



Western Dakota Gem & Mineral Society
P.O. Box 1944
Rapid City, South Dakota
57709-1954

Missing Funnies!

HEY!! I need new content! Most of what I can find is **LAME!!**



THE AMMONITE

Affiliated with RMFMS & AFMS

Next meeting:

6:00 p.m.

January 8, 2026

Lions Building

Central States Fairground

800 San Francisco Street

It is always rock hunting time!

The Purpose of our Non-Profit Club is to promote interest and education in geology, mineralogy, paleontology, archaeology and lapidary, to sponsor and promote the coordination of work efforts between groups and individuals.





The Ammonite Western Dakota Gem and Mineral Society

2024-25 Officers

| | | | |
|--------------------------|-----------------|--------------|--|
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CLUB Mailing: Western Dakota Gem and Mineral Society, PO Box 1954, Rapid City, SD 57709-1954

CLUB Website: www.WDGMS.org

CLUB Facebook: Western Dakota Gem and Society/groups

CLUB Email: westdakota.rocks@gmail.com

Meetings: Second Thursday of each Month (except August) at 6:00 PM (times can change)

At: Lions Building, Central States Fairgrounds, 800 San Francisco Street, Rapid City, SD 57701

ANY SUBMISSIONS FOR THE NEWSLETTER SHOULD BE IN BY THE 25TH OF EACH MONTH

Any questions about the material found in the Ammonite please contact the editor:

Deborah Vick, 265 Stumer Rd Apt 7, Rapid City, Sd 57701

If you change your address, email address or have a problem receiving a newsletter:

Please Contact the Treasure at westdakota.rocks@gmail.com

Dues: \$15.00 per person - \$20 per family with children under 16 years – Includes 12 newsletters by e-mail. If you chose to receive the newsletter by mail, there is an additional \$10.00 fee. Dues cover the RMFMS insurance and an electronic copy of the newsletter.

Send dues to Treasurer, PO Box 1954, Rapid City, SD 57709-1954

December Minutes

The meeting called to order at 6:00 pm by Kelli Wold.

Welcome to all guests.

A special thank you to Lori Bickford for the wonderful centerpieces.

Don Bailey motioned to approve November 20th, 2026, minutes. Don Bush seconded the motion. Motion approved.

Alan Dorland gave the treasurer's report. Deb Vick made the motion to approve the treasurer report. Lori Bickford seconded the motion. Motion approved.

Leslie Lysenko made the motion for the board to get costs for a new laptop. Deb Vick seconded the motion. Motion approved.

The board/show meeting is January 17th, 2026 at the library at 10:00am.

There is a total of twenty-two vendors for the 2026 show.

Sue Smith gave an update on the 2026 speakers.

Jamie Brazenia will be January 2026 speaker. The topic will be Baker Ranch Geodes.

Don Bailey stated that he is working on field trips for next year.

Rob Wills has revamped the website. He needs everyone's input to make the website successful. Please like and share the site and send photos or videos we can use for the website. Thanks, Rob, for the job well done.

Renee Saunders will give an update on the kid's program in January.

The Fairburn Agate & Rock Swap will be on June 12th, 13th and 14th, 2026 at the Hermosa fairgrounds.

Sue Smith made the motion to adjourn the meeting. Leslie Lysenko seconded the motion.

Motion approved.



President's message

Thank you to all that came to the Holiday Potluck. Everyone had a great time with the gift exchange and rock **BINGO**.

The meeting was streaming live for the first time. There was positive feedback on the streaming.

The board/show meeting is on January 17th, 2026, at 10:00 am at the library. Please come and give your input.

Wishing everyone a Happy Holiday and a New Year!

Treasurer Notes:

Club Account – Dues, raffle & a transfer from the Show Account helped the bottom line! More member dues to come. We paid the last of the 2025 bills: USPS, Rocky Mountain Federation, Trailer & website. We also picked up the t-shirts order.

Remember to get your membership renewal in or this will be your last Ammonite!

Show Account – Very quiet. We have 19 contracted vendors & 2 non-profits signed up for the GenPro building.

5 more individuals have expressed interest but no money received yet. Looking forward to the Show/Board meeting on January 17. Merry Christmas to All!

Membership is going strong! There are new membership forms to be filled so please contact Larisa Bailey (call or email 605-580-5192 / baileylarisa@gmail.com)

Currently we have 46 Family memberships, 30 single , 6 single honorary plus one. This makes 132 adults and 17 children.

For those who have not renewed their membership this will be your last Ammonite!!

Here is the schedule of speakers for most of the year:

| | | |
|-----------|----------------------------|--|
| January | Jamie Brazene | Baker Ranch Geo. |
| February | Tom Hagen | Rushmore Cave |
| March | Lori Loomis – Federation | What the Federation does for our chapter |
| April | Shawn Kuhnel | Pricing rocks |
| May | Anne Meti | Sanford underground research facility |
| June | Scott Van Dam | Writing a Book on BH Agates |
| July | Curtis Talbot | Fossils |
| August | No Speaker | Annual picnic |
| September | John Horner | TeePee Canyon Agates |
| October | TBD | |
| November | Walter W Stein | About dinosaurs, etc. |
| | Director Hell Creek Museum | |
| December | No Speaker | Annual Christmas potluck |

PLEASE NOTE: There will be a show meeting at the Library January 17, 2026 starting at 10 am. Please come and put you input and ideas in.

This month's article is unique in that it was written by a very dear friend and mentor of the editor Deborah Vick - Geologist Lawrence 'Larry' Skelton. For about 2 to 3 years until his passing December 10, 2022 he contributed many articles for the Ammonite.

It is being reprinted for the newbies. Enjoy!

The Seven Natural Elements

Lawrence H. Skelton
Wichita Gem & Mineral Society

Seven is a number associated with religions and mythology throughout the world. Consider: seven days in a week, the seven seas, the seven deadly sins, seven colors in the rainbow, seven pure notes in the diatonic music scale, the seven days of creation (including the seventh day...the day of rest); seven is a number having a role in most modern and many ancient religions and finally in entertainment . . . *The Magnificent Seven*.

So is it coincidence that of the 118 known chemical elements (of which all matter is composed), only 94 occur naturally on the earth and nineteen of the 94 are found in a pure form as minerals? I was inspired to write this article when I read in a 1928 *American Mineralogist* that samples of only seven may be found in the **Black Hills of South Dakota**. They are: gold, silver, copper, carbon, sulfur, selenium and tellurium. These native elements are difficult to find. Selenium and tellurium in particular seem to occur in minute crystals where found. Information on each follows below.

Gold: Gold has been favored by humanity since primitive time. It is found in native form in nuggets within alluvium; in veins; and as finely disseminated particles in rock. Since it is virtually indestructible and is highly desired by people, much of what has been recovered throughout history is considered to be yet in use. Think of it! Your wedding band could be made from an often reworked brooch worn by Cleopatra in 50 B.C. That gold may have been mined in Egypt's Eastern Desert or a reworked piece of jewelry from Egypt's First Dynasty 2,000 years earlier.

The U.S.G.S. estimates that all the gold ever found and now available on earth would form a cube 91.86 feet on an edge. Gold ranks 75th in abundance in the earth's crust. A respectable amount of gold has been recovered from the Black Hills' Homestake Mine discovered in 1876 and worked for 116 years. When closed in 2002, it was the largest and deepest gold mine in North America, having produced 43,900,000 ounces of gold. Hobbyists and prospectors can yet search for gold in this mineral-rich area.

Silver: Silver may have followed gold in use by mankind. At a concentration of 0.1 grams per ton in the earth's crust, it not only is more common than gold but also joins other elements to make a variety of minerals. It may alloy with gold to make electrum. Anciently associated with the moon, this white metal was heavily mined in Spain by Phoenicians and at *Laurium*, Greece by Greeks thousands of years ago. It financed classical Greek colonies, wars, etc. Silver (from the Anglo-Saxon word *seolfor*) is the most reflective metal known as well as the best electrical conductor. The original "atomic bomb plant" at Oak Ridge, Tennessee was wired with silver.

Most silver is recovered from ores, jamesonite and chlorargyrite (horn silver), both silver compounds; and from galena, a lead sulfide containing dissolved silver. Silver was first discovered in the Black Hills in 1877 when a native silver nugget a few miles east of Deadwood was found. Designated mining districts in the area are the Silver City District and the Spokane District although more than seven million ounces of the shiny, white metal have been from the Homestake Mine. Native silver in the form of crystals and wire silver may be found in the Black Hills.

Copper: Copper is found in its native, metallic form throughout the world, may be the first native metal utilized by humans and is one of the first metals obtained by smelting. Associated with gold and silver in the Black Hills, it more often is in the form of various copper minerals: carbonates, sulfides, sulfates, oxide, etc. Native copper may be in finely crystalized or arborescent forms and is recognizable by its copper color. The name copper is from the Latin *cuprum* that derives from *Kyprios*, the Greek word for the island of Cyprus where copper was mined in ancient time.

Carbon: Pure carbon in its form of graphite has been collected in South Dakota. Native carbon in the form of graphite (never diamond) may be found high-grade metamorphic rocks in the core of the Black Hills. These rocks are around two billion years old and originally were beds of sand and shale on the floor of an even older sea. The graphite was formed from some sort of organic material (algae and bacterial mats probably were the only life forms of that ancient time). They were metamorphosed and intruded with quartz veins before the Precambrian era Harney Peak granite was intruded into them. Graphite to be found is in thin streaks, smears and perhaps thin layers.

Sulfur: Known and used since ancient time. The Greek, Homer (c. 800 B.C. – 700 B. C.) wrote of Odysseus fumigating his house with sulfur. The name comes from an archaic Latin word *sulpur* meaning sulfur. Native sulfur in South Dakota is formed by the natural chemical alteration of metallic sulfide minerals such as pyrite (FeS_2), chalcopyrite (CuFeS_2), galena (PbS), etc. or from chemical/bacterial reduction of gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) and anhydrite (CaSO_4), both evaporite minerals formed in the sedimentary rocks deposited in the upper part of the Permian period before the uplift of the Black Hills. Sulfur has been commercially mined in Lawrence and Meade counties.

Selenium: Selenium is named for *Selene*, the moon goddess in Greek mythology. Its discovery followed that of a closely related element, tellurium, which was named after *Tellus*, an ancient Roman earth goddess. Like the moon and the earth, selenium and tellurium have very near chemical and physical properties. Selenium makes up less than 0.1 grams per ton in the earth's crust and is 69th in overall abundance. The majority of selenium is thought to be concentrated in the sulfide form in the earth's core. It forms about a dozen natural minerals on earth. They weather and concentrate the element in the soil. Selenium is a toxic element. It collects in various plants that are poisonous to livestock grazing on them; a potential problem for South Dakota ranchers.

Native or pure selenium occurs in at least a dozen worldwide localities. George M. Schwartz in a 1928 *American Mineralogist* paper identified native selenium as among Black Hills minerals. It is reddish-gray in color with metallic luster and associated with sulfide minerals. Crystals are minute or acicular and have been reported in the Cretaceous age Lakota Formation in Fall River County. The main uses of selenium are in glassmaking and pigments.

Tellurium: Like its elemental cousin selenium, native tellurium is a rare mineral in the Black Hills. Discovered in 1782, 32 years before selenium, it is often associated with gold and the gold minerals calaverite (AuTe_2) and sylvanite (AgAuTe_4). It too is toxic to animals and creates a garlic odor to the breath after ingested. Tellurium and selenium are classified as metalloids or semi-metals, substances that possess characteristics of both metals and non-metals such as sulfur. Both are classified as chalcogens, substances that readily combine with copper including: oxygen, sulfur, selenium, tellurium and polonium. That it also combines well with gold and silver makes Black Hills sources available. Native tellurium is brittle, silver-white often with a metallic light-pink or yellowish tarnish, has a metallic luster. It is used in semi-conductors, solar panels and in some copper or steel alloys.

A moral to this story is always check for newer literature. As noted, the reference to seven native elements in the Black Hills was written in 1928; nearly a century ago but only nine years before my birth. I wrote this article based on that 1928 reference and liked the story as written. Afterward in *Mindat.com*, I learned that native bismuth is found in several Black Hills locations; making the native

element count eight. Oh, the uncertainty! What else have I omitted? If you know of more “local” native elements, tell the *Ammonite* editor.

References:

Bateman, A. M., 1950. *Economic Mineral Deposits*, 2nd edition: New York, John Wiley and Sons.

Bezile, N. and Yunwei, C., 2015. Tellurium in the Environment: A Critical Review Focused on Natural Waters, Soils and Sediments. *Applied Geochemistry*, v. 63, p. 83 – 92.

Schwartz, G. M., 1928. The Black Hills Mineral Region. *American Mineralogist*, v. 13, p. 56 – 63.

Smith, F. C., 1897. The Potsdam Gold ores of the Black Hills, South Dakota: Transactions American Institute of Mining, Metallurgical and Petroleum Engineers.

Thomke, D., 1957. *Occurrence of Selenium in Sedimentary Rocks*: Unpublished Senior Thesis, University of South Dakota.

Upcoming Area Shows

This information can be found at the www.rockandmineralshows.com. Please check the website current shows across the country and in Canada.

The show schedule is quite except for the many shows in Arizona during January and February.