Water-Data Report 2013

412403076234801 Local number SU 168

Mississippian aquifers
Huntley Mountain Formation

Sullivan County, PA

LOCATION.--Lat 41°24'03.3", long 76°23'48.3" referenced to North American Datum of 1983, Sullivan County, PA, Hydrologic Unit 02050206.

WATER-QUALITY RECORDS

WELL CHARACTERISTICS.--Depth 1,400 ft. Upper casing diameter 8.63 in; top of first opening 40 ft, bottom of last opening 1,400 ft. Open hole from 40 to 1,400 ft. Test hole was completed on July, 2013.

DATUM.--Land-surface datum is 2,333 ft above North American Vertical Datum of 1988. Measuring point: Top of steel casing, 1.5 ft above land-surface datum, July 24, 2013, to present. Land-surface datum is from Lidar.

PERIOD OF RECORD.--August and September 2013.

REMARKS.--Water-quality samples were collected from the well at specific depth intervals that were temporarily isolated with inflatable packers. Water sampled from depths less than 550 ft was from the Huntley Mountain Formation. Water sampled from depths below 550 ft was from the Catskill Formation.

COOPERATION.--Water-quality samples were collected in cooperation with the Pennsylvania Department of Conservation and Natural Resources, Bureau of Topographic and Geologic Survey.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 1 of 9

[$CaCO_3$, calcium carbonate; NTRU, nephelometric turbidity ratio unit; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; per mil, parts per thousand; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Tempera-ture, air, °C (00020)	Depth to water level, ft below land surface (72019)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, volume percent of dissolved gases (85550)	Flow rate, instanta-neous, gallons per minute (00059)	pH, water, unfiltered, field, standard units (00400)	pH, water, unfiltered, laboratory, standard units (00403)	Specific conduc-tance, water, unfiltered, laboratory, µS/cm at 25°C (90095)
08-06-2013	**1730**	706	23.0	137.76	8.6	19.3	1.3	6.1	E 6.5	E 60
08-07-2013	**0900**	706	17.0	120.66	6.5	16.1	10.0	5.5	E 6.1	E 36
08-08-2013	**0930**	705	17.0	144.08	5.9	14.8	12.1	5.6	E 7.0	E 41
08-08-2013	**1800**	704	26.0	237.01	2.3	5.75	8.0	6.7	7.1	130
08-12-2013	**1055**	705	23.0	--	.3	2.03	7.8	7.0	7.4	183
08-29-2013	**1500**	705	20.0	226.00	1.3	1.96	.95	6.8	7.4	378
09-05-2013	**1330**	706	18.0	140.80	.9	7.25	--	7.3	7.6	E 12,700

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2013: U.S. Geological Survey Water-Data Report WDR-US-2013, site 412403076234801, accessed at http://wdr.water.usgs.gov/wy2013/pdfs/412403076234801.2013.pdf

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
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Date	Sample start time	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)	Temperature, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Depth to bottom of sample interval, feet below land surface datum (72016)	Depth to top of sample interval, feet below land surface datum (72015)	Oxidation reduction potential, relative to the standard hydrogen electrode (SHE), millivolts (63002)	Sampling method (82398)
08-06-2013	**1730**	51	12.9	6.5	172.00	138.00	327	Submersible pump
08-07-2013	**0900**	32	10.0	1.1	197.00	172.00	389	Submersible pump
08-08-2013	**0930**	39	9.3	1.4	288.00	263.00	402	Submersible pump
08-08-2013	**1800**	128	9.8	1.6	443.00	418.00	321	Submersible pump
08-12-2013	**1055**	178	9.5	1.2	443.00	418.00	288	Submersible pump
08-29-2013	**1500**	379	10.6	1.8	646.00	621.00	313	Submersible pump
09-05-2013	**1330**	12,700	11.0	19	990.00	990.00	397	Thief sample

WATER-QUALITY DATA
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Date	Sample start time	Dissolved solids dried at 180°C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, sum of constituents, mg/L (70301)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as $CaCO_3$ (39086)	Bicarbonate, water, filtered, inflection-point, incremental titration method, field, mg/L (00453)
08-06-2013	**1730**	35	28	8.41	1.48	0.41	0.31	21.0	25.6
08-07-2013	**0900**	21	16	4.09	1.13	.36	.31	11.9	14.5
08-08-2013	**0930**	28	18	4.91	1.35	.36	.37	13.9	16.9
08-08-2013	**1800**	87	65	21.4	2.73	.59	1.07	55.1	67.1
08-12-2013	**1055**	105	92	28.8	3.46	.75	2.67	81.0	98.5
08-29-2013	**1500**	209	200	14.9	1.48	.63	60.9	76.3	93.0
09-05-2013	**1330**	7,800	6,790	588	53.6	7.90	2,030	65.0	79

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WATER-QUALITY DATA
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Date	Sample start time	Carbon dioxide, water, unfiltered, mg/L (00405)	Carbon monoxide, water, dissolved, mole percent of dissolved gases (51194)	Chloride, water, filtered, mg/L (00940)	Hydrogen sulfide, water, unfiltered, mg/L (71875)	Sulfate, water, filtered, mg/L (00945)	Dinitrogen, water, unfiltered, milligrams per liter (00597)	Barium, water, filtered, µg/L (01005)	Iron, water, filtered, µg/L (01046)	Lithium, water, filtered, µg/L (01130)
08-06-2013	1730	3.3	U	1.26	U	2.96	76.1	2.34	117	0.80
08-07-2013	0900	4.1	U	.65	U	1.99	78.5	1.82	13.7	.71
08-08-2013	0930	4.2	U	.60	U	2.01	79.6	3.89	6.7	.69
08-08-2013	1800	1.8	U	.64	U	4.69	90.9	102	5.9	2.25
08-12-2013	1055	1.2	U	.65	U	6.41	95.1	188	12.7	4.48
08-29-2013	1500	.8	U	47.0	U	25.8	69.0	148	6.4	61.1
09-05-2013	1330	.2	U	3,890	U	7.91	38.6	22,400	< 28.0	3,320

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Date	Sample start time	Manganese, water, filtered, µg/L (01056)	Molybdenum, water, filtered, µg/L (01060)	Strontium, water, filtered, µg/L (01080)	Zinc, water, filtered, µg/L (01090)	Argon, water, unfiltered, milligrams per liter (82043)	Arsenic, water, filtered, µg/L (01000)	Boron, water, filtered, µg/L (01020)	Selenium, water, filtered, µg/L (01145)	2-Methylbutane (isopentane), water, dissolved, recoverable, mole percent of dissolved gases (68829)
08-06-2013	1730	34.1	0.087	14.2	220	1.34	0.06	4	0.04	U
08-07-2013	0900	2.98	< .014	7.21	60.1	1.38	.07	4	.03	U
08-08-2013	0930	12.5	.164	16.2	44.5	1.39	.19	< 3	.05	U
08-08-2013	1800	458	.526	198	43.7	1.59	12.0	7	.07	U
08-12-2013	1055	515	1.21	394	58.0	1.59	14.9	11	.15	U
08-29-2013	1500	1,370	431	640	187	1.07	11.1	17	.25	U
09-05-2013	1330	1,420	1,740	110,000	56.5	.285	69.1	111	3.5	.0002

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WATER-QUALITY DATA
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Date	Sample start time	2-Methylpropane (iso-butane), water, dissolved, recoverable, mole percent of dissolved gases (68827)	Ethane, water, dissolved, recoverable, milligrams per liter (68832)	Ethane, water, dissolved, recoverable, mole percent of dissolved gases (68824)	Ethene, water, dissolved, recoverable, milligrams per liter (68833)	Ethene, water, dissolved, recoverable, mole percent of dissolved gases (68825)	Methane, water, dissolved, recoverable, milligrams per liter (68831)	Methane, water, dissolved, recoverable, mole percent of dissolved gases (68823)	Methylene blue active substances, water, unfiltered, recoverable, mg/L (38260)	n-Butane, water, dissolved, recoverable, mole percent of dissolved gases (68828)
08-06-2013	1730	U	< .0002	U	< .0001	U	0.0006	0.0026	< .050	U
08-07-2013	0900	U	< .0002	U	< .0001	U	< .0001	U	< .050	U
08-08-2013	0930	U	< .0002	U	< .0001	U	< .0001	U	< .050	U
08-08-2013	1800	U	< .0002	U	< .0001	U	.0021	.0115	< .050	U
08-12-2013	1055	U	< .0002	U	< .0001	U	.0003	.0165	< .050	U
08-29-2013	1500	.0005	.1400	.1330	< .0003	U	14	27.0	< .050	.0003
09-05-2013	1330	.0022	8.0	1.85	< .0005	U	120	51.7	1.98	.0043

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Date	Sample start time	n-Pentane, water, dissolved, recoverable, mole percent of dissolved gases (68830)	Propane, water, dissolved, recoverable, mole percent of dissolved gases (68826)	Gross alpha radioactivity, 30-day count, water, filtered, Th-230 curve, picocuries per liter (62639)	Gross alpha radioactivity, 72-hour count, water, filtered, Th-230 curve, picocuries per liter (62636)	Gross beta radioactivity, 30-day count, water, filtered, Cs-137 curve, picocuries per liter (62645)	Gross beta radioactivity, 72-hour count, water, filtered, Cs-137 curve, picocuries per liter (62642)	Radium-224, water, filtered, picocuries per liter (50833)	Radium-226, water, filtered, picocuries per liter (09503)	Radium-226, water, filtered, radon method, picocuries per liter (09511)
08-06-2013	1730	U	U	R .1	R -.1	R .6	1.2	0.06	0.012	--
08-07-2013	0900	U	U	R .1	R .0	R .3	1.5	.09	.03	--
08-08-2013	0930	U	U	--	--	--	--	--	--	.025
08-08-2013	1800	U	U	--	--	--	--	--	--	.096
08-12-2013	1055	U	U	--	--	--	--	--	--	--
08-29-2013	1500	U	.0061	34	37	13.5	4.0	1.0	.87	--
09-05-2013	1330	U	.0694	90	110	116	99	--	--	--

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

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Date	Sample start time	Radium-228, water, filtered, picocuries per liter (81366)	Radon-222, water, unfiltered, picocuries per liter (82303)	Uranium (natural), water, filtered, µg/L (22703)	delta Carbon-13 in ethane, water, dissolved, head-space, per mil relative to Vienna PeeDee Belemnite (65242)	delta Carbon-13 in methane, water, dissolved, per mil relative to Vienna PeeDee Belemnite (65241)	delta Carbon-13 in propane, water, filtered, headspace, per mil relative to Vienna PeeDee Belemnite (82742)	Carbon-13/Carbon-12 ratio, water, unfiltered, per mil (82081)	delta Deuterium in methane, water, dissolved, per mil relative to Vienna Standard Mean Ocean Water (65245)	Oxygen-18/Oxygen-16 ratio, water, unfiltered, per mil (82085)
08-06-2013	**1730**	R .12	1,330	0.005	--	--	--	-18.50	--	-9.38
08-07-2013	**0900**	.41	1,560	< .004	--	--	--	-20.80	--	-9.50
08-08-2013	**0930**	R .02	--	.010	--	--	--	-20.40	--	-9.64
08-08-2013	**1800**	R .12	--	1.23	--	--	--	-17.10	--	-9.45
08-12-2013	**1055**	--	580	4.92	--	--	--	-16.20	--	-9.63
08-29-2013	**1500**	.49	630	21.4	-36.10	-37.17	--	-14.60	-192.9	-9.23
09-05-2013	**1330**	24.1	65	17.7	-37.08	-34.81	-40.10	-8.20	-194.6	-9.00

WATER-QUALITY DATA
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Date	Sample start time	Deuterium/Protium ratio, water, unfiltered, per mil (82082)	delta Carbon-13 in carbon dioxide, per mil (49926)
08-06-2013	**1730**	-60.10	--
08-07-2013	**0900**	-62.00	--
08-08-2013	**0930**	-61.10	--
08-08-2013	**1800**	-61.40	--
08-12-2013	**1055**	-61.40	--
08-29-2013	**1500**	-62.10	-22.40
09-05-2013	**1330**	-56.80	-16.00