



Water-Data Report 2011

**391240075432001 Local number Ib32-08**

Northern Atlantic Coastal Plain aquifer system  
Columbia Group

Kent County, DE

LOCATION.--Lat 39°12'40.38", long 75°43'19.68" referenced to North American Datum of 1983, Kent County, DE, Hydrologic Unit 02060002.

**WATER-QUALITY RECORDS**

WELL CHARACTERISTICS.--Depth 14 ft. Upper casing diameter 2.00 in; top of first opening 11 ft, bottom of last opening 14 ft.

PERIOD OF RECORD.--Intermittent records have been collected at this location; water year 2003 to current year.

**WATER-QUALITY DATA**

**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 1 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Depth to water level, ft below land surface (72019)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	Flow rate, instantaneous, gallons per minute (00059)	pH, water, unfiltered, field, standard units (00400)
07-18-2011	0830	Groundwater	Regular	763	28.0	3.50	.2	2	.38	5.3

**WATER-QUALITY DATA**

**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 2 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	pH, water, unfiltered, 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)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	alpha-HCH-d6, surrogate, Schedule 2003, water, filtered, percent recovery (99995)	Diazinon-d10, surrogate, Schedule 2003, water, filtered, percent recovery (99994)
07-18-2011	0830	5.8	121	121	16.3	.3	106	97.4

391240075432001 Local number Ib32-08—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 3 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Sampler type (84164)	Sampling method (82398)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)
07-18-2011	0830	Sbmrsbl pos pressure	Submersible pump	105	37.6	12.8	1.37	2.29

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 4 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Sodium, water, filtered, mg/L (00930)	Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as CaCO <sub>3</sub> (39086)	Bicarbonate, water, filtered, inflection-point, incremental titration method, field, mg/L (00453)	Bromide, water, filtered, mg/L (71870)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Hydrogen sulfide, water, unfiltered, mg/L (71875)	Silica, water, filtered, mg/L as SiO <sub>2</sub> (00955)
07-18-2011	0830	4.46	6	7	.0187	11.1	<.04	U	20.3

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 5 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Sulfate, water, filtered, mg/L (00945)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrate, water, filtered, mg/L as N (00618)	Nitrite, water, filtered, mg/L as N (00613)	Organic nitrogen, water, filtered, mg/L (00607)	Orthophosphate, water, filtered, mg/L (00660)	Orthophosphate, water, filtered, mg/L as P (00671)
07-18-2011	0830	20.9	<.010	2.34	2.34	<.0010	<.05	.036	.0116

## 391240075432001 Local number Ib32-08—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 6 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Total nitrogen, water, filtered, analytically determined, mg/L (62854)	Aluminum, water, filtered, µg/L (01106)	Barium, water, filtered, µg/L (01005)	Beryllium, water, filtered, µg/L (01010)	Cadmium, water, filtered, µg/L (01025)	Chromium, water, filtered, µg/L (01030)	Cobalt, water, filtered, µg/L (01035)	Copper, water, filtered, µg/L (01040)	Iron, water, filtered, µg/L (01046)
07-18-2011	0830	2.39	3.75	46.8	.217	.028	.202	.294	1.37	< 3.2

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 7 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Lead, water, filtered, µg/L (01049)	Lithium, water, filtered, µg/L (01130)	Manganese, water, filtered, µg/L (01056)	Molybdenum, water, filtered, µg/L (01060)	Nickel, water, filtered, µg/L (01065)	Silver, water, filtered, µg/L (01075)	Strontium, water, filtered, µg/L (01080)	Thallium, water, filtered, µg/L (01057)	Vanadium, water, filtered, µg/L (01085)
07-18-2011	0830	.0504	2.52	16.4	.0280	.767	< .005	102	.0199	.295

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 8 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Zinc, water, filtered, µg/L (01090)	Antimony, water, filtered, µg/L (01095)	Arsenic, water, filtered, µg/L (01000)	Boron, water, filtered, µg/L (01020)	Selenium, water, filtered, µg/L (01145)	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-amino-s-triazine, water, filtered, recoverable, µg/L (04040)
07-18-2011	0830	< 1.4	< .027	.026	4.5	5.62	< .036	< .0060	< .010	E .370

## 391240075432001 Local number Ib32-08—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 9 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	2-Ethyl-6-methyl-aniline, water, filtered, recoverable, µg/L (61620)	3,4-Dichloro-aniline, water, filtered, recoverable, µg/L (61625)	3,5-Di-chloro-aniline, water, filtered, recoverable, µg/L (61627)	4-Chloro-2-methyl-phenol, water, filtered, recoverable, µg/L (61633)	Aceto-chlor, water, filtered, recoverable, µg/L (49260)	Alachlor, water, filtered, recoverable, µg/L (46342)	alpha-Endo-sulfan, water, filtered, recoverable, µg/L (34362)	Atrazine, water, filtered, recoverable, µg/L (39632)	Azinphos-methyl oxygen analog, water, filtered, recoverable, µg/L (61635)
07-18-2011	0830	< .010	< .0042	< .0040	< .0046	< .010	< .008	< .006	< .008	< .042

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 10 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Azinphos-methyl, water, filtered (0.7 micron glass fiber filter), recoverable, 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), recoverable, 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)	Chlorpyrifos, water, filtered, recoverable, µg/L (38933)	cis-Permethrin, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82687)	cis-Propiconazole, water, filtered, recoverable, µg/L (79846)
07-18-2011	0830	< .12	< .014	< .06	< .060	< .06	< .0036	< .010	< .008

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 11 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Cyanazine, water, filtered, recoverable, µg/L (04041)	Cyfluthrin, water, filtered, recoverable, µg/L (61585)	Cyper-methrin, water, filtered, recoverable, µg/L (61586)	DCPA, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82682)	Desulfinyl-fipronil, water, filtered, recoverable, µg/L (62169)	Desulfinyl-fipronil, water, filtered, recoverable, µg/L (62170)	Diazinon, water, filtered, recoverable, µg/L (39572)	Dichlorvos, water, filtered, recoverable, µg/L (38775)	Dicrotophos, water, filtered, recoverable, µg/L (38454)
07-18-2011	0830	< .022	< .016	< .020	< .0076	< .029	< .012	< .0060	< .04	< .08

## 391240075432001 Local number Ib32-08—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 12 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Diethrin, 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)	Ethprop, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82672)
		07-18-2011	0830	< .008	< .006	< .014	< .040	< .016	< .0056	< .021

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 13 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	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)
		07-18-2011	0830	< .054	< .08	< .030	< .012	< .024	< .018	< .0048

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 14 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	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)
		07-18-2011	0830	< .006	< .010	< .022	< .016	< .014	< .012	< .014

391240075432001 Local number Ib32-08—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 15 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Metribuzin,	Molinate,	Myclobutanil,	Oxyfluorfen,	Pendimethalin,	Phorate oxygen analog,	Phorate,	Phosmet oxygen analog,	Prometon,
		water, filtered, recoverable, µg/L (82630)	water, filtered, recoverable, µg/L (82671)	water, filtered, recoverable, µg/L (61599)	water, filtered, recoverable, µg/L (61600)	water, filtered, recoverable, µg/L (82683)	water, filtered, recoverable, µg/L (61666)	water, filtered, recoverable, µg/L (82664)	water, filtered, recoverable, µg/L (61668)	water, filtered, recoverable, µg/L (04037)
07-18-2011	0830	< .012	< .0040	< .010	< .006	< .012	< .027	< .020	< .0511	< .012

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 16 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Prometryn,	Propanil,	Propargite,	Propyzamide,	Tebu-thiuron,	Tefluthrin,	Terbufos oxygen analog sulfone,	Terbufos,	
		water, filtered, recoverable, µg/L (04036)	water, filtered, recoverable, µg/L (82679)	water, filtered, recoverable, µg/L (82685)	water, filtered, recoverable, µg/L (82676)	water, filtered, recoverable, µg/L (04035)	water, filtered, recoverable, µg/L (82670)	water, filtered, recoverable, µg/L (61606)	water, filtered, recoverable, µg/L (61674)	water, filtered, recoverable, µg/L (82675)
07-18-2011	0830	< .006	< .010	< .020	< .0036	< .006	< .028	< .010	< .045	< .018

391240075432001 Local number Ib32-08—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 17 of 17

[%, percent; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; 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; U, analyzed for but not detected]

Date	Sample start time	Terbutyl-	Thioben-	trans-	Tribuphos,	Trifluralin,	Uranium
		azine,	carb,	Propicon-	water,	water,	
		water,	water,	azole,	water,	water,	(natural),
		filtered,	filtered	water,	filtered,	glass fiber	water,
		recover-	(0.7 micron	filtered,	recover-	filter),	filtered,
		able,	glass fiber	recover-	able,	recover-	recover-
		µg/L	filter),	able,	µg/L	able,	µg/L
		(04022)	recover-	(79847)	(61610)	(82661)	(22703)
			able,				
			µg/L				
			(82681)				
07-18-2011	0830	<.0060	<.016	<.010	<.018	<.018	<.004