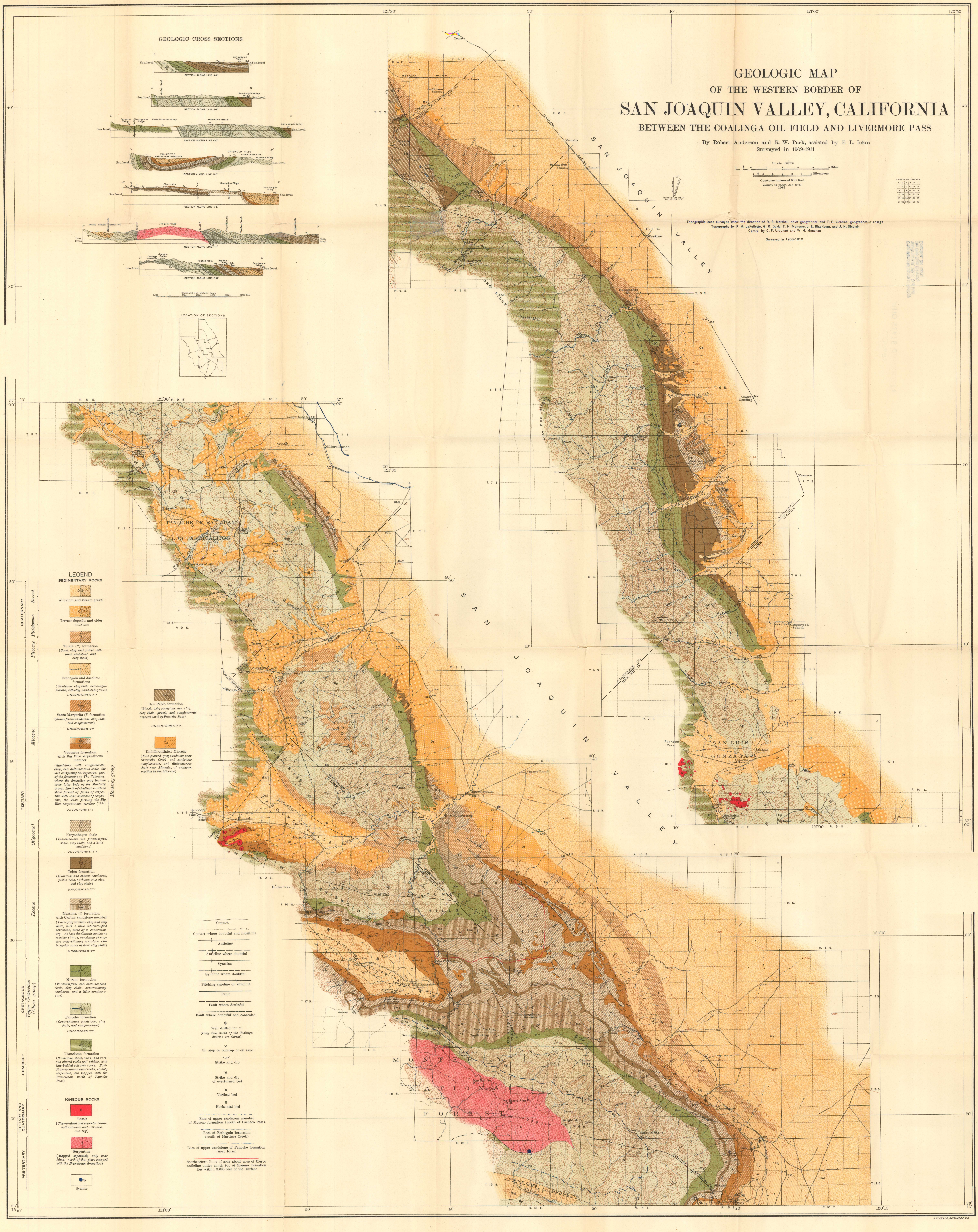

GEOLOGIC MAP
OF THE WESTERN BORDER OF
SAN JOAQUIN VALLEY, CALIFORNIA
BETWEEN THE COALINGA OIL FIELD AND LIVERMORE PASS

By Robert Anderson and R. W. Pack, assisted by E. L. Ickes
Surveyed in 1909-1911

Scale $\frac{1}{125,000}$
1 ½ 0 1 2 3 4 5 Miles
1 ½ 0 1 2 3 4 5 Kilometers
Contour interval 100 feet.
Datum is mean sea level.
1915

TRUE NORTH
MAGNETIC NORTH
17½°
APPROXIMATE MEAN DECLINATION 1910.

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

Topographic base surveyed under the direction of R. B. Marshall, chief geographer, and T. G. Gerdine, geographer in charge
Topography by R. M. LaFollette, G. R. Davis, T. H. Moncure, J. E. Blackburn, and J. H. Sinclair
Control by C. F. Urquhart and W. H. Monahan

Surveyed in 1908-1910

GEOLOGIC CROSS SECTIONS

SECTION ALONG LINE A-A′

SECTION ALONG LINE B-B′

SECTION ALONG LINE C-C′

SECTION ALONG LINE D-D′

SECTION ALONG LINE E-E′

SECTION ALONG LINE F-F′

SECTION ALONG LINE G-G′

Horizontal and vertical scale
5,000 0 5,000 10,000 15,000 20,000 25,000 Feet

LOCATION OF SECTIONS

LEGEND
SEDIMENTARY ROCKS

QUATERNARY

Recent

Qal
Alluvium and stream gravel

Pleistocene

Qt
Terrace deposits and older alluvium

TERTIARY

Pliocene

Tt
Tulare (?) formation
(*Sand, clay, and gravel, with some sandstone and clay shale*)

Tej
Etchegoin and Jacalitos formations
(*Sandstone, clay shale, and conglomerate, with clay, sand, and gravel*)

UNCONFORMITY ?

Miocene

Tsp
San Pablo formation
(*Bluish, ashy sandstone, ash, clay, clay shale, gravel, and conglomerate exposed north of Panoche Pass*)

UNCONFORMITY ?

Tu
Undifferentiated Miocene
(*Fine-grained gray sandstone near Orestimba Creek, and sandstone conglomerate, and diatomaceous shale near Llanada, of unknown position in the Miocene*)

Tsm
Santa Margarita (?) formation
(*Fossiliferous sandstone, clay shale, and conglomerate*)

UNCONFORMITY

Monterey group

Tbb
Tv
Vaqueros formation with Big Blue serpentinous member
(*Sandstone, with conglomerate, clay, and diatomaceous shale, the last composing an important part of the formation in The Vallecitos, where the formation may include some later beds of the Monterey group. North of Coalinga contains shale formed of flakes of serpentine with some bowlders of serpentine, the whole forming the Big Blue serpentinous member* (Tbb)

UNCONFORMITY

Oligocene?

Tk
Kreyenhagen shale
(*Diatomaceous and foraminiferal shale, clay shale, and a little sandstone*)

UNCONFORMITY ?

Eocene

Ttj
Tejon formation
(*Quartzose and arkosic sandstone, pebble beds, carbonaceous clay, and clay shale*)

UNCONFORMITY

Tm
Tmc
Martinez (?) formation with Cantua sandstone member
(*Dark-gray to black clay and clay shale, with a little interstratified sandstone, some of it concretionary. At base the Cantua sandstone member* (Tmc), *consisting of massive concretionary sandstone with irregular zones of dark clay shale*)

UNCONFORMITY

CRETACEOUS

Upper Cretaceous (Chico group)

Km
Moreno formation
(*Foraminiferal and diatomaceous shale, clay shale, concretionary sandstone, and a little conglomerate*)

Kp
Panoche formation
(*Concretionary sandstone, clay shale, and conglomerate*)

UNCONFORMITY

JURASSIC?

Jf
Franciscan formation
(*Sandstone, shale, chert, and various altered rocks and schists, with interbedded volcanic rocks. Post-Franciscan intrusive rocks, notably serpentine, are mapped with the Franciscan north of Panoche Pass*)

IGNEOUS ROCKS

TERTIARY AND QUATERNARY

b
Basalt
(*Close-grained and vesicular basalt, both intrusive and extrusive, and tuff*)

PRE-TERTIARY

s
Serpentine
(*Mapped separately only near Idria; north of that place mapped with the Franciscan formation*)

● sy
Syenite

Contact

Contact where doubtful and indefinite

Anticline

Anticline where doubtful

Syncline

Syncline where doubtful

Pitching syncline or anticline

Fault

Fault where doubtful

Fault where doubtful and concealed

ϕ
Well drilled for oil
(*Only wells north of the Coalinga district are shown*)

×
Oil seep or outcrop of oil sand

35°
Strike and dip

Strike and dip of overturned bed

Vertical bed

⊕
Horizontal bed

Base of upper sandstone member of Moreno formation (north of Pacheco Pass)

Base of Etchegoin formation (south of Martinez Creek)

Base of upper sandstone of Panoche formation (near Idria)

Southeastern limit of area about nose of Ciervo anticline under which top of Moreno formation lies within 3,000 feet of the surface

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