

General Geology



50. What geologic formation is under my property?

Geologic maps show the different formations in the State. Knowing the legal description of your property should enable you to locate it on a geologic map.

The OGS has an extensive collection of geologic maps of the State at many different scales. These maps show the distribution of geologic formations and most show the section-township-range grid system. Perhaps the most popular and frequently used geologic maps are in the OGS Hydrologic Atlas series at a scale of 1:250,000 (see question 14). Although they are somewhat generalized, they include an index map showing the detailed maps used in their compilation. Many of the geologic maps published by the OGS are for sale (Appendix 1). Other maps, including those in unpublished theses or ones that are out of print, may be consulted in college or university libraries.

If you know the legal description of your property, OGS geologists can determine what maps or reports show the geology of your area or what formation underlies your property.

51. What kind of soil is on my property?

The best source of information on Oklahoma soils are the U.S. Department of Agriculture county soil surveys.

There are many different kinds of soil throughout the State. The best source of information on these is a series of county soil surveys; these books are available for all of Oklahoma's 77 counties and can be found in many public and university libraries. Many of the books also are in-print and can be purchased from the U.S. Natural Resources Conservation Service (formerly the Soil Conservation Service) of the U.S. Department of Agriculture (Appendix 2). Other sources of information on soils are the National Soil Survey Center (Appendix 2) and the Oklahoma Conservation Commission (Appendix 1).

The OGS has no soil scientists on its staff, nor any research programs concerning Oklahoma soils.

52. Where are the oldest rocks in Oklahoma located? How old are they?

The oldest rocks in Oklahoma are in the eastern Arbuckle Mountains, mostly in northern Johnston County. They are about 1.4 billion years old.

The oldest rocks exposed at the surface in Oklahoma are in the eastern Arbuckle Mountains. All are plutonic (molten magma that slowly cooled and crystallized while deeply buried) and granitic in composition. Four different formations have been described: (1) an unnamed granodiorite (more than 1.399 billion years old), (2) the Troy Granite (about 1.399 billion), (3) the Blue River Gneiss (about 1.396 billion), and (4) the Tishomingo Granite (about 1.374 billion) (Fig. 17).

A geologic map showing the distribution of these rocks is available from the OGS: Map GM-31, "Geologic Map and Sections of the Arbuckle Mountains, Oklahoma." These rocks can be seen along Highway 1 north of Ravia, Highway 99 north of Tishomingo, and Highway 7 near Reagan and west of Wapanucka.