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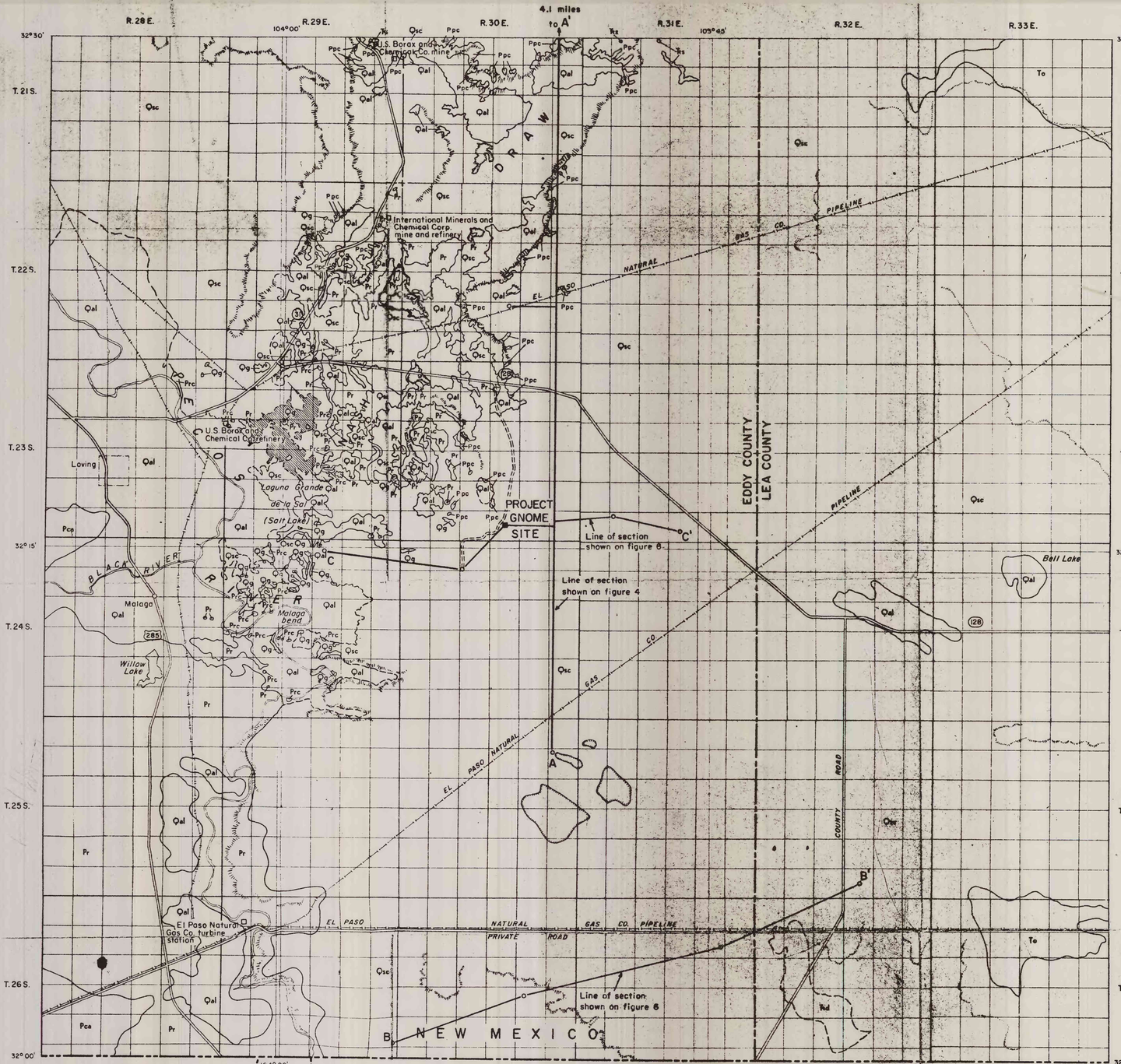


EXPLANATION

Recent

Qsc — Sand and caliche (includes playa lake deposits)

Wind-blown sand deposits ranging from a thin cover to conspicuous dunes several tens of feet thick. Caliche mantles most of surface beneath wind-blown sand. Playa lake deposits of sand and silt in shallow depressions. Yields no water to wells except in occasional large playa lakes.

Qal — Alluvium

Silt, sand, and gravel with scattered beds of conglomerate and caliche. Yields large quantities of water to wells west of the Pecos River.

Pleistocene(?)

Qg — Gatuna Formation

Clay, silt, sand, gravel, and conglomerate. Reddish-orange to gray. Yields small quantities of water to wells in parts of area.

Pliocene

To — Quallala Formation

Silt, sand, and gravel. Yields fairly large quantities of water to wells north and east of area.

Upper Triassic

Rd / Rs — Dockum Group

Rd, upper red beds, shale, siltstone, and sandstone. Red to brown. May yield small quantities of water to wells in some localities. Rs, Santa Rosa Sandstone, sandstone, conglomeritic, interbedded with claystone. Yields small quantities of water to wells in places in eastern part of area.

Ochoa

Ppc — Pierce Canyon Redbeds (Dewey Lake Redbeds of West Texas)

Siltstone, sandy shale, and sandstone. Red to reddish-orange with greenish-gray spots. Not known to yield water to wells in area.

Pr / Prc — Rustler Formation

Pr, includes Forty-niner Member, Magenta Member, Tamarisk Member, and lower member. Gypsum, siltstone, claystone, dolomitic anhydrite, and sandstone. Gray-to white gypsum and red-to reddish-brown siltstone, claystone, dolomitic anhydrite, and sandstone. May yield water to wells in parts of area. Prc, Culebra Dolomite Member, (includes dolomite breccia in Nash Draw). Dolomite, grayish-white. Yields water to wells in Nash Draw and surrounding area. Principal aquifer at site of Project Gnome.

Pca — Castile Formation

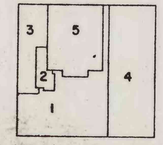
Gypsum and siltstone. Gray-to red. Not known to yield water to wells in area.

QUATERNARY — TERTIARY — TRIASSIC — PERMIAN

Contact — Dashed where approximate

Fault

0 1 2 3 4 5 6 7 Miles



Geologic data adapted from following sources:

1. Dane, C. H., and Bachman, G. O., 1958, Preliminary geologic map of the southeastern part of New Mexico: U.S. Geol. Survey Misc. Geol. Inv. Map 1-256.

2. Lang, W. B., 1938, Geology of the Pecos river between Laguna Grande de la sal and Pierce Canyon, in Robinson, T. W., and Lang, W. B., 1938, Geology and ground-water conditions of the Pecos River valley in the vicinity of Laguna Grande de la Sal, with special reference to the salt content of the river water: New Mexico State Engineer 12th-13th Bienn. Repts. 1934-38.

3. Motts, W. S., 1959, in Bjorklund, L. J., and Motts, W. S., 1959, Geology and water resources of the Carlsbad area, Eddy County, N. Mex.: U.S. Geol. Survey, open-file report.

4. Nicholson, Alexander, Jr., and Clebsch, Alfred, Jr. 1960, Geology and ground-water conditions in southern Lea County, N. Mex.: U.S. Geol. Survey open-file report.

5. Vine, J. D., 1959, Geologic map of the Nash Draw Quadrangle, Eddy County, N. Mex.: U.S. Geol. Survey, TEM 830, open-file report.

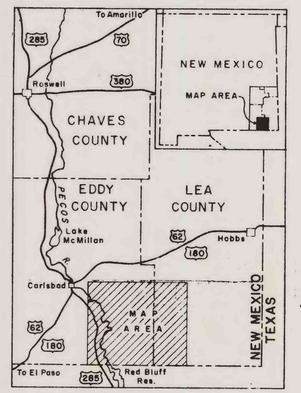


Figure 2.-- Map showing areal geology of the Project Gnome area, Eddy and Lea Counties, N. Mex.

TEI 802 (Cooper)

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