01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ

RAHWAY RIVER BASIN

LOCATION.--Lat 40°41′15″, long 74°18′42″ referenced to North American Datum of 1983, Springfield Township, Union County, NJ, Hydrologic Unit 02030104, on left bank 50 ft downstream from bridge on eastbound U.S. Highway 22, 100 ft downstream from Pope Brook, and 1.5 mi south of Springfield.

DRAINAGE AREA.--25.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1938 to current year.

REVISED RECORDS.--WSP 1622: 1945. WDR NJ-1973: 1938(M), 1968(M), 1971(M).

GAGE.--Water-stage recorder and crest-stage gage. Former concrete control is no longer effective. Datum of gage is 66.17 ft above NGVD of 1929.

REMARKS.--Records good. Water for municipal supply diverted by City of Orange at Orange Reservoir upstream on the West Branch Rahway River. The flow past this station is affected by diversions by pumpage from wells by Orange, South Orange, New Jersey-American Water Company, and Springfield station of Elizabethtown Water Company (deactivated in late 1980s). Several measurements of water temperature were made during the year. Since 1980, the site may be affected during high flows by backwater from the Lenape Park flood control dam, about 1 mi downstream. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov 23	0400	1,040	5.50
Dec 8	0115	*1,480	*6.59

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 01394500, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/01394500.2012.pdf

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	45	60	26	22	22	37	17	74	12	8.5	162	6.4
2	50	40	22	23	21	19	39	28	73	8.2	20	20
3	17	28	21	20	20	66	14	82	13	8.2	11	16
4	13	25	21	19	19	21	14	24	76	8.9	9.4	41
5	12	23	22	19	19	17	13	19	14	8.7	21	28
6	11	21	29	19	19	16	13	17	12	7.7	22	14
7	11	20	236	19	18	15	13	16	14	7.8	8.9	10
8	11	21	585	18	18	15	13	16	11	8.7	8.0	16
9	11	20	56	18	18	18	13	24	11	7.6	11	16
10	11	20	35	18	18	15	15	23	11	7.7	107	10
11	12	21	28	17	19	15	13	15	11	7.2	14	9.0
12	12	22	26	254	17	15	13	14	53	7.4	10	7.8
13	21	22	24	60	18	16	13	15	87	6.9	8.7	5.8
14	118	22	22	27	17	15	11	14	13	6.8	8.7	5.4
15	14	22	21	22	17	13	12	62	12	8.9	12	4.7
16	10	114	20	20	18	14	12	108	11	13	9.2	4.1
17	10	48	20	30	20	13	12	16	9.8	5.1	8.0	4.6
18	9.7	20	19	24	17	13	12	13	9.7	37	40	104
19	98	19	18	20	18	13	12	12	9.4	13	8.0	45
20	128	19	18	19	16	13	14	12	10	71	8.0	9.8
21	16	22	19	20	16	14	13	232	10	15	7.5	8.3
22	11	149	27	19	16	13	150	88	35	9.3	7.4	26
23	11	579	152	76	16	13	289	23	15	7.7	7.4	41
24	10	65	26	75	79	13	28	25	8.0	8.9	7.7	8.4
25	11	33	21	27	36	16	22	20	11	6.9	5.6	8.1
26	10	27	20	26	17	13	21	17	10	24	6.3	6.6
27	54	25	146	123	16	12	20	15	8.0	21	36	7.9
28	18	23	153	40	15	13	19	15	8.1	8.8	15	30
29	96	43	30	26	40	13	19	14	11	34	7.1	10
30	196	76	25	23	---	12	16	20	8.9	10	6.6	9.0
31	74	---	23	21	---	59	---	12	---	7.9	6.5	---
Total	1,131.7	1,649	1,911	1,164	620	570	885	1,085	597.9	411.8	620.0	532.9
Mean	36.5	55.0	61.6	37.5	21.4	18.4	29.5	35.0	19.9	13.3	20.0	17.8
Max	196	579	585	254	79	66	289	232	87	71	162	104
Min	9.7	19	18	17	15	12	11	12	8.0	5.1	5.6	4.1
Cfsm	1.43	2.16	2.42	1.47	0.84	0.72	1.16	1.37	0.78	0.52	0.78	0.70
In.	1.65	2.41	2.79	1.70	0.90	0.83	1.29	1.58	0.87	0.60	0.90	0.78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2012, BY WATER YEAR (WY)

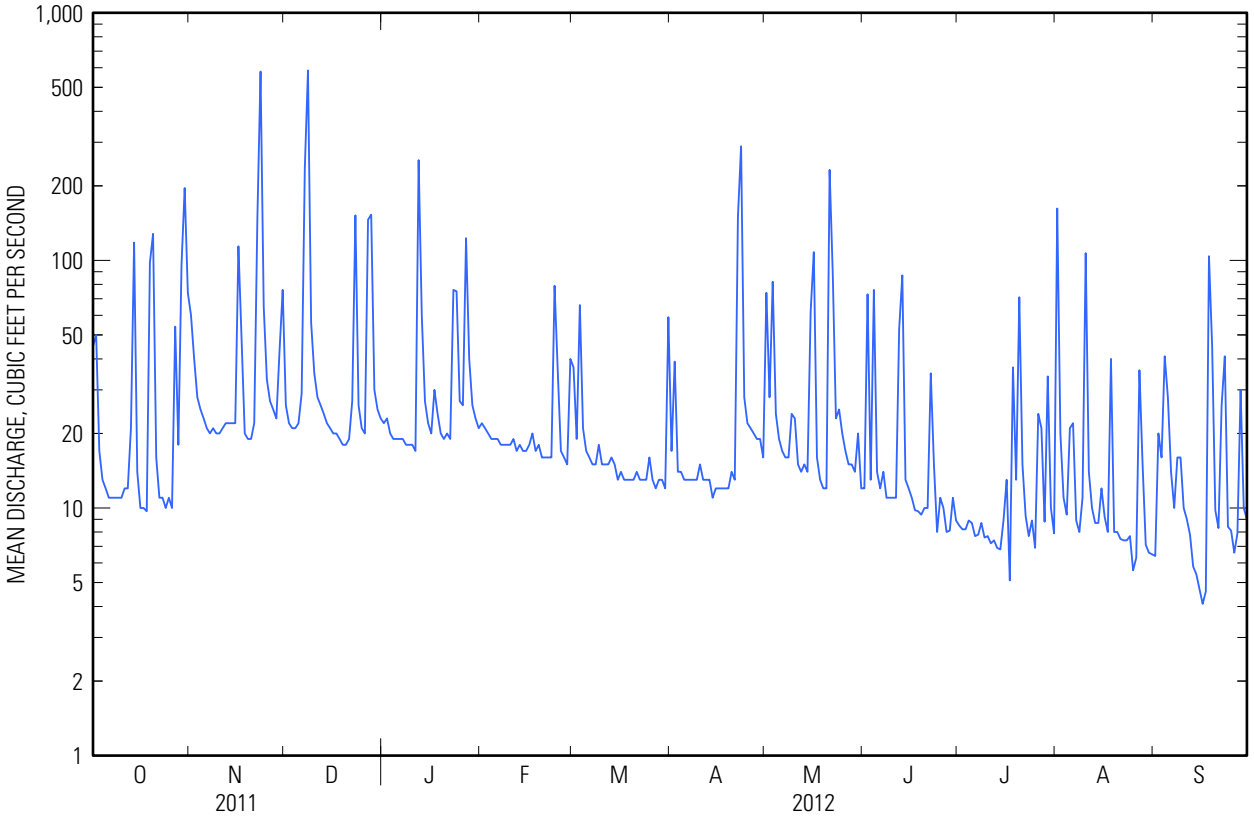
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	21.9	28.5	33.9	32.3	34.9	49.8	44.8	34.9	26.8	25.6	26.0	24.5
Max	111	107	129	116	79.5	178	186	112	123	138	228	151
(WY)	(2006)	(1973)	(1984)	(1979)	(1998)	(2010)	(2007)	(1989)	(2003)	(1975)	(2011)	(1999)
Min	2.17	2.73	4.02	4.26	6.86	8.08	7.37	6.31	4.14	2.23	2.10	2.97
(WY)	(1964)	(1950)	(1940)	(1966)	(2002)	(1981)	(1963)	(1965)	(1965)	(1966)	(1964)	(1964)

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ—Continued

SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1939 - 2012	
Annual total	25,159.9		11,178.3			
Annual mean	68.9		30.5		32.0	
Highest annual mean					61.9	2011
Lowest annual mean					10.0	1965
Highest daily mean	4,650	Aug 28	585	Dec 8	[a]4,650	Aug 28, 2011
Lowest daily mean	7.5	Jul 31	4.1	Sep 16	0.40	Sep 11, 1966
Annual seven-day minimum	9.2	Jul 17	5.9	Sep 11	0.71	Oct 8, 1970
Maximum peak flow			1,480	Dec 8	[b]8,620	Aug 28, 2011
Maximum peak stage			6.59	Dec 8	[c]10.88	Aug 28, 2011
Instantaneous low flow			4.1	Many days	0.10	Sep 11, 1966
Annual runoff (cfsm)	2.70		1.20		1.25	
Annual runoff (inches)	36.70		16.31		17.04	
10 percent exceeds	110		63		62	
50 percent exceeds	22		17		12	
90 percent exceeds	11		8.1		3.8	

[a] Estimated.
[b] From rating curve extended above 2,820 ft³/s on basis of slope-area measurement of peak flow.
[c] From high-water mark in gage house.



01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

REMARKS.--Cooperative Network Site Descriptor: Urban Land Use Indicator, NJ Department of Environmental Protection Watershed Management Area 7.

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the NJ Department of Environmental Protection. Determination of concentrations of ammonia in filtered water and concentrations of suspended solids in unfiltered water was performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory (DHSS-ECL).

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 1 of 5

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per cm (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per cm (61726)	Discharge, instantaneous, ft^3/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
12-19-2011	**1100**	764	7.7	0.059	0.044	19	10.9	83	8.1
02-29-2012	**1000**	765	6.0	.063	.046	14	9.3	78	7.7
06-11-2012	**1130**	771	25.0	.087	.064	11	3.8	42	7.7
09-05-2012	**1110**	757	25.3	.166	.120	17	4.4	50	7.4

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 2 of 5

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than]

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)	Dissolved solids dried at 180°C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, sum of constituents, mg/L (70301)	Hardness, water, mg/L as $CaCO_3$ (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)
12-19-2011	**1100**	691	3.2	1.7	396	377	207	3	62.1
02-29-2012	**1000**	729	7.0	2.0	439	404	213	< 1	64.1
06-11-2012	**1130**	714	20.4	3.6	418	381	215	1	65.0
09-05-2012	**1110**	397	27.7	4.5	230	218	119	7	36.0

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 3 of 5

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than]

Date	Sample start time	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as $CaCO_3$ (90410)	Carbon (inorganic plus organic), suspended sediment, total, mg/L (00694)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO_2 (00955)
12-19-2011	1100	12.6	2.00	52.4	113	0.20	128	0.10	< .03	17.4
02-29-2012	1000	12.9	1.92	63.9	111	.40	154	.08	< .03	9.87
06-11-2012	1130	12.8	2.35	50.7	124	.49	128	.11	.06	15.8
09-05-2012	1110	7.04	2.19	32.9	75.4	.60	65.6	.05	< .03	9.63

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 4 of 5

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than]

Date	Sample start time	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Particulate nitrogen, suspended in water, mg/L (49570)	Phosphorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, filtered, mg/L (00602)	Total nitrogen, water, unfiltered, mg/L (00600)
12-19-2011	1100	27.6	0.19	0.027	1.60	< .017	0.026	0.046	1.8	< 1.8
02-29-2012	1000	26.1	.28	.026	1.05	.070	.015	.039	1.3	1.4
06-11-2012	1130	27.3	.32	.074	1.10	.073	.082	.131	1.4	1.5
09-05-2012	1110	16.3	.38	.049	.681	.047	.085	.110	1.1	1.1

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 5 of 5

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than]

Date	Sample start time	Organic carbon, suspended sediment, total, mg/L (00689)	Organic carbon, water, filtered, mg/L (00681)
12-19-2011	1100	0.20	2.25
02-29-2012	1000	.40	2.46
06-11-2012	1130	.43	2.98
09-05-2012	1110	.60	4.50

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 1 of 5

[mm, millimeters; <, less than; E, estimated]

Date	Sample start time	Moisture content, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, percent (49282)	pH, bed sediment, standard units (70310)	Carbon (inorganic plus organic), bed sediment, total, dry weight, grams per kilogram (00693)	Inorganic carbon, bed sediment, total, dry weight, grams per kilogram (00686)	Phosphorus, bed sediment, total, dry weight, milligrams per kilogram as phosphorus (00668)	p-Cresol, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49451)	PCBs, bed sediment, recoverable, dry weight, micrograms per kilogram (39519)	1,2-Dimethylnaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49403)	1,6-Dimethylnaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49404)
09-05-2012	1110	22	7.26	7.8	1.0	200	< 50	19.0	< 50	4

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 2 of 5
[mm, millimeters; <, less than; E, estimated]

Date	Sample start time	1-Methyl-9H-fluorene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49398)	1-Methylphenanthrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49410)	1-Methylpyrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49388)	2,3,6-Trimethylnaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49405)	2,6-Dimethylnaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49406)	2-Ethylnaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49948)	2-Methylanthracene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49435)	4H-Cyclopenta[def]phenanthrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49411)	9H-Fluorene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49399)
09-05-2012	1110	< 50	74	87	4	7	3	31	170	59

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 3 of 5
[mm, millimeters; <, less than; E, estimated]

Date	Sample start time	Acenaphthene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49429)	Acenaphthylene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49428)	Anthracene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49434)	Benzo[a]anthracene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49436)	Benzo[a]pyrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49389)	Benzo[b]fluoranthene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49458)	Benzo[ghi]perylene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49408)	Benzo[k]fluoranthene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49397)	Chrysene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49450)
09-05-2012	1110	43	20	160	980	1,100	E 1,800	840	E 840	1,600

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 4 of 5
[mm, millimeters; <, less than; E, estimated]

Date	Sample start time	Dibenzo[a,h]anthracene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49461)	Fluoranthene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49466)	Indeno[1,2,3-cd]pyrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49390)	Isophorone, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49400)	Naphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49402)	Phenanthrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49409)	Phenanthridine, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49393)	Pyrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram (49387)	Bed sediment, fall diameter (deionized water), percent smaller than 0.004 millimeters (80157)
09-05-2012	**1110**	E 210	2,400	E 730	< 50	22	920	49	2,200	0.0

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 5 of 5
[mm, millimeters; <, less than; E, estimated]

Date	Sample start time	Bed sediment, dry sieved, sieve diameter, percent smaller than 0.0625 mm (80164)
09-05-2012	**1110**	1