

ERATHEM		SYSTEM AND SERIES	Lithostratigraphic units of Love et al. (1993) in the Hanna and Laramie Basins	Hydrogeologic division of Lowry et al. (1973) [Laramie, Hanna, and Shirley Basins; Sierra Madre, Laramie Mountains (west flank) and Saratoga Valley areas]	Hydrogeologic units of Lundy (1978), Huntoon and Lundy (1979a), Thompson (1979), Davis (1984), Western Water Consultants, Inc. (1993, 1995), and WWC Engineering (2006a) [Laramie area]	Hydrogeologic role/unit of Richter (1981a; Figure II-6, Table IV-2, and text) [Laramie, Hanna, and Shirley Basins; Sierra Madre, Laramie Mountains (west flank) and Saratoga Valley areas]	Hydrogeologic unit of Mazor (1990) and Mazor et al. (1993) [Laramie area]	Hydrogeologic role/unit of Younus (1992) [Laramie area/southern Laramie Basin]	Hydrogeologic unit of HydroGeo, Inc. (2003) [Hanna Basin]	Hydrogeologic unit of Taboga (2006) [Laramie area]	Hydrogeologic role/unit of Statewide Framework Water Plan (WWC Engineering et al., 2007, Figure 4-9) [All of Wyoming]	Hydrogeologic unit used in this report for Hanna and Laramie Basins							
CENOZOIC	QUATERNARY	Holocene and Pleistocene	Alluvium and terrace deposits	Unit 8		Local aquifers <sup>3</sup>		Local aquifers			Major aquifer—alluvial	Quaternary unconsolidated-deposit aquifers							
	TERTIARY	Pliocene <sup>1</sup>								Not discussed or not present in investigator's study area		Undefined	Presumed aquifer(s)						
		Miocene	Miocene and Oligocene rocks										Marginal aquifer	White River aquifer and confining unit					
		Oligocene	White River Formation	Conglomerate	Unit 8		Principal aquifer—Tertiary aquifer(s) <sup>4</sup>							Marginal aquifer	Wagon Bed aquifer and confining unit				
				Lower part												Major aquifer—sandstone	Wind River aquifer		
		Eocene	Wagon Bed Formation											Marginal aquifer	Hanna aquifer				
Paleocene	Wind River Formation										Major aquifer	Ferris aquifer							
MESOZOIC	CRETACEOUS	Upper Cretaceous	Hanna Formation		Unit 6 (Fox Hills Sandstone not discussed)	Not discussed		Not discussed	Aquifers and confining units (not divided or classified in report). Lithostratigraphic units composed primarily of marine shales are regional confining units. Sandstone beds can be aquifers.										
			Ferris Formation																
			Medicine Bow Formation																
			Fox Hills Sandstone																
			Mesaverde Group	Almond Formation			Lewis Shale												
				Pine Ridge Sandstone															
				Allen Ridge Formation			Rock River Formation												
				Haystack Mountains Formation			Steele Shale												
			Steele Shale																
			Niobrara Formation																
	Frontier Formation																		
	Mowry Shale																		
	Muddy Sandstone																		
	Lower Cretaceous	Thermopolis Shale																	
		Cloverly Formation																	
	JURASSIC	Upper Jurassic	Morrison Formation																
		Middle Jurassic	Sundance Formation																
	JURASSIC (?) AND TRIASSIC (?)																		
	TRIASSIC	Upper Triassic	Jelm Formation																
		Lower Triassic	Chugwater Formation of Darton (1908)																
PERMIAN		Goose Egg Formation																	
		Forelle Limestone																	
		Satanka Shale																	
PENNSYLVANIAN	Upper Pennsylvanian	Casper Formation																	
	Middle Pennsylvanian	Fountain Formation																	
MISSISSIPPIAN	Upper Mississippian																		
	Lower Mississippian	Madison Limestone																	
DEVONIAN	Upper Devonian	Fremont Canyon Sandstone																	
	Lower Devonian																		
SILURIAN <sup>1</sup>	Middle Silurian																		
ORDOVICIAN <sup>1</sup>	Upper Ordovician																		
	Middle Ordovician																		
	Lower Ordovician																		
CAMBRIAN <sup>1</sup>	Upper Cambrian																		
	Lower Cambrian																		
PRECAMBRIAN		Precambrian rocks	Unit 1		Confining unit		Confining unit with locally permeable zones <sup>3</sup>												

<sup>1</sup>Rocks of Pliocene, Silurian, Ordovician, and Cambrian age not present in Hanna and Laramie Basins.

<sup>2</sup>Casper Formation (aquifer) divided into five informally named subaquifers in Lundy (1978): alpha, beta, gamma, delta, and epsilon, in ascending order. This nomenclature is retained/used by most subsequent studies of the Casper aquifer in the Laramie area, including many of the investigators listed at the top of this column.

<sup>3</sup>Hydrogeologic role/unit inferred from description provided in "Hydrologic Properties" column (Richter, 1981a, Table IV-2).

<sup>4</sup>Each lithostratigraphic unit in "Tertiary aquifer" category is inferred to be an individual aquifer on the basis of description provided in "Hydrologic Properties" column (Richter, 1981a, Table IV-2).

<sup>5</sup>Muddy Sandstone inferred to be an aquifer within "Leaky confining unit" classification on the basis of description provided in "Hydrologic Properties" column (Richter, 1981a, Table IV-2).

<sup>6</sup>Casper aquifer composed of Casper and Fountain Formations and underlying Precambrian rocks (where locally permeable) in Mazor (1990). In contrast to Mazor (1990), Mazor et al. (1993, Figure 8, p. 198) classified the Precambrian rocks and overlying Fountain Formation as a "basal confining unit."

<sup>7</sup>Although classified primarily as a confining unit, local sandstone beds may yield mineralized water and be classified as local aquifers (Younus, 1992, Figure 11, p. 25).

<sup>8</sup>Hydrogeologic classification inferred from description in report (HydroGeo, Inc., 2003, p. 2-4).

**Plate U. Relation of lithostratigraphic units to hydrogeologic units, Hanna and Laramie Basins.**