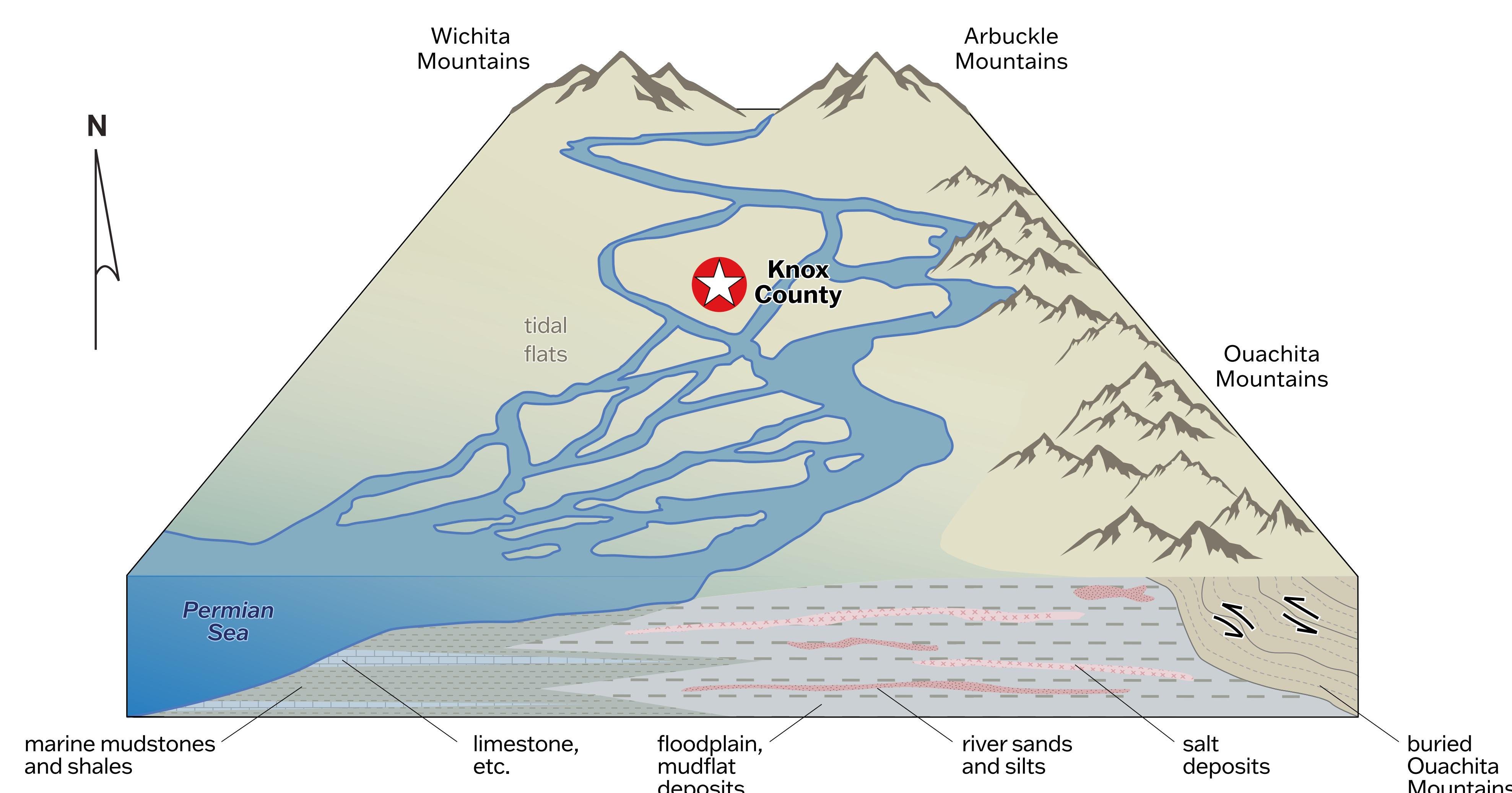


The Geology of Knox County - What the Rocks Reveal

From ancient tidal flats to modern rivers.

A Landscape Formed in Ancient Times

About 280 million years ago, the environments surrounding the site of this safety rest area (SRA), created the **Clear Fork Formation**. That landscape looked very different from what we see today. To the east and northeast, in what is now Oklahoma, the ancestral Wichita, Arbuckle, and Ouachita Mountains stood tall. Rivers flowing from these highlands drained westward toward the Permian Sea. At that time, Knox County was primarily a tidal flat. Salt deposits layered within fine-grained sediments indicate arid conditions with high heat and strong evaporation.

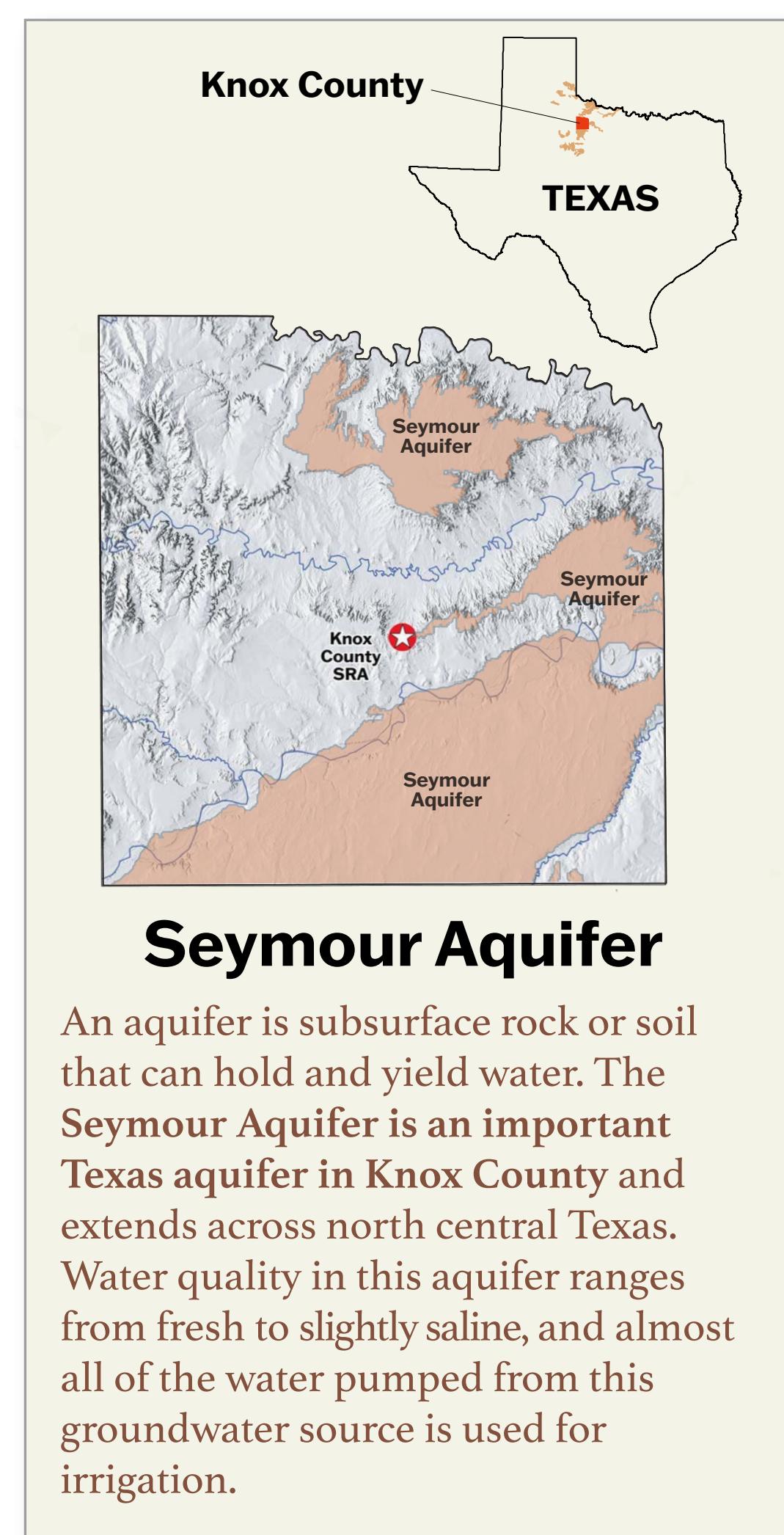


Ancient Paleoenvironment of the Clear Fork Formation, Knox County.

Today - Where Rivers Meet

Today, Knox County is part of the red-bed Plains of North Texas. Rivers have cut these plains into gently rolling terrain and this rest area sits on the watershed divide between two major river drainage networks:

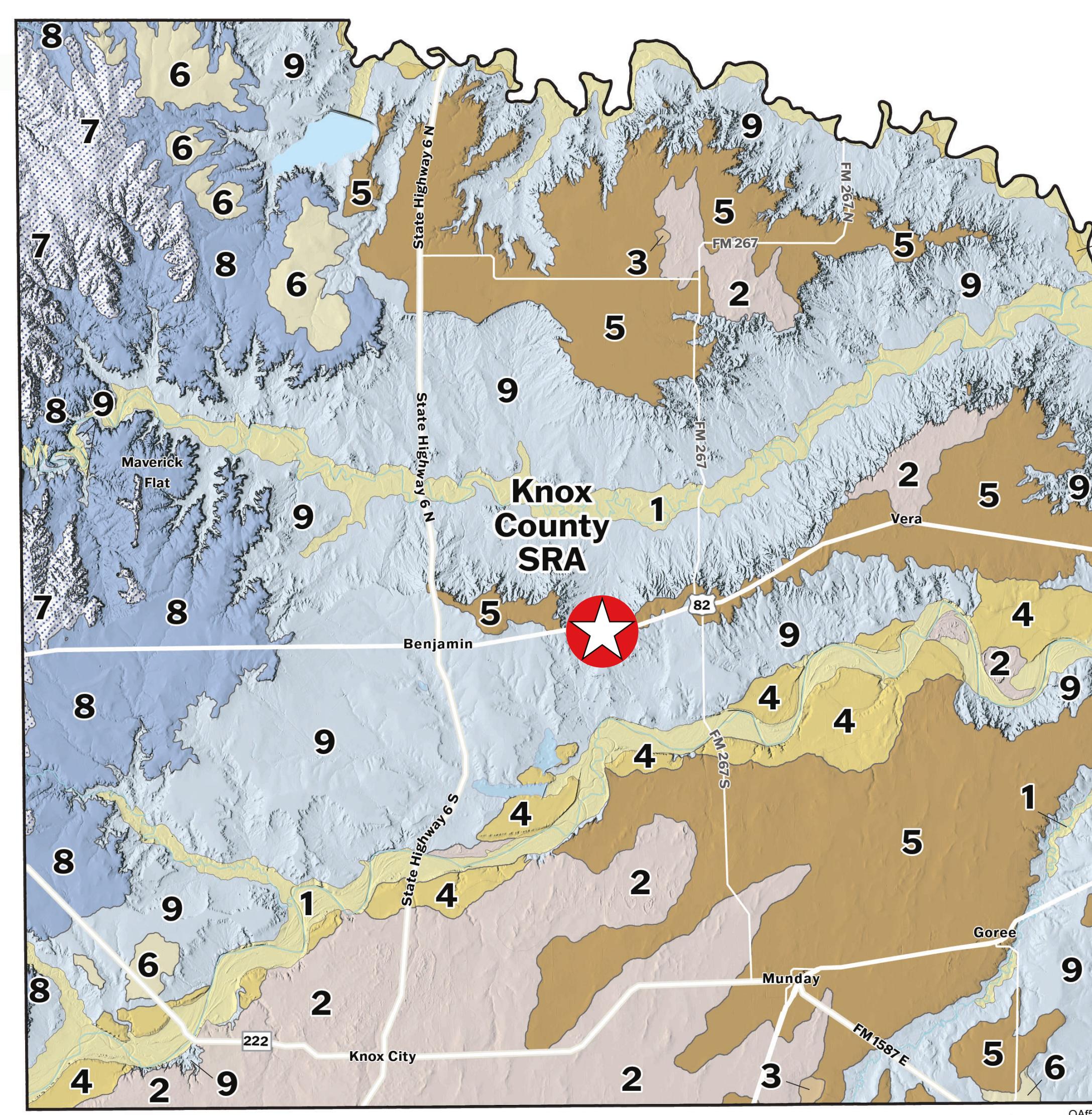
- The **Red River Watershed** where the Wichita River flows into the Red River, that feeds the Mississippi River, which then flows to the Gulf.
- The **Brazos River Watershed** from which the Brazos River drains directly into the Gulf.



Red River and Brazos River watersheds.

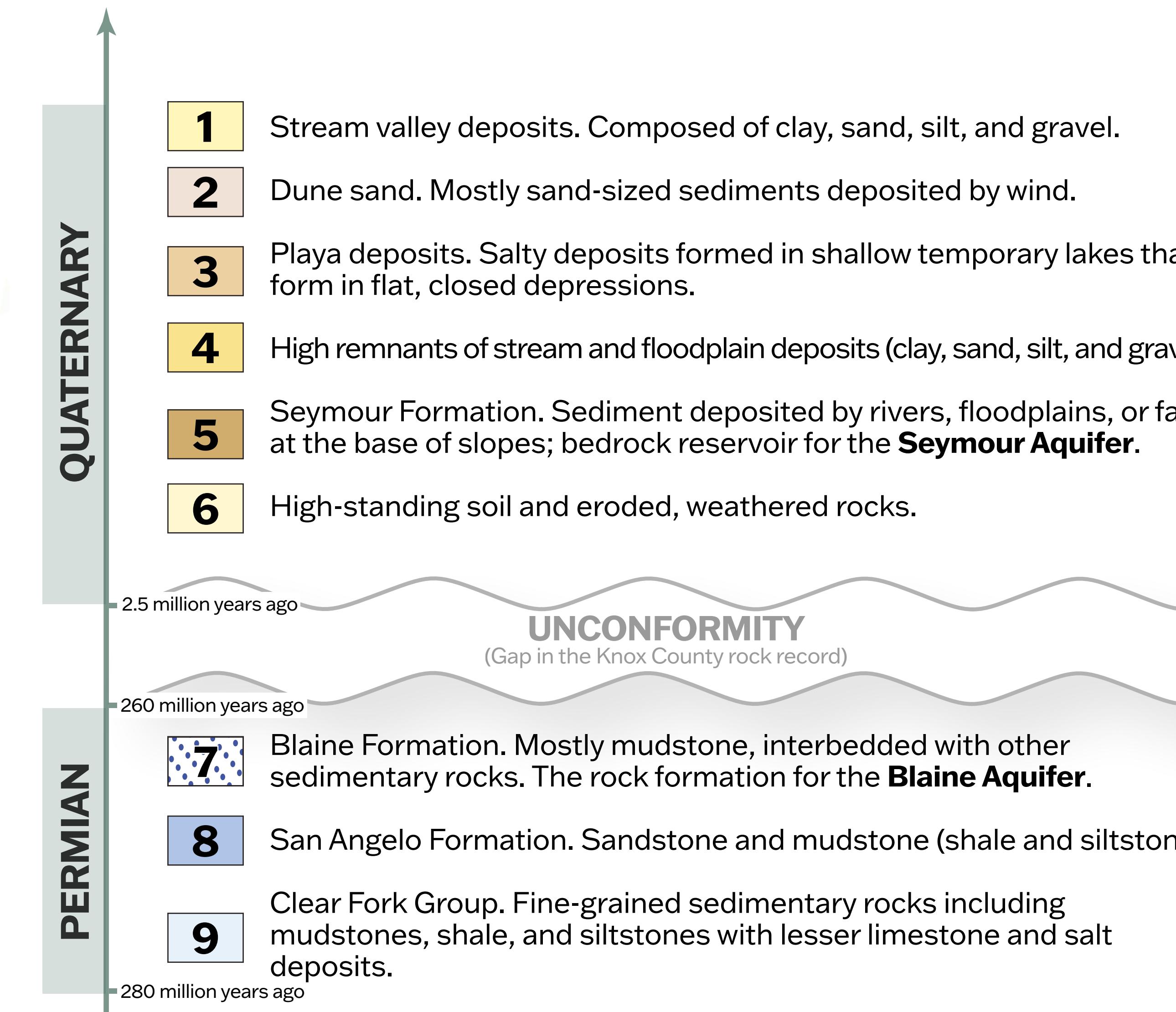
Geologic Map of Knox County

Numbers indicate location of each rock unit



Geologic Age

Shown in millions of years



Geologic Rock Units

Description of each rock unit

Major Geologic Events

What happened during this time

Pleistocene (Ice Age) 2.5 million years ago to 11,700 years ago

- Period of time of the most recent ice age.

Unconformity

A gap in the rock record of about 260 million years where scant new rock was deposited, or earlier layers may have been eroded away.

Permian Period

- Marine shorelands accumulate shales and sands.
- Shallow water bodies evaporate precipitated salt.
- Dimetrodon and Seymouria fossils discovered in this area.

Did You Know?

More than 99 percent of all life on Earth is now extinct. Most died out during five major extinction events. Of these, the most catastrophic occurred 251 million years ago, at the end of the Permian Period. Known as the **Great Dying**, this event wiped out 96 percent of all species.



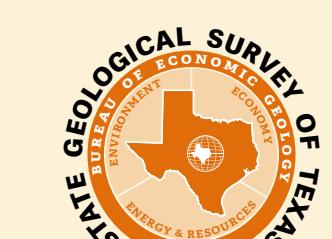
Dimetrodon

An extinct mammal-like reptile which lived in the Permian Period.

Image source: Getty Images



The primary goal of the Texas GeoSign program is to establish a network of geologic information signs to engage and educate people about the geologic history of Texas when they visit parks, highway rest areas, and other public locations.



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