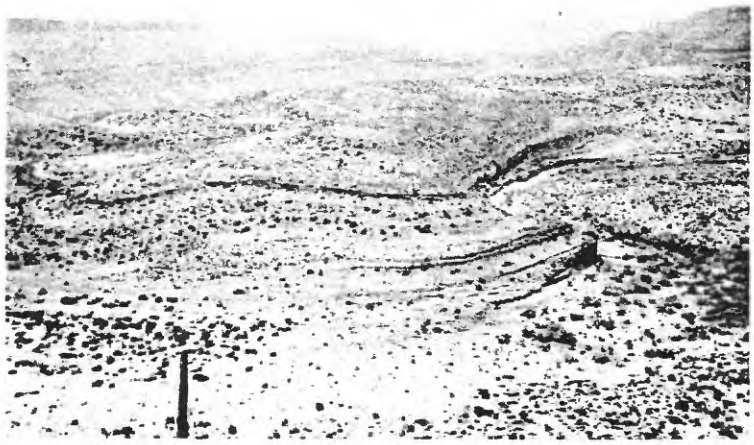


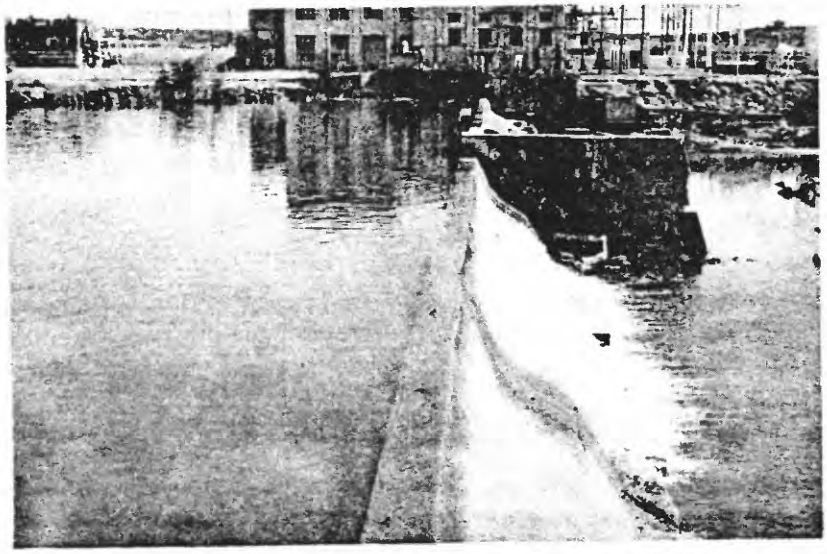
Photograph by W. S. Motts

Photograph by W. S. Motts

Plate 3.--(A) Dark Canyon in sec. 21, T. 23 S., R. 25 E., looking upstream westward. Vegetation follows silt beds. The contact of the Seven Rivers and Yates formations is near the canyon floor.

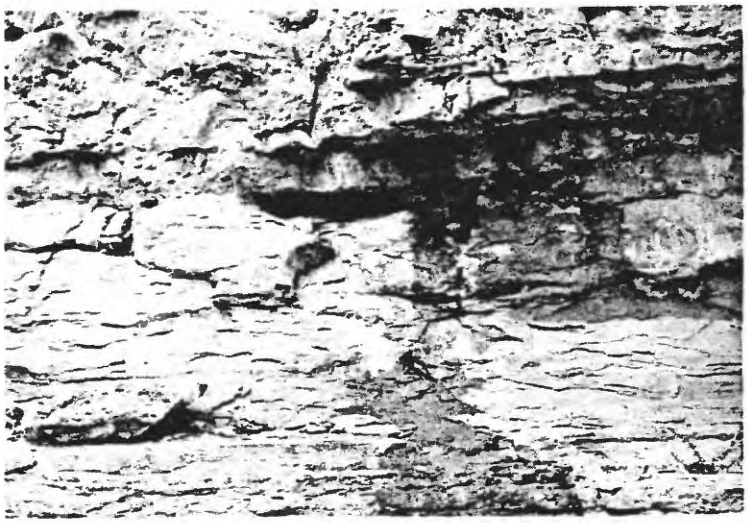
(B) Seven Rivers embayment looking eastward toward Seven Rivers Hills. The hills are mainly gypsum overlain by the erosion-resistant Azotea tongue of the Seven Rivers formation of Wilcox.

Photograph by L. J. Bjorklund

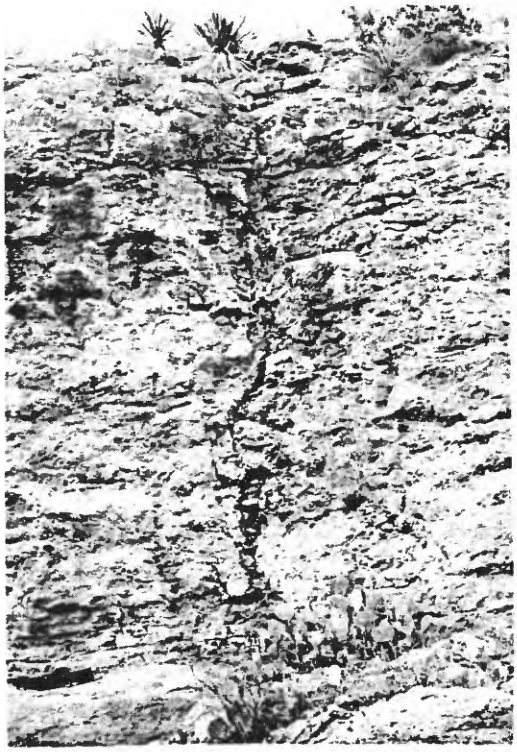


Photograph by L. J. Bjorklund

Plate 4.--Pecos River at Tansill Dam, Carlsbad, Eddy County, N. Mex., showing:
(A) Floodflow of about 47,000 cfs, Oct. 7, 1954;
(B) Base flow of about 30 cfs in January 1956.

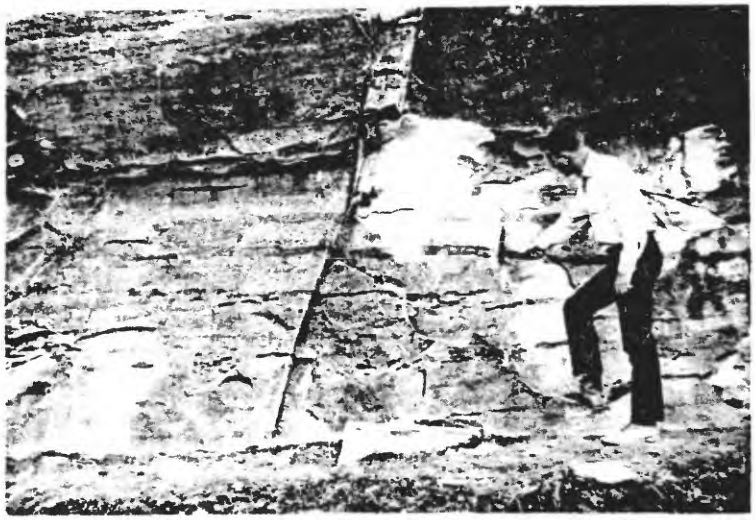


Photograph by W. S. Motts



Photograph by W. S. Motts

Plate 5.--Effects of the discharge of ground water in Walnut Canyon (T. 24 S., R. 25 E.).
(A) A seep below a bed of dolomite and at the top of a bed of sandstone after a heavy rain.
(B) Discoloration of limestone caused by ground-water discharge along a joint.



Photograph by W. S. Motts

Photograph by W. S. Motts

Plate 6.--(A) Lower massive sandstone of the Queen formation in Dark Canyon near old CCC Camp in sec. 29, T. 24 S., R. 23 E. Darker streaks are caused by iron oxide. These massive beds confine ground water in many places.

(B) Hard, dense dolomite of the Seven Rivers formation above sandstone of the Queen formation in Rocky Arroyo in sec. 23, T. 21 S., R. 24 E. Contact is a few feet above arroyo bed.

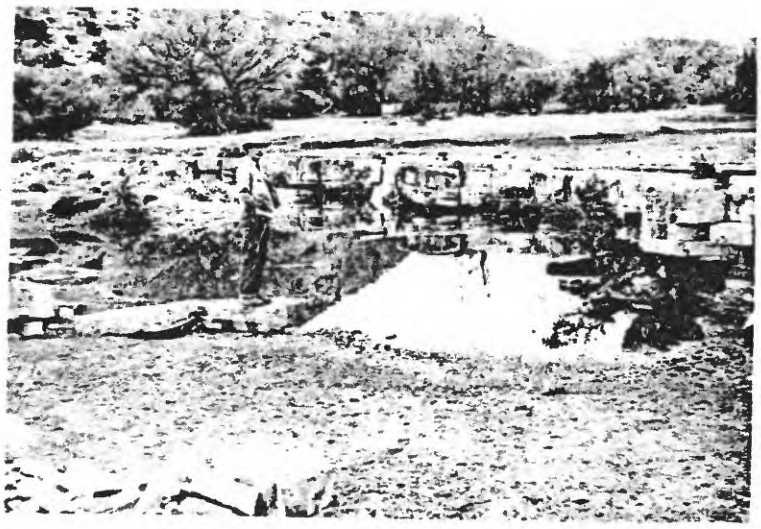
Photograph by W. S. Motts

Photograph by W. S. Motts

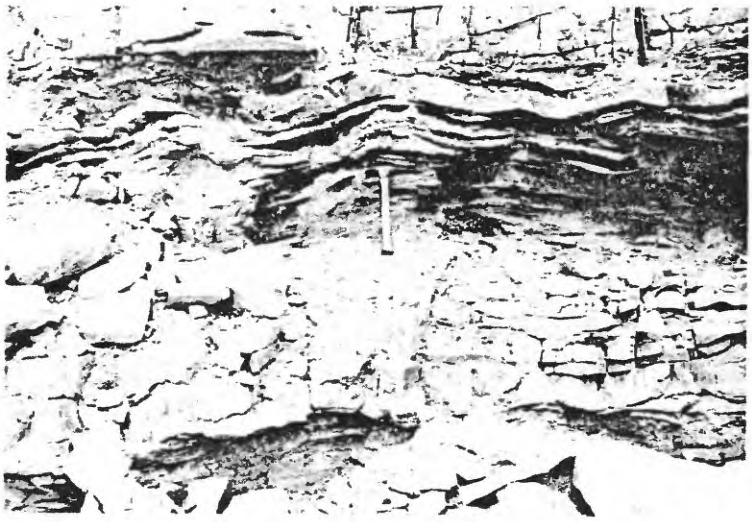
Plate 7.--Dolomite in the evaporite facies of the Queen formation showing the effects of solution by ground water.

(A) Exposure along Rocky Arroyo in the Seven Rivers embayment;

(B) Exposure of beds showing pits probably caused by the solution of anhydrite.



Photograph by W. S. Motts



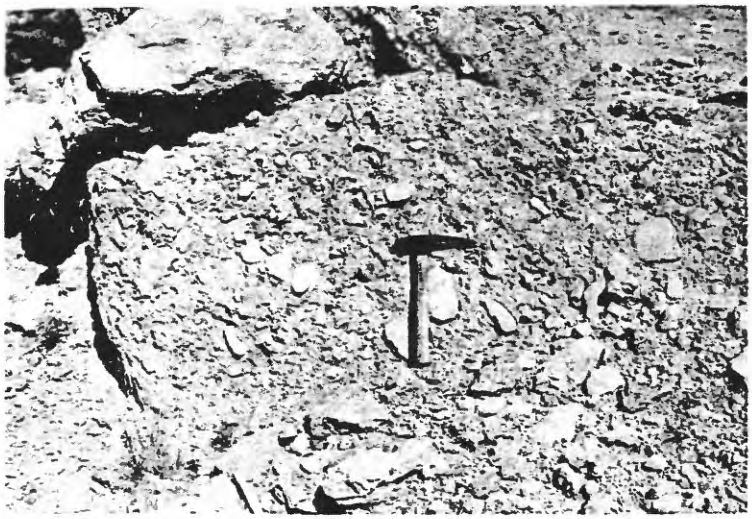
Photograph by W. S. Motts

Plate 8.--(A) Mosley Spring in sec. 5, T. 24 S., R. 25 E., one of many springs issuing from the Yates formation west of Carlsbad, Eddy County, N. Mex.
(B) The carbonate facies of the Yates formation near the evaporite facies in sec. 2, T. 24 S., R. 25 E. Hammer is at a distorted silt bed.

Photograph by W. S. Motts

Photograph by W. S. Motts

Plate 9.--(A) and (B) Sinkholes in gypsum of the Tansill and Yates formations northeast of Carlsbad, Eddy County, N. Mex. Surface runoff into the sinkholes results in ground-water recharge.



Photograph by W. S. Motts

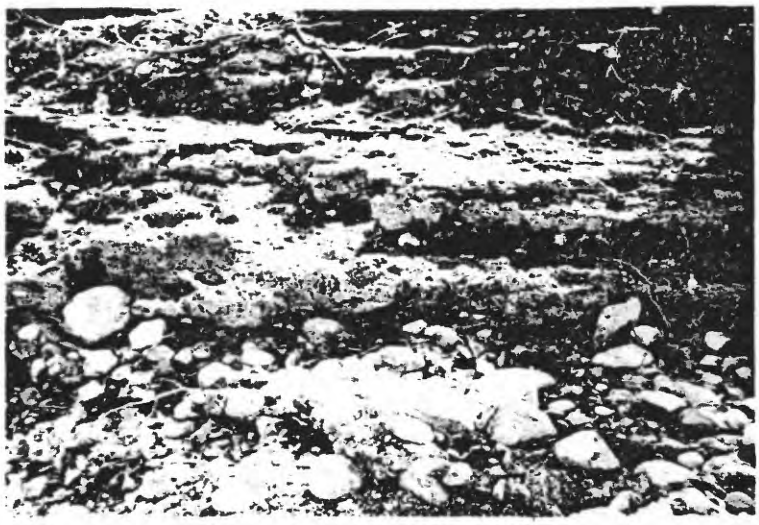
Photograph by W. S. Motts

Plate 10.--(A) and (B) Lime-cemented conglomerate underlying the Orchard Park terrace in sec. 1, T. 22 S., R. 27 E.

Photograph by W. S. Motts

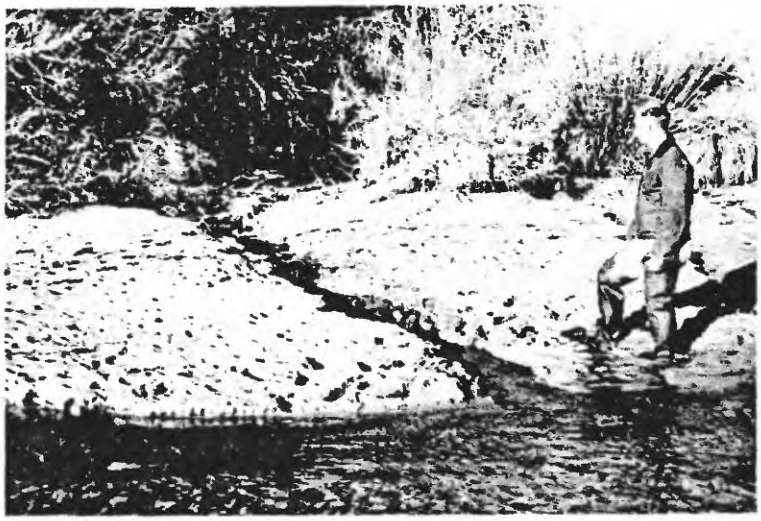
Photograph by W. S. Motts

Plate 11.--(A) Contact of lime-cemented gravel along the Pecos River and underlying residual red silt of Ochoa series in the NW¼ sec. 3, T. 23 S., R. 28 E.
(B) Lime-cemented gravel along the Pecos River slumped over weaker red beds in sec. 3, T. 23 S., R. 28 E.

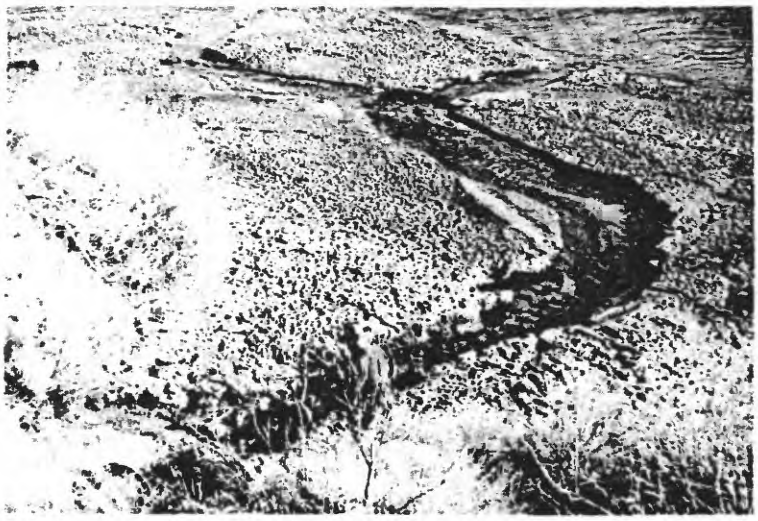


Photograph by W. S. Motts

Plate 12.--Travertine in Rocky Arroyo in sec. 23, T. 21 S., R. 24 E. The travertine, which is about 2 feet thick, overlies more strongly cemented gravel in Rocky Arroyo.

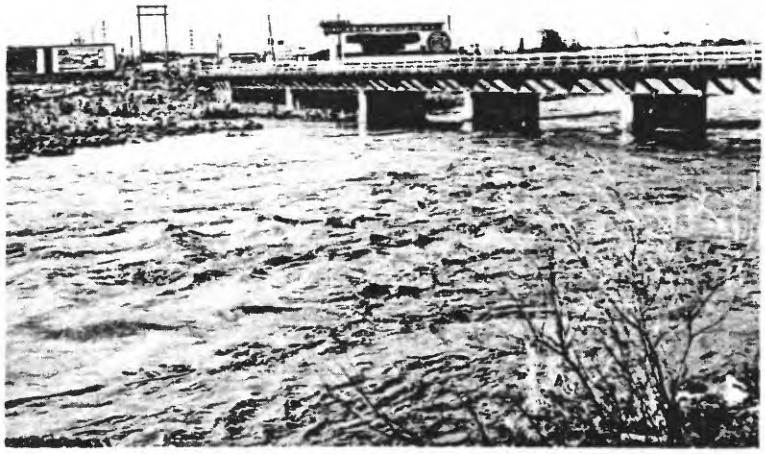


Photograph by L. J. Bjorklund



Photograph by W. S. Motts

Plate 13.--(A) and (B) Springs along the north bank of the Pecos River in the Carlsbad Springs area during a period when Tansill Reservoir was drained. Springs usually are inundated. Flow from spring in lower photograph was 8.4 cfs.



Photograph by W. S. Motts

Photograph by W. S. Motts

Plate 14.--(A) Dark Canyon Draw at Carlsbad during flood stage, Oct. 7, 1954. Flow estimated to be 13,500 cfs. Dark Canyon Draw usually is dry.

(B) Well 22.27.15.233 on the Lakewood terrace about 3 miles southeast of Carlsbad being pumped at the rate of 3,670 gpm. Water is derived from alluvium. The crop in the background is cotton.

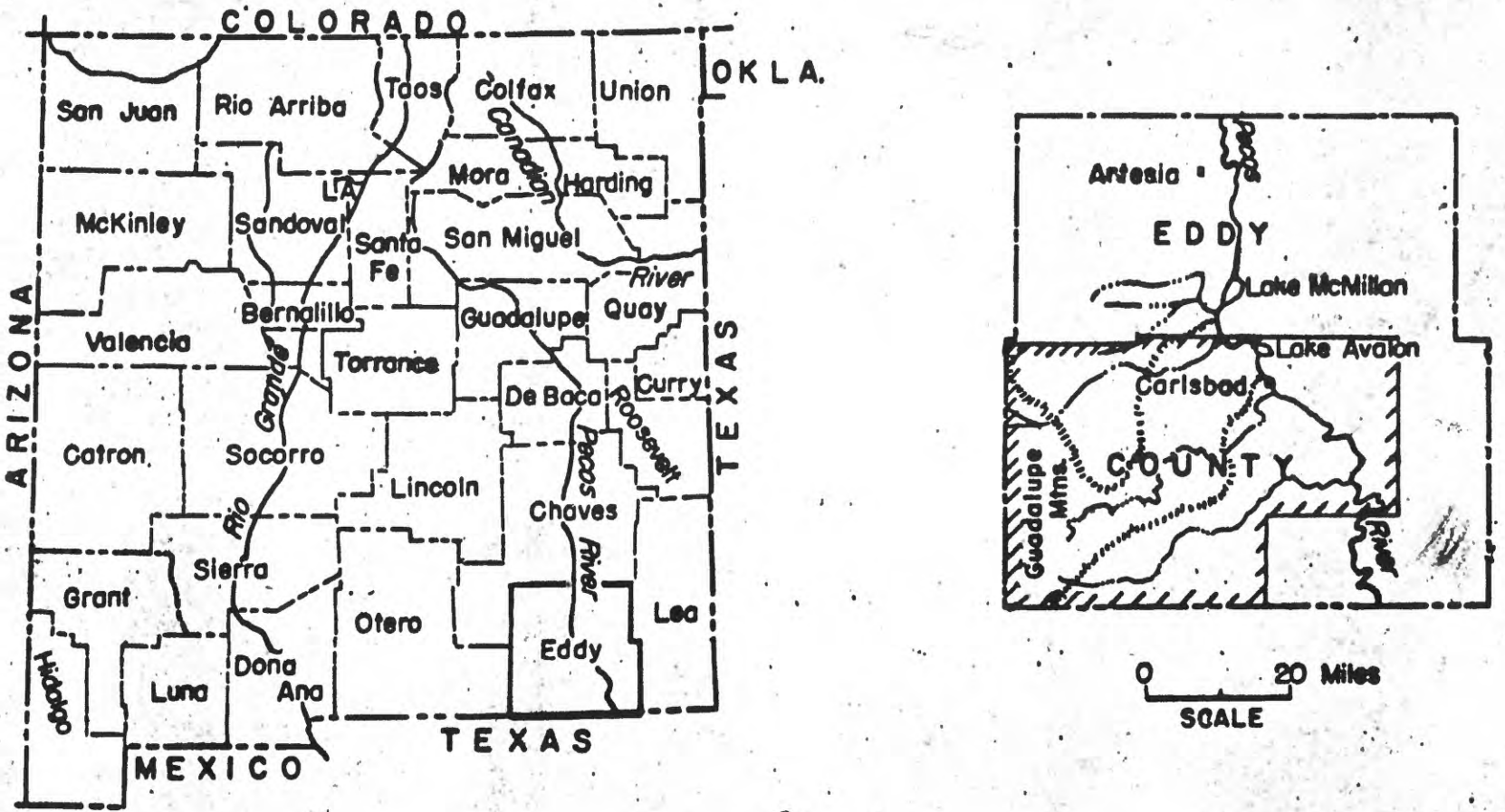


Figure 1.--Map of New Mexico and map of Eddy County showing project area.