

Water-Data Report 2013

**03104500 SHENANGO RIVER AT NEW CASTLE, PA**

Upper Ohio-Beaver Basin  
Shenango Subbasin

LOCATION.--Lat 41°00'00", long 80°21'02" referenced to North American Datum of 1927, Lawrence County, PA, Hydrologic Unit 05030102, at bridge on Washington Street in New Castle, and 0.3 mi above confluence with Neshannock Creek.

DRAINAGE AREA.--792 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--1910-34 (continuous-record), 1989 to current year.

REVISED RECORDS.--WDR-US-2009: Drainage Area.

GAGE.--Non-recording gage. Datum of gage is 790 ft above National Geodetic Vertical Datum of 1929, from topographic map.

COOPERATION.--Station established and maintained by the U.S. Geological Survey in cooperation with the Pennsylvania Department of Environmental Protection.

REMARKS.--Gage located on Grant Street bridge prior to 2009.

**DISCHARGE MEASUREMENTS**  
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

<b>Date</b>	<b>Discharge, in ft<sup>3</sup>/s</b>
Oct 24, 2012	191
Jan 14, 2013	2,490
Mar 22, 2013	673
May 9, 2013	175
Jul 24, 2013	468
Aug 26, 2013	253

## 03104500 SHENANGO RIVER AT NEW CASTLE, PA—Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Analyses for pH, water temperature, specific conductance, and dissolved oxygen were performed on site. All other sample analyses were performed at the Pennsylvania Department of Environmental Protection laboratory in Harrisburg, Pa. Occasionally, values for filtered parameters may exceed values for the corresponding unfiltered parameter. These results are within the limits of analytical precision and methods.

COOPERATION.--Water-quality samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Part 1 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; ft<sup>3</sup>/s, cubic feet per second; mg/L, milligrams per liter; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; M, presence verified but not quantified]

Date	Sample start time	Discharge, instantaneous, ft <sup>3</sup> /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Osmotic pressure, water, unfiltered, milliosmoles per kilogram (82550)	pH, water, field, standard units (00400)	pH, water, laboratory, standard units (00403)	Specific conductance, water, unfiltered, laboratory, µS/cm at 25°C (90095)	Specific conductance, water, unfiltered, laboratory, µS/cm at 25°C (00095)	Temperature, water, °C (00010)	Dissolved solids dried at 180°C, water, filtered, mg/L (70300)
11-20-2012	1030	313	11.0	3.0	7.6	7.9	295	294	6.2	170
01-14-2013	1345	2,400	12.8	3.0	7.4	7.7	260	262	4.0	160
03-13-2013	1310	1,050	12.1	2.0	7.2	7.9	356	355	4.7	230
05-14-2013	1030	294	9.1	7.0	7.6	8.1	410	408	12.8	252
07-22-2013	1145	678	6.6	6.0	7.4	8.1	296	304	24.0	192
09-23-2013	1215	313	7.5	19	7.6	7.9	380	382	17.7	236

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Part 2 of 5

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Date	Sample start time	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, unfiltered, recoverable, mg/L (00916)	Magnesium, water, unfiltered, recoverable, mg/L (00927)	Potassium, water, unfiltered, recoverable, mg/L (00937)	Sodium, water, unfiltered, recoverable, mg/L (00929)	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as CaCO <sub>3</sub> (00417)	Bromide, water, filtered, mg/L (71870)	Chloride, water, filtered, mg/L (00940)
11-20-2012	1030	97	< 5	28.5	6.4	3.9	15.1	69	M	26.4
01-14-2013	1345	84	6	23.3	6.1	2.3	14.0	64	M	26.5
03-13-2013	1310	92	28	27.1	6.0	2.5	28.0	62	M	50.3
05-14-2013	1030	100	8	28.0	8.6	2.9	25.5	88	.1	49.5
07-22-2013	1145	93	14	26.4	6.6	3.4	16.8	78	M	30.4
09-23-2013	1215	120	12	36.5	8.0	4.0	29.0	92	.1	38.7

## 03104500 SHENANGO RIVER AT NEW CASTLE, PA—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Part 3 of 5

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Date	Sample start time	Sulfate, water, filtered, mg/L (00945)	Ammonia, water, unfiltered, mg/L as N (00610)	Nitrate, water, unfiltered, mg/L as N (00620)	Nitrite, water, unfiltered, mg/L as N (00615)	Orthophosphate, water, unfiltered, mg/L as P (70507)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, mg/L (00600)	Aluminum, water, unfiltered, recoverable, µg/L (01105)	Barium, water, unfiltered, recoverable, µg/L (01007)
11-20-2012	1030	27.5	0.120	1.68	< .040	0.06	0.100	2.3	< 200	M
01-14-2013	1345	20.8	.050	.87	< .040	.02	.052	1.3	200	M
03-13-2013	1310	25.2	.070	.94	< .040	.03	.097	1.4	1,000	M
05-14-2013	1030	34.7	.080	1.04	< .040	.05	.090	1.6	< 200	M
07-22-2013	1145	19.8	.040	.92	< .040	.06	.118	1.5	300	M
09-23-2013	1215	27.8	.080	1.41	< .040	.13	.190	2.0	200	M

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Part 4 of 5

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Date	Sample start time	Copper, water, unfiltered, recoverable, µg/L (01042)	Iron, water, unfiltered, recoverable, µg/L (01045)	Lead, water, unfiltered, recoverable, µg/L (01051)	Manganese, water, unfiltered, recoverable, µg/L (01055)	Nickel, water, unfiltered, recoverable, µg/L (01067)	Strontium, water, unfiltered, recoverable, micrograms per liter (01082)	Zinc, water, unfiltered, recoverable, µg/L (01092)	Boron, water, unfiltered, recoverable, micrograms per liter (01022)	Selenium, water, unfiltered, µg/L (01147)
11-20-2012	1030	< 4	570	< 1.0	110	< 50	70	< 10	< 200	< 7
01-14-2013	1345	< 4	550	< 1.0	70	< 50	70	10	< 200	< 7
03-13-2013	1310	M	1,420	M	90	< 50	80	20	< 200	< 7
05-14-2013	1030	< 4	690	< 1.0	170	< 50	100	< 10	< 200	< 7
07-22-2013	1145	M	1,000	M	170	< 50	80	20	< 200	< 7
09-23-2013	1215	< 4	800	M	120	< 50	100	20	< 200	< 7

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Part 5 of 5

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<b>Date</b>	<b>Sample start time</b>	<b>Organic carbon, water, filtered, mg/L (00681)</b>
<b>11-20-2012</b>	<b>1030</b>	5.8
<b>01-14-2013</b>	<b>1345</b>	4.4
<b>03-13-2013</b>	<b>1310</b>	4.8
<b>05-14-2013</b>	<b>1030</b>	4.7
<b>07-22-2013</b>	<b>1145</b>	6.1
<b>09-23-2013</b>	<b>1215</b>	4.9