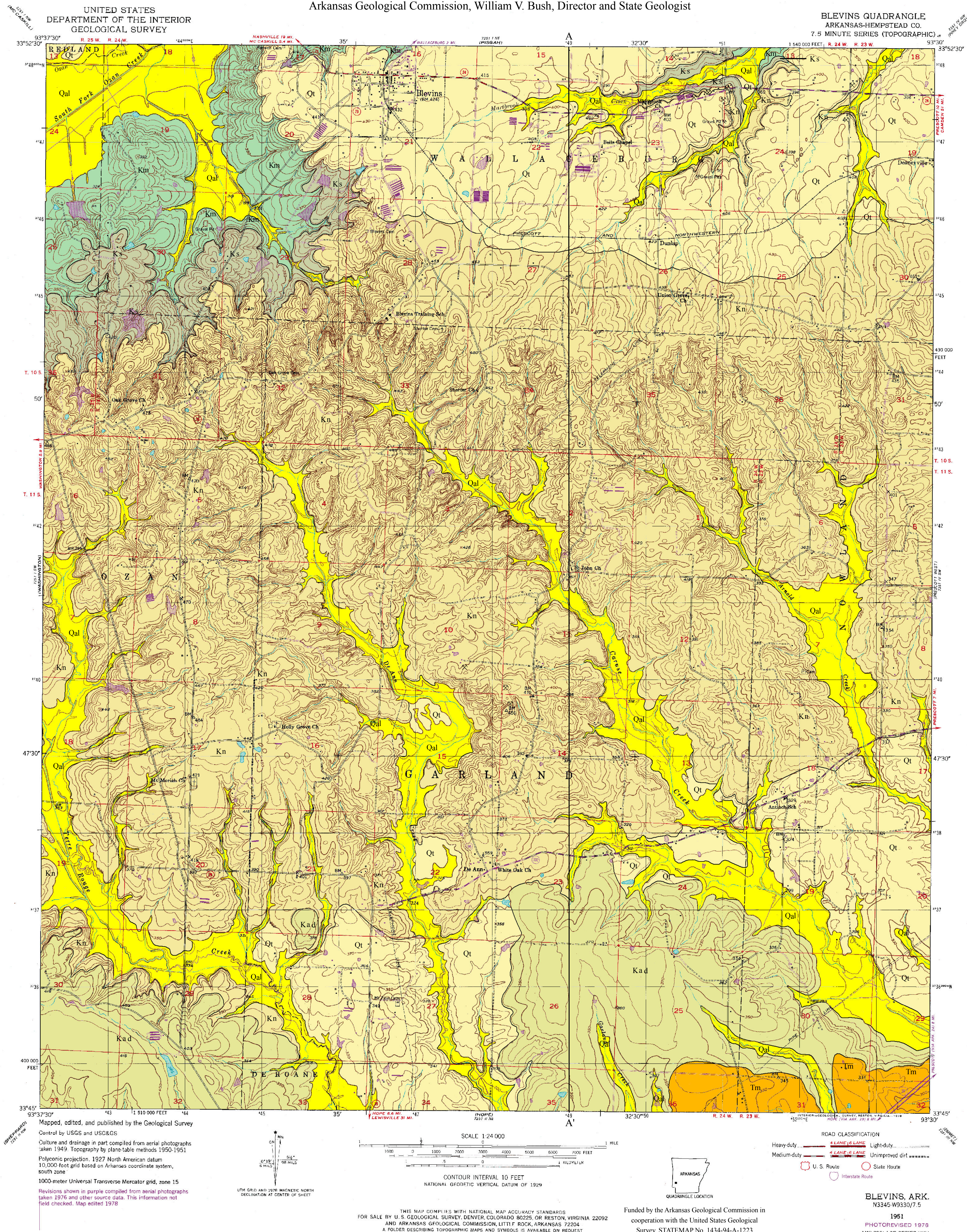


GEOLOGIC MAP OF THE BLEVINS QUADRANGLE, HEMPSTEAD COUNTY, ARKANSAS

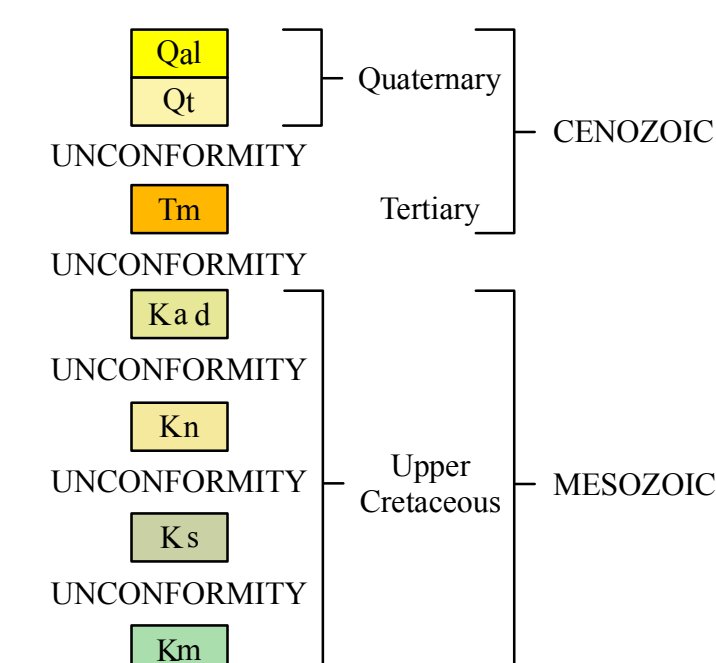
Geology by William D. Hanson, Benjamin F. Clardy and Jennifer R. Perkins
William D. Hanson and Jennifer R. Perkins
2000

Arkansas Geological Commission, William V. Bush, Director and State Geologist

BLEVINS QUADRANGLE
ARKANSAS-HEMPSTEAD CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



Correlation of Map Units



Description of Map Units

- | | |
|------------|--|
| Qal | Alluvium (<i>Quaternary</i>) – Variably sized gravel overlain by unconsolidated sand, silt, and clay comprises this unit. This unit occurs in the floodplains of streams and rivers. The sediments form a rich loam and are excellent for agriculture. Gravels, primarily novaculite, originated in the Ouachita Mountain region and from local Cretaceous formations. Thickness varies from 0 to 25 feet. Areas of alluvium are presently receiving sediment deposition. |
| Qt | Terrace Deposits (<i>Quaternary</i>) – Terrace deposits generally grade from basal gravel to silt and clay at the top. Gravels, primarily novaculite, originated in the Ouachita Mountain region and from local Cretaceous formations. Thicknesses are generally less than 50 feet. Terraces are topographic features which are former floodplains of nearby streams and/or rivers. The sediments form a rich loamy soil. The basal gravel is sometimes utilized for water-pump production and gravel-milling operations. |
| 1m | Midway Group (<i>Tertiary</i>) – the midway section exposed at the surface in Arkansas represents a marginal marine depositional environment which is former floodplains of the calcareous shale, crinaceous limestone, calcareous glauconitic sandstone, conglomerate, and light to dark bluish-gray shale. The Midway interval is normally grouped as one formation in Arkansas; however, some have classified it as the lower Clayton Formation and the upper Porters Creek Formation. The Clayton contains most of the crinaceous and sandy lithologies whereas the Porters Creek is chiefly composed of shales and silty shales. The fossils of the Midway interval include bivalves, gastropods, foraminifera, ostracodes, brachiopods, echinoids, crabs, fish and crocodile teeth fossils also found. The thickness ranges from a feather edge to as much as 130 feet on the outcrop. The lower boundary of the Midway is unconformable. |
| Kad | Arkadelphia Marl (<i>Upper Cretaceous</i>) – The Arkadelphia Marl is a dark-gray to black marl or marly clay. It contains some limy, gray sandstone, gray sandy clay, sandy limestone, concretionary limestone, and white to light brown impure chalk. The sandy marls and limestones are found near the middle of the unit, while the impure chalks are found near the top of the unit. The Arkadelphia Marl is approximately 120 to 160 feet thick in the mapped area. Fossils found in the Arkadelphia Marl include corals, bivalves, gastropods, cephalopods, shark teeth, and various microfossils. The unit rests unconformably on top of the Natchatoh Sand (<i>Upper Cretaceous</i>). |
| Kn | Natchatoh Sand (<i>Upper Cretaceous</i>) – The Natchatoh Sand is composed of unconsolidated, cross-bedded, yellowish and gray fine quartz sand, dark fossiliferous sandy limestone, coarse highly glauconitic sand, fine argillaceous blue-black sand, and bedded light-gray clay and marl. Hard fossiliferous limestones are found near the base of the unit. Near the middle of the unit a coarse, highly glauconitic lens is observed. The lens appears to be an outcrop and may be 30 to 60 feet thick. Thin bedded gray clay is interbedded with fine sands at top of the unit. The Natchatoh Sand is approximately 200 to 250 feet thick in the mapped area. Fossils found in the unit include corals, echinoderms, bryozoa, ammonites, bivalves, gastropods, cephalopods, crab remains and shark teeth. The Natchatoh Sand rests unconformably on top of the Saratoga Chalk (<i>Upper Cretaceous</i>). |
| Ks | Saratoga Chalk (<i>Upper Cretaceous</i>) – The Saratoga Chalk is a fossiliferous, hard, glauconitic chalk with beds of chalky and chalky sand if it is blue-gray when freshly exposed and weathers white, light gray, and light brown. The Saratoga Chalk is 30 to 40 feet thick in the mapped area. Fossils found in the unit include sponges, bryozoa, echinoderms, ammonites, bivalves, gastropods, cephalopods, crustaceans, and fish teeth. The Saratoga Chalk rests unconformably on top of the Marlbrook Marl (<i>Upper Cretaceous</i>). |
| Km | Marlbrook Marl (<i>Upper Cretaceous</i>) – The Marlbrook Marl is a uniform chalky marl that is blue-gray when freshly exposed and weathers white to light brown. The unit is moderately fossiliferous in the upper part and slightly fossiliferous in the lower part. Notable fossils include <i>Exogyra</i> , <i>Gryphaea</i> , and <i>Ostrea</i> oyster species and reptile remains. The Marlbrook Marl is approximately 160 feet thick in the mapped area. The Marlbrook Marl rests unconformably on top of the Ozan Formation (<i>Upper Cretaceous</i>). |

Symbols

- ⊗ Gravel and/or sand pit
- ~ Contact

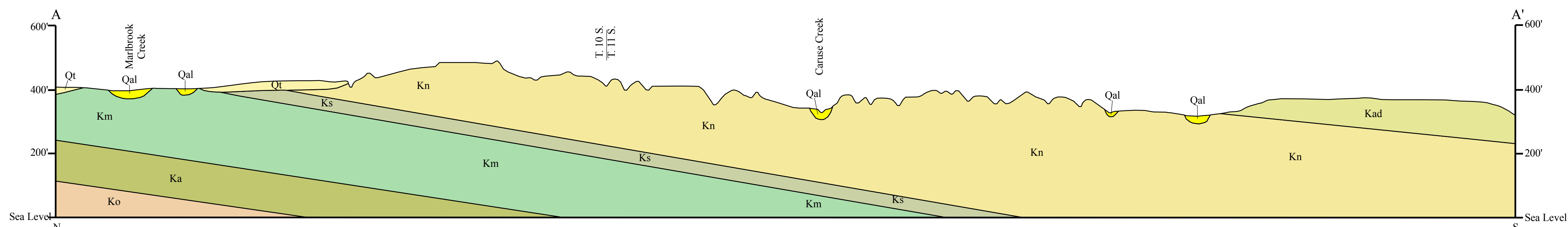
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GEOLOGIC SECTION A-A
Horizontal scale 1:24,00
Vertical scale 1" = 200'