

TABLE 1
1) GEOLOGIC UNITS AND THEIR WATER-BEARING PROPERTIES

System	Series	Formation	Thickness (Feet)	Physical Characteristics	Water Supply
Quaternary	Recent	Eolian Sand	0-25	Yellowish-brown coarse to fine slightly compact sand; silty and clayey in southern part of area. Permeability medium to high depending on clay content.	Eolian deposits lie above the water table and yield no water to wells. Deposits are important as a catchment area for recharge.
		Piney Creek Alluvium	0-20	Gray to brown humic-rich, firmly compacted clayey silt and sand. Contains pebble lenses in lower part. Permeability is medium to low.	Yields small quantities of water to domestic and stock wells. Locally contains perched water zones.
	Pleistocene	Louviers Alluvium	0-40	Yellowish-brown coarse sand containing gravel, pebbles, and cobbles. Alluvium is weakly compacted, poorly sorted, and well stratified. Permeability is generally high.	Yields large quantities of water to domestic, stock, irrigation, and municipal wells.
		Slocum Alluvium	0-40	Moderate-reddish-brown poorly sorted, moderately compacted, stratified gravel containing layers of clay, silt, and sand. Alluvium consists of coarse arkosic sand derived from Dawson Formation. Permeability is high in gravels, but low in clay/silt layers.	
		Verdos Alluvium	0-100	Brown poorly sorted, moderately compacted, stratified gravel containing lenses of sand, silt, and clay. Permeability is high in gravels but low in clay/silt layers.	
		Rocky Flats Alluvium	0-50+	Reddish-brown clayey coarse sand. Alluvium is poorly sorted, firmly compacted, and stratified. Permeability moderately high.	
		Nussbaum Alluvium	0-145+	Grayish-orange to yellowish-gray pebble gravel in lower part grading into arkosic sand above. Permeability is good.	

System	Series	Formation	Thickness (Feet)	Physical Characteristics	Water Supply
Tertiary	Paleocene	Dawson Formation	1350+/-	Contains arkosic and andesitic (minor) units, in part occurring in separate beds. Upper part - Highest arkosic unit, covering greatest area, contains white and yellowish-gray coarse sand, orange hard thin ironstone layers, and light-green claystone. Next lower unit contains mixed yellowish-gray arkosic and olive-brown andesitic material composed of sandstone, siltstone, claystone, and thin layers of andesite pebbles. Next lower unit contains cliff-forming arkosic coarse sandstone. Lower part - Olive-brown andesitic sandstone, siltstone, and claystone containing andesite pebbles. Permeability probably is medium in the arkosic sandstone and low in the siltstone and claystone and in the andesitic beds.	Yields moderate quantities of water to domestic, stock, and small-capacity municipal wells.
Cretaceous	Upper Cretaceous	Laramie Formation	350+/-	Upper member is grayish-brown or yellowish-gray fine-grained iron-stained sandstone, olive-gray claystone, and subbituminous coal beds. Lower member is a shaly light-grey to white medium grained sandstone. Permeability medium.	Yields small quantities of water to domestic and stock wells. Water quality generally poor.
		Fox Hills Sandstone	250+	Olive-gray thin-bedded friable sandy shale in upper 100 feet and olive-brown massive, friable fine-grained sandstone in lower 150 feet. Medium permeability.	Yields moderate quantities of water to domestic, stock, and small-capacity municipal wells.

¹⁾ Information compiled from McGovern and Jenkins (1966), Erker and Romero (1967), Soister (1968), and Scott (1974).