

**GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
HYDROGEOLOGY OF SELECTED AREA OF CARROLL VALLEY, ADAMS COUNTY**

Population growth has increased the demand for ground water in Carroll Valley. Since 1998 over 20 wells in Carroll Valley have gone dry, forcing home owners to either deepen existing wells, drill new wells or have water transported to their domiciles. To address the capability of the bedrock aquifers to meet the increased demand for ground water, the U.S. Geological Survey (USGS) and the Borough of Carroll Valley, in 2000, began a cooperative study to investigate areas where reported yields are typically less than 5 gallons per minute or areas where dry wells have been reported. Through the use of data bases, approximately 400 wells in the Borough of Carroll Valley were inventoried. Selected well construction (well depth, casing length, depth of water-bearing zones) and discharge (reported yield and specific capacity) data were entered into the Ground-Water Site Inventory (GWSI) data base maintained by the USGS. Water levels were collected from approximately 75 wells in November 2000 and August 2001 to evaluate seasonal changes in water levels. Water from 35 wells were analyzed for chloride. Of this sample set, 18 were also examined for bromide to determine chloride to bromide ratios. Water from 6 of the 18 wells analyzed for chloride to bromide ratios were also analyzed for a suite of 67 wastewater compounds. A drought monitor well was established in the Borough of Carroll Valley and water levels from this well were correlated to water levels from the Cumberland County observation well. In summary, the bedrock aquifers that underlie the study area are (1) typically low-yielding, (2) poorly connected to the overlying regolith, (3) on occasion, impacted by anthropogenic sources (road salt, fertilizer, sewage), and (4) severely stressed by drought conditions and development.

For additional information, contact Dennis J. Low at the U.S. Geological Survey, 215 Limekiln Road, New Cumberland, PA 17070; 717-730-6959 (email: djlow@usgs.gov).

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REMARKS.--Explanation of column headings--LOCAL ID: unique identification code that utilizes a county abbreviation (AD is Adams County) and a sequential series of numbers to represent individual wells in a specific county. SITE IDENTIFIER: unique 15-digit identifier based on site latitude (first six digits), longitude (digits seven through thirteen), and a 2-digit sequence number suffix. LOCATION MAP NAME: a name of 1:24,000 U.S. Geological Survey topographic map on which well is located. ELEVATION OF LAND SURFACE: land-surface altitude at well site, in feet above sea level, determined from appropriate topographic map. AQUIFER CODE: abbreviation of geologic formation names. Precambrian--000MBSL, metabasalt; 000MTRL, metarhyolite; 000GRNS greenstone schist. WATER-LEVEL IN FEET BELOW LAND SURFACE: >, greater than. WATER-LEVEL METHOD: T, electric tape; E, estimated; R, reported.

LOCAL ID	SITE IDENTIFIER	LOCATION MAP NAME	ELEVATION OF LAND SURFACE (FEET)	AQUIFER CODE	WATER LEVEL IN FEET BELOW LAND SURFACE	WATER-LEVEL METHOD	WATER LEVEL DATE
AD 774	394439077223901	BLUE RIDGE SUMMIT	620	000MBSL	73.11	T	01/23/02
AD 787	394429077223601	BLUE RIDGE SUMMIT	680	000MTRL	91.46	T	01/28/02
AD 790	394421077232801	BLUE RIDGE SUMMIT	660	000MBSL	48.21	T	05/07/02
AD 806	394426077223901	BLUE RIDGE SUMMIT	730	000MBSL	52.18	T	01/28/02
AD 808	394430077225001	BLUE RIDGE SUMMIT	790	000MBSL	137.33	T	01/16/02
AD 818	394503077241201	IRON SPRINGS	905	000MBSL	20.10	T	01/16/02
AD 819	394501077241502	IRON SPRINGS	895	000MBSL	73.54	T	01/16/02
AD 821	394443077241801	BLUE RIDGE SUMMIT	800	000GRNS	110.31	T	01/16/02
AD 822	394455077240201	BLUE RIDGE SUMMIT	790	000GRNS	24.96	T	01/16/02
AD 830	394446077233701	BLUE RIDGE SUMMIT	870	000MBSL	>125	E	05/07/02
AD 831	394453077234801	BLUE RIDGE SUMMIT	885	000MBSL	79.85	T	01/16/02
AD 835	394513077234701	IRON SPRINGS	950	000MBSL	92.43	T	01/16/02
AD 836	394514077235401	IRON SPRINGS	980	000MBSL	88.75	T	01/10/02
AD 836	394514077235401	IRON SPRINGS	980	000MBSL	92.59	T	01/16/02
AD 837	394511077235401	IRON SPRINGS	970	000MBSL	77.85	T	01/16/02
AD 846	394453077232001	BLUE RIDGE SUMMIT	680	000MBSL	13.70	T	01/16/02
AD 841	394506077231301	IRON SPRINGS	770	000MBSL	56.74	T	01/28/02
AD 842	394505077232002	IRON SPRINGS	780	000MBSL	20.72	T	01/29/02
AD 922	394432077241801	BLUE RIDGE SUMMIT	670	000GRNS	88.90	T	05/07/02
AD 1051	394505077232001	IRON SPRINGS	770	000MBSL	21.68	T	01/28/02
AD 1060	394448077240001	BLUE RIDGE SUMMIT	820	000MBSL	50.25	T	01/28/02
AD 1063	394533077234601	IRON SPRINGS	810	000MBSL	37.45	T	01/16/02
AD 1092	394453077242901	BLUE RIDGE SUMMIT	780	000MBSL	127.03	T	01/16/02
AD 1098	394420077225901	BLUE RIDGE SUMMIT	720	000MBSL	171.15	T	05/07/02
AD 1131	394517077233001	IRON SPRINGS	860	000GRNS	40	R	10/30/01
AD 1146	394452077233301	BLUE RIDGE SUMMIT	760	000MBSL	9.6	T	01/28/02
AD 1148	394505077233801	IRON SPRINGS	820	000MBSL	19.35	T	01/16/02
AD 1149	394512077234901	IRON SPRINGS	960	000MBSL	98	R	12/26/01
AD 1149	394512077234901	IRON SPRINGS	960	000MBSL	101.31	T	01/16/02
AD 1150	394534077233801	IRON SPRINGS	780	000MBSL	19.27	T	01/16/02
AD 1151	394505077231801	IRON SPRINGS	770	000MBSL	35.91	T	01/28/02
AD 1152	394433077230901	BLUE RIDGE SUMMIT	770	000MTRL	59.55	T	01/28/02
AD 1152	394433077230901	BLUE RIDGE SUMMIT	770	000MTRL	43.42	T	06/17/02
AD 1152	394433077230901	BLUE RIDGE SUMMIT	770	000MTRL	58.18	T	06/27/02
AD 1153	394504077241401	IRON SPRINGS	910	000MBSL	59.75	T	01/16/02