Water-Data Report 2009

412948081090000 Local number GE-234

Mississippian aquifers
Cuyahoga Formation

Geauga County, OH

LOCATION.--Lat 41°29′48″, long 81°09′00″ referenced to North American Datum of 1927, Geauga County, OH, Hydrologic Unit 04110002, Burton Township.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Depth 80 ft. Upper casing diameter 5.63 in; top of first opening 40 ft, bottom of last opening 80 ft. Domestic water-supply well.

DATUM.--Land-surface datum is 1,170 ft above National Geodetic Vertical Datum of 1929. Measuring point: TOP OF STEEL CASING, 1.33 ft above land-surface datum, Sep. 6, 1994, to present.

PERIOD OF RECORD.--Periodic water-level measurements from Sept. 6, 1994 to current year.

COOPERATION.--Ground-water-level and water-quality data are collected as part of a USGS cooperative study with the Geauga County Planning Commission and the Board of County Commissioners.

REMARKS.--The purpose of the water-level data collected at this well is to augment data gathered from the long term ground-water network. The purpose of the long-term network in Geauga County is to determine whether fluctuations in water levels represent consistent, long-term trends caused by human activity or are predominantly the result of seasonal and annual variations in recharge.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.23 ft below land-surface datum, June 17, 2009; lowest measured, 14.70 ft below land-surface datum, June 21, 1999.

WATER LEVELS IN FEET BELOW LAND-SURFACE DATUM
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

[Measurement method: V, calibrated electric tape--accuracy of instrument has been checked. Water-level status: --, static.]

Date	Water level	Measurement method	Water- level status
Jun 17	13.23	V	--

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water-quality data from 1999 to current year.

REMARKS.--The U.S. Geological Survey has evaluated water quality in Geauga County to assess the suitability of water for drinking, differences in water quality between aquifers, processes controlling water quality, age of ground-water samples, and changes in water quality over time. Water-quality samples were collected in 1999 and 2009 and were analyzed for field parameters, major ions, trace elements, nutrients and bacteria. A screen for volatile-organic compounds was done in 1999. In 2009, pesticides and arsenic were added to the list of analytes, and samples were screened for methane.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
Part 1 of 7
[Remark codes: <, less than; E, estimated; U, analyzed for but not detected.]

Date	Barometric pressure, mm Hg (00025)	Temperature, air, deg C (00020)	Depth to water level, feet below LSD (72019)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm @ 25 degC (90095)	Specific conductance, wat unf µS/cm @ 25 degC (00095)	Temperature, water, deg C (00010)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Dissolved solids dried @ 180degC wat flt mg/L (70300)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
Jun 17...	739	24.5	13.23	1.2	7.2	7.5	352	360	12.9	53	194	33.4	10.4

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
Part 2 of 7
[Remark codes: <, less than; E, estimated; U, analyzed for but not detected.]

Date	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt inf tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt infl pt titr., field, mg/L (00453)	Bromide water, fltrd, mg/L (71870)	Carbonate, wat flt infl pt titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Hydrogen sulfide water, unfltrd mg/L (71875)	Silica, water, fltrd, mg/L as SiO2 (00955)	Sulfate water, fltrd, mg/L (00945)	Sulfide water, unfltrd field, mg/L (99119)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
Jun 17...	3.15	17.7	102	124	E.01	.2	31.8	.29	U	11.2	11.7	.018	.36

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
Part 3 of 7
[Remark codes: <, less than; E, estimated; U, analyzed for but not detected.]

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L as P (00666)	E coli, MI MF, water, col/ 100 mL (90901)	Total coliform, MI MF, water, col/ 100 mL (90900)	Iron, water, fltrd, µg/L (01046)	Manganese, water, fltrd, µg/L (01056)	Arsenic water, fltrd, µg/L (01000)	2,6-Diethylaniline water, fltrd 0.7µ GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Acetochlor, water, fltrd, µg/L (49260)
Jun 17...	.356	<.04	<.002	E.008	<.04	<1	E5	260	59.3	E.03	<.006	<.014	<.010

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
Part 4 of 7
[Remark codes: <, less than; E, estimated; U, analyzed for but not detected.]

Date	Alachlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)	Atrazine, water, fltrd, µg/L (39632)	Azinphos-methyl, water, fltrd 0.7µ GF µg/L (82686)	Benfluralin, water, fltrd 0.7µ GF µg/L (82673)	Butylate, water, fltrd, µg/L (04028)	Carbaryl, water, fltrd 0.7µ GF µg/L (82680)	Carbofuran, water, fltrd 0.7µ GF µg/L (82674)	Chlorpyrifos water, fltrd, µg/L (38933)	cis-Permethrin water fltrd 0.7µ GF µg/L (82687)	Cyanazine, water, fltrd, µg/L (04041)	DCPA, water, fltrd 0.7µ GF µg/L (82682)	Desulfinyl-fipronil amide, wat flt µg/L (62169)
Jun 17...	<.008	<.008	<.007	<.120	<.014	<.002	<.200	<.060	<.010	<.014	<.040	<.006	<.029

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
Part 5 of 7
[Remark codes: <, less than; E, estimated; U, analyzed for but not detected.]

Date	Desulfinyl-fipronil, water, fltrd, µg/L (62170)	Diazinon, water, fltrd, µg/L (39572)	Dieldrin, water, fltrd, µg/L (39381)	Disulfoton, water, fltrd 0.7µ GF µg/L (82677)	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethalfluralin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Fipronil sulfide water, fltrd, µg/L (62167)	Fipronil sulfone water, fltrd, µg/L (62168)	Fipronil, water, fltrd, µg/L (62166)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water, fltrd 0.7µ GF µg/L (82666)
Jun 17...	<.012	<.005	<.009	<.04	<.002	<.009	<.016	<.013	<.024	<.040	<.010	<.014	<.060

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
Part 6 of 7
[Remark codes: <, less than; E, estimated; U, analyzed for but not detected.]

Date	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p'-DDE, water, fltrd, µg/L (34653)	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water, fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Propachlor, water, fltrd, µg/L (04024)
Jun 17...	<.020	<.008	<.014	<.016	<.002	<.018	<.003	<.020	<.016	<.012	<.020	<.01	<.012

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 7 of 7

[Remark codes: <, less than; E, estimated; U, analyzed for but not detected.]

Date	Propanil, water, fltrd 0.7µ GF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Propyzamide, water, fltrd 0.7µ GF µg/L (82676)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water, fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µg/L (82675)	Thiobencarb water, fltrd 0.7µ GF µg/L (82681)	Triallate, water, fltrd 0.7µ GF µg/L (82678)	Trifluralin, water, fltrd 0.7µ GF µg/L (82661)	Organic carbon, water, fltrd, mg/L (00681)
Jun 17...	<.014	<.02	<.004	<.010	<.02	<.040	<.02	<.016	<.006	<.012	E.3