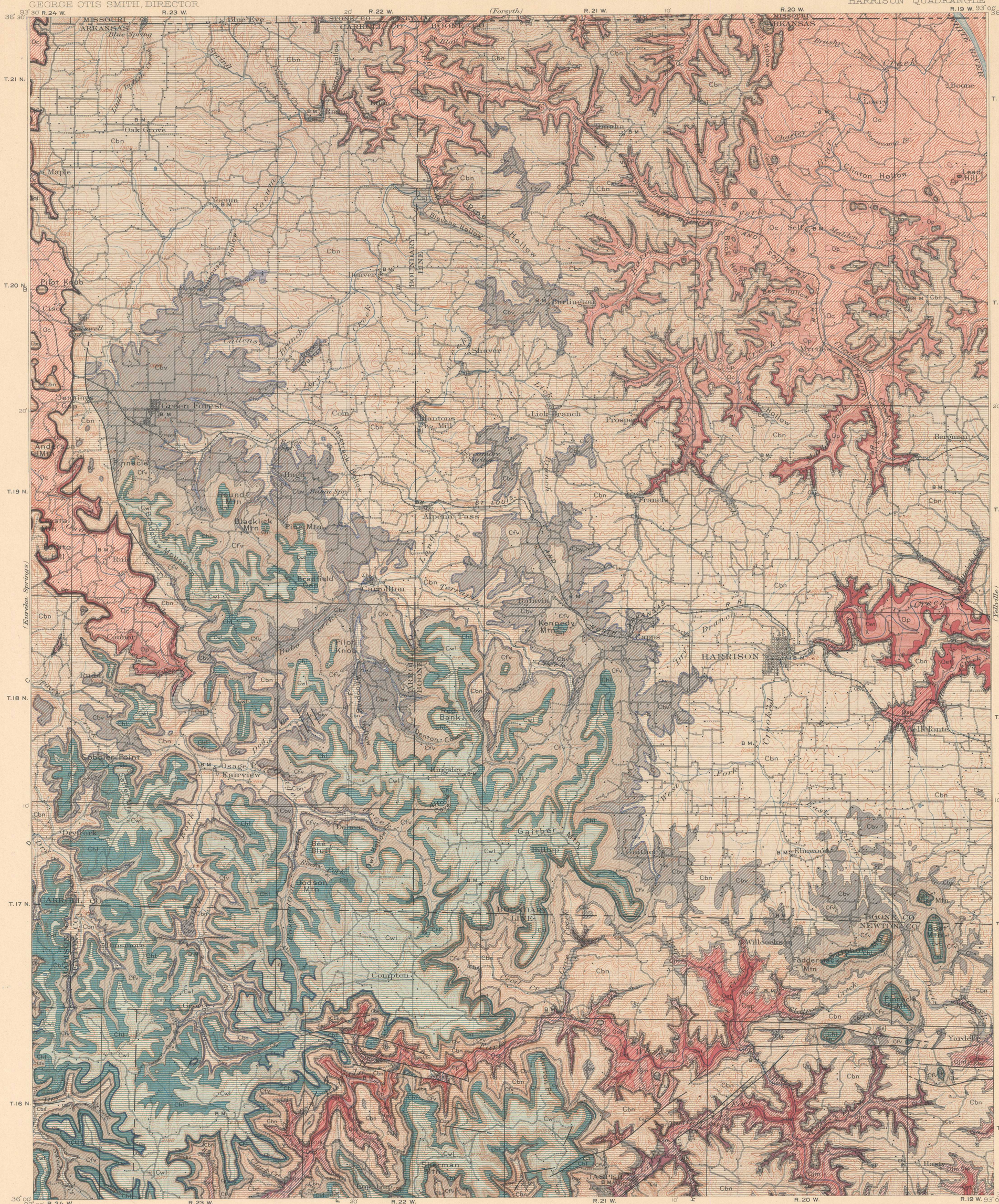
U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

AREAL GEOLOGY

ARKANSAS-MISSOURI
HARRISON QUADRANGLE



Jno. H. Renshawe and H. M. Wilson, Geographers in charge.
Topography by H. B. Blair, Duncan Hannegan, and C. L. Sadler.
Triangulation by Geo. T. Hawkins.
Surveyed in 1902-1904.

TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION 1903.

Scale $\frac{1}{125000}$

1 ½ 0 1 2 3 4 5 Miles

1 ½ 0 1 2 3 4 5 Kilometers

Contour interval 50 feet.
Datum is mean sea level.
Edition of Oct. 1914.

DIAGRAM OF TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Geology by A. H. Purdue,
assisted by H. D. Miser, and R. D. Mesler.
Surveyed in 1906, 1908, and 1910.

LEGEND

SEDIMENTARY ROCKS

(Areas of subaqueous deposits are shown by patterns of parallel lines)

CARBONIFEROUS

Pennsylvanian series

Cwl — **Winslow formation** *(black platy shale and thin-bedded and massive sandstones)*

UNCONFORMITY

Morrow group

Cb / Cbr — **Bloyd shale with Brentwood limestone member, Cbr** *(black clay shale with thin fossiliferous gray limestone beds)*

Chl — **Hale formation** *(black platy clay shale and brown calcareous sandstone with limestone lenses)*

UNCONFORMITY

Mississippian series

Cp — **Pitkin limestone** *(massive gray fossiliferous limestone)*

Cwl / Cfv — **Fayetteville shale with Wedington sandstone member, Cwt** *(black fissile shale with limestone concretions and fine-grained gray sandstone near top)*

Cbv / Chv — **Batesville sandstone with Hindsville limestone member, Chv** *(gray to brown, in part calcareous, even-bedded sandstone with gray oolitic fossiliferous limestone at base)*

UNCONFORMITY

Cbn / Csj — **Boone limestone with St. Joe limestone member, Csj** *(fossiliferous gray chert and crystalline limestone with gray to pink coarsely crystalline limestone at base)*

UNCONFORMITY

DEVONIAN

Dc / Ds — **Chattanooga shale with Sylamore sandstone member, Ds** *(black fissile clay shale and white to rusty sandstone, in part pebbly and phosphatic)*

UNCONFORMITY

ORDOVICIAN

Ocf — **Cason shale and Fernvale limestone** *(not separately mapped; gray platy calcareous shale and gray crystalline fossiliferous limestone near Jasper only)*

UNCONFORMITY

Oj — **Jasper limestone** *(bluish-gray compact limestone)*

UNCONFORMITY ?

Ojm — **Joachim limestone** *(dark-drab compact sandy magnesian limestone)*

Osp — **St. Peter sandstone** *(massive saccharoidal sandstone)*

UNCONFORMITY

Oet — **Everton limestone** *(dove-colored compact limestone and friable white sandstone)*

UNCONFORMITY

Op — **Powell limestone** *(greenish-gray to light-gray magnesian limestone)*

UNCONFORMITY

Oc — **Cotter dolomite** *(gray dolomite, containing banded nodular chert and thin beds of saccharoidal sandstone)*

Faults

X *Prospects.* Lead and zinc

Economic data. *Zinc and lead ores fill fractures in bedded breccia and along faults in* Cbn, Oj, Ojm, Oet, *and* Op. *Glass and building sands can be obtained from* Osp *limestone for lime and cement from* Oet, Oj, Csj, Cbn, Chv, *and* Op, *shale for brick and cement from* Dc, Cfv, Chl, *and* Cwl; *stone for building, ballast, and road material from most of the formations in the area. Stream deposits yield sand and gravel; residual clays are suitable for brick.*