in diameter and four inches long showing a slight purple hue to it. It may have been the best quartz specimen I ever collected. Because he had helped me over the years, I gave this specimen to Shorty as a gift. The following week I visited him at his home and asked to see it. He said, "Youngster, I sold that to a man in Cincinnati the other day" (and I've never seen it since). If you're out there Mr. Cincinnati, I'd love to hear from you.

From Red Reitzel, of Conover, years later I was able to buy a hand sized specimen the equal of the one I gave away. It is double-terminated with spiky scepters at both ends.

The specimens I've seen from Tate Boulevard are some of the best from North Carolina, but the experience of seeing dozens of collectors scurrying anxiously behind huge earth movers as they scraped across crystallizing quartz veins is not to be forgotten. It is a scenario not likely to be repeated in today's fearful climate of personal injury lawsuits. But if you are traveling near Hickory and lucky enough to see machines opening up the ground, take a minute to look; crystallizing quartz veins occur all over Catawba County and the operator might just let you follow behind his caterpillar. 🦋

OPPOSITE PAGE

Top: 5 lb. (2.27 kg) cluster of mud included quartz crystals that the Tate Boulevard site was famous for, Catawba County, NC. 8" x 6 1/2" x 4" (20.32 cm x 16.51 cm x 10.16 cm) Rob Whaley collection.

Bottom: Amethyst with scepters and reverse scepters, collected at Tate Boulevard, Catawba County, NC. 3 5/8" x 3" x 1" (9.21 cm x 7.62 cm x 2.54 cm) Rob Whaley collection.

Top right: Amethyst crystals on matrix, Tate Boulevard, Catawba County, NC. Amethyst section measures 2" x 1" (5.08 cm x 2.54 cm) Rob Whaley collection.

Middle right: Beryl crystal collected at Tate Boulevard, Catawba County, NC. 7/8" x 3/4" (2.22 cm x 1.9 cm) Rob Whaley collection.

Bottom right: Amethyst thumbnail specimen collected at Tate Boulevard, Catawba County, NC. 'Terraced' appearance. 1 3/8" tall (3.49 cm) Rob Whaley collection.



FAVORITE FINDS - PETRIFIED WOOD



Top: Robin Heafner beside a huge petrified tree stump in the middle of Yellowstone National Park at a place called Specimen Ridge, 1998. It took us all day to hike up the mountain and back. There were lots of huge logs just below the top of a real steep ridge. Too bad we couldn't keep any, those Rangers are real serious about not collecting anything in the park. Tim Heafner photo.

Above left: Petrified wood with quartz crystals. Found on a hillside in Park Co. Wyoming in 1998. This is the only piece I found that had crystallization. 2" x 2" x 4.5" (5.08 cm x 5.08 cm x 11.43 cm) The crystals average about ¼" in height (0.635 cm). Tim Heafner collection and photo.

Above right: Side view of the same specimen. 2" x 2" x 4.5" (5.08 cm x 5.08 cm x 11.43 cm). Tim Heafner collection and photo.

SOME THOUGHTS ON SPECIMEN CLEANING AND PREPARATION

John Lichtenberger

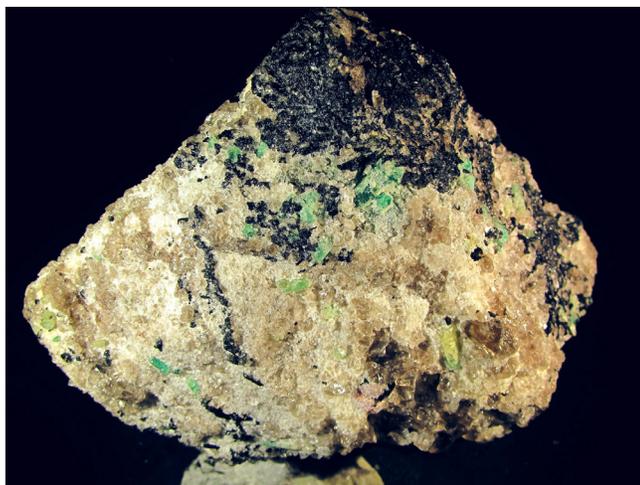
If you're like me, (and probably 95% of all rockhounds), you've most likely got piles (or tonnage) of various spoils from innumerable collecting trips just waiting to grace the shelves of your display cabinets for all to see and envy and/or purchase or trade (you do have display shelves and cabinets with empty space, right?). I'll try to share some of my preparation, cleaning, and display techniques, with both technical explanations and practical applications you can hopefully put to use in your journeys through the mineral and fossil world.

Right off the bat, let's start with cleaning your highly regarded prize, since it's hard to know what you have without removing all the undesirable dirt, debris, gunk, whatever may be encrusting it. Typically, the first step is to make some sort of tentative identification of your specimen, hopefully from knowledge gleaned from the collecting site, fellow rockhounds, standard ID techniques (hardness, specific gravity, fracture/cleavage, color, luster, etc.) This is an important first step, since it's critical to know what you are trying to clean before you possibly ruin it with the wrong methods for detailed cleaning and final trimming and display. A

trivial mistake might be using a power washer or dishwasher to clean a water soluble mineral like halite, or soaking one of the mica minerals in the wrong liquid causing exfoliation and ruination of its book structure.



North American Emerald Mines, Hiddenite, NC, 'Treasure Island'. Mica/Rutile in fluoride etchant. John Lichtenberger photo and specimen.



Crabtree Emerald Mine, Spruce Pine, NC. Emeralds after fluoride etch-back. John Lichtenberger photo and specimen.

For discussion, we'll separate cleaning into two separate categories; physical or mechanical cleaning, and chemical cleaning methods. Physical/mechanical cleaning can be as simple as scraping dirt/debris off the surface and crevices, progressing through brushing or using metal and plastic picks, to vibratory or rotary cleaning, using an ultrasonic cleaner, to power blasting the surface with water, dry ice (CO₂), baking or washing soda, or other media selected to remove the non desirable crud from the specimen. Selection of the method

used for dry blasting involves understanding the physical differences in hardness between the mineral and the dirt/debris to be removed; often hardness is the limiting factor. One would not use, for instance, garnet, sand, or staurolite chips to clean a fluorite specimen, since garnet has a

nominal hardness of 7.5 Mohs, but fluorite is only 4 Mohs. The fluorite would be destroyed during processing the sample.

The idea is to select a blasting (or scrubbing) media that is softer than the mineral specimen you are trying to clean. A common day experience familiar to most people would be using SoftScrub™ to clean counter tops/shower walls/etc; the abrasive in it is limestone, with a hardness of 3.0 Mohs, it won't scratch or damage most counter tops yet is hard and abrasive enough to scrub off the dirt. Boraxo™ is another such product, using the mineral borax as the abrasive 2.0 Mohs.

Often, a combination of mechanical and chemical cleaning is used to synergistically improve specimen cleaning success. I usually get to this point only after initial mechanical methods prove insufficient and simple chemical methods (such as soaking and rinsing in water, bleach, etc.) haven't succeeded either. I almost always follow Occam's razor (or KISS) when tackling mineral prep, that is, use the simplest means to reach the desired end. Using hot water in a pressure washer, paint sprayer, fabric gun, or even with a power toothbrush for delicate crystals and such can achieve rapid results. Some degree of experimentation and close observation goes a long way to improving cleaning techniques.

Some digression into equipment maintenance is warranted here. I've used paint sprayers for spray cleaning samples, but most of the cheap ones from Lowes or Home Depot don't seem to like thin liquids like soapy water and such, and seem to self destruct after a few weeks of moderate usage, so I don't recommend using them for cleaning. Fabric guns are great for cleaning intricate crevices and delicate crystals but BE SURE to thoroughly rinse and dry all the innards after using water in them. There is a metal spring inside that will corrode and fail in a heartbeat if you don't cleanup after use. I rinse mine out with acetone and then squirt household oil (3in1 works okay, or maybe WD40) into the bore. Same goes for pressure washers... water will accelerate their demise if they are left undrained and not lubricated after use.

As an example of second round cleaning, another garnet specimen, like the one from

Treasure Valley in McDowell County, N.C., was cleaned after a thorough power washing with water, followed by soaking overnight in 1:10 dilution of pool shock (~12% bleach concentrate diluted to 10%). This destroys all of the organic junk (roots, humus, leaves, insects, etc.) and starts to lighten any dark tannin stained areas. This might take several days to accomplish, or a stronger solution. It is also handy for cleaning shells and compatible fossils of their dead occupants and bleaching white. Next, after a thorough rinsing with water, it was soaked in 1½ #/gallon mix of Super Iron Out™, until the iron staining was removed from the rock and noticeable lightening of the piece occurred. After another rinse in water, it soaked for a few days in a 5% CLR™/ ammonium bifluoride (2 oz/gal) [Caution! Wear protective gear using this and use a fume hood]. Finally, a several day soak in water with frequent changes to leach out all the treatment chemicals is used. This rather aggressive cleaning method is useful for all sorts of igneous and many metamorphic mineral specimens, but it's always best to try first on one of your lesser specimens. You could substitute oxalic acid for the SIO, or maybe dilute muriatic, but I prefer SIO.

Variations of the above cleaning can be tailored to fit specific minerals. For instance, etching back quartz on kyanite specimens is possible by soaking much longer in the CLR™/fluoride mix multiple times until enough quartz has been removed. I've also used this to remove the feldspathic matrix from Crabtree emerald specimens; you're using the fact that silica and some silicates (feldspars) will dissolve much more rapidly in a dilute fluoride solution than kyanite (Al_2SiO_5) and beryl ($\text{Be}_3\text{Al}_2(\text{SiO}_3)_6$).

Some of the chemicals I use for cleaning include muriatic or oxalic acid (as well as CLR™ and HF mixtures). I make up a 5 gallon batch as a stock solution so I have it premixed to place specimens in for cleaning. When you are ready to clean, place your specimens in a plastic container and add enough of the mixed acid solution to cover them. Set aside for several days. Be sure to check the progress of your cleaning, especially if you are etching back gangue and/or host rock from your specimens. Other than SIO, most of the

various mixes I discuss can be reused until they stop working. SiO is only active for maybe 24 to 48 hours, since it also reacts with oxygen from the air and becomes inactive.

Heat speeds up the reaction, as well as agitation. If you have a hot plate and can set up outdoors or in an area with good ventilation, heat the solution to bath water hot (120 deg F). You will find that an hour in hot solution will usually do the trick. Best of all is an ultrasonic cleaner with built in heater. Sometimes only 30 minutes is necessary. But you should not put the acid directly into the stainless steel basin. Make a double boiler type of arrangement by partially filling the ultrasonic cleaner

basin with water, then place your specimens and cleaning/etching solution in a plastic container. I use various glass or plastic containers salvaged from the kitchen for this as cheap acid resistant



Crabtree Emerald Mine, Spruce Pine, NC. Golden beryl after fluoride quartz etch-back. John Lichtenberger photo and specimen.



Chunky Gal, Clay County, NC. Rubies in smaragdite after fluoride treatment. John Lichtenberger photo and specimen.



Treasure Valley, McDowell County, NC. Almandine garnets in matrix before cleaning. John Lichtenberger photo and specimen.



Treasure Valley, McDowell County, NC. Almandine garnets in matrix, after multi step cleaning sequence. John Lichtenberger photo and specimen.

containers. Plastic bleach gallon containers cut down make good holders that fit in my ultrasonic cleaner, as do half gallon milk jugs. If you cut off the top part carefully, it also doubles as a cheap funnel. Hydrochloric (Muriatic) acid is available in most hardware stores. It is sold in one gallon containers and is used to clean masonry and as a rust remover, which is what we will use it for. In spite of its availability, it can be dangerous. There are some inhibited versions out now that are quite a bit safer and don't fume as much. Don't inhale the fumes or get any on your skin or in your eyes. Always wear gloves and eye protection and old clothes. Keep your arms covered even if it is a hot day. And always observe the safety precautions on the container. There are two main uses for hydrochloric acid: removing carbonates like calcite that often are the last minerals to form in a pocket and therefore obscure other mineral crystals, and the more aggressive removal of iron oxide rust stains (faster than oxalic acid). If hydrochloric acid is being used to remove iron oxides you should be careful that there are no carbonates in the specimen that you want to keep since the acid will dissolve them. Which is why, no matter what minerals you are cleaning, always test your cleaning agents on lesser pieces to make sure you will not ruin your best pieces.

If the specimen has a lot of dirt and/or mixed soils and grease like crud on it, I take a cue from metal finishing (which I did for forty plus years) and soak clean it in an alkaline cleaner, which can be something like Purple Power™, lye (sodium hydroxide) mixed up maybe 1#/gal and heated along with maybe a scoop of laundry detergent to lower the surface tension, or dishwasher detergent mixed at double strength, etc. Speaking of surface tension, what the heck is it? Technically, it's the difference in the free energy on the surface between at least two different solids and/or liquids, and why rain beads up on your windshield instead of covering it. The bigger the difference, the more a liquid will bead up on a solid, or the harder it will be to mix two liquids that aren't mutually soluble in each other (oil and water, for instance).

The reason surface tension is important in

cleaning rocks (and anything else for that matter) is the tendency towards this beading behavior when you try to clean off the crud. If the water or chemical mix beads up on the surface, it won't contact the dirt and do its thing. The alkaline cleaners I mentioned above reduce the surface tension effects, among other things, and if sufficient in strength, can actually break down fats and oils that are mixed in with the dirt and remove them from the item being cleaned. One trick used for cleaning surfaces for subsequent treatment (plating, powder coating, painting etc.) is to do a final rinse with distilled water and look for water breaks, or areas that the water doesn't sheet over and coat uniformly (like you see on shower walls & glass if you haven't cleaned it well enough, or on your dishes if your dish detergent isn't doing its job). Any spots or areas where the water beads up mean there is still dirt there, and need further cleaning. This can be a cleanliness indicator on at least clear mineral specimens and crystals and metallic specimens like pyrite and galena, but might be hard to see on non polished pegmatites or earthy texture samples.

Detergents and soaps can go a long way to reaching a professional finish on your stones, added to the water used in the initial steps of cleaning, due to the way they work. Most have a hydrophilic (water loving) end and a hydrophobic (water hating) end all on one molecule. When you dissolve them in water, whether to clean rocks or do laundry or the dishes, the water becomes a teeming mix of tiny spherical micelles, wherein the hydrophilic ends are on the outside in contact with the water, and the hydrophobic ends are inside the spheres, ready and willing to attach to any dirt, oil, greases and waxes that won't dissolve in the water on their own. The way to tell if you have enough detergent or soap in the cleaning solution is to observe if there are stable groups of bubbles floating around on the surface. If not, you need more detergent/cleaner. If so, they indicate that the critical micelle concentration CMC is present, and there are free micellar groups floating in your mix ready to gobble up and suspend dirt and help clean your specimen. Google micelle for more in depth info if you are so inclined.

General guidelines for cleaning specific minerals

Iron stains from quartz: There are three main ways to chemically remove “iron stains” (hematite, goethite, or limonite) from quartz. They are by the use of: 1) Super Iron Out™, 2) Oxalic acid or 3) Hydrochloric acid. Some heavier coatings or well-developed crystals of hematite and goethite won't come clean with the chemicals discussed below as these chemicals are effective only in removing the fine-grained equivalents of these minerals. This sequence can also be used to clean other hard durable minerals like beryl, spinel, tourmaline, chrysoberyl, kyanite, feldspar(s) [amazonite, moonstone, labradorite, sunstone, etc.] and many other complex silicates.

1. Before you use chemicals, clean the specimen as well as you can. This will allow you to chemically clean your specimens more quickly and use a smaller amount of chemicals to do so. Clean as much dirt as possible with soaking and power washing with water.
2. Soak overnight in Super Iron Out™ or oxalic acid, or use muriatic acid for stubborn stains.
3. Soak in repeated changes of water overnight.
4. Neutralize acid used with 4 oz/gal baking or washing soda (sodium bicarbonate or carbonate).
5. Finally, repeat multiple rinse/soak with water.

Manganese (black) stains from various minerals: Often you can use hydrogen peroxide to remove certain black manganese minerals. When the solution reacts with the manganese minerals it generates bubbles of oxygen gas.

1. Clean as much dirt as possible with soaking and power washing with water.
2. Immerse in 3% hydrogen peroxide (laundry non-chlorine bleach, std. pharmacy H₂O₂) until cleaned.
3. Rinse/soak with water and repeat above steps if necessary.

Metallic minerals like galena, pyrite, hematite, etc.: These sulfide and oxide minerals tend to be somewhat softer than silicates and non metallic

specimens, and often you want to highlight and/or preserve the shiny surfaces on them. Conservative cleaning will usually provide the maximum benefit here, so caution is in order. Simple Green™ seems to work wonders for many of these mineral specimens.

1. Clean as much dirt as possible with soaking and power washing with water.
2. Soak in Simple Green™ (1:1 dilution) with light scrubbing as needed for several hours.
3. Rinse and soak in several buckets of clean water.
4. Repeat as necessary, then dry thoroughly.

Hopefully this introduction to cleaning techniques provides some deeper understanding of why certain techniques work better than others, and help to prevent damaging specimens carefully collected through hard work and pursuits. 🦘

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ROCKHOUND ART



RICK BERNOTAS

Flint knapping is the shaping of flint, chert, obsidian or other conchoidal fracturing stone through the process of lithic reduction to manufacture stone tools, strikers for flintlock firearms, or to produce flat-faced stones for building or facing walls, and flush work decoration.

Looking back to when I first became interested in flint knapping, I have to mention the early years in my life when my father took my brother Tom and I hunting and fishing. In most locations that we hunted and fished, we found stone tools and projectile points. This established a bridge between me and the aboriginal people that did the same thing at that location ages before. It also created an interest in me as to the types of lithic material used and how the stone tools were produced. Looking for artifacts and rockhounding became hobbies and now flint knapping has, in a way, merged with them.

I began flint knapping about seven years ago after attending a local demonstration of primitive

skills at the Sportsman Classic in Columbia, SC. Around the same time, I had collected some Allendale Chert, aka Savannah River Agate, and was hand trimming some of the chert from around the crystal vugs. For a cobbing tool, I was using the blunt end of a hardened rock chisel to knock pieces off. Being able to read the rock and using a combination of proper force and angle knocked unwanted pieces off and gave the desired result, a nice specimen. It also produced some long thin flakes which I tried making into arrowheads.

Self-taught in the art, I've watched countless YouTube videos on flint knapping and searched in primitive art forums for anything that would help educate me. I've attended a few knap-ins and primitive art festivals which are gatherings of

Above: Rick Bernotas and Elijah Clark Museum Guide Vickie Taylor. Rick was giving knapping demonstrations at the park located in Georgia, June, 2012. Rick Bernotas photo.

like-minded people who share their ideas of the art. At these events, primitive and modern tools, as well as lithic material from around the country and world are offered for sale. Having many rockhounds for friends has been a source of encouragement and also rock. I've had people give me rocks and say, "All I want is one nice point. The rest is yours". Using a combination of modern and primitive tools, based on the type of rock I'm working on, I do percussion work with copper, antler and wooden billets (striking the stone with the billet to knock off a piece) and pressure flake with an antler tine or copper tipped tool (driving a long thin flake off the rock).

As this is an outdoor sport, I do get a good bit of practice while I'm at rock digs and campgrounds. A couple years ago I was at Elijah Clark State Park and the Superintendent asked if I would do a demonstration at the historic log cabin. I agreed and now have done several



Knapped points by Rick Bernotas. Largest point measures 7 ¾" x 2" (19.69 cm x 5.08 cm) Rick Bernotas photo.

demonstrations there which were well received. This past year I demonstrated flint knapping at the Rockhound Roundup in Asheville NC, the Schiele Museum in Gastonia NC, Cartersville GA, Elijah Clark State Park GA, Huntington Beach State Park SC, and thanks to Mike Callahan, a Native American powwow at Keller's Flea Market in Savannah GA. When I'm lucky to

have him, I've been joined by 13 year old MAGMA member Will Jordan for some of these demonstrations or just plain knapping during a camping or rock hounding trip. Will is a veteran flint knapper, having started at the age of 5 and can hold his own with many adults. I have come a long way and still have a long way to go learning the art of flint knapping as it is a never ending quest to improve skills and techniques. I carry knappable rock and my tools everywhere I go, so if you see me at a campground near a dig, chances are I'll be there knapping in the evenings. Stop by and say hello. 🏹



Will Jordan at the 2012 North Carolina Knap-in. Rick Bernotas photo.

Rockhound Reflections
Keokuk Geodes

Nancy Holland

Coming from the rural south, I am missing the fall festivals and cider presses that herald the change in season. One must travel out of the big city to partake of the small town offerings, so my beloved husband bundled the two of us into the car with our dog and drove me to the Tenth Annual Hamilton Geode Festival in Hamilton, Illinois.

My husband came home from work and it only took an hour before we were out of Chicago and rolling across the flat farm land of Illinois. By 9 o'clock, we crossed the Mississippi River and rolled into Iowa. Now, I have crossed the river in

the daytime before, on my way to dig crystals in Arkansas, but this time it looked like a great flat ribbon of graphite flowing under equally grey bridges. We rolled into Keokuk, Iowa and noticed the parking lot was full of trucks and "Got Rocks" bumper stickers.

When I rockhound I do not require a glamorous hotel so we had our free breakfast at the Super 8 while listening to others discuss their past experiences in geode hunting. We then drove into the town of Hamilton while the sun was rising. Tents and small town vendors ringed the edge of a parking lot that belonged to the local boat



2 ½" (6.35 cm) Geode. Nancy Holland photo.



6" (15.24 cm) Prize Keokuk Geode. Nancy Holland photo.



5" (12.7 cm) Storm opened geode with a worn coating. Nancy Holland photo.

ramps while a thin part of the river flowed by in lazy splendor. People had their dogs out and children ran around while the adults signed up and then waited for the drive out to the specific farms. With my fibromyalgia, I had to ask for a farm that was not too labor intensive and was lucky enough to have the choice of three.

Our farm was finally called as the morning warmed up and we joined the caravan of cars. At the back of the path through Renard's soybean fields was a line of shady trees and tall grasses by a creek. I must admit I am so used to quarries and at least the presence of a back hoe that I wasn't sure where to go for the geodes at first, but it soon became apparent that the small creek and its shallow banks were where the famed Keokuk geodes laid. My elderly dog and beloved husband walked around the banks of the creek while I merrily hunted my first geodes and searched for agate balls. The crazy wonderful thing about the creek, was a week ago they had had a flooding storm that washed agates and geodes down stream into trees and each other, cracking them open and settling them into the mud. I found many chunks of storm-opened crystal geodes that were passed

over by the other hunters because they were not whole pieces and quickly filled my five gallon bucket with geodes of potato size and larger, plus a piece of sunrise agate while enjoying a pleasant stroll through the creek bed.

If anyone ever decides they must have a Keokuk geode, I will warn you now, they are plentiful and easily plucked from farmer's fields during the festival and yet not all geodes are created equal; While I hope for hollow balls of crystals, I am sure that my bucket contains many solid, quartz, cannon balls.

Once my bucket was filled we piled into the car and drove back to the festival grounds where booths had popped open offering to crack open geodes in the hot sun for a dollar each. My darling husband stood in line with families and their buckets of rocks and eventually got a select few of ours cracked open. I am pleased to announce to you that one of my largest and first geodes found was a lovely hollow Keokuk geode of tan and brown crystals. I will now be purchasing a crack hammer to try and open up at home the last of the small heavy geodes. This was well worth the drive and next year I plan to stay for all three days of the Hamilton Geode Festival. 🦋

FAVORITE FINDS - PETRIFIED WOOD



Petrified wood, Yellowstone River, near Glendive, Montana. 5 ½" x 4" x 3 ½" (13.97 cm x 10.16 cm x 8.9 cm). Carl and Sandee Barton collection and photo.



Petrified wood, polished, New Castle County, Delaware. Largest piece is approx. 3" (7.62 cm). Rob and Vicki Stine collection and photo.



American Rockhound **KIDS' PAGES**

By Steve Barr

Rockhounding With Your Computer!

Whether you're just getting started in rockhounding or you've been doing it for a while, your computer can be your best friend when it comes to finding places to collect. If you're looking for new locations to visit in your own state or when you're traveling, a quick Internet search is a great way to get the information you want. You can type the location you're curious about into your search engine and get the answers you need.

You might want to start with your own area. For instance, if you want to find petrified wood, type your state (or a state you're planning to visit) into a search engine. Then add the type of mineral you're hoping to find. As an example, I typed "Wyoming Petrified Wood" into Google's search engine.

I immediately got lots of links to helpful information, because Wyoming has a lot of petrified wood and fossils. Within minutes, I knew where I could go to collect legally. I was able to learn about pay-to-dig sites and some places that I could visit for free.

I got to see pictures of what to look for and articles about finding the best material. I found out who to contact. The most difficult part of the whole process was wading through the tons and tons of informative sites that popped up. But even that was fun, because I got to look at a lot of great photographs of things that have been unearthed in the past, and got to dream about what I might find when I went there.

This doesn't just work for petrified wood. You can use it to find out about crystals, fossils and all sorts of other minerals. If your state doesn't have petrified wood, then search for something else that you'd enjoy collecting.

Another helpful way to use your computer is to search for rockhound clubs in your area. Rockhounding organizations often get special access to areas that might be off limits to most people, or take their members to well-known mines and teach them how to properly collect specimens without damaging them. The more experienced members will show you what to look for, where to look for it and how to extract it from the ground. They will also have great information to share about cleaning what you've found and protecting it on the ride home.

If you live in the southeastern part of the United States or are planning to visit there soon, you can find a very active rockhounding club that welcomes younger collectors to join them on their adventures. Just type "Mountain Area Gem and Mineral Association" into Google or any other search engine, and you'll be able to find them. You'll be able to find out all about their upcoming events and get in contact if you'd like to be a part of one of their field trips.

If you live too far away to visit the southeast, search for a mineral collecting group in your own neck of the woods. Or, start one of your own with your friends.

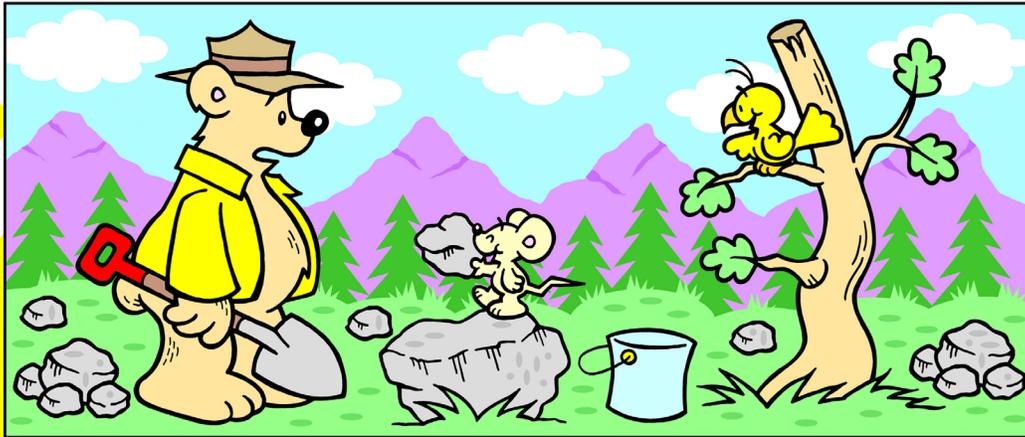
Researching websites and collecting information is all part of rockhounding. If you get really good at doing this, your odds of finding great specimens will go way up. And, you can share your knowledge with other rockhounds to help them too.



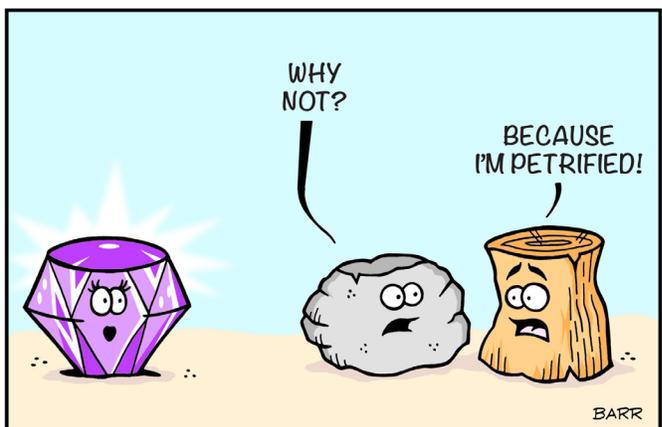
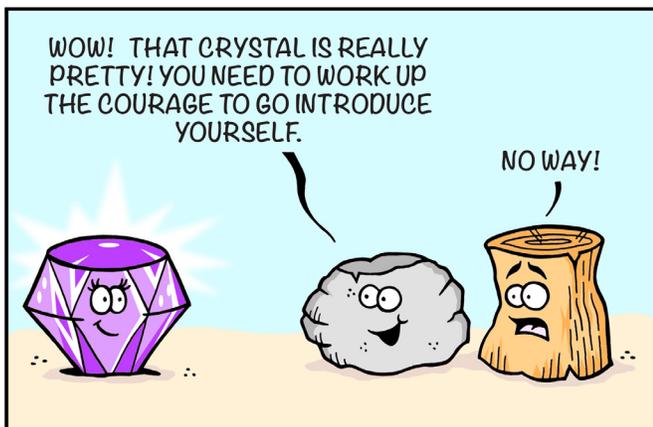
Find The Differences!

When you're out hunting for rocks, one of the most important skills you can have is the ability to notice little things that are different. Gem hunters look for colors that are different from the surrounding dirt, crystal faces that sparkle in the sunlight and the shapes of the gems they're searching for.

Sometimes, you'll need to pay attention to whether or not the rocks around you are the type that gems would form in. Sharpen your rockhounding skills by finding the **ten differences** in these two pictures. Can you find them all?



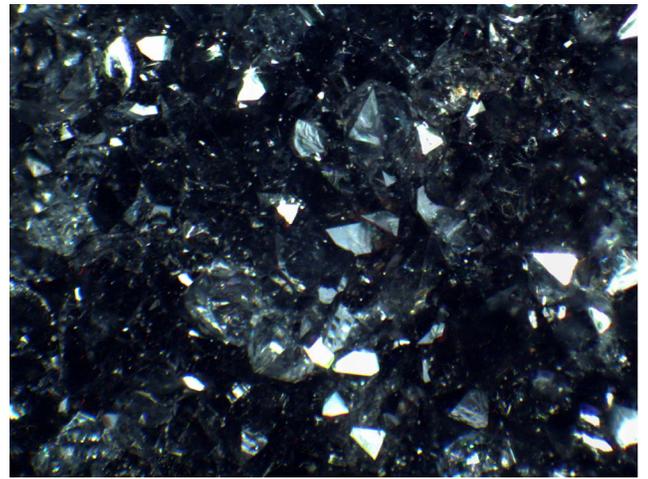
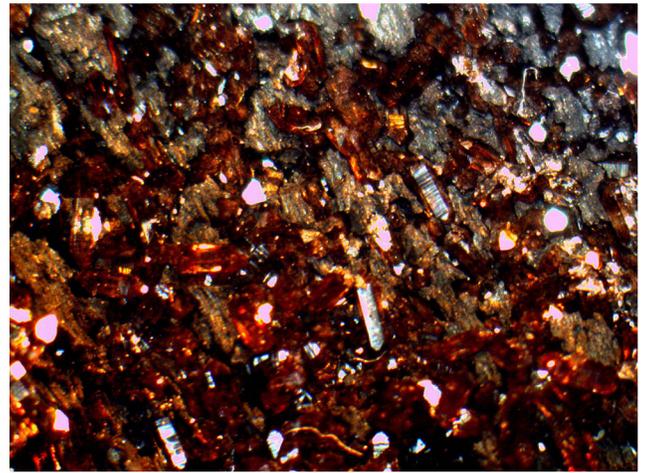
Answers: 1. Bear's Hat 2. Bear's Expression 3. Bear's Tool 4. Number Of Rocks Near Bear 5. Clouds In Sky 6. Snow On Mountains 7. Color Of Rock Mouse Is Holding 8. Rocks In Bucket 9. Bird's Wing 10. Number Of Leaves



FAVORITE FINDS - PETRIFIED WOOD



Petrified wood with drusy (druzy) quartz, Jones County, North Carolina. Largest piece measures 13" long (33.02 cm). Inset; close up of crystals. Victor Krynicki collection and photo.



Petrified wood with drusy (druzy) quartz, Jones County, North Carolina. 20" long (50.8 cm). Inset; close up of crystals. Victor Krynicki collection and photo.

HIDDENITE, NORTH CAROLINA MINING DISTRICT UPDATE

Sharpes Emerald Prospect

Richard Jacquot, Mark Randle

In October, 2014, the Hiddenite Gems Investment Group LLC spent a week at the Sharpes Emerald Prospect. We used a large track hoe to explore the mine for gems and minerals and also worked to make the collecting area safer for our crew and visiting rockhounds. We hope to have a field trip after the new year and a three day campout and dig. Stay tuned to www.americanrockhound.com for more information on upcoming trips to this site.

Our efforts paid off, we located several nice veins of quartz and beryl. Some of the quartzes are tessin habit, some have gemmy red rutile crystals attached and some are excellent facet grade clear crystals. The quartz crystals range in size from an inch up to several inches in size, some clusters as well. The beryls also ranged from small to one crystal that measures around 5" in length. The quartz crystals are clear to root beer brown in color. The beryl's are a light green, some translucent and glassy. We also found a lot more of the gemmy green muscovite mica, crystals and clusters.

Specimens from this mine can be obtained by attending planned field trips and by visiting the 'Jacquot & Son Mining' booth at upcoming gem shows in Asheville, NC, Hiddenite, NC and the Graves Mountain Rock Swap and Digs in April and October. See the 'Rock Shopper & Shows' section for show dates.



Above: Light green beryl crystal in quartz matrix. Sharpes Emerald Prospect, October, 2014. Beryl crystal approx. 5" (12.7 cm).

Top right: Facet grade smoky quartz crystal cluster. Sharpes Emerald Prospect, October, 2014. Approx. 6" (15.24 cm).

Middle right: Tessin quartz crystal cluster. Sharpes Emerald Prospect, October, 2014. 5 1/2" x 3 1/2" x 3" (13.97 cm x 8.89 cm x 7.62 cm).

Bottom right: Tessin quartz crystal. Sharpes Emerald Prospect, October, 2014. 3 1/2" x 2 1/8" x 1 3/4" (8.89 cm x 5.40 cm x 4.45 cm).



North American Emerald Mines

Jamie Hill and Mark Randle have been hard at work at the North American Emerald Mines (N.A.E.M.) Jamie visited the Hiddenite, NC gem and mineral show in September and brought some of their recent finds to offer to the visiting rockhounds. I purchased a large mud included quartz crystal with multiple channels and enhydro bubble inclusions. Following is an update from Mark Randle.

During the fall season at North American Emerald Mines we have been concentrating on an area of the upper bench that has shown great promise due to extensive east/west fracturing that has allowed for some good vein and pocket activity. We aren't seeing emeralds yet, but the vein structures are quite good and complex, containing quartz, mica, rutile, calcite, siderite, and dolomite with chromium present and obvious in the micas and wall rock. The pockets exhibit secondary and even tertiary growth with some of the calcites having the "angel wing" and rosette habit with amethystine growth on top of a few of the calcites. The rutiles are acicular as is normal in Hiddenite with metallic to sub-metallic luster and often are hollow with complex terminations and very occasionally with carbonate or quartz crystallization on the tips or along the C axis. Only in the very highest part of the largely unweathered zones do they appear red. My observation over time leads me to believe that only in the case of some weathering action do the rutiles appear as translucent to transparent red but I have no explanation as yet for this.

Shown here are a trio of the best large cabinet sized quartzes with euhedral growth. The smaller is one of the best I have ever seen with a large doubly terminated euhedral enhydro smoky perched on jacare (alligator) habit quartz. The largest has the same habits but has multiple smoky terminations instead of a single large crystal. The mud included piece is a scepter overgrowth and was the only large piece in a pocket that only had sufficient width to allow it to grow without interference from the side walls. If you are interested in purchasing crystal and mineral specimens from the North American Emerald Mines, contact Mark Randle at 828-514-9239.

Stay tuned to American Rockhound for regular updates on our progress and interesting finds. 🦋



Large doubly terminated euhedral, enhydro smoky quartz on jacare (alligator) habit quartz. North American Emerald Mines, October, 2014. Large point is approx. 11" (27.94 cm). Mark Randle photo.



Multiple euhedral smoky terminations on jacare (alligator) habit quartz. North American Emerald Mines, October, 2014. Specimen is approx. 18" (45.72 cm). Mark Randle photo.



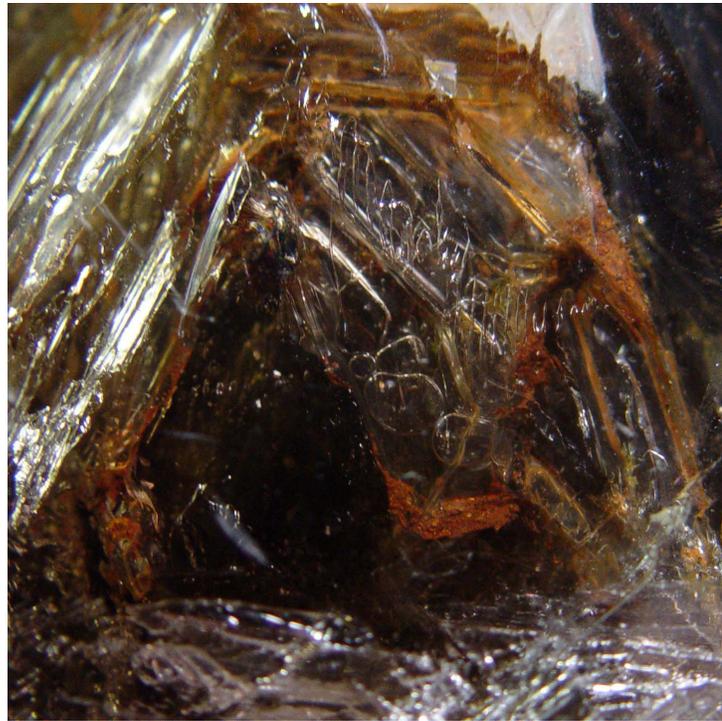
Close up of large point on the 18" multi crystal specimen mined in October, 2014 at the North American Emerald Mines. Mark Randle photo.



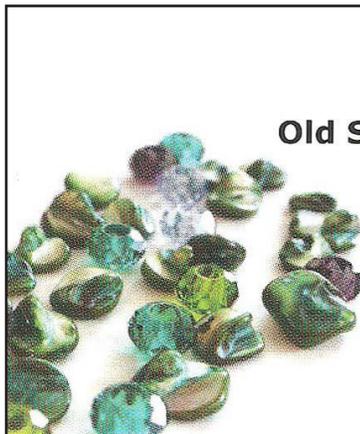
Top left: 5 lb. 12 oz. (2.61 kg) mud included quartz crystal with numerous internal channels and enhydro inclusions. The piece is a scepter overgrowth and was the only large piece in a pocket. North American Emerald Mines, September, 2014. 6 ½" x 5" x 4" (16.51 cm x 12.7 cm x 10.16 cm). Richard Jacquot collection.



Top right: Close up of tip of the 5 lb. 12 oz. (2.61 kg) mud included quartz crystal showing numerous internal channels. North American Emerald Mines, September, 2014. Richard Jacquot collection.



Bottom right: Close up of enhydro bubbles in the 5 lb. 12 oz. (2.61 kg) mud included quartz crystal. North American Emerald Mines, September, 2014. Richard Jacquot collection.



Bob Roth

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Rockhound Recipes

Western Carolina 'PIGmatite' (Pig) Dip

Gary Nielson

Ingredients:

- ↗ 4 cups distilled vinegar
- ↗ 2 cups ketchup
- ↗ 1/2 cup brown sugar
- ↗ 8 tsp Worcestershire sauce
- ↗ 4 tsp salt
- ↗ 1 TBS paprika
- ↗ 1 tsp hot sauce
- ↗ 1 tsp black pepper

Directions:

- ↗ In a large bowl (nonreactive), combine all ingredients and mix well.
- ↗ Make at least 24 hrs prior to use for best flavor.
- ↗ Store the sauce in a tightly covered jar for up to 1 month refrigerated.



Rockhound News

A lot has been happening since our last issue. I attended the meeting with the Pisgah/Nantahala Partnership, a nice group of people with varied interests in the use of the National Forest land. Ken Casebeer (S.A.M.S.) has drawn up a set of proposals for the partnership and the Forest Service that I think would be acceptable to most, if not all rockhounds. The details are listed below.

I am sad to report the death of our friend and fellow rockhound, Terry Ledford. Terry was killed while mining a site in Hiddenite, NC on September 17th, 2014. See the 'American Rockhound' and 'Thinking Out Loud, Rockhound Safety' articles in this issue for more information.

The following is from Ken Casebeer detailing the Partnership and Forest Service meetings

Pisgah/Nantahala Partnership Meeting – October 9, 2014 National Forest Service Public Meeting – October 21, 2014

At the first full partnership meeting since the Spring, SAMS (Ken Casebeer) and MAGMA (Rick Jacquot) were introduced to the group. We are two of 21 or 22 full partners. A draft of principles was discussed with nothing objectionable to our interests. The NFS is pleased with member organizations willing to partner trail and on site upkeep, and that will help our bid for designated collection sites. The timetable is to have the Partnership approved set of recommendations by March, however many consensus positions will be sent to the NFS by December. More will be possibly known about the plan timetable after the next round of public Forest Service public meetings in late October.

I (Ken Casebeer) attended the Mills River National Forest Service public session October 21 on the Pisgah Forest. The Forest Service timetable is to begin drafting Objectives, Guidelines, and Standards in December aiming at a first draft in March, 2015, and a draft Environmental Impact Statement by June, 2015, for both Forests. At this point, the Forest Service has drafted general Desired Conditions (general principles for 12 management groups) for the Forests. These will be posted on the NFS website by mid-November. The Management Area of most concern for our groups is Recreation (Group Four). Included in the Desired Conditions for the Management Area dealing with Geology and Minerals is accommodating mineral collection as a hobby as consistent with other Forest users. There is nothing yet in the Desired Conditions section for recreation that we cannot support. The Forest Service does warn that there will be insufficient funds going forward to maintain let alone expand existing trails, see eg. Forest Service road to Redmond Prospect.

I spoke at length with the District Ranger for Pisgah, Derek Baraquin, about the need for clearer enforcement standards for the Forests generally and our interest in specific collecting site designations to allow more intense collecting. Both District Ranger Baraquin (Pisgah – Chunky Gal) and District Ranger Matt McCombs (Appalachian – Ray Mines) are now receptive to both goals. They want more information on how site designation has worked in a few Western Forests that have them. However, while these seem to have worked and produce some user fees, the situations are really not too similar. At this point, or in about a month, we need to give input on general collection enforcement specifics and site designations and specific standards for those potential areas. Guidelines and objectives are useful for negotiation, but only plan STANDARDS are mandatory on Forest personnel.

Appended is a draft submitted on our needs to the Partnership for discussion. We cannot predict what level of specificity will be agreed to in the group's recommendation, but it is a beginning.

REVISED DRAFT

Talking Point Recommendations for Mineral Collecting in Pisgah/Nantahala National Forests

Kenneth Casebeer – Southern Appalachian Mineral Society

September 23, 2014 – respond: casebeer@law.miami.edu

Rock and Mineral collectors and educators have long been responsible users of the Pisgah and Nantahala National Forests. Unfortunately, a very few that are not members of our organized communities have used destructive techniques to mine North Carolina minerals for commercial use, and completely contrary to our own logically long term interests. At heart we are conservationists who want our uses of the Forests to continue indefinitely. In other Forests, mineral collecting societies partner with Forest Service Rangers to help keep site areas clean, help police rules, keep site trails clear and boundaries marked. Both SAMS and MAGMA members are willing to volunteer. Let us help.

For our members, two areas of regulation and enforcement must be addressed and clarified in the next Pisgah/Nantahala Forest plans.

1. General Collecting in National Forests: The governing National Forests federal statute assumes rock collecting will be possible anywhere in the National Forests. Unfortunately, the statutory language and implementing CFRs have been too general for easy or exact guidance. Consequently, enforcement of the regulations vary literally from District to District and time to time in the same place, depending on the District Ranger. Enforcement even varies from officer to officer.

With over 40 pending felony enforcement actions pending in the Western U.S. Attorney's office, these criminal cases create arguable Constitutional violations of Due Process as void for vagueness. New regulations must be drafted to protect both Rangers and the public. The statute as interpreted makes it a felony destruction of government property to "significantly disrupt the surface," ... "using mechanical tools." What is "significant" or "disruptive": is entirely opaque and unknown. "Mechanical" should by common sense involve some power source or agency used with the tool, but does not.

The new plan should reaffirm surface collecting of individual specimens anywhere the public is generally permitted in the National Forests; including picking up and turning over rocks, prying or leveraging one rock from another, raking a small amount of surrounding soil aside to further expose or loosen surface rocks. Permitted tools should explicitly include short handled common gardening or hardware tools; including hand hammers, rock hammers, trowels, irrigators, screw drivers, pliers, chisels.

2. Site Designations in the Forests: The Plan should authorize the District Ranger or Forest Supervisor to designate specific areas as permitted collection sites. Many of these sites have been historically open and used for mineral collection consistent with conservation and other users. The list should not be fixed perpetually, but could be added to. A separate procedure should be drafted to include all user interests before de-designation.

At these designated sites separate regulations should be enforced. Beyond surface collecting, breaking rocks or boulders should be permitted. Holes to the depth of three to seven feet should be allowed to reach mineral veins; so long as they are refilled to leave surface as before digging, during the same day, and before digging elsewhere. Depth allowed should depend at each site on not diverting water resources or endangering environment. Alternative marking and protection of wildlife or flora should be *added* to existing protective measures if feasible, and with support of Carolina Mineral Societies. Any hand tools including shovels, picks, and mattocks should be permitted in these areas. Clear site boundaries and flags should be used. As before, no fires or overnight camping should be permitted. Designated Forest Campgrounds are close enough to all potential sites. Prospecting claims should not be granted in any of the designated areas.

Potential recommended sites include the Ray Mines, Mas Celo Mine, Redmond Prospect, Chunky Gal, Walker Creek, Balsam Gap Mine, and Grimshawe Mine; the latter three with perhaps additional regulations or phased entry because of past degradations. It is understood that Buck Creek Mine District may need prohibitions on entry because of extremely rare or unique flora and habitats on the ridge. The problem seems to be less the Forest Service itself, but rather, the Environmental Protection Act. Other areas may become apparent. Contexts change and flexibility is desirable if made clear to everyone. 🦋



rick@wncrocks.com

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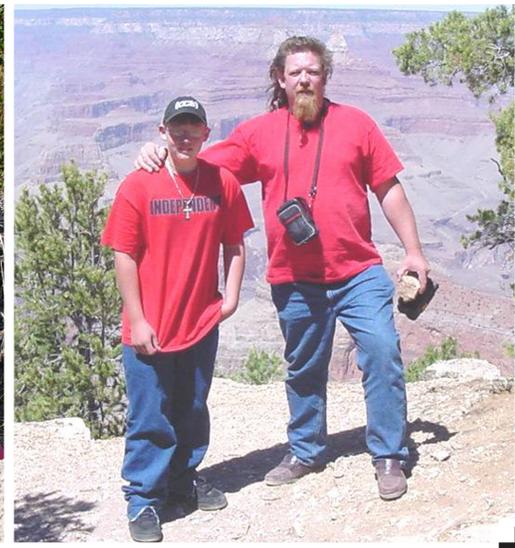


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SET UP AT SHOWS IN THE SOUTHEAST
M.A.G.M.A. Gem, Mineral and Fossil Show
Hiddenite, NC - September
Asheville, NC - March
Graves Mountain Open House - October and April
Annual Rockhound Roundup - July



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 they are appropriate for you and your family. New and closed sites will be updated with each issue. If you have a spot 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 information 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 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, with the exception that they are actual working mines, private property and quarries. These are not 'salted' or 'enriched'. They offer the more experienced rockhound the chance to dig through dump piles generated by the mine 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. They offer hard rock mining with hand tools: pick, shovel, sledgehammer, chisels and other mining tools. Some of them 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. 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 research a location before visiting to learn what tools and equipment you need.

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

PERMISSION TO COLLECT: Permission to collect 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 locations 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!

SOUTH CAROLINA



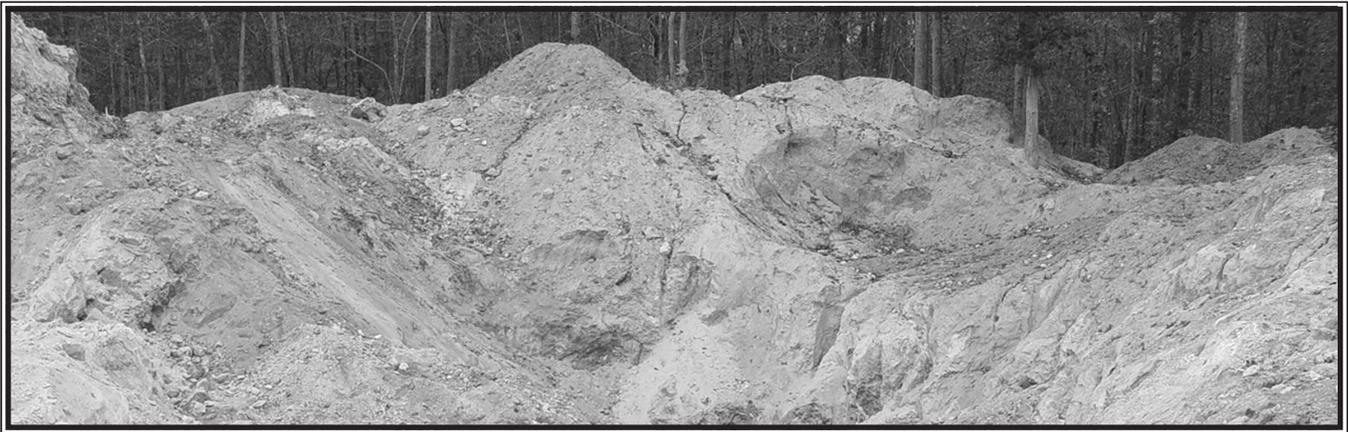
ABBEVILLE COUNTY

Cunningham Farm, Due West, SC (Level 2-3)

Contact Information: Amos Cunningham (864) 379-8918

What to collect: Beryl, green and blue, amethyst and smoky quartz.

Fee: \$20 per day, per person.



ABBEVILLE COUNTY

Diamond Hill Mine, Antreville, SC (Level 2)

Contact Information: Gina Clary (864) 934-3744

Website: www.dhmine.com

What to collect: Skeletal quartz crystals, rarely amethyst and smoky quartz.

GPS Coordinates: 34 16.240 N, 082 34.472 W.

Fee: Varies.

VIRGINIA



AMELIA COUNTY

Morefield Gem Mine, Amelia, VA (Level 1-2)

Contact Information: Sam or Sharon Dunaway (804) 561-4050 or (804) 561-0344

Website: www.morefieldgemmine.com

What to collect: Amazonite, beryl, mica, phenakite.

Fee: Varies.



PRINCE EDWARD COUNTY

Scufflin Acres Farm, Prospect, VA (Level 2-3)

Contact Information: Mary Kay Simpson (434) 390-6136

What to collect: Amethyst and smoky quartz.

GPS Coordinates: 37 19.110 N, 078 29.704 W

Fee: \$20 per day, per person.

ROCK SHOPPER & SHOWS

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Mine Sites

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Shows

3rd Annual Mountain Area Gem and Mineral Association Gem, Mineral and Fossil Show March 20th – 22nd, 2015, Hours: 9am to 6pm each day. Free admission. The show is held at Camp Stephens off of Clayton Road

in Asheville, NC. Numerous vendors with gems, minerals and fossils from North Carolina and around the world.

Directions: Take exit 33 off of Interstate 26 just outside of Asheville, NC. Go west on Brevard Road/Hwy.191. Drive 3.5 miles to Clayton Road on the left, turn left and drive 2/10ths of a mile to the entrance to Camp Stephens on the left. You will see a MAGMA sign at the entrance. For more information call: Rick, 828-779-4501

Graves Mountain Open House, Rock Swap & Dig

April 24th - 26th, 2015.

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

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 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

Jan 10th, 2015

Jan 24th, 2015

Feb 7th, 2015

Feb 21st, 2015

March 7th, 2015

March 21st, 2015

FAVORITE FINDS PETRIFIED WOOD



Petrified wood, Biloxi River, Mississippi. Collected by Ken Kyte in the 1960s. 5' 4" long (1.63 m). Richard Jacquot collection and photo.

Want to Contribute?

Want to see your story in print?

If you would like to share a story with us, we would like to hear from you! Tell us about your adventures and let us see the treasures you find.

Field trip and other hobby related articles; if you go on digs with friends and family, with your local club, or alone, and would like to share your finds with us, let us know. If you would like to share a story about another interest you have that is hobby related, that's fine too.

Make sure your article is hobby related to include rock, gem, mineral, fossil and artifact collecting or something that relates: field trips, lapidary art, show reports, book reviews, short stories of your adventures. If sharing the location of a dig site, be sure to include as much contact information as possible: directions, GPS coordinates and phone number for the property owner. If you are unsure if your article would be good for the magazine, email us with your idea and we can let you know: info@americanrockhound.com

Guidelines: Write your article, try to make it between 2,000 and 5,000 words in length. Include at least 10-15 photographs with your article: scenery pictures, specimen pictures and people pictures. I need at least 10-15 to pick from for the article. Be sure to include captions for each picture, describing what is happening in the picture, a location or specimen name, size, and who took the photo.

We also accept specimen photos to include in our 'Favorite Finds' section. Be sure to include specimen name, size, location found and date found.

Size your pictures at 300 dpi, at least 6" in size or larger, or send the picture files as large as possible so I can resize them to fit the layout. JPG files only.

Submit your article via email or regular mail.

Include:

- Manuscript, 2,000-5,000 words
- 10–15 photos sized at least 300 dpi. 6" in size minimum, with captions for photos
- Detailed maps, geology and history if applicable for your article
- Your complete contact information: name, address, email and phone number

Email submissions can be made to: info@americanrockhound.com

Mailed submissions should be saved on CD or flash drive and sent to: American Rockhound
PO Box 542
Leicester, NC 28748

All articles are subject to information verification and editing by our staff.

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.

Advertise your business or product!

We offer several options to help you get your message out to our readers: Classified, full page, half page, quarter page and inside cover ads are offered at low rates per issue, or yearly.

Our classified ads cover a variety of categories: books, magazines, cutting rough, estates and collections for sale, rocks, gems, minerals, fossils, meteorites, lapidary services, jewelry, commercial mines/collecting sites, hobby related websites and a wanted section, a place for you to find that special piece you need for your collection or project. If you have something that is related to the hobby that is not listed, let us know and we will get it in the magazine for you.

If you would like to place an ad in our magazine, check out our rates and see what best fits your needs.

Color Ads

Ad size	Per ISSUE	Per YEAR
Inside front or back cover	\$250	\$900
Full page	\$200	\$700
3/4 page	\$175	\$600
1/2 page	\$150	\$500
1/4 page	\$125	\$400
Business Card	\$20	N/A

Black and White Ads

Ad size	Per ISSUE	Per YEAR
Full page	\$125	\$450
3/4 page	\$100	\$350
1/2 page	\$75	\$250
1/4 page	\$50	\$150
Business Card	\$10	N/A
Classified	\$0.50/word	N/A

Advertiser must provide text and pictures or art. Our editors will lay out an ad for you.

Ads must be hobby related. Once you contact us with your ad description, we will decide if it is appropriate for our magazine.

If you have any questions or want more information, send email to: info@americanrockhound.com, call: 828-779-4501, or mail inquiry to:

American Rockhound
PO Box 542
Leicester, NC 28748

Rockhounding America

