



Water-Data Report 2010

**01411955 GRAVELLY RUN AT LAUREL LAKE, NJ**

MAURICE RIVER BASIN

LOCATION.--Lat 39°20'14", long 75°03'03" referenced to North American Datum of 1983, Commercial Township, Cumberland County, NJ, Hydrologic Unit 02040206, at culvert on Battle Lane, 0.3 mi upstream from mouth and Buckshutem Creek, 1.1 mi west of community of Laurel Lake, and 2.5 mi southeast of Millville Municipal Airport.

DRAINAGE AREA.--3.19 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--Miscellaneous measurements, water years 1998 to current year.

GAGE.--Staff gage.

**DISCHARGE MEASUREMENTS  
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

<b>Date</b>	<b>Discharge, in ft<sup>3</sup>/s</b>
Nov 24, 2009	3.10
Feb 17, 2010	5.20
Jun 22, 2010	1.84
Aug 26, 2010	0.97

## 01411955 GRAVELLY RUN AT LAUREL LAKE, NJ—Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1998 to current year.

REMARKS.--Cooperative Network Site Descriptor: Background, NJ Department of Environmental Protection Watershed Management Area 17.

COOPERATION.--Physical measurements and samples for laboratory analysis were collected in cooperation with the NJ Department of Environmental Protection. Determinations of dissolved ammonia, dissolved orthophosphate, suspended residue were performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory.

## WATER-QUALITY DATA

## WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 1 of 7

[% , percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; ft<sup>3</sup>/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; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per centimeter (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per centimeter (61726)	Discharge, instantaneous, ft <sup>3</sup> /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)
11-24-2009	1145	Surface water	Regular	765	12.0	.312	.243	3.1	8.9
02-17-2010	1217	QC sample - Artificial	Field Blank	--	--	--	--	--	--
02-17-2010	1245	Surface water	Regular	749	2.0	.238	.181	5.2	12.2
06-22-2010	1110	Surface water	Regular	764	29.0	.317	.253	1.8	7.5
08-26-2010	1120	Surface water	Regular	760	24.0	.200	.159	.97	7.7

## WATER-QUALITY DATA

## WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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Date	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	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, milligrams per liter (70301)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Suspended solids, water, unfiltered, mg/L (00530)
11-24-2009	81	4.1	45	11.1	1.4	29	< 22	3.48	2
02-17-2010	--	--	--	--	--	--	--	--	--
02-17-2010	92	4.0	54	3.5	1.3	37	< 22	3.26	4
06-22-2010	79	4.8	32	17.8	3.8	22	< 18	2.68	5
08-26-2010	107	5.1	28	17.3	1.1	20	< 20	3.03	2

## 01411955 GRAVELLY RUN AT LAUREL LAKE, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; ft<sup>3</sup>/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; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Calcium, water, filtered, mg/L (00915)	Magne- sium, 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 <sub>3</sub> (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 <sub>2</sub> (00955)
11-24-2009	.52	.529	.37	2.85	< 1.7	.24	5.72	< .08	< .06	7.2
02-17-2010	--	--	--	--	--	--	--	--	--	--
02-17-2010	.48	.502	.32	2.79	< 1.7	.19	6.05	< .08	< .06	5.5
06-22-2010	.38	.424	.43	2.55	< 1.7	1.39	4.87	E .04	< .06	6.9
08-26-2010	.40	.491	.49	2.46	< 1.7	.45	5.13	< .08	< .06	7.8

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; ft<sup>3</sup>/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; μg/L, micrograms per liter; <, less than; E, estimated]

Date	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)	Orthophos- phate, water, filtered, mg/L as P (00671)	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)
11-24-2009	3.16	.18	.021	.05	E .006	< .03	< .008	< .008	.23
02-17-2010	--	--	--	--	--	--	--	--	--
02-17-2010	4.56	E .08	.026	.07	E .006	< .03	< .008	< .008	E .15
06-22-2010	1.26	.19	.021	.08	--	.06	E .005	.011	.26
08-26-2010	1.29	.18	.026	.10	--	< .03	< .008	E .005	.28

## 01411955 GRAVELLY RUN AT LAUREL LAKE, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; ft<sup>3</sup>/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; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Total nitrogen, water, unfiltered, mg/L (00600)	Barium, water, unfiltered, recoverable, µg/L (01007)	Beryllium, water, unfiltered, recoverable, µg/L (01012)	Cadmium, water, unfiltered, µg/L (01027)	Chromium, water, unfiltered, recoverable, µg/L (01034)	Copper, water, filtered, µg/L (01040)	Copper, water, unfiltered, recoverable, µg/L (01042)	Iron, water, unfiltered, recoverable, µg/L (01045)	Lead, water, filtered, µg/L (01049)	Lead, water, unfiltered, recoverable, µg/L (01051)
11-24-2009	< .27	--	--	--	--	--	--	--	--	--
02-17-2010	--	--	--	--	--	< 1.0	--	--	< .03	--
02-17-2010	< .18	21.2	.11	E .03	E .29	--	< 1.4	86	--	.88
06-22-2010	.32	--	--	--	--	--	--	--	--	--
08-26-2010	< .31	14.2	E .03	< .04	< .42	--	< 1.4	286	--	.77

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; ft<sup>3</sup>/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; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Manganese, water, unfiltered, recoverable, µg/L (01055)	Mercury, water, filtered, µg/L (71890)	Mercury, water, unfiltered, recoverable, µg/L (71900)	Nickel, water, filtered, µg/L (01065)	Nickel, water, unfiltered, recoverable, µg/L (01067)	Silver, water, unfiltered, recoverable, µg/L (01077)	Zinc, water, filtered, µg/L (01090)	Zinc, water, unfiltered, recoverable, µg/L (01092)	Arsenic, water, filtered, µg/L (01000)	Arsenic, water, unfiltered, µg/L (01002)
11-24-2009	--	--	--	--	--	--	--	--	--	--
02-17-2010	--	< .010	--	< .12	--	--	< 2.8	--	< .04	--
02-17-2010	8.2	--	< .010	--	.69	< .02	--	4.2	.15	E .17
06-22-2010	--	--	--	--	--	--	--	--	--	--
08-26-2010	4.0	--	< .010	--	.51	< .02	--	E 1.7	.14	.35

## 01411955 GRAVELLY RUN AT LAUREL LAKE, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; ft<sup>3</sup>/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; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Boron, water, unfiltered, recoverable, micrograms per liter (01022)	Selenium, water, unfiltered, μg/L (01147)	Organic carbon, suspended sediment, total, mg/L (00689)	Organic carbon, water, filtered, mg/L (00681)
11-24-2009	--	--	.24	6.6
02-17-2010	--	--	--	--
02-17-2010	E 10	E .08	.18	5.4
06-22-2010	--	--	1.38	6.0
08-26-2010	E 11	E .08	.44	3.4

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[μg/L, micrograms per liter; &lt;, less than]

Date	Sample start time	1-Naphthol, water, filtered (0.7 micron glass fiber filter), recoverable, μg/L (49295)	2,6-Diethyl-aniline, water, filtered (0.7 micron glass fiber filter), recoverable, μg/L (82660)	2-Chloro-2',6'-diethyl-acetanilide, water, filtered, recoverable, μg/L (61618)	2-Chloro-4-isopropyl-amino-6-aminotriazine, water, filtered, recoverable, μg/L (04040)	2-Ethyl-6-methyl-aniline, water, filtered, recoverable, μg/L (61620)	3,4-Dichloro-aniline, water, filtered, recoverable, μg/L (61625)	3,5-Dichloro-aniline, water, filtered, recoverable, μg/L (61627)	4-Chloro-2-methyl-phenol, water, filtered, recoverable, μg/L (61633)	Acetochlor, water, filtered, recoverable, μg/L (49260)
06-22-2010	1110	< .04	< .006	< .010	< .014	< .010	< .004	< .003	< .003	< .010

## 01411955 GRAVELLY RUN AT LAUREL LAKE, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[µg/L, micrograms per liter; &lt;, less than]

Date	Atachlor, water, filtered, recover- able, µg/L (46342)	alpha- Endo- sulfan, water, filtered, recover- able, µg/L (34362)	Atrazine, water, filtered, recover- able, µg/L (39632)	Azinphos- methyl oxygen analog, water, filtered, recover- able, µg/L (61635)	Azinphos- methyl, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82686)	Benfluralin, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82673)	Carbaryl, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82680)	Carbofuran, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82674)	Chlorpyrifos oxygen analog, water, filtered, recoverable, µg/L (61636)
	06-22-2010	< .008	< .006	< .007	< .04	< .120	< .014	< .060	< .060

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[µg/L, micrograms per liter; &lt;, less than]

Date	Chlor- pyrifos, water, filtered, recover- able, µg/L (38933)	cis- Permeth- rin, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82687)	cis- Propicon- azole, water, filtered, recover- able, µg/L (79846)	Cyanazine, water, filtered, recover- able, µg/L (04041)	Cyfluthrin, water, filtered, recover- able, µg/L (61585)	Cyper- methrin, water, filtered, recover- able, µg/L (61586)	DCPA, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82682)	Desulfinyl- fipronil amide, water, filtered, recover- able, µg/L (62169)	Desulfinyl- fipronil, water, filtered, recover- able, µg/L (62170)	Diazinon, water, filtered, recover- able, µg/L (39572)
	06-22-2010	< .010	< .014	< .006	< .022	< .016	< .020	< .008	< .029	< .012

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[µg/L, micrograms per liter; &lt;, less than]

Date	Dichlorvos , water, filtered, recover- able, µg/L (38775)	Dicro- tophos, water, filtered, recover- able, µg/L (38454)	Dieldrin, water, filtered, recover- able, µg/L (39381)	Dimetho- ate, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82662)	Disulfoton sulfone, water, filtered, recover- able, µg/L (61640)	Disulfoton, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82677)	Endosulfan sulfate, water, filtered, recover- able, µg/L (61590)	EPTC, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82668)	Ethion monoxon, water, filtered, recover- able, µg/L (61644)	Ethion, water, filtered, recover- able, µg/L (82346)
	06-22-2010	< .02	< .08	< .009	< .006	< .01	< .04	< .014	< .002	< .02

## 01411955 GRAVELLY RUN AT LAUREL LAKE, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[µg/L, micrograms per liter; &lt;, less than]

Date	Ethoprop, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82672)	Fenami- phos sulfone, water, filtered, recover- able, µg/L (61645)	Fenami- phos sulfoxide, water, filtered, recover- able, µg/L (61646)	Fenami- phos, water, filtered, recover- able, µg/L (61591)	Fipronil sulfide, water, filtered, recover- able, µg/L (62167)	Fipronil sulfone, water, filtered, recover- able, µg/L (62168)	Fipronil, water, filtered, recover- able, µg/L (62166)	Fonofos, water, filtered, recover- able, µg/L (04095)	Hexa- zinone, water, filtered, recover- able, µg/L (04025)	Iprodione, water, filtered, recover- able, µg/L (61593)
06-22-2010	< .016	< .053	< .08	< .03	< .013	< .024	< .018	< .004	< .008	< .014

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[µg/L, micrograms per liter; &lt;, less than]

Date	Isofen- phos, water, filtered, recover- able, µg/L (61594)	lambda- Cyhalo- thrin, water, filtered, recover- able, µg/L (61595)	Malaoxon, water, filtered, recover- able, µg/L (61652)	Malathion, water, filtered, recover- able, µg/L (39532)	Metalaxyl, water, filtered, recover- able, µg/L (61596)	Methida- thion, water, filtered, recover- able, µg/L (61598)	Methyl paraoxon, water, filtered, recover- able, µg/L (61664)	Methyl parathion, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82667)	Metola- chlor, water, filtered, recover- able, µg/L (39415)	Metribuzin , water, filtered, recover- able, µg/L (82630)
06-22-2010	< .006	< .010	< .080	< .016	< .007	< .006	< .01	< .008	< .014	< .012

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[µg/L, micrograms per liter; &lt;, less than]

Date	Molinate, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82671)	Myclo- butanil, water, filtered, recover- able, µg/L (61599)	Oxy- fluorfen, water, filtered, recover- able, µg/L (61600)	Pendi- methalin, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82683)	Phorate oxygen analog, water, filtered, recover- able, µg/L (61666)	Phorate, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82664)	Phosmet oxygen analog, water, filtered, recover- able, µg/L (61668)	Phosmet, water, filtered, recover- able, µg/L (61601)	Prometon, water, filtered, recover- able, µg/L (04037)	Prometryn, water, filtered, recover- able, µg/L (04036)
06-22-2010	< .003	< .010	< .010	< .012	< .03	< .020	< .05	< .034	< .01	< .006

## 01411955 GRAVELLY RUN AT LAUREL LAKE, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[µg/L, micrograms per liter; &lt;, less than]

Date	Propanil, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82679)	Propargite, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82685)	Propyz- amide, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82676)	Simazine, water, filtered, recover- able, µg/L (04035)	Tebu- thiuron, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82670)	Tefluthrin, water, filtered, recover- able, µg/L (61606)	Terbufos oxygen analog sulfone, water, filtered, recover- able, µg/L (61674)	Terbufos, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82675)	Terbuthyl- azine, water, filtered, recover- able, µg/L (04022)	Thioben- carb, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82681)
06-22-2010	< .010	< .02	< .004	< .006	< .03	< .010	< .04	< .02	< .01	< .016

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER**  
**2010**

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[µg/L, micrograms per liter; &lt;, less than]

Date	trans- Propicon- azole, water, filtered, recover- able, µg/L (79847)	Tribuphos, water, filtered, recover- able, µg/L (61610)	Trifluralin, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82661)
06-22-2010	< .02	< .018	< .018