

# Chert and “Savannah River” Agate

**Girard, GA**

A decorative graphic consisting of several horizontal lines of varying lengths and colors (teal, light blue, white) extending from the right side of the slide.

## Chert and “Savannah River” Agate Girard, GA

Specimens are found on  
a public right-of-way.

During the 1700-1800s,  
this was part of a stage  
coach route between  
Augusta and Charleston.



Chert and “Savannah River” Agate  
Girard, GA



New material is exposed  
every time the road is  
graded.



# Girard Chert

- Sedimentary rock
- Microcrystalline, cryptocrystalline, or microfibrinous silica-rich
- Contains tiny fossil particles and microminerals

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The white outer  
crust is from  
weathering.

Chert breaks in  
conchoidal fractures  
that easily form very  
sharp edges.



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Used and traded for 16,000+ years for stone tools and projectiles (arrowheads, spear points)



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Augusta Gem and Mineral & Aiken Gem, Mineral  
and Fossil Society members have found Native  
American artifacts here



Collection of Steve Huffman  
Augusta Gem & Mineral Society

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Pottery shards

Preformed knapped chert



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Vug

Chert

**Vugs** (cavities in the rock) contain different microminerals and sometimes even fossils.

Specimen collected by  
Bill Reid

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## Microminerals in Girard chert vugs:

**barite** ◇ **druzy quartz** (clear or white crystals) ◇ **cacoxenite** (golden brown) ◇ **calcedony** (light blue) ◇ **churchite** (fine fibrous white tufts) ◇ **dufrenite** (green-brown fibrous or hemispheres) ◇ **gypsum** ◇ **hematite** (red-brown) ◇ **hyalite** ◇ **opal** (fluoresces light green) ◇ **jarosite** (brown to yellow-brown) ◇ **kidwellite** (chartreuse green) ◇ **limonite** ◇ **rockbridgeite** (black-brown crusts and spheres) ◇ **strengite** (pinkish) ◇ **varisite**

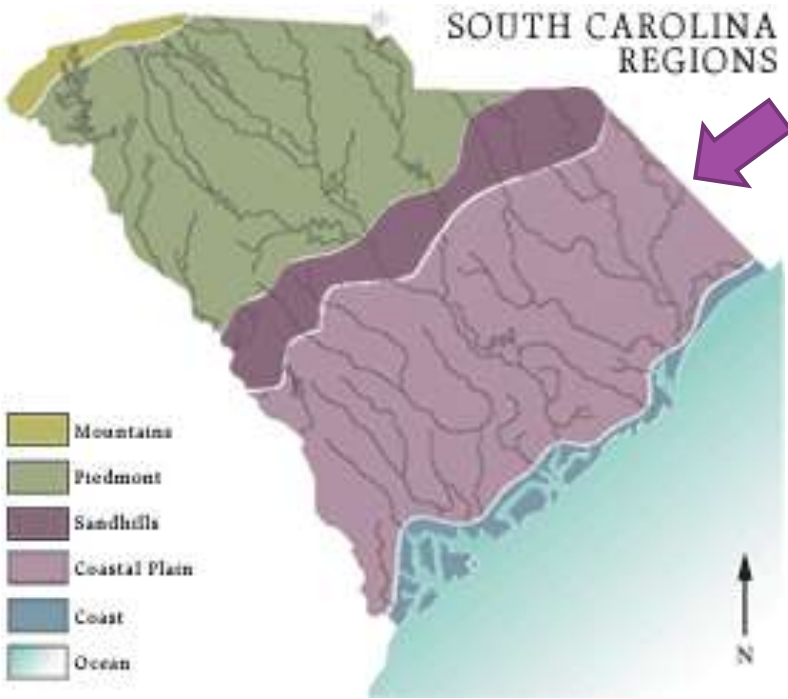
*Source:* **Kim Cochran**  
Georgia Mineral Society

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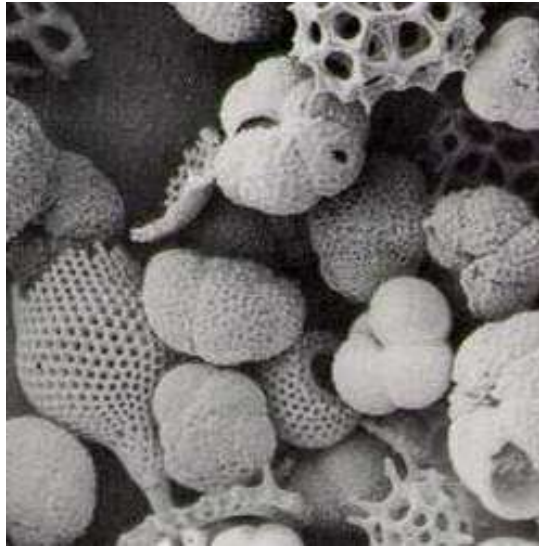




This area is located in the **Coastal Plain** geologic region of South Carolina.

Image source: SC Aquarium  
"Sculpting South Carolina"

The mix of fine-grained grey-white sand and iron-rich red soil shows that this region has been covered by seawater and shallow fresh water many times since the Cretaceous Period (144-65 million years ago).



Chert is both  
a biological and a chemical  
**sedimentary** rock.

Untold zillions of silica dioxide ( $\text{SiO}_2$ ) skeletons of diatoms (single cell), radiolarians (amoeboid protozoa), foraminifera, pteropods, coccolithophores, and sponges fell to the sea floor. As these skeletons dissolved, the  $\text{SiO}_2$  grew crystals that merged together. These deposits gradually formed continuous layers in the soft seabed sediments. With time and pressure, the layers hardened into rock.

*Image Source:* Prof. Russell Shapiro  
Oceanography -10, Lecture Notes  
College of the Redwoods



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This specimen has a perfect fossil echinoid (sea urchin) inside of the druzy quartz-filled vug.

This is why tiny particles of marine fossils can be seen inside the chert itself, and sometimes newer era marine organisms are fossilized inside of the rock as well.

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Fossil gastropod in  
a chert specimen

Collected by Julia Poole  
Aiken Gem, Mineral & Fossil Society

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## **All Club members abide by our Code of Ethics.**

- All holes dug in the road bed are filled in.
- No trash is left behind.
- No collecting on private lands.