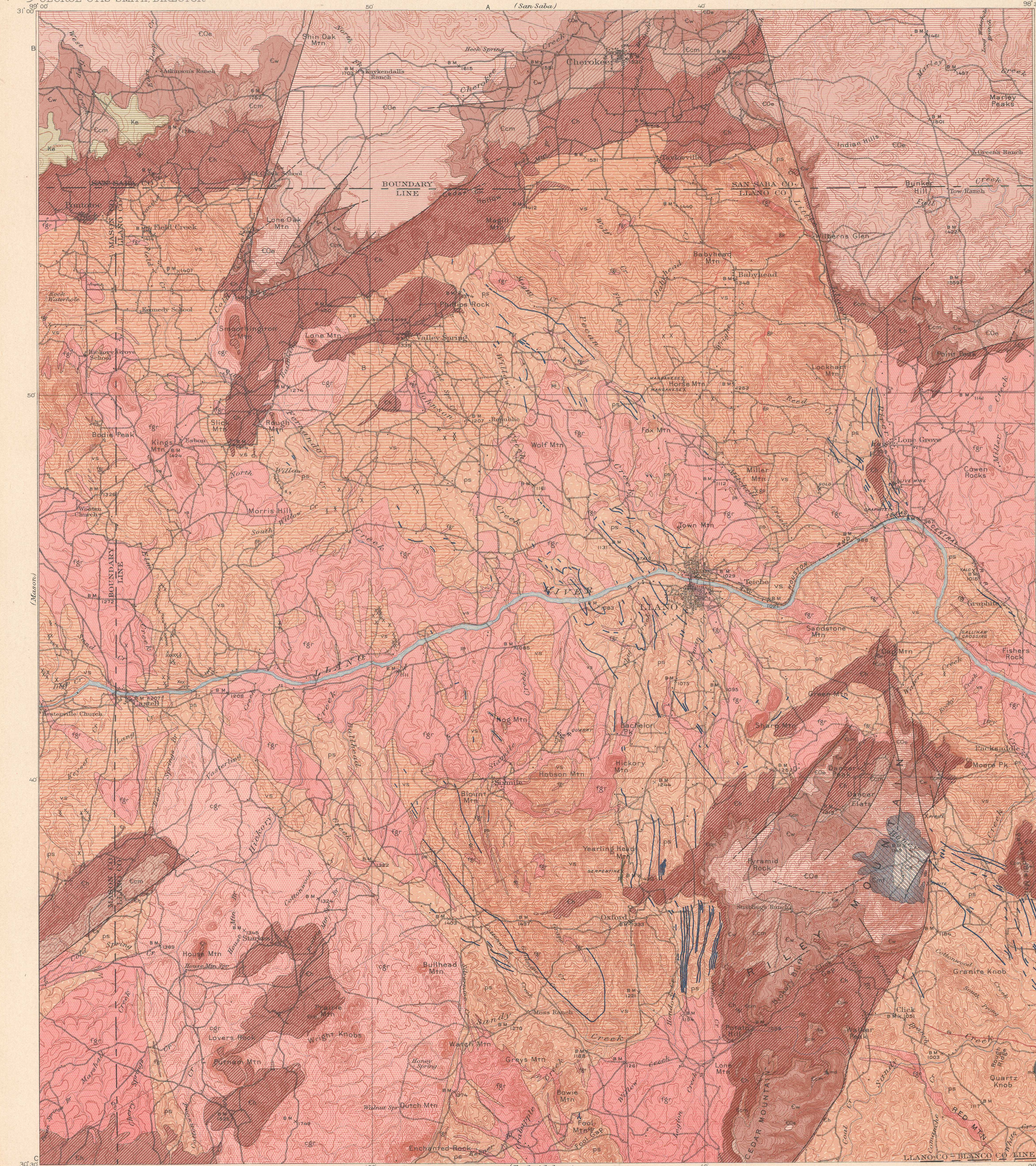


AREAL GEOLOGY

TEXAS
LIANO QUADRANGLE



LEGEND

SEDIMENTARY ROCKS
(Areas of subaqueous deposits are shown by patterns of parallel lines; metamorphism is indicated by textures combined with the line patterns)

Comanche series

Edwards limestone
(massive white limestone)

UNCONFORMITY

Smithwick shale
(softly bedded black carbonaceous shale)

Marble Falls limestone
(dark and light gray dark blue and black limestones, locally carrying abundant dark chert nodules)

UNCONFORMITY

Ellenburger limestone
(light gray to brown limestone and chert, locally carrying much chert)

Wilberns formation
(thin bedded flaggy limestone, shale, and shaly limestone with thin conglomeratic layers)

Cap Mountain formation
(bluish and grayish limestone, sandy limestone, and glauconitic sandstone)

Hickory sandstone
(conglomeratic and white and red sandstone, in part calcareous)

UNCONFORMITY

Packsaddle schist
(amphibolite, gneiss, and mica schist and limestone, some basic intrusions included in mapping)

Valley Spring gneiss
(acidic gneiss, quartzite, light-colored mica schist, wollastonite, beryl, and limestone)

Llano series (metamorphic)

Limestone beds
(in Packsaddle schist and Valley Spring gneiss)

IGNEOUS ROCKS
(Areas of igneous rocks are shown by patterns of triangles and rhombs)

Coarse-grained granite
(batholithic masses)

Fine to medium grained granite
(large masses and dikes)

Granite-porphphyry dikes
(containing opaline quartz phenocrysts)

Serpentinized peridotite or pyroxenite
(small masses or dikes)

Metadiorite and metagabbro
(small masses or dikes)

Felsite dikes

Faults

* Quarries monumental and building stones

x Prospects iron, unless otherwise specified

E. M. Douglas, Geographer in charge.
Triangulation by E. M. Douglas.
Topography by Arthur Stiles and J. F. McBeth.
Surveyed in 1898-99.
Culture revised in 1909 by D. B. Penick and C. P. Jamerson.

(Fredericksburg)
Scale 1:25,000
1 1/2 0 1 2 3 4 5 Miles
1 1/2 0 1 2 3 4 5 Kilometers
Contour interval 25 feet.
Datum is mean sea level.
The elevations indicated are now 1911, known to be 8 feet too high.
Edition of May, 1911.

Geology by Arthur C. Spencer, Sidney Paige, and Fred H. Kay.
Surveyed in 1908 and 1909.