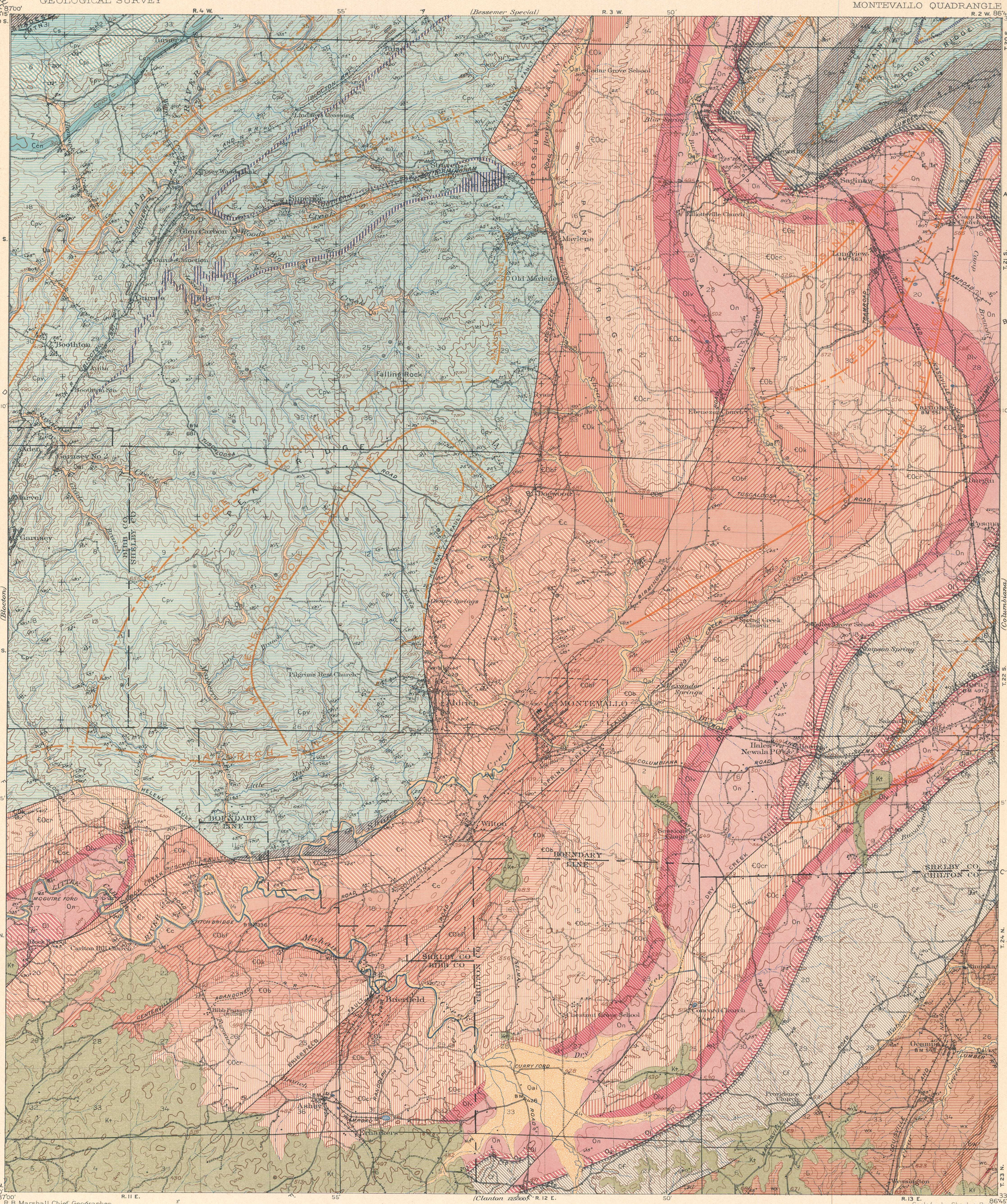
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

AREAL GEOLOGY

ALABAMA
MONTEVALLO QUADRANGLE



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Frank Sutton, Geographer in charge.
Topography by R. W. Berry.
Control by C. B. Kendall, E. A. Stearns,
A. D. Cameron, and A. K. Gilman.
Surveyed in 1907-1908.

Geology by Charles Butts.
Surveyed in 1908-1910.

EXPLANATION

SEDIMENTARY ROCKS

(Subaqueous deposits are shown by patterns of parallel lines; subaerial deposits by patterns of dots and circles)

QUATERNARY

Qal — **Alluvium**
(flood-plain deposits of present streams)

CRETACEOUS

Upper Cretaceous

Kt — **Tuscaloosa formation**
(varicolored sand, clay, and gravel)

UNCONFORMITY

CARBONIFEROUS

Pennsylvanian

Cahaba field / Coosa field — **Pottsville formation**
(sandstone, conglomerate, shale, and coal beds; sandstone members—Shades, Cs, Pine, Cpi, Chestnut, Ccn, Wolf Ridge, Cwr, and Straight Ridge, Csr; Straven conglomerate member, Csn)

Mississippian

Cpw — **Parkwood formation**
(gray shale and sandstone)

Cf — **Floyd shale**
(black or gray shale, some gray granular and impure shaly limestone, and much fine-grained gray and green sandstone)

UNCONFORMITY

Cfp — **Fort Payne chert**
(chert and limestone)

UNCONFORMITY

DEVONIAN AND POSSIBLY CARBONIFEROUS

Middle to Upper Devonian and possibly Mississippian

DCc — **Chattanooga shale and Frog Mountain sandstone**
(Chattanooga shale, black shale of Upper Devonian or Mississippian age, unconformable on Frog Mountain sandstone, soft gray sandstone of Onondaga (Middle Devonian) age)

UNCONFORMITY

ORDOVICIAN

Lower Ordovician

Olo — **Little Oak limestone**
(thick-bedded argillaceous cherty limestone, with irregular nodular chert layers; weathers to earthy network; late Chazy age)

UNCONFORMITY

Oa — **Athens shale**
(dark to black calcareous shale with thin limestone layers; late Chazy age)

UNCONFORMITY

Ol — **Lenoir limestone**
(dark-gray crystalline limestone with a little chert locally; Chazy age; conglomerate locally at bottom; in Cahaba Valley only, where underlying Mosheim limestone is possibly also present)

UNCONFORMITY

On — **Odenville and Newala limestones**
(thick-bedded gray limestone and some dolomite; very pure in upper part; Beekmantown age; absent in Birmingham Valley; Newala burned for lime)

Olv — **Longview limestone**
(cherty limestone and dolomite; some layers with fairly abundant quartz grains; Beekmantown fauna)

UNCONFORMITY

CAMBRIAN OR ORDOVICIAN *

€Oc — **Chepultepec dolomite**
(dolomite with mealy, cavernous, fossiliferous chert)

€Ocr — **Copper Ridge dolomite**
(gray crystalline dolomite with much very dense, tough, angular chert at base; pure limestone may represent pre-Copper Ridge rocks in Tennessee)

€Ob — **Bibb dolomite**
(thick-bedded blue fine-grained highly siliceous dolomite, weathering to cavernous boulders)

€Ok — **Ketona dolomite**
(thick-bedded light-gray coarse-grained dolomite of great purity; extensively used for flux)

€Obf — **Brierfield dolomite**
(thick-bedded siliceous dolomite)

CAMBRIAN

Middle Cambrian

€c — **Conasauga ("Coosa") limestone**
(medium thick-bedded dark fine-grained limestone, some dolomite, and yellowish-green shale)

Lower Cambrian

€r — **Rome ("Montevallo") formation**
(purple, red, greenish, and grayish shale, calcareous gray sandstone, and a little limestone)

RELATION UNDETERMINED

PRE-CAMBRIAN OR PALEOZOIC

Equivalent to lower part of Talladega slate of Alabama reports

wc / wcs — **Wash Creek slate**
(sericitic slate, weathering green and gray, and black slate; conglomeratic in upper part; contains quartz veins, probably gold bearing; ferruginous sandstone member, wcs, in lower part)

bw — **Brewer phyllite**
(purplish-gray sericitic schist with silky luster and some green schist)

wx — **Waxahatchee slate**
(bluish sericitic slate, weathering pink, yellowish, and gray)

Known fault

Probable fault

Concealed fault
(covered by younger deposits)

T. Overthrust side of thrust fault

40° Strike and dip of stratified rocks
Strike of vertical beds
Horizontal beds

Axis of anticline

Axis of syncline

* Ozarkian of E. O. Ulrich