



VOLUME 49

December 2023

NUMBER 12



**NEXT
MEETING:**

Tuesday, December 12, 2023

**TIME:
LOCATION:**

6:00 p.m.
Kelley's Country Cookin
1502 W Main St
League City, TX 77573-2012

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MINUTES OF THE November CLGMS GENERAL MEETING

Clear Lake Gem and Mineral Society at League City Library on 11/21/2022.

25 Members who attended this meeting and we had two new members.

There will be a calendar of events attached to our Facebook page and in our newsletter.

Newsletter was approved from this month.

A membership directory will be available during the meetings for members who want to meet up with other members after our meetings.

Holiday get-together on 12/12 at 6pm at Kelly's on 518 in League City we have a set menu with five entree's, drink, and dessert.

Zoom meetings maybe available for members who are unable to attend our meetings.

Our black light with its two wave lengths needs to be either replaced or fixed.

Sandy already has 29 vendors who want to attend the Spring Show.

MINUTES OF THE December CLGMS BOARD MEETING.

There was no December board meeting.

Molly Peplau (left), her father (center), and her mother (right) accept the \$2,000 CLGMS scholarship she won in our Scholarship Application Contest

7/18/2024



The Silver Hill Mine

Pictures taken from the 4/2020 "Mineral Minutes" newsletter published by The Mineralogical Society Of The District Of Columbia. The article covered a program presentation by Andy Thompson, MSDC Secretary. Other pics from Minedat.

Since its discovery in 1838 silver, lead and zinc were mined at the Washington mine. The location is 8 miles south of the town of Lexington in central North Carolina. The mine is near the town of Silver Hill, NC in Davidson county.

<http://maps.google.com/maps?q=35.70583,+80.20056+%28Coordinates%29&iwloc=A&hl=en>

The Washington mine was one of the only successful, commercial silver mines in North Carolina. In 1844 they were extracting about \$24,000 worth of silver (19,000 oz) and \$7,200 of gold per year.

The company that owned the mine was known as the "Washington Mining Company" and then the "Silver Hill Mining Company" and was largely controlled by a group of New York investors who also controlled the company town of Silver Hill as well. During the American Civil War, lead from the mine was used in Confederate bullets.

The Silver Hill Mine: America's First Silver Mine and Supplier of Lead to the Confederacy

L. Michael Kaas



The silver ore was found close to the surface and diminished the deeper they sank their three shafts. But at the lower levels, the miners found other valuable minerals, including several lead ores, which had important industrial uses, both in peace time as well as during the Civil War.

Once the raw lead and zinc ores were extracted from the mines, what to do with it was a new challenge. In the 1830s, there were no established professional ore processing plants in the United States, so they had to learn by trial and error. If they roasted the zinc at overly high temperatures, they discovered it evaporated. In the early 1840s, they used a relatively simple 7-step processing method which, a decade later, evolved into the 10-step process, shown below, for breaking down and turning out silver cakes and lead pigs.



Silver

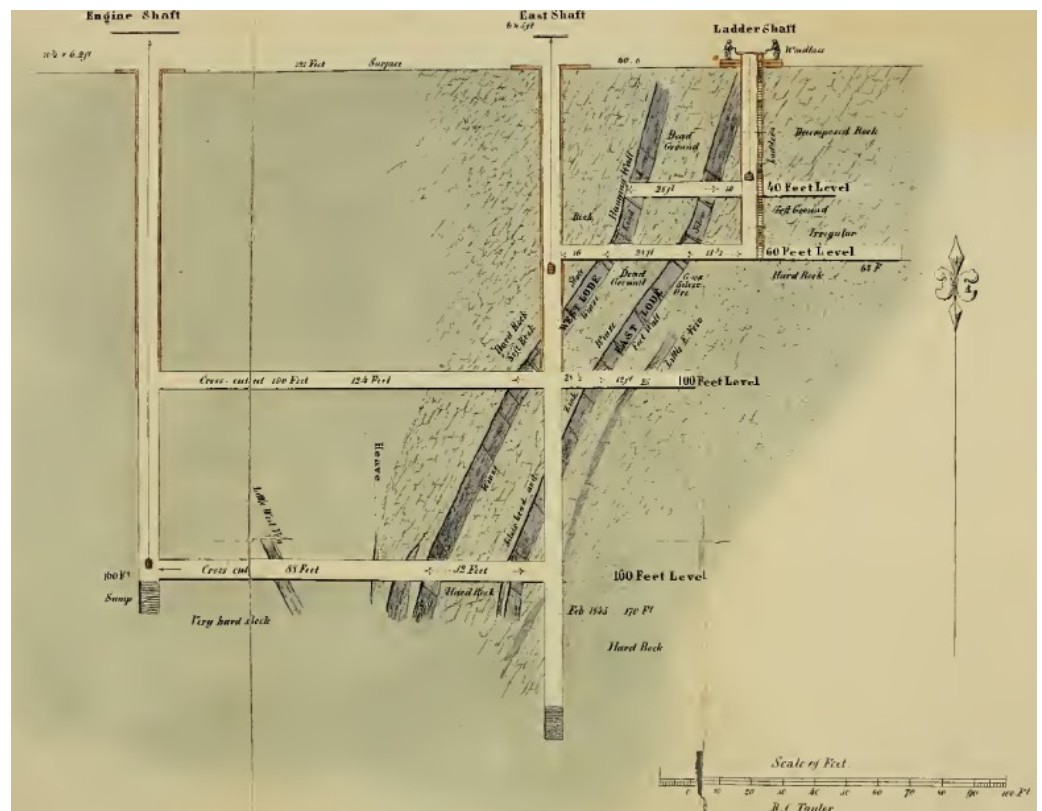
Washington Mine, Silver Hill Mine, Silver Hill, Cid District, Carolina Slate Belt, Davidson Co., North Carolina, USA

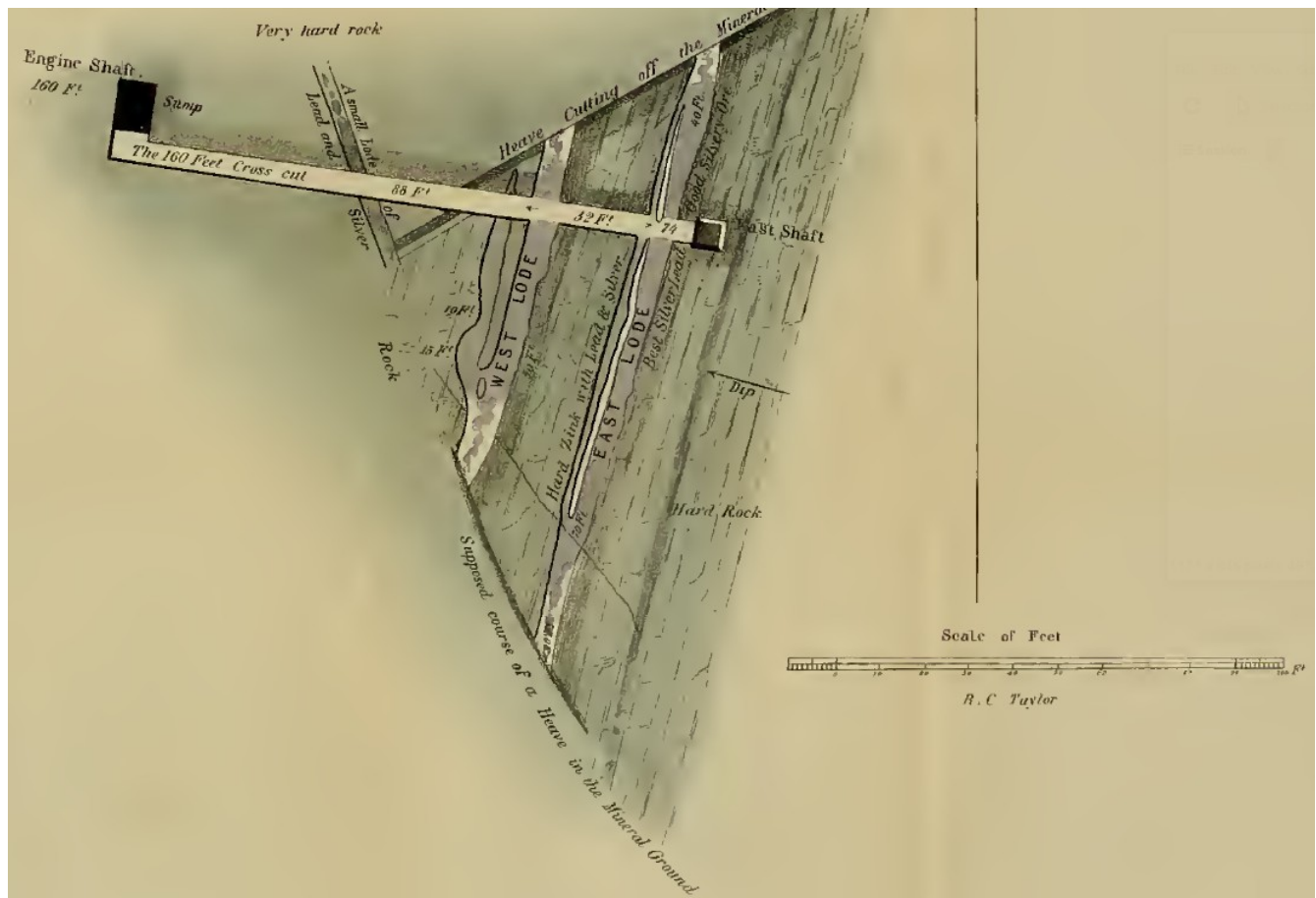


Cerussite

Washington Mine, Silver Hill Mine, Silver Hill, Cid District, Carolina Slate Belt, Davidson Co., North Carolina, USA

In the late-1850s, the Silver Hill mine owners brought in Richard W. Pascoe of Friedensville, Pennsylvania, well-known for his mining expertise, to manage the expanded Silver Hill mine operation. With the outbreak of the Civil War, lead for bullets was much in demand by the Confederate army. After the war he was able to return north and resumed his mine management in Friedensville.





At its peak, the Silver Hill Mine had constructed an extensive array of more than 70 support buildings on the site. During the war, it had spawned a lead ore smelter at Petersburg, VA, illustrated below, which was crucial for the Confederate cause. Toward the end of the Civil War, stories circulated among Northern soldiers that the Confederate soldiers were shooting with silver bullets. That was because the Petersburg plant did not separate the traces of silver from the main lead ore used for making the bullets.

For the past 180 years, the Silver Hill Mine, America's first silver mine, has experienced some productive periods mining lead and zinc, interrupted by closures and changes in ownership. Work was resumed on the mine in 1898, 1909, 1940, and 1958. Historical work continues in the area today.

Taken from the website:

<https://eartharchives.org/articles/legend-of-the-devil-s-corkscrews/>

Legend of the Devil's Corkscrews

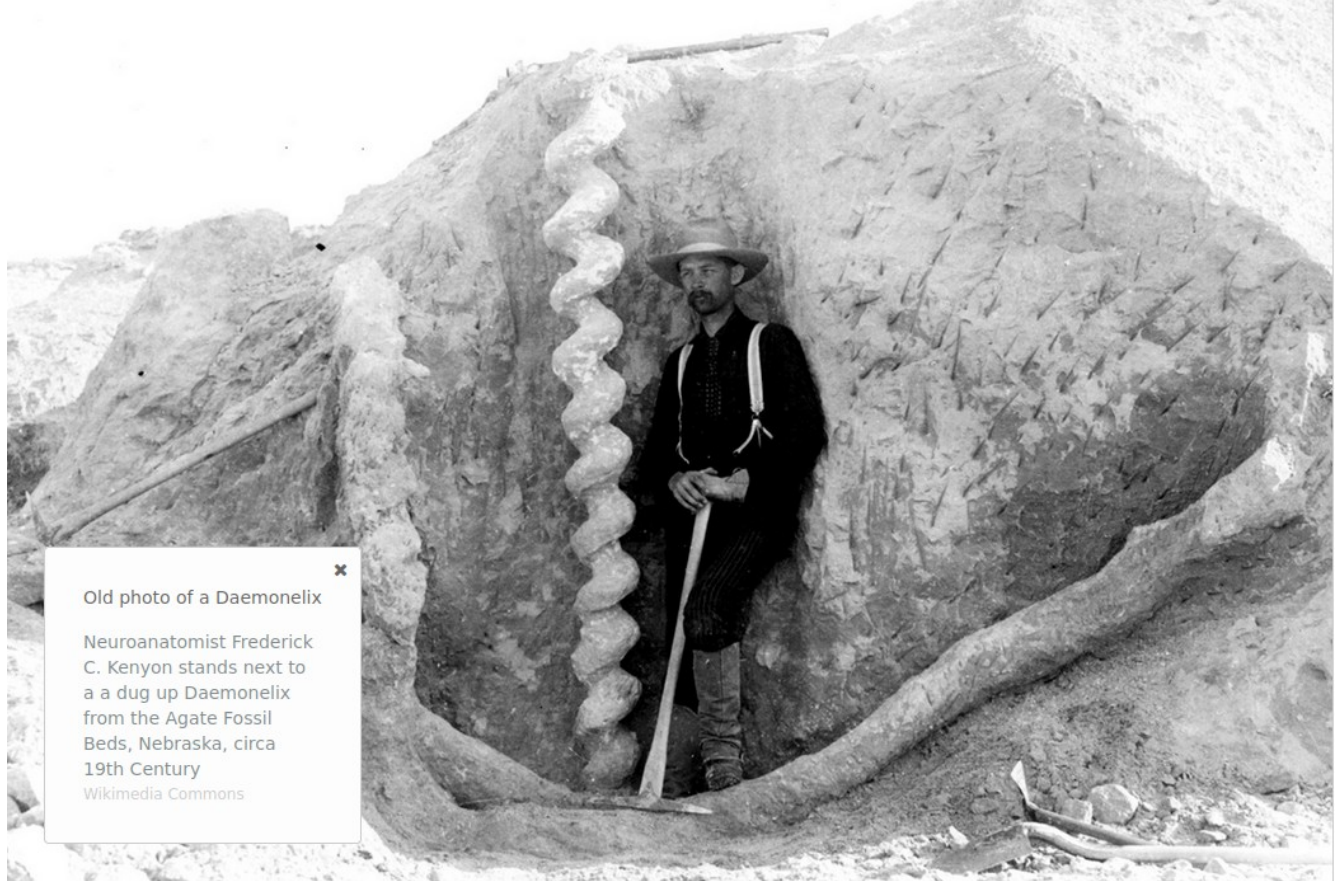
Mysterious objects have been commonplace in the fossil record for centuries. However, none have been more mysterious than the so-called "Devil's Corkscrews" unearthed in the Badlands of North America. The reality behind these rather daunting objects though, is nothing short of surprising.

For a while, prospectors scouring the plains of Nebraska and Wyoming in search of new fossils had been confounded by massive, twisted objects buried underground. The confusion began around the 1800s when these were first found. Some of the structures were as much as three meters tall, and twisted like the familiar shape of a corkscrew. They were first made popular by geologist and paleontologist Erwin Hinckley Barbour when his workers found these weird fossils in 1891. He and many others were perplexed by their size and shape. What he found were spiral, sand-filled tubes with the outer walls made of some form of twisted fibrous material. Barbour's first theory was that these objects might have formed at the bottom of an enclosed lake. He even assumed them to be the fossils of extinct freshwater sponges at one time, a rather ridiculous notion but the only one he had.

In response to their size and shape, they were called *Daemonelix*. The name literally translates as "Devil's Helix" or "Devil's Corkscrew." Despite not knowing what they were, the name stuck and for a while, many more of them were unearthed. Further examination revealed that the rocks surrounding *Daemonelix* had more in common with arid, open plains rather than with lakes, and Barbour's newest theory was that they were a type of giant plant. The odd theories continued for the next two years and for a while, *Daemonelix* became just that, one of the many unidentifiable oddities from the fossil record.

Yet the one thing that confounded the scientific community at the time was the presence of rodent bones preserved inside what appeared to be chambers. They were not the most unique of rodents either, with the fossils showing animals that looked like a prairie dog or a groundhog. Had they fallen into the spiral chambers of *Daemonelix*'s body, or was there something slightly less bizarre going on? Two years after Barbour's wild theories, paleo-pioneer Edward Drinker Cope hit upon the conclusion that they were the entrances to the burrows of rodents that lived underground. Cope was right, for they were indeed a new species of burrowing rodent and the corkscrews were trace fossils. In the scientific community, trace fossils or ichnofossils include objects like preserved footprints and just about anything else that is not a body fossil. They are instrumental in revealing the lifestyles of extinct animals far better than bones and body fossils can. The famous *Daemonelix* was no different of course. Cope and his colleagues were also able to pin down the animals found at the bottom of the burrows. The rodent fossils for example were identified as belonging to a family of strange extinct beavers and not more traditional burrowing fare like prairie dogs. Beavers though they were, none of them were ancestors of the modern beavers. Instead, today's American beavers are descended from migrants hailing from Eurasia while the ancient burrowing beavers died out millions of years earlier. The most common of these was *Palaeocastor*. Their fossils show us that they were almost identical to modern burrowing rodents today, with small ears and short legs and a rather long body to fit into narrow tunnels underground. They were about 30 centimeters in length, as big as a large rat.

Today we know a lot about these rodents and their environment simply due to the sheer number of *Daemonelix* fossils found all over the Nebraskan Badlands. For one, they were incredibly different from modern burrowing rodents today due to being K-strategists in terms of the way they raised their young. This is where an animal has fewer young and invests more time in caring for them. The opposite of this is R-strategy, where an animal has a number of young but invests less time in caring for them. Today's burrowing rodents do indeed have large litters while *Palaeocastor* had small litters and cared for them for longer. Studies by paleontologist Larry D. Martin have revealed that the beavers might have lived in vast towns like modern prairie dogs. This conclusion stems from the find of at least 200 burrows that might have been the remains of a colony. In life these beaver towns must have covered acres of land, and Martin had theorized a behavior similar to their modern equivalents. We do not know, of course whether guards were posted to look out for danger, and neither do we know about the dynamics of the groups in general. All we know is that several lines of rodents had been adopting similar lifestyles for millions of years, based on marginally similar needs.



The twisted chambers of the burrows might have served a highly distinct purpose. Most assume that they were a response to living in a drought-prone environment. Helical passages served to limit the amount of air circulation, so the inhabitants were not as bothered by hot or humid air as animals that dug straight passages. The *Palaeocaster* could rest easy even under sweltering heat. We have also found evidence of what might be living quarters, nurseries, latrines and food storage chambers in the *Daemonelix* fossils and casts. Not only were the little beavers complex in their behavior but each burrow was wonderfully planned to the last detail. It used a combination of claws and incisor teeth to create its underground home like a modern naked mole rat. They too use a pair of formidably large teeth to bite through the earth and clear away dirt from the walls of their extensive system of tunnels. Evidence of this comes from broad tooth marks on parts of the wall while others clearly bear signs of scratches and claw marks. The sides of the burrows had also been lined with plant fibers and parts of roots, thus causing Barbour to assume that they were indeed a species of plant.

We know a great deal about *Palaeocaster* thanks to its strangely-shaped burrows but what exactly was its world like? Somewhere between 25 and 20 million years ago, the early grasslands were beginning to spread across the face of southern and central North America. It was a time known as the Early Miocene, and the world had been undergoing a series of dramatic cooling events. This corresponded with the Antarctic ice caps growing larger in size and changes in worldwide ocean currents. It also caused the death of the tropical and subtropical rain forests that covered the Northern Hemisphere.

Large areas opened up and the hardy, damage-resistant grasses began their conquest through these new plains. It was these that the beavers probably fed on, and used to construct the outer walls of their underground homes. The area was also somewhat volcanic, as evidenced by the great amount of volcanic glass in the soil. During the fossilization process, the soil and the roots had become embedded in silica and this silicification enabled them to be preserved. The volcanism in Miocene Nebraska has



also allowed for the preservation of other, much larger animals. The Agate Fossil Beds National Monument has preserved a wide variety of contemporary mammals, from running rhinos to pygmy camels. The giants in this ecosystem included fearsome omnivorous entelodonts as big as bison and high-browsing chalicotheres with intimidating claws. A twisted burrow entrance could of course, deter predators too and there were plenty of these during the Early Miocene. On the surface were bear-dogs ranging from fox-size to black bear-size. Any of these animals might have preyed on the burrowing beavers, either taking those on the surface or by simply digging them out of their burrows.

More direct evidence of predation comes from the *Daemonelix* themselves. The bones of a primitive weasel named *Zodiolestes* have been associated with these burrows. It was somewhat similar to its present-day kin and played the part of today's weasels or ferrets. It had been actively invading *Palaeocastor* towns to prey on the weak, injured and young. We see the same behavior with black-footed ferrets and prairie dogs, as well as polecats and European hamsters. Through this they provided a good and long-lasting source of protein to the Agate Falls ecosystem's smaller carnivores. At the same time, the beavers might have confronted any enterprising enemies with a display of sharp, powerful teeth, an intimidating display in such dark and claustrophobic conditions.

While there were three distinct species of *Palaeocastor* around, they were not the only odd burrowers in Miocene Nebraska. Fossils in the Harrison Formation indicate that there were more burrowing rodents, including the rather gopher-like *Gregorymys*. This too was a specialist at navigating through volcanic glass-rich soil on its search for roots, tubers and other foods. Their burrows have often been found in close proximity to the *Daemonelix*. Unlike the beavers, the gophers were making rather small and narrow burrows but were also using a claw-and-tooth system to dig their tunnels. All in all, the *Daemonelix* paint a vivid picture of a lost world in the American Badlands. Weird mammals were everywhere and none were stranger than those that lived underground. With the eventual extinction of *Palaeocastor*, many more species of rodent would rise to dominance, burrowing under the grasslands for over 20 million years to come.

SCFMS and MEMBER CLUB GEM SHOWS

December 17-18 Grapevine, TX – Arlington GMS	January 20 – 21 Fredericksburg, TX Fredericksburg Rockhounds Ladybird Johnson Park https://fredericksburgrockhounds.wordpress.com	January 26 – 28 Tyler, TX, East Texas G&MS, Tyler Rose Garden Center www.ETGMS.org	February 17 – 18 Georgetown, TX Williamson County G&MS San Gabriel Park Community Center https://wegms.org
	Houston Gem, Mineral, Jewelry & Fossil Show December 10-12, 2024 Humblw Civic Center http://www.hgms.org	51st Annual Gem & Mineral Show. – Hosted by the Gem and Mineral Society of Louisiana. December 21- 23, 2024 Alario Center 2000 Segnette Blvd. Westwego, LA 70094. www.gmsofla.org	
STONEY STATEMENTS Clear Lake Gem and Mineral Society, Inc PO BOX 891533 Houston, Texas 77289			
Meeting 3rd Tuesday of the Month 7:00 P.M. League City Library 100 W Walker St, League City, Tx 77573			
			

		Member of		
Next Annual Show February 24-25, 2024 Pasadena Convention Center			 American Federation of Mineral Societies	 South Central Federation of Mineral Societies
CLGMS is on the Web: http://www.clgms.org FACEBOOK: CLEAR LAKE GEM AND MINERAL SOCIETY.				
Clear Lake Gem and Mineral Society, Inc				
MEMBER: American Federation of Mineralogical Societies and South Central Federation of Mineral Societies				
PURPOSE: To promote education and popular interest in the various earth sciences; in particular in those hobbies dealing with the art of lapidaries and the earth sciences of minerals, fossils and their associated fields.				
2023 OFFICERS:	President Vice President Secretary Treasurer Program Director Board of Directors: Newsletter Editor	Cynthia McGowan David Tjiok Christina Rankin Morgan Davies VACANT Sandra Christiansen Jim Edwards Donna Nelson David Tjiok	281-546-2662 832-423-4802 281-723-5408 281-224-2444 Jim Hawkins John Caldyne	
Annual Show 2024 Sandra Christiansen Constitution & Bylaws.....Jim Hawkins Community Benefits.....Charlie Timme Historian.....David Tjiok Publicity..... Annabel Brownfield Facebook.....Cynthia McGowan Membership.....Mike Flannigan WWW System Admin..Mike Flannigan Refreshments.....Vacant Education/Field Trips.....Annabel Brownfield Field Trip CoordinatorCasey Renner				
Membership Dues Jan. to Dec. 2024: Adult \$15:00, Family Dues \$20.00 (4+) at same address. Send Dues to CLGMS, PO BOX 891533, Houston, TX, 77289				