BURGESS & NIPLE

5085 Reed Rd. | Columbus, OH 43220 | 614.459.2050

Mr. Michael B. Nixon
Superintendent
City of Lancaster, Ohio
Water/Water Pollution Control
800 Lawrence Street
Lancaster, OH 43130-9401

Re: Statistical Analysis –
October 2016 Monitoring Event
Lancaster Miller Park Source Water
Assessment and Protection Program

November 30, 2016

Dear Mr. Nixon:

Burgess & Niple, Inc. (B&N) has prepared this report regarding the City of Lancaster, Ohio (City) Miller Park Source Water Assessment and Protection (SWAP) program (also known as the Wellhead Protection Program) to present the results of the latest statistical analyses completed on groundwater quality data obtained from the monitoring wells included in the SWAP program groundwater monitoring network. The City's SWAP program for their Miller Park Wellfield was endorsed by the Ohio Environmental Protection Agency (EPA) on April 18, 1997 (one of the first in the State of Ohio) along with the associated Groundwater Monitoring Plan. One of the objectives of the SWAP program is to establish and monitor the groundwater quality within one-year and five-year time-of-travel zones around the Miller Park Wellfield. Groundwater sampling was conducted quarterly for the first two years of implementation of the groundwater monitoring program. Subsequently, semiannual groundwater sampling was initiated in 1998. After 10 years of monitoring, the Superintendent of Water for the City has determined the sampling frequency in which the SWAP monitoring well network is sampled, which has typically been completed on a semiannual basis.

The groundwater monitoring program includes sampling of groundwater monitoring wells positioned around the Miller Park wellfield and analyzing those samples for a designated list of potential constituents of concern (COCs). The analytical results are compared to U.S. EPA Primary and Secondary Maximum Contaminant Levels (MCLs) and Action Levels. These procedures are consistent with the Ohio EPA standards typical for a SWAP program in Ohio.

The City has proactively initiated statistical analysis of the groundwater quality data due to concerns regarding arsenic concentrations in groundwater within the vicinity of the Miller Park potable water supply wellfield. Specifically, the City received complaints that groundwater quality may have been impacted by construction activities associated with the new County Jail site at 342 W. Wheeling Street in Lancaster, Ohio, which is located along the south side of the Miller Park wellfield. B&N submitted a letter dated December 8, 2015 to the City that documented that arsenic is naturally occurring in groundwater within the Wisconsinan Epoch glacial deposits. These glacial deposits are distributed throughout the Midwest and underlie the Miller Park Wellfield and surrounding area. The letter also stated that multiple Central Ohio municipalities have naturally occurring arsenic concentrations in groundwater within the sand and gravel aquifer that are above the U.S. EPA Primary MCL of 10 micrograms per liter (µg/l). Concentrations in the vicinity of the Miller Park potable water supply wellfield have been documented to be more than 5 times higher than the U.S. EPA Primary MCL in the pre-treatment groundwater. However, some of the lowest arsenic concentrations have been reported in the vicinity of the new County Jail site. Although elevated concentrations of arsenic have been documented in the SWAP program monitoring wells and the City potable water supply wells, the

existing treatment process at the City's water treatment facility has been effective at reducing these naturally occurring concentrations within the sand and gravel aquifer to levels that are below the U.S. EPA Primary MCL in finished drinking water prior to distribution to the community. Completion of these statistical analyses will provide the City with an indication as to whether their water treatment process may need to be reevaluated to make sure the treated potable water supply continues to meet the applicable regulatory water quality standards.

The Groundwater Monitoring Plan for the Miller Park Wellfield defines a groundwater monitoring network of eight shallow monitoring wells (MW-1S, MW-2, MW-3, MW-4S, MW-5S, MW-6S, MW-7, and MW-8) and four deep monitoring wells (MW-1D, MW-4D, MW-5D, and MW-6D). Two additional monitoring wells (MW-9S within the shallow zone and MW-9D within the deep zone) were added to the monitoring network in 2015 to evaluate groundwater quality migrating toward the Miller Park Wellfield from the new County Jail site. **Figure 1** included in **Attachment 1** displays each of the monitoring well locations. The monitoring wells are sampled semiannually and analyzed for a list of various metals, inorganics, and volatile organic compounds (VOCs).

Statistical analyses were completed to identify trends of concentrations of those constituents that are monitored semiannually and have a U.S. EPA Primary MCL, which could pose a threat to human health or the environment. These parameters include antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, mercury, selenium, thallium, and various VOCs. Except for arsenic, barium, and selenium, concentrations of each of the COCs were reported below the laboratory detection limit in each of the monitoring wells during the October 2016 monitoring event and were, thus, not evaluated. The following are the U.S. EPA Primary MCLs for the constituents detected in one or more of the monitoring wells during the most recent monitoring event:

Parameter	**U.S. EPA Primary MCL**
Arsenic	10 µg/l
Barium	2,000 µg/l
Selenium	50 µg/l

The following summarizes the parameters detected and statistically evaluated during the October 2016 monitoring event by monitoring well:

Well	**Parameter**
MW-1S	Barium
MW-2	Barium
MW-3	Arsenic and Barium
MW-4S	Arsenic and Barium
MW-5S	Barium
MW-6S	Barium
MW-7	Arsenic and Barium
MW-8	Barium and Selenium
MW-9S	Arsenic and Barium
MW-1D	Arsenic and Barium
MD-4D	Arsenic and Barium
MW-5D	Arsenic and Barium
MW-6D	Arsenic and Barium
MW-9D	Arsenic and Barium

Groundwater quality data were analyzed using Mann-Kendall trend analyses and time-versus-concentration plots. These statistical analyses were performed to identify statistical trends and determine whether groundwater migrating towards the wellfield is a concern. Below are the results and discussions of these analyses. **Tables 1 and 2** in **Attachment 2** include the historical groundwater quality data for the monitoring program since 1995.

Regulatory Limit Exceedances

Of the analytical results reported for the October 2016 monitoring event, the following concentrations exceeded the respective U.S. EPA Primary MCL:

Well	Parameter	Concentration	MCL
MW-4S	Arsenic	14.0 µg/l	10 µg/l
MW-5D	Arsenic	12.5 µg/l	10 µg/l

As discussed above, naturally occurring arsenic concentrations have previously been documented to be above the U.S. Primary MCL within the sand and gravel deposits in the region. MW-4S is located hydrogeologically upgradient of the County Jail site.

Mann-Kendall Trend Analyses

In order to determine whether there is evidence of a statistically significant increasing or decreasing trend in concentrations, two-tailed Mann-Kendall trend analyses were completed. Analytical results reported from the initiation of the groundwater monitoring program in October 1995 through the most recent monitoring event were assessed to identify overall trends in concentration. Trends were determined to be statistically significant if the two-tailed test for an increasing trend or the two-tailed test for a decreasing trend was at or below an alpha of 0.02 (0.01 for each test). Copies of the two-tailed Mann-Kendall trend analyses are included in **Attachment 3**.

Based upon the trend analyses, the following constituents were identified to have an overall statistically increasing trend in concentration since October 1995:

Shallow Wells:

- Barium in MW-1S, MW-8, and MW-9S;
- Selenium in MW-8; and,

Deep Wells

- Barium in MW-1D.

For those tests that were identified to indicate an overall statistically increasing trend since initiating the monitoring program, subsequent tests were completed on the most recent data to determine whether a statistical trend is evident over the latest 5 years of data. Except for barium in MW-9S, no evidence of a statistically significant increasing trend was present, indicating that concentrations of these constituents have generally recently stabilized. The barium data set for MW-9S did not have sufficient data to run a 5-year data trend as sampling has only been conducted since April 2015. An additional trend analysis was completed on the ten most recent analytical results (January 2016 through October 2016) and also concluded that a statistically increasing trend was present.

Evidence of overall groundwater quality improvements were identified by the determination of statistically significant decreasing trends in concentration for barium in MW-5S and MW-6D.

Time-Versus-Concentration Plots

The methodology of the Mann-Kendall trend analysis identifies the number of higher results compared to the number of lower results and determines whether there is statistical evidence that there are a significant amount of higher or lower results than the other. However, the test does not account for the magnitude in the difference of the individual results. Time-versus-concentration plots were constructed for each of the detected constituents with U.S. EPA Primary MCLs that were determined to have an overall statistically increasing trend during the October 2016 monitoring event. These plots provide a means to visually assess whether one or more historical values may be the cause of an overall increasing trend. Additional time-versus-concentration plots were completed for these results using only data from the most recent 5 years of data. Copies of the time-versus-concentration plots are provided in **Attachment 4**.

Based upon the time-versus-concentration plots, the following conclusions were made:

- The barium result reported for MW-1S in July 1996 (<200 µg/l) generated a lower concentration compared to the remaining data set when entered into the database as one-half the detection limit, which causes subsequent results to be viewed as an increasing trend. Upon looking at the latest 5 years of data, no trend in concentrations is observed. Results are well below the U.S. EPA Primary MCL of 2,000 µg/l.

- The barium result reported for MW-8 in July 1996 (<200 µg/l) generated a higher concentration compared to the remaining data set when entered into the database as one-half the detection limit, and an overall increasing trend is observed. Upon looking at the latest 5 years of data, a recent increasing trend is also observed. However, concentrations only vary between 48 µg/l and 65 µg/l, which are well below the U.S. EPA Primary MCL of 2,000 µg/l, and the Mann-Kendall trend test concluded that there was no recent statistically significant increasing trend.

- The selenium concentrations reported for MW-8 had a stretch of results reported as <5.0 µg/l between February 1997 and May 2001, which generated an overall increasing trend for subsequent detected concentrations. When looking at the latest 5 years of data, a decreasing trend in concentrations is observed. Concentrations are well below the U.S. EPA Primary MCL of 50 µg/l.

- Barium concentrations in MW-9S depict an overall increasing trend. However, data has only been collected from this well since April 2015, the well has been sampled on a more frequent basis than semiannually, and the increasing trend may be a result of seasonal fluctuations. Concentrations are well below the U.S. EPA Primary MCL of 2,000 µg/l.

- Both the overall and the latest 5 year data plots for barium in MW-1D depict an overall increasing trend. There is a significant data gap between 2001 and 2015. Concentrations are well below the U.S. EPA Primary MCL of 2,000 µg/l and the Mann-Kendall trend test concluded that there was no recent statistically significant increasing trend.

Volatile Organic Compounds

The analytical result reported for 2-butanone (otherwise known as methyl ethyl ketone) was detected in monitoring well MW-1D during the October 2016 monitoring event at a concentration of 9.0 µg/l. MW-1D was damaged by construction operations located in front of Tasty Made. The day before sampling, the casing pipe was cut and a new stub piece was glued. 2-Butanone is listed on the Safety Data Sheet (SDS) of the glue. There is no U.S. EPA Primary MCL listed for this chemical and U.S. EPA does not list it as a carcinogen. The result is considered to be a false positive due to interferences from recent well maintenance activities.

Conclusions

The latest arsenic concentrations reported for MW-4S and MW-5D exceeded the U.S. EPA Primary MCL. However, based upon the Mann-Kendall trend analyses, no statistically significant increasing trend in arsenic concentrations was identified in these wells. MW-4S is located hydrogeologically upgradient of the new County Jail site. As discussed above and in the December 8, 2015 letter, arsenic is a naturally occurring element in the Midwest. Although elevated concentrations of arsenic have been documented in the SWAP program monitoring wells and the City potable water supply wells, the existing treatment process at the City's water treatment facility has been effective at reducing these naturally occurring concentrations within the sand and gravel aquifer to levels that are below the U.S. EPA Primary MCL in finished drinking water prior to distribution to the community.

Although barium concentrations were determined to have a statistically significant increasing trend in MW-1S, MW-8, MW-9S, and MW-1D, the latest 5 years of analytical data concluded that there were no recent trends in MW-1S, MW-8, or MW-1D. Barium concentrations in MW-9S depict an overall increasing trend; however, data has only been collected from this well since April 2015. The well has been sampled on a more frequent basis than semiannually, which may have generated an increasing trend as a result of seasonal fluctuations. Barium concentrations in each of the monitoring wells in the shallow and deep zones have been well below the U.S. EPA Primary MCL of 2,000 µg/l since the monitoring program began.

Selenium was only detected in MW-8 during the most recent monitoring event and the Mann-Kendall trend analysis concluded that the results have an overall statistically significant increasing trend. Concentrations in MW-8 had a stretch of results reported as <5.0 µg/l between February 1997 and May 2001, which generated an overall increasing trend for subsequent detected concentrations. Upon looking at the latest 5 years of data, a decreasing trend in concentrations is observed. All results have been well below the U.S. EPA Primary MCL of 50 µg/l.

There is no indication that concentrations of antimony, beryllium, cadmium, chromium, cyanide, mercury, thallium, or any of the various organic compounds monitored as part of the City's SWAP program for the Miller Park Wellfield will pose an issue with the City's water treatment facility, as each of these COCs was nondetect in each of the monitoring wells during the October 2016 monitoring event. Based upon the statistical analyses and time-versus-concentration plots completed on the detected arsenic, barium, and selenium results, it does not appear that groundwater quality surrounding the Miller Park Wellfield is changing at a rate that would cause the need to reevaluate the water treatment facility operations at this time as long as current treatment procedures remain in place. Moreover, based upon the data gathered to date, there is no indication of a release in the vicinity of the Miller Park Wellfield that would pose an immediate threat to the ability of the City's water treatment facility to meet Primary Drinking Water Standards.

If you have any questions, please do not hesitate to call.

Respectfully,

Michael E. Leone, CPG-10767
Project Director

MEL:cmc
Attachments

ATTACHMENT 1

FIGURES

CITY OF LANCASTER, OHIO
SPIRIT 1800 PRIDE

LEGEND

- M.P. Monitoring Wells
- Streets
  2012 Ortho Imagery
- M.P. Water Supply Wells

Disclaimer

Map produced by the City of Lancaster, Department of Engineering

Data provided by the Fairfield County Auditor GIS Department

All data created by Fairfield County Auditor GIS Department has been developed to meet National Map Accuracy Standards. All GIS data layers are referenced in the Ohio State Plane Coordinate System, Horizontal - North American Datum (NAD) 83 (95) Vertical data -North American Datum Vertical Datum (NAVD) 88, Units - Surveyors Feet.

All data has been developed from public records that are constantly undergoing change and is not warranted for content, completeness or accuracy. City of Lancaster does not warrant, guarantee or represent the data to be fit for a particular use or purpose.

If detailed information is required for data layers shown, please contact the City of Lancaster, Department on Engineering.

Please notify the City of Lancaster, Department of Engineering with any discrepancies.

Miller Park Monitoring Well Locations

N

0 200 400 800

Feet

December 2, 2015

ATTACHMENT 2

TABLES

Table 1
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Shallow Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-1S																																						
			10/18/95	1/15/96	4/22/96	7/29/96	2/11/97	4/28/97	7/7/97	10/7/97	6/24/98	12/16/98	7/20/99	4/27/00	11/27/00	5/30/01	10/17/01	5/7/02	10/31/02	5/19/03	11/12/03	5/12/04	10/26/04	12/13/04	5/4/05	11/2/05	4/24/06	10/26/06	5/7/07	11/14/07	6/17/08	10/30/08	7/8/09	3/31/15	4/14/16	10/18/16
INORGANICS																																									
ALUMINUM	ug/L	50 to 200 (S)	<50	**180**	<50	<200	<500	<500	<500	<500	<500	<500	<50	**51**	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	**4.00**	<4	**4.20**	**7.60**	<4	<4	<4	<4.0	**4.00**	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	--	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4	<4	<4
ARSENIC	ug/L	10 (O)	**6.0**	**6.0**	**6.0**	<10	**9.7**	**8.4**	**6.4**	**8.4**	**7.2**	**8.0**	**9.1**	**6.4**	**6.0**	**10.0**	**12.0**	**6.8**	**6.5**	**5.5**	**6.2**	**5.9**	**6.3**	--	**6.5**	<5.0	<5.0	<5.0	<5.0	<5.0	**10.5**	**5.4**	<5.0	**4.0**	**3.0**	<3.0
BARIUM	ug/L	2,000 (O)	**180**	**170**	**160**	<200	**170**	**190**	**228**	**179**	**216**	**201**	**184**	**192**	**175**	**227**	**224**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**207**	**191**	**214**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	**1.00**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
CALCIUM	mg/L	--	**110**	**110**	**150**	**145**	**120**	**110**	**120**	**107**	**260**	**117**	**122**	**125**	**120**	**140**	**120**	**117**	**127**	**130**	**135**	**144**	**136**	--	**161**	**147**	**140**	**140**	**142**	**158**	**146**	**156**	**145**	**194**	**154**	**174**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	--	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50	<10	<10	<20	<50	<50	<50	<50	<50	<50	--	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10	<10	<25	<20	<20	<10	<10	**31.0**	**13.0**	<20	<20	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	--	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010	<0.010
IRON	ug/L	300 (S)	**2400**	**3,000**	**2,500**	**2,000**	**3,200**	**2,600**	**2,590**	**2,400**	**2,400**	**2,800**	**2,500**	**3,100**	**3,010**	**3,340**	**3,830**	**2,800**	**2,840**	**2,870**	**2,930**	**3,580**	**2,030**	--	**3,120**	**1,610**	**1,510**	**1,170**	**1,950**	**1,550**	**2,410**	**885**	**2,720**	**755**	<80	**214**
LEAD	ug/L	15 (A)	<2	<2	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	--	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5	<5
MAGNESIUM	mg/L	--	**34.0**	**37.0**	**45.0**	**39.0**	**37.0**	**38.0**	**36.0**	**36.0**	**76.0**	**40.0**	**38.0**	**41.9**	**38.0**	**44.0**	**45.0**	**41.7**	**41.9**	**40.2**	**40.4**	**45.9**	**46.0**	--	**50.8**	**49.2**	**48.4**	**46.6**	**46.2**	**52.9**	**49.2**	**51.8**	**48.2**	**46.5**	**51.8**	**59.4**
MANGANESE	ug/L	50 (S)	**200**	**220**	**510**	**500**	**260**	**300**	**270**	**200**	**319**	**213**	**215**	**267**	**270**	**320**	**320**	**273**	**251**	**299**	**253**	**364**	**309**	--	**385**	**506**	**401**	**489**	**488**	**721**	**456**	**661**	**448**	**281**	**270**	**270**
MERCURY	ug/L	2 (O)	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	<10	<20	<20	<20	<20	<20	<20	--	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**2.8**	**3.1**	**3.6**	<5	**3.0**	**3.8**	**3.4**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**5.7**	**5.7**	**5.2**
SELENIUM	ug/L	50 (O)	<5	<5	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10
SODIUM	mg/L	--	**51**	**56**	**62**	**56**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**132**	**123**	**139**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.0**	<1	**2.0**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.1**	<1.0	<0.05	<0.05	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	--	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	<100	**60.00**	<50	<50	<100	<100	<100	<100	<100	<100	--	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	--	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**30**	**10**	**10**	**21**	<10	<10	<10	<10	**10**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	--	<20	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10	**15**
VOC'S (METHOD 8260)																																								
Acetone	ug/l	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	<50	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<1.0	<5.0
Carbon Disulfide	ug/L	--	<5	<5	<5	<1	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<10	--	<50	<1	<1	<1	<1	<1	<1	<1	<1	<5.0	<1.0	<1.0
MTBE	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<5.0	<1.0	<1.0
FIELD PARAMETERS																																								
pH	S.U.	6.5-8.5 (S)	**7.20**	**7.10**	**7.10**	**7.50**	**7.20**	**7.40**	**7.20**	**7.40**	**7.10**	**7.40**	**7.10**	**7.90**	**6.93**	**6.80**	**7.20**	**7.40**	**7.13**	**6.96**	**6.95**	**6.52**	**6.98**	--	**7.02**	**7.02**	**6.98**	**7.01**	**6.98**	**7.02**	**7.02**	**6.84**	**7.02**	**6.98**	**6.86**	**6.91**
CONDUCTIVITY	umhos/cm	--	**751**	**847**	**1,087**	**870**	**1,175**	**1,050**	**1,100**	**1,000**	**980**	**1,000**	**940**	**1,060**	**1,169**	**1,040**	**1,120**	**960**	**1,035**	**851**	**1,105**	**871**	**1,140**	--	**897**	**1,312**	**945**	**762**	**740**	**843**	**772**	**746**	**1,337**	**1,438**	**1,605**	**1,157**
TEMPERATURE	°C	--	**20.0**	**14.4**	**19.4**	**18.9**	**13.9**	**15.0**	**15.0**	**14.4**	**15.0**	**14.4**	--	**15.6**	**11.3**	**15.5**	**14.3**	**15.4**	**15.0**	**15.6**	**15.3**	**16.0**	**15.7**	--	**15.7**	**15.7**	**16.5**	**15.7**	**16.2**	**16.0**	**16.0**	**16.1**	**17.0**	**17.0**	**17.2**	**19.1**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

NA = NOT ANALZED

NM = NOT MEASURED

Table 1 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Shallow Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-2																																			
			10/18/95	1/16/96	4/23/96	7/31/96	2/11/97	4/29/97	7/8/97	10/7/97	6/24/98	12/21/98	7/21/99	4/27/00	11/28/00	5/30/01	10/17/01	5/7/02	10/31/02	5/20/03	11/13/03	5/11/04	10/27/04	5/4/05	10/31/05	4/24/06	10/26/06	5/7/07	11/14/07	6/18/08	10/30/08	7/8/09	4/1/15	4/21/16	10/18/16
INORGANICS																																						
ALUMINUM	ug/L	50 to 200 (S)	**970**	**700**	<50	<200	<500	<500	<500	<500	<500	<500	<50	<50	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	**4.6**	<4	**4.8**	**7.4**	<4	<4	<4	<4.0	<4	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4	<4	<4
ARSENIC	ug/L	10 (O)	<3	**8.0**	**6.0**	<10	**12.0**	**10.0**	**7.8**	**1.1**	**8.2**	**18.0**	**9.6**	**9.8**	**7.0**	**10.0**	**10.0**	**9.0**	**7.6**	**7.9**	**5.4**	**6.7**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<3.0	<3.0	<3.0
BARIUM	ug/L	2,000 (O)	**50**	**28**	**14**	<200	<100	<100	**28**	**19**	**33**	**30**	**34**	**35**	**33**	**37**	**36**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**74**	**55**	**50**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
CALCIUM	mg/L	--	**130**	**260**	**210**	**150**	**140**	**130**	**120**	**113**	**109**	**150**	**136**	**136**	**110**	**140**	**120**	**119**	**113**	**128**	**124**	**123**	**118**	**138**	**111**	**125**	**127**	**133**	**115**	**122**	**116**	**114**	**176**	**131**	**130**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50	<10	**10.0**	<20	<50	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10	<10	<25	<20	<20	<10	<10	<10	<20	<20	<20	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010	<0.010
IRON	ug/L	300 (S)	**2,600**	**6,200**	**1,700**	**202**	**2,400**	**1,800**	**1,400**	**1,600**	**1,700**	**4,300**	**1,300**	**2,760**	<50.0	**1,950**	**760**	**2,380**	**1,380**	**2,010**	**217**	**1,360**	**589**	**81**	<100	<100	**125**	<100	**465**	**505**	**445**	**437**	**99**	**136**	<80
LEAD	ug/L	15 (A)	**2.0**	<5	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5	<5
MAGNESIUM	mg/L	--	**35.0**	**71.0**	**58.0**	**43.0**	**36.0**	**37.0**	**33.0**	**33.0**	**34.0**	**45.0**	**38.0**	**39.0**	**34.0**	**38.0**	**36.0**	**36.3**	**34.3**	**36.4**	**34.6**	**35.9**	**37.5**	**41.4**	**35.3**	**39.9**	**39.8**	**40.9**	**36.5**	**38.6**	**37.1**	**36.7**	**41.8**	**45.4**	**42.1**
MANGANESE	ug/L	50 (S)	**300**	**620**	**380**	<15.0	**170**	**150**	**120**	**120**	**120**	**152**	**162**	**113**	**100**	**100**	**90**	**83**	**103**	**73**	**58**	**69**	**151**	**86**	**96**	**146**	**149**	**215**	**177**	**240**	**235**	**261**	**189**	**226**	**200**
MERCURY	ug/L	2 (O)	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**8.6**	**5.5**	**5.4**	**7.8**	**7.1**	**7.6**	**7.1**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**8.8**	**7.7**	**6.6**
SELENIUM	ug/L	50 (O)	**14.0**	**9.0**	**11.0**	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	**5.1**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10
SODIUM	mg/L	--	**33**	**55**	**55**	**46**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**114**	**51**	**57**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.0**	<1	**2.0**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	**1.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.05	<0.05	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	**0.5**	**0.5**	<0.50	<0.50	<0.50	**0.5**	<1.5	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**30**	**70**	<10	<20	<10	<10	<10	**25**	**13**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10	**15**
VOC'S (METHOD 8260)																																						
Acetone	ug/l	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<10	<10	<10	<10	<10	<10	<10	<10	<1.0	<1.0	<5.0
Carbon Disulfide	ug/L	--	<5	<5	<5	<1	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<10	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0
MTBE	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.0	<1.0	<1.0

FIELD PARAMETERS																																						
pH	S.U.	6.5-8.5 (S)	**7.1**	**7.5**	**7.1**	**7.9**	**7.1**	**7.4**	**7.2**	**7.4**	**7.20**	**7.20**	**7.20**	**7.70**	**7.22**	**6.60**	**7.60**	**7.30**	**7.29**	**7.12**	**7.40**	**6.66**	**7.05**	**7.12**	**7.13**	**7.09**	**7.14**	**7.06**	**7.08**	**7.11**	**7.10**	**7.20**	**7.11**	**7.16**	**7.07**
CONDUCTIVITY	umhos/cm	--	**796**	**1,270**	**1,460**	**850**	**1,100**	**1,100**	**1,200**	**1,000**	**870**	**1,000**	**930**	**1,010**	**1,149**	**890**	**970**	**890**	**877**	**791**	**962**	**806**	**965**	**798**	**891**	**721**	**647**	**681**	**655**	**633**	**571**	**834**	**1,174**	**1,039**	**776**
TEMPERATURE	^{o}C	--	**20.6**	**14.4**	**14.8**	**17.8**	**13.9**	**13.9**	**14.4**	**14.4**	**15.6**	**13.9**	--	**15.0**	**8.9**	**15.5**	**14.3**	**15.4**	**14.7**	**15.5**	**13.8**	**15.4**	**15.2**	**15.3**	**15.7**	**15.7**	**15.2**	**16.1**	**15.7**	**15.6**	**16.0**	**16.6**	**17.4**	**17.5**	**21.7**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

NA = NOT ANALZED

NM = NOT MEASURED

Table 1 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Shallow Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-3																																			
			10/19/95	1/17/96	4/24/96	7/30/96	2/11/97	4/29/97	7/8/97	10/7/97	6/25/98	12/17/98	7/28/99	4/27/00	11/28/00	5/31/01	10/18/01	5/7/02	10/31/02	5/20/03	11/13/03	5/12/04	10/26/04	5/4/05	11/1/05	4/26/06	10/26/06	5/8/07	11/15/07	6/18/08	10/29/08	7/8/09	4/1/15	4/15/16	10/18/16
INORGANICS																																						
ALUMINUM	ug/L	50 to 200 (S)	<50	<50	<50	<200	<500	<500	<500	<500	<500	<500	<50	<50	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	**5.5**	**4.4**	<4	**8.3**	<4	<4	<4	<4.0	**6.0**	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**0.88**	<4	<4
ARSENIC	ug/L	10 (O)	<3	<3	**17.0**	**15.7**	**24.0**	**28.0**	**1.9**	**21.0**	**19.0**	**23.0**	**26.0**	**17.6**	**24.0**	**19.0**	**24.0**	**12.9**	**15.0**	**14.7**	**17.4**	**18.1**	**17.3**	**17.6**	**17.4**	**18.8**	**20.3**	**20.3**	**17.3**	**21.5**	**26.3**	**19.6**	**9.0**	**15.0**	**7.9**
BARIUM	ug/L	2,000 (O)	**320**	**730**	**310**	**290**	**290**	**300**	**264**	**230**	**293**	**314**	**329**	**341**	**397**	**359**	**406**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**245**	**228**	**198**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
CALCIUM	mg/L	--	**77.0**	**140.0**	**92.0**	**88.0**	**88.0**	**88.0**	**92.0**	**77.0**	**74.0**	**93.0**	**97.0**	**90.7**	**91.0**	**97.0**	**91.0**	**87.4**	**87.7**	**93.2**	**98.7**	**91.0**	**87.1**	**98.3**	**89.6**	**92.4**	**95.5**	**97.1**	**85.9**	**93.6**	**96.8**	**96.9**	**107.0**	**97.4**	**99.2**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
COBALT	ug/L	--	<20	<20	<20.0	<50.0	<100.0	<100.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<10.0	<10.0	<20.0	<50.0	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10.0	<10.0	<10.1	<10.2	<10.3	<10.4	<10.5	<10.6	**29.0**	**18.0**	<20	<20	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010	<0.010
IRON	ug/L	300 (S)	**40**	**2,400**	**590**	**680**	**690**	**940**	**2,260**	**1,000**	**1,200**	**920**	**1,300**	**1,690**	**2,440**	**3,260**	**1,370**	**2,760**	**2,790**	**2,930**	**1,990**	**1,750**	**2,470**	**2,770**	**1,980**	**2,920**	**2,760**	**2,500**	**991**	**2,600**	**2,350**	**2,790**	<80	<80	<80
LEAD	ug/L	15 (A)	<2	<3	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5	<5
MAGNESIUM	mg/L	--	**22.0**	**38.0**	**25.0**	**25.0**	**24.0**	**24.0**	**26.0**	**23.0**	**23.0**	**25.0**	**25.0**	**25.0**	**24.0**	**25.0**	**26.0**	**27.4**	**24.7**	**25.3**	**25.7**	**24.9**	**25.3**	**26.1**	**25.3**	**25.6**	**27.3**	**26.5**	**23.9**	**25.8**	**26.9**	**26.7**	**24.7**	**28.4**	**29.0**
MANGANESE	ug/L	50 (S)	**140**	**58**	**360**	**320**	**400**	**400**	**410**	**340**	**536**	**608**	**781**	**794**	**770**	<10.0	**520**	**402**	**345**	**335**	**277**	**416**	**276**	**279**	**318**	**307**	**289**	**285**	**221**	**269**	**254**	**251**	**182**	**233**	**191**
MERCURY	ug/L	2 (O)	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	**0.3**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**1.2**	**2.7**	**1.0**	< 5	**1.0**	**11.0**	**0.9**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<2.0	<2.0	<2.0
SELENIUM	ug/L	50 (O)	<5	<4	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10
SODIUM	mg/L	--	**9.4**	**27.0**	**8.3**	**9.1**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**11.5**	**6.9**	**10.6**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.0**	**5.0**	**3.0**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	**1.6**	<1.0	**1.2**	<1.0	**1.9**	**20.0**	<1.0	<0.05	**0.8**	**0.3**
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**40**	**20**	**100**	<20	<10	<10	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10	<10
VOC'S (METHOD 8260)																																						
Acetone	ug/l	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1.0	<1.0	<5.0
Carbon Disulfide	ug/L	--	<5	**24**	<5	**1**	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<10	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0
MTBE	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.0	<1.0	<1.0
FIELD PARAMETERS																																						
pH	S.U.	6.5-8.5 (S)	**7.40**	**7.20**	**7.70**	**8.20**	**7.60**	**7.80**	**7.40**	**7.70**	**7.40**	**7.80**	**7.80**	**7.90**	**7.40**	**6.70**	**7.40**	**7.60**	**7.47**	**7.34**	**7.46**	**6.87**	**7.44**	**7.51**	**7.51**	**7.42**	**7.42**	**7.42**	**7.47**	**7.49**	**7.36**	**7.50**	**7.49**	**7.41**	**7.47**
CONDUCTIVITY	umhos/cm	--	**422**	**411**	**492**	**470**	**640**	**670**	**620**	**600**	**540**	**650**	**600**	**670**	**696**	**630**	**640**	**590**	**595**	**544**	**635**	**468**	**613**	**428**	**638**	**511**	**447**	**447**	**478**	**450**	**181**	**576**	**608**	**638**	**497**
TEMPERATURE	^{o}C	--	**15.6**	**16.7**	**12.8**	**18.3**	**13.3**	**13.3**	**15.0**	**15.0**	**15.0**	**15.0**	--	**14.4**	**9.8**	**15.5**	**14.9**	**16.0**	**14.9**	**15.2**	**14.3**	**15.9**	**15.3**	**15.6**	**15.5**	**15.6**	**15.4**	**15.4**	**14.7**	**16.0**	**15.6**	**17.4**	**17.2**	**16.4**	**21.8**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

NA = NOT ANALZED

NM = NOT MEASURED

Table 1 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Shallow Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-4S																																			
			10/17/95	1/16/96	4/24/96	7/29/96	2/11/97	4/28/97	7/7/97	10/6/97	6/24/98	12/16/98	7/20/99	4/27/00	11/27/00	5/30/01	10/17/01	5/7/02	10/30/02	5/19/03	11/12/03	5/11/04	10/26/04	5/3/05	10/31/05	4/24/06	10/25/06	5/7/07	11/14/07	6/17/08	10/29/08	7/8/09	3/31/15	2/17/16
INORGANICS																																						
ALUMINUM	ug/L	50 to 200 (S)	**70**	**210**	<50	<200	<500	<500	<500	<500	<500	**660**	<50	<50	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	**6.5**	<4	<4	**8.0**	<4	<4	<4	<4.0	<4	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4	<4
ARSENIC	ug/L	10 (O)	**3.0**	**6.0**	**22.0**	**14.7**	**17.0**	**34.0**	**1.7**	**18.0**	**19.0**	**10.0**	**11.0**	**11.6**	**7.0**	**17.0**	**14.0**	**15.2**	**8.6**	**11.6**	**9.8**	**12.2**	**9.4**	**16.5**	**19.2**	**18.3**	**21.4**	**28.0**	**57.0**	**53.4**	**32.0**	**34.8**	**19.0**	**15.0**
BARIUM	ug/L	2,000 (O)	**420**	**420**	**570**	**660**	**560**	**520**	**604**	**458**	<10.0	**469**	**532**	**487**	**409**	**531**	**455**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**707**	**635**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<5
CALCIUM	mg/L	--	**140**	**130**	**130**	**152**	**140**	**130**	**140**	**122**	**130**	**136**	**154**	**131**	**140**	**150**	**140**	**131**	**144**	**164**	**160**	**159**	**152**	**164**	**149**	**172**	**183**	**179**	**153**	**157**	**174**	**156**	**208**	**178**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50	<10	<10	<20	<50	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10	<10.0	<25.0	<20.0	<20.0	**10.0**	<10.0	**16.0**	<10.0	<20.0	<20.0	<10.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010
IRON	ug/L	300 (S)	**4,100**	**6,900**	**9,700**	**9,500**	**11,000**	**10,000**	**8,200**	**8,600**	**10,000**	**10,000**	**9,400**	**9,400**	**8,700**	**10,300**	**9,700**	**8,940**	**8,600**	**9,590**	**7,530**	**9,180**	**8,860**	**9,140**	**10,000**	**11,900**	**11,800**	**12,600**	**12,000**	**12,400**	**12,000**	**11,800**	**1,080**	**4,580**
LEAD	ug/L	15 (A)	<2	<5	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5
MAGNESIUM	mg/L	--	**33.0**	**31.0**	**31.0**	**34.0**	**31.0**	**32.0**	**32.0**	**31.0**	**29.0**	**29.0**	**33.0**	**31.6**	**32.0**	**35.0**	**35.0**	**33.4**	**34.9**	**37.9**	**35.1**	**36.7**	**37.3**	**38.0**	**35.4**	**42.3**	**41.8**	**39.3**	**36.3**	**35.8**	**39.6**	**34.6**	**33.7**	**43.0**
MANGANESE	ug/L	50 (S)	**310**	**260**	**360**	**370**	**320**	**340**	**310**	**260**	**303**	**267**	**256**	**279**	**250**	**310**	**260**	**273**	**235**	**266**	**218**	**271**	**247**	**262**	**283**	**336**	**333**	**388**	**376**	**435**	**356**	**362**	**383**	**330**
MERCURY	ug/L	2 (O)	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**11.0**	**9.2**	**8.3**	**11.0**	**11.0**	**9.6**	**10.0**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**14.2**	**14.2**
SELENIUM	ug/L	50 (O)	<5	<5	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10
SODIUM	mg/L	--	**48.0**	**42.0**	**39.0**	**43.0**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**49.1**	**49.0**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.0**	**1.0**	**2.0**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.05	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**20**	**20**	**10**	**23**	<10	**11**	**10**	<10	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10
VOC'S (METHOD 8260)																																						
Acetone	ug/l	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<1.0
Carbon Disulfide	ug/L	--	**7**	<5	<5	**2**	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<10	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5.0	<1.0
MTBE	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<5.0	<1.0
FIELD PARAMETERS																																						
pH	S.U.	6.5-8.5 (S)	**7.20**	**7.10**	**7.20**	**7.10**	**7.10**	**7.30**	**7.10**	**7.00**	**7.00**	**7.10**	**7.10**	**7.00**	**6.88**	**6.60**	**7.20**	**7.10**	**6.96**	**6.90**	**7.00**	**6.42**	**6.98**	**7.03**	**7.02**	**6.94**	**6.98**	**6.98**	**7.00**	**7.00**	**6.83**	**7.00**	**6.99**	**6.84**
CONDUCTIVITY	umhos/cm	--	**871**	**858**	**913**	**890**	**1,100**	**1,100**	**1,100**	**975**	**1,050**	**1,100**	**1,050**	**1,110**	**1,207**	**990**	**1,150**	**980**	**1,123**	**1,069**	**741**	**920**	**1,121**	**828**	**923**	**838**	**746**	**746**	**781**	**803**	**636**	**1,114**	**1,133**	**1,450**
TEMPERATURE	°C	--	**17.2**	**16.1**	**16.7**	**18.3**	**13.3**	**12.8**	**13.3**	**15.0**	**13.9**	**14.4**	--	**13.3**	**12.3**	**13.9**	**14.9**	**14.3**	**15.0**	**14.2**	**15.5**	**14.7**	**15.4**	**14.3**	**16.2**	**15.0**	**15.9**	**15.9**	**16.4**	**15.1**	**16.0**	**16.5**	**14.3**	**17.0**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

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Table 1 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Shallow Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-4S (continued)							
			3/16/16	4/13/16	5/18/16	6/8/16	7/20/16	8/17/16	9/21/16	10/19/16
INORGANICS										
ALUMINUM	ug/L	50 to 200 (S)	<25	<25	<25	<25	<25	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<4	<4	<4	<4	<4	<4	<4	<4
ARSENIC	ug/L	10 (O)	**15.0**	**7.0**	**7.0**	**6.0**	**6.5**	**9.2**	**11.6**	**14.0**
BARIUM	ug/L	2,000 (O)	**676**	**609**	**557**	**607**	**685**	**699**	**666**	**712**
BERYLLIUM	ug/L	4 (O)	<1	<1	<1	<1	<1	<1	<1	<1
CADMIUM	ug/L	5 (O)	<1	<1	<1	<5	<1	<1	<1	<1
CALCIUM	mg/L	--	**176**	**180**	**165**	**179**	**175**	**178**	**181**	**178**
CHROMIUM	ug/L	100 (O)	<5	<5	<5	<10	<5	<5	<5	<5
COBALT	ug/L	--	<25	<25	<25	<25	<25	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<50	<50	<50	<50	<50	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
IRON	ug/L	300 (S)	**2,730**	**198**	**274**	**1,540**	**129**	**1,100**	**801**	**4,260**
LEAD	ug/L	15 (A)	<5	<5	<5	<5	<5	<5	<5	<5
MAGNESIUM	mg/L	--	**42.3**	**43.0**	**42.9**	**40.2**	**39.3**	**44.9**	**42.8**	**45.2**
MANGANESE	ug/L	50 (S)	**347**	**335**	**347**	**336**	**368**	**377**	**393**	**383**
MERCURY	ug/L	2 (O)	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**14.0**	**14.1**	**14.0**	**14.6**	**14.5**	**14.0**	**14.0**	**14.4**
SELENIUM	ug/L	50 (O)	<5	<5	<5	<5	<5	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<10	<10	<10	<10
SODIUM	mg/L	--	**52.4**	**47.0**	**47.8**	**47.3**	**45.9**	**53.7**	**52.8**	**59.9**
SULFIDE	mg/L	--	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
THALLIUM	ug/L	2 (O)	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
TIN	ug/L	--	<10	<10	<10	<10	<10	<10	<10	<10
VANADIUM	mg/L	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	<10	<10	<10	<10	<10	<10	<10	<10
VOC'S (METHOD 8260)										
Acetone	ug/l	--	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0
Carbon Disulfide	ug/L	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0
MTBE	ug/L	--	<1.0	<1.0	<1.0	<1.0	**2.0**	<1.0	<5	<1.0
FIELD PARAMETERS										
pH	S.U.	6.5-8.5 (S)	**6.90**	**6.85**	**7.01**	**6.75**	**6.79**	**6.98**	**6.94**	**6.90**
CONDUCTIVITY	umhos/cm	--	**1,290**	**1,379**	**1,075**	**1,193**	**1,382**	**1,295**	**1,083**	**1,263**
TEMPERATURE	^{o}C	--	**17.1**	**16.2**	**16.1**	**16.2**	**16.7**	**16.8**	**17.1**	**17.2**

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Table 1 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Shallow Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-5S																																				
			10/19/95	1/17/96	4/22/96	7/30/96	2/11/97	4/29/97	7/7/97	10/6/97	6/24/98	12/16/98	7/20/99	4/27/00	11/27/00	5/30/01	10/17/01	5/7/02	10/31/02	5/20/03	11/12/03	5/12/04	10/26/04	5/3/05	10/31/05	4/24/06	10/25/06	5/7/07	11/14/07	6/17/08	11/3/08	7/8/09	4/9/15	4/12/16	10/18/16
INORGANICS																																							
ALUMINUM	ug/L	50 to 200 (S)	<50	<50	**740**	<200	<500	<500	<500	<500	<500	<500	<50	<50	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	**4.50**	<4	<4	<4	<4	<4	<4	<4.0	<4	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4	<4	<4
ARSENIC	ug/L	10 (O)	<3	**13**	<3	<10	<5	<5	**7**	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**5.8**	<5.0	<3.0	<3.0	<3.0
BARIUM	ug/L	2,000 (O)	**610**	**320**	**740**	**520**	**400**	**430**	**340**	**380**	**564**	**549**	**504**	**549**	**286**	**329**	**177**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**279**	**240**	**230**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1	<1
CALCIUM	mg/L	--	**140**	**85**	**150**	**179**	**150**	**150**	**160**	**134**	**140**	**141**	**166**	**187**	**150**	**190**	**160**	**159**	**168**	**168**	**182**	**196**	**196**	**196**	**170**	**171**	**185**	**176**	**172**	**165**	**171**	**151**	**179**	**169**	**178**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5	<5
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50	<10	<10	<20	<50	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10.0	**10.00**	<25.0	<20.0	<20.0	<10.0	<10.0	**11.00**	<10.0	<20.0	<20.0	<10.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010	<0.010
IRON	ug/L	300 (S)	**1,800**	**490**	**4,200**	**4,900**	**6,500**	**5,400**	**3,100**	**4,400**	**5,400**	**5,800**	**4,500**	**7,660**	**8,400**	**9,350**	**9,020**	**6,200**	**6,810**	**6,910**	**6,740**	**7,690**	**8,170**	**7,270**	**7,520**	**7,270**	**7,610**	**7,010**	**7,380**	**6,660**	**6,910**	**5,850**	**351**	<80	**139**
LEAD	ug/L	15 (A)	<2	<3	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5	<5
MAGNESIUM	mg/L	--	**36.0**	**24.0**	**43.0**	**43.0**	**36.0**	**39.0**	**38.0**	**36.0**	**37.0**	**36.0**	**38.0**	**49.8**	**33.0**	**445.0**	**37.0**	**40.0**	**37.8**	**36.7**	**38.0**	**43.5**	**47.0**	**42.3**	**40.1**	**42.4**	**41.9**	**40.1**	**40.9**	**38.4**	**40.1**	**35.1**	**38.5**	**40.6**	**40.8**
MANGANESE	ug/L	50 (S)	**130**	**330**	**190**	**310**	**250**	**230**	**280**	**200**	**230**	**104**	**89**	**142**	**120**	**250**	**160**	**141**	**179**	**135**	**161**	**186**	**171**	**153**	**169**	**189**	**194**	**204**	**188**	**213**	**206**	**194**	**159**	**179**	**188**
MERCURY	ug/L	2 (O)	<0.1	<0.1	**0.20**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**2.7**	**1.2**	**2.8**	<5	**2.5**	**2.6**	**2.8**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.4**	**3.4**	**3.2**
SELENIUM	ug/L	50 (O)	<5	<4	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10
SODIUM	mg/L	--	**25.0**	**9.1**	**30.0**	**32.0**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**26.5**	**28.6**	**35.7**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.00**	**1.00**	**2.00**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.05	--	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**30**	<10	**20**	<20	<10	<10	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**24**	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10	**47**
VOC'S (METHOD 8260)																																							
Acetone	ug/l	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1.0	<1.0	<5.0
Carbon Disulfide	ug/L	--	<5	**16**	<5	<1	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<10	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0
MTBE	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.0	<1.0	<1.0
FIELD PARAMETERS																																							
pH	S.U.	6.5-8.5 (S)	**7.40**	**7.90**	**7.20**	**7.40**	**7.20**	**7.60**	**6.90**	**7.10**	**7.30**	**7.30**	**7.20**	**7.60**	**6.98**	**6.58**	**7.30**	**7.30**	**7.09**	**7.09**	**7.03**	**6.54**	**7.16**	**7.14**	**7.12**	**7.06**	**7.08**	**7.08**	**7.08**	**7.10**	**7.08**	**7.07**	**7.15**	**7.08**	**7.11**
CONDUCTIVITY	umhos/cm	--	**765**	**458**	**926**	**940**	**1,050**	**1,200**	**1,100**	**1,000**	**1,000**	**1,000**	**1,000**	**1,350**	**1,139**	**1,130**	**1,100**	**1,030**	**1,109**	**829**	**1,244**	**907**	**1,205**	**804**	**919**	**790**	**659**	**659**	**726**	**669**	**578**	**1,009**	**1,007**	**993**	**734**
TEMPERATURE	°C	--	**17.8**	**18.3**	**16.1**	**16.1**	**12.8**	**9.4**	**12.8**	**14.4**	**13.3**	**13.9**	--	**12.8**	**10.4**	**13.9**	**14.3**	**13.8**	**15.3**	**13.1**	**14.9**	**13.7**	**15.1**	**13.6**	**15.3**	**14.0**	**15.0**	**15.0**	**15.0**	**14.1**	**15.6**	**15.8**	**14.9**	**15.0**	**16.8**

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Table 1 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Shallow Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-6S																																		
			10/18/95	1/15/96	4/24/96	7/30/96	2/11/97	4/28/97	7/7/97	10/7/97	6/24/98	12/16/98	7/20/99	4/27/00	11/27/00	5/30/01	10/17/01	5/7/02	10/30/02	5/19/03	11/12/03	5/11/04	10/26/04	5/3/05	10/31/05	4/24/06	10/25/06	5/7/07	11/14/07	6/17/08	10/29/08	7/8/09	4/1/15	4/12/16	10/18/16
INORGANICS																																					
ALUMINUM	ug/L	50 to 200 (S)	**110**	<50	<50	<200	<500	<500	<500	<500	<500	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	**4.40**	<4	<4	**7.60**	<4.0	NS	NS	NS	NS	NS	NS	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4	<4	<4
ARSENIC	ug/L	10 (O)	<3	<3	<3	<10	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<3.0	<3.0	<3.0
BARIUM	ug/L	2,000 (O)	**51**	**46**	**100**	<200.0	<100.0	<100.0	**53**	**43**	**58**	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**81**	**72**	**87**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	NS	NS	NS	NS	NS	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	NS	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
CALCIUM	mg/L	--	**99**	**99**	**110**	**107**	**110**	**110**	**110**	**98**	**98**	NS	NS	NS	NS	NS	NS	**114**	**113**	**107**	**120**	**123**	**120**	**118**	**115**	**114**	**117**	**111**	**107**	**122**	**116**	**103**	**115**	**115**	**110**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	NS	NS	NS	NS	NS	NS	<50	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10	<10	<25	<20	<20	<10	<10	<10	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	< 0.01	< 0.01	< 0.01	< 0.01	**0.01**	NS	NS	NS	NS	NS	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010	<0.010
IRON	ug/L	300 (S)	**400**	**30.00**	**60.00**	**101**	<30.0	<30.0	**4.00**	<5.0	<5.0	NS	NS	NS	NS	NS	NS	**73.00**	<30	<30	<30	<30	<30	<30	<100	<100	<100	<100	<100	<100	<100	<100	<80	<80	<80
LEAD	ug/L	15 (A)	<2	<2	<3	<3	<2	<2	<2	<2	<2	NS	NS	NS	NS	NS	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5	<5
MAGNESIUM	mg/L	--	**26.0**	**27.0**	**30.0**	**29.0**	**29.0**	**30.0**	**28.0**	**27.0**	**28.0**	NS	NS	NS	NS	NS	NS	**33.0**	**30.7**	**28.3**	**30.1**	**32.4**	**32.6**	**31.1**	**32.1**	**32.8**	**31.5**	**29.8**	**29.7**	**34.1**	**32.7**	**29.8**	**26.3**	**33.4**	**34.3**
MANGANESE	ug/L	50 (S)	**300**	**280**	**250**	**138**	**280**	**260**	**180**	**220**	**236**	NS	NS	NS	NS	NS	NS	**229**	**355**	**121**	**311**	**85**	**154**	**125**	**154**	**103**	**149**	**82**	**159**	**111**	**146**	**92**	**223**	**305**	**243**
MERCURY	ug/L	2 (O)	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NS	NS	NS	NS	NS	NS	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	NS	NS	NS	NS	NS	NS	<20	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**4.1**	**4.0**	**4.1**	**6.1**	**4.2**	**4.5**	**4.2**	--	--	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**5.9**	**6.3**	**5.6**
SELENIUM	ug/L	50 (O)	**9**	**9**	**12**	**10**	**6**	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**6**	<5.0	<5.0	**5**	<5.0	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	NS	NS	NS	NS	NS	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10
SODIUM	mg/L	--	**70.0**	**73.0**	**59.0**	**57.0**	--	--	--	--	--	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**94.7**	**78.8**	**90.7**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	NS	NS	NS	NS	NS	NS	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**5.40**	<1.0	<0.05	--	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	NS	NS	NS	NS	NS	NS	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	NS	NS	NS	NS	NS	NS	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	NS	NS	NS	NS	NS	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**20**	**20**	**10**	<20	<10	**14**	<10	<10	<10	NS	NS	NS	NS	NS	NS	<20	<20	<20	<20	<20	<20	<20	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10	**17**
VOC'S (METHOD 8260)																																					
Acetone	ug/l	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	NS	NS	NS	NS	NS	NS	<100	<100	<100	<100	<100	<100	<50	<10	<10	<10	<10	<10	<10	<10	<10	<1.0	<1.0	<5.0
Carbon Disulfide	ug/L	--	<5	<5	<5	<1	<10	<10	<10	<10	<10	NS	NS	NS	NS	NS	NS	<10	<10	<10	<10	<10	<10	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0
MTBE	ug/L	--	--	--	--	--	--	--	--	--	--	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.0	<1.0	<1.0
FIELD PARAMETERS																																					
pH	S.U.	6.5-8.5 (S)	**7.50**	**7.50**	**7.50**	**7.50**	**7.40**	**7.60**	**7.50**	**7.60**	**7.60**	NS	NS	NS	NS	NS	NS	**7.50**	**7.25**	**7.23**	**7.17**	**6.69**	**7.26**	**7.30**	**7.23**	**7.20**	**7.26**	**7.26**	**7.28**	**7.30**	**7.09**	**7.29**	**7.26**	**7.14**	**7.20**
CONDUCTIVITY	umhos/cm	--	**764**	**800**	**823**	**760**	**1,000**	**1,000**	**1,000**	**975**	**940**	NS	NS	NS	NS	NS	NS	**980**	**1,042**	**811**	**1,162**	**903**	**1,056**	**745**	**960**	**808**	**694**	**694**	**713**	**684**	**587**	**967**	**1,002**	**975**	**764**
TEMPERATURE	^{o}C	--	**17.2**	**15.0**	**12.8**	**16.7**	**12.8**	**12.2**	**13.9**	**13.9**	**14.4**	NS	NS	NS	NS	NS	NS	**13.8**	**14.3**	**13.8**	**14.8**	**14.1**	**14.9**	**14.1**	**15.9**	**14.2**	**15.5**	**15.5**	**15.7**	**14.6**	**15.4**	**15.9**	**15.1**	**15.9**	**17.7**

* Sample dates 12/16/98 through 10/17/01 - Not Sampled due to vandalism.

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

NA = NOT ANALZED

NM = NOT MEASURED

Table 1 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Shallow Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-7																																			
			10/17/95	1/16/96	4/24/96	7/29/96	2/11/97	4/28/97	7/8/97	10/6/97	6/25/98	12/16/98	7/21/99	4/27/00	11/28/00	5/30/01	10/17/01	5/8/02	10/31/02	5/20/03	11/13/03	5/11/04	10/27/04	5/3/05	10/31/05	4/24/06	10/25/06	5/8/07	11/14/07	6/17/08	10/29/08	7/8/09	4/1/15	4/12/16	10/18/16
INORGANICS																																						
ALUMINUM	ug/L	50 to 200 (S)	**80**	<50	<50	<200	<500	<500	<500	<500	<500	<500	<50	<50	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	**4.9**	**4.8**	<4	**11.0**	<4	<4	<4	<4.0	<4	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4	<4	<4
ARSENIC	ug/L	10 (O)	**17**	**21**	**17**	<10	**22**	**30**	**2**	**20**	**15**	**18**	**14**	**16**	**19**	**16**	**20**	**15**	**15**	**14**	**16**	**13**	**14**	**21**	**19**	**18**	**19**	**19**	**19**	**23**	**21**	**29**	**10**	**4.0**	**4.1**
BARIUM	ug/L	2,000 (O)	**33**	**33**	**41**	**290**	<100	<100	**34**	**38**	**38**	**30**	**32**	**34**	**30**	**42**	**39**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**54**	**51**	**45**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
CALCIUM	mg/L	--	**230**	**210**	**230**	**96**	**220**	**230**	**210**	**183**	**200**	**197**	**216**	**212**	**180**	**230**	**220**	**199**	**202**	**216**	**236**	**226**	**259**	**393**	**321**	**269**	**268**	**384**	**274**	**4**	**289**	**282**	**202**	NA	**188**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50	<10	<10	<20	<50	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10	<10	<25	<20	<20	<10	<10	**12.00**	<20	<20	<20	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010	<0.010
IRON	ug/L	300 (S)	**12,000**	**12,000**	**9,700**	**1,500**	**14,000**	**14,000**	**13,600**	**14,000**	**16,000**	**14,000**	**13,000**	**15,400**	**11,100**	**13,300**	**13,600**	**15,200**	**13,000**	**11,600**	**11,600**	**14,100**	**16,900**	**35,900**	**21,700**	**19,300**	**17,000**	**25,200**	**17,900**	**19,400**	**17,600**	**20,100**	**4,870**	**322**	**455**
LEAD	ug/L	15 (A)	<2	<5	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5	<5
MAGNESIUM	mg/L	--	**34.0**	**31.0**	**33.0**	**26.0**	**32.0**	**35.0**	**31.0**	**31.0**	**31.0**	**27.0**	**32.0**	**35.2**	**38.0**	**38.0**	**38.0**	**39.0**	**35.2**	**35.8**	**38.7**	**36.3**	**40.8**	**60.5**	**30.0**	**31.7**	**36.9**	**46.5**	**32.2**	**47.5**	**42.1**	**42.9**	**31.8**	**40.2**	**39.0**
MANGANESE	ug/L	50 (S)	**250**	**330**	**610**	**156**	**310**	**370**	**270**	**310**	**388**	**290**	**340**	**360**	**380**	**500**	**440**	**421**	**386**	**458**	**422**	**461**	**473**	**728**	**669**	**678**	**639**	**1040**	**778**	**979**	**838**	**783**	**383**	**370**	**392**
MERCURY	ug/L	2 (O)	<0.1	**0.90**	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	**45.00**	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	**10.00**	<20	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**3.6**	**3.5**	**3.7**	**6.2**	**3.7**	**4.3**	**3.4**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.5**	**4.2**	**3.9**
SELENIUM	ug/L	50 (O)	<5	<5	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10
SODIUM	mg/L	--	**34.0**	**38.0**	**37.0**	**17.1**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**63.7**	**57.6**	**58.3**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	**2.00**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.05	--	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	**0.01**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**30**	**20**	**80**	**27**	<10	<10	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10	<10
VOC'S (METHOD 8260)																																						
Acetone	ug/l	--	<50	<50	<50	**5**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<10	<10	<10	<10	<10	<10	<10	<10	<1.0	<1.0	<5.0
Carbon Disulfide	ug/L	--	<5	<5	<5	<1	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<10	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0
MTBE	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.0	<1.0	<1.0

FIELD PARAMETERS																																						
pH	S.U.	6.5-8.5 (S)	**6.90**	**8.10**	**7.10**	**7.10**	**7.10**	**7.30**	**7.20**	**7.10**	**6.90**	**7.10**	**7.10**	**7.60**	**6.80**	**6.60**	**7.10**	**7.40**	**7.03**	**6.96**	**6.93**	**6.42**	**6.94**	**6.79**	**6.80**	**6.83**	**6.89**	**6.89**	**6.77**	**6.85**	**6.65**	**6.87**	**7.02**	**6.88**	**6.94**
CONDUCTIVITY	umhos/cm	--	**1,080**	**957**	**1,191**	**1,191**	**1,500**	**1,500**	**1,300**	**1,200**	**1,100**	**1,200**	**1,230**	**1,360**	**1,440**	**1,240**	**1,500**	**1,220**	**1,236**	**891**	**1,438**	**1,024**	**1,350**	**1,155**	**1,355**	**983**	**845**	**845**	**839**	**766**	**630**	**1,489**	**1,197**	**1,250**	**876**
TEMPERATURE	^{o}C	--	**18.3**	**12.8**	**17.2**	**17.2**	**13.9**	**12.8**	**13.3**	**14.4**	**13.9**	**14.4**	--	**13.9**	**11.0**	**14.4**	**14.9**	**14.3**	**15.5**	**14.1**	**14.7**	**14.1**	**15.3**	**14.6**	**16.5**	**14.6**	**16.2**	**16.2**	**16.5**	**14.8**	**16.3**	**15.8**	**15.1**	**16.6**	**18.4**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

NA = NOT ANALZED

NM = NOT MEASURED

Table 1 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Shallow Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-8																																			
			10/20/95	1/16/96	4/23/96	7/31/96	2/11/97	4/28/97	7/8/97	10/22/97	6/25/98	12/29/98	7/29/99	4/27/00	11/28/00	5/31/01	10/19/01	5/8/02	11/1/02	5/20/03	11/13/03	5/11/04	11/12/04	5/3/05	10/31/05	4/24/06	10/25/06	5/7/07	11/15/07	6/17/08	11/4/08	7/8/09	4/1/15	4/13/16	10/18/16
INORGANICS																																						
ALUMINUM	ug/L	50 to 200 (S)	<50	<50	<50	<200	<500	<500	<500	<500	<500	--	<50	**53**	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	<4	<4	<4	**12.0**	<4	**4.10**	<4	<4.0	<4	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4	<4	<4
ARSENIC	ug/L	10 (O)	<3	<3	<3	<10	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<3.0	<3.0	<3.0
BARIUM	ug/L	2,000 (O)	**50**	**46**	**45**	<200	<100	<100	**55**	**49**	**64**	**50**	**57**	**51**	**48**	**54**	**64**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**64**	**65**	**58**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
CALCIUM	mg/L	--	**120**	**110**	**110**	**125**	**120**	**110**	**110**	**122**	**101**	--	**130**	**107**	**120**	**110**	**130**	**91**	**110**	**101**	**110**	**112**	**129**	**135**	**139**	**132**	**133**	**124**	**134**	**115**	**111**	**125**	**142**	**127**	**116**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	**17.00**	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50	<10	<10	<20	<50	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10	<10	<25	<20	<20	<10	<10	**23**	**20**	**20**	**22**	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	**0.01**	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	**0.01**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010	<0.010
IRON	ug/L	300 (S)	**20**	**70**	**70**	**119**	<30	<30	**13**	**13**	<50	--	<30	<30	<50	<50	<50	<30	<30	<30	<30	<30	<30	<30	<100	<100	<100	<100	<100	<100	<100	<100	<100	<80	<80	<80
LEAD	ug/L	15 (A)	<2	<5	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5	<5
MAGNESIUM	mg/L	--	**32.0**	**31.0**	**31.0**	**34.0**	**30.0**	**31.0**	**31.0**	**30.0**	**34.0**	--	**34.0**	**30.1**	**31.0**	**29.0**	**36.0**	**27.3**	**31.5**	**27.3**	**29.0**	**30.3**	**35.5**	**36.9**	**40.1**	**38.6**	**38.4**	**33.3**	**38.1**	**31.8**	**31.1**	**35.1**	**31.4**	**37.2**	**35.1**
MANGANESE	ug/L	50 (S)	**200**	**260**	**14**	<15	**180**	**90**	**140**	**160**	**71**	--	**194**	**173**	**200**	**170**	**250**	**181**	**167**	**158**	**168**	**176**	**188**	**223**	**272**	**208**	**268**	**222**	**267**	**254**	**232**	**281**	**212**	**205**	**236**
MERCURY	ug/L	2 (O)	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**3.8**	**4.1**	**3.8**	**4.8**	**4.9**	**5.1**	**4.6**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**5.8**	**6.2**	**5.7**
SELENIUM	ug/L	50 (O)	**15.0**	**10.0**	**5.0**	**13.4**	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	**9.0**	**8.2**	**8.5**	**8.2**	**9.8**	**10.2**	**11.0**	**9.2**	**15.2**	**8.2**	**11.6**	**13.6**	**11.1**	**14.6**	**11.8**	**16.6**	**12.0**	**8.0**	**10.2**
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10
SODIUM	mg/L	--	**45.0**	**46.0**	**36.0**	**48.0**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**78.9**	**80.6**	**95.3**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.05	--	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	<10	**10.0**	**10.0**	<20	<10	<10	<10	<10	**11.0**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10	<10
VOC'S (METHOD 8260)																																						
Acetone	ug/l	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1.0	<1.0	<5.0
Carbon Disulfide	ug/L	--	<5	<5	<5	<1	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<10	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0
MTBE	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.0	<1.0	<1.0

FIELD PARAMETERS																																						
pH	S.U.	6.5-8.5 (S)	**7.30**	**7.50**	**7.40**	**7.90**	**7.20**	**7.50**	**6.90**	**7.50**	**7.10**	**7.10**	**7.10**	**7.10**	**7.04**	**6.80**	**7.20**	**7.60**	**7.27**	**7.19**	**7.24**	**6.70**	**7.16**	**7.16**	**7.11**	**7.10**	**7.16**	**7.16**	**7.26**	**7.08**	**7.18**	**7.18**	**7.16**	**7.05**	**7.21**
CONDUCTIVITY	umhos/cm	--	**776**	**738**	**808**	**830**	**1,100**	**1,050**	**1,000**	**1,000**	**860**	**980**	**930**	**930**	**1,052**	**970**	**1,110**	**910**	**1,005**	**760**	**1,084**	**920**	**1,254**	**883**	**1,165**	**1,010**	**830**	**830**	**845**	**713**	**559**	**1,091**	**969**	**1,213**	**781**
TEMPERATURE	^{o}C	--	**17.8**	**12.8**	**18.9**	**16.7**	**12.8**	**13.3**	**14.4**	**13.9**	**15.0**	--	--	**13.9**	**11.8**	**14.4**	**14.9**	**14.3**	**15.9**	**15.2**	**14.8**	**15.2**	**16.0**	**15.1**	**17.2**	**15.2**	**16.6**	**16.6**	**15.7**	**16.2**	**16.7**	**16.9**	**15.9**	**18.0**	**19.3**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

NA = NOT ANALZED

NM = NOT MEASURED

Table 1 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Shallow Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-9S																
			4/15/15	10/7/15	10/20/15	11/4/15	11/18/15	12/2/15	12/16/15	1/20/16	2/17/16	3/16/16	4/13/16	5/18/16	6/8/16	7/20/16	8/17/16	9/21/16	10/19/16
INORGANICS																			
ALUMINUM	ug/L	50 to 200 (S)	<25	<150	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<3	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
ARSENIC	ug/L	10 (O)	**5.0**	**9.0**	**7.0**	**6.0**	**6.0**	**7.0**	**5.0**	**11.0**	**7.0**	**6.0**	**5.0**	**5.0**	**4.0**	**3.9**	**5.5**	**5.4**	**6.2**
BARIUM	ug/L	2,000 (O)	**399**	**459**	**405**	**413**	**393**	**419**	**422**	**475**	**474**	**502**	**494**	**451**	**480**	**484**	**491**	**489**	**521**
BERYLLIUM	ug/L	4 (O)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<1	<5	<5	<5	<5	<5	<1	<1	<1	<5	<1	<1	<1	<1
CALCIUM	mg/L	--	**166**	**163**	**142**	**144**	**144**	**157**	**164**	**179**	**160**	**159**	**165**	**146**	**156**	**148**	**161**	**162**	**170**
CHROMIUM	ug/L	100 (O)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<10	<5	<5	<5	<5
COBALT	ug/L	--	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.040	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
IRON	ug/L	300 (S)	**446**	**1,830**	**1,660**	**293**	**139**	**798**	**689**	**2,160**	**925**	**331**	<80	**146**	<80	**86**	**328**	**181**	**1,490**
LEAD	ug/L	15 (A)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MAGNESIUM	mg/L	--	**44.3**	**44.0**	**39.1**	**42.4**	**45.6**	**46.0**	**44.5**	**50.8**	**48.7**	**49.3**	**49.4**	**45.9**	**43.2**	**42.6**	**46.1**	**45.3**	**51.0**
MANGANESE	ug/L	50 (S)	**204**	**142**	**133**	**128**	**144**	**147**	**140**	**140**	**131**	**135**	**124**	**132**	**125**	**117**	**127**	**129**	**125**
MERCURY	ug/L	2 (O)	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.27	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**30.1**	**19.4**	**17.8**	**17.6**	**16.9**	**16.8**	**16.9**	**18.2**	**17.6**	**17.9**	**18.1**	**16.7**	**18.2**	**17.5**	**15.2**	**15.5**	**15.9**
SELENIUM	ug/L	50 (O)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
SODIUM	mg/L	--	**302**	**272**	**243**	**212**	**176**	**188**	**184**	**166**	**196**	**210**	**183**	**207**	**222**	**202**	**219**	**198**	**194**
SULFIDE	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
THALLIUM	ug/L	2 (O)	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
TIN	ug/L	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
VANADIUM	mg/L	--	<0.025	<0.010	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**14**	<10
VOC'S (METHOD 8260)																			
Acetone	ug/l	--	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0
Carbon Disulfide	ug/L	--	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0
MTBE	ug/L	--	<1.0	<1.0	<2.0	--	**1.1**	**1.5**	**1.2**	**1.2**	**1.3**	<1.0	**1.8**	**1.1**	**1.3**	<1.0	**1.4**	<5	**1.3**
FIELD PARAMETERS																			
pH	S.U.	6.5-8.5 (S)	**6.95**	**6.97**	**7.00**	**6.97**	**6.96**	**6.88**	**6.89**	**6.85**	**6.93**	**6.92**	**6.85**	**7.00**	**6.82**	**6.84**	**6.97**	**6.93**	**6.92**
CONDUCTIVITY	umhos/cm	--	**2,280**	**2,340**	**2,170**	**2,010**	**1,941**	**1,947**	**1,970**	**1,870**	**2,060**	**1,949**	**2,140**	**1,606**	**1,777**	**2,001**	**1,764**	**1,544**	**1,750**
TEMPERATURE	^{o}C	--	**18.1**	**17.4**	**17.1**	**17.4**	**17.4**	**17.1**	**18.0**	**16.9**	**17.2**	**17.6**	**17.4**	**17.3**	**17.7**	**18.1**	**17.8**	**18.2**	**18.2**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

NA = NOT ANALZED

NM = NOT MEASURED

Table 2
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-1D																																			
			10/18/95	1/15/96	4/22/96	7/29/96	2/12/97	4/28/97	7/7/97	10/22/97	6/24/98	12/16/98	7/20/99	8/24/00	11/27/00	5/30/01	10/18/01	5/7/02	10/31/02	5/19/03	11/12/03	5/12/04	10/26/04	5/4/05	11/2/05	4/26/06	10/26/06	5/7/07	11/14/07	6/17/08	10/30/08	7/8/09	3/31/15	4/14/16	10/18/16
INORGANICS																																						
ALUMINUM	ug/L	50 to 200 (S)	<50	<50	**240**	<200	<500	<500	<500	<500	<500	<500	<50	<50	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	**6.80**	<4	<4	**6.10**	<4	<4	<4	<4.0	<4	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4	<4	<4
ARSENIC	ug/L	10 (O)	<3	**5**	**14**	<10	**14**	**16**	**12**	**14**	**14**	**12**	**13**	**8.7**	**11**	**14**	**14**	**9.4**	**8.8**	**8.8**	**9.4**	**9.1**	**11**	**11**	**9.9**	**11.4**	**11.7**	**11.4**	**11.9**	**15.9**	**14**	**7.6**	**6**	**5**	**3.7**
BARIUM	ug/L	2,000 (O)	**230**	**230**	**230**	**280**	**230**	**230**	**247**	**240**	**280**	**242**	**232**	**312**	**291**	**306**	**251**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**373**	**332**	**279**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
CALCIUM	mg/L	--	**110**	**100**	**100**	**132**	**100**	**110**	**110**	**111**	**110**	**110**	**113**	**127**	**130**	**120**	**100**	**106**	**99**	**101**	**108**	**119**	**106**	**117**	**99**	**128**	**141**	**128**	**119**	**112**	**116**	**102**	**143**	**126**	**119**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50	<10	<10	<20	<50	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10	<10	<25	<20	<20	<10	<10	<10	<20	<20	<20	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010	<0.010
IRON	ug/L	300 (S)	**180**	**2,700**	**3,300**	**3,700**	**3,700**	**3,500**	**3,300**	**3,100**	**4,100**	**3,400**	**3,100**	**4,080**	**4,240**	**3,980**	**3,510**	**3,250**	**2,960**	**2,950**	**2,830**	**3,340**	**3,080**	**3,130**	**3,050**	**3,820**	**4,180**	**3,800**	**3,840**	**3,570**	**3,570**	**3,080**	**421**	<80	<80
LEAD	ug/L	15 (A)	<2	<2	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5	<5
MAGNESIUM	mg/L	--	**29.0**	**31.0**	**31.0**	**36.0**	**29.0**	**29.0**	**30.0**	**28.0**	**34.0**	**30.0**	**30.0**	**35.5**	**34.0**	**32.0**	**30.0**	**31.5**	**27.6**	**27.6**	**28.1**	**31.1**	**29.3**	**30.9**	**27.7**	**35.0**	**40.3**	**35.0**	**34.3**	**32.1**	**33.8**	**30.4**	**33.8**	**40.0**	**36.1**
MANGANESE	ug/L	50 (S)	**68**	**66**	**70**	**70**	**63**	**68**	**58**	**57**	**66**	**51**	**49**	**66**	**70**	**70**	**60**	**53**	**46**	**49**	**44**	**58**	**48**	**65**	**50**	**75**	**73**	**67**	**64**	**71**	**68**	**71**	**97**	**102**	**100**
MERCURY	ug/L	2 (O)	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	**0.25**	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10	<10
POTASSIUM	mg/L	--	**2.5**	**2.6**	**2.9**	<5	**2.5**	**2.6**	**2.3**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**8.0**	**8.2**	**6.8**
SELENIUM	ug/L	50 (O)	<5	<5	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10
SODIUM	mg/L	--	**23**	**29**	**25**	**25**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**76**	**69**	**73**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	**2.00**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.05	<0.05	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**30**	**60**	**30**	<20	<10	<10	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10	**96**
VOC'S (METHOD 8260)																																						
Acetone	ug/L	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<1.0	<5.0
2-Butanone (MEK)	ug/L	--	<50	<50	<50	<5	<50	<50	<50	<50	<50	<50	<50	<50	<100	<100	<100	<50	<50	<50	<50	<50	<50	<50	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<5.0	**9.0***
Carbon Disulfide	ug/L	--	<5	<5	<5	**2**	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<10	<50	<1	<1	<1	<1	<1	<1	<1	<1	<5.0	<1.0	<1.0
Chloroform	ug/L	80 (O)	<5	<5	<5	<1	<5	<2	<2	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0

FIELD PARAMETERS																																						
pH	S.U.	6.5-8.5 (S)	**7.30**	**7.50**	**7.20**	**7.50**	**7.40**	**7.40**	**7.20**	**7.50**	**7.00**	**7.20**	**7.20**	**7.18**	**7.02**	**6.70**	**7.50**	**7.40**	**7.31**	**7.29**	**7.19**	**6.70**	**7.23**	**7.29**	**7.24**	**7.16**	**7.17**	**7.19**	**7.17**	**7.20**	**6.99**	**7.21**	--	**7.09**	**7.20**
CONDUCTIVITY	umhos/cm	--	**663**	**847**	**730**	**750**	**830**	**870**	**840**	**760**	**870**	**800**	**680**	**886**	**1,007**	**810**	**820**	**770**	**732**	**657**	**775**	**659**	**781**	**579**	**813**	**732**	**681**	**668**	**705**	**635**	**586**	**789**	--	**1,155**	**790**
TEMPERATURE	°C	--	**18.30**	**8.89**	**17.20**	**19.40**	**12.20**	**13.30**	**13.90**	**12.80**	**14.40**	**13.30**	NM	**19.70**	**10.90**	**15.50**	**13.20**	**13.75**	**13.40**	**14.50**	**14.00**	**14.80**	**14.20**	**14.10**	**14.40**	**14.30**	**13.90**	**15.00**	**14.30**	**15.20**	**14.60**	**16.10**	--	**15.90**	**18.50**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

-- = NOT ANALZED/NOT AVAILABLE

NM = NOT MEASURED

* MW-1D was damaged by construction operations located in front of Tasty Made prior to the October 2016 monitoring event. The day before sampling, the casing pipe was cut and a new stub piece was glued. 2-Butanone (Methyl-ethyl-ketone) is listed on the Safety Data Sheet (SDS) of the glue. There is no U.S. EPA Primary MCL listed for the this chemical and U.S. EPA does not list it as a carcinogen.

Table 2 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-4D																																			
			10/17/95	1/16/96	4/24/96	7/29/96	2/11/97	4/28/97	7/7/97	10/21/97	6/24/98	12/16/98	7/20/99	8/24/00	11/27/00	5/30/01	10/18/01	5/6/02	10/30/02	5/19/03	11/12/03	5/12/04	10/26/04	5/3/05	10/31/05	4/26/06	10/25/06	5/7/07	11/14/07	6/17/08	10/29/08	7/8/09	3/31/15	2/17/16
INORGANICS																																						
ALUMINUM	ug/L	50 to 200 (S)	**220**	<50	<50	<200	<500	<500	<500	<500	<500	<500	<50	<50	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	**4.7**	<4	**6.2**	**7.5**	<4	<4	<4	<4.0	<4	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4	<4
ARSENIC	ug/L	10 (O)	**5**	**9**	<3	**10.9**	**12**	**13**	**1**	**1**	**8.8**	**8.9**	**7.7**	**6.1**	**6**	**9**	**8**	**6.7**	**6.7**	<5.0	**6.3**	**7.2**	<5.0	**6.5**	**7.3**	**7.2**	**9.5**	**9.4**	**7.5**	**9**	**10.4**	<5.0	**4**	**5**
BARIUM	ug/L	2,000 (O)	**290**	**340**	**200**	<200	**350**	**340**	**358**	**337**	**354**	**355**	**338**	**404**	**377**	**440**	**393**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**337**	**282**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<5
CALCIUM	mg/L	--	**95.0**	**100**	**72.0**	**310**	**97.0**	**97.0**	**96.0**	**102**	**81.0**	**96.0**	**103**	**96.2**	**110**	**110**	**100**	**98.9**	**96.2**	**103**	**110**	**104**	**104**	**106**	**92.4**	**95.0**	**108**	**109**	**97.3**	**97.3**	**103**	**98.4**	**105**	**99.1**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50	<10	<10	<20	<50	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10	<10	<25	<20	<20	<10	<10	**11.0**	<20	<20	<20	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010
IRON	ug/L	300 (S)	**330**	**2,200**	**700**	**12,500**	**3,800**	**3,500**	**3,000**	**3,100**	**3,300**	**3,200**	**3,100**	**3,300**	**3,480**	**3,730**	**3,410**	**3,340**	**3,090**	**3,140**	**3,030**	**3,220**	**2,990**	**2,950**	**3,140**	**3,120**	**3,600**	**3,510**	**3,270**	**3,140**	**3,440**	**3,210**	<80	**141**
LEAD	ug/L	15 (A)	<2	<5	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5
MAGNESIUM	mg/L	--	**29.0**	**29.0**	**19.0**	**42.0**	**28.0**	**28.0**	**27.0**	**28.0**	**26.0**	**28.0**	**28.0**	**28.2**	**29.0**	**32.0**	**31.0**	**31.9**	**28.8**	**29.7**	**30.7**	**29.9**	**30.4**	**30.2**	**27.6**	**27.5**	**30.8**	**30.9**	**28.2**	**28.0**	**29.8**	**28.7**	**26.2**	**30.7**
MANGANESE	ug/L	50 (S)	**180**	**190**	**140**	**320**	**180**	**190**	**170**	**160**	**174**	**162**	**168**	**189**	**200**	**220**	**200**	**200**	**181**	**194**	**179**	**199**	**182**	**181**	**196**	**214**	**231**	**243**	**206**	**236**	**231**	**241**	**215**	**228**
MERCURY	ug/L	2 (O)	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**0.20**
NICKEL	ug/L	--	**30.0**	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
POTASSIUM	mg/L	--	**2.0**	**1.6**	**15.0**	< 5	**1.4**	**1.7**	**1.4**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.0**	<2.0
SELENIUM	ug/L	50 (O)	<5	<5	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10
SODIUM	mg/L	--	**20.0**	**16.0**	**18.0**	**38.0**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**21.1**	**14.1**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	**2.0**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.05	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**30**	**50**	**20**	**36**	<10	**10**	<10	<10	**21**	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10
VOC'S (METHOD 8260)																																						
Acetone	ug/L	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<1.0
2-Butanone (MEK)	ug/L	--	<50	<50	<50	<5	<50	<50	<50	<50	<50	<50	<50	<50	<100	<100	<100	<50	<50	<50	<50	<50	<50	<50	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<5.0
Carbon Disulfide	ug/L	--	**2**	<5	<5	**2**	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<10	<50	<1	<1	<1	<1	<1	<1	<1	<1	<5.0	<1.0
Chloroform	ug/L	80 (O)	<5	<5	<5	<1	<5	<2	<2	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0
FIELD PARAMETERS																																						
pH	S.U.	6.5-8.5 (S)	**7.40**	**7.40**	**7.80**	**7.60**	**7.60**	**7.60**	**6.90**	**6.90**	**7.60**	**7.60**	**7.40**	**7.31**	**7.24**	**6.80**	**7.50**	**7.10**	**7.31**	**7.19**	**7.31**	**6.75**	**7.39**	**7.43**	**7.42**	**7.30**	**7.35**	**7.35**	**7.29**	**7.38**	**7.27**	**7.38**	**7.34**	**7.31**
CONDUCTIVITY	umhos/cm	--	**575**	**580**	**539**	**590**	**750**	**800**	**750**	**720**	**720**	**730**	**760**	**700**	**840**	**680**	**820**	**720**	**764**	**722**	**815**	**639**	**747**	**542**	**673**	**618**	**535**	**535**	**587**	**566**	**489**	**708**	**668**	**726**
TEMPERATURE	°C	--	**16.1**	**12.2**	**15.6**	**18.9**	**12.2**	**12.8**	**13.3**	**12.8**	**13.9**	**12.8**	NM	**19.2**	**10.4**	**13.9**	**12.7**	**13.8**	**13.0**	**14.0**	**13.5**	**14.1**	**13.5**	**13.9**	**14.1**	**13.7**	**13.9**	**13.9**	**14.2**	**14.9**	**14.1**	**16.6**	**15.1**	**15.2**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

-- = NOT ANALZED/NOT AVAILABLE

NM = NOT MEASURED

Table 2 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-4D (continued)							
			3/16/16	4/13/16	5/18/16	6/8/16	7/20/16	8/17/16	9/21/16	10/19/16
INORGANICS										
ALUMINUM	ug/L	50 to 200 (S)	<25	<25	<25	<25	<25	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<4	<4	<4	<4	<4	<4	<4	<4
ARSENIC	ug/L	10 (O)	**4**	**5**	**5**	**4**	**3.4**	**3.9**	**3.8**	**3.5**
BARIUM	ug/L	2,000 (O)	**294**	**288**	**267**	**287**	**297**	**294**	**281**	**284**
BERYLLIUM	ug/L	4 (O)	<1	<1	<1	<1	<1	<1	<1	<1
CADMIUM	ug/L	5 (O)	<1	<1	<1	<5	<1	<1	<1	<1
CALCIUM	mg/L	--	**99.1**	**101.0**	**91.6**	**96.1**	**99.7**	**96.8**	**94.8**	**97.6**
CHROMIUM	ug/L	100 (O)	<5	<5	<5	<10	<5	<5	<5	<5
COBALT	ug/L	--	<25	<25	<25	<25	<25	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<50	<50	<50	<50	<50	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
IRON	ug/L	300 (S)	<80	<80	<80	<80	<80	<80	<80	**473**
LEAD	ug/L	15 (A)	<5	<5	<5	<5	<5	<5	<5	<5
MAGNESIUM	mg/L	--	**30.7**	**31.2**	**31.7**	**29.7**	**28.9**	**31.4**	**30.3**	**30.9**
MANGANESE	ug/L	50 (S)	**228**	**235**	**249**	**235**	**242**	**246**	**242**	**233**
MERCURY	ug/L	2 (O)	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<10.0	<10	<10	<10	<10	<10	<10	<10
POTASSIUM	mg/L	--	<2.0	<2	<2	<2	<2	<2	<2	<2
SELENIUM	ug/L	50 (O)	<5	<5	<5	<5	<5	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<10	<10	<10	<10
SODIUM	mg/L	--	**15.9**	**12.7**	**14.9**	**14.1**	**13.2**	**14.1**	**14.8**	**16.4**
SULFIDE	mg/L	--	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
THALLIUM	ug/L	2 (O)	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
TIN	ug/L	--	<10	<10	<10	<10	<10	<10	<10	<10
VANADIUM	mg/L	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	<10	<10	<10	<10	<10	<10	<10	<10
VOC'S (METHOD 8260)										
Acetone	ug/L	--	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0
2-Butanone (MEK)	ug/L	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0
Carbon Disulfide	ug/L	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0
Chloroform	ug/L	80 (O)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0
FIELD PARAMETERS										
pH	S.U.	6.5-8.5 (S)	**7.37**	**7.34**	**7.37**	**7.19**	**7.22**	**7.36**	**7.34**	**7.30**
CONDUCTIVITY	umhos/cm	--	**640**	**719**	**583**	**672**	**760**	**682**	**572**	**681**
TEMPERATURE	^{o}C	--	**15.7**	**15.4**	**15.7**	**16.0**	**16.3**	**16.1**	**16.6**	**15.9**

(S) = Secondary Maximum Contaminant Level

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D = DETECTED

ND = NOT DETECTED

-- = NOT ANALZED/NOT AVAILABLE

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Table 2 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-5D																									
			10/19/95	1/17/96	4/22/96	7/30/96	2/12/97	4/29/97	7/7/97	10/21/97	6/24/98	12/16/98	7/20/99	8/24/00	11/27/00	5/30/01	10/19/01	6/3/02	5/20/03	11/12/03	5/25/04	10/27/04	5/3/05	11/1/05	6/17/08	4/9/15	4/12/16	10/18/16
INORGANICS																												
ALUMINUM	ug/L	50 to 200 (S)	<50	<50	**90**	<200	<500	<500	<500	<500	<500	<500	<50	<50	<50	--	--	--	--	--	--	--	--	--	--	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	**4.20**	<4	<4	<4	<4	<4	<4	<4.0	**5.00**	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<4	<4	<4
ARSENIC	ug/L	10 (O)	**7**	**27**	**22**	**14.6**	**47**	**47**	**49**	**44**	**42**	**53**	**53**	**24.2**	**41**	**34**	**42**	**29.5**	**26.3**	**26.4**	**24.5**	**28.8**	**27.5**	**32.3**	**38.7**	**11**	**15**	**12.5**
BARIUM	ug/L	2,000 (O)	**120**	**190**	**110**	<200	**160**	**180**	**180**	**170**	**179**	**170**	**168**	**175**	**163**	**183**	**169**	--	--	--	--	--	--	--	--	**134**	**115**	**111**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1	<1
CALCIUM	mg/L	--	**72.0**	**73.0**	**69.0**	**74.0**	**72.0**	**74.0**	**75.0**	**79.0**	**62.0**	**77.0**	**77.0**	**73.7**	**82.0**	**84.0**	**77.0**	**109.0**	**81.6**	**88.1**	**82.6**	**79.8**	**87.5**	**81.3**	**81.3**	**79.2**	**87.4**	**93.0**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<10	<5	<5
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50	<10	<10	<20	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10	<10	<25	<20	<20	<10	<10	<10	<20	<20	<20	<10	--	--	--	--	--	--	--	--	--	--	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.040	<0.010	<0.010
IRON	ug/L	300 (S)	**1,500**	**4,100**	**3,100**	**2,600**	**8,400**	**8,200**	**7,500**	**7,100**	**8,200**	**7,700**	**7,600**	**7,540**	**8,270**	**8,230**	**7,870**	**7,080**	**7,260**	**6,980**	**7,100**	**7,130**	**7,090**	**7,730**	**7,490**	<80	<80	<80
LEAD	ug/L	15 (A)	<2	<3	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<5	<5	<5
MAGNESIUM	mg/L	--	**24.0**	**25.0**	**25.0**	**26.0**	**25.0**	**26.0**	**26.0**	**26.0**	**23.0**	**27.0**	**26.0**	**24.9**	**26.0**	**27.0**	**28.0**	**33.0**	**27.3**	**28.4**	**24.9**	**28.0**	**28.9**	**28.6**	**27.8**	**30.0**	**31.4**	**33.5**
MANGANESE	ug/L	50 (S)	**270**	**240**	**240**	**240**	**290**	**310**	**290**	**280**	**313**	**292**	**291**	**316**	**330**	**340**	**330**	**317**	**303**	**287**	**293**	**284**	**292**	**315**	**351**	**283**	**283**	**287**
MERCURY	ug/L	2 (O)	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	**4.00**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	<10	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10	<10
POTASSIUM	mg/L	--	**1.40**	**1.10**	**1.20**	< 5	**1.00**	**1.00**	**0.91**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<2.0	<2	<2
SELENIUM	ug/L	50 (O)	<5	<4	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10
SODIUM	mg/L	--	**4.90**	**5.30**	**7.20**	**9.10**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<5.0	**5.00**	**7.20**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	<1.0	<0.05	--	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	<1.5	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**20.00**	<10	**20.00**	<20	<10	**21.00**	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20.0	<20.0	<10	<10	<10
VOC'S (METHOD 8260)																												
Acetone	ug/L	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<10	<10	<5.0	<1.0	<5.0
2-Butanone (MEK)	ug/L	--	<50	<50	<50	<5	<50	<50	<50	<50	<50	<50	<50	<50	<100	<100	<100	<50	<50	<50	<50	<50	<50	<10	<10	<5.0	<5.0	<5.0
Carbon Disulfide	ug/L	--	<5	**6**	<5	**2**	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<50	<1	<1	<1.0	<1.0	<1.0
Chloroform	ug/L	80 (O)	<5	<5	<5	<1	<5	<2	<2	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5	<5	<5	<5	<5	<5	<1	<1	<1.0	<1.0	<1.0
FIELD PARAMETERS																												
pH	S.U.	6.5-8.5 (S)	**7.50**	**7.70**	**7.30**	**7.70**	**7.70**	**7.80**	**6.80**	**7.60**	**7.40**	**7.50**	**7.50**	**7.38**	**7.36**	**6.60**	**7.50**	**7.47**	**7.30**	**7.48**	**7.58**	**7.39**	**7.54**	**7.49**	**7.52**	--	**7.48**	**7.47**
CONDUCTIVITY	umhos/cm	--	**413**	**367**	**470**	**450**	**600**	**640**	**600**	**560**	**570**	**600**	**530**	**570**	**630**	**580**	**600**	**590**	**554**	**650**	**581**	**623**	**450**	**632**	**477**	--	**573**	**478**
TEMPERATURE	°C	--	**16.10**	**16.10**	**17.80**	**16.10**	**11.70**	**10.00**	**13.30**	**12.80**	**13.30**	**13.30**	NM	**18.80**	**10.20**	**13.30**	**13.20**	**14.10**	**13.40**	**13.20**	**13.70**	**13.20**	**13.60**	**13.90**	**14.10**	--	**14.70**	**15.30**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

-- = NOT ANALZED/NOT AVAILABLE

NM = NOT MEASURED

Table 2 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-6D																																		
			10/18/95	1/15/96	4/24/96	7/30/96	2/11/97	4/28/97	7/7/97	10/21/97	6/24/98	12/16/98	7/22/99	8/24/00	11/27/00	5/30/01	10/18/01	5/6/02	10/30/02	5/19/03	11/12/03	5/12/04	10/26/04	5/3/05	11/1/05	4/26/06	10/25/06	5/7/07	11/14/07	6/17/08	10/29/08	7/8/09	4/1/15	4/12/16	10/18/16
INORGANICS																																					
ALUMINUM	ug/L	50 to 200 (S)	<50	<50	**150**	<200	<500	<500	<500	<500	<500	<500	<50	<50	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<5	<5	<5	<60	<4	<4	<4	**5.70**	<4	<4	<4	<4.0	<4	<4	<4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4	<4	<4
ARSENIC	ug/L	10 (O)	**4**	**6**	<3	<10	**16**	**20**	**17**	**16**	**14**	**13**	**16**	**8.8**	**11**	**13**	**11**	**9.5**	**10.5**	**8.5**	**10.2**	**10.7**	**9.8**	**10.3**	**9.9**	**10.8**	**11.9**	**11.8**	**12.6**	**14.8**	**14.5**	**9.9**	**10**	**7**	**5.4**
BARIUM	ug/L	2,000 (O)	**240**	**310**	**210**	**290**	**290**	**290**	**295**	**270**	**299**	**272**	**251**	**275**	**250**	**279**	**40**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**246**	**212**	**205**
BERYLLIUM	ug/L	4 (O)	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.2	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<5	<1	<1	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<5	<5	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1
CALCIUM	mg/L	--	**100**	**110**	**110**	**116**	**110**	**120**	**120**	**120**	**98**	**115**	**119**	**104**	**90**	**120**	**230**	**111**	**108**	**116**	**119**	**115**	**108**	**118**	**106**	**106**	**119**	**115**	**111**	**116**	**123**	**113**	**111**	**102**	**113**
CHROMIUM	ug/L	100 (O)	<20	<20	<20	<10	<2	<2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
COBALT	ug/L	--	<20	<20	<20	<50	<100	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50	<10	<10	<20	<50	<50	<50	<50	<50	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<10	<10	<10	<25	<20	<20	<10	<10	<10	**20.00**	<20	<20	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.005	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.040	<0.010	<0.010
IRON	ug/L	300 (S)	**80**	**2,000**	**4,600**	**510**	**4,600**	**4,400**	**4,200**	**3,900**	**4,700**	**4,100**	**3,800**	**4,070**	**3,970**	**4,220**	**13,800**	**3,740**	**3,480**	**3,550**	**3,430**	**3,770**	**3,250**	**3,390**	**3,650**	**3,610**	**4,050**	**3,770**	**3,810**	**3,880**	**4,120**	**3,790**	**559**	<80	<80
LEAD	ug/L	15 (A)	<2	<2	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2.0	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<5	<5
MAGNESIUM	mg/L	--	**33.0**	**37.0**	**35.0**	**37.0**	**36.0**	**38.0**	**35.0**	**36.0**	**33.0**	**35.0**	**35.0**	**30.7**	**30.0**	**36.0**	**39.0**	**37.0**	**34.5**	**35.2**	**35.3**	**35.3**	**35.6**	**36.7**	**35.2**	**34.4**	**37.9**	**36.8**	**36.7**	**37.9**	**40.3**	**37.3**	**29.6**	**34.4**	**37.6**
MANGANESE	ug/L	50 (S)	**75**	**75**	**110**	**45**	**58**	**67**	**54**	**51**	**59**	**48**	**47**	**53**	**50**	**60**	**47**	**49**	**44**	**49**	**45**	**55**	**49**	**45**	**48**	**52**	**56**	**56**	**52**	**58**	**54**	**48**	**47**	**48**	**54**
MERCURY	ug/L	2 (O)	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	**0.36**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<20	<20	<20	<40	<40	<40	<20.0	<20.0	<20.0	<20.0	<20.0	<20	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10
POTASSIUM	mg/L	--	**1.4**	**1.6**	**2.2**	< 5	**1.3**	**1.5**	**1.3**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.9**	**2.8**	**2.4**
SELENIUM	ug/L	50 (O)	<5	<5	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5	<5	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1.0	<10	<10	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10
SODIUM	mg/L	--	**9.4**	**12.0**	**22.0**	**10.2**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**59.2**	**37.2**	**33.4**
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<1	<1	<1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1.0	<1.0	<1.0	<1.0	<1.0	**1.20**	<1.0	<1.0	<0.05	--	<0.05
THALLIUM	ug/L	2 (O)	<2	<2	<2	<10	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<1	<1	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<1.5	<1.5
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	<50	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10	<10	<10
VANADIUM	mg/L	--	<0.01	<0.01	<0.01	<0.05	<1	<1	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	**40**	**20**	**40**	**26**	<10	<10	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<10	<10	**25**
VOC'S (METHOD 8260)																																					
Acetone	ug/L	--	<50	<50	<50	<5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<10	<10	<10	<10	<10	<10	<10	<5.0	<1.0	<5.0
2-Butanone (MEK)	ug/L	--	<50	<50	<50	<5	<50	<50	<50	<50	<50	<50	<50	<50	<100	<100	<100	<50	<50	<50	<50	<50	<50	<50	<10	<10	<10	<10	<10	<10	<10	<10	<5.0	<5.0	<5.0
Carbon Disulfide	ug/L	--	<5	<5	**24**	<1	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	<10	<10	<10	<10	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0
Chloroform	ug/L	80 (O)	<5	<5	<5	<1	<5	<2	<2	<5	<5	<5	<5	<5	<5.0	<5.0	<5.0	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0

FIELD PARAMETERS																																					
pH	S.U.	6.5-8.5 (S)	**7.60**	**7.70**	**7.80**	**7.70**	**7.40**	**7.50**	**7.20**	**7.40**	**7.60**	**7.40**	**7.40**	**7.29**	**7.17**	**6.60**	**7.50**	**7.20**	**7.32**	**7.16**	**7.29**	**6.77**	**7.34**	**7.40**	**7.35**	**7.30**	**7.32**	**7.32**	**7.27**	**7.39**	**7.21**	**7.33**	**7.32**	**7.28**	**7.36**
CONDUCTIVITY	umhos/cm	--	**617**	**643**	**709**	**650**	**870**	**920**	**800**	**820**	**800**	**800**	**750**	**679**	**817**	**710**	**790**	**750**	**773**	**692**	**811**	**629**	**769**	**544**	**752**	**627**	**538**	**538**	**592**	**552**	**494**	**785**	**833**	**767**	**600**
TEMPERATURE	°C	--	**20.6**	**13.9**	**13.3**	**17.8**	**12.2**	**12.8**	**13.9**	**13.3**	**14.4**	**13.9**	NM	**19.5**	**11.6**	**13.9**	**13.2**	**13.8**	**13.1**	**14.1**	**13.7**	**14.2**	**13.4**	**13.9**	**14.3**	**13.7**	**13.8**	**13.8**	**14.2**	**14.5**	**14.0**	**16.5**	**15.7**	**16.2**	**16.7**

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

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-- = NOT ANALZED/NOT AVAILABLE

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Table 2 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	MW-9D																
			4/15/15	10/7/15	10/20/15	11/4/15	11/18/15	12/2/15	12/16/15	1/20/16	2/17/16	3/16/16	4/13/16	5/18/16	6/8/16	7/20/16	8/17/16	9/21/16	10/19/16
INORGANICS																			
ALUMINUM	ug/L	50 to 200 (S)	<25	<150	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ANTIMONY	ug/L	6 (O)	<3	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
ARSENIC	ug/L	10 (O)	**7**	**8**	**8**	**6**	**9**	**9**	**6**	**13**	**9**	**8**	**7**	**7**	**5**	**6**	**6.1**	**7.7**	**6.4**
BARIUM	ug/L	2,000 (O)	**74**	**78**	**73**	**74**	**135**	**123**	**68**	**108**	**94**	**91**	**82**	**89**	**127**	**111**	**108**	**102**	**83**
BERYLLIUM	ug/L	4 (O)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
CADMIUM	ug/L	5 (O)	<5	<5	<5	<1	<5	<5	<5	<5	<5	<1	<1	<1	<5	<1	<1	<1	<1
CALCIUM	mg/L	--	**123**	**118**	**109**	**108**	**149**	**145**	**126**	**133**	**125**	**120**	**113**	**114**	**139**	**134**	**136**	**124**	**114**
CHROMIUM	ug/L	100 (O)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<10	<5	<5	<5	<5
COBALT	ug/L	--	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
COPPER	ug/L	1,000 (S) / 1,300 (A)	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
CYANIDE	mg/L	0.2 (O)	<0.040	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
IRON	ug/L	300 (S)	**934**	**298**	**1,200**	<80	**374**	**1,570**	**321**	**1,830**	**687**	**258**	<80	<80	**80**	<80	**141**	**391**	**996**
LEAD	ug/L	15 (A)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MAGNESIUM	mg/L	--	**34.7**	**33.0**	**29.8**	**31.7**	**39.4**	**37.3**	**32.9**	**34.7**	**34.2**	**34.0**	**33.0**	**34.9**	**35.5**	**33.1**	**36.5**	**35.0**	**33.2**
MANGANESE	ug/L	50 (S)	**339**	**261**	**276**	**241**	**370**	**392**	**318**	**308**	**328**	**286**	**227**	**297**	**356**	**322**	**344**	**348**	**306**
MERCURY	ug/L	2 (O)	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
NICKEL	ug/L	--	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10	<10	<10	<10	<10	<10
POTASSIUM	mg/L	--	**6.8**	**3.2**	**3.2**	**3.0**	**7.2**	**7.7**	**4.3**	**5.4**	**4.5**	**4.1**	**3.5**	**4.3**	**7.5**	**8.2**	**6.9**	**7.7**	**6.8**
SELENIUM	ug/L	50 (O)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
SILVER	ug/L	100 (S)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
SODIUM	mg/L	--	**69.1**	**22.0**	**22.7**	**20.0**	**87.5**	**99.6**	**56.4**	**62.7**	**50.2**	**46.6**	**20.0**	**40.5**	**95.6**	**97.3**	**76.2**	**88.4**	**60.5**
SULFIDE	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
THALLIUM	ug/L	2 (O)	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
TIN	ug/L	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
VANADIUM	mg/L	--	<0.025	<0.010	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
ZINC	ug/L	5,000 (S)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**17.0**	<10
VOC'S (METHOD 8260)																			
Acetone	ug/L	--	<5.0	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0
2-Butanone (MEK)	ug/L	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0
Carbon Disulfide	ug/L	--	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0
Chloroform	ug/L	80 (O)	<1.0	**1.5**	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0
FIELD PARAMETERS																			
pH	S.U.	6.5-8.5 (S)	**7.11**	**7.21**	**7.20**	**7.20**	**7.07**	**6.94**	**7.05**	**7.04**	**7.00**	**7.11**	**7.12**	**7.23**	**6.90**	**6.95**	**7.07**	**7.02**	**7.05**
CONDUCTIVITY	umhos/cm	--	**993**	**810**	**829**	**815**	**1,309**	**1,415**	**1,230**	**1,274**	**1,103**	**922**	**790**	**798**	**1,264**	**1,350**	**1,127**	**994**	**1,008**
TEMPERATURE	^{o}C	--	**16.7**	**16.1**	**15.8**	**16.0**	**16.7**	**16.5**	**15.9**	**15.2**	**15.6**	**16.0**	**15.7**	**16.1**	**16.6**	**16.9**	**17.0**	**16.7**	**16.3**

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Table 2 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	PW-4							PW-15														PW-16								
			2/19/16	3/23/16	4/14/16	5/18/16	6/8/16	7/15/16	8/16/16	9/1/15	10/20/15	11/6/15	12/16/15	1/20/16	2/17/16	3/16/16	4/13/16	5/18/16	6/8/16	7/20/16	8/17/16	9/21/16	10/19/16	2/23/16	3/23/16	4/14/16	5/18/16	6/8/16	7/15/16	8/16/16	9/23/16	10/18/16
INORGANICS																																
ALUMINUM	ug/L	50 to 200 (S)	--	--	--	--	--	--	--	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--	--	--	--	--	--	--
ANTIMONY	ug/L	6 (O)	--	--	--	--	--	--	--	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	--	--	--	--	--	--	--	--	--
ARSENIC	ug/L	10 (O)	**15.3**	**14**	**9.7**	**6.7**	**7.7**	**4.1**	**7.9**	**4**	**4**	<3	**5**	**8**	**7**	**10**	**3**	<3	**5**	<3	**4**	**6.9**	<3	**12.7**	**12**	**13.9**	**5.4**	**7.1**	**5.4**	**8.1**	**4.5**	**5.0**
BARIUM	ug/L	2,000 (O)	--	--	--	--	--	--	--	**97**	**99**	**104**	**98**	**113**	**97**	**108**	**107**	<1	**164**	**141**	**104**	**106**	**100**	--	--	--	--	--	--	--	--	--
BERYLLIUM	ug/L	4 (O)	--	--	--	--	--	--	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	--	--	--	--	--	--	--	--
CADMIUM	ug/L	5 (O)	--	--	--	--	--	--	--	<5	<5	<5	<5	<5	<5	<1	<1	<1	<5	<1	<1	<1	<1	--	--	--	--	--	--	--	--	--
CALCIUM	mg/L	--	--	--	--	--	--	--	--	**120**	**120**	**127**	**125**	**130**	**117**	**123**	**124**	**114**	**114**	**122**	**122**	**119**	**133**	--	--	--	--	--	--	--	--	--
CHROMIUM	ug/L	100 (O)	--	--	--	--	--	--	--	<10	<10	<10	<10	<10	<10	<5	<5	<5	<10	<5	<5	<5	<5	--	--	--	--	--	--	--	--	--
COBALT	ug/L	--	--	--	--	--	--	--	--	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--	--	--	--	--	--	--
COPPER	ug/L	1,000 (S) / 1,300 (A)	--	--	--	--	--	--	--	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	--	--	--	--	--	--	--	--	--
CYANIDE	mg/L	0.2 (O)	--	--	--	--	--	--	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	--	--	--	--	--	--	--	--	--
IRON	ug/L	300 (S)	--	--	--	--	--	--	--	<80	**275**	<80	<80	**792**	**342**	**1,260**	<80	<80	<80	<80	<80	**417**	**1,200**	--	--	--	--	--	--	--	--	--
LEAD	ug/L	15 (A)	--	--	--	--	--	--	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	--	--	--	--	--	--	--	--
MAGNESIUM	mg/L	--	--	--	--	--	--	--	--	**32.5**	**33.5**	**33.9**	**33.8**	**36.5**	**34.7**	**36.0**	**36.4**	**35.9**	**35.3**	**33.6**	**35.5**	**34.4**	**38.9**	--	--	--	--	--	--	--	--	--
MANGANESE	ug/L	50 (S)	--	--	--	--	--	--	--	**216**	**215**	**211**	**221**	**217**	**213**	**233**	**209**	**226**	**151**	**207**	**228**	**230**	**218**	--	--	--	--	--	--	--	--	--
MERCURY	ug/L	2 (O)	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	--	--	--	--	--	--	--
NICKEL	ug/L	--	--	--	--	--	--	--	--	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10	<10	<10	<10	<10	<10	--	--	--	--	--	--	--	--	--
POTASSIUM	mg/L	--	--	--	--	--	--	--	--	**5.3**	**5.2**	**5.1**	**5.2**	**6.6**	**5.1**	**5.2**	**5.2**	**4.8**	**4.0**	**4.1**	**5.0**	**5.5**	**5.1**	--	--	--	--	--	--	--	--	--
SELENIUM	ug/L	50 (O)	--	--	--	--	--	--	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	--	--	--	--	--	--	--	--
SILVER	ug/L	100 (S)	--	--	--	--	--	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--	--	--	--	--	--	--	--	--
SODIUM	mg/L	--	--	--	--	--	--	--	--	**58.9**	**53.4**	**55.3**	**54.9**	**65.7**	**49.0**	**58.9**	**48.4**	**57.2**	**37.1**	**46.5**	**55.7**	**60.7**	**59.5**	--	--	--	--	--	--	--	--	--
SULFIDE	mg/L	--	--	--	--	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--	--	--	--
THALLIUM	ug/L	2 (O)	--	--	--	--	--	--	--	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	--	--	--	--	--	--	--	--	--
TIN	ug/L	--	--	--	--	--	--	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--	--	--	--	--	--	--	--	--
VANADIUM	mg/L	--	--	--	--	--	--	--	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	--	--	--	--	--	--	--	--	--
ZINC	ug/L	5,000 (S)	--	--	--	--	--	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**28.0**	--	--	--	--	--	--	--	--	--
VOC'S (METHOD 8260)																																
Acetone	ug/L	--	--	--	--	--	--	--	--	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	ug/L	--	--	--	--	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	--	--	--	--	--	--	--	--	--
Carbon Disulfide	ug/L	--	--	--	--	--	--	--	--	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0	--	--	--	--	--	--	--	--	--
Chloroform	ug/L	80 (O)	--	--	--	--	--	--	--	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0	--	--	--	--	--	--	--	--	--
FIELD PARAMETERS																																
pH	S.U.	6.5-8.5 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CONDUCTIVITY	umhos/cm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEMPERATURE	^{o}C	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(S) = Secondary Maximum Contaminant Level

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Table 2 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	PW-18									PW-19									PW-20								
			2/23/16	3/23/16	4/14/16	5/18/16	6/8/16	7/15/16	8/16/16	9/23/16	10/18/16	2/23/16	3/23/16	4/14/16	5/18/16	6/8/16	7/15/16	8/16/16	9/23/16	10/18/16	2/23/16	3/23/16	4/14/16	5/18/16	6/8/16	7/15/16	8/16/16	9/23/16	10/18/16
INORGANICS																													
ALUMINUM	ug/L	50 to 200 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ANTIMONY	ug/L	6 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ARSENIC	ug/L	10 (O)	**13.8**	**13**	**11.8**	**6.7**	**7.8**	**5.0**	**7.9**	**3.6**	**5.7**	**12**	**12**	**10.7**	**4.9**	**6.3**	**3.8**	**8.6**	**3.9**	**4.4**	**13.2**	**10**	**7.4**	**3.2**	<3.0	**5.0**	<3.0	**6.8**	**4.4**
BARIUM	ug/L	2,000 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BERYLLIUM	ug/L	4 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	ug/L	5 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CALCIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	ug/L	100 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COBALT	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COPPER	ug/L	1,000 (S) / 1,300 (A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CYANIDE	mg/L	0.2 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IRON	ug/L	300 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	ug/L	15 (A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MAGNESIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	ug/L	50 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	ug/L	2 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NICKEL	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	ug/L	50 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	ug/L	100 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SODIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
THALLIUM	ug/L	2 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VANADIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	ug/L	5,000 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VOC'S (METHOD 8260)																													
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/L	80 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FIELD PARAMETERS																													
pH	S.U.	6.5-8.5 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CONDUCTIVITY	umhos/cm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEMPERATURE	^{o}C	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

-- = NOT ANALZED/NOT AVAILABLE

NM = NOT MEASURED

Table 2 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	PW-22									PW-23													PW-25					
			2/19/16	3/23/16	4/14/16	5/18/16	6/8/16	7/15/16	8/16/16	9/23/16	10/18/16	9/1/15	10/20/15	11/6/15	12/16/15	1/20/16	2/17/16	3/16/16	4/13/16	5/18/16	6/8/16	7/20/16	8/17/16	9/21/16	10/19/16	2/23/16	3/23/16	4/14/16	5/18/16	6/8/16	7/15/16
INORGANICS																														
ALUMINUM	ug/L	50 to 200 (S)	--	--	--	--	--	--	--	--	--	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--	--	--	--
ANTIMONY	ug/L	6 (O)	--	--	--	--	--	--	--	--	--	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	--	--	--	--	--	--
ARSENIC	ug/L	10 (O)	**14.1**	**11**	**7.8**	**3.1**	**5.4**	<3.0	**6.5**	**3.4**	**4.6**	**7**	**9**	**7**	**9**	**8**	**11**	**20**	**9**	**9**	**5**	**5.7**	**7.4**	**6.9**	**15.7**	**12.9**	**12**	**9**	**5**	**5.5**	<3.0
BARIUM	ug/L	2,000 (O)	--	--	--	--	--	--	--	--	--	**79**	**74**	**69**	**84**	**81**	**85**	**85**	**72**	**71**	**154**	**113**	**89**	**88**	**89**	--	--	--	--	--	--
BERYLLIUM	ug/L	4 (O)	--	--	--	--	--	--	--	--	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	--	--	--	--	--
CADMIUM	ug/L	5 (O)	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5	<1	<1	<1	<1	--	--	--	--	--	--
CALCIUM	mg/L	--	--	--	--	--	--	--	--	--	--	**136**	**134**	**138**	**140**	**134**	**129**	**141**	**135**	**126**	**116**	**120**	**135**	**118**	**158**	--	--	--	--	--	--
CHROMIUM	ug/L	100 (O)	--	--	--	--	--	--	--	--	--	<10	<10	<10	<10	<10	<10	<5	<5	<5	<10	<5	<5	<5	<5	--	--	--	--	--	--
COBALT	ug/L	--	--	--	--	--	--	--	--	--	--	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--	--	--	--
COPPER	ug/L	1,000 (S) / 1,300 (A)	--	--	--	--	--	--	--	--	--	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	--	--	--	--	--	--
CYANIDE	mg/L	0.2 (O)	--	--	--	--	--	--	--	--	--	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	--	--	--	--	--	--
IRON	ug/L	300 (S)	--	--	--	--	--	--	--	--	--	<80	**460**	<80	**292**	**782**	**1,400**	**2,420**	**131**	**490**	<80	<80	**241**	**281**	**2,160**	--	--	--	--	--	--
LEAD	ug/L	15 (A)	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	--	--	--	--	--
MAGNESIUM	mg/L	--	--	--	--	--	--	--	--	--	--	**36.3**	**37.4**	**35.8**	**36.0**	**37.9**	**37.6**	**39.7**	**37.8**	**38.4**	**35.4**	**35.1**	**37.6**	**34.4**	**41.5**	--	--	--	--	--	--
MANGANESE	ug/L	50 (S)	--	--	--	--	--	--	--	--	--	**270**	**279**	**263**	**260**	**220**	**241**	**286**	**253**	**272**	**164**	**169**	**249**	**236**	**269**	--	--	--	--	--	--
MERCURY	ug/L	2 (O)	--	--	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	--	--	--	--
NICKEL	ug/L	--	--	--	--	--	--	--	--	--	--	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10	<10	<10	<10	<10	<10	--	--	--	--	--	--
POTASSIUM	mg/L	--	--	--	--	--	--	--	--	--	--	**5.8**	**5.9**	**5.4**	**5.6**	**5.1**	**4.9**	**5.7**	**5.6**	**5.0**	**4.3**	**3.6**	**4.6**	**4.3**	**5.4**	--	--	--	--	--	--
SELENIUM	ug/L	50 (O)	--	--	--	--	--	--	--	--	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	--	--	--	--	--
SILVER	ug/L	100 (S)	--	--	--	--	--	--	--	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--	--	--	--	--	--
SODIUM	mg/L	--	--	--	--	--	--	--	--	--	--	**67.8**	**67.0**	**66.4**	**66.9**	**55.6**	**58.0**	**69.9**	**61.4**	**70.7**	**41.4**	**40.2**	**66.7**	**60.3**	**89.6**	--	--	--	--	--	--
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	--	--	--	--	--
THALLIUM	ug/L	2 (O)	--	--	--	--	--	--	--	--	--	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	--	--	--	--	--	--
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--	--	--	--	--	--
VANADIUM	mg/L	--	--	--	--	--	--	--	--	--	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	--	--	--	--	--	--
ZINC	ug/L	5,000 (S)	--	--	--	--	--	--	--	--	--	**28.0**	**22.0**	<10	<10	<10	<10	**12.0**	<10	<10	<10	<10	<10	<10	**52.0**	--	--	--	--	--	--
VOC'S (METHOD 8260)																															
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--	<1.0	<2.0	<2.0	<1.0	<1.0	**2.3**	<1.0	<1.0	<5.0	<5.0	<5.0	**7.5**	<50	<5.0	--	--	--	--	--	--
2-Butanone (MEK)	ug/L	--	--	--	--	--	--	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	--	--	--	--	--	--
Carbon Disulfide	ug/L	--	--	--	--	--	--	--	--	--	--	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0	--	--	--	--	--	--
Chloroform	ug/L	80 (O)	--	--	--	--	--	--	--	--	--	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5	<1.0	--	--	--	--	--	--
FIELD PARAMETERS																															
pH	S.U.	6.5-8.5 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CONDUCTIVITY	umhos/cm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEMPERATURE	^{o}C	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

-- = NOT ANALZED/NOT AVAILABLE

NM = NOT MEASURED

Table 2 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	PW-26									PW-27									PW-28								
			2/23/16	3/23/16	4/14/16	5/18/16	6/8/16	7/15/16	8/16/16	9/23/16	10/18/16	2/23/16	3/24/16	4/14/16	5/18/16	6/8/16	7/15/16	8/16/16	9/23/16	10/18/16	2/19/16	3/23/16	4/14/16	5/18/16	6/8/16	7/15/16	8/16/16	9/23/16	10/18/16
INORGANICS																													
ALUMINUM	ug/L	50 to 200 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ANTIMONY	ug/L	6 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ARSENIC	ug/L	10 (O)	**13.7**	**11**	**7.8**	**3.7**	**4.1**	**6.1**	**8.3**	**6.6**	**5.7**	**13.5**	**18**	**9**	**4.3**	**3.7**	**4.7**	**8.0**	**5.5**	**4.9**	**14**	**11**	**6.3**	**4.9**	**4.7**	**3.7**	**5.1**	**5.2**	**3.9**
BARIUM	ug/L	2,000 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BERYLLIUM	ug/L	4 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	ug/L	5 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CALCIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	ug/L	100 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COBALT	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COPPER	ug/L	1,000 (S) / 1,300 (A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CYANIDE	mg/L	0.2 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IRON	ug/L	300 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	ug/L	15 (A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MAGNESIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	ug/L	50 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	ug/L	2 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NICKEL	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	ug/L	50 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	ug/L	100 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SODIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
THALLIUM	ug/L	2 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VANADIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	ug/L	5,000 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VOC'S (METHOD 8260)																													
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/L	80 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FIELD PARAMETERS																													
pH	S.U.	6.5-8.5 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CONDUCTIVITY	umhos/cm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEMPERATURE	^{o}C	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

-- = NOT ANALZED/NOT AVAILABLE

NM = NOT MEASURED

Table 2 (continued)
City of Lancaster, Ohio
Miller Park Wellfield
Historical Groundwater Quality Data
Deep Zone

PARAMETERS	Units	MCL/SMCL/ ACTION LEVEL	Plant Source								Plant Tap							
			2/19/16	3/23/16	4/14/16	6/8/16	7/15/16	8/16/16	9/23/16	10/18/16	2/19/16	3/23/16	4/14/16	6/8/16	7/15/16	8/16/16	9/23/16	10/18/16
INORGANICS																		
ALUMINUM	ug/L	50 to 200 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ANTIMONY	ug/L	6 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ARSENIC	ug/L	10 (O)	**15.1**	**12**	**7.0**	**3.9**	**3.1**	**6.7**	**6.0**	**3.7**	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
BARIUM	ug/L	2,000 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BERYLLIUM	ug/L	4 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	ug/L	5 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CALCIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	ug/L	100 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COBALT	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COPPER	ug/L	1,000 (S) / 1,300 (A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CYANIDE	mg/L	0.2 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IRON	ug/L	300 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	ug/L	15 (A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MAGNESIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	ug/L	50 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	ug/L	2 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NICKEL	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	ug/L	50 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	ug/L	100 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SODIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SULFIDE	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
THALLIUM	ug/L	2 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TIN	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VANADIUM	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	ug/L	5,000 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VOC'S (METHOD 8260)																		
Acetone	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/L	80 (O)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FIELD PARAMETERS																		
pH	S.U.	6.5-8.5 (S)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CONDUCTIVITY	umhos/cm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEMPERATURE	^{o}C	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(S) = Secondary Maximum Contaminant Level

(A) = Action Level

(O) = Ohio EPA Primary Maximum Contaminant Level

D = DETECTED

ND = NOT DETECTED

-- = NOT ANALZED/NOT AVAILABLE

NM = NOT MEASURED

ATTACHMENT 3

MANN-KENDALL TREND ANALYSES

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

ARSENIC

Well No.	October 1995 - Current			5-Year Trend		
	Increasing	Decreasing	No Trend	Increasing	Decreasing	No Trend
Shallow Wells						
MW-1S	*ND*					
MW-2	*ND*					
MW-3			X			
MW-4S			X			
MW-5S	*ND*					
MW-6S	*ND*					
MW-7			X			
MW-8	*ND*					
MW-9S			X			
Deep Wells						
MW-1D			X			
MW-4D			X			
MW-5D			X			
MW-6D			X			
MW-9D			X			

BARIUM

Well No.	October 1995 - Current			5-Year Trend		
	Increasing	Decreasing	No Trend	Increasing	Decreasing	No Trend
Shallow Wells						
MW-1S	**X**					X
MW-2			X			
MW-3			X			
MW-4S			X			
MW-5S		**X**				
MW-6S			X			
MW-7			X			
MW-8	**X**					X
MW-9S	**X**			**X**		
Deep Wells						
MW-1D	**X**					X
MW-4D			X			
MW-5D			X			
MW-6D		**X**				
MW-9D			X			

ND = Result reported below the laboratory detection limit.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

SELENIUM

Well No.	October 1995 - Current			5-Year Trend		
	Increasing	Decreasing	No Trend	Increasing	Decreasing	No Trend
Shallow Wells						
MW-1S	*ND*					
MW-2	*ND*					
MW-3	*ND*					
MW-4S	*ND*					
MW-5S	*ND*					
MW-6S	*ND*					
MW-7	*ND*					
MW-8	**X**					X
MW-9S	*ND*					
Deep Wells						
MW-1D	*ND*					
MW-4D	*ND*					
MW-5D	*ND*					
MW-6D	*ND*					
MW-9D	*ND*					

ND = Result reported below the laboratory detection limit.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW1S/BA

The calculated z = 2.23639

Ha: There is an upward trend, the p-value = 0.0126631
At alpha = 0.02, there is enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.987337
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
5-Year Trend

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW1S/BA-5YR

The calculated z = 0

Ha: There is an upward trend, the p-value = 0.5
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.5
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW2/BA

The calculated z = 1.45049

Ha: There is an upward trend, the p-value = 0.0734604
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.926540
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW3/AS

The calculated z = 0.046543

Ha: There is an upward trend, the p-value = 0.481439
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.518561
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW3/BA

The calculated z = -0.49276

Ha: There is an upward trend, the p-value = 0.688910
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.311090
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW4S/AS

The calculated z = 1.90414

Ha: There is an upward trend, the p-value = 0.0284457
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.971554
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW4S/BA

The calculated z = 1.78536

Ha: There is an upward trend, the p-value = 0.0371017
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.962898
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW5S/BA

The calculated z = -2.84287

Ha: There is an upward trend, the p-value = 0.997765
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.0022355
At alpha = 0.02, there is enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW6S/BA

The calculated z = 0.895665

Ha: There is an upward trend, the p-value = 0.185216
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.814784
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW7/AS

The calculated z = -0.09300

Ha: There is an upward trend, the p-value = 0.537048
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.462952
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW7/BA

The calculated z = 0.646243

Ha: There is an upward trend, the p-value = 0.259061
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.740939
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW8/BA

The calculated z = 2.17839

Ha: There is an upward trend, the p-value = 0.0146886
At alpha = 0.02, there is enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.985311
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW8/SE

The calculated z = 3.21124

Ha: There is an upward trend, the p-value = 0.0006608
At alpha = 0.02, there is enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.999339
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
5-Year Trend

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW8/BA-5YR

The calculated z = 1.18019

Ha: There is an upward trend, the p-value = 0.118962
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.881038
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW8/SE-5YR

The calculated z = 0

Ha: There is an upward trend, the p-value = 0.5
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.5
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
April 2015 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW9S/AS

The calculated z = -0.28167

Ha: There is an upward trend, the p-value = 0.610902
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.389098
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW9S/BA

The calculated z = 3.08576

Ha: There is an upward trend, the p-value = 0.0010151
At alpha = 0.02, there is enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.998985
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
5-Year Trend

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW9S/BA-5YR

The calculated z = 3.21994

Ha: There is an upward trend, the p-value = 0.0006411
At alpha = 0.02, there is enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.999359
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW1D/AS

The calculated z = -1.02953

Ha: There is an upward trend, the p-value = 0.848386
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.151614
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW1D/BA

The calculated z = 3.26120

Ha: There is an upward trend, the p-value = 0.0005547
At alpha = 0.02, there is enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.999445
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
5-Year Trend

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW1D/BA-5YR

The calculated z = 1.07331

Ha: There is an upward trend, the p-value = 0.141565
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.858435
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW4D/AS

The calculated z = -0.95294

Ha: There is an upward trend, the p-value = 0.829689
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.170311
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW4D/BA

The calculated z = 0.227349

Ha: There is an upward trend, the p-value = 0.410076
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.589924
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW5D/AS

The calculated z = -1.47786

Ha: There is an upward trend, the p-value = 0.930278
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.0697225
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW5D/BA

The calculated z = -0.75864

Ha: There is an upward trend, the p-value = 0.775967
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.224033
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
October 1995 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW6D/AS

he calculated z = -0.57375

Ha: There is an upward trend, the p-value = 0.716932
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.283068
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW6D/BA

The calculated z = -2.16473

Ha: There is an upward trend, the p-value = 0.984796
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.0152042
At alpha = 0.02, there is enough evidence to determine that there is a downward trend.

City of Lancaster, Ohio
Miller Park Wellfield
Wellhead Protection Program
Mann-Kendall Trend Analyses
April 2015 - October 2016

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW9D/AS

The calculated z = 0

Ha: There is an upward trend, the p-value = 0.5
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

Ha: There is a Downward trend, the p-value = 0.5
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

Mann-Kendall Trend Test by Normal Approximation

Ho: No trend in MW9D/BA

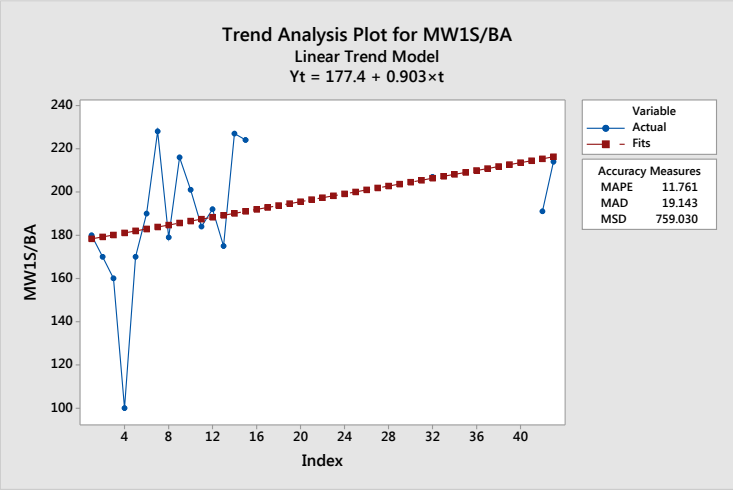
The calculated z = 0.412406

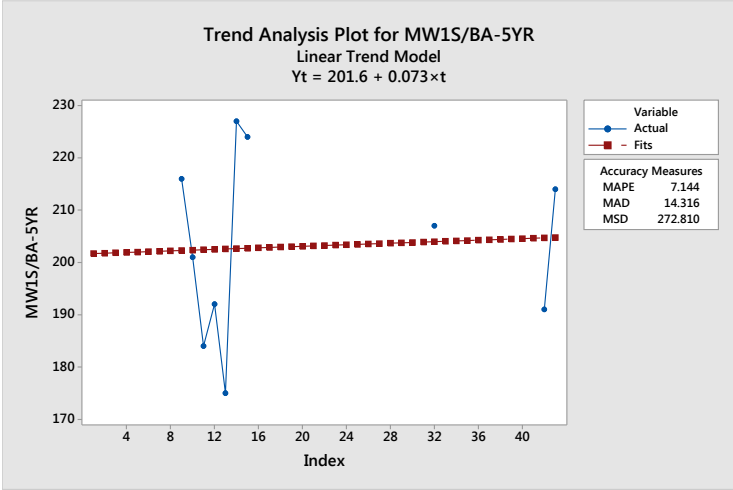
Ha: There is an upward trend, the p-value = 0.340021
At alpha = 0.02, there is not enough evidence to determine that there is an upward trend.

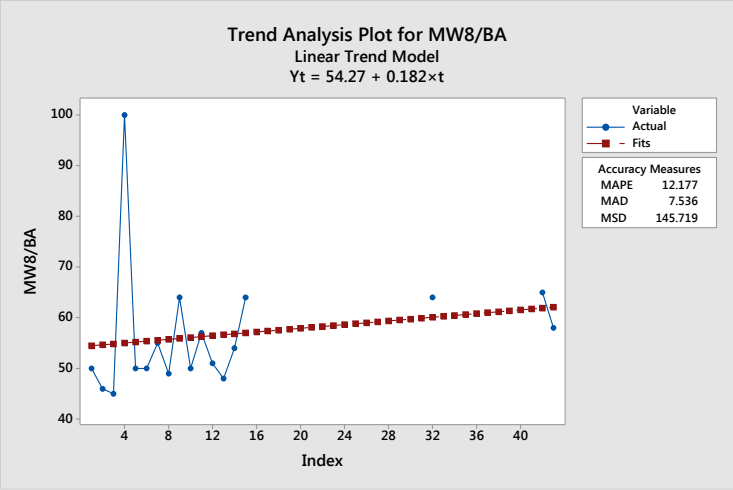
Ha: There is a Downward trend, the p-value = 0.659979
At alpha = 0.02, there is not enough evidence to determine that there is a downward trend.

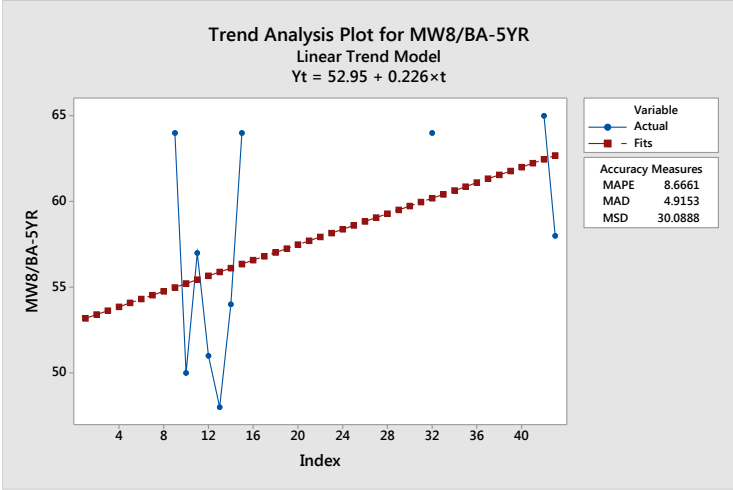
ATTACHMENT 4

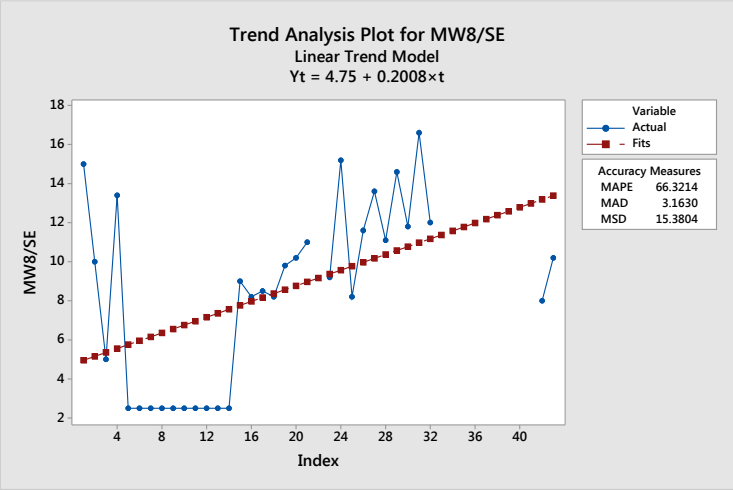
TIME-VERSUS-CONCENTRATION PLOTS

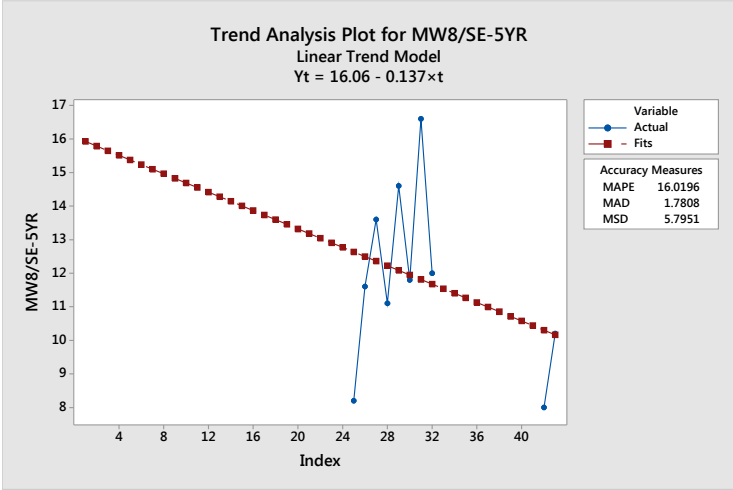

Trend Analysis Plot for MW1S/BA
Linear Trend Model
Yt = 177.4 + 0.903×t
MW1S/BA
Index
Variable
Actual
Fits
Accuracy Measures
MAPE 11.761
MAD 19.143
MSD 759.030

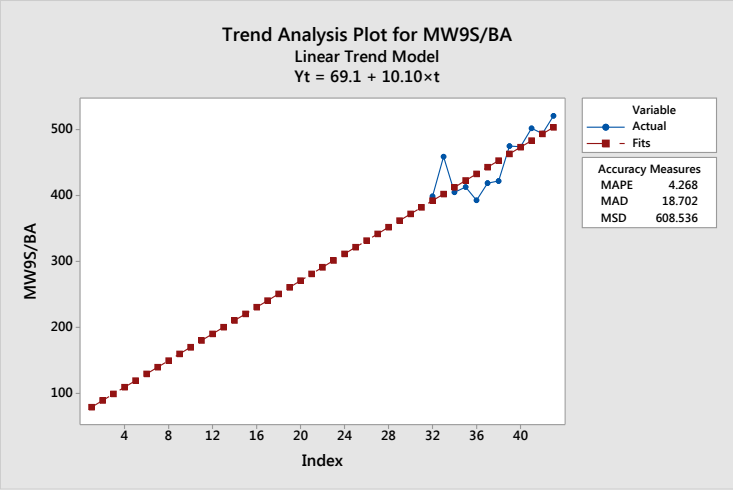

Trend Analysis Plot for MW1S/BA-5YR
Linear Trend Model
Yt = 201.6 + 0.073×t
MW1S/BA-5YR
Index
Variable
Actual
Fits
Accuracy Measures
MAPE 7.144
MAD 14.316
MSD 272.810

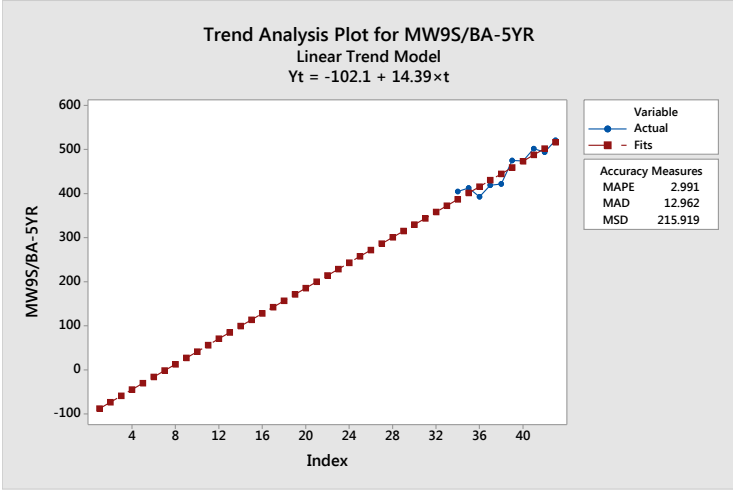

Trend Analysis Plot for MW8/BA
Linear Trend Model
Yt = 54.27 + 0.182×t
MW8/BA
Index
Variable
Actual
Fits
Accuracy Measures
MAPE 12.177
MAD 7.536
MSD 145.719

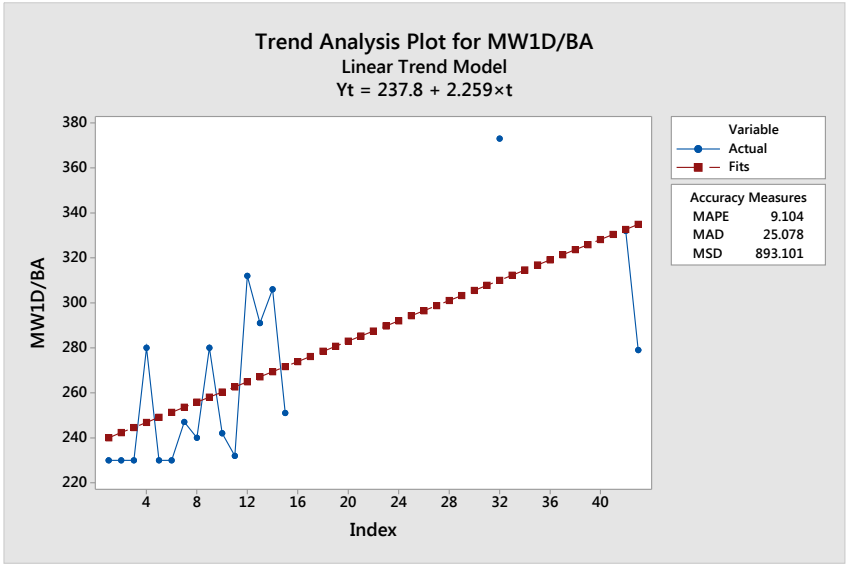

Trend Analysis Plot for MW8/BA-5YR
Linear Trend Model
Yt = 52.95 + 0.226×t
MW8/BA-5YR
Index
Variable
Actual
Fits
Accuracy Measures
MAPE 8.6661
MAD 4.9153
MSD 30.0888

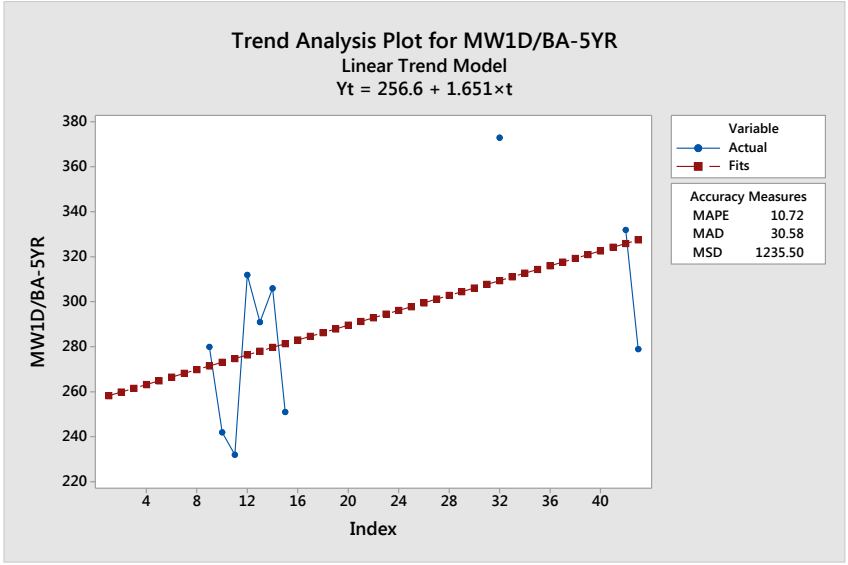

Trend Analysis Plot for MW8/SE
Linear Trend Model
Yt = 4.75 + 0.2008×t
MW8/SE
Index
Variable
Actual
Fits
Accuracy Measures
MAPE 66.3214
MAD 3.1630
MSD 15.3804


Trend Analysis Plot for MW8/SE-5YR
Linear Trend Model
Yt = 16.06 - 0.137×t
MW8/SE-5YR
Index
Variable
Actual
Fits
Accuracy Measures
MAPE 16.0196
MAD 1.7808
MSD 5.7951


Trend Analysis Plot for MW9S/BA
Linear Trend Model
Yt = 69.1 + 10.10×t
MW9S/BA
Index
Variable
Actual
Fits
Accuracy Measures
MAPE 4.268
MAD 18.702
MSD 608.536


Trend Analysis Plot for MW9S/BA-5YR
Linear Trend Model
Yt = -102.1 + 14.39×t
MW9S/BA-5YR
Index
Variable
Actual
Fits
Accuracy Measures
MAPE 2.991
MAD 12.962
MSD 215.919


Trend Analysis Plot for MW1D/BA
Linear Trend Model
Yt = 237.8 + 2.259×t
MW1D/BA
Index
Variable
Actual
Fits
Accuracy Measures
MAPE 9.104
MAD 25.078
MSD 893.101


Trend Analysis Plot for MW1D/BA-5YR
Linear Trend Model
Yt = 256.6 + 1.651×t
MW1D/BA-5YR
Index
Variable
Actual
Fits
Accuracy Measures
MAPE 10.72
MAD 30.58
MSD 1235.50