

Table 1.--Summary of the hydraulic properties and lithology of tuff underlying Rainier Mesa

Hydrologic unit of this report	Formal geologic name		Lithology	Thickness (feet)	Interstitial permeability (gpd/ft ²) ^{1/}			Interstitial porosity (percent)		Maximum specific capacity ^{2/}	Effective permeability ^{3/}
	Formation	Member			Number of samples	Average	Range	Number of samples	Average		
Welded or partially welded tuff	Timber Mountain Tuff	Rainier Mesa	Welded and partially welded tuff (caprock of Rainier Mesa)	270-550	6 (10)	0.01 (0.006)	0.0002-0.03 (0.00002-1.1)	37	14	--	Fracture
Friable-bedded tuff	Paintbrush Tuff	Tiva Canyon	Welded and partially welded tuff	0-about 80	--	--	--	--	--	--	Fracture
Zeolitic-bedded tuff		Stockade Wash	Nonwelded to partially welded pumiceous tuff, base locally zeolitic	0-about 230	--	--	--	--	--	--	Fracture
Welded or partially welded tuff		Bedded tuff ^{4/} (informal local unit) ^{4/}	Bedded-friable vitric tuff	100-1,000	2 5 ^{5/}	3.7 0.46	3.3-4.1 0.22-0.89	8	40	--	Interstitial
					11 (5)	0.2 (0.03)	0.0003-1.0 (0.002-0.49)	319	30	--	Fracture
Friable-bedded tuff	Indian Trail	Grouse Canyon, upper part	Welded tuff, lenticular and local	0-70	1	0.0006	--	4	19	--	Fracture
		Grouse Canyon, lower part	Friable vitric tuff in upper portion, zeolitic tuff in lower portion	45-120	(9)	(0.21)	(0.07-1.1)	40	40	--	Fracture
Welded or partially welded tuff	Indian Trail	Tub Spring	Welded tuff	0-about 400	--	--	--	--	--	--	Fracture
Zeolitic-bedded tuff		Informal local units (includes Tunnel Beds 1-4, or Tilt ₁ -Tilt ₄) ^{4/}	Zeolitic-bedded tuff (Tilt ₄)	265-375	2 (9)	0.02 (0.002)	0.0003-0.03 (0.00009-0.3)	166	38	--	Fracture
			Zeolitic-bedded tuff (Tilt ₃)	100-200	42 (4)	0.003 (0.0007)	0.00008-0.04 (0.00001-0.004)	142	35	0.04	Fracture
			Zeolitic-bedded tuff, contains pisolite beds and locally a welded tuff at the top (Tilt ₂)	120	(12)	(0.0004)	(0.0007-0.03)	28	32	0.02	Fracture
Zeolitic-bedded tuff (Tilt ₁)	200-210		(3)	(0.001)	(0.0005-0.004)	31	25	0.01	Fracture		

^{1/} Permeability, in Geological Survey units, gallons per day per square foot (gpd/ft²); this unit is approximately equivalent to 55 millidarcies. Permeability to fresh water by U. S. Geological Survey, Denver, Colorado; permeability to brine (in parentheses) by Core Labs, Inc., Denver, Colorado.

^{2/} Specific capacity unit is gallons per minute per foot of drawdown (gpm/ft). The specific capacity data cited are maximum values because bailing was of short duration and fraction of water bailed was taken from storage in the bore. See table 3.

^{3/} Effective permeability is defined as the permeability, either interstitial (primary) or fracture (secondary), that is dominant in transmitting ground water to wells, or tunnels.

^{4/} This unit is equivalent to the Survey Butte Member of Poole and McKeown (1962).

^{5/} Gas permeability for sample of 5.

^{6/} These informal units are equivalent to the Tunnel Beds of Hansen and others (1963), and to the Lower Member of Poole and McKeown (1962).