



Ground Water Quality Results

Inorganic results from raw, untreated Ambient well water

Charge Balance Error
-1.3%

Analyte Count on Sheet	31
Analyte Detected Count	18

Station Name Cortland Wellfield Well Num 5 Ambient Well ID 39TRU00438 Samp. Status Active36Cycle PWS ID OH7800512
 Sample Num 196303 Sample Date/Time 10/11/2016 10:38:00 Sampler Caetta, Mark Sample Type Inorganic QC Code None
 Chem. Sheet ID 13541 Matrix Ground Water Sheet Status Approved County Trumbull District NEDO Well Log # 379495
 Well Depth (ft) 318 Casing Length (ft) 195 Lith. Open Section Shale Major Lith. Sandstone Aquifer Name Pymatuning

FieldParameter

FieldParameter	Result/Unit	Reporting Limit	Primary/Secondary/Action Lim. Benchmarks	Health Advisory Benchmarks	Lab Remark	Lab Method
Oxidation Reduction Potential (ORP)	-8	N/A			ValueBetweenQL-Std	
pH	7.68	N/A				
Specific Conductance	923	N/A				
Temperature, water	12.5	N/A			ValueBetweenQL-Std	
Total Dissolved Solids (TDS), Field	650	N/A				

Metals-ICP

Aluminum	ND	200 ug/L			ValueBetweenQL-Std	USEPA 200.7
Barium	250	15 ug/L				USEPA 200.7
Boron	320	200 ug/L				USEPA 200.7
Calcium	19.2	2 mg/L				USEPA 200.7
Chromium	ND	2 ug/L			ValueBetweenQL-Std	USEPA 200.8
Copper	2	2 ug/L				USEPA 200.8
Hardness, Ca + Mg	78	10 mg/L				USEPA 200.7
Iron	148	50 ug/L				USEPA 200.7
Lead	ND	2 ug/L			ValueBetweenQL-Std	USEPA 200.8
Magnesium	7.3	1 mg/L				USEPA 200.7
Manganese	10	10 ug/L				USEPA 200.7
Nickel	ND	2 ug/L			ValueBetweenQL-Std	USEPA 200.8
Potassium	2.4	2 mg/L				USEPA 200.7
Sodium	201	25 mg/L				USEPA 200.7
Strontium	400	30 ug/L				USEPA 200.7
Zinc	ND	10 ug/L			ValueBetweenQL-Std	USEPA 200.7

Metals-ICPMS

Arsenic	ND	2 ug/L			ValueBetweenQL-Std	USEPA 200.8
Cadmium	ND	0.2 ug/L			ValueBetweenQL-Std	USEPA 200.8
Selenium	ND	2 ug/L			ValueBetweenQL-Std	USEPA 200.8

Nutrients-Demand

Ammonia	0.72	0.05 mg/L				USEPA 350.1
Carbon, Total Organic (TOC)	ND	2 mg/L			ValueBetweenQL-Std	SM 5310B
Chemical Oxygen Demand (COD)	ND	20 mg/L			ValueBetweenQL-Std	SM 5220D
Nitrate+Nitrite as N	ND	0.1 mg/L			ValueBetweenQL-Std	USEPA 350.1
Nitrogen, Total Kjeldahl (TKN)	0.81	0.2 mg/L				USEPA 351.2
Phosphorus	0.011	0.01 mg/L				USEPA 365.4

Unpreserved

Alkalinity, Total	444	5 mg/L				USEPA 310.1
Bromide	ND	20 ug/L			ValueBetweenQL-Std	USEPA 300.1
Chloride	58.4	5 mg/L				USEPA 325.1
Fluoride	0.22	0.2 mg/L				SM 4500-FC
Sulfate	ND	5 mg/L			ValueBetweenQL-Std	USEPA 375.2
Total Dissolved Solids	546	10 mg/L	> SMCL (500 mg/L)			SM 2540C

Field Comments

End of sample # 196303

Explanations

ND: Non Detect
 QL: Quantitation Limit
 N/A: Not Applicable

Results color fields

Colored fields highlight results greater than Drinking Water compliance thresholds. Since Ambient samples are not used for compliance evaluations, these thresholds are shown for comparison purposes only.

Sky Blue Organic samples only: indicates a detect
 Tan Exceeds Action Level (lead and copper only)
 Violet Exceeds Secondary MCL
 Brick Red Exceeds Primary MCL
 Yellow CBE exceeds +/- 5%

* LT = Life Time Health Advisory Exceedance

^ 1_10 = One and Ten Day Health Advisory Exceedance



Ambient Ground Water Quality Monitoring Program
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Charge Balance Error N/A

Analyte Count on Sheet 70
 Analyte Detected Count 0

Station Name Cortland Wellfield Well Num 5 Ambient Well ID 39TRU00438 Samp. Status Active36Cycle PWS ID OH7800512
 Sample Num 196306 Sample Date/Time 10/11/2016 10:38:00 Sampler Caetta, Mark Sample Type Organic QC Code None
 Chem. Sheet ID 13531 Matrix Ground Water Sheet Status Approved County Trumbull District NEDO Well Log # 379495
 Well Depth (ft) 318 Casing Length (ft) 195 Lith. Open Section Shale Major Lith. Sandstone Aquifer Name Pymatuning

VolatileOrganic

	Result/Unit	Reporting Limit	Primary/Secondary/ Action Lim. Benchmarks	Health Advisory Benchmarks	Lab Remark	Lab Method
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
2-Butanone	ND	1 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
4-Methyl-2-pentanone	ND	1 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Acetone	ND	5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Acrylonitrile	ND	1 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Benzene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Bromoform	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Butyl benzene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Butylbenzene, sec-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Butylbenzene, tert-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Carbon disulfide	ND	1 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Carbon tetrachloride	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Chlorobenzene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Chlorobromomethane	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Chlorodibromomethane	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Chloroethane	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Chloroform	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Chlorotoluene, 2-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Chlorotoluene, 4-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Cumene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Cymene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dibromomethane	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichlorobenzene, 1,2-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichlorobenzene, 1,3-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichlorobenzene, 1,4-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichlorobromomethane	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichlorodifluoromethane	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloroethane, 1,1-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloroethane, 1,2-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloroethene, trans-1,2-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloroethylene, 1,1-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloroethylene, cis-1,2-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloropropane, 1,2-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloropropane, 1,3-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloropropane, 2,2-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloropropene, 1,1-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloropropene, 1,3 cis-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Dichloropropene, 1,3 trans-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Ethyl benzene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Ethylene dibromide (EDB)	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Hexachlorobutadiene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Hexanone, 2-	ND	1 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Iodomethane	ND	1 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Methyl bromide	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Methyl chloride	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Methyl tertiary butyl ether (MTBE)	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Methylene chloride	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Monobromobenzene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Naphthalene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Propylbenzene, n-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)



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Analyte Count on Sheet 70
 Analyte Detected Count 0

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 Well Depth (ft) 318 Casing Length (ft) 195 Lith. Open Section Shale Major Lith. Sandstone Aquifer Name Pymatuning

VolatileOrganic

	Result/Unit	Reporting Limit	Primary/Secondary/Action Lim. Benchmarks	Health Advisory Benchmarks	Lab Remark	Lab Method
Styrene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Tetrachloroethane, 1,1,1,2-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Tetrachloroethane, 1,1,2,2-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Tetrachloroethylene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Toluene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trans-1,4-Dichloro-2-butene	ND	1 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trichlorobenzene, 1,2,3-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trichlorobenzene, 1,2,4-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trichloroethane, 1,1,1-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trichloroethane, 1,1,2-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trichloroethylene	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trichlorofluoromethane	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trichloropropane, 1,2,3-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trihalomethanes (unspecified mix)	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trimethylbenzene, 1,2,4-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Trimethylbenzene, 1,3,5-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Vinyl acetate	ND	1 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Vinyl chloride	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Xylene, o-	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)
Xylenes, m- & p- Mix	ND	0.5 ug/L			ValueBetweenQL-Std	VOC (524/624/826)

Field Comments

End of sample # 196306

Explanations

ND: Non Detect
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Results color fields

Colored fields highlight results greater than Drinking Water compliance thresholds. Since Ambient samples are not used for compliance evaluations, these thresholds are shown for comparison purposes only.

Sky Blue

Organic samples only: indicates a detect
 Tan Exceeds Action Level (lead and copper only)
 Violet Exceeds Secondary MCL
 Brick Red Exceeds Primary MCL
 Yellow CBE exceeds +/- 5%

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^ 1_10 = One and Ten Day Health Advisory Exceedance

**MCL, SMCL, Action Level (AL), and Health Advisory (HA) Values*
for Parameters Included in the AGWQMP**

Parameter	Maximum Contaminant Level	Secondary Maximum Contaminant Level	Action Level	Life-time Health Advisory	One & Ten-day Health Advisory
Aluminum		200 µg/L			
Ammonia				30 mg/L	
Arsenic	10 µg/L				
Barium	2,000 µg/L				700 µg/L
Cadmium	5 µg/L			5 µg/L	40 µg/L
Chloride		250 mg/L			
Chromium	100 µg/L				1,000 µg/L
Copper			1300 µg/L		
Fluoride	4 mg/L	2 mg/L			
Iron		300 µg/L			
Lead			15 µg/L		
Manganese**		50 µg/L		300 µg/L	1,000 µg/L
Nickel				100 µg/L	1,000 µg/L
Nitrate	10 mg/L				100 mg/L
pH		6.5 - 8.5 SU***			
Selenium	50 µg/L			50 µg/L	
Strontium				4,000 µg/L	25,000 µg/L
Sulfates		250 mg/L			
Total Dissolved Solids		500 mg/L			
Zinc		5,000 µg/L		2,000 µg/L	6,000 µg/L

- * These standards apply to water distributed to the public by public water systems;
- * MCLs, SMCLs and ALs are used as benchmarks for AGWQMP raw water samples;
- ** World Health Organization dropped its 400 µg/L health based DW standard in 2011;
- *** 7.0-10.5 on Ohio EPA webpage; note: application is outside the range, not inside.