

Earth Science

Sedimentary Rock

Date:
2017-08-01

Presentation by:
J. Honeycutt

Learning Objectives

At the end of this module, you should be able to:

- Recognize Arbuckle Limestone as an outcrop formation in Oklahoma
- Recall and state the primary chemical composition of limestone rock
- List two or three interesting facts about the limestone

Definitions and Key Words

Limestone – a sedimentary rock consisting predominantly of calcium carbonate, varieties of which are formed from the skeletons of marine microorganisms and coral.

Arbuckle Mountains – The Arbuckle Mountains are the oldest known formations in the United States between the Appalachian and Rocky Mountains.

Calcium carbonate – Calcium carbonate is a chemical compound with the formula CaCO_3 . It is a common substance found in rocks as the minerals calcite and aragonite (most notably as limestone).

Interesting Facts We Found

The primary **chemical composition** of limestone (CaCO_3) is the same as a pearl (CaCO_3).

The Arbuckle Limestone is **deep below the surface in Kansas**. The formation is over 6,000 feet beneath the surface in some area and sometimes contains oil.

Limestone has **many uses**. It is used to purify iron in blast furnaces, as a material in concrete and mortar, and sometimes in the making of certain types of glass.

The Arbuckle Mountains

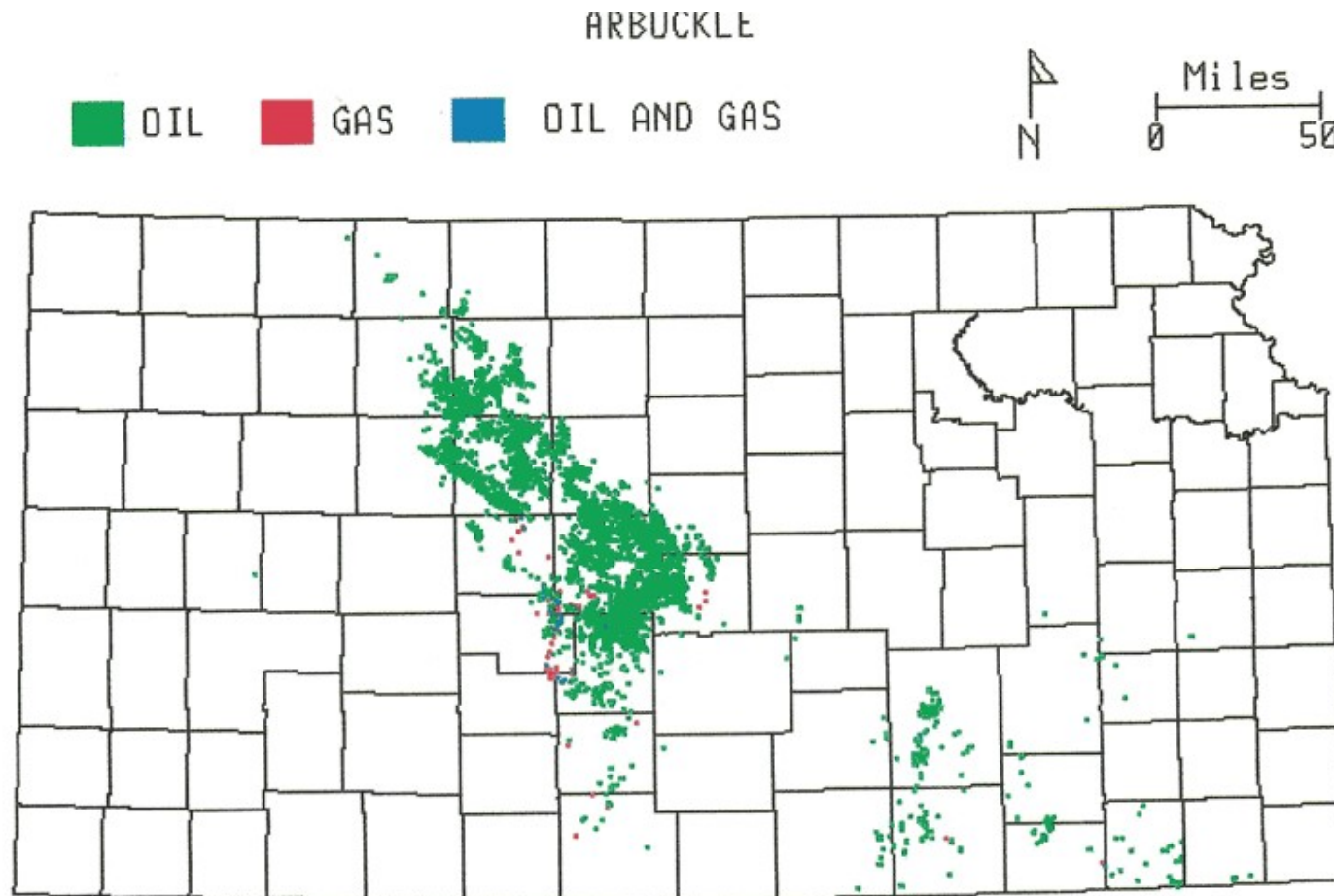


Turner Falls: Arbuckle Mountains



<http://www.panoramio.com/photo/56839511>

Arbuckle Limestone in KS

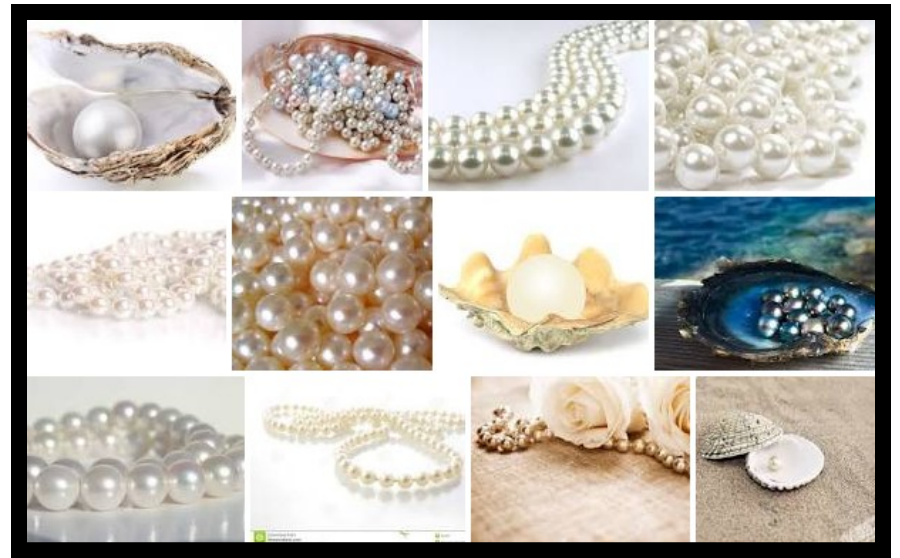




Limestone



Pearls



Participant Exercise

Practice writing and saying the chemical composition of limestone.

- On your notes, write down Ca CO₃
 - *The Ca stands for Calcium*
 - *The C stands for Carbon*
 - *The O stands for Oxygen*
- CO₃ is an unstable oxide called Carbon Trioxide
- When Calcium and Carbon Trioxide combine it makes a chemical compound called Calcium Carbonate

Our Team's Major Take-Away

Many of the outcrops along Oklahoma highways display layers of limestone, sandstone and shale – sedimentary rock.

An important limestone outcrops in Oklahoma's Arbuckle mountains and is named after the mountain range (and indirectly named after Gen. Matthew Arbuckle).

References

Allison, M. A. (2010). Rocks. In *Earth Science* (pp. 158-159). Austin, TX: Holt McDougal.

Zumdahl, S. S. (2007). Chemical Composition. In *World of Chemistry* (pp. 170-171). Belmont, CA: Brooks/Cole.

Nowiki, S. (2012). Invertebrate Diversity. In *Biology* (p. 659). Orlando, FL: Houghton Mifflin Harcourt Publishing Company.

Dobson, K. (2008). Minerals and Rocks. In *Physical Science* (p. 750). Austin, TX: Holt, Rinehart and Winston.

MinuteEarth. (2014, July 16). What is it Hot Underground? [Video file].

Retrieved from https://youtu.be/mOSpRzW2i_4

Limestone. (2017). In Dictionary.com's online dictionary.

Retrieved from <http://www.dictionary.com/browse/limestone>

Wikipedia, the free encyclopedia. Arbuckle Mountains.

Retrieved from https://en.wikipedia.org/wiki/Arbuckle_Mountains

Geology Overview [Lecture notes]. (2017).

Retrieved from <http://honeycuttscience.com/earth-17/>

Walden University. Reference List: Common Reference List Examples.

Retrieved from <http://academicguides.waldenu.edu/>

Joyphotos (2011). Turner Falls. [Image].

Retrieved from <http://www.panoramio.com/photo/56839511>