



RUCKS PIT: *THE LEGEND RETURNS*

Florida's famous crystal clam locality
is open again to collectors

BY JON KRAMER

Among fossil localities in North America, few have achieved the near-mythical status of Rucks Pit in central Florida. When spectacular crystal-filled fossil clams were discovered here in the mid-1990s, collectors from around the world came in search of the Holy Grail.

Rucks Pit specimens are remarkable not only for their astounding beauty, but also because they occupy a unique intersection between paleontology and mineralogy. To fossil collectors, they are exceptionally preserved marine invertebrates. To mineral collectors, they are exquisite clusters of honey calcite



crystals. To both groups, they are unbelievably beautiful specimens that represent a geological phenomenon known only from this singularly famous locality.

A BRIEF HISTORY

Rucks Pit is the name of the stone quarry where the world-famous calcite crystal clams were discovered in the mid-1990s. It is located at GPS coordinates: 27.520405, -80.754404. To see the official listing on Mindat.org, look up “Rucks Pit” in the location search. This location is the REAL Rucks Pit – not to be confused with other places that offer pay-to-dig opportunities and sometimes misleadingly use the name Rucks Pit in their advertising. Pacific GeoLab owns the rights and the trademark for the name “Rucks Pit.”

The quarry started in the 1950’s when Eddie Rucks, Sr. began digging aggregate on his farmland. Although the crystal clam layer was exposed in the early diggings, no one found any decent specimens because

they used explosives to break up the rock. In doing so, the fragile clams were blown to bits. But by the 1990s, Eddie Rucks, Jr. took over the operation and discontinued blasting. Instead, he implemented a new form of quarrying using a large excavator. Since it was not as destructive, shortly after they started using it, the first intact crystal clams came to light.

Eddie was an avid rockhound and allowed people to dig in the pit on weekends when the quarry was not operating. For a decade, collectors had access to one of the world’s greatest fossil and mineral sites. Alas, in the mid-2000s, Eddie ran out of room to dig aggregate and shut down the operation. The quarry flooded, and the site was permanently closed. Eventually, the land was sold and became a cattle ranch. Digging at Rucks Pit became a thing of the past. Until now.

GEOLOGIC SETTING

Three to four million years ago, much of Florida was covered beneath a shallow

subtropical sea. The peninsula was considerably smaller than today, and marine waters extended far inland across broad carbonate platforms and coastal embayments, especially in the area of what is now Lake Okeechobee.

The fossil-bearing deposits at Rucks Pit belong to the Nashua Formation, a Plio-Pleistocene unit rich in marine invertebrates that was accumulating north of the Okeechobee area. This fauna includes abundant mollusks and other invertebrates, particularly the large clam *Mercenaria permagna*, the species responsible for the site’s fame.

The environment would have resembled portions of modern Florida Bay or the shallow waters surrounding the Keys—warm, productive marine habitats supporting diverse communities of mollusks, echinoids, crustaceans, marine mammals, fish, sharks, and rays. As organisms died, their remains accumulated in shell-rich sediments. As happens today, tropical storms periodically appeared and churned up the seafloor, piling up sediments. Deep burial initiated the process of fossilization.

HOW THE CRYSTAL CLAMS FORMED

The extraordinary specimens from Rucks Pit are the result of a fortunate sequence of geological events. After burial, as the soft parts dissolved away, many clam shells retained internal cavities. Groundwater

moving through the sediments gradually dissolved portions of the original shell while simultaneously transporting dissolved calcium carbonate through them. Under certain unique conditions, calcite crystals began growing within the open spaces. The process effectively transformed the interior of some shells into a natural crystal chamber with gemmy, honey-colored dogtooth calcite crystals. In some rare cases, radial calcite crystals occupy the cavity.

But even the shells that aren’t a crystalline hallelujah are incredible. In many specimens, the original shell, with all its fine detail, is perfectly preserved. Some even have faint color patterns. In others, part of the shell is original while some has been recrystallized into calcite, resulting in unique “fossilization caught in action” teaching specimens.

And there’s more than just shells. Whale bones and shark teeth, two well-preserved sea urchins, sections of three crabs, and even part of a mastodon tooth have all been found recently and donated to the Florida Museum of Natural History in Gainesville.

REDISCOVERING RUCKS PIT

Several years ago, *Pacific GeoLab* was researching the regional geology north of Lake Okeechobee. The initial focus was on areas to the east, and we often traveled by the entrance gate that led into the old Rucks Pit. We had visited it when Eddie



Unique Fluorescence

Under UV light, both the calcite shell and the crystals of the fossil clams glow off-white to faint green and exhibit strong phosphorescence. The calcite glows so well under UV that digging forays in the dark of night have come back with excellent pieces.



had his quarry going and as we drove past, I wondered about what might be left. One day I called the new owners and got permission to survey the property. What we found was astounding.

Over several visits, we were able to map the property and reconstruct the last few years of quarrying operations. We also interviewed former Rucks Pit employees. This research revealed that in the last couple of years of operating, Eddie had told his workers to systematically remove the crystal clam-bearing deposits and to stockpile them outside the hole on property above the pit. He further instructed the workers not to tell

anyone about it. When he was forced to sell the property, those stockpiles of sediments stayed right where they'd been put. For over two decades they remained a silent secret.

Quite by accident, we unwound the puzzle and located the stockpile area. The first test dig put a huge smile on our faces by revealing a surprising number of pristine crystal clams. It turns out that by having his workers dig out the layer and redeposit it on top, Eddie inadvertently did most of the hard work of excavating. In the original quarry hole, it was muddy and difficult to remove complete crystal clams intact. But here, with the sediments completely dried out, we now find them literally falling out of the pile in perfect condition.

It was obvious these sediments were rich with crystal clams and a whole lot more. That led us into negotiations with the landowners, where Pacific GeoLab secured rights to the fossil and mineral resources. We also trade-marked the Rucks Pit name so there would be no confusion as to what or where Rucks Pit is.

A NEW OPPORTUNITY

In the first few years of our new endeavor, we focused on carefully excavating specimens and bringing them to market. But as soon as word got out that we were digging again

in the real Rucks Pit, we were deluged with emails, calls, and texts from people wanting to dig for themselves. To address this, we went back to the landowners and proposed a very limited fee dig operation. Once the kinks were worked out, the annual Rucks Pit Crystal Clam Festival was born.

For a few days each year, patrons dig directly in virgin fossil-bearing sediments while learning about the depositional environment, fossil fauna, mineralization processes, and geological history from staff geologists and paleontologists.

SCIENCE FIRST

While the iconic crystal clams are highly collectible, the locality also has scientific importance. The fossils here contribute to our understanding of Florida's Plio-Pleistocene marine environments and help document ecological communities that existed during a period of significant climatic and sea-level change.

Because of this, as new excavations expose fresh material, unusual and scientifically important specimens are sometimes discovered. If you find a scientifically important specimen, Pacific GeoLab requires that it be donated in your name to the Florida Museum of Natural History in Gainesville. This



Want to Go?

The site is only open to the public during the annual Rucks Pit Crystal Clam Festival for three to four days in March. The cost is \$500 per person with discounts for veterans and seniors. Included in the price is your first 5-gallon bucket of fossils (30 to 40 clams fit in a bucket). Pacific GeoLab has a money-back satisfaction guarantee. If, at the end of the day, you are not happy with what you found, you'll get a full refund.

Be aware that you cannot just show up to dig. You must be a paid registrant to enter the property. There are a limited number of slots available each day. They are filled far in advance on a first-come basis via registration on the web portal. Registration opens three to four months in advance. To be notified when dig registration opens, sign up at pacificgeolab.com.





Travel Tips

The Ruck's Pit site is in rural Florida, about 30 miles north of Lake Okeechobee. It's 30 minutes to the nearest town. Make sure to bring everything you need to stay the entire day, including beverages, food, clothes, sunblock, tools and buckets.

When flying in, the closest airport is Orlando, and a rental car is needed to get to the site. The roads are paved to the front gate, and the ranch road is improved gravel, so any standard vehicle can drive right to the site. There are portable toilets on location, but there's no drinking water and no electricity.

There's no camping allowed onsite, but there are campgrounds in the area. The town of Okeechobee has several lodging options.

ensures that scientifically valuable material remains available for future study. But not to worry. The list of scientifically important specimens does NOT include crystal clams. The museum has plenty of those.

EASY DIGGING

Many people have said that this is the easiest digging for the most fantastic specimens. The digging is not difficult; any able-bodied



person can do it, and the Rucks Pit staff assists throughout the day. All you need is simple hand tools, mostly rakes and cultivators, plus buckets and wrapping material. We recommend you also bring a lawn chair. You'll be digging through loose sediments. As you find specimens, you can wash them off at one of the several workstations around the site. The stations include sun canopies, tables, wash basins and water hoses.

In addition to loose clams, welks, and other fossils, there are matrix pieces that you will encounter, and many of them contain multiple crystal clams. But don't be in a hurry to break them up. You can buy the matrix at a reasonable price.

Gates open at 7:30 a.m., and the program starts at 8 a.m. with a brief introduction to the site. The digging day ends at 4 p.m. About 1 p.m. each day, demonstrations by professional fossil preparators show how to clean finds to get the most attractive results. 💎

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