

**OHIO'S PUBLIC WATER SYSTEMS
ANNUAL COMPLIANCE REPORT
For CALENDAR YEAR 1997**

**Ohio Environmental Protection Agency
Division of Drinking and Ground Waters
June 30, 1998**

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Introduction

The 1996 Amendments to the Safe Drinking Water Act require each State to prepare an Annual Compliance Report summarizing violations incurred by Public Water Systems. The Annual Compliance Report is to be compiled by the State and submitted to U.S. EPA and made available to the public. This report summarizes compliance rates and the number and types of violations generated as a result of various public water systems failing to meet certain Safe Drinking Water Act requirements for calendar year 1997. The Annual Compliance Report is required to be completed and submitted to U.S. EPA by July 1, 1998 for calendar year 1997.

Ohio's 1997 Annual Compliance Report contains an overview of the Public Water System Supervision Program in Ohio; provides summary information on the number, types and population served for public water systems; explains the requirements of the annual compliance report; defines the primary categories for which violation information are summarized; a summary table of the number and types of violations; and a list of public water system violations for the maximum contaminant level and treatment technique categories.

The Drinking Water Program: An Overview

U.S. EPA established the Public Water System Supervision (PWSS) Program under the authority of the 1974 Safe Drinking Water Act (SDWA). Under the SDWA and the 1986 Amendments, U.S. EPA sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as Maximum Contaminant Levels (MCLs). For some regulations, U. S. EPA establishes treatment techniques in lieu of an MCL to control unacceptable levels of contaminants in water. The Agency also regulates how often public water systems (PWSs) monitor their water for contaminants and report the monitoring results to the States or U.S. EPA. Generally, the larger the population served by a water system, the more frequent the monitoring and reporting (M/R) requirements. However, the monitoring and reporting requirements vary dependent on which contaminant is being evaluated. In addition, the regulations require public water systems to monitor for unregulated contaminants to provide data for future regulatory development. Finally, public water systems are required to notify the public when they have violated these regulations. The 1986 Amendments to the SDWA require public notification to include a clear and understandable explanation of the nature of the violation, its potential adverse health effects, steps that the public water system is undertaking to correct the violation and the possibility for the need to obtain alternative water supplies during the violation.

The SDWA allows States to seek U.S. EPA approval to administer their own PWSS Programs. The authority to run a PWSS Program is called primacy. To receive primacy, States must meet certain requirements laid out in the SDWA and the regulations, including the adoption of drinking water regulations that are at least as stringent as the Federal regulations and a demonstration that they can enforce the program requirements. *Ohio is a primacy state.*

Regulated Public Water Systems in Ohio

In Ohio, a public water system (PWS) is defined as a system that provides piped water for human consumption to at least 15 service connections or serves an average of at least 25 people for at least 60 days each year. There are three types of public water systems. Public water systems can be community (such as towns), non-transient non-community (such as schools or factories), or transient non-community systems (such as rest stops or parks). In addition, Ohio regulates the drinking water systems associated with agricultural migrant labor camps as defined by the Ohio Department of Agriculture even though they may not meet the minimum number of people or service connections. For this report when the acronym “PWS” is used, it means systems of all types unless specified in greater detail. In Ohio, 6,137 public water systems serve approximately 10.6 million people daily. The following table summarizes the total number of public water systems per type with the corresponding total population served daily.

Table 1. Public Water System Summary

PWS Category Type	Number of PWSs per Category	Total Population Served Daily per Category
Community (Comm)	1,443	9,883,893
Non-transient Non-community (NTNC)	1,131	283,072
Transient Non-community (TNC)	3,563	548,179
Total	6,137	10,715,144

Annual State PWS Compliance Report

Ohio EPA is required to submit data to U.S. EPA’s Safe Drinking Water Information System (SDWIS/FED) on a quarterly basis. Data include PWS inventory statistics, the incidence of Maximum Contaminant Level, Major Monitoring, and Treatment Technique violations, and the enforcement actions taken against violators. The annual compliance report that Ohio is required to submit to U. S. EPA provides a total annual representation of the numbers of violations for each of the four categories listed in section 1414(c)(3) of the Safe Drinking Water Act re-authorization. This annual report will include information for the 1997 calendar year. These four categories are: MCLs, treatment techniques, significant monitoring violations, and variances and exemptions.

1. *Maximum Contaminant Level*
Under the SDWA, U.S. EPA sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as MCLs.
2. *Treatment Techniques*
For some regulations, the EPA establishes treatment techniques (TTs) in lieu of an MCL to control unacceptable levels of certain contaminants. For example, treatment techniques have been established for viruses, bacteria, and turbidity.
3. *Monitoring*
A PWS is required to monitor and verify that the levels of contaminants present in the water do not exceed the MCL. If a PWS fails to have its water tested as required, then a monitoring violation occurs. A monitoring violation also includes failure to report test results correctly to the State.

Significant Monitoring Violations

For this report, significant monitoring violations are defined as any major monitoring violation that has occurred during the specified report interval. A major monitoring violation occurs when no samples were taken or no results are reported during a compliance period. A major Surface Water Treatment Rule M/R violation occurs when fewer than 10% of the required samples are taken or no results are reported during a reporting interval. A minor violation occurs when some but not all of the required numbers of samples are taken.

4. *Variances and Exemptions*
Variances and exemptions to specific requirements under the SDWA Amendments of 1996 may be granted under certain circumstances. If, due to the characteristics of the raw water sources reasonably available, a PWS cannot meet the MCL, the State can grant the PWS a variance from the applicable primary drinking water regulation on the condition that the system install the best available technology, treatment techniques, or other means which the Administrator finds are available (taking costs into account). *Ohio did not issue any variances or exemptions during the 1997 compliance year.*

Compliance Table Summary & Conclusions

A summary table of public water system violations for the 1997 calendar year is included in Appendix A. The information summarized in the table includes total number of violations and total number of systems with a violation for a particular regulated contaminant in three different categories. These violation categories are maximum contaminant level, treatment technique and significant monitoring/reporting. The regulatory contaminant categories include: organic contaminants; inorganic contaminants; radionuclide contaminants; total coliform bacteria regulations; surface water treatment regulations; and lead and copper regulations.

By far, the majority of the violations in Ohio occur because public water systems fail to monitor and report for various required contaminants in the period as specified on an individual system monitoring schedule provided by the Director of the Ohio EPA. Other monitoring/reporting violations occur for insufficient number of samples taken during a particular compliance period. A summary of the types and number of violations per regulatory category is present below.

Organic Contaminants

The organic contaminants group summarized in the Compliance Table include: volatile organic chemicals (VOCs); a class of contaminants referred to as synthetic organic chemicals (SOCs) which include pesticides, primarily; and total trihalomethanes (TTHMs).

VOCs are monitored by all (except purchased systems) community and non-transient non-community PWSs on one of three schedules: one sample quarterly for initial monitoring; one sample annually after initial monitoring; or one sample in 3 years (for ground water systems after meeting annual monitoring requirements). A significant difference between monitoring for VOCs and other contaminant groups is that every time a PWS samples for VOCs they are required to have the sample analyzed for all 21 regulated VOCs. So, for each missed VOC sampling period, a PWS would have 21 violations. VOC violations incurred during the 1997 calendar year all were related to failure to monitor/report during a specified monitoring period except for 1 maximum contaminant level violation. PWSs with one or more VOC monitoring/reporting violations (179) represent approximately 7.7% of all public water systems subject to the regulations (2312). Of these PWSs with one or more VOC monitoring/reporting violations, 83% were systems serving a population of 500 people or less.

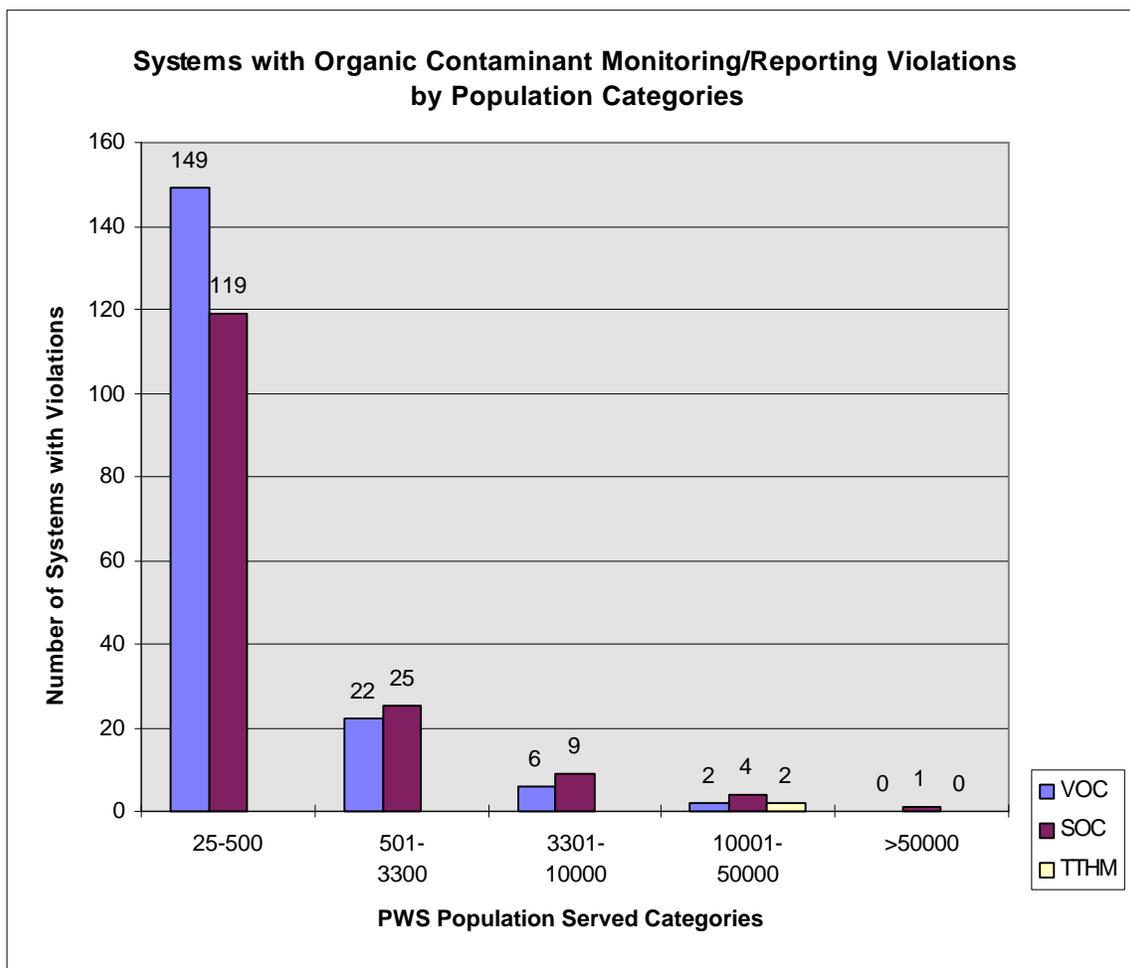
SOCs are monitored by all (except purchased systems) community and non-transient non-community PWSs depending on which monitoring waivers the system may have received. Monitoring waivers are granted on the basis of the PWS not being susceptible (either by taking a sample or a determination by Ohio EPA that the SOC is not present at or near the PWS) to contamination by the particular SOC being waived. The waivers are granted for a 3-year period and must be renewed when that period lapses or sampling would be required. Some PWSs may be monitoring for SOC more frequently due to detections in prior sampling events.

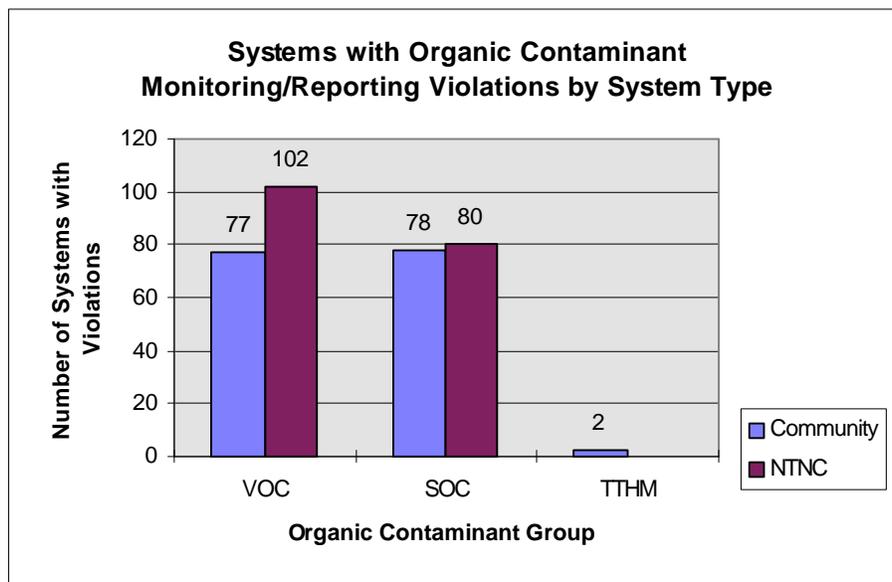
SOC violations incurred during the 1997 calendar year all were related to failure to monitor/report during a specified monitoring period except for 1 maximum contaminant level violation. PWSs with one or more SOC monitoring/reporting violations (158) represent approximately 6.8% of all public water systems subject to the regulations (2312). Of these PWSs with one or more SOC monitoring/reporting violations, 75% were systems serving a population of 500 people or less.

TTHMs, classified as disinfection by-products, are sampled in the distribution system by community PWSs that disinfect and have a population of 10,000 or greater. PWSs monitor for TTHMs on a quarterly basis. 2 TTHM monitoring/reporting violations (between 2 PWSs) and 3

maximum contaminant level violations (between 2 PWSs) occurred during the 1997 calendar year. PWSs with one or more TTHM monitoring/reporting violations (2) represent approximately 1.4% of all public water systems subject to the regulations (141).

For specific information on each contaminant, such as the number of PWSs required to sample a contaminant in 1997 and how many violations occurred for that contaminant, please refer to Appendix A.





Inorganic Contaminants

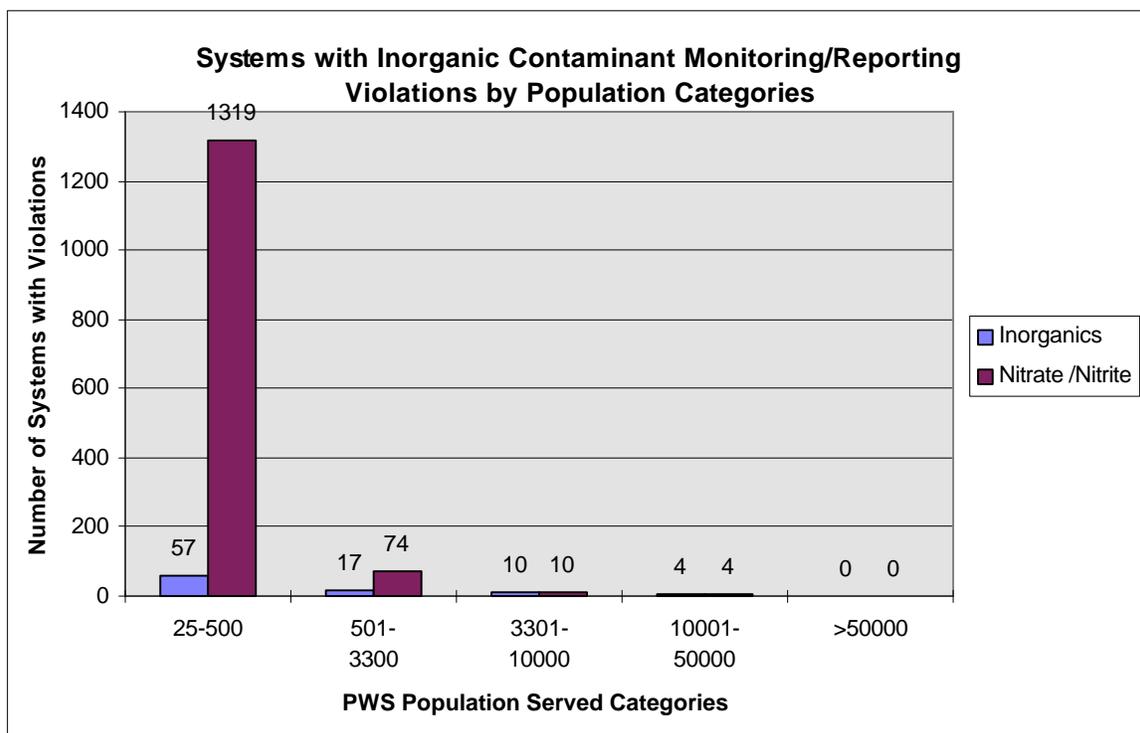
The inorganic contaminant group summarized in the Compliance Table includes metals (e.g. chromium, cadmium, mercury, etc.) and non-metal contaminants (e.g. asbestos, cyanide, nitrate, etc.). Nitrate and nitrite (Nitrate/Nitrite) are separated out as a group from the other inorganics (IOCs) for monitoring purposes.

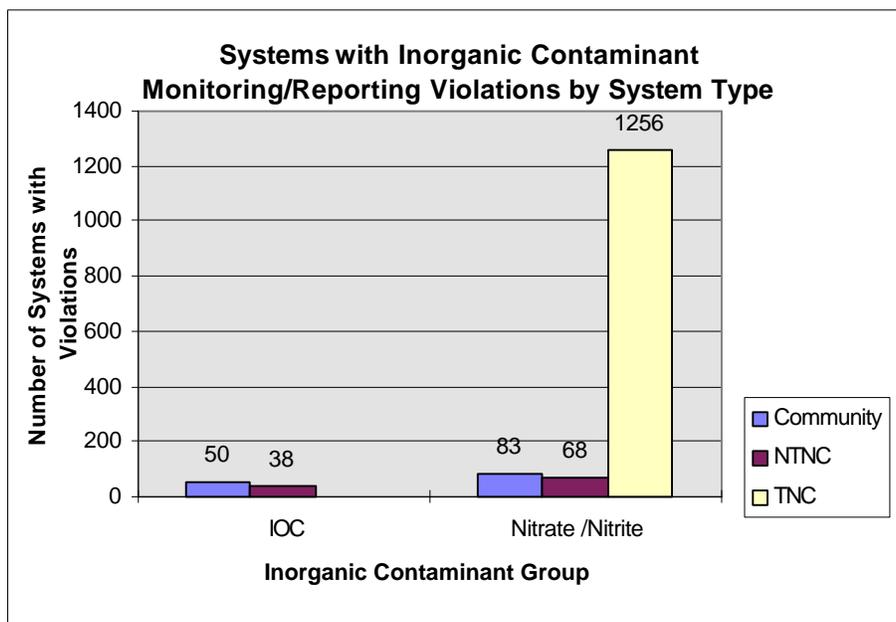
IOCs are monitored by all (except purchased systems) community and non-transient non-community PWSs. Most IOCs are monitored by surface water systems on an annual basis and by ground water systems once in 3 years. One exception is asbestos, which is monitored once in 9 years. IOC monitoring may also be waived for eligible systems. IOC violations incurred during the 1997 calendar year all were related to failure to monitor/report during a specified monitoring period. PWSs with one or more IOC monitoring/reporting violations (88) represent approximately 3.8% of all public water systems subject to the regulations (2312). Of these PWSs with one or more IOC monitoring/reporting violations, 65% were systems serving a population of 500 people or less.

Nitrate and nitrite are monitored by all (except purchased systems) community, non-transient non-community, and transient non-community PWSs. Nitrate is monitored monthly by surface water systems and annually by ground water systems. Some ground water systems may be monitoring quarterly for nitrate based upon the levels reported in previous sampling. Nitrite is generally monitored once by each system.

Nitrate/Nitrite violations incurred during the 1997 calendar year all were related to failure to monitor/report during a specified monitoring period except for 4 maximum contaminant level violations. PWSs with one or more Nitrate/Nitrite monitoring/reporting violations (1407) represent approximately 24% of all public water systems subject to the regulations (5865). Of these PWSs with one or more IOC monitoring/reporting violations, 94% were systems serving a population of 500 people or less. The majority of the PWSs with Nitrate/Nitrite monitoring/reporting violations (1256) were transient non-communities which generally do not serve the same people from day-to-day.

For specific information on each contaminant, such as the number of PWSs required to sample a contaminant in 1997 and how many violations occurred for that contaminant, please refer to Appendix A.



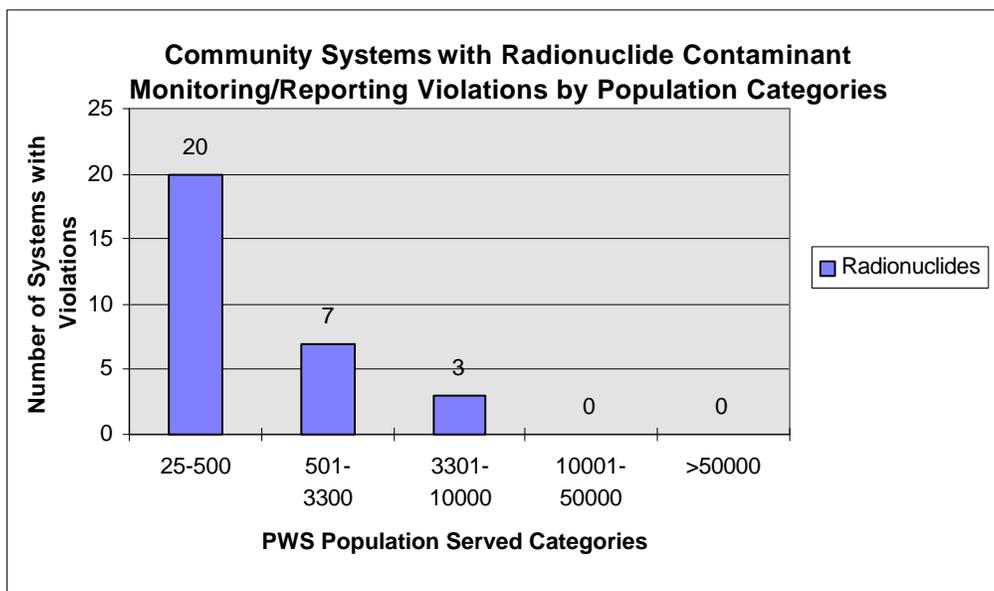


Radionuclide Contaminants

The radionuclide group includes contaminants gross alpha, gross beta, radium-226 and radium-228. Radium-226 and radium-228 are only monitored when a PWS exceeds the gross alpha action level of 5 pCi/L.

Radionuclides are monitored by all (except purchased systems) community PWSs. In general, surface water systems monitor gross alpha and beta quarterly initially and annually thereafter, and ground water systems monitor gross alpha quarterly initially and once in 3 years thereafter. Radionuclide violations incurred during the 1997 calendar year all were related to failure to monitor/report during a specified monitoring period except for 5 maximum contaminant level violations. PWSs with one or more radionuclide monitoring/reporting violations (30) represent approximately 2.5% of all public water systems subject to the regulations (1189). Of these PWSs with one or more radionuclide monitoring/reporting violations, 67% were systems serving a population of 500 people or less.

For specific information on each contaminant, such as the number of PWSs required to sample a contaminant in 1997 and how many violations occurred for that contaminant, please refer to Appendix A.

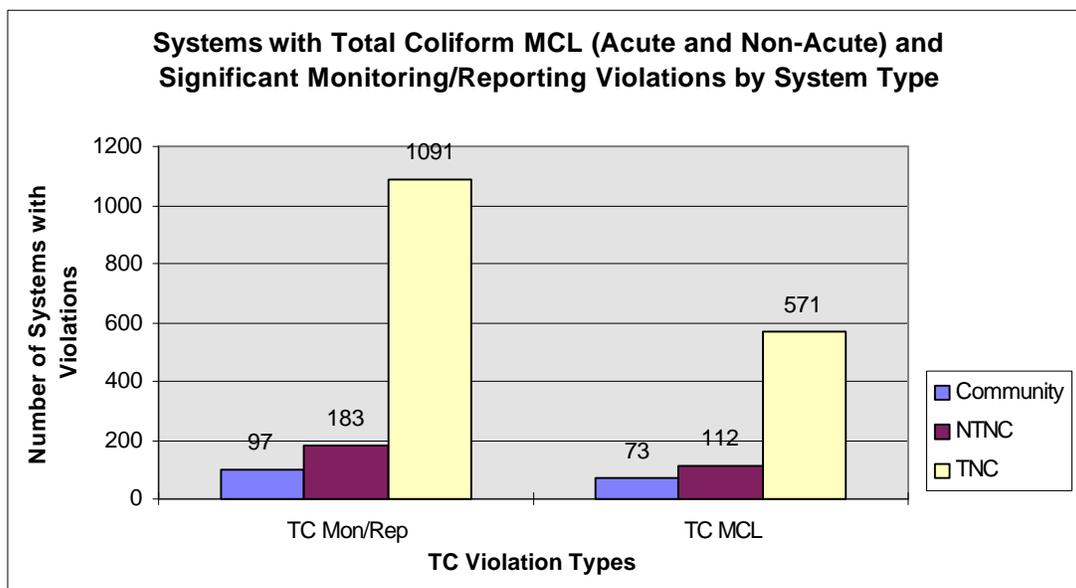
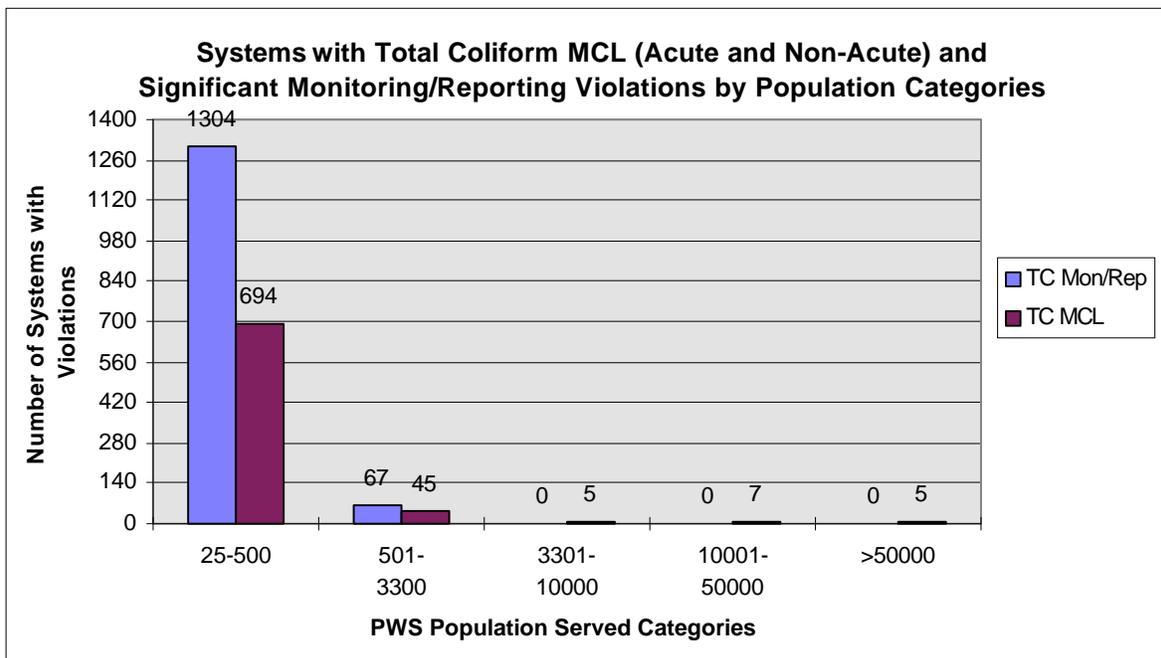


Total Coliform Regulations

The total coliform regulations establish levels of microbiological contaminants in drinking water. In Ohio, a total coliform (TC) test is used to determine whether or not microbiological contaminants are present. TCs are monitored by all PWSs. The frequency of TC testing is dependent upon the type of PWS and the population served, but is done at a minimum of quarterly. Two types of maximum contaminant level violations, acute and non-acute, are associated with the total coliform regulations. An acute violation can occur when one or more samples collected by a public water system is total coliform positive followed by a confirmation total coliform positive sample. *During the 1997 calendar year, further speciation of positive total coliform as fecal coliform or E. Coli positive was not used to determine when an acute maximum contaminant limit violation occurred.* An acute violation can occur also when a sufficient number of confirmation samples are not collected following one or more positive samples. Non-acute maximum contaminant level violations occur when greater than 5% (or 2 or more samples if collecting less than 40 samples) of all the samples collected are total coliform positive. During the 1997 calendar year, 12% (756) of all PWSs (6137) incurred one or more total coliform acute or non-acute maximum contaminant level violations. Of the systems with violations, 76% were transient non-community public water systems, and 91% were PWSs serving a population of 500 people or less. A significant number of the acute and non-acute violations can be attributed to the public water system's failure to collect all or a sufficient number of confirmation samples following a positive total coliform sample.

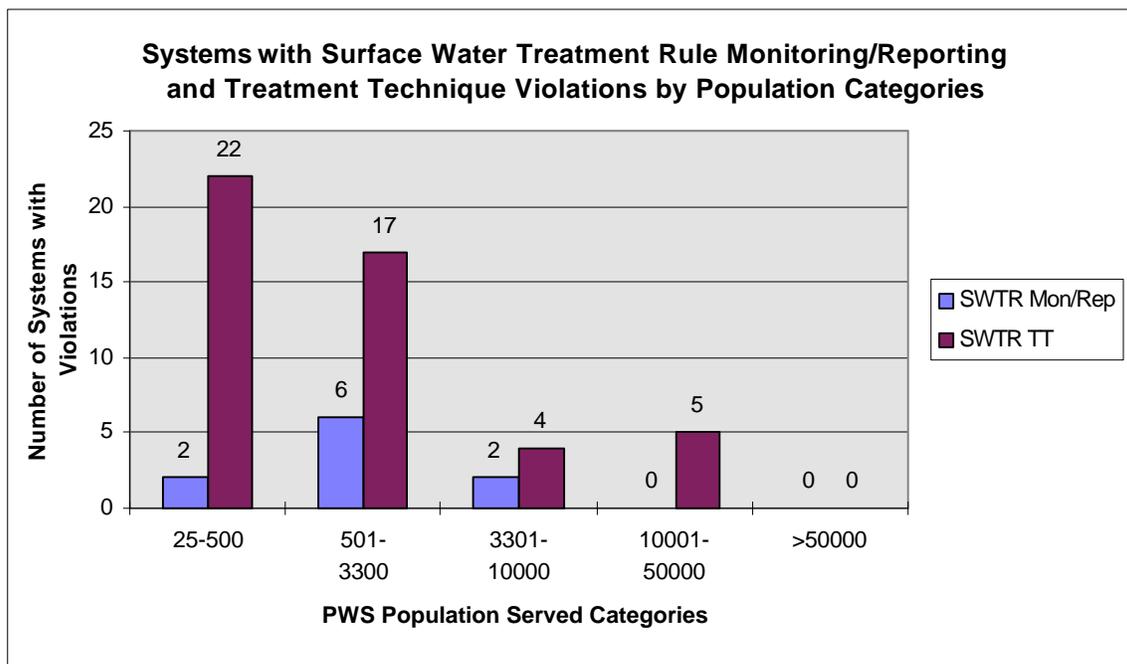
Major routine and follow-up monitoring/reporting violations for the total coliform regulations are incurred by public water systems when they fail to sample/report for all of the required samples

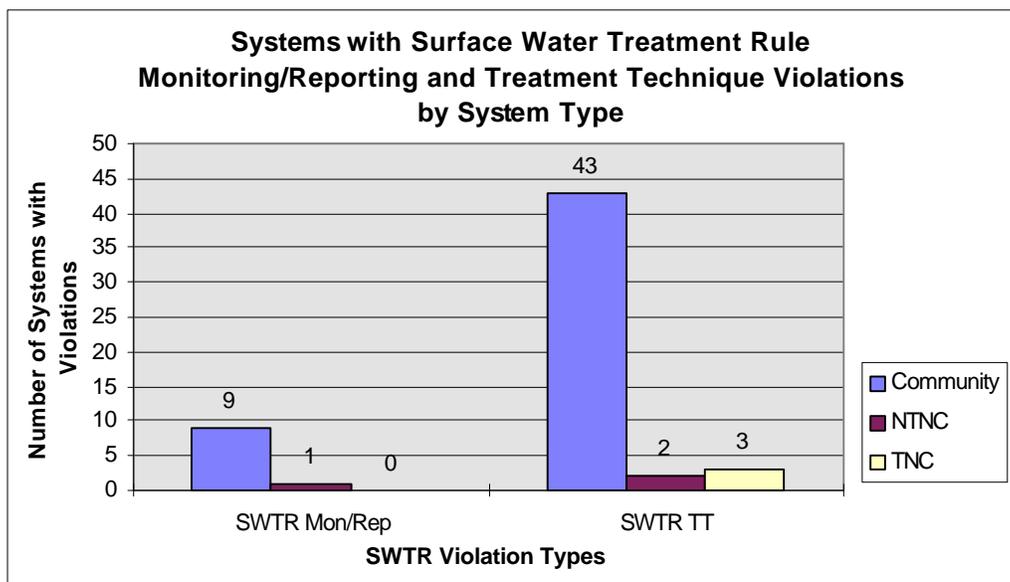
during a given monitoring period. During the 1997 calendar year, 22% (1371) of all PWSs (6137) incurred one or more total coliform monitoring/reporting violation. Of these systems with one or more major routine and follow-up monitoring/reporting violations, 80% were transient non-community PWSs, and 95% were systems serving a population of 500 people or less.



Surface Water Treatment Regulations

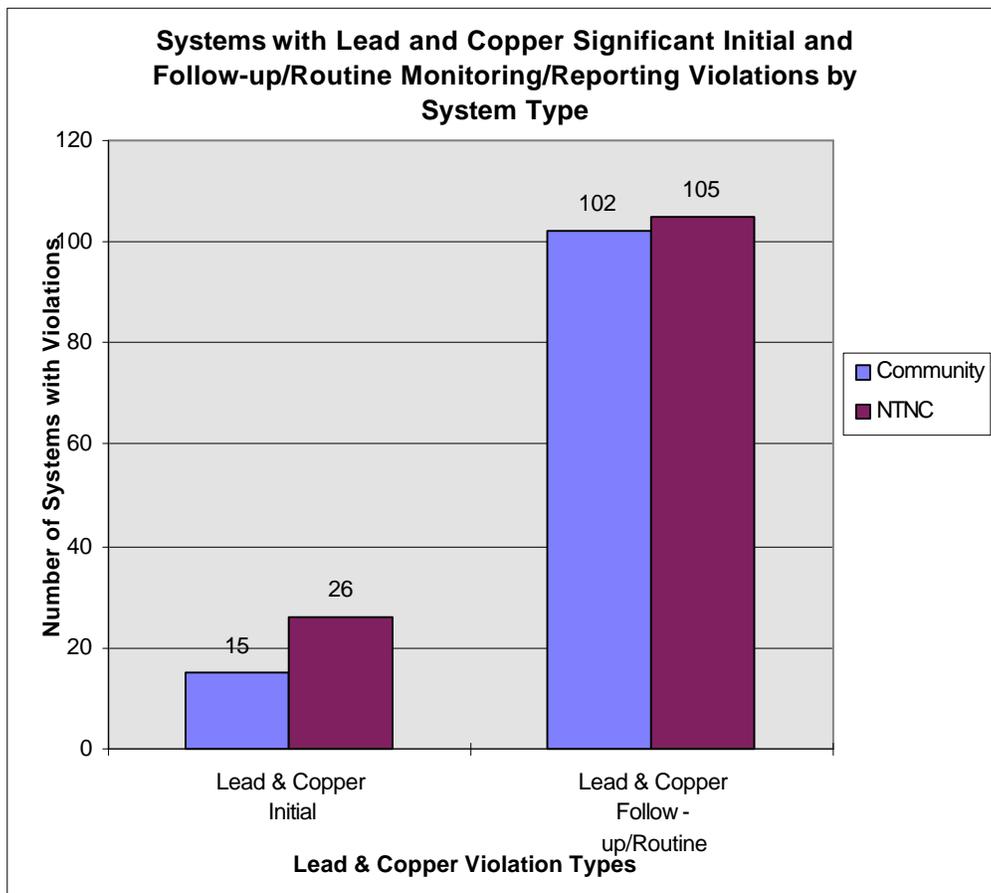
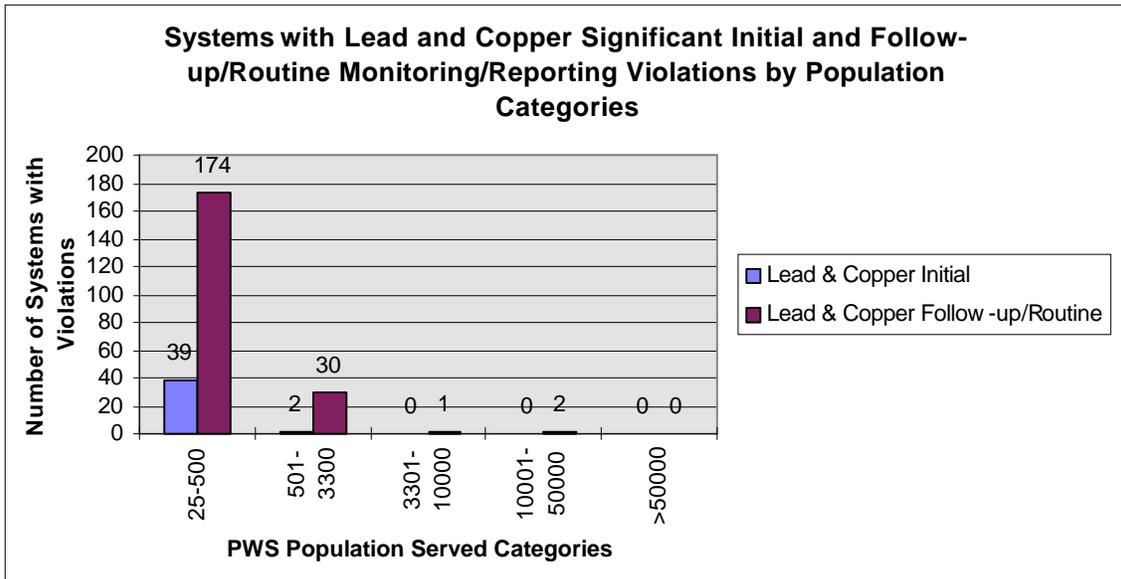
The surface water treatment regulations (SWTR) in Ohio establish standards for treatment of surface water or ground water under the direct influence of surface water. Public water systems subject to these regulations are required to provide filtration and disinfection of the water. Water quality tests are performed on the water to ensure adherence to standards as specified by the regulations. Tests include evaluation and measure of sufficient chlorination contact time, turbidity levels, and residual chlorine levels in the distribution system. Failure to meet one or more of these standards results in a monthly treatment technique violation. PWSs with one or more SWTR significant monitoring/reporting violations (10) represent approximately 7% of all public water systems subject to SWTR monitoring for 1997 (142). Of these PWSs with one or more SWTR significant monitoring/reporting violations, 20% were systems serving a population of 500 people or less and 80% were systems serving a population of 3300 people or less. PWSs with one or more SWTR treatment technique violations (48) represent approximately 29% of all public water systems subject to SWTR monitoring for 1997 (165). Of these PWSs with one or more SWTR treatment technique violations, 46% were systems serving a population of 500 people or less.





Lead and Copper Regulations

The lead and copper regulations in Ohio establish standards for levels of lead and copper in the distribution systems of community and non-transient non-community public water systems. During the beginning phases of monitoring, these public water systems are required to perform initial monitoring during two consecutive six month periods. Following completion of these periods, three consecutive annual routine monitoring periods are required. For the 1997 calendar year, the significant monitoring/reporting violations for the initial lead and copper monitoring requirements are based on a public water system's failure to conduct the required sampling. PWSs with one or more lead and copper significant monitoring/reporting violations for initial monitoring (41) represent approximately 11.8% of all public water systems subject to initial tap monitoring for 1997 (347). PWSs with one or more lead and copper significant monitoring/reporting violations for follow-up or routine monitoring (207) represent approximately 15.5% of all public water systems subject to follow-up or routine tap monitoring for 1997 (1339). Of these PWSs with one or more lead and copper significant monitoring/reporting violations, 86% were systems serving a population of 500 people or less.



Conclusions

As stated previously, the majority of PWS violations that occurred in Ohio during 1997 were due to failure to monitor/report for their scheduled monitoring. While these violations are definitely a concern, they are generally considered secondary to violations that directly affect the public health, such as those occurring from exceeding a maximum contaminant level or action level. The majority of the violations occurred at PWSs serving a population of 500 people or less, which means that the population affected by these violations is at a minimum. Most of the systems with monitoring/reporting violations have monitored previously and have not detected any regulated contaminants at levels affecting the public health. Finally, most of the PWSs with monitoring/reporting violations have since returned to compliance by monitoring and/or issuing public notices.

Ohio EPA's Public Water System Compliance Assistance

Ohio EPA employs various methods to assist public water systems in achieving compliance of the Safe Drinking Water Act regulations. Some of these methods include: providing a sampling and monitoring schedule for each public water system; offering technical assistance during facility inspections (sanitary surveys) and all office hours; distributing a divisional newsletter to all public water systems; providing operator and laboratory personnel training sessions; distributing reminder postcards and/or contacting the public water systems towards the end of the monitoring periods to ensure collection of the required samples; and providing notice of violation letters for failure to meet the requirements of any of the specific regulations.

Listing of Violations

A complete listing of all violations (i.e, monitoring/reporting, maximum contaminant level, treatment technique) associated with each of the public water systems used to create the summary table presented in Appendix A is available for review at the Ohio EPA Division of Drinking and Ground Waters Central Office as well as the District Office locations. A list of violations can also be viewed using the Internet at U.S. EPA's site know as "Envirofacts". This Internet site provides access to a subset of data available from U.S. EPA's Safe Drinking Water Information System (SDWIS). Using this Envirofacts website allows the user to select by state, county, public system name, public water system identification number and population size to obtain a general facility and violation information for public water systems in Ohio. The Internet address for this Envirofacts site is http://www.epa.gov/enviro/html/sdwis/sdwis_query.html .

Report Availability and Contact Information

The 1997 summary report may be obtained by writing to the State of Ohio at PWS Annual Compliance Report, Ohio EPA - DDAGW, P.O. Box 1049, Columbus, OH 43216-1049. In addition, this summary report has been posted on the Ohio EPA's Website at <http://www.epa.state.oh.us/ddagw/annualreports.html>.

For further information concerning this report, you may contact Michael Eggert or Bernie Clark with the Ohio EPA Division of Drinking and Ground Waters at (614) 644-2752. If you have questions concerning the specific violations associated with individual public water systems, contact your local Ohio EPA District Office in your region.

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APPENDIX A:

COMPLIANCE SUMMARY TABLE

Appendix A Compliance Table

State:	OHIO
Reporting Interval:	JANUARY 1, 1997 - DECEMBER 31, 1997

SDWIS Codes		MCL (mg/l) ¹	Number of Systems Required to Sample during 1997	MCLs			Treatment Techniques			Significant Monitoring/Reporting		
				Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance
	Organic Contaminants											
2981	1,1,1-Trichloroethane	0.2	1932	0	0	100.0%				211	179	90.7%
2977	1,1-Dichloroethylene	0.007	1932	0	0	100.0%				211	179	90.7%
2985	1,1,2-Trichloroethane	0.005	1932	0	0	100.0%				211	179	90.7%
2378	1,2,4-Trichlorobenzene	0.07	1932	0	0	100.0%				211	179	90.7%
2931	1,2-Dibromo-3-chloropropane (DBCP)	0.0002	NA	0	0	NA				0	0	NA
2980	1,2-Dichloroethane	0.005	1932	0	0	100.0%				211	179	90.7%
2983	1,2-Dichloropropane	0.005	1932	0	0	100.0%				211	179	90.7%
2063	2,3,7,8-TCDD (Dioxin)	3x10 ⁻⁸	9	0	0	100.0%				1	1	88.9%
2110	2,4,5-TP	0.05	NA	0	0	NA				0	0	NA
2105	2,4-D	0.07	1019	0	0	100.0%				104	104	89.8%
2265	Acrylamide						0	0	100.0%			
2051	Alachlor	0.002	40	0	0	100.0%				5	5	87.5%

State:	OHIO
Reporting Interval:	JANUARY 1, 1997 - DECEMBER 31, 1997

SDWIS Codes		MCL (mg/l) ¹	Number of Systems Required to Sample during 1997	MCLs			Treatment Techniques			Significant Monitoring/Reporting		
				Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance
2050	Atrazine	0.003	41	1	1	97.6%				5	5	87.8%
2990	Benzene	0.005	1932	0	0	100.0%				211	179	90.7%
2306	Benzo[a]pyrene	0.0002	781	0	0	100.0%				71	71	90.9%
2046	Carbofuran	0.04	785	0	0	100.0%				69	69	91.2%
2982	Carbon tetrachloride	0.005	1932	0	0	100.0%				211	179	90.7%
2959	Chlordane	0.002	NA	0	0	NA				0	0	NA
2380	cis-1,2-Dichloroethylene	0.07	1932	0	0	100.0%				211	179	90.7%
2031	Dalapon	0.2	NA	0	0	NA				0	0	NA
2035	Di(2-ethylhexyl)adipate	0.4	749	0	0	100.0%				63	63	91.6%
2039	Di(2-ethylhexyl)phthalate	0.006	793	0	0	100.0%				63	63	92.1%
2964	Dichloromethane	0.005	1932	0	0	100.0%				211	179	90.7%
2041	Dinoseb	0.007	NA	0	0	NA				0	0	NA
2032	Diquat	0.02	795	0	0	100.0%				65	65	91.8%
2033	Endothall	0.1	764	0	0	100.0%				67	67	91.2%
2005	Endrin	0.002	NA	0	0	NA				0	0	NA
2257	Epichlorohydrin						0	0	NA			

State:	OHIO
Reporting Interval:	JANUARY 1, 1997 - DECEMBER 31, 1997

SDWIS Codes		MCL (mg/l) ¹	Number of Systems Required to Sample during 1997	MCLs			Treatment Techniques			Significant Monitoring/Reporting		
				Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance
2992	Ethylbenzene	0.7	1932	0	0	100.0%				211	179	90.7%
2946	Ethylene dibromide	0.00005	NA	0	0	NA				0	0	NA
2034	Glyphosate	0.7	960	0	0	100.0%				82	82	91.5%
2065	Heptachlor	0.0004	NA	0	0	NA				0	0	NA
2067	Heptachlor epoxide	0.0002	NA	0	0	NA				0	0	NA
2274	Hexachlorobenzene	0.001	NA	0	0	NA				0	0	NA
2042	Hexachlorocyclopentadiene	0.05	NA	0	0	NA				0	0	NA
2010	Lindane	0.0002	787	0	0	100.0%				67	67	91.5%
2015	Methoxychlor	0.04	780	0	0	100.0%				65	65	91.7%
2989	Monochlorobenzene	0.1	1932	0	0	100.0%				211	179	90.7%
2968	o-Dichlorobenzene	0.6	1932	0	0	100.0%				211	179	90.7%
2969	p-Dichlorobenzene	0.075	1932	0	0	100.0%				211	179	90.7%
2383	Total polychlorinated biphenyls	0.0005	746	0	0	100.0%				62	62	91.7%
2326	Pentachlorophenol	0.001	845	0	0	100.0%				73	73	91.4%
2987	Tetrachloroethylene	0.005	1932	0	0	100.0%				211	179	90.7%

State:	OHIO
Reporting Interval:	JANUARY 1, 1997 - DECEMBER 31, 1997

SDWIS Codes		MCL (mg/l) ¹	Number of Systems Required to Sample during 1997	MCLs			Treatment Techniques			Significant Monitoring/Reporting		
				Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance
2984	Trichloroethylene	0.005	1932	1	1	99.9%				211	179	90.7%
2996	Styrene	0.1	1932	0	0	100.0%				211	179	90.7%
2991	Toluene	1	1932	0	0	100.0%				211	179	90.7%
2979	trans-1,2-Dichloroethylene	0.1	1932	0	0	100.0%				211	179	90.7%
2955	Xylenes (total)	10	1932	0	0	100.0%				211	179	90.7%
2020	Toxaphene	0.003	NA	0	0	NA				0	0	NA
2036	Oxamyl (Vydate)	0.2	782	0	0	100.0%				63	63	91.9%
2040	Picloram	0.5	806	0	0	100.0%				64	64	92.1%
2037	Simazine	0.004	40	0	0	100.0%				5	5	87.5%
2976	Vinyl chloride	0.002	1932	0	0	100.0%				211	179	90.7%
2950	Total trihalomethanes	0.10	141	3	2	98.6%				2	2	98.6%

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				Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance
	Inorganic Contaminants											
1074	Antimony	0.006	595	0	0	100.0%				67	67	88.7%
1005	Arsenic	0.05	738	0	0	100.0%				78	78	89.4%
1094	Asbestos	7 million fibers/l ≤ 10 μm long	56	0	0	100.0%				9	9	83.9%
1010	Barium	2	738	0	0	100.0%				48	48	93.5%
1075	Beryllium	0.004	596	0	0	100.0%				67	67	88.8%
1015	Cadmium	0.005	347	0	0	100.0%				48	48	86.2%
1020	Chromium	0.1	348	0	0	100.0%				48	48	86.2%
1024	Cyanide (as free cyanide)	0.2	57	0	0	100.0%				10	10	82.5%
1025	Fluoride	4.0	738	0	0	100.0%				61	61	91.7%
1035	Mercury	0.002	348	0	0	100.0%				48	48	86.2%
1040	Nitrate	10 (as Nitrogen)	5865	4	4	99.9%				1408	1402	76.1%
1041	Nitrite	1 (as Nitrogen)	183	0	0	100.0%				75	75	59.0%

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				Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance
1045	Selenium	0.05	342	0	0	100.0%				48	48	86.0%
1085	Thallium	0.002	595	0	0	100.0%				66	66	88.9%
1038	Total nitrate and nitrite	10 (as Nitrogen)	NA	0	0	NA				0	0	NA

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				Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance
	Radionuclide MCLs											
4000	Gross alpha	15 pCi/l	458	3	1	99.8%				27	27	94.1%
4010	Radium-226 and radium-228	5 pCi/l	458	2	2	99.6%				0	0	100.0%
4100	Gross beta	4 mrem/yr	142	0	0	100.0%				3	3	97.9%
	All Chemical Groups Subtotal		5865	18	13	99.8%				7538	1690	71.2%

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				Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance
	Total Coliform Rule											
21	Acute MCL violation	Presence	6137	951	724	88.2%						
22	Non-acute MCL violation	Presence	6137	590	544	91.1%						
23,25	Major routine and follow up monitoring		6137							2141	1371	77.7%
28	Sanitary survey ²									0	0	100.0%
	TCR Subtotal		6137	1541	756	87.7%				2141	1371	77.7%

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				Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance
	Surface Water Treatment Rule											
	Filtered systems											
36	Monitoring		142							21	10	93.0%
41	Treatment techniques		165				261	48	70.9%			
	Unfiltered systems											
31	Monitoring		NA							0	0	NA
42	Failure to filter		142				2	2	98.6%			
	SWTR Subtotal						263	50	70.9%	21	10	93.0%

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				Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance	Number of Violations	Number of Systems With Violations	Percent of Systems in Compliance
	Lead and Copper Rule											
51	Initial lead and copper tap M/R		347							49	41	88.2%
52	Follow-up or routine lead and copper tap M/R		1339							207	207	84.5%
58,62	Treatment Installation		32				0	0	100.0%			
65	Public education		60				15	15	75.0%			
	Lead & Copper Subbtotal		1686				15	15	75.0%	256	248	85.3%

1. Values are in milligrams per liter (mg/l), unless otherwise specified.
2. Number of major monitoring violations for sanitary survey under the Total Coliform Rule

Definitions for Violations Table

The following definitions apply to the Summary of Violations table.

Filtered Systems: Water systems that have installed filtration treatment [40 CFR 141, Subpart H].

Inorganic Contaminants: Non-carbon-based compounds such as metals, nitrates, and asbestos. These contaminants are naturally-occurring in some water, but can get into water through farming, chemical manufacturing, and other human activities. EPA has established MCLs for 15 inorganic contaminants [40 CFR 141.62].

Lead and Copper Rule: This rule established national limits on lead and copper in drinking water [40 CFR 141.80-91]. Lead and copper corrosion pose various health risks when ingested at any level, and can enter drinking water from household pipes and plumbing fixtures. States report violations of the Lead and Copper Rule in the following six categories:

Initial lead and copper tap M/R: SDWIS Violation Code 51 indicates that a system did not meet initial lead and copper testing requirements, or failed to report the results of those tests to the State.

Follow-up or routine lead and copper tap M/R: SDWIS Violation Code 52 indicates that a system did not meet follow-up or routine lead and copper tap testing requirements, or failed to report the results.

Treatment installation: SDWIS Violation Codes 58 AND 62 indicate a failure to install optimal corrosion control treatment system (58) or source water treatment system (62) which would reduce lead and copper levels in water at the tap. [One number is to be reported for the sum of violations in these two categories].

Public education: SDWIS Violation Code 65 shows that a system did not provide required public education about reducing or avoiding lead intake from water.

Maximum Contaminant Level (MCL): The highest amount of a contaminant that EPA allows in drinking water. MCLs ensure that drinking water does not pose either a short-term or long-term health risk. MCLs are defined in milligrams per liter (parts per million) unless otherwise specified.

Monitoring: EPA specifies which water testing methods the water systems must use, and sets schedules for the frequency of testing. A water system that does not follow EPA's schedule or methodology is in violation [40 CFR 141].

States must report monitoring violations that are significant as determined by the EPA Administrator and in consultation with the States. For purposes of this report, significant monitoring violations are major violations and they occur when no samples are taken or no results are reported during a compliance period. A major monitoring violation for the surface water treatment rule occurs when at least 90% of the required samples are not taken or results are not reported during the compliance period.

Organic Contaminants: Carbon-based compounds, such as industrial solvents and pesticides. These contaminants generally get into water through runoff from cropland or discharge from

factories. EPA has set legal limits on 54 organic contaminants that are to be reported [40 CFR 141.61].

Radionuclides: Radioactive particles which can occur naturally in water or result from human activity. EPA has set legal limits on four types of radionuclides: radium-226, radium-228, gross alpha, and beta particle/photon radioactivity [40 CFR 141]. Violations for these contaminants are to be reported using the following three categories:

Gross alpha: SDWIS Contaminant Code 4000 for alpha radiation above MCL of 15 picocuries/liter. Gross alpha includes radium-226 but excludes radon and uranium.

Combined radium-226 and radium-228: SDWIS Contaminant Code 4010 for combined radiation from these two isotopes above MCL of 5 pCi/L.

Gross beta: SDWIS Contaminant Code 4101 for beta particle and photon radioactivity from man-made radionuclides above 4 millirem/year.

Reporting Interval: The reporting interval for violations to be included in the first PWS Annual Compliance Report, which is to be submitted to EPA by January 1, 1998, is from January 1, 1996 through December 31, 1996. This interval will change for future annual reports. See guidance language for these intervals.

SDWIS Code: Specific numeric codes from the Safe Drinking Water Information System (SDWIS) have been assigned to each violation type included in this report. The violations to be reported include exceeding contaminant MCLs, failure to comply with treatment requirements, and failure to meet monitoring and reporting requirements. Four-digit SDWIS Contaminant Codes have also been included in the chart for specific MCL contaminants.

Surface Water Treatment Rule: The Surface Water Treatment Rule establishes criteria under which water systems supplied by surface water sources, or ground water sources under the direct influence of surface water, must filter and disinfect their water [40 CFR 141, Subpart H]. Violations of the "Surface Water Treatment Rule" are to be reported for the following four categories:

Monitoring, routine/repeat (for filtered systems): SDWIS Violation Code 36 indicates a system's failure to carry out required tests, or to report the results of those tests.

Treatment techniques (for filtered systems): SDWIS Violation Code 41 shows a system's failure to properly treat its water.

Monitoring, routine/repeat (for unfiltered systems): SDWIS Violation Code 31 indicates a system's failure to carry out required water tests, or to report the results of those tests.

Failure to filter (for unfiltered systems): SDWIS Violation Code 42 shows a system's failure to properly treat its water. Data for this violation code will be supplied to the States by EPA.

Total Coliform Rule (TCR): The Total Coliform Rule establishes regulations for microbiological contaminants in drinking water. These contaminants can cause short-term health problems. If no samples are collected during the one month compliance period, a significant monitoring violation occurs. States are to report four categories of violations:

Acute MCL violation: SDWIS Violation Code 21 indicates that the system found fecal coliform or E. coli, potentially harmful bacteria, in its water, thereby violating the rule.

Non-acute MCL violation: SDWIS Violation Code 22 indicates that the system found total coliform in samples of its water at a frequency or at a level that violates the rule. For systems collecting fewer than 40 samples per month, more than one positive sample for total coliform is a violation. For systems collecting 40 or more samples per month, more than 5% of the samples positive for

total coliform is a violation.

Major routine and follow-up monitoring: SDWIS Violation Codes 23 AND 25 show that a system did not perform any monitoring. [One number is to be reported for the sum of violations in these two categories.]

Sanitary Survey: SDWIS Violation Code 28 indicates a major monitoring violation if a system fails to collect 5 routine monthly samples if sanitary survey is not performed.

Treatment Techniques: A water disinfection process that EPA requires instead of an MCL for contaminants that laboratories cannot adequately measure. Failure to meet other operational and system requirements under the Surface Water Treatment and the Lead and Copper Rules have also been included in this category of violation for purposes of this report.

Unfiltered Systems: Water systems that do not need to filter their water before disinfecting it because the source is very clean [40 CFR, Subpart H].

Violation: A failure to meet any state or federal drinking water regulation.