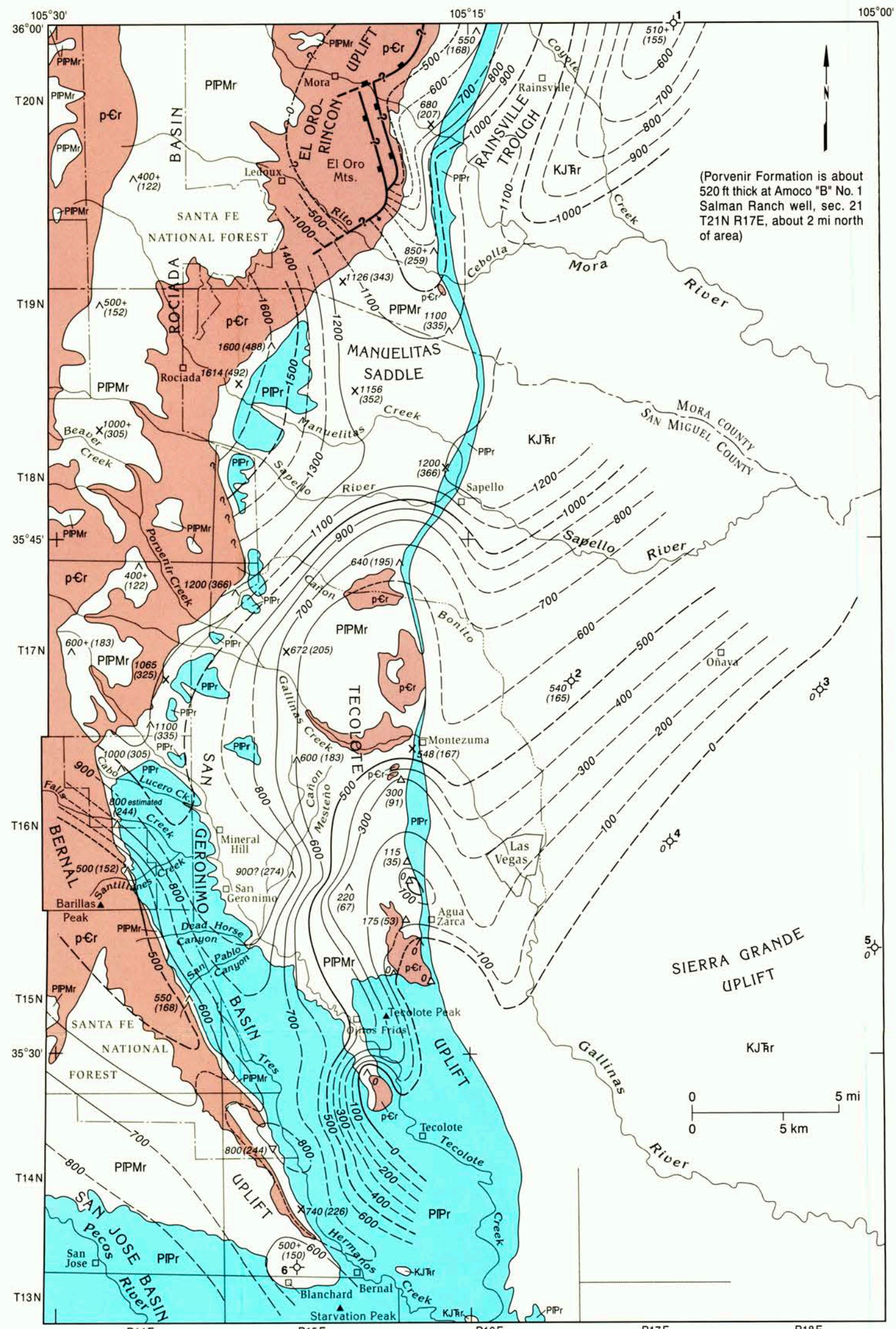


A. Sandia Formation. Late Morrowan and Atokan



B. Porvenir Formation. Early through late Desmoinesian

**EXPLANATION**

---500--- Isopach—Thickness in feet. Solid line where all or part of the formation crops out at the surface or nearby; long dashed where formation is in subsurface; short dashed where formation has been removed completely from outcrop areas by Cenozoic erosion. Zero isopach queried where hypothetical on Hermit Peak and El Oro-Rincon uplifts. Interval is 100 ft (about 30 m) in most of area and 500 ft (about 150 m) where isopachs are closely spaced or where thickness data are widely spaced or hypothetical. In outcrop areas isopachs are hypothetically connected or restored across places where formation has been partly or completely eroded to represent the probable thickness at the time when the overlying formation was deposited.

--- High-angle fault inferred to have been active during deposition of formation—Bar and ball on downthrown side; dashed where approximately located; queried where probable.

--- Reverse fault inferred to have been active during deposition of formation—Blocks on upthrown side; dashed where approximately located; queried where probable. Palaeospastic restoration not made; trace is shown in its Cenozoic location.

**Thickness**—Upper number is feet; number in parentheses is meters. Locality of measurement and thickness of section illustrated in this report.

X 1150 (350) Locality of thickness measured or determined from topographic map during mapping.

A 180 (55) Locality of measurement and thickness of section from Northrop et al. (1946).

Δ 740 (226) Locality of measurement and thickness of section from Read et al. (1944).

▽ 690 (210) Locality of measurement and thickness of section from Sutherland and Hatlow (1973).

\* 765 (233) Locality of measurement of partial thickness where base of formation is concealed, or top of formation is eroded, or where part is missing because of faulting.

② 505 (154) Locality of well and thickness; number refers to list below.

**BASE-MAP UNITS**

KJTr Cretaceous, Jurassic, and Triassic rocks, undivided; mainly in Cenozoic Las Vegas basin.

PPr Permian rocks and Permian and Pennsylvanian Sangre de Cristo Formation, undivided.

PPMr Permian and Pennsylvanian Alamitos Formation, Pennsylvanian, and Mississippian rocks, undivided.

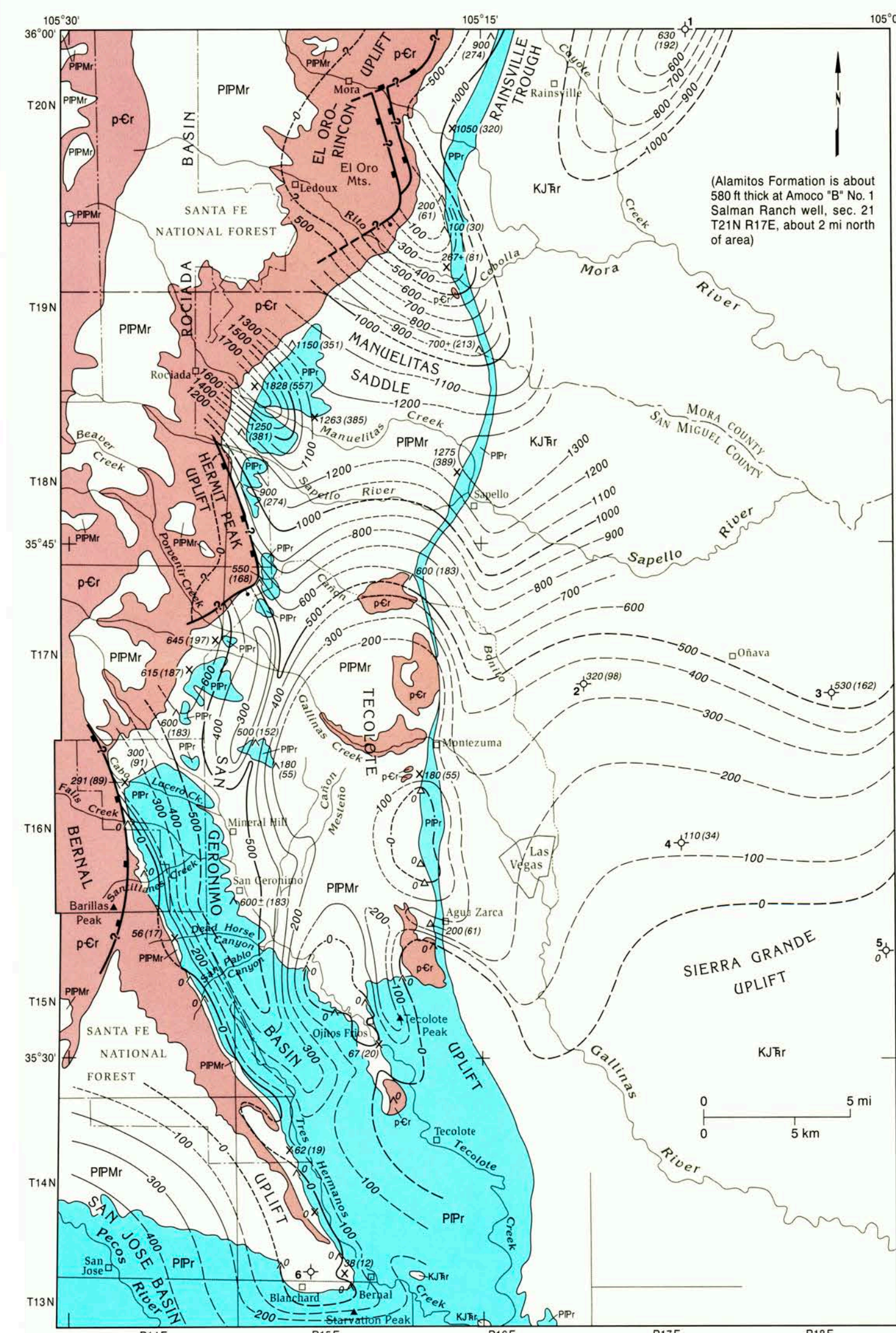
pCr Precambrian rocks.

**LIST OF WELLS**

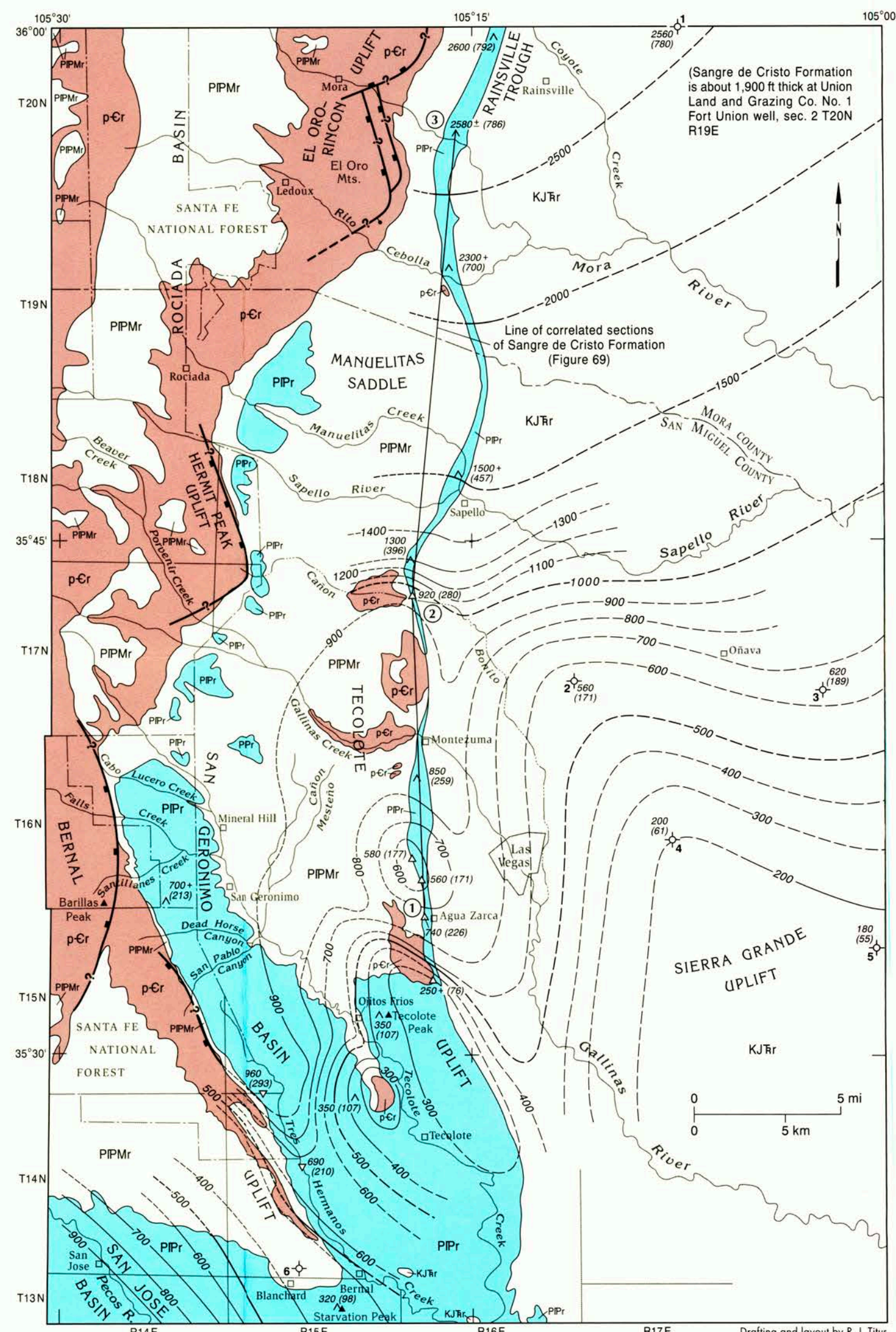
Locations are those assigned by the companies; located in projected land net in the unsurveyed Las Vegas and Mora Land Grants.

1. Amoco Production Co. "A" No. 1 Salman Ranch. Sec. 3 T20N R17E. Total depth 10,133 ft (3,088 m); bottomed in Precambrian rocks.
2. J. D. Hancock No. 1 Sedberry. Sec. 25 T17N R18E. Total depth 5,131 ft (1,564 m); bottomed in Precambrian rocks.
3. Continental Oil Co. No. 1 Shoemaker-Reed. Sec. 28 T17N R18E. Total depth 4,519 ft (1,377 m); bottomed in Precambrian rocks.
4. Continental Oil Co. No. 1 Leatherwood-Reed. Sec. 15 T16N R17E. Total depth 3,911 ft (1,192 m); bottomed in Precambrian rocks.
5. Phillips Petroleum Co. No. 1 Leatherwood. Sec. 2 T15N R18E. Total depth 2,772 ft (845 m); bottomed in Precambrian rocks.
6. Rockwell No. 1 Des Marias. Surface rocks are Porvenir Formation. Total depth 552 ft (168 m); bottomed in Precambrian rocks.

NOTE on Sandia Formation at Amoco "A" No. 1 Salman Ranch well: Sandia is about 5,090 ft thick. However, about 310 ft is apparently repeated by a Cenozoic west-dipping reverse fault at about 6,000 ft depth. Steep dips below the fault also cause some apparent thickening; therefore, the original thickness may have been less than the 4,700 ft shown at this well on Map A.



C. Alamitos Formation. Late Desmoinesian through early Wolfcampian south of vicinity of Gallinas Creek; late Desmoinesian, Missourian, and locally Virgilian to the north



D. Sangre de Cristo Formation. Wolfcampian at the south; Virgilian (?) and Wolfcampian north of Rito Cebolla

# Isopach maps of Pennsylvanian and Lower Permian rocks of southeastern Sangre de Cristo Mountains and western part of Las Vegas Basin. Labelled structural features are Paleozoic.

by Elmer H. Baltz, 1999  
Lakewood, Colorado 80226