Calhoun County

Comprising approximately 611 square miles, Calhoun County lies in the northeastern area of the state, wholly within the Appalachian Valley and Ridge physiographic section. It is bounded to the northwest by Etowah County, to the northeast by Cherokee County, to the east by Cleburne County, to the south by Talladega County, and to the west by St. Clair County.

It is near the contact line that divides the sedimentary rocks to the north and the metamorphic and igneous rocks to the south. The area is characterized by open meadows bounded by mountainous ridges. Talladega National Forest in the eastern part of the county is home to several acres of mountain longleaf pine forest.

Calhoun County's rich ore deposits made it a leader in textile and iron ore production during the late nineteenth and early twentieth centuries. By the 1920s, Anniston—the county's largest city—had 3 iron foundries, making it the world's largest producer of cast-iron pipe.

Today, Calhoun County is home to the Anniston Museum of Natural History and the nearby Berman Museum of World History which boasts 8,000 artifacts. In Jacksonville, you'll find the Dr. J. C. Francis Medical Museum and Apothecary housed in the doctor's circa-1850 Greek Revival office. It features exhibits of medical and pharmaceutical tools from the mid-nineteenth century.

Super Site Selection Criteria

Calhoun County was selected as a Super Site for this series on the basis of information reported in *Rocks and Minerals of Alabama – A Guide for Alabama Rockhounds (Circular 38, 1966)*. The guide identified two minerals—galena and sphalerite—as being prominent in an old lead mine in a community called Angel Station, located approximately 3 miles west of Jacksonville, just off Hwy 204.

Featured Rocks and Minerals

Galena – (PbS) - the chief ore of lead.

The name "galena" is derived from the Greek "galena," meaning *lead ore*. It is a lead sulfide mineral and often contains silver.

A member of the isometric crystal system, galena is an opaque mineral with a dull, metallic luster. Though a soft specimen (Mohs – 2.5), it is also brittle with perfect cleavage and sub-conchoidal fracture. Galena is lead-grey in both color and streak and it doesn't fluoresce in UV light. Because it contains lead, those collecting the specimen should avoid inhaling dust when breaking it, refrain from licking samples and always wash hands after handling it.

It is found in ore veins with sphalerite, pyrite, chalcopyrite, tennantite-tetrahedrite, etc. and in skarns, as well as in sedimentary rocks where it may replace carbonate beds or be deposited in pore spaces. The crystals are bright when fresh but often tarnish after exposure to air.

In Alabama it occurs most frequently in small quartz veins in metamorphic rocks and as space fillings in limestone and dolomite rocks. Galena crystals occur as cubes or masses of cubic crystals embedded on the country rock, however, Alabama galena is predominantly all massive vein type.

Lead has numerous uses. It is the principal ingredient in many paints, and plumbing and electrical supplies. It is also used in making glass and is instrumental in the protective shields used to guard against exposure to radioactivity.

Sphalerite – (ZnS) – zinc sulfide, the major ore of zinc. Sometimes called “zincblende” or “blackjack”.

The name “sphalerite” is derived from the Greek "sphaleros," meaning *treacherous*; an allusion to the ease with which dark varieties were mistaken for galena, but yielded no lead.

A member of the isometric crystal system, sphalerite is a transparent to translucent mineral with a resinous, adamantine luster. It is a moderately soft specimen (Mohs – 3.5 – 4.0) with a brittle tenacity, perfect cleavage and conchoidal fracture. Sphalerite is available in a wide range of colors. This sometimes makes it difficult to identify on the basis of color alone. When pure—with little or no iron—it forms clear to pale yellow crystals and is known as cleiophane. Orange to red shades are known as ruby blende, but as iron content increases it forms the dark, opaque metallic crystals known as marmatite. It is also found in light blue and green. During a streak test, it smells of sulfur and appears pale yellow to brown.

Sphalerite is commonly associated with other sulfide minerals—particularly galena—but also with chalcopyrite, pyrite, marcasite, magnetite, calcite and dolomite. It occurs chiefly in veins and irregular replacement deposits of limestone, but can be found in veins in igneous rocks and in contact metamorphic deposits.

Because sphalerite is a chief source of zinc, it is used mainly for metallurgy. Its zinc is used to coat metals to resist corrosion or can be used to make metal blends, e.g., for making copper, lead and silver. The zinc from sphalerite is also extracted for use in dietary supplements, batteries and rust-proofing materials.

Additional Minerals of Calhoun County

In addition to galena and sphalerite, the www.mindat.org website currently lists the presence of 29 other mineral specimens in Calhoun County. They include: barite, bauxite, beraunite, cacoxenite, calcite, chalcopyrite, fluorite, argentiferous galena, gibbsite, goethite, hematite, kaolinite, kidwellite, limonite, lithiophorite, magnetite, manganite, marble, niter, nitratine, pyrite, pyrolusite, quartz (var: chert, rock crystal), rockbridgeite, smithsonite, strengite, “wad” and wavellite.

Over 160 mines are on record in Calhoun County; many associated with the aluminum industry. Most sites are clustered in and around Jacksonville in the northeast part of the county, and near Anniston which is toward the southern edge.

Sources:

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