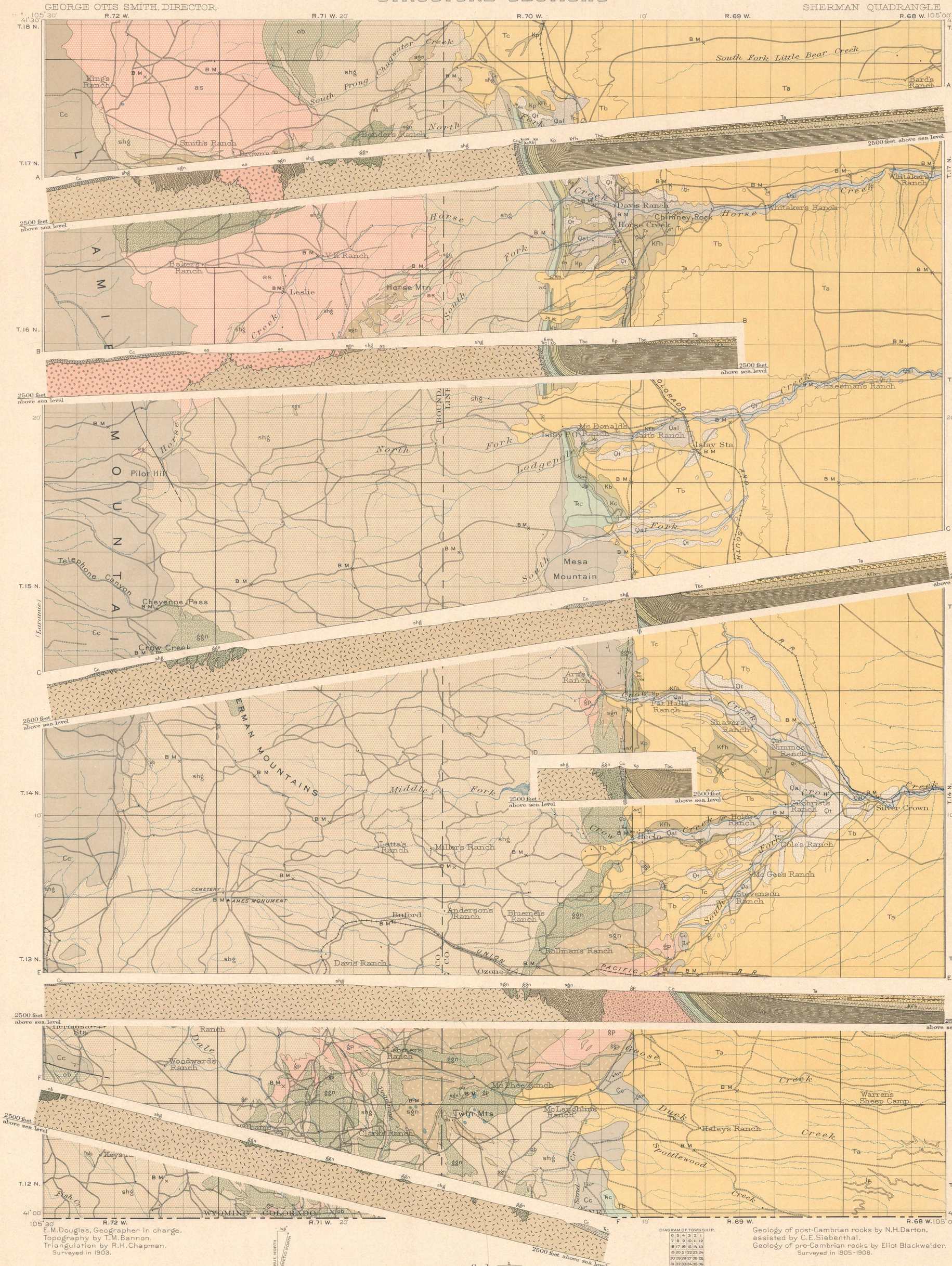
U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

STRUCTURE SECTIONS

WYOMING
SHERMAN QUADRANGLE



E.M. Douglas, Geographer in charge.
Topography by T.M. Bannon.
Triangulation by R.H. Chapman.
Surveyed in 1903.

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

Edition of Sept. 1909.

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 of post-Cambrian rocks by N.H. Darton, assisted by C.E. Siebenthal.
Geology of pre-Cambrian rocks by Eliot Blackwelder.
Surveyed in 1905-1908.

LEGEND

SEDIMENTARY ROCKS

SHEET SYMBOL — SECTION SYMBOL

QUATERNARY

Recent

Qal — **Alluvium** (only the larger areas shown)

Pleistocene

Qt — **Higher terrace deposits** (not everywhere distinguishable from local products of disintegration)

TERTIARY

Miocene

Ta — **Arikaree formation** (sand, gravel, bowlders, coarse sandstone, and a lens of limestone, ls)

UNCONFORMITY

Oligocene — White River group

Tb — **Brule clay** (mostly pale-buff, massive, hard, sandy clay)

Tc — Combined with Brule clay on sections — **Chadron sandstone** (mostly coarse, hard, brown, massive sandstone)

UNCONFORMITY

CRETACEOUS

Upper Cretaceous — Montana group

Kfh — **Fox Hills sandstone** (soft, gray, massive sandstone with gray shale)

Kp — **Pierre shale** (dark shale grading up into sandstone)

Upper Cretaceous — Colorado group

Kn — **Niobrara limestone** (chalky and impure in upper portion)

Kb — **Benton shale** (gray shale with concretions near top and sandstone in lower part)

Kc — **Cloverly formation** (hard, massive, gray to brown sandstone with purple to gray shale in middle)

CRETACEOUS OR JURASSIC

Km — **Morrison formation** (massive, light greenish-gray to maroon shale and thin limestone)

JURASSIC

Js — Combined with Morrison formation on sections — **Sundance formation** (buff, slabby sandstone and gray, sandy shale)

UNCONFORMITY

TRIASSIC OR PERMIAN?

Ꞧc — **Chugwater formation** (red, sandy shale and sandstone, with thin limestones and thick beds of gypsum)

UNCONFORMITY?

CARBONIFEROUS

Pennsylvanian

Cc — **Casper formation** (limestone and red and gray sandstone)

IGNEOUS ROCKS

PRE-CAMBRIAN

shg — **Sherman granite** (coarse pink granite penetrated by numerous dikes)

as — **Anorthosite** (gray anorthosite and diorite)

gp — **Granite porphyry** (gray quartz-feldspar-hornblende porphyries)

ob — **Older basic intrusives** (dark diorite, gabbro, syenite, and granodiorite, some gneissic; only the larger masses shown)

ggn — **Granite gneiss** (coarse, grayish-pink, biotite gneiss, and fine, pink, muscovite gneiss)

sgn — **Schist and gneiss** (schistose basic and acidic lavas, with doubtfully sedimentary schists)

Faults

Concealed faults (covered by later deposits)

80° Strike and dip of stratified rocks
Strike of vertical strata