



Water-Data Report 2011

402606074163401 Local number 231456 MW103 Repl NJ Permit Number 29-13544

Northern Atlantic Coastal Plain aquifer system
Magothy-Raritan-Potomac Aquifer System, Upper Aquifer

Middlesex County, NJ

LOCATION.--Lat 40°26'05.7", long 74°16'34.3" referenced to North American Datum of 1983, Old Bridge Township, Middlesex County, NJ, Hydrologic Unit 02030104, in Cheesequake State Park, 300 ft southwest of Perrinés Rd, near Perrine Pond.

WATER-QUALITY RECORDS

WELL CHARACTERISTICS.--Depth 31.2 ft. Upper casing diameter 2 in; top of first opening 22.2 ft, bottom of last opening 31.2 ft.

DATUM.--Land-surface datum is 50 ft above National Geodetic Vertical Datum of 1929. Measuring point: Undefined.

PERIOD OF RECORD.--Water years 2006 and 2011.

REMARKS.--NJDEP Watershed Management Area 12. Undeveloped Land Use Indicator.

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the New Jersey Geological and Water Survey.

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

Part 1 of 10

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, 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]

| Date | Sample start time | Barometric pressure, mm Hg (00025) | 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) | Specific conductance, water, unfiltered, µS/cm at 25 °C (00095) | Temperature, water, °C (00010) |
|------------|-------------------|------------------------------------|---|---|---|--|--|---|--------------------------------|
| 07-12-2011 | 1045 | 758 | 25.00 | 4.0 | 39 | .11 | 4.3 | 92 | 14.2 |

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 2 of 10

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, 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]

| Date | Sample start time | Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676) | Pump or flow period prior to sampling, minutes (72004) | Dissolved solids dried at 180 °C, filtered, mg/L (70300) | Dissolved solids, water, filtered, sum of constituents, mg/L (70301) | Hardness, water, mg/L as CaCO ₃ (00900) | Calcium, water, filtered, mg/L (00915) | Magnesium, water, filtered, mg/L (00925) | Potassium, water, filtered, mg/L (00935) |
|------------|-------------------|--|--|--|--|--|--|--|--|
| 07-12-2011 | 1045 | 4.2 | 60 | 54 | < 49 | 17.9 | 3.88 | 1.97 | 1.06 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 3 of 10

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, 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]

| Date | Sample start time | Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as CaCO ₃ (39086) | Sodium, water, filtered, mg/L (00930) | Chloride, water, filtered, mg/L (00940) | Fluoride, water, filtered, mg/L (00950) | Silica, water, filtered, mg/L as SiO ₂ (00955) | 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) |
|------------|-------------------|---|---------------------------------------|---|---|---|--|---|---|--|
| 07-12-2011 | 1045 | 3.20 | < 1 | 6.19 | < .04 | 5.8 | 25.0 | .07 | < .010 | .02 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, 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]

| Date | Sample start time | Nitrite, water, filtered, mg/L as N (00613) | Orthophosphate, water, filtered, mg/L as P (00671) | 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) | Copper, water, filtered, µg/L (01040) | Iron, water, filtered, µg/L (01046) |
|------------|-------------------|---|--|---|---------------------------------------|--|--|---|---------------------------------------|-------------------------------------|
| 07-12-2011 | 1045 | < .001 | .005 | 755 | 68 | .13 | .15 | .56 | .93 | 6 |

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 5 of 10

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, 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]

| Date | Sample start time | Lead, water, filtered, µg/L (01049) | Manganese, water, filtered, µg/L (01056) | Mercury, water, filtered, µg/L (71890) | Nickel, water, filtered, µg/L (01065) | 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) |
|------------|-------------------|-------------------------------------|--|--|---------------------------------------|-------------------------------------|---|--|--------------------------------------|---|
| 07-12-2011 | 1045 | .07 | 65.7 | < .005 | 10.1 | 136 | < .03 | .07 | 9 | .11 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 6 of 10

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, 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]

| Date | Sample start time | 1,2-Dichloroethane, water, unfiltered, recoverable, µg/L (32103) | 1,2-Dichloropropane, water, unfiltered, recoverable, µg/L (34541) | 1,4-Dichlorobenzene, water, unfiltered, recoverable, µg/L (34571) | 1,1,1-Trichloroethane, water, unfiltered, recoverable, µg/L (34506) | 1,1,2-Trichloroethane, water, unfiltered, recoverable, µg/L (77652) | 1,1-Dichloroethane, water, unfiltered, recoverable, µg/L (34496) | 1,1-Dichloroethene, water, unfiltered, recoverable, µg/L (34501) | 1,2-Dichlorobenzene, water, unfiltered, recoverable, µg/L (34536) | 1,3-Dichlorobenzene, water, unfiltered, recoverable, µg/L (34566) |
|------------|-------------------|--|---|---|---|---|--|--|---|---|
| 07-12-2011 | 1045 | < .2 | < .1 | < .1 | < .1 | < .1 | < .1 | < .1 | < .1 | < .1 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 7 of 10

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, 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]

| Date | Sample start time | Benzene, water, unfiltered, recoverable, µg/L (34030) | Bromodichloromethane, water, unfiltered, recoverable, µg/L (32101) | Chlorobenzene, water, unfiltered, recoverable, µg/L (34301) | cis-1,2-Dichloroethene, water, unfiltered, recoverable, µg/L (77093) | Dibromochloromethane, water, unfiltered, recoverable, µg/L (32105) | Dichlorodifluoromethane, water, unfiltered, recoverable, µg/L (34668) | Dichloromethane, water, unfiltered, recoverable, µg/L (34423) | Diethyl ether, water, unfiltered, recoverable, µg/L (81576) | Diisopropyl ether, water, unfiltered, recoverable, µg/L (81577) |
|------------|-------------------|---|--|---|--|--|---|---|---|---|
| 07-12-2011 | 1045 | < .1 | < .1 | < .1 | < .1 | < .2 | < .2 | < .2 | < .2 | < .2 |

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

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[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, 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]

| Date | Sample start time | Ethyl-benzene, water, unfiltered, recoverable, µg/L (34371) | Methyl tert-butyl ether, water, unfiltered, recoverable, µg/L (78032) | Methyl tert-pentyl ether, water, unfiltered, recoverable, µg/L (50005) | m-Xylene plus p-xylene, water, unfiltered, recoverable, µg/L (85795) | Organic carbon, water, filtered, mg/L (00681) | o-Xylene, water, unfiltered, recoverable, µg/L (77135) | Styrene, water, unfiltered, recoverable, µg/L (77128) | tert-Butyl ether, water, unfiltered, recoverable, µg/L (50004) | Tetra-chloro-ethene, water, unfiltered, recoverable, µg/L (34475) |
|------------|-------------------|---|---|--|--|---|--|---|--|---|
| 07-12-2011 | 1045 | < .1 | < .2 | < .2 | < .2 | .9 | < .1 | < .1 | < .1 | < .1 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 9 of 10

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, 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]

| Date | Sample start time | Tetra-chloro-methane, water, unfiltered, recoverable, µg/L (32102) | Toluene, water, unfiltered, recoverable, µg/L (34010) | trans-1,2-Dichloro-ethene, water, unfiltered, recoverable, µg/L (34546) | Tribromo-methane, water, unfiltered, recoverable, µg/L (32104) | Trichloro-ethene, water, unfiltered, recoverable, µg/L (39180) | Trichloro-fluoro-methane, water, unfiltered, recoverable, µg/L (34488) | Trichloro-methane, water, unfiltered, recoverable, µg/L (32106) | Trihalo-methanes, water, unfiltered, maximum summation, µg/L (90867) | Vinyl chloride, water, unfiltered, recoverable, µg/L (39175) |
|------------|-------------------|--|---|---|--|--|--|---|--|--|
| 07-12-2011 | 1045 | < .2 | < .1 | < .1 | < .2 | < .1 | < .2 | .7 | < 1.2 | < .2 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 10 of 10

[%, percent; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, 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]

| Date | Sample start time | Alpha radioactivity, 30-day count, water, filtered, Th-230 curve, picocuries per liter (62639) | Alpha radioactivity, 72-hour count, water, filtered, Th-230 curve, picocuries per liter (62636) | Beta radioactivity, 30-day count, water, filtered, Cs-137 curve, picocuries per liter (62645) | Beta radioactivity, 72-hour count, water, filtered, Cs-137 curve, picocuries per liter (62642) |
|------------|-------------------|--|---|---|--|
| 07-12-2011 | 1045 | 4.7 | 18 | 5.8 | 6.9 |