



# The Litchfield Family



Don and Sue Litchfield and their children Kenny, Karly and Kaylee have been collecting golden barite and Pierre Shale ammonites for over 40 years, and exclusively on Elk Creek, South Dakota for the past 25 years. Elk Creek cuts through the 73.5-million-year-old sea bed, exposing large septarian concretions filled with extinct ammonites such as Placenticerias, Baculites & Scaphites, Nautilus and the giant clam Inoceramus. On rare occasions, the concretions are filled with bright yellow calcite crowned with gemmy golden barite crystals. The Elk Creek location is one of the most important mineral and fossil localities in North America. Please enjoy this selection of digging and specimen photos all from Elk Creek.

Don Litchfield digging out a large septarian concretion, filled with calcite and a nice pocket of barite, from the Pierre Shale, Elk Creek, South Dakota, July 2016. During the Late Cretaceous period, a large seaway stretched from the present day Gulf of Mexico to the Arctic Ocean, covering much of the Interior of North America for over 12 million years. Many of these septarian concretions have a colorful cephalopod in the center, and many of them still have their original mother of pearl preserved. Subsequent continental uplifting and drying out of the mud balls made them wonderful vessels for receiving the Pleistocene meteoric waters which dissolved, transported and precipitated the calcium carbonate and barium sulfate to form the crystals we find now. Both the barite and calcite are strongly fluorescent purple, green and bright yellow under ultraviolet light. Sue Litchfield photo.



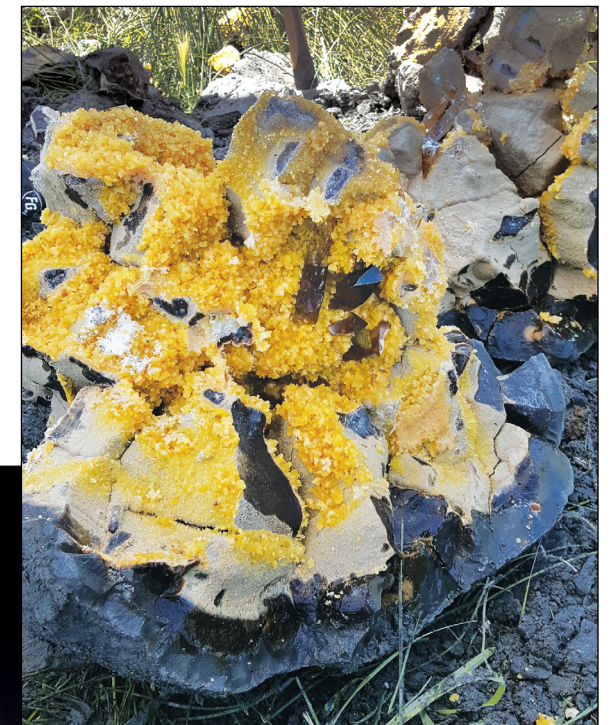
The same golden barite on calcite specimen after preparation by Collectors Edge with crystals to 20 cm. Currently in a private collection; Richard Jackson photo.

Large partially opened barite-bearing concretion, 60 cm, with bright yellow calcite and a beautiful spray of dark golden barite crystals. Collected by Don and Sue Litchfield in July 2016; Sue Litchfield photo.

Don and Kenny Litchfield stopping for a break in the shade while digging out a large septarian concretion, filled with calcite and a number of nice sprays of golden barite, from the Pierre Shale, Elk Creek, South Dakota, in July 2018. Two distinct concretion horizons produce most of the calcite and barite specimens. Kaylee Litchfield photo.



Golden barite with four sprays of crystals to 10 cm, showing growth hillocks. The calcite from this zone exhibits a botryoidal crystal habit. Collected by Don and Kenny Litchfield in July 2018; Jeff Scovil photo.



Gemmy golden barite on calcite, 60 cm. Collected by Don and Kenny Litchfield in July 2018. Currently in a private collection; Don Litchfield photo.



The same golden barite on calcite specimen after preparation by Collectors Edge with crystals to 10 cm. Currently in a private collection; Jeff Scovil photo.



In September 2021, Kenny received 30 days leave from the Army and flew back to South Dakota from Germany, and Dad and Kenny's sisters, Karly and Kaylee, met for several weeks of collecting on Elk Creek. We got into several amazing concretions with both yellow calcite and a gemmy golden barite. Don Litchfield photo.



Gemmy golden barite on calcite, 5 cm. Collected by Don, Kenny, Karly and Kaylee Litchfield in September 2021. Don Litchfield collection and photo.



Golden barite on calcite, 12 cm. Collected by Don, Kenny, Karly and Kaylee Litchfield on September 27, 2021. On the lunch table after being collected that morning. Don Litchfield collection and photo.

Golden barite with multiple sprays of gemmy crystals showing growth hillocks, 15 cm. Many of the barite crystals were doubly terminated. The calcite and barite from this zone strongly fluoresce under UV light. Collected by Don, Kenny, Karly and Kaylee Litchfield in September 2021; Don Litchfield collection and photo.



Karly Litchfield collecting a nice 73.5-million-year-old *Placenticerias meeki* out of the Pierre Shale on Elk Creek, South Dakota in September 2021. The ammonite-bearing *Placenticerias* horizon is at the base of the large knobby barite and calcite-bearing concretion zone. These ammonites thrived in the *Baculites Compressus/Cuneatus* range bio-zone for over a 500,000-year period. Don Litchfield collection and photo.



Large, 1-m *Placenticerias meeki* dug out of the Pierre Shale, Elk Creek, South Dakota. Collected by Don and Kaylee Litchfield in July 2019; Don Litchfield photo.



The same *Placenticerias meeki* as above after preparation, 90 cm, exhibiting beautiful rainbow-colored ammonite. The *Placenticerias* had large eyes, and were carnivores, hunting the ancient seaway, between dusk and dawn, looking for fish, scaphites and fellow ammonites to eat. They also had to be on the lookout for the ever-present swimming reptiles, the Mosasaurs! Many ammonites from this location show puncture marks and battle wounds from marine predators. The specimen is on display at the Fossil & Mineral Co-op in Tucson, Arizona. Photo by Thomas Wiewandt.

