



Water-Data Report 2009

412319081163000 Local number GE-165

Sand and gravel aquifers (glaciated regions)

Outwash

Geauga County, OH

LOCATION.--Lat 41°23'19", long 81°16'30" referenced to North American Datum of 1927, Geauga County, OH, Hydrologic Unit 04110002, Auburn Township.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Depth 56 ft. Upper casing diameter 5.62 in; top of first opening 56 ft, bottom of last opening 56 ft. Domestic water-supply well.

DATUM.--Land-surface datum is 1,165 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.20 ft above land-surface datum, Feb. 4, 1986, to present.

PERIOD OF RECORD.--Periodic water-level measurements from Feb. 4, 1986 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, 8.24 ft below land-surface datum, Feb. 4, 1986; lowest measured, 10.95 ft below land-surface datum, Sept. 9, 1994.

**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 18	10.21	V	--

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water-quality data from 1986 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 1986, 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; M, presence verified but not quantified.]

Date	Baro- metric pres- sure, mm Hg (00025)	Temper- ature, air, deg C (00020)	Depth to water level, feet below LSD (72019)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduc- tance, wat unf lab, μS/cm @ 25 degC (90095)	Specif- ic conduc- tance, wat unf lab, μS/cm @ 25 degC (00095)	Temper- ature, deg C (00010)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Dis- solved solids dried @ 180degC wat flt mg/L (70300)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)
Jun 18...	737	19.5	10.21	1.1	7.2	7.4	493	485	11.3	4.4	282	65.0	14.6

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 2 of 7

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Date	Potas- sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alka- linity, wat flt inf tit field, mg/L as CaCO3 (39086)	Bicar- bonate, wat flt infl pt titr., field, mg/L (00453)	Bromide water, fltrd, mg/L (71870)	Carbon- ate, wat flt infl pt titr., field, mg/L (00452)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Hydro- gen 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 18...	1.01	10.2	177	215	.11	.3	28.9	E.08	M	11.2	34.7	.020	<.10

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 3 of 7

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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)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L as P (00666)	E coli, MI MF, water, col/ 100 mL (90901)	Fecal coli- form, M-FC col/ 0.45uMF 100 mL (31616)	Fecal strep- tococci KF MF, col/ 100 mL (31673)	Total coli- form, MI MF, water, col/ 100 mL (90900)	Iron, water, fltrd, μg/L (01046)	Mangan- ese, water, fltrd, μg/L (01056)	Arsenic water, fltrd, μg/L (01000)	2,6-Di- ethyl- aniline water, fltrd 0.7μ GF μg/L (82660)
Jun 18...	.023	<.04	<.002	<.008	<.04	<1	<1	<1	E1	1,980	188	2.3	<.006

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 4 of 7

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Date	CIAT, water, fltrd, µg/L (04040)	Aceto- chlor, water, fltrd, µg/L (49260)	Ala- chlor, water, fltrd, µg/L (46342)	alpha- HCH, water, fltrd, µg/L (34253)	Atra- zine, water, fltrd, µg/L (39632)	Azin- phos- methyl, water, fltrd 0.7µ GF µg/L (82686)	Ben- flur- alin, water, fltrd 0.7µ GF µg/L (82673)	Butyl- ate, water, fltrd, µg/L (04028)	Car- baryl, water, fltrd 0.7µ GF µg/L (82680)	Carbo- furan, water, fltrd 0.7µ GF µg/L (82674)	Chlor- pyrifos water, fltrd, µg/L (38933)	cis- Per- methrin water, fltrd 0.7µ GF µg/L (82687)	Cyana- zine, water, fltrd, µg/L (04041)
Jun 18...	<.014	<.010	<.008	<.008	<.007	<.120	<.014	<.002	<.200	<.060	<.010	<.014	<.040

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 5 of 7

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Date	DCPA, water, fltrd 0.7µ GF µg/L (82682)	Desulf- inyl- fipro- nil amide, wat flt µg/L (62169)	Desulf- inyl- fipro- nil, water, fltrd, µg/L (62170)	Diazi- non, water, fltrd, µg/L (39572)	Diel- drin, water, fltrd, µg/L (39381)	Disul- foton, water, fltrd 0.7µ GF µg/L (82677)	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethal- flur- alin, water, fltrd 0.7µ GF µg/L (82663)	Etho- prop, water, fltrd 0.7µ GF µg/L (82672)	Fipro- nil sulfide water, fltrd, µg/L (62167)	Fipro- nil sulfone water, fltrd, µg/L (62168)	Fipro- nil, water, fltrd, µg/L (62166)	Fonofos water, fltrd, µg/L (04095)
Jun 18...	<.006	<.029	<.012	<.005	<.009	<.04	<.002	<.009	<.016	<.013	<.024	<.040	<.010

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 6 of 7

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Date	Lindane water, fltrd, µg/L (39341)	Linuron water, fltrd 0.7µ GF µg/L (82666)	Mala- thion, water, fltrd, µg/L (39532)	Methyl para- thion, water, fltrd 0.7µ GF µg/L (82667)	Metola- chlor, water, fltrd, µg/L (39415)	Metri- buzin, water, fltrd, µg/L (82630)	Moli- nate, water, fltrd 0.7µ GF µg/L (82671)	Naprop- amide, water, fltrd 0.7µ GF µg/L (82684)	p,p'- DDE, water, fltrd, µg/L (34653)	Para- thion, water, fltrd, µg/L (39542)	Peb- ulate, water, fltrd 0.7µ GF µg/L (82669)	Pendi- meth- alin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water, fltrd 0.7µ GF µg/L (82664)
Jun 18...	<.014	<.060	<.020	<.008	<.014	<.016	<.002	<.018	<.003	<.020	<.016	<.012	<.020

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 7 of 7

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Prometon, water, fltrd, µg/L (04037)	Propachlor, water, fltrd, µg/L (04024)	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)	Tebu-thiuron, 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)	Tri-fluralin, water, fltrd, 0.7µ GF µg/L (82661)	Organic carbon, water, fltrd, mg/L (00681)
Jun 18...	<.01	<.012	<.014	<.02	<.004	<.010	<.02	<.040	<.02	<.016	<.006	<.012	E.4