

2014 Annual Compliance Report



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ANNUAL COMPLIANCE REPORT
CALENDAR YEAR 2014



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Murray Gill Lake

The KDHE public water supply program helps protect the health of Kansas citizens by assuring their drinking water is safe to drink. The annual compliance report is a summary of water system's compliance information and provides a measure of how well the systems are performing.

KANSAS PUBLIC WATER SUPPLY ANNUAL COMPLIANCE REPORT CALENDAR YEAR 2014

INTRODUCTION

The Kansas Department of Health and Environment (KDHE), Bureau of Water, Public Water Supply Section is responsible for regulating all public water supply systems in the state and assisting them in providing potable water to the citizens of Kansas. At the close of calendar year 2014, there were 879 community, 41 non-transient non-community, and 83 transient non-community systems for a total of 1003 public water supply systems in Kansas.

This report is a summary of all public water supply system compliance with drinking water regulations for calendar year 2014. Violations of the maximum contaminant level (MCL), treatment techniques (TT), and monitoring requirements (M/R) are required to be reported. Appendix A lists the number of MCL, TT and M/R violations by regulated parameter for 2014. This information is entered into the Kansas Drinking Water Information System (KS-SDWIS). This report has been prepared by KDHE to inform the general public of the quality of drinking water in Kansas and to comply with the federal Safe Drinking Water Act (SDWA).

As required by the Safe Drinking Water Act the KDHE has made this report available to the public. Interested individuals can obtain a copy by accessing www.kdheks.gov/pws/ or calling (785) 296-5514. The Kansas Public Water Supply Annual Compliance Reports for previous years are also available at: www.kdheks.gov/pws/.

All public water supply data is stored in the Safe Drinking Water Information System (SDWIS) database. SDWIS contains an inventory of systems, violations records, and analytical results for each public water supply system. Data pertaining to a specific system can be reviewed at: www.epa.gov/enviro/.

COMPLIANCE SUMMARY

This is a summary of health based compliance percentages for each drinking water rule in relation to samples collected in calendar year 2014. Health based violations, for the purpose of this report, are defined as violations related to MCLs. Health based compliance percentages in regards to samples for individual analytes can be viewed in Table 1.

No health based MCL violations were issued for the Consumer Confidence Report Rule (CCR), Ground Water Rule (GWR), Lead and Copper Rule (LCR), Public Notification Rule (PNR) or Surface Water Treatment Rule (SWTR). Under the Disinfection Byproduct Rule (DBPR) 6,598 samples were collected and the overall health based compliance rate was 99.3%. The Phase II/V Chemical Contaminants Rule encompasses volatile organic chemicals (VOC), synthetic organic chemicals (SOC) and Inorganic Chemicals (IOC) and 4,962 samples were collected. The overall health based compliance rate was 97.9%. Under the Radionuclides Rule 620 samples were collected and the overall health based compliance rate was 97.2%. For compliance with the Total Coliform Rule (TCR) 37,338 samples were collected with an overall health based compliance rate of 99.8%.

In total, 99 systems, serving a population of 190,237, incurred at least one health based violation for a drinking water requirement during calendar year 2014. The overall health based compliance rate for all water systems was 90.1%. The overall health based compliance rate for the total population served was 93.0%. The overall health based compliance rate for all samples was 99.9%.

Table 1 – 2014 Compliance Rates For All Rules

Rule	Systems Sampled	Population Served	Systems	Population	Samples
CONSUMER CONFIDENCE RULE (CCR) (Mon*)	878	2,677,670	95.2%	99.1%	95.2%
DISINFECTION BYPRODUCT RULE (DBPR)					
Bromate	7	439,346	100%	100%	100%
Chlorite	17	515,101	88.2%	99.9%	99.5%
Haloacetic Acids (HAA5)	885	2,556,037	98.4%	98.3%	98.9%
Total Organic Carbon (TOC)(TT*)	73	908,089	86.3%	95.4%	98.8%
Total Trihalomethanes (TTHMs)	883	2,552,528	99%	97.6%	99.1%
GROUND WATER RULE (GWR)					
Monitoring	68	615,910	88.2%	98.6%	96.8%
Treatment Technique	68	615,910	100%	100%	100%
INORGANIC CHEMICAL GROUP (IOC)					
Arsenic	249	1,915,712	97.1%	99.6%	91.1%
Asbestos	8	6,350	87.5%	64.5%	86.9%
Fluoride	256	2,006,097	100%	100%	100%
Nitrate	654	2,365,514	95.8%	99.3%	94.8%
Selenium	239	1,906,653	99.1%	99.9%	98.6%
LEAD AND COPPER RULE					
Monitoring	379	981,587	95.5%	95.8%	99.4%
Action Level	379	981,587	94.1%	99.4%	99.4%
RADIONUCLIDE RULE					
Gross Alpha Excluding Radon and Uranium	22	41,598	100%	100%	100%
Combined Uranium	22	41,598	81.8%	88.0%	93.8%
Combined Radium	155	512,429	99.3%	99.9%	98.6%
SURFACE WATER TREATMENT RULE (SWTR)					
Monitoring	82	1,575,823	100%	100%	100%
Treatment Technique	82	1,575,823	97.5%	99.4%	99.9%
SYNTHETIC ORGANIC CHEMICAL GROUP (SOC)					
Atrazine (Mon*)	191	2,075,768	99.4%	99.9%	99.7%
TOTAL COLIFORM RULE (TCR)					
Acute MCL	993	2,586,554	99.7%	99.8%	99.9%
Monthly MCL	993	2,586,554	95.2%	97.5%	99.8%
Monitoring & Reporting	993	2,586,554	92.5%	97.8%	99.7%
VOLATILE ORGANIC CHEMICAL GROUP (VOC)					
	298	2,025,669	100%	100%	100%

*Denotes compliance rate is not MCL based.

PUBLIC WATER SUPPLY SYSTEMS

In Kansas, a public water supply system is defined by Kansas Statute (K.S.A.) 65-162a(b) and Kansas Administrative Regulation (K.A.R.) 28-15a-2(a)(1)(A) as a “system for delivery to the public of piped water for human consumption that has at least 10 service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.” A description of the types of public water supply systems in Kansas is provided in Table 2. Table 3 indicates the total number of systems by water system type, water source and population served. Systems that use both surface water and ground water are governed by surface water regulations.

Table 2 – Public Water Supply System Types

COMMUNITY: Year-round residential customers e.g.; towns, mobile home parks, rural water districts, or subdivisions
TRANSIENT NON-COMMUNITY: Different non-residential customers every day e.g., motels, parks, airports, campgrounds, or truck stops
NON-TRANSIENT NON-COMMUNITY: Same non-residential customers e.g., schools, day care facilities, industrial or manufacturing facilities

Table 3 – Total Number of PWS by Type, Water Source and Population

NUMBER OF PWS BY TYPE													
PWS TYPE CATEGORY	SW	POP	SWP	POP	GW	POP	GWP	POP	GUI	POP	GUIP	POP	TOTAL POP
Community - C	73	1,272,784	278	359,461	434	717,186	82	38,458	5	287,569	7	20,172	2,695,630
Transient Non Community - NC	1	25	2	50	78	3,878	1	26	1	63	0	0	4,042
Non Transient Non Community - NTNC	0	0	1	500	39	17,405	1	3,200	0	0	0	0	21,105
TOTALS	74	1,272,809	281	359,461	551	738,469	84	41,684	6	287,632	7	20,172	2,720,777

NUMBER OF PWS BY SOURCE				
SOURCE TYPE	COM	NC	NTNC	TOTAL
Surface Water	73	1	0	74
Surface Water Purchased	278	2	1	281
Groundwater	434	78	39	551
Groundwatr Purchased	82	1	1	84
Groundwater Under Influence of Surface Water	5	1	0	6
Groundwater Under Influence of Surface Water Purchased	7	0	0	7
TOTALS	879	83	41	1003

POPULATION SERVED BY SOURCE				
SOURCE TYPE	COM	NC	NTNC	TOTAL
Surface Water	1,272,784	25	0	1,272,809
Surface Water Purchased	359,461	50	500	360,011
Groundwater	717,186	3,878	17,405	738,469
Groundwatr Purchased	38,458	26	3200	41,684
Groundwater Under Influence of Surface Water	287,569	63	0	287,632
Groundwater Under Influence of Surface Water Purchased	20172	0	0	20,172
TOTALS	2,695,630	4,042	21,105	2,720,777

In 2014, community water systems accounted for 87% of the water systems in Kansas and served 99% of the State’s population. Below, charts one through three give both a statistical and visual representation of community water systems in Kansas.

Chart 1 – Percentage of Community Water Systems by Population Served

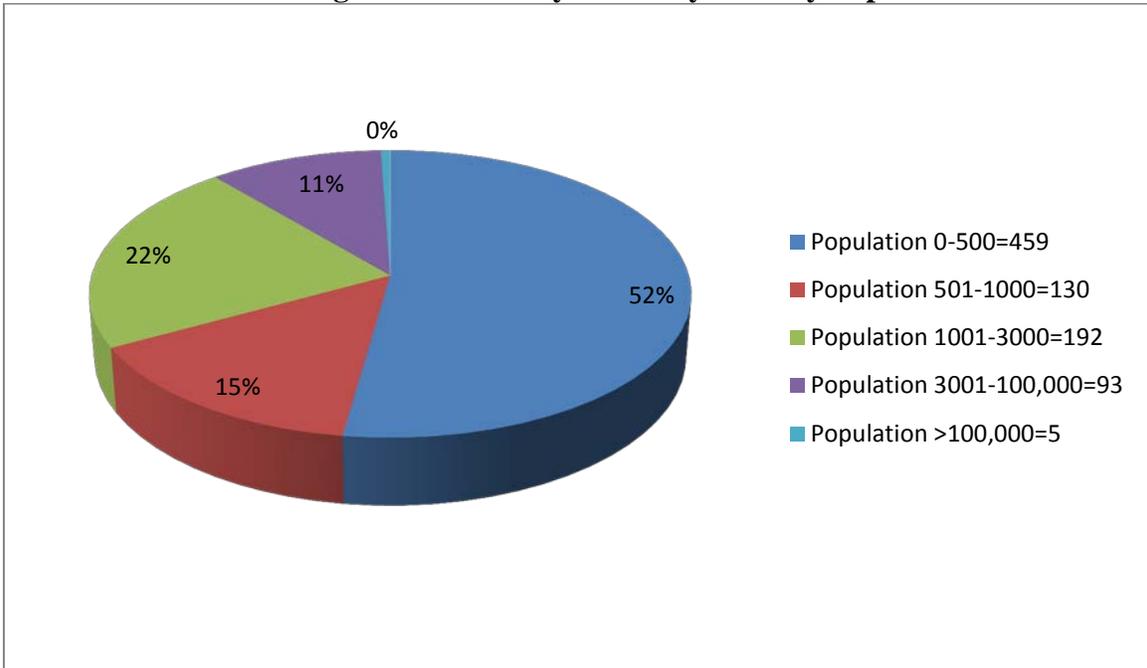


Chart 2 – Percentage of Community Water Systems by Source Water

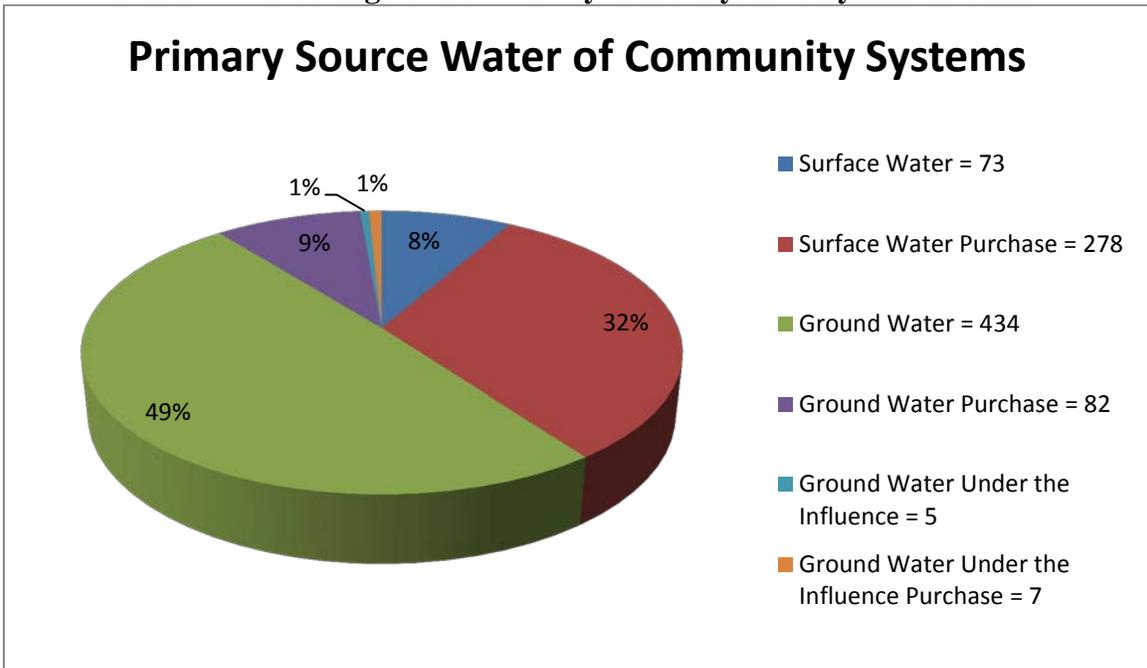
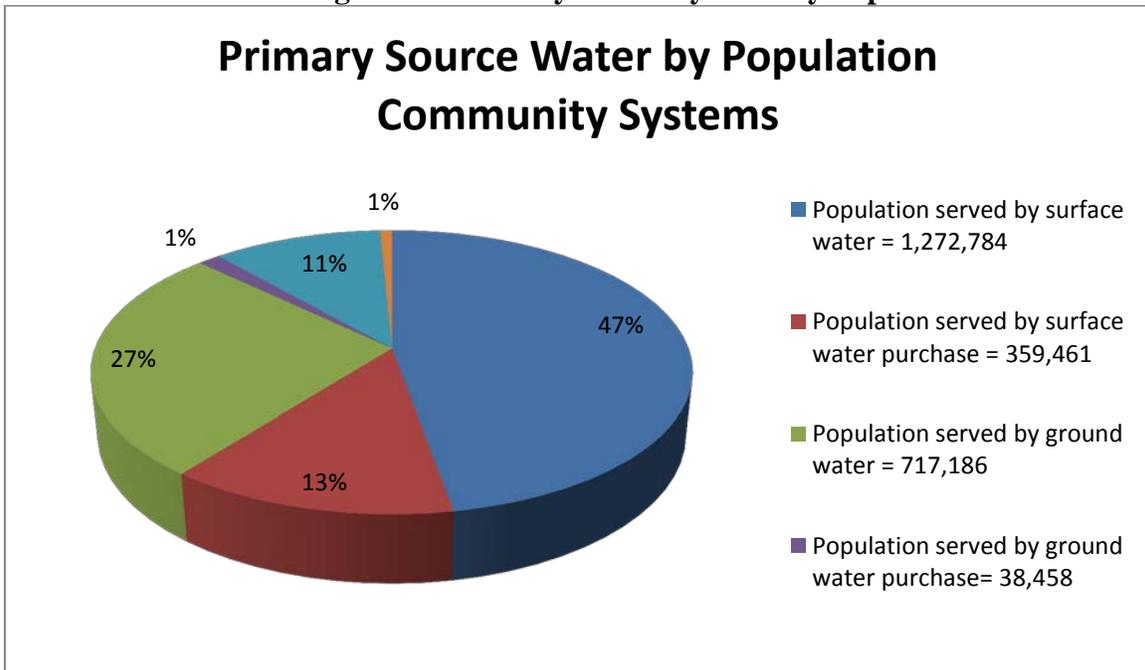


Chart 3 – Percentage of Community Water Systems by Population Served



DRINKING WATER QUALITY REGULATIONS

Kansas regulations establish maximum permissible levels for certain drinking water contaminants, these are known as maximum contaminant levels (MCL). For some contaminants, regulations require application of minimum treatment techniques (TT). Regulations require systems to routinely monitor and report water quality parameters to KDHE to verify compliance with the MCL and TT. These requirements help assure all systems provide safe drinking water to consumers. Current regulations administered by KDHE address the following drinking water contaminants and treatment processes:

- Consumer Confidence Rule (CCR)
- Disinfection Byproducts Rule (DBPR)
- Ground Water Rule (GWR)
- Lead and Copper Rule (LCR)
- Nitrate
- Phase II/V Chemical Contaminants Rule (IOC, SOC, VOC)
- Public Notice Rule (PN)
- Radionuclides
- Surface Water Treatment Rule (SWTR)
- Total Coliform Rule (TCR)

Table 4 illustrates the compliance rates for regulated contaminants for the last five years. Percentages are represented as a percent of samples that meet the MCL's and/or treatment technique requirements or when indicated, monitoring requirements.

Table 4 – Historical Total Contaminant Compliance Results

REGULATION	2010	2011	2012	2013	2014
CONSUMER CONFIDENCE RULE (CCR)	100%	100%	100%	97%	95%
DISINFECTION BYPRODUCT RULE (DBPR)					
Bromate	N/A*	N/A*	N/A*	N/A*	100%
Chlorite	N/A*	N/A*	N/A*	N/A*	99%
Haloacetic Acids (HAA5)	99%	100%	99%	98%	98%
Total Organic Carbon (TOC)	99%	100%	98%	91%	100%
Total Trihalomethanes (TTHMs)	99%	99%	98%	98%	99%
GROUND WATER RULE (GWR)					
Monitoring	99%	100%	100%	96%	97%
Treatment Technique	99%	100%	100%	100%	100%
INORGANIC CHEMICAL RULE (IOC)	99%	100%	100%	98%	100%
Arsenic	N/A*	N/A*	N/A*	N/A*	91%
Asbestos	N/A*	N/A*	N/A*	N/A*	87%
Fluoride	N/A*	N/A*	N/A*	N/A*	100%
Nitrate	98%	97%	96%	97%	95%
Selenium	N/A*	N/A*	N/A*	N/A*	99%
LEAD AND COPPER RULE					
Monitoring	98%	99%	98%	94%	99%
Action Level	100%	100%	100%	100%	99%
RADIONUCLIDE RULE					
Gross Alpha Excluding	100%	100%	100%	99%	100%
Gross Alpha Including	100%	100%	100%	99%	100%
Combined Radium	99%	100%	100%	97%	99%
Combined Uranium	99%	100%	99%	99%	94%
SURFACE WATER TREATMENT RULE (SWTR)					
Monitoring	100%	100%	100%	100%	99%
Treatment Technique	97%	100%	100%	99%	99%
SYNTHETIC ORGANIC CHEMICAL RULE (SOC)	100%	100%	100%	100%	100%
Atrazine	100%	100%	100%	100%	100%
TOTAL COLIFORM RULE (TCR)					
Acute Non-Acute MCL*	95%	100%	97%	97%	99%
Monthly MCL	N/A*	N/A*	N/A*	N/A*	99%
Monitoring & Reporting	93%	95%	97%	95%	99%
VOLATILE ORGANIC CHEMICAL RULE (VOC)	100%	100%	100%	99%	100%

*Compliance percentages not available in previous year reports.

MONITORING WAIVERS

Under the Phase II/V Chemical Contaminants Rule, monitoring waivers may be issued when a public water supply system has minimal exposure to a regulated contaminant. Specific circumstances must be present in order for a waiver to be issued. The circumstances are as follows:

- 1) The chemical in question has not been registered for use in the state of Kansas.
- 2) The chemical in question has not been used in proximity of the source of supply.
- 3) The systems have protected sources of water that are not likely to be contaminated; and
- 4) The wells have been constructed according to KDHE design criteria and the entry point has not had detects of the chemical or similar classes of chemicals.

Two types of waivers may be issued, a state-wide waiver or a use waiver. A state wide waiver will be issued by KDHE for all Phase II/V contaminants that are not found naturally in the states source water or when all systems of the state are already using a best available technology (BAT) for the contaminant, for example chlorination. The second type of waiver, a use waiver, may be issued by KDHE for contaminants meeting particular criteria regarding the conditions of their specific use within the area of the public water supply.

State-Wide Waivers

Asbestos

The Kansas Geology Survey (KGS) has determined there are no naturally occurring deposits of asbestos in Kansas. Asbestos fibers do not readily migrate through ground water; therefore, most systems in Kansas are exempt from monitoring for asbestos. Only systems that utilize asbestos-cement pipe in the distribution system are required to monitor for asbestos. Such systems are required to test for asbestos at least once every nine years.

Cyanide

Cyanide reacts rapidly with chlorine in water and decomposes. Under K.A.R. 28-15-19, all systems in Kansas are required to maintain a chlorine residual of 0.2 mg/L free chlorine or 1.0 mg/L combined chlorine in the distribution system. As a result all systems in Kansas are waived from cyanide monitoring.

Glyphosate (Roundup®)

Oxidation of glyphosate with chlorine has shown to remove greater than 99% of the herbicide under typical drinking water treatment conditions. Under K.A.R. 28-15-19, all systems in Kansas are required to maintain a chlorine residual of 0.2 mg/L free chlorine or 1.0 mg/L combined chlorine in the distribution system. As a result, all systems in Kansas are waived from glyphosate monitoring.

Nitrite

Because chlorine converts nitrite to nitrate, and because K.A.R. 28-15-19 requires all systems in Kansas to maintain distribution chlorine residuals, all systems in Kansas are waived from routine nitrite monitoring.

Dibromochloropropane

Although Dibromochloropropane (DBCP) is not registered for use in Kansas, every public water supply system has monitored for DBCP using EPA Method 524.2 at every entry point to the distribution system since the beginning of the first compliance period (1993-1995) of the first compliance cycle (1993-2001). Despite the rigorous testing, DBCP has never been detected in Kansas. As a result, all systems have been waived from DBCP monitoring.

Use Waivers

Use waivers are issued by KDHE for contaminants meeting particular criteria regarding specific detection levels and/or use within the systems. During the first Phase II/V compliance period (1993-1995) of the first compliance cycle (1993-2001), Kansas PWSs were monitored for required synthetic organic contaminants (SOC). Kansas experienced no confirmed detects for a number of SOC contaminants and as a result of this initial monitoring, Kansas granted use waivers for future compliance periods. Table 5 indicates the SOC contaminants that have been granted use waivers in Kansas.

Table 5 – Synthetic Organic Contaminant Use Waivers

Contaminant Name
2,4-D
2,4,5-TP
Carbofuran
Aldicarb
Aldicarb Sulfoxide
Aldicarb Sulfone
Benzo(a)pyrene
Carbofuran
Dalapon
Di 2-ethylhexyl adipate
Di-2-ethylheyl phthalate
Dioxin
Diquat
Dinoseb
Endothall
Hexachlorocyclopentadiene
Pentachlorophenol
Picloram
Oxamyl

In addition to the Use Waivers listed above, use waivers have also been issued for 12 SOCs for groundwater systems that meet specific conditions. In order to receive a monitoring waiver for these chemicals during the third compliance cycle (2011–2019), a system must run a triazine immunoassay screen on water samples from each active GW POE at least once during each three year compliance period (2011–2013, 2014–2016, and 2017–2019). The immunoassay test kit must be verified for performance by the EPA Environmental Technology Verification Program, and must meet a minimum detection level of at least 0.0003 mg/L. The Kansas trigger level (TRL) for triggering follow-up monitoring for SOC by EPA Methods 507/508 is a result greater than or equal to 0.00045 mg/L.

If the immunoassay result is less than 0.00045 mg/L, no further monitoring of the POE for SOC will be required for the remainder of the compliance period. Waivers will be evaluated during each three-year compliance period following the reporting of the immunoassay result. If any sample has a result greater than or equal to 0.00045 mg/L, then a follow-up sample must be collected and analyzed by an EPA approved method for all of the pesticide chemicals listed below. If a follow-up sample is required, then compliance and future monitoring requirements for any of the 12 SOCs listed below will be based upon the follow-up sample only.

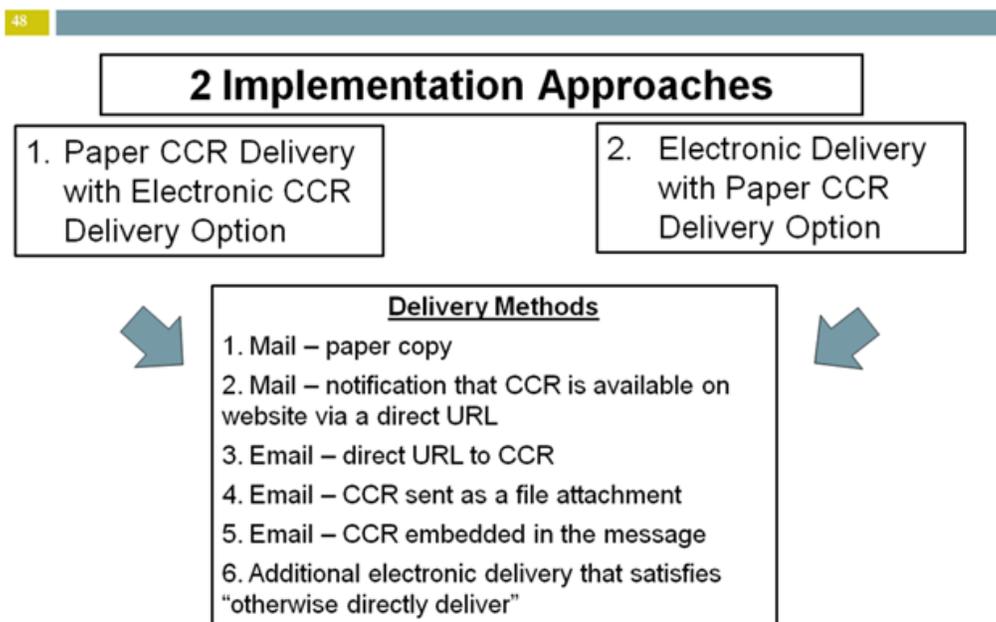
**Table 6 – Synthetic Organic Contaminant Use Waivers
Ground Water Systems Only**

Contaminant Name
Alachlor
Atrazine
Chlordane
Endrin
Heptachlor
Heptachlor Epoxide
Hexachlorobenzene
Lindane
Methoxychlor
Polychlorinated biphenyls (Aroclors)
Simazine
Toxaphene

CONSUMER CONFIDENCE REPORT RULE

The Consumer Confidence Report Rule (CCR) requires all community systems to provide customers with an annual consumer confidence water quality report. The U. S. Environmental Protection Agency (EPA) specified health risk language must be included in the report when regulated contaminants are detected. The CCRs provide information to help educate and inform customers about the system. Systems with a population over 100,000 must post their CCR on the Internet. In 2013, EPA permitted PWS's the option to distribute their CCR electronically in an effort to save water systems money on postage.

CCR DELIVERY METHODS AND APPROACHES



A total of 878 community public water supply systems serving 2,677,670 individuals, were required to deliver a CCR to their customers by July 1, 2014. The number of community systems in violation for not delivering a copy of their CCR to their customers by July 1, 2014 was 42. These 42 systems, serving a combined total

population of 21,582 incurred major violations, and 1 system, serving a population of 1,940 incurred 1 minor violation. Directives were issued to the systems in violation of the CCR Rule on August 13, 2014.

DISINFECTION BYPRODUCTS RULE

The Disinfection Byproducts Rule (DBP) requirements apply to community and non-transient non-community systems. The most common method of disinfection used by systems in Kansas is chlorination. Chlorine is added to water to destroy harmful microorganisms but chlorine combines with naturally occurring organic matter present in water sources to form disinfection byproduct contaminants. Water samples are collected from the distribution system for total trihalomethanes (TTHM) and halo acetic acids (HAA5). Compliance with the MCLs of TTHMs and HAA5s are determined by locational running annual averages of water sample results.

While all systems in Kansas are required by K.A.R. 28-15-19 to maintain chlorine residuals in the distribution system, some systems use alternative disinfectants such as chlorine dioxide and ozone that are applied in the treatment sequence, prior to the point of entry (POE). These alternative disinfectants can form chlorite and bromated byproducts, respectively, in drinking water. Systems that use these alternative forms of disinfection are required to monitor for these byproducts and maintain levels below the MCL for these contaminants.

When chlorine dioxide is added to drinking water the chlorine dioxide dissociates to form chlorite. Approximately 50% to 70% of chlorine dioxide is converted to chlorite, while the remainder is converted to chlorate and chloride. Monitoring for chlorite is conducted after treatment at the point of entry to the distribution system (POE) and by a monthly three-sample set collected from the distribution system. Compliance for the chlorite MCL of 1.0 mg/L is based on maintaining levels below the MCL after treatment at the POE and from the average of the monthly three-sample set from the distribution system.

Ozone use in Kansas is increasing because of its outstanding disinfection capability. When ozone is added to drinking water it reacts with naturally-occurring bromide in the water to create bromate. Bromate is monitored after treatment at the POE. Compliance for the bromate MCL of 0.010 mg/L is determined quarterly by the running annual average of the monthly bromated samples.

As part of the DBP Rule, systems using surface water must follow a treatment technique to remove specific percentages of organic contaminants, measured as total organic carbon (TOC). TOC is a measure of disinfection byproduct precursors. TOC has no health effects by itself but provides a measure of the potential for the formation of disinfection byproducts such as TTHMs and HAA5s. Both raw surface water and treated water are monitored monthly for TOC content to determine the effectiveness of the system's TOC removal treatment. Compliance for TOC is based on a running annual average of monthly removal ratios, and is calculated on a calendar quarterly basis.

The maximum residual disinfectant level (MRDL) applies to all community and non-transient non-community water systems that practice disinfection. In addition, transient systems using chlorine dioxide must comply with the MRDL for that disinfectant. KDHE has chosen to not adopt the Maximum Residual Disinfectant Level Goals (MRDLGs) which have been recommended by EPA. References to MRDLGs in federal rules and regulations and EPA guidance manuals do not apply to the drinking water regulations adopted by KDHE and are not applicable to Kansas water supply systems. The rationale used in establishing these values is discussed in detail in the preamble to the Stage 2 Disinfectants and Disinfection Byproduct Rule (Stage 2 DBPR). From a regulatory perspective, the numbers that are important are the MRDLs. There is however one notable exception. Operators of systems using chlorine or chloramines may increase the concentration of disinfectants to a level, and for a time necessary, to address specific microbiological contamination events such as distribution line breaks, storm run-off events, source water contamination, or cross-connections. No system incurred a monitoring violation for maximum residual disinfectant levels (MRDLs) during 2014.

The Stage 2 DBPR builds upon earlier rules that addressed disinfection byproducts to improve drinking water quality and provides additional public health protection from disinfection byproducts. The Stage 2 DBPR is a product of an extended regulatory negotiation process involving water industry representatives, scientists, regulators and other interested parties. The goal of the negotiation was to arrive at a regulation that would reduce exposure of the general public to DBPs, which are associated with cancer risk, while maintaining the well-established public health benefits that derive from practicing disinfection to control microbial pathogens. Surface water sources contain dissolved organic matter and are much more susceptible to DBP formation than are ground water sources. Even ground water systems must be aware of DBPs. When conditions are favorable in ground water these compounds can form in portions of the water storage and distribution network. These conditions include warm temperatures, the presence of organic sediments in pipes or reservoirs, and the concentration of disinfectant routinely maintained as a residual in the distribution system. The Stage 2 DDBP Rule seeks to minimize DBPs in three ways:

- 1) optimizing existing treatment processes to remove DBP precursors;
- 2) controlling disinfectant residual levels to minimize DBP formation following treatment; and
- 3) establishing BATs (best available technologies) for DBP removal if the first two strategies are insufficient to ensure compliance with MCLs.

Table 7 lists the different disinfection byproducts that systems must monitor for in drinking water.

Table 7 – Regulated DBPs and DBP Precursors

DISINFECTION BY-PRODUCT	MCL	
Total Trihalomethanes (TTHM)	0.080	mg/l
Chloroform	N/A	
Bromodichloromethane	N/A	
Bromoform	N/A	
Dibromochloromethane	N/A	
Haloacetic Acids (HAA5)	0.060	mg/l
Monochloroacetic Acid	N/A	
Dichloroacetic Acid	N/A	
Trichloroacetic Acid	N/A	
Monobromoacetic Acid	N/A	
Dibromoacetic Acid	N/A	
Chlorite	1.0	mg/l
Bromate	0.010	mg/l
Total Organic Carbon (TOC)	Treatment Technique	
DISINFECTION BY-PRODUCT	MRDL	
Chlorine	4.0	mg/l
Chloramine	4.0	mg/l
Chlorine Dioxide	0.8	mg/l

Bromate

Seven (7) public water supply systems serving a population of 439,346 collected 50 samples during 2014 for Bromate. No monitoring or MCL violations were assessed.

Chlorite

Seventeen (17) public water supply systems serving a population of 515,101 collected 478 samples during 2014 for chlorite. One (1) system serving a population of 1,927 incurred 1 monitoring violation. One (1) system serving a population of 182 incurred 2 MCL violations. The overall health based compliance rate for the total number of water systems testing for chlorite was 88.2%. The overall health based compliance rate for the total population served in reference to chlorite was 99.9%. The overall health based compliance rate for the total number of chlorite samples was 99.5%.

Haloacetic Acids (HAA5)

Eight hundred eighty five (885) public water supply systems serving a population of 2,556,037 collected 2,169 samples during 2014 for HAA5. Five (5) systems, serving a population of 5,624 incurred 7 monitoring violations. Fourteen (14) systems, serving a population of 40,911, incurred 23 MCL violations. The overall health based compliance rate for the total number of water systems testing for HAA5s was 98.4%. The overall health based compliance rate for the total population served in reference to HAA5s was 98.3%. The overall health based compliance rate for the total number of HAA5 samples was 98.9%.

Total Organic Carbons (TOC)

Seventy three (73) public water supply systems serving a population of 908,089 collected 1,738 samples during 2014 for Total Organic Carbon (TOC). Three (3) systems, serving a population of 3,432, incurred 3 monitoring violations. Eleven (11) water systems serving a population of 41,255 incurred 20 treatment technique violations. There are no health based violations in relation to TOC removal. Therefore the overall health based compliance rate was 100%. The treatment technique compliance rate for the total number of water systems in reference to TOC removal was 84.9%. The treatment technique compliance rate for the total population served in reference to TOC removal was 95.4%. The treatment technique compliance rate for the total number of TOC samples was 98.8%.

Total Trihalomethanes (TTHM)

Eight hundred eighty three (883) public water supply systems serving a population of 2,552,528 collected 2,163 samples during 2014 for TTHMs. Six (6) systems, serving a population of 6,249 incurred 8 monitoring violations. Eight (8) systems, serving a population of 60,573, incurred 19 MCL violations. The overall health based compliance rate for the total number of water systems testing for TTHMs was 99%. The overall health based compliance rate for the total population served in reference to TTHMs was 97.6%. The overall health based compliance rate for the total number of TTHM samples was 99.1%.

The PWS systems which incurred violations of the DBPR during 2014 are listed in Appendix B.

GROUND WATER RULE

EPA issued the Ground Water Rule (GWR) to improve drinking water quality and provide additional protection from disease-causing microorganisms that might be present in ground water. Systems that utilize ground water may be susceptible to fecal contamination. In many cases, fecal contamination can contain disease causing pathogens. The GWR provides increased protection against microbial pathogens.

The GWR targeted, risk-based strategy addresses risks through an approach that relies on four major components:

- 1) Periodic sanitary surveys of systems that require the evaluation of eight critical elements of a system and the identification of significant deficiencies (e.g., a well located near a leaking septic system);

- 2) Triggered source water monitoring when a system that does not already treat drinking water to remove 99.99% (4-log) of viruses, identifies a positive sample during its total coliform rule (TCR) monitoring and assessment monitoring (at the option of the state) targeted at high-risk systems;
- 3) Corrective action is required for any system with a significant deficiency identified during a sanitary survey or with source water fecal contamination; and
- 4) Compliance monitoring to ensure that the treatment technology installed to treat drinking water reliably achieves 99.99% (4-log) inactivation or removal of viruses.

A total of 68 groundwater systems serving 615,910 individuals complied with the GWR through 4-log inactivation treatment of viruses by collecting 438 samples during 2014. Six (6) systems, serving a population of 8,355 incurred 9 major routine or repeat monitoring violations. Two (2) systems, serving a population of 248 incurred 2 ground water triggered additional major routine monitoring violations. All 68 systems monitored for 4-log inactivation treatment and continuous daily chlorine residuals. No health based violations were issued for the GWR and the overall health based compliance rate was 100%. The compliance rate in regard to monitoring was 88.2%. The compliance rate for monitoring in regard to the total population served in was 98.6%. The compliance rate in regard to GWR monitoring samples was 96.8%.

The PWS systems which incurred violations of the GWR during 2014 are listed in Appendix B.

LEAD AND COPPER RULE

Exposure to high levels of metals in drinking water has long been recognized as a cause of adverse health effects in humans. Lead is of particular concern because of the possible presence in drinking water and high toxicity to humans. Copper, although an essential nutrient, can also pose a health threat at elevated levels. Young children are especially susceptible to the toxic effects of these heavy metals.

Due to the use of lead and copper in household pipes and in plumbing solder, these contaminants have the possibility of leaching into the drinking water. Besides leaching from water pipes and solder, lead can also leach from plumbing fixtures.

All PWS systems are required to monitor for lead and copper on a regularly scheduled basis. If monitoring results indicate unacceptable levels of lead or copper, the system is required to initiate corrosion control treatment techniques to minimize contamination. Action levels set by this regulation are 0.015 mg/l for lead and 1.3 mg/L for copper.

A total of 379 systems serving a population of 981,587 collected 3,821 lead and copper samples during 2014. Seventeen (17) systems serving a population of 40,616 incurred 21 LCR follow-up or routine tap monitoring/reporting violations. There were no violations for optimal corrosion control treatment or source water treatment recommendation or Lead Public Education. No health based violations were issued for the LCR and the overall health based compliance rate was 100%. The number of PWS systems below the action levels for lead and copper were 94.1%. The total population served below the action levels for lead and copper was 99.4%. The total number of samples tested and below the action levels for lead and copper was 99.4%. The compliance rate for monitoring for LCR relevant systems was 95.5%. The compliance rate for monitoring in regard to the total population served in reference to the LCR was 95.8%. The compliance rate in regard to LCR samples was 99.4%.

The PWS systems which incurred violations of the LCR during 2014 are listed in Appendix B.

PHASE II/V CHEMICAL CONTAMINANT RULES

The Phase II/V Chemical Contaminant Rules (IOC, SOC and VOC) establish MCLs and TTs for various contaminants such as solvents, pesticides and heavy metals affecting drinking water. The rules apply to community systems and non-transient non-community systems. Transient systems and systems that purchase all water from other systems are not required to monitor for these contaminants.

Systems required to monitor these contaminants must collect samples by following a standardized nine-year monitoring cycle consisting of three, three-year compliance periods. Systems are required to perform specific monitoring based on the population served and whether they use surface or ground water sources.

Systems using surface water sources are required to monitor more frequently than systems using ground water sources due to surface water being more susceptible to contamination. Systems with populations greater than 3,300 are required to monitor more frequently than small systems with populations of 3,300 or less. With the exception of asbestos, this regulation requires all water samples to be collected after treatment at the point of entry to the distribution system (POE). The POE is defined as a point after raw water has been treated (disinfected) and before it enters the distribution system.

Inorganic Contaminants

Kansas regulations (K.A.R. 28-15a-23) set MCLs for nine metals and two non-metal contaminants. Most of these inorganic contaminants (IOC) occur naturally in the environment and are soluble in water. Some IOCs originate from natural mineral deposits. Industrial activities such as metal finishing, textile manufacturing, mining operations, electroplating, and manufacturing of fertilizers, paints and glass can also generate many of these contaminants. IOCs can be removed from drinking water using various available technologies such as coagulation/filtration, lime softening, reverse osmosis, ion exchange, and activated alumina.

All community and non-transient non-community systems are required to sample water after treatment at the POE into the distribution system for IOCs. Systems using ground water as their sole source water must sample at least once during every three-year compliance period. Systems using surface water as any part of the source water must sample for IOCs at least annually. Systems exclusively purchasing treated water are exempt from this monitoring requirement.

Systems incurring an IOC MCL violation are required to increase sampling to at least once each calendar quarter. Systems having a MCL or monitoring violation are required to notify customers of such violations by issuing a public notice. Table 8 lists the IOCs regulated by KDHE.

Table 8 – Regulated Inorganic Contaminants

CONTAMINANT	MCL		TYPICAL SOURCE
Antimony	0.006	mg/L	Discharge from petroleum refineries
Arsenic	0.010	mg/L	Erosion of natural deposits
Asbestos	7	MFL	Decay of asbestos cement in water mains
Barium	2	mg/L	Discharge of drilling wastes, erosion
Beryllium	0.004	mg/L	Erosion of natural deposits; Discharge from refineries
Cadmium	0.005	mg/L	Erosion of natural deposits; pipe corrosion
Chromium	0.1	mg/L	Erosion of natural deposits; steel mills
Cyanide	0.2	mg/L	Discharge from steel/metal refineries
Fluoride	4	mg/L	Erosion of natural deposits; water additive
Mercury	0.002	mg/L	Erosion of natural deposits; factory discharge
Nitrate	10	mg/L	Erosion of natural deposits; runoff from fertilizer use
Nitrite	1	mg/L	Erosion of natural deposits; runoff from fertilizer use
Selenium	0.05	mg/L	Erosion of natural deposits; discharge from refineries
Thallium	0.002	mg/L	Leaching from ore-processing sites

A total of 238 systems serving a population of 1,504,154, monitored for inorganic group contaminants during 2014. One (1) system serving a population of 93 incurred a group IOC monitoring violation. No health based violations were issued for group IOCs and the overall health based compliance rate was 100%.

Arsenic

A total of 249 systems serving a population of, 1,915,712 sampled for arsenic. Seven (7) systems serving a population of 6,928 incurred 22 arsenic MCL violations. The overall health based compliance rate for total number of PWS systems testing for arsenic was 97.1%. The overall health based compliance rate for the population served in reference to arsenic was 99.6%. The overall health based compliance rate for the total number of arsenic samples was 91.1%.

Asbestos

A total of 8 systems serving a population of 6,350 collected 23 samples for asbestos. One (1) system, serving a population of 2,250 incurred 3 asbestos MCL violations. The overall health based compliance rate for the total number of water systems testing for asbestos was 87.5%. The overall health based compliance rate for the population served in reference to asbestos was 64.5%. The overall health based compliance rate for the total number of asbestos samples was 86.9%.

Fluoride

A total of 256 systems serving a population of 2,006,097 collected 635 samples, no violations were incurred. No health based violations were issued for fluoride and the overall health based compliance rate was 100%.

Nitrate

A total of 654 systems serving a population of 2,365,514 collected 1,430 samples during 2014 for nitrate. Twenty seven (27) systems serving a population of 21,966 incurred 29 nitrate monitoring violations. Twenty seven (27) systems, serving a population of 14,939, incurred 74 MCL violations. The overall health based compliance rate for the total number of water systems testing for nitrate was 95.8%. The overall health based compliance rate for the population served in reference to nitrate was 99.3%. The overall health based compliance rate for the total number of nitrate samples was 94.8%.

Selenium

A total of 239 systems serving a population of 1,906,653 collected 359 samples for selenium. Two (2) systems serving a total population of incurred 5 MCL violations. There were no monitoring violations for selenium. The overall health based compliance rate for the total number of water systems testing for selenium was 99.1%. The overall health based compliance rate for the population served in reference to selenium was 99.9%. The overall health based compliance rate for selenium for the total number of samples was 98.6%.

PWS systems which incurred IOC violations during 2014 are listed in Appendix B.

Synthetic Organic Contaminants

Synthetic organic contaminants (SOC) are man-made, many of which are chlorinated and used as herbicides, fungicides and insecticides. Kansas regulation, K.A.R. 28-15a-24, requires systems to monitor drinking water for 33 SOCs. The MCLs are set by Kansas regulation K.A.R. 28-15a-61.

Systems utilizing ground water are required to monitor after treatment at the POE to the distribution system at least once during a three-year compliance period.

Systems utilizing surface water serving a population equal to or less than 3,300 are required to monitor for SOCs during the months of May or June at least once during the three-year compliance period. Large surface water systems with a population greater than 3,300 are required to monitor for SOCs during the months of May or June at least annually.

Systems using ground water with no SOCs detected during their initial compliance period are allowed to test for atrazine using an immunoassay scan method (EPA Method 4670). The immunoassay method is used because it is highly sensitive in detecting all constituents in the triazine contaminant family and is about 1/4 the cost of the regular drinking water test method (EPA Method 507). Ground water systems that have had a previous SOC detect, and all surface water systems are required to perform the regular test using EPA Method 507. Table 9 lists the synthetic organic contaminants (SOC) regulated by KDHE.

Table 9 – Regulated Synthetic Organic Contaminants

CONTAMINANT	MCL		TYPICAL SOURCE
Alachlor (Lasso)	0.002	mg/l	herbicides
Aldicarb	0.003	mg/l	insecticides
Aldicarb sulfoxide	0.003	mg/l	insecticides
Aldicarb sulfone	0.003	mg/l	insecticides
Atrazine (Atranex, Crisazina)	0.003	mg/l	herbicides
Benzo(a)pyrene	0.0002	mg/l	coal tar lining and sealants
Carbofuran (Furadan 4F)	0.04	mg/l	rootworm, weevil control
Chlordane	0.002	mg/l	termite control
Dalapon	0.2	mg/l	herbicides
Dibromochloropropane (DBCP)	0.002	mg/l	pesticides, nematocides, fumigants
2,4-D	0.07	mg/l	herbicides, defoliants
2,4,5-TP (Silvex)	0.05	mg/l	herbicides, defoliants
Di(diethylhexyl) adpate	0.4	mg/l	plasticizers
Di(diethylhexyl) phthalate	0.006	mg/l	plasticizers
Dinoseb	0.007	mg/l	insecticides, herbicides
Diquat	0.02	mg/l	herbicides
Endothall	0.1	mg/l	herbicides, defoliants
Endrin	0.002	mg/l	insecticides
Ethylene Dibromide (EDB)	0.0005	mg/l	gasoline additives, fumigants
Glyphosate	0.7	mg/l	herbicides
Heptachlor (H-34, Heptox)	0.0004	mg/l	termite control
Heptachlor epoxide	0.0002	mg/l	insecticides
Hexachlorobenzene	0.001	mg/l	solvents by-products
Hexachlorocyclopentadiene	0.05	mg/l	pesticides, fungicides
Lindane	0.0002	mg/l	pesticides
Methoxychlor (DMDT, Marlata)	0.04	mg/l	insecticides
Oxamyl (Vydate)	0.2	mg/l	insecticides
Pentachlorophenol (PCP)	0.001	mg/l	herbicides, fungicides, wood
Picloram (Tordon)	0.5	mg/l	herbicides, defoliants
Polychlorinated Biphenyls (PCB)	0.005	mg/l	herbicides
Simazine	0.004	mg/l	herbicides
2,3,7,8 TCDD (Dioxin)	3x10 ⁻⁸	mg/l	pesticides by-products
Toxaphene	0.003	mg/l	pesticides

A total of 82 public water supply systems serving a population of 1,638,254 collected 128 samples for group SOCs during 2014. No system incurred a group SOC monitoring violation for. The overall compliance rate was 100%.

Atrazine

A total of 191 systems serving a population of 2,075,768 collected 366 samples for Atrazine. One (1) system serving a population of 450 incurred 1 monitoring violation. No health based violations were issued for atrazine and the overall health based compliance rate was 100%. The compliance rate for monitoring at atrazine relevant systems was 99.4%. The compliance rate for monitoring in regard to the population served in reference to atrazine was 99.9%. The compliance rate in regard to the total number of atrazine monitoring samples was 99.7%.

The PWS systems which incurred SOC violations during 2014 are listed in Appendix B.

Volatile Organic Contaminants

Kansas regulation K.A.R. 28-15a-24 sets MCLs and monitoring requirements for volatile organic contaminants (VOC) in drinking water. Systems are required to monitor water after treatment at the POE to the distribution system at least once during each three-year compliance period. If any of the regulated VOCs are detected during routine compliance monitoring, additional quarterly or annual monitoring is required.

Compliance with the MCL for any VOC is determined by a running annual average of four quarterly sample results. If a system is required to monitor a VOC quarterly, then a MCL violation is incurred if the VOCs running annual average are greater than the MCL for that contaminant.

VOCs are commonly referred to as organic solvents. These contaminants are components of many degreasers, industrial cleaners, spot/stain removers and paint thinners. They can also be found in some paints, varnishes, lacquers, paint removers, pesticides, herbicides, dry cleaning chemicals, printing inks and printing press chemicals, and most petroleum products including many types of fuels. Many VOCs are flammable and are toxic in various concentrations. VOCs can be a health hazard when present in drinking water. During 2014, there were no group VOC monitoring violations. Table 10 lists the volatile organic contaminants regulated by KDHE.

Table 10 – Regulated Volatile Organic Contaminants

CONTAMINANT	MCL		TYPICAL SOURCE
Benzene	0.005	mg/l	fuel, pesticides, paints, pharmaceuticals
Carbon tetrachloride	0.005	mg/l	degreasing agents, fumigants
Chlorobenzene	0.1	mg/l	industrial solvents, pesticides
cis-1,2 Dichloroethylene	0.07	mg/l	industrial solvents, chemical manufacturing
Dichloromethane	0.005	mg/l	paint strippers, refrigerants, fumigants
Ethylbenzene	0.7	mg/l	gasoline, insecticides
o-Dichlorobenzene	0.6	mg/l	insecticides, industrial solvents
p-Dichlorobenzene	0.075	mg/l	insecticides, moth balls
Styrene	0.1	mg/l	plastics, synthetic rubber, resins
Tetrachloroethylene	0.005	mg/l	dry cleaning, industrial solvents
trans- 1,2 Dichloroethylene	0.1	mg/l	industrial solvents, chemical manufacturing
Trichloroethylene	0.005	mg/l	paint strippers, dry cleaning, degreasers
Vinyl chloride	0.002	mg/l	plastics/synthetic rubber, solvents
Xylenes	10	mg/l	paints, inks, solvents, synthetic fibers, dyes
1,2-dichloroethane	.005	mg/l	discharge from industrial chemical factories
1,1 Dichloroethylene	0.007	mg/l	paints, dyes, plastics
Toluene	1	mg/l	discharge from petroleum factories
1,1,1 Trichloroethane	0.2	mg/l	metal cleaning, degreasing agents
1,2 Dichloropropane	0.005	mg/l	industrial degreasing solvents
1,2 Dichloropropane	0.005	mg/l	soil fumigants, industrial solvents
1,1,2-Trichloroethane	0.005	mg/l	discharge from industrial chemical factories
1,2,4 Trichlorobenzene	0.07	mg/l	industrial solvents

A total of 298 VOC samples were collected from 182 public water supply systems serving a population of 2,025,669 during 2014. No monitoring or MCL violations were assessed in 2014. No health based violations were issued for VOCs and the overall health based compliance rate was 100%.

RADIONUCLIDES RULE

Radiation in ground water commonly occurs when water comes in contact with the natural decay of uranium in rocks and soils. In most circumstances, this radiation occurs at low levels and is harmless to human health.

A total of 168 individual beta particle and photon emitters may be used to calculate compliance with the MCL for radionuclides.

Occasionally in some areas of the state, radiation levels occur at higher levels which may increase the risk to human health. Regulations require all community systems to monitor drinking water for radionuclides; non-community and non-transient non-community systems are not required to monitor for radionuclides. Table 11 indicates the regulated radionuclides.

Table 11 – Regulated Radionuclides

REGULATED RADIONUCLIDE	MCL		MCLG*
Gross alpha particle	15	pCi/L	0
Combined Uranium	30	ug/L	0
Combined Radium 226/228	5	pCi/L	0

Gross Alpha Excluding Radon and Uranium

A total of 22 PWS systems serving a population of 41,598 collected 65 samples for gross alpha excluding radon and uranium. No violations were issued and the overall health based compliance rate was 100%.

Combined Uranium

A total of 22 PWS systems serving a population of 41,598 collected 65 samples for combined uranium. One (1) system serving a population of 74 incurred 2 monitoring violations. Four (4) systems serving a population of 4,964, incurred 14 MCL violations. The overall health based compliance rate for the total number of water systems testing for combined uranium was 81.8%. The overall health based compliance rate for the population served in reference to combined uranium was 88.0%. The overall health based compliance rate for the total number of combined uranium samples was 93.8%.

Combined Radium

A total of 155 public water supply systems serving a population of 512,429 collected 225 samples for combined radium. One (1) system serving a population of 81 incurred 3 MCL violations. The overall health based compliance rate for the total number of water systems testing for combined radium was 99.3%. The overall health based compliance rate for the population served in reference to combined radium was 99.9%. The overall health based compliance rate for the total number of combined radium samples was 98.6%.

The PWS systems which incurred radiological violations during 2014 are listed in Appendix B.

SURFACE WATER TREATMENT RULE

Close to one-third of all Kansas systems use surface water for all or part of the source for drinking water. These systems provide drinking water to approximately two-thirds of the state population. Since surface water is more vulnerable to contamination from runoff than ground water, it requires additional treatment to assure its safety as a drinking water source.

Kansas regulation K.A.R. 28-15a-70 addresses general treatment requirements for surface water for all community and non-transient non-community systems. This regulation requires surface water systems to provide filtration and disinfection treatment of source water. This regulation is known as the Surface Water Treatment Rule (SWTR).

The SWTR requires systems to filter raw surface water and keep a record of turbidity readings of the treated water entering the distribution system. High turbidity levels adversely affect the efficiency of the disinfection process. The maximum allowable turbidity in finished water is 1.0 NTU. Additionally, at least 95% of the filtered water samples during a month must have turbidity levels less than or equal to 0.3 NTU.

Microorganisms such as cryptosporidium, giardia lamblia and viruses are also commonly found in surface water. Cryptosporidium is a protozoan which causes cryptosporidiosis in humans. Cryptosporidiosis can cause acute diarrhea, abdominal pain, vomiting and fever lasting one to two weeks in healthy adults, but may be chronic or fatal in immune-compromised individuals. Giardia lamblia is a protozoan causing giardiasis. Ingestion of this protozoan in contaminated drinking water, exposure from person-to-person contact, and other exposure routes can cause giardiasis. The symptoms of this gastrointestinal disease may persist for weeks or months and include diarrhea, fatigue and cramps. Viruses in drinking water can cause stomach cramps and/or gastroenteritis (intestinal distress). The SWTR requires removal and/or inactivation of at least 99.99% of viruses, 99.9% of giardia lamblia cysts, and 99% cryptosporidium cysts.

The Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) builds upon earlier rules to address higher risk systems for protection. The purpose of LT2ESWTR is to reduce illness linked with cryptosporidium and other pathogenic microorganisms in drinking water.

Kansas regulation K.A.R. 28-15-19 requires all systems to maintain a chlorine residual of 0.2 mg/L free chlorine or 1.0 mg/L of combined chlorine in the distribution system. Chlorine residual readings must be taken from the distribution system daily at set intervals and recorded by the system operator. Turbidity and disinfection records are required to be submitted to KDHE on a monthly basis for compliance determination.

The PWS systems which incurred violations of the SWTR during 2014 are listed in Appendix B.

A total of 82 public water supply systems serving a population of 1,575,823 collected 2,862,311 samples during 2014 for turbidity. One (1) system serving a population of 633 incurred 5 monitoring violations. One (1) system, serving a population of 7,934, incurred 1 single combination filter effluent violation. One (1) wholesale system serving a population of 15 incurred 1 monthly combination filter effluent violation.

No health based violations were issued for the SWTR and the compliance rate was 100%. The treatment technique compliance rate for the total number of water systems in reference to the SWTR was 97.5%. The treatment technique compliance rate for the population served in reference to the SWTR was 99.4%. The treatment technique compliance rate for the total number of SWTR samples was 99.9%.

The PWS systems which incurred SWTR violations during 2014 are listed in Appendix B.

TOTAL COLIFORM RULE

Coliform bacteria are common in the environment and are generally not harmful to human health. However, the presence of coliform bacteria in drinking water indicates other potentially harmful bacteria may also be present in the water. All PWS systems are required by K.A.R. 28-15a-21 to submit monthly water samples for coliform bacteriological testing. Systems may choose to have the water sample tests performed by KDHE's microbiology laboratory or a state certified private laboratory. If total coliform bacteria are detected, further testing for the presence of fecal coliform or E. coli is required. Kansas regulations require all PWS systems to take a minimum of 2 Total Coliform Rule (TCR) samples per month per distribution system. All Subpart H systems (surface water and groundwater under the influence of surface water) are required to take a minimum of 4 samples per month per distribution system. The number of samples required under the TCR is determined by the population served.

Types of TCR Violations

Acute MCL Violations

A total coliform-positive routine sample followed by an E. coli-positive repeat sample, or an E. coli-positive routine sample followed by a total or E. coli-positive repeat sample, constitutes an acute MCL violation. For systems sampling 40 or fewer times a month, this is also a monthly MCL violation.

Major vs Minor Monitoring (Routine and Repeat) Violations

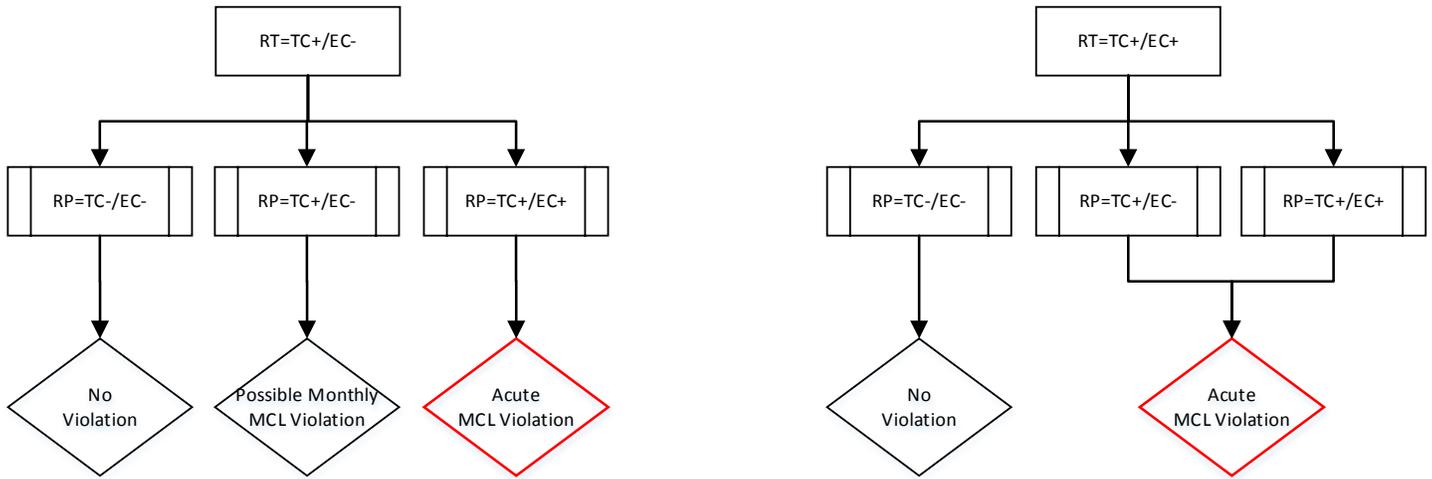
If a public water supply system (PWS) fails to collect any of their required routine samples during the monthly monitoring period, a major routine monitoring violation has occurred. If a system collects some but not all samples required during the monitoring period, a minor routine monitoring violation has occurred. Systems that fail to collect one or more of the required routine samples within a monthly compliance period are assessed either a major or minor routine monitoring violation for the month.

After having a routine water sample test positive for coliform bacteria, a public water supply system is required to collect three repeat samples. Failure to collect one or more of these repeat samples results in a repeat monitoring violation. Failure to collect any of the three required repeat samples is a major repeat monitoring violation. Failure to collect only one or two of the repeat samples will result in a minor repeat monitoring violation.

Monthly MCL Violations

If more than one sample a month (or more than 5% of samples for systems that collect over 40 samples a month) contains coliform bacteria, the PWS is assessed a monthly MCL violation. Chart 4 illustrates the progression of bacteriological samples and resulting violations.

Chart 4



TCR SAMPLE TYPE
 RT ROUTINE SAMPLE
 TC+ TOTAL COLIFORM POSITIVE SAMPLE
 EC+ E. COLI POSITIVE SAMPLE
 EC- E. COLI NEGATIVE SAMPLE
 RP REPEAT SAMPLE

A total of 993 public water supply systems serving a population of 2,586,554 collected 37,338 samples during 2014 for the TCR. Seventy four (74) systems, serving a population of 54,598, incurred 110 major monitoring violations. Eighty-four (84) systems, serving a population of 38,440, incurred 115 minor monitoring violations. Two (2) systems serving a population of 4,031 incurred 2 acute TCR MCL violations during 2014. Forty one (41) systems, serving a population of 62,889, incurred 47 monthly MCL violations. The overall health based compliance rate for the total number of water systems testing for the TCR was 95.6%. The overall health based compliance rate for the population served in reference to the TCR was 97.4%. The overall health based compliance rate for the total number of TCR samples was 99.8%.

Table 12– Summary of Bacteriological Monitoring Results – 2014

QUARTER COLLECTED	NEGATIVE SAMPLES	COLIFORM POSITIVE	FECAL POSITIVE	INVALID SAMPLES	QUARTERLY TOTALS
First Quarter Samples:	8,625	44	1	483	9,153
Second Quarter Samples:	8,769	103	5	254	9,131
Third Quarter Samples:	9,146	183	2	276	9,607
Fourth Quarter Samples:	8,939	192	5	311	9,447
Total Samples for 2014:	35,479	522	13	1,324	37,338

Key: QUARTER = Three month period; four quarterly periods in one year
 NEGATIVE = Samples with no coliform bacteria present
 COLIFORM POSITIVE = Samples with coliform bacteria present (does not include fecal coliform)
 FECAL POSITIVE = Samples with fecal coliform bacteria present
 INVALID = Samples not analyzed (too old, excessive chlorine, insufficient sample volume, empty, lost in mail, excess growth)

The PWS systems that incurred a TCR monitoring or MCL violation for 2014 are listed in Appendix B.

ADDITIONAL PUBLIC WATER SUPPLY REQUIREMENTS

BOIL WATER ADVISORIES

Boil water advisories (BWA) are issued to inform the public when a risk from exposure to harmful microorganisms may be present in the drinking water. The advisories identify the system that may be at risk, the county where the system is located, the reason for the BWA, the date the advisory took effect, precautions to observe and exercise until the notice is rescinded and the conditions required for KDHE to rescind the BWA. The most common reason for issuance of a BWA is due to loss of pressure in the distribution system. The system and KDHE notify area media when a BWA has been issued or rescinded. KDHE issued 14 BWAs in 2014. The water systems voluntarily issued 27 BWAs for a total of 41 issued in 2014.

The PWS systems that issued boil water advisories during 2014 are listed in Appendix B.

PUBLIC NOTIFICATION RULE

Public notification is intended to inform customers when there is a violation or health risk associated with their drinking water. All public notices must include a clear and readily understandable explanation of each violation or situation and must address the following ten (10) elements:

- 1) Description of the violation or situation including contaminant(s) of concern and (as applicable) the contaminant level(s);
- 2) When the violation or situation occurred;
- 3) Any potential adverse health effects from the violation or situation, using standard language provided in the Rule;
- 4) The population at risk, including subpopulations particularly vulnerable if exposed to the contaminant in their drinking water;
- 5) Whether alternate water supplies should be used;
- 6) What actions consumers should take, including when to seek medical help, if known;
- 7) What the system is doing to correct the violation or situation;
- 8) When the system expects to return to compliance or resolve the situation;
- 9) Contact information: name, business address, and phone number of the water system owner, operator, or designee of the PWS that can provide additional information; and
- 10) A statement encouraging notice recipients to distribute the notice to other persons served using standard language from the rule, where applicable.

A total of 65 systems, serving a population of 24,597, incurred 95 public notification rule (PNR) violations during 2014. Seven (7) PNR violations issued before calendar year 2014 were resolved in 2014.

OPERATOR CERTIFICATION

All PWS systems are required to have a Kansas certified water operator in direct responsible charge of treatment and distribution. PWS systems are classified according to source type, treatment type and population, with Class IV being the most complex.

KDHE provides training and technical assistance to operators through contracts with various technical assistance providers. These contracts are funded by Kansas Public Water Supply Loan Fund set-asides through the Capacity Development Program. The primary focus of training and assistance is the Small System through Class II operators. Table 13 lists the different classes of certified water operators and Table 12 lists the number of certified operators categorized by class.

Table 13 – Certified Operator Classes

Class	Experience	Description	Population
Small System	6 Months	1. Distribution systems only	All
		2. Chlorination of ground water only	<500
Class I	1 Year	1. Chlorination of ground water only	501-1,500
		2. Treatment of ground water	<501
Class II	1 Year	1. Chlorination of ground water only	1,500-5,000
		2. Treatment of ground water	401-2,500
		3. Treatment of surface water	<2,500
Class III	2 Years	1. Chlorination of ground water only	5,001-20,000
		2. Treatment of ground water or surface water	2,500-10,000
Class IV	2 Years	1. Chlorination of ground water only	>20,000
		2. Treatment of ground water or surface water	>10,000

Table 14 – Certified Operators in Kansas by Class

Classification	# Water Systems by Classification	# Certified Operators
Small System	696	493
Class I	123	419
Class II	106	437
Class III	46	138
Class IV	32	475
Totals	1003	1962

GOVERNMENT PERFORMANCE RESULTS ACT

The Federal Government Performance Results Act (GPRA) establishes a goal for 95% of the population served by community systems to not incur any health-based violations.

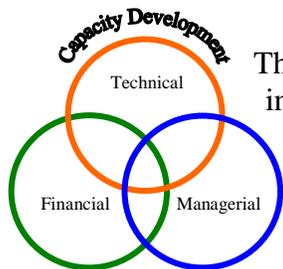
Table 15 is based on information provided by the US Environmental Protection Agency (EPA) for federal fiscal years 2010 – 2014, where a federal fiscal year is October 1 – September 30.

Table 15 – Government Performance Results Act

FFY	TOTAL COMMUNITY SYSTEMS	COMMUNITY SYSTEMS WITH VIOLATIONS	COMMUNITY SYSTEMS % WITHOUT VIOLATIONS	POPULATION WITH VIOLATIONS	TOTAL POPULATION SERVED	% POPULATION WITHOUT VIOLATIONS
2010	896	119	87%	603,258	2,664,935	77%
2011	888	209	76%	357,966	2,678,276	86%
2012	886	218	75%	106,685	2,689,858	96%
2013	885	67	88%	103,001	2,686,477	96%
2014	882	76	91%	121,007	2,696,707	96%

KANSAS PUBLIC WATER SUPPLY ASSISTANCE PROGRAMS

KANSAS CAPACITY DEVELOPMENT PROGRAM



The Kansas Capacity Development Program consists of two components. The first component insures that new public water supplies have the technical, financial and managerial capability to meet Safe Drinking Water Act requirements before a permit to serve customers is issued. The permit application for new systems can be found on the KDHE webpage:

<http://www.kdheks.gov/pws/peu.html#permit>

The second component is designed to help existing public water supply systems achieve and maintain technical, financial and managerial capability by providing training, technical assistance, and financial planning assistance. Several programs and tools are available at no cost to Kansas public water supply systems. Descriptions of these programs and tools are available on the KDHE Capacity Development webpage. KDHE provides an annual report to EPA summarizing the details of the Capacity Development Program implementation efforts. This report can also be found on the Capacity Development webpage:

<http://www.kdheks.gov/pws/capdev.html>

KANSAS PUBLIC WATER SUPPLY LOAN FUND (KPWSLF)

The Kansas Public Water Supply Loan Fund (KPWSLF) is a state revolving loan fund (SRF) program, established in 1997, which provides loans to Kansas municipalities, at below market interest rates, for construction of public water supply system infrastructure. The KPWSFL provides the opportunity for communities, which might not have the financial means otherwise, to improve or construct safe public water supply infrastructure to protect the health of their citizens.

The KPWSFL has provided \$596 Million in loans to 282 Kansas municipalities since inception. The 11 loans executed in 2014 will finance the replacement of aging infrastructure.

The KPWSLF also provides funding to implement KDHE's technical assistance program, operator certification program, and capacity development program. KDHE publishes an annual report summarizing operation of the Loan Fund which can be found at: <http://www.kdheks.gov/pws/loan/loanfund.htm>

COMPLIANCE ASSISTANCE AND ENFORCEMENT

One of the objectives of KDHE is to assist systems in protecting public health and achieving compliance with all state and federal drinking water regulations. KDHE staff is available to assist systems and will refer the systems to third party technical assistance providers as deemed appropriate.

When necessary, KDHE will first offer technical assistance rather than taking formal enforcement action in order to return systems to compliance. Typically, enforcement action is administered according to an escalation policy. When a system exceeds ten points on EPA's Enforcement Tracking Tool (ETT), KDHE will offer the system an option of either a consent order or an administrative order (with or without a civil penalty). Consent orders are most commonly selected by systems in violation. The consent order is a legally binding agreement between KDHE and the system requiring the system to take specific actions within an agreed upon time frame in order to return to compliance. If a system elects not to pursue a consent order or if an agreement on requirements and time frame cannot be met, an administrative order will be issued unilaterally by KDHE.

KDHE does not issue any variances or exemptions from the SDWA requirements. All systems are expected to comply with all drinking water regulations, address violations in a timely manner, and perform public notice to the customers if drinking water violations occur.

SANITARY SURVEY INSPECTIONS

KDHE district staff conducts on-site sanitary surveys for PWS system facilities on a regular basis. If deficiencies are noted during the inspection, the public water supply system must correct the deficiency in a timely manner. Once corrected, KDHE considers the issue resolved. During 2014, 30 significant deficiencies, potentially impacting a population of 26,878 individuals were identified by KDHE district staff. A total of 34 significant deficiencies were resolved during 2014, impacting a population of 19,388. Seven (7) deficiencies identified in previous years, impacting a population of 1,844 were resolved during 2014.



APPENDIX A
CONTAMINANT VIOLATIONS
2014



Vision – Healthy Kansans living in safe and sustainable environments

KANSAS

2014 ORGANIC CONTAMINANTS

ORGANIC CONTAMINANTS (SOC) and (VOC): Carbon-based compounds, such as industrial solvents and pesticides. These contaminants generally get into water through discharge from factories or runoff from cropland. Regulations set legal limits on 54 organic contaminants that are to be reported (40 CFR 141.61).

Contaminant	MCLs		Treatment Techniques		Significant Monitoring/Reporting		
	MCL (mg/l)	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations
SOC Group							
VOC Group							
1,1,1-Trichloroethane	0.02						
1,1-Dichloroethylene	0.007						
1,1,2-Trichloroethane	0.005						
1,2,4-Trichlorobenzene	0.07						
1,2-Dibromo-3-chloropropane (DBCP)	0.0002						
1,2-Dichloroethane	0.005						
1,2-Dichloropropane	0.005						
2,3,7,8-TCDD (Dioxin)	3x10-8						
2,4,5-TP	0.05						
2,4-D	0.07						
Acrylamide	N/A						
Alachlor	0.002						
Atrazine	0.003					1	1
Benzene	0.005						
Benzo[a]pyrene	0.0002						
Carbofuran	0.04						
Carbon tetrachloride	0.005						
Chlordane	0.002						
cis-1,2-Dichloroethylene	0.07						
Dalapon	0.2						
Di(2ethylhexyl)adipate	0.4						
Di(2-ethylhexyl)phthalate	0.006						
Dichloromethane	0.005						
Dinoseb	0.007						
Diquat	0.02						
Endothall	0.1						
Endrin	0.002						
Epichlorohydrin	N/A						
Ethylbenzene	0.7						
Ethylene dibromide	0.00005						

2014 ORGANIC CONTAMINANTS (VOC/SOC)

Contaminant	MCL (mg/l)	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
		# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations
Glyphosate	0.7						
Heptachlor	0.0004						
Heptachlor epoxide	0.0002						
Hexachlorobenzene	0.001						
Hexachlorocyclopentadiene	0.05						
Lindane	0.002						
Methoxychlor	0.04						
Monochlorobenzene	0.1						
Para-Dichlorobenzene	0.075						
Total polychlorinated biphenyls	0.0005						
Pentachlorophenol	0.001						
Tetrachloroethylene	0.005						
Trichloroethylene	0.005						
Styrene	0.1						
Toluene	1						
trans-1,2-Dichloroethylene	0.1						
Xylenes (total)	10						
Toxaphene	0.003						
Oxamyl (Vydate)	0.2						
Picloram	0.5						
Simazine	0.004						
Vinyl chloride	0.002						
TOTAL						1	1

* Group violations will only be counted once towards violation total

Values are in milligrams per liter (mg/L), unless otherwise specified

Shaded areas indicate a violation did not occur

2014 DISINFECTION BYPRODUCTS

DISINFECTION BYPRODUCTS (DBP): TTHMs is the sum of the concentrations of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Haloacetic Acids (five) are the sum of the concentrations of mono-, di-, and trichloroacetic acids. Water systems that use surface water or ground water under the direct influence of surface water and use conventional filtration treatment are required to remove specified percentages of organic materials, measured as TOCs, that may react with disinfectants to form DBPs. Removal will be achieved through a treatment technique (enhanced coagulation or enhanced softening) unless a system meets alternative criteria.

Contaminant	MCL (mg/l)	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
		# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations
Chlorine - MRDL	4						
Chlorine Dioxide	0.8						
Chlorite/ClO ₂	1	2	1			1	1
Haloacetic Acids (HAA5)	0.06	23	14			7	5
Total Organic Carbon (TOC)				20	11	3	3
Total Trihalomethanes	0.08	19	8			24	20
TOTAL		44	23	20	11	35	29

Values are in milligrams per liter (mg/L), unless otherwise specified

Shaded areas indicate a violation did not occur

2014 INORGANIC CONTAMINANTS

INORGANIC CONTAMINANTS (IOC): Non-carbon-based compounds such as metals, nitrates and asbestos. These contaminants are naturally occurring in some water, but can be introduced into water through farming, chemical manufacturing, and other human activities. Regulations have established MCLs for 15 inorganic contaminants (40 CFR 141.62).

Contaminant	MCLs		Treatment Techniques		Significant Monitoring/Reporting		
	MCL (mg/l)	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations
IOC Group						1*	1*
Antimony	0.006					1*	1*
Arsenic	0.05	22	7			1*	1*
Asbestos	7 million fibers/L	3	1				
Barium	0					1*	1*
Beryllium	0.004					1*	1*
Cadmium	0.005					1*	1*
Chromium	0.1					1*	1*
Cyanide	N/A						
Fluoride	4					1*	1*
Mercury	0.002					1*	1*
Nitrate	10 (as Nitrogen)	73	27			29	7
Nitrite	N/A						
Selenium	0.05	5	2			1*	1*
Thallium	0.002					1*	1*
TOTAL		103	37			30	8

* Group violations will only be counted once towards violation total

Values are in milligrams per liter (mg/L), unless otherwise specified

Shaded areas indicate a violation did not occur

2014 RADIONUCLIDE CONTAMINANTS

RADIONUCLIDES: Radioactive particles can occur naturally in water or result from human activity. Regulations 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:** A violation for alpha radiation above MCL of 15 picocuries/liter (pCi/L). Gross alpha includes radium-226 but excludes radon and uranium.
- **Combined Radium-226 and Radium-228:** A violation for combined radiation from these two isotopes above the MCL of 5 pCi/L.
- **Gross Beta:** A violation for beta particles and photon radioactivity from man-made radionuclides above 4 millirem/year.

	MCLs		Treatment Techniques		Significant Monitoring/Reporting		
	MCL (mg/l)	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations
Gross Alpha excluding	15 pCi/L						
Gross Alpha including	15 pCi/L						
Combined Uranium	30 pCi/L	14	4			2	1
Combined Radium	5 pCi/L	3	1				
TOTAL		17	5			2	1

Values are in milligrams per liter (mg/L), unless otherwise specified

Shaded areas indicate a violation did not occur

2014 TOTAL COLIFORM RULE

TOTAL COLIFORM RULE (TCR): The Total Coliform Rule establishes regulations for microbiological contaminants in drinking water. These contaminants can cause short-term health problems. A significant monitoring violation occurs if no samples were collected during the one-month compliance period. Categories of violations.

- **Acute MCL violation:** Fecal coliform or E. coli (potentially harmful bacteria) in the water.
- **Non-acute MCL violation:** Total coliform in water samples at a frequency or at a level that violated the rule. More than one positive sample for total coliform is a violation for systems collecting fewer than 40 samples per month. More than 4% positive samples for total coliform is a violation for systems collecting 40 or more samples per month.
- **Major routine and follow-up monitoring:** A violation where a system did not perform any monitoring. (One number is to be reported for the sum of violations for major routine and follow-up monitoring.)

Contaminant	MCLs		Treatment Techniques		Significant Monitoring/Reporting		
	MCL (mg/l)	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations
Acute MCL Violation	Presence						
Non-acute MCL Violation	Presence	41	37				
Major routine and follow-up monitoring						60	47
Sanitary Survey						State initiates Sanitary Survey	State initiates Sanitary Survey
TOTAL		41	37			60	47

Values are in milligrams per liter (mg/L), unless otherwise specified

Shaded areas indicate a violation did not occur

2014 SURFACE WATER TREATMENT RULE

SURFACE WATER TREATMENT RULE (SWTR): The SWTR establishes criteria which public water supply systems supplied by surface water, or ground water under the direct influence of surface water, must filter and disinfect the water (40 CFR 141, Subpart H). Violations of the SWTR are to be reported for the following four categories:

- **Monitoring, routine/repeat (for filtered systems):** Failure to carry out required water tests, or to report the results of those tests.
- **Treatment techniques (for filtered systems):** Failure to properly treat water.
- **Monitoring, routine/repeat (for unfiltered systems):** Failure to carry out required water tests, or to report the results of those tests.
- **Failure to filter (for unfiltered systems):** Failure to properly treat water. Data for this violation code will be supplied to the states by EPA.

Contaminant	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
	# of Violations	# of Systems	# of Violations	# of Systems	# of Violations	# of Systems
Filtered systems						
Monitoring, routine/repeat					5	1
Treatment techniques			2	2		
Unfiltered systems						
Monitoring, routine/repeat						
Failure to filter						
TOTAL			2	2	5	1

Values are in milligrams per liter (mg/L), unless otherwise specified

Shaded areas indicate a violation did not occur

2014 LEAD AND COPPER RULE

LEAD AND COPPER RULE (LCR): 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:** Failure to meet initial lead and copper testing requirements or failed to report the results.
- **Follow-up or routine lead and copper tap M/R:** Failure to meet follow-up or routine lead and copper tap testing requirements or failed to report the results.
- **Treatment Installation:** Failure to install optimal corrosion control treatment system or source water treatment system which would reduce lead and copper levels in water at the tap. (One number is to be reported for the sum of violations in both categories).
- **Lead service line replacement:** Failure to replace lead service lines on the schedule required by the regulation.
- **Public education:** Failure to provide required public education about reducing or avoiding lead intake from water.

Contaminant	MCL (mg/l)	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
		# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations
Initial lead and copper tap M/R							
Follow-up or routine lead and copper tap M/R						21	17
Treatment Recommendation Violation							
Public Education							
TOTAL						21	17

Values are in milligrams per liter (mg/L), unless otherwise specified

Shaded areas indicate a violation did not occur

2014 CONSUMER CONFIDENCE REPORT RULE

Consumer Confidence Report Rule (CCR): Community water systems are required to provide customers with an annual water quality report no later than July 1. Systems that fail to provide this report in the format required by the state before the July 1 deadline are assessed a monitoring violation.

Contaminant	MCLs		Treatment Techniques		Significant Monitoring/Reporting		
	MCL (mg/l)	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations
Failure to Report						42	42
Report Inadequacy						1	1
TOTAL						43	43

Shaded areas indicate a violation did not occur

2014 GROUND WATER RULE

Ground Water Rule (GWR): The GWR attempts to improve drinking water quality by providing additional protection from disease-causing microorganisms that might be present in ground water. Violations of the GWR are to be reported for the following categories:

- **Monitoring Major, routine/repeat (4-Log Disinfection):** Failure to carry out all required water tests or to report all the results of those tests.
- **Monitoring Minor, routine/repeat (4-Log Disinfection):** Failure to carry out a portion of the required water tests or to report the results of those tests.
- **Monitoring Triggered Major:** After notification of a TC positive, failure to carry out required water tests or to report the results of those tests.
- **Monitoring Triggered Minor:** After notification of a TC positive, failure to carry out a portion of the required water tests or to report the results of those tests.
- **Treatment Technique:** Failure to maintain microbial treatment.

Contaminant	Violation Name	Monitoring/Reporting		Treatment Techniques		Significant Monitoring/Reporting	
		# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations	# of Violations	# of Systems with Violations
Ground Water routine/repeat major monitoring violation (4-Log Disinfection)						9	6
Ground Water routine/repeat minor monitoring violation							
Ground Water triggered/additional major monitoring violations	Failure to Report					2	2
Ground Water Triggered/additional minor monitoring violations	Report Inadequacy						
TOTAL						11	8

Shaded areas indicate a violation did not occur

DEFINITIONS FOR THE 2014 VIOLATION TABLES

- **Maximum Contaminant Level (MCL):** The highest amount of a contaminant that is allowed in drinking water. MCLs ensure that drinking water does not pose either a short- or long-term health risk. MCLs are defined in milligrams per liter (parts per million) unless otherwise specified.
- **Monitoring:** Regulations specify which water testing methods the water systems must use, and set schedules for the frequency of testing. A water system that does not follow this schedule or methodology is in violation (40 CFR 141). States must report significant monitoring violations as determined by the EPA administrator and in consultation with the State. 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 specific 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 specific compliance period.
- **Treatment Technique:** A water disinfection process that is required instead of an MCL for contaminants that laboratories cannot adequately measure. Failure to meet other operational and system requirements under the SWTR and Lead and Copper rules have also been included in this category of violation for purposes of this report.
- **Filtered Systems:** Water systems that have installed filtration treatment (40 CFR 141, Subpart H).
- **Unfiltered Systems:** Systems that do not need to filter water before disinfecting because the source is very clean (40 CFR 141, Subpart H).
- **Violation:** A failure to meet any state or federal drinking water regulation. Most violations require the water system to provide consumers with public notification of the violation.

APPENDIX B

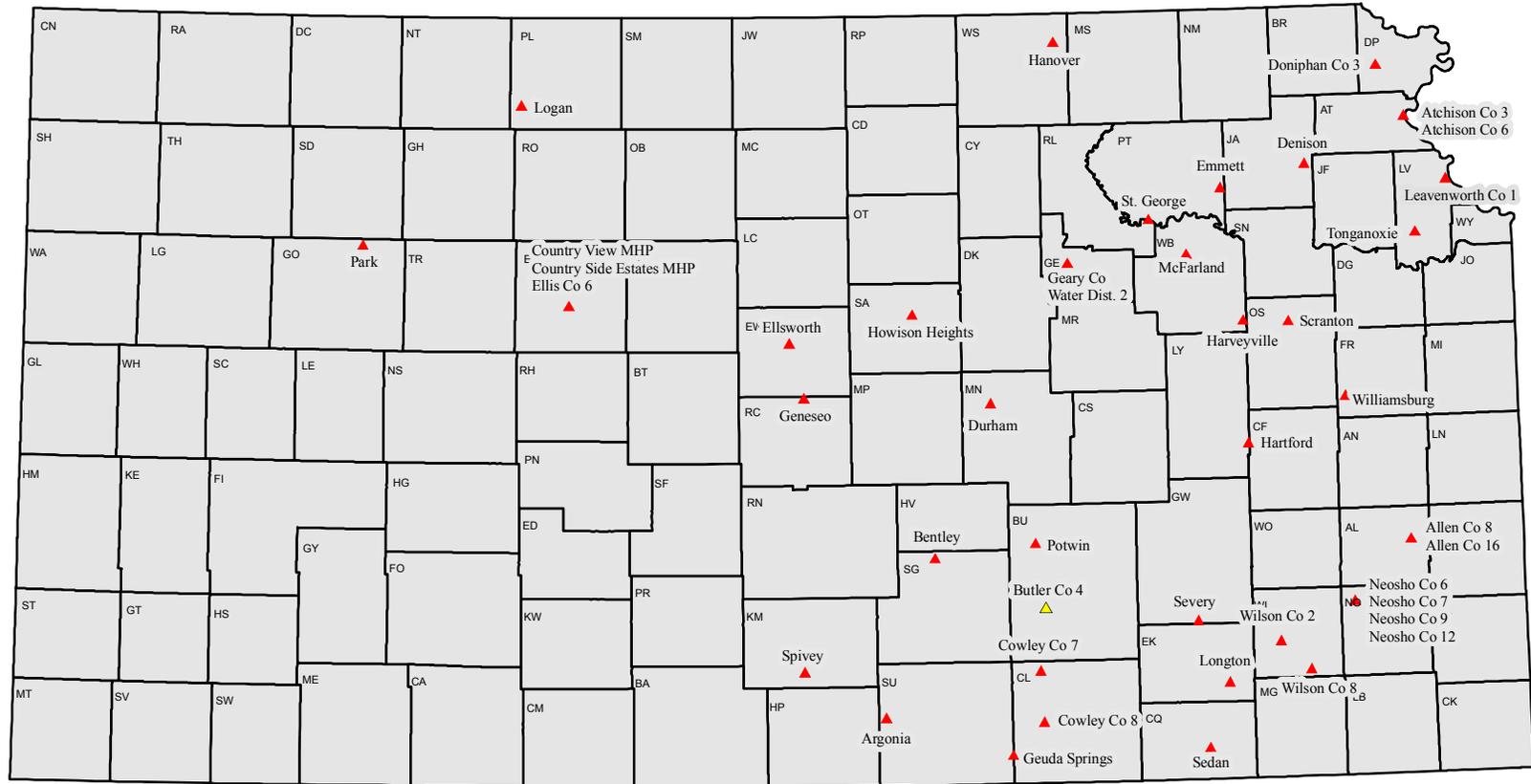
AL, MCL, Monitoring, TT Violations and Maps

2014



Vision – Healthy Kansans living in safe and sustainable environments

Figure 1: CCR Violations



▲ Major Monitoring Violation ▲ Minor Monitoring Violation



Data Source: KDHE, Bureau of Water, Public Water Supply
 Date Published: July 1, 2015



CONSUMER CONFIDENCE REPORT MAJOR VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS200122	ALLEN CO 16	ALLEN	130	1
KS200110	ALLEN CO 8	ALLEN	736	1
KS2019116	ARGONIA	SUMNER	497	1
KS2000504	ATCHISON CO 3	ATCHISON	110	1
KS2000510	ATCHISON CO 6	ATCHISON	670	1
KS2017341	BENTLEY	SEDGWICK	526	1
KS2005121	COUNTRY VIEW MHP	ELLIS	125	1
KS2005107	COUNTRYSIDE ESTATES MHP	ELLIS	300	1
KS2003516	COWLEY CO 7	COWLEY	250	1
KS2003515	COWLEY CO 8	COWLEY	50	1
KS2008505	DENISON	JACKSON	186	1
KS2004301	DONIPHAN CO 3	DONIPHAN	437	1
KS2011502	DURHAM	MARION	108	1
KS2005122	ELLIS CO 6	ELLIS	250	1
KS2005306	ELLSWORTH	ELLSWORTH	3077	1
KS2014901	EMMETT	POTTAWATOMIE	189	1
KS2006102	GEARY CO WATER DIST. 2	GEARY	78	1
KS2015907	GENESEO	RICE	267	1
KS2019114	GEUDA SPRINGS	SUMNER	182	1
KS2020108	HANOVER	WASHINGTON	668	1
KS2011111	HARTFORD	LYON	366	1
KS2019704	HARVEYVILLE	WABAUNSEE	244	1
KS2016909	HOWISON HEIGHTS	SALINE	200	1
KS2010316	LEAVENWORTH CO 1	LEAVENWORTH	40	1
KS2014701	LOGAN	PHILLIPS	575	1
KS2004903	LONGTON	ELK	318	1
KS2019707	MCFARLAND	WABAUNSEE	253	1
KS2013321	NEOSHO CO 12	NEOSHO	437	1
KS2013305	NEOSHO CO 6	NEOSHO	314	1
KS2013303	NEOSHO CO 7	NEOSHO	625	1
KS2013301	NEOSHO CO 9	NEOSHO	200	1

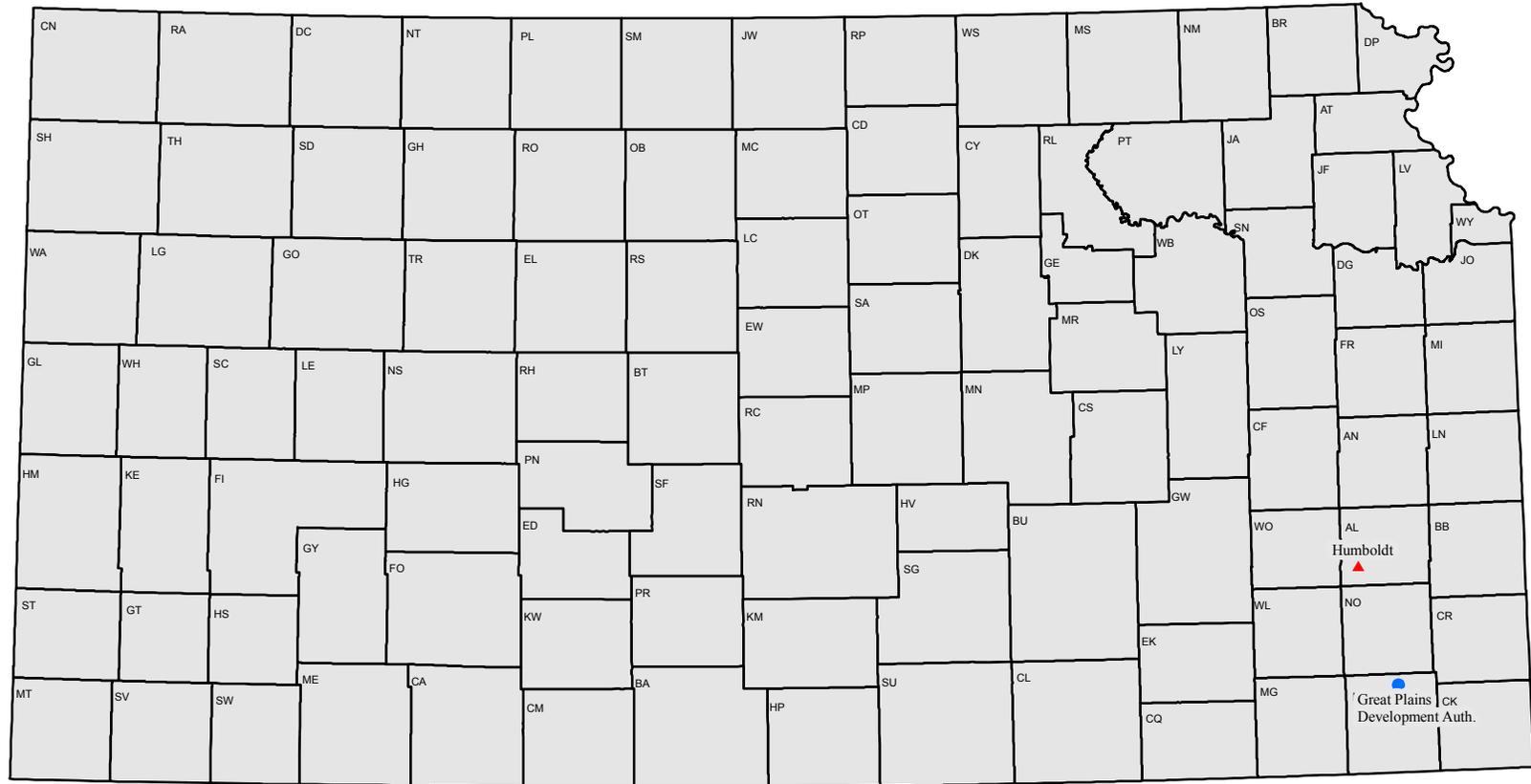
CONSUMER CONFIDENCE REPORT MAJOR VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2006304	PARK	GOVE	129	1
KS2001518	POTWIN	BUTLER	439	1
KS2013911	SCRANTON	OSAGE	697	1
KS2001903	SEDAN	CHAUTAUQUA	1088	1
KS2007308	SEVERY	GREENWOOD	248	1
KS2009504	SPIVEY	KINGMAN	78	1
KS2014917	ST GEORGE	POTTAWATOMIE	712	1
KS2010306	TONGANOXIE	LEAVENWORTH	5165	1
KS2005914	WILLIAMSBURG	FRANKLIN	392	1
KS2020514	WILSON CO 2	WILSON	194	1
KS2020524	WILSON CO 8	WILSON	32	1
TOTALS		42	21582	42

CONSUMER CONFIDENCE REPORT MINOR VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2001506	BUTLER CO 4	BUTLER	1940	1
TOTALS		1	1940	1

Figure 2: Chlorite Violations



● MCL Violation ▲ Monitoring Violation



Data Source: KDHE, Bureau of Water, Public Water Supply
Date Published: July 1, 2015



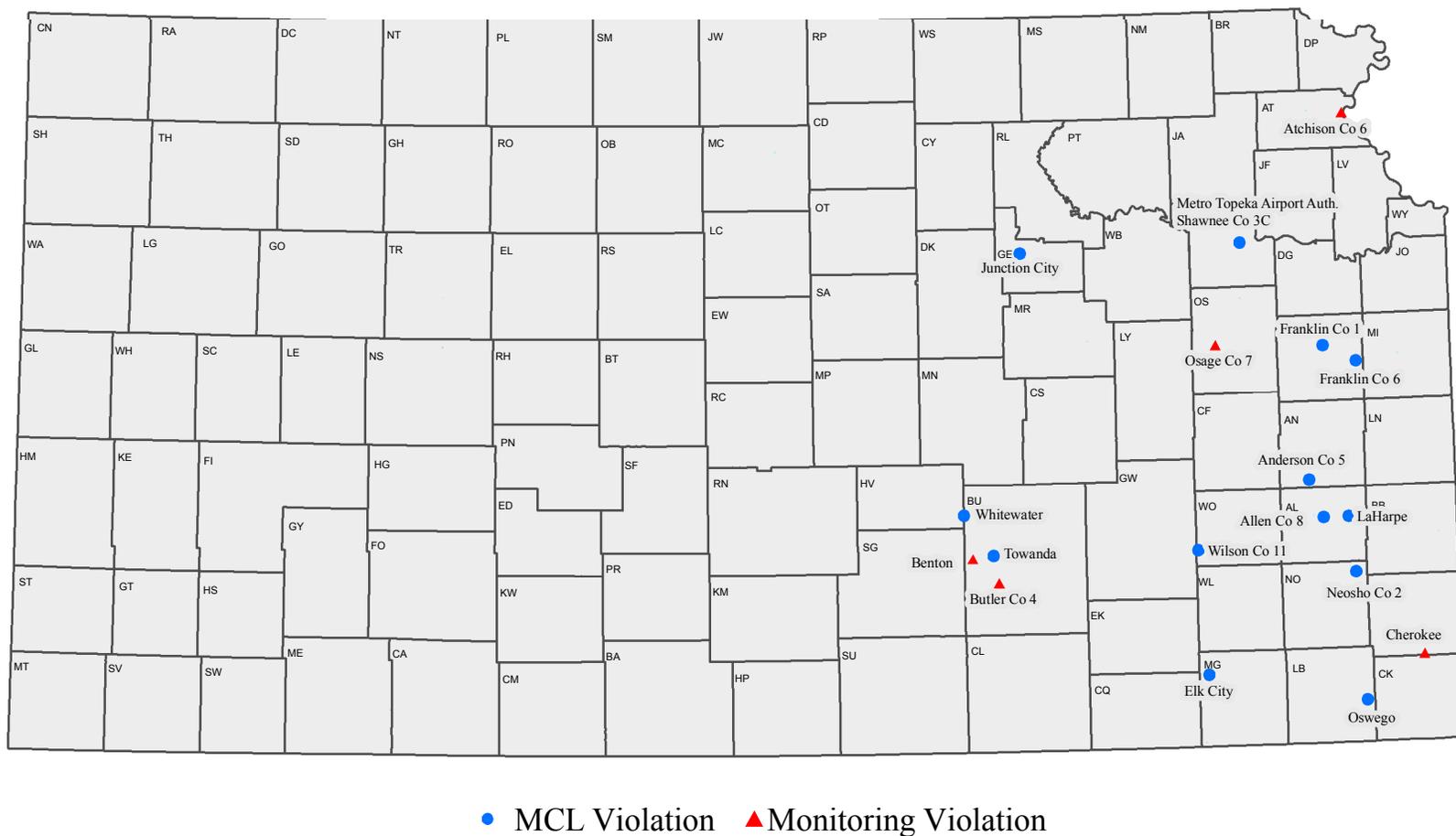
CHLORITE MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2009911	Great Plains Development Authority	LABETTE	182	2
TOTALS		1	182	2

CHLORITE MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2000111	HUMBOLDT	ALLEN	1927	1
TOTALS		1	1927	1

Figure 3: HAA5 Violations



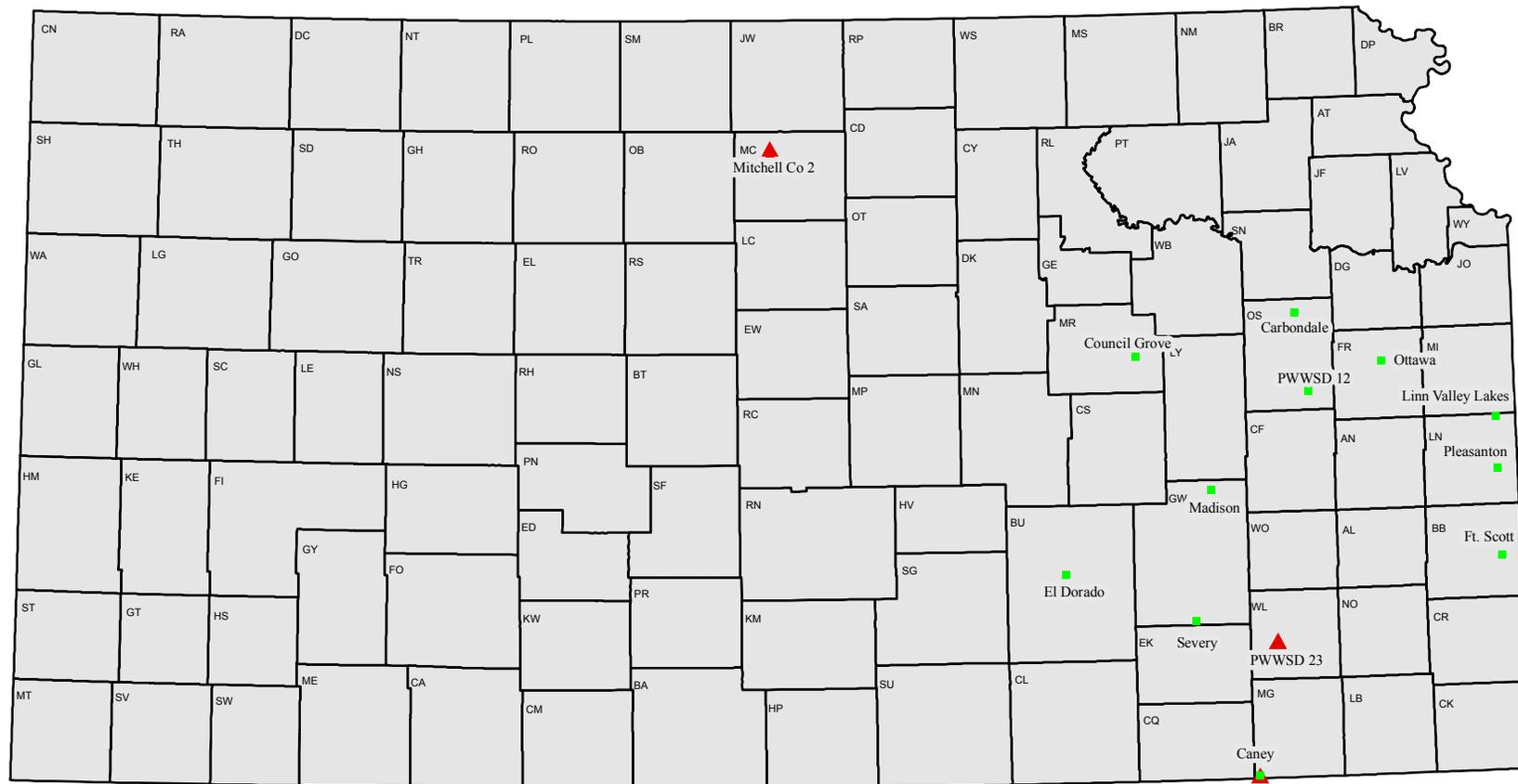
HAA5 MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2000110	ALLEN CO 8	ALLEN	736	1
KS2000306	ANDERSON CO 5	ANDERSON	2055	3
KS2012520	ELK CITY, CITY OF	MONTGOMERY	311	1
KS2005915	FRANKLIN CO 1	FRANKLIN	665	2
KS2005909	FRANKLIN CO 6	FRANKLIN	2960	1
KS2006108	JUNCTION CITY, CITY OF	GEARY	25388	1
KS2000105	LA HARPE, CITY OF	ALLEN	561	2
KS2117703	METRO TOPEKA AIRPORT AUTHORITY	SHAWNEE	500	2
KS2013314	NEOSHO CO 2	NEOSHO	1210	1
KS2009908	OSWEGO, CITY OF	LABETTE	1777	1
KS2017717	SHAWNEE CO 3C	SHAWNEE	1785	4
KS2001524	TOWANDA, CITY OF	BUTLER	1420	1
KS2001523	WHITEWATER, CITY OF	BUTLER	710	2
KS2020519	WILSON CO 11	WILSON	833	1
TOTALS		14	40911	23

HAA5 MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2000510	ATCHISON CO 6	ATCHISON	670	1
KS2001507	BENTON	BUTLER	872	2
KS2001506	BUTLER CO 4	BUTLER	1940	2
KS2003714	CHEROKEE	CRAWFORD	712	1
KS2013906	OSAGE CO 7	OSAGE	1430	1
TOTALS		5	5624	7

Figure 4: TOC Violations



▲ Monitoring Violations ■ Treatment Techniques



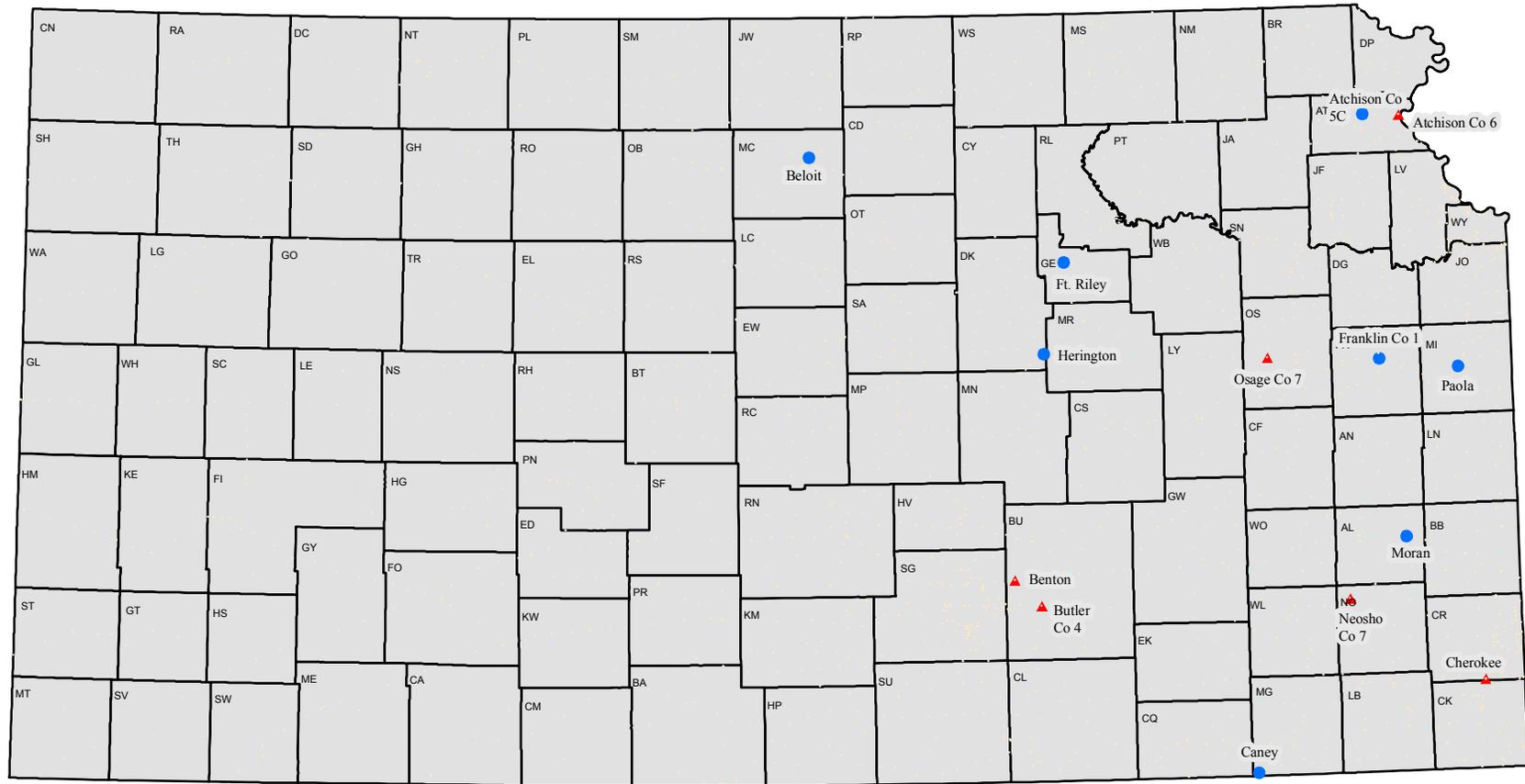
TOC TREATMENT TECHNIQUE VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2012517	CANEY	MONTGOMERY	2140	1
KS2013914	CARBONDALE	OSAGE	1423	4
KS2012702	COUNCIL GROVE	MORRIS	2114	4
KS2001511	EL DORADO	BUTLER	12852	1
KS2001104	FT SCOTT	BOURBON	7934	1
KS2010712	LINN VALLEY LAKES POA	LINN	193	1
KS2007301	MADISON	GREENWOOD	671	1
KS2005906	OTTAWA	FRANKLIN	12482	1
KS2010704	PLEASANTON	LINN	1187	1
KS2013919	PWWSD 12	OSAGE	11	1
KS2007308	SEVERY	GREENWOOD	248	4
TOTALS		11	41255	20

TOC MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2012517	CANEY	MONTGOMERY	2140	1
KS2012304	MITCHELL CO 2	MITCHELL	1291	1
KS2013322	PWWSD 23	OSAGE	1	1
TOTALS		3	3432	3

Figure 5: TTHM Violations



● MCL Violations ▲ Monitoring Violations



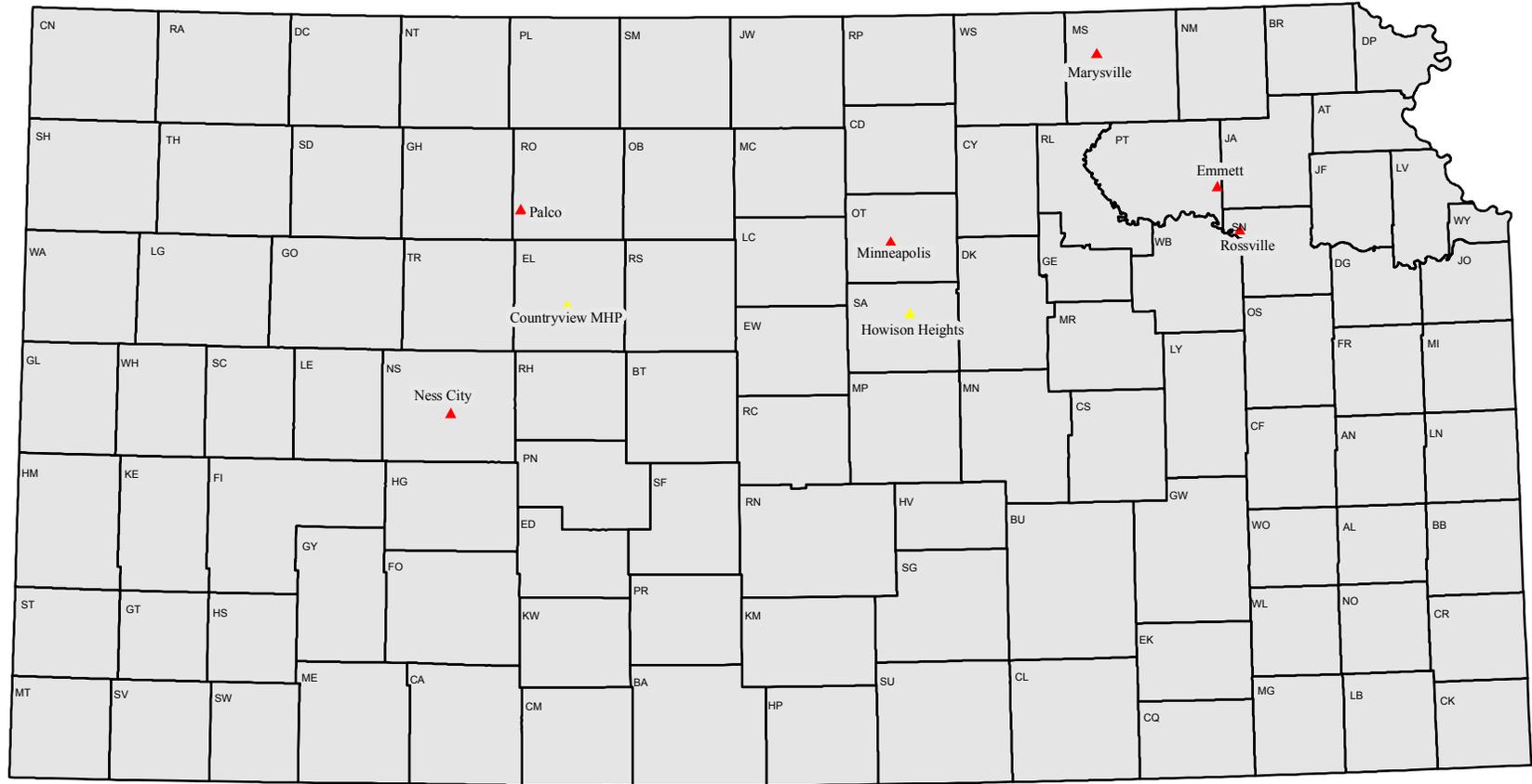
TTHM MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2000511	ATCHISON CO 5C	ATCHISON	3085	1
KS2012301	BELOIT	MITCHELL	3846	4
KS2012517	CANEY	MONTGOMERY	2140	2
KS2006114	FORT RILEY	GEARY	42216	2
KS2005915	FRANKLIN CO 1	FRANKLIN	665	2
KS2004102	HERINGTON	DICKINSON	2449	1
KS2000116	MORAN	ALLEN	542	2
KS2012103	PAOLA	MIAMI	5630	5
TOTALS	8		60573	19

TTHM MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2000510	ATCHISON CO 6	ATCHISON	670	1
KS2001507	BENTON	BUTLER	872	2
KS2001506	BUTLER CO 4	BUTLER	1940	2
KS2003714	CHEROKEE	CRAWFORD	712	1
KS2013303	NEOSHO CO 7	NEOSHO	625	1
KS2013906	OSAGE CO 7	OSAGE	1430	1
TOTALS	6		6249	8

Figure 6: Ground Water Violations



▲ E coli Monitoring Violation ▲ Ground Water Triggered Monitoring Violation



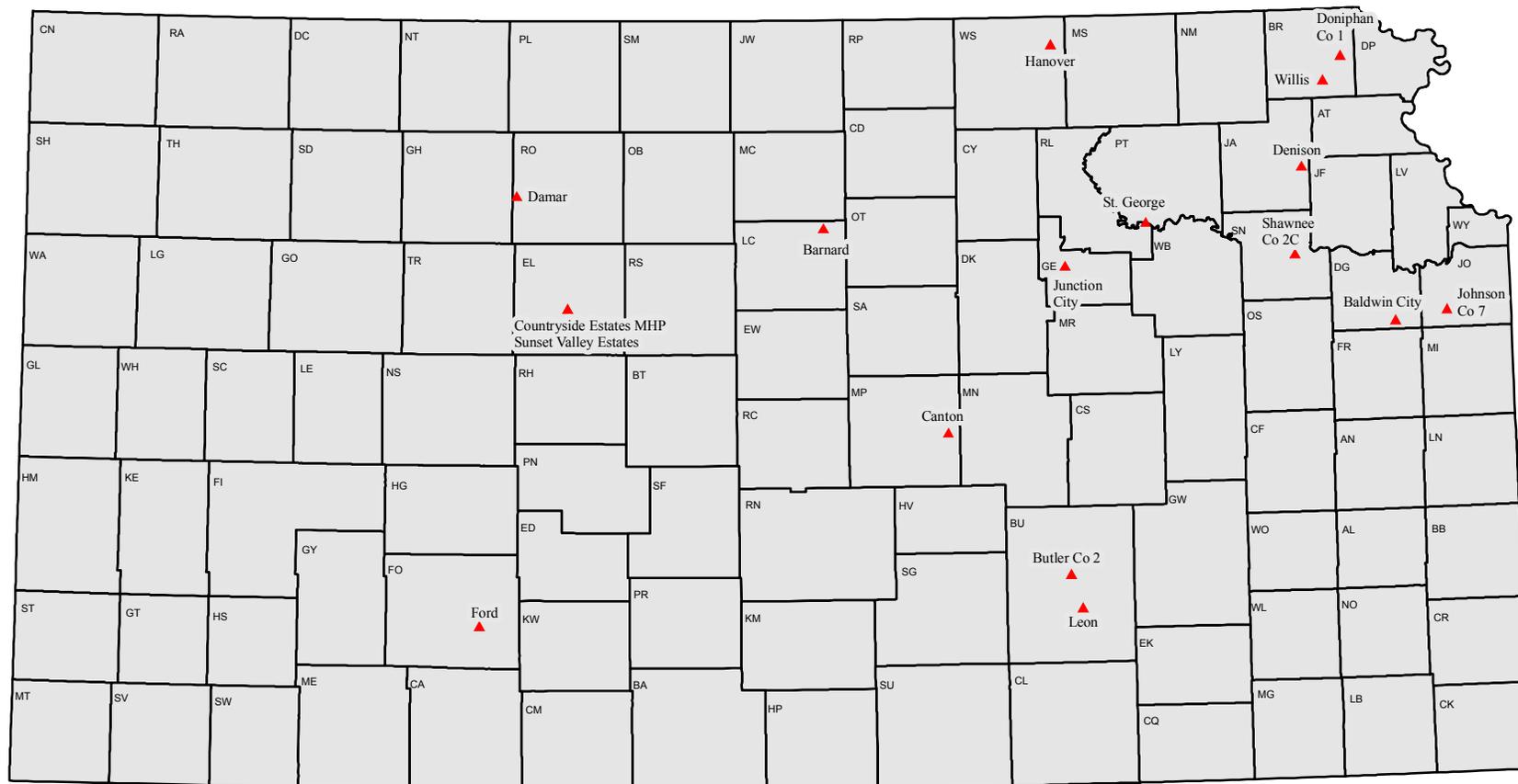
GROUND WATER E. COLI MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2015520	COUNTRYVIEW MHP	RENO	48	1
KS2016909	HOWISON HEIGHTS DISTRICT	SALINE	200	1
TOTALS		2	248	2

GROUND WATER TRIGGERED MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2014901	EMMETT	POTAWATOMIE	189	4
KS2011706	MARYSVILLE	MARSHALL	3295	1
KS2014301	MINNEAPOLIS	OTTAWA	2017	1
KS2013503	NESS CITY	NESS	1437	1
KS2016302	PALCO	ROOKS	277	1
KS2017712	ROSSVILLE	SHAWNEE	1140	1
TOTALS		6	8355	9

Figure 7: Lead and Copper Violations



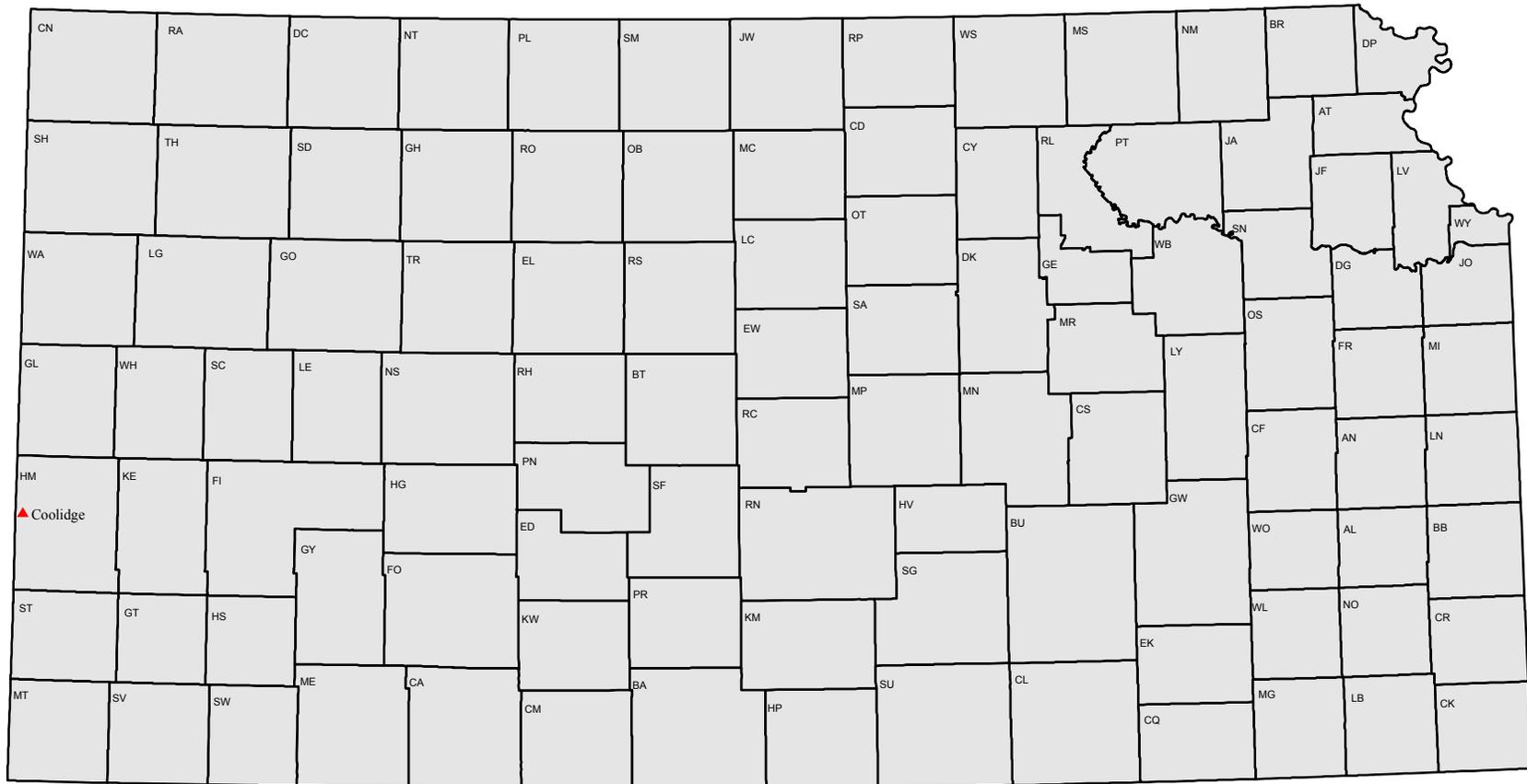
▲ Monitoring Violation



LEAD AND COPPER MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2004510	BALDWIN CITY	DOUGLAS	4540	1
KS2010503	BARNARD	LINCOLN	69	1
KS2001505	BUTLER CO 2	BUTLER	1534	2
KS2011313	CANTON	MCPHERSON	764	1
KS2005107	COUNTRYSIDE ESTATES MHP	ELLIS	300	1
KS2016305	DAMAR	ROOKS	133	1
KS2008505	DENISON	JACKSON	186	1
KS2004305	DONIPHAN CO 1	DONIPHAN	75	1
KS2005709	FORD	FORD	221	1
KS2020108	HANOVER	WASHINGTON	668	2
KS2009104	JOHNSON CO 7	JOHNSON	4537	1
KS2006108	JUNCTION CITY	GEARY	25388	1
KS2001515	LEON	BUTLER	691	1
KS2017713	SHAWNEE CO 2C	SHAWNEE	700	2
KS2014917	ST. GEORGE	POTTAWATOMIE	712	1
KS2005101	SUNSET VALLEY ESTATES	ELLIS	60	2
KS2001311	WILLIS	BROWN	38	1
TOTALS		17	40616	21

Figure 8: IOC Violations



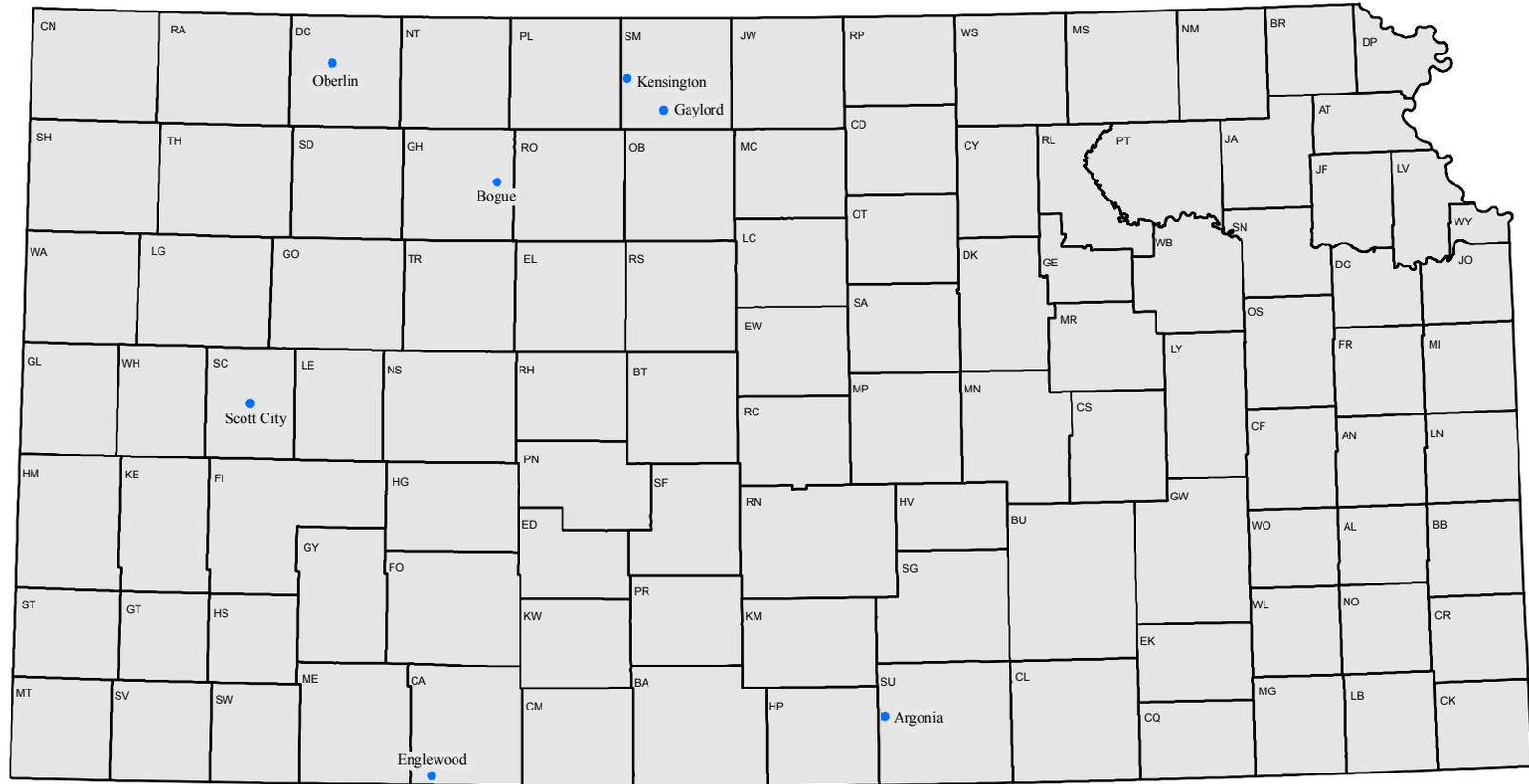
▲ Monitoring Violation



IOC MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2007501	COOLIDGE	HAMILTON	93	1
TOTALS	1		93	1

Figure 9: Arsenic Violations



● MCL Violation



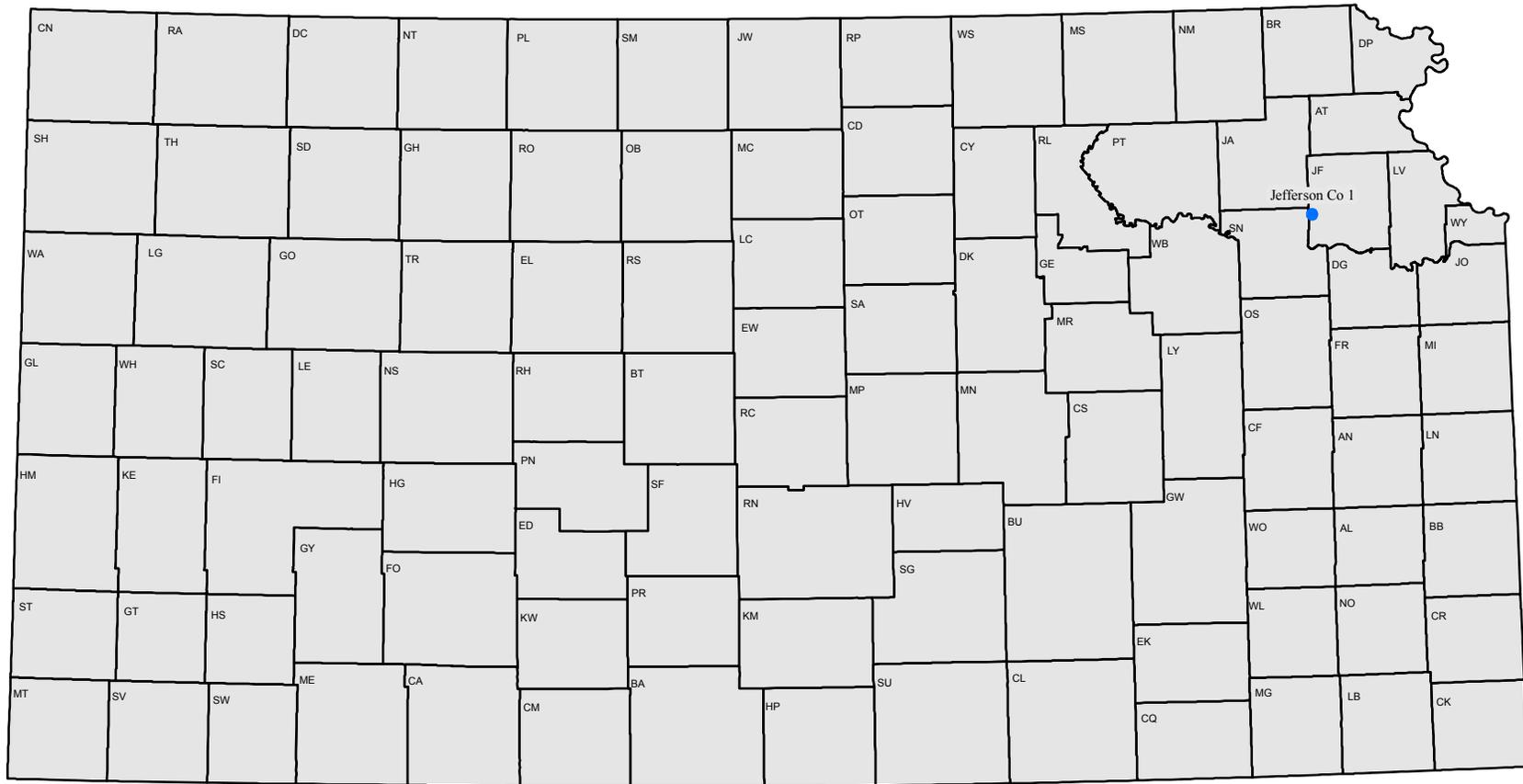
Data Source: KDHE, Bureau of Water, Public Water Supply
Date Published: July 1, 2015



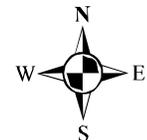
ARSENIC MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2019116	ARGONIA	SUMNER	497	7
KS2006504	BOGUE	GRAHAM	144	1
KS2002503	ENGLEWOOD	CLARK	76	4
KS2018301	GAYLORD	SMITH	110	2
KS2018302	KENSINGTON	SMITH	451	2
KS2003903	OBERLIN	DECATUR	1761	2
KS2017101	SCOTT CITY	SCOTT	3889	4
TOTALS	7		6928	22

Figure 10: Asbestos Violations



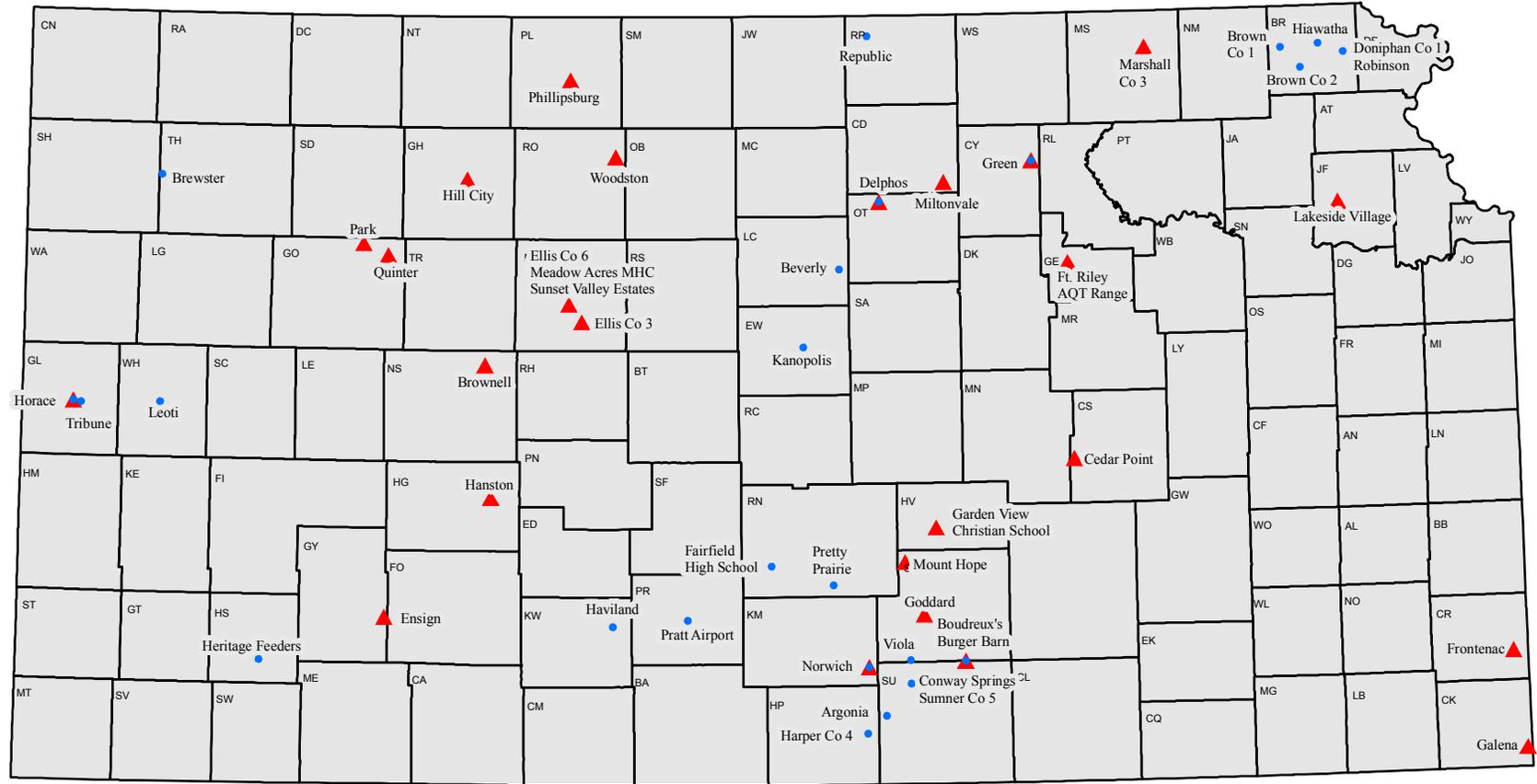
• MCL Violation



ASBESTOS MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2008706	JEFFERSON CO 1	JEFFERSON	2250	3
TOTALS	1		2250	3

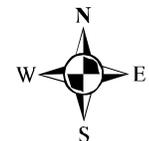
Figure 11: Nitrate Violations



● MCL Violations ▲ Monitoring Violations



Data Source: KDHE, Bureau of Water, Public Water Supply
 Date Published: July 1, 2015



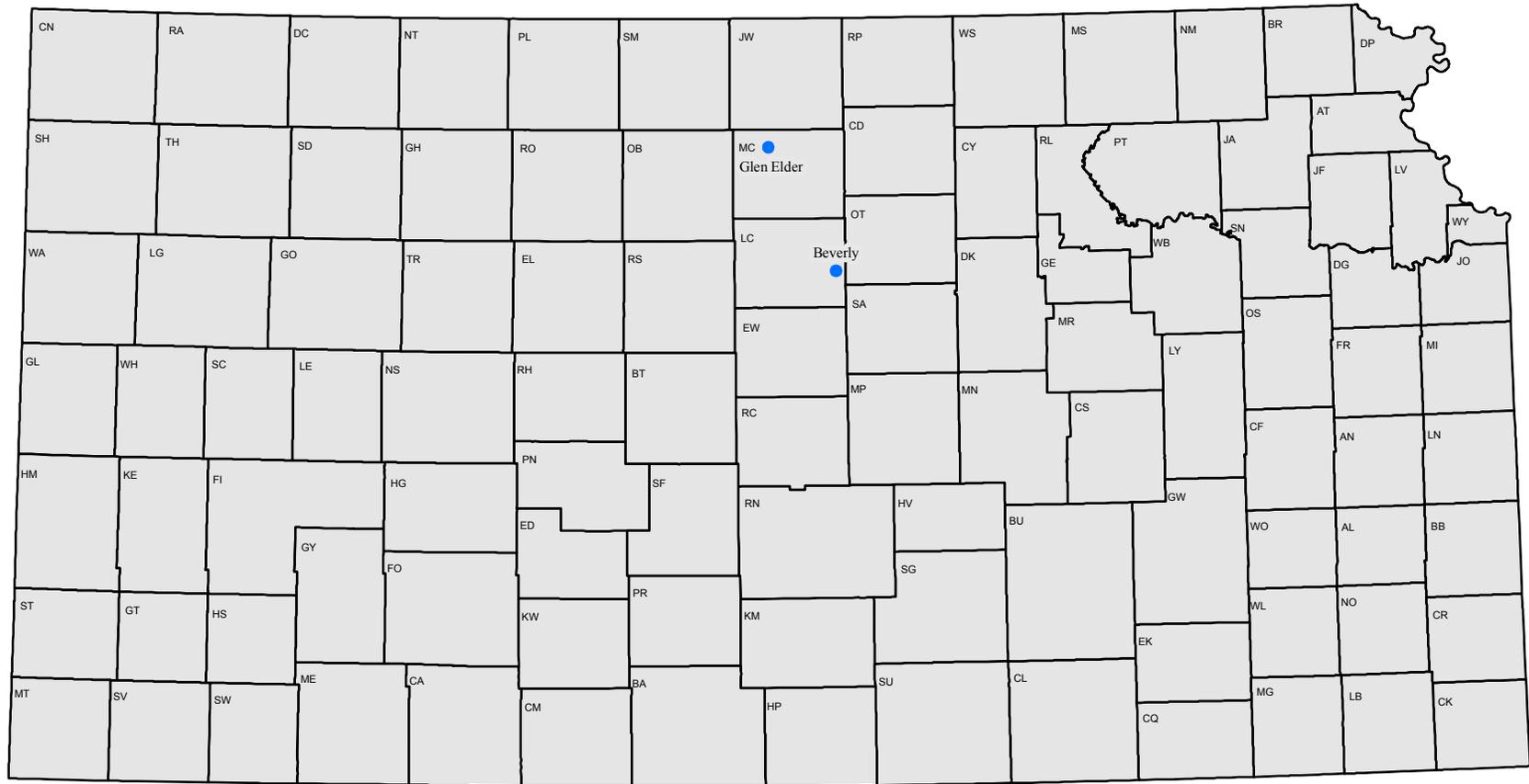
NITRATE MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2019116	ARGONIA	SUMNER	497	3
KS2010504	BEVERLY	LINCOLN	158	4
KS2017348	BOUDREUX'S BURGER BARN	SUMNER	50	3
KS2019303	BREWSTER	THOMAS	303	2
KS2001304	BROWN CO 1	BROWN	709	2
KS2001312	BROWN CO 2	BROWN	724	2
KS2019118	CONWAY SPRINGS	SUMNER	1243	2
KS2014305	DELPHOS	OTTAWA	353	1
KS2004305	DONIPHAN CO 1	DONIPHAN	75	2
KS2115514	FAIRFIELD HIGH SCHOOL	RENO	300	4
KS2002703	GREEN	CLAY	130	1
KS2007708	HARPER CO 4	HARPER	320	3
KS2009703	HAVILAND	KIOWA	686	12
KS2005545	HERITAGE FEEDERS	HASKELL	32	4
KS2001305	HIAWATHA	BROWN	3178	3
KS2007101	HORACE	GREELEY	74	1
KS2005304	KANOPOLIS	ELLSWORTH	482	1
KS2020301	LEOTI	WICHITA	1503	2
KS2009505	NORWICH	KINGMAN	487	3
KS2001303	POWHATTAN	BROWN	78	2
KS2115101	PRATT AIRPORT	PRATT	175	4
KS2015501	PRETTY PRAIRIE	RENO	688	4
KS2015709	REPUBLIC	REPUBLIC	113	1
KS2001301	ROBINSON	BROWN	230	2
KS2019101	SUMNER CO 5	SUMNER	1452	2
KS2007102	TRIBUNE	GREELEY	766	2
KS2017313	VIOLA	SEDGWICK	133	2
TOTALS	27		14939	74

NITRATE MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2017348	BOUDREUX'S BURGER	SUMNER	50	1
KS2013504	BROWNELL	NESS	29	1
KS2001706	CEDAR POINT	CHASE	27	1
KS2014305	DELPHOS	OTTAWA	353	2
KS2005113	ELLIS CO 3	ELLIS	200	1
KS2005122	ELLIS CO 6	ELLIS	250	1
KS2006905	ENSIGN	GRAY	180	1
KS2006115	FORT RILEY AQT RANGE	GEARY	25	1
KS2003720	FRONTENAC	CRAWFORD	3432	1
KS2002113	GALENA	CHEROKEE	2994	1
KS2107904	GARDEN VIEW CHRISTIAN SC	HARVEY	30	1
KS2017325	GODDARD	SEDGWICK	4582	1
KS2002703	GREEN	CLAY	130	1
KS2008302	HANSTON	HODGEMAN	206	1
KS2006503	HILL CITY	GRAHAM	1468	1
KS2007101	HORACE	GREELEY	74	1
KS2008716	LAKESIDE VILLAGE	JEFFERSON	290	1
KS2011713	MARSHALL CO 3	MARSHALL	1900	1
KS2005108	MEADOW ACRES MHC	ELLIS	98	1
KS2002903	MILTONVALE	CLOUD	523	1
KS2017319	MOUNT HOPE	SEDGWICK	816	2
KS2009505	NORWICH	KINGMAN	487	1
KS2006304	PARK	GOVE	129	1
KS2014706	PHILLIPSBURG	PHILLIPS	2541	1
KS2006305	QUINTER	GOVE	955	1
KS2005101	SUNSET VILLAGE ESTATES	ELLIS	60	1
KS2016307	WOODSTON	ROOKS	137	1
TOTALS		27	21966	29

Figure 12: Selenium Violations



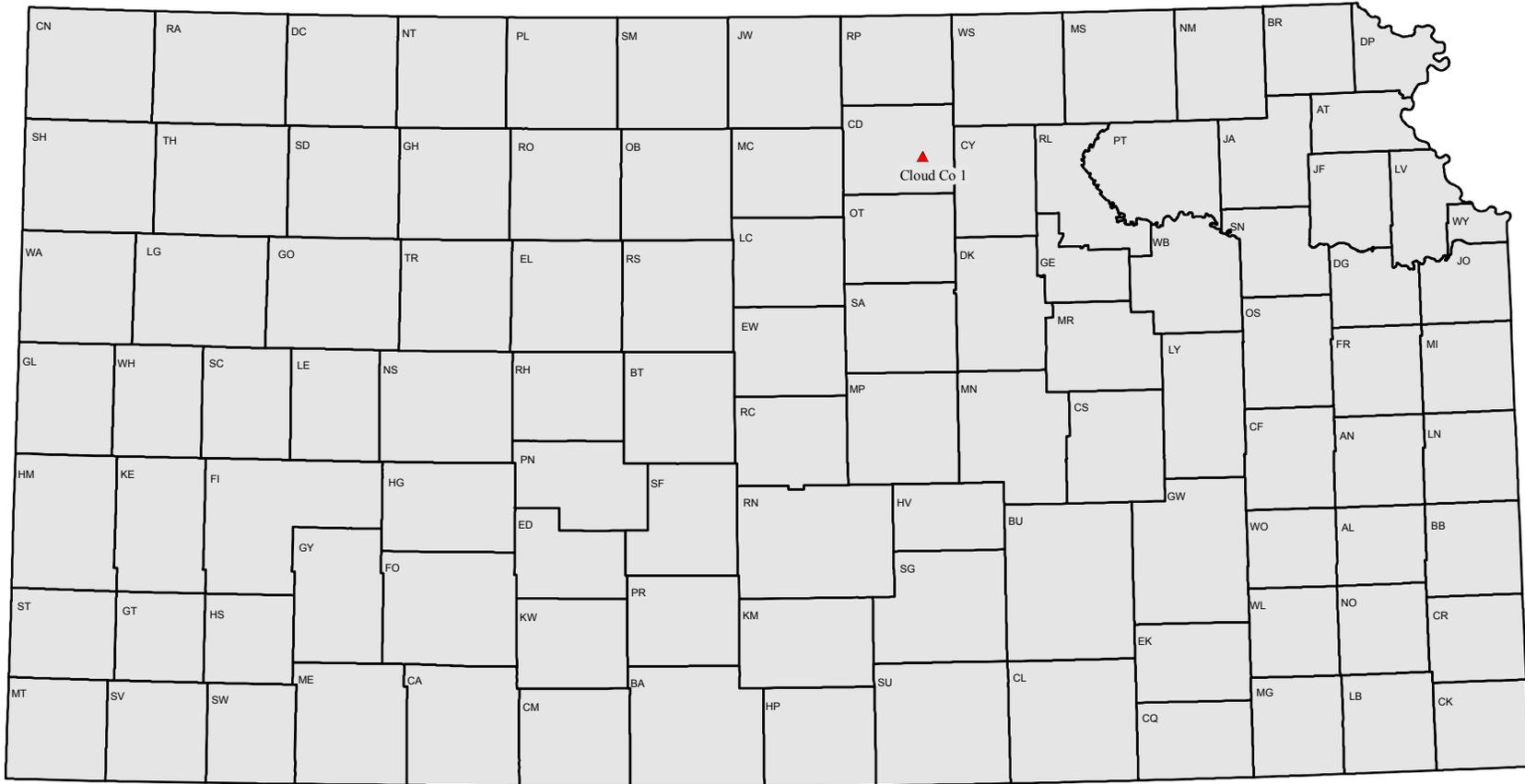
• MCL Violation



SELENIUM MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2010504	BEVERLY	LINCOLN	158	4
KS2012305	GLEN ELDER	MITCHELL	443	1
TOTALS	2		601	5

Figure 13: Atrazine Violations



▲ Monitoring Violation



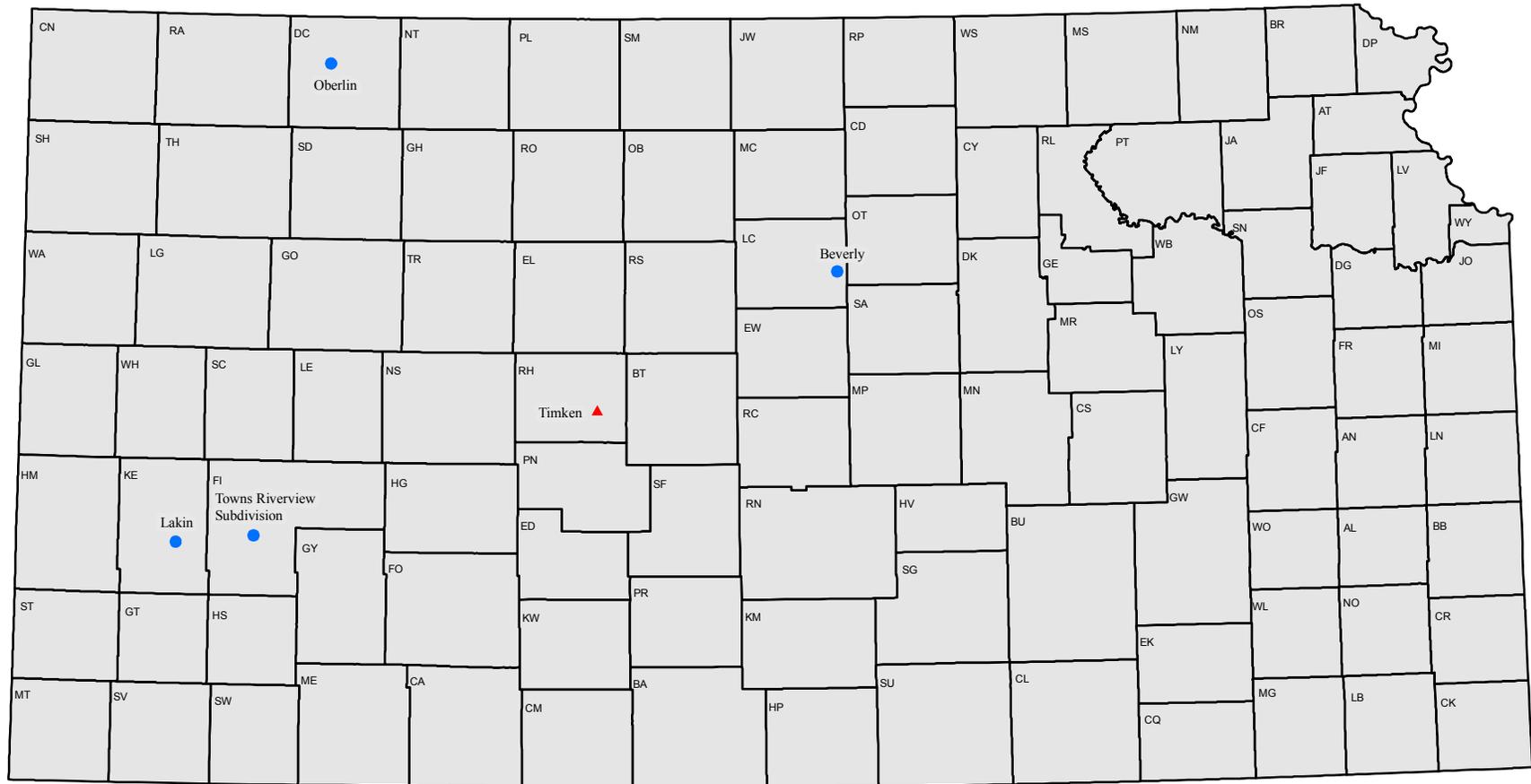
Data Source: KDHE, Bureau of Water, Public Water Supply
Date Published: July 1, 2015



ATRAZINE MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2002901	CLOUD CO 1	CLOUD	450	1
TOTALS	1		450	1

Figure 14: Combined Uranium Violations



● MCL Violation ▲ Monitoring Violation



Data Source: KDHE, Bureau of Water, Public Water Supply
Date Published: July 1, 2015



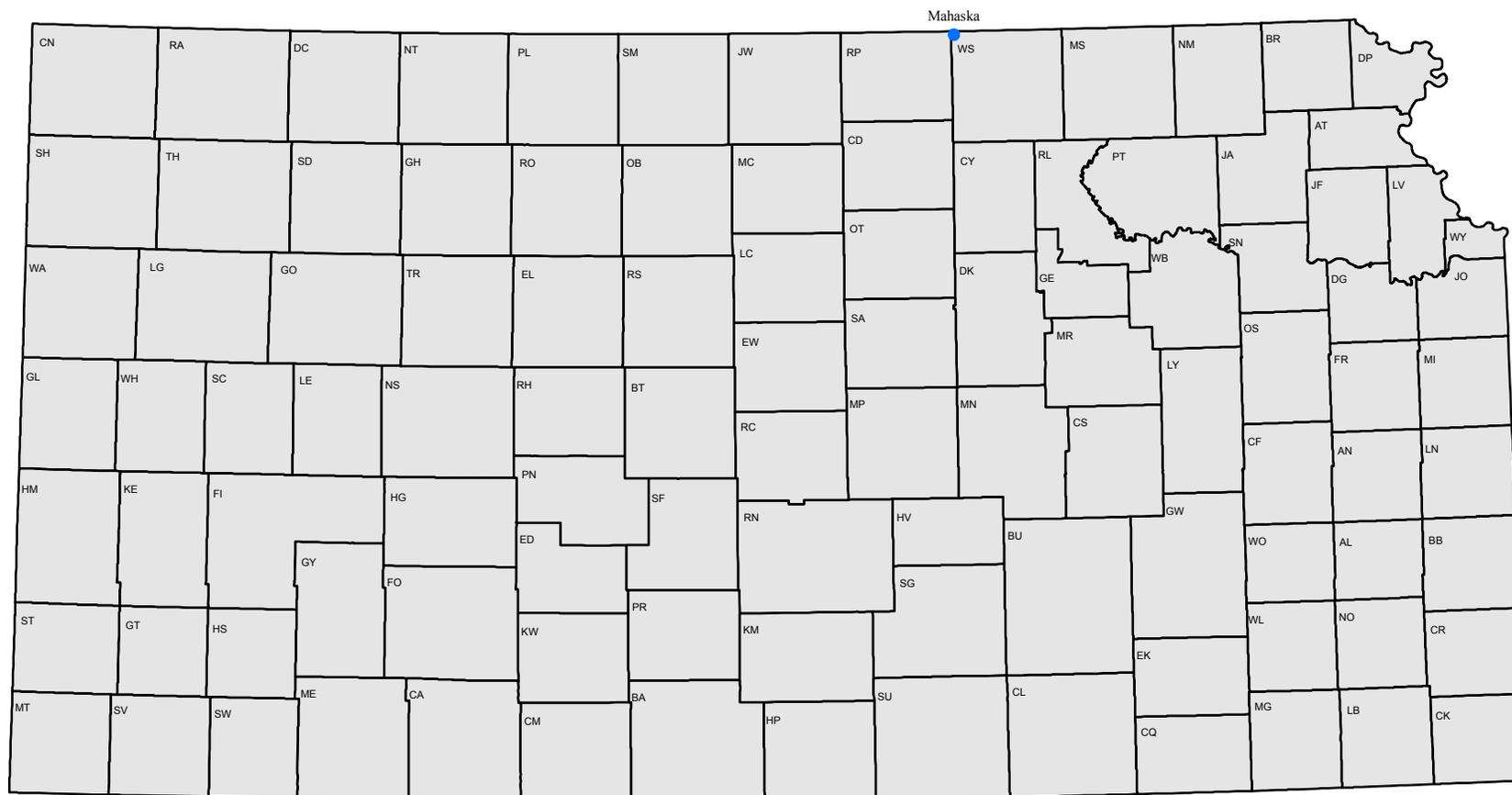
COMBINED URANIUM MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2010504	BEVERLY	LINCOLN	158	4
KS2009301	LAKIN	KEARNY	2185	4
KS2003903	OBERLIN	DECATUR	1761	2
KS2005502	TOWNS RIVERVIEW SUBDIVISION	FINNEY	860	4
TOTALS	4		4964	14

COMBINED URANIUM MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2016504	TIMKEN	RUSH	74	2
TOTALS	1		74	2

Figure 15: Combined Radium Violations



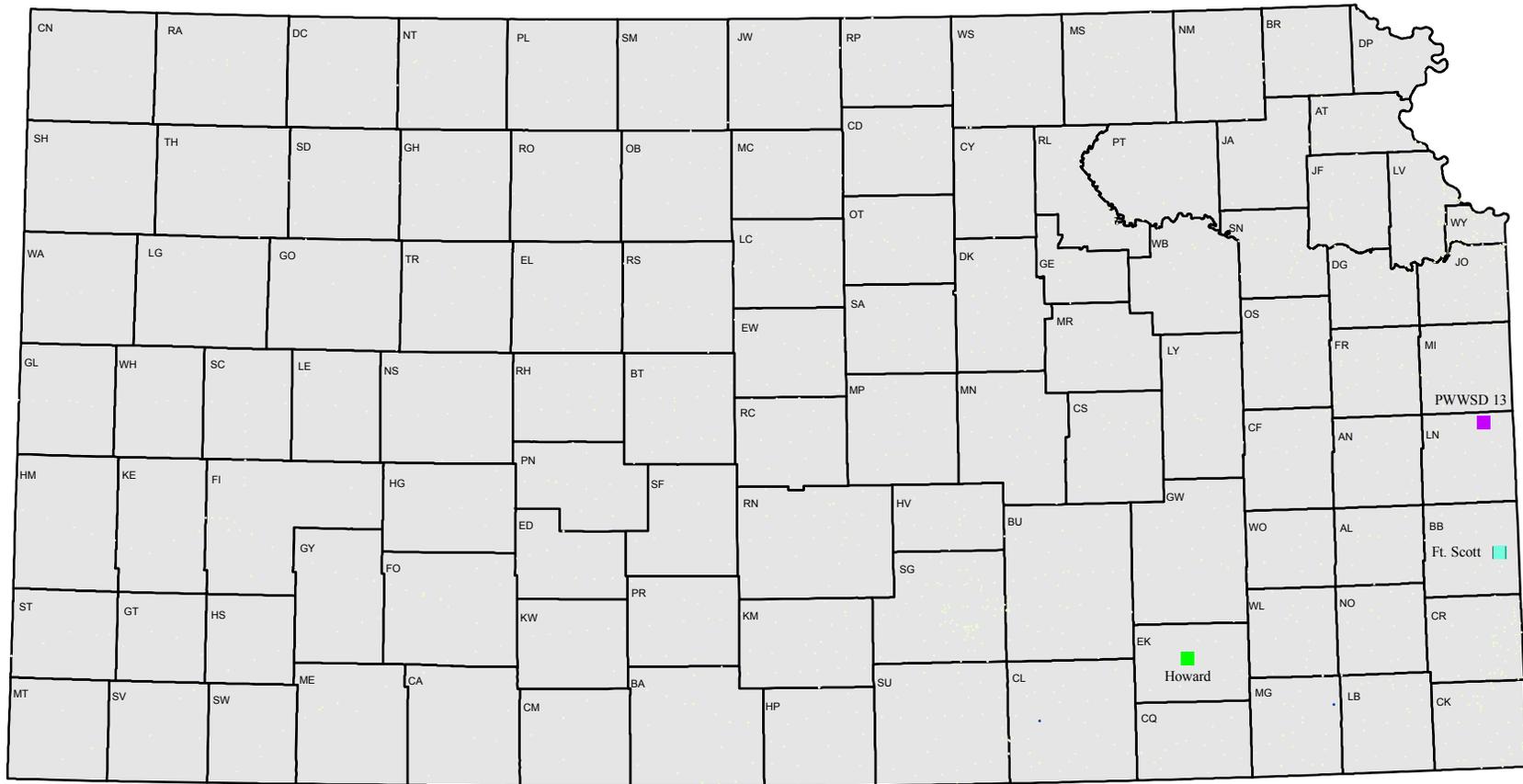
● MCL Violation



COMBINED RADIUM MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2020102	MAHASKA	WASHINGTON	81	3
TOTALS		1	81	3

Figure 16: SWTR Treatment Technique and Turbidity Violations



■ Single Combination
 ■ Monthly Combination
 ■ Turbidity Violation



SWTR SINGLE COMBINATION VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2001104	FORT SCOTT	BOURBON	7934	1
TOTALS	1		7934	1

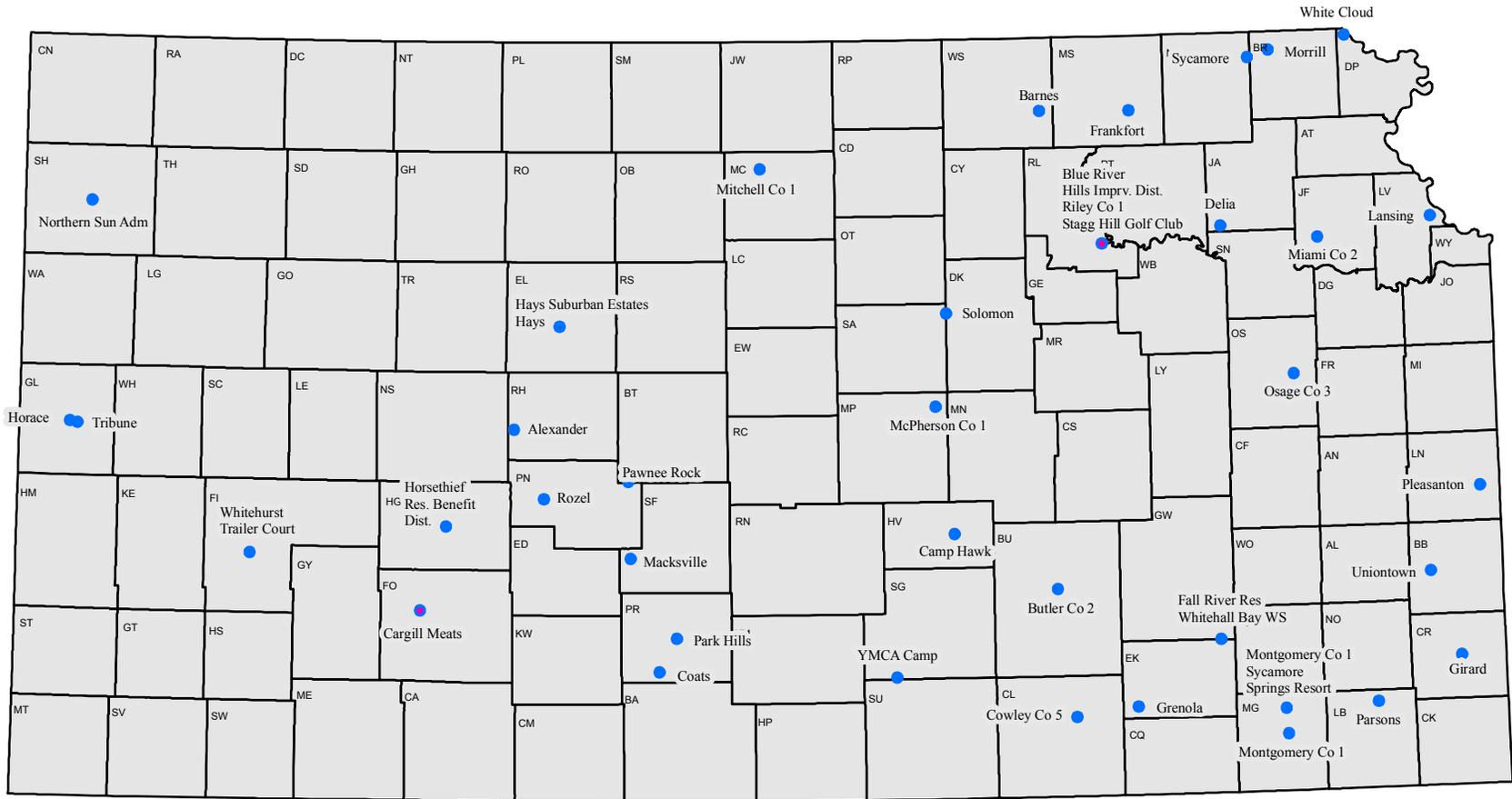
SWTR MONTHLY COMBINATION VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2004901	HOWARD	ELK	633	5
TOTALS	1		633	5

SWTR TURBIDITY VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2010711	PWWSD 13	LINN	15	1
TOTALS	1		15	1

Figure 17: TCR MCL Violations



● Acute MCL Violation ● Monthly MCL Violation



TOTAL COLIFORM ACUTE VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2016135	RILEY CO 1	MANHATTAN	1431	1
KS2105716	CARGILL MEAT SOLUTIONS CORP	DODGE CITY	2600	1
TOTALS	2		4031	2

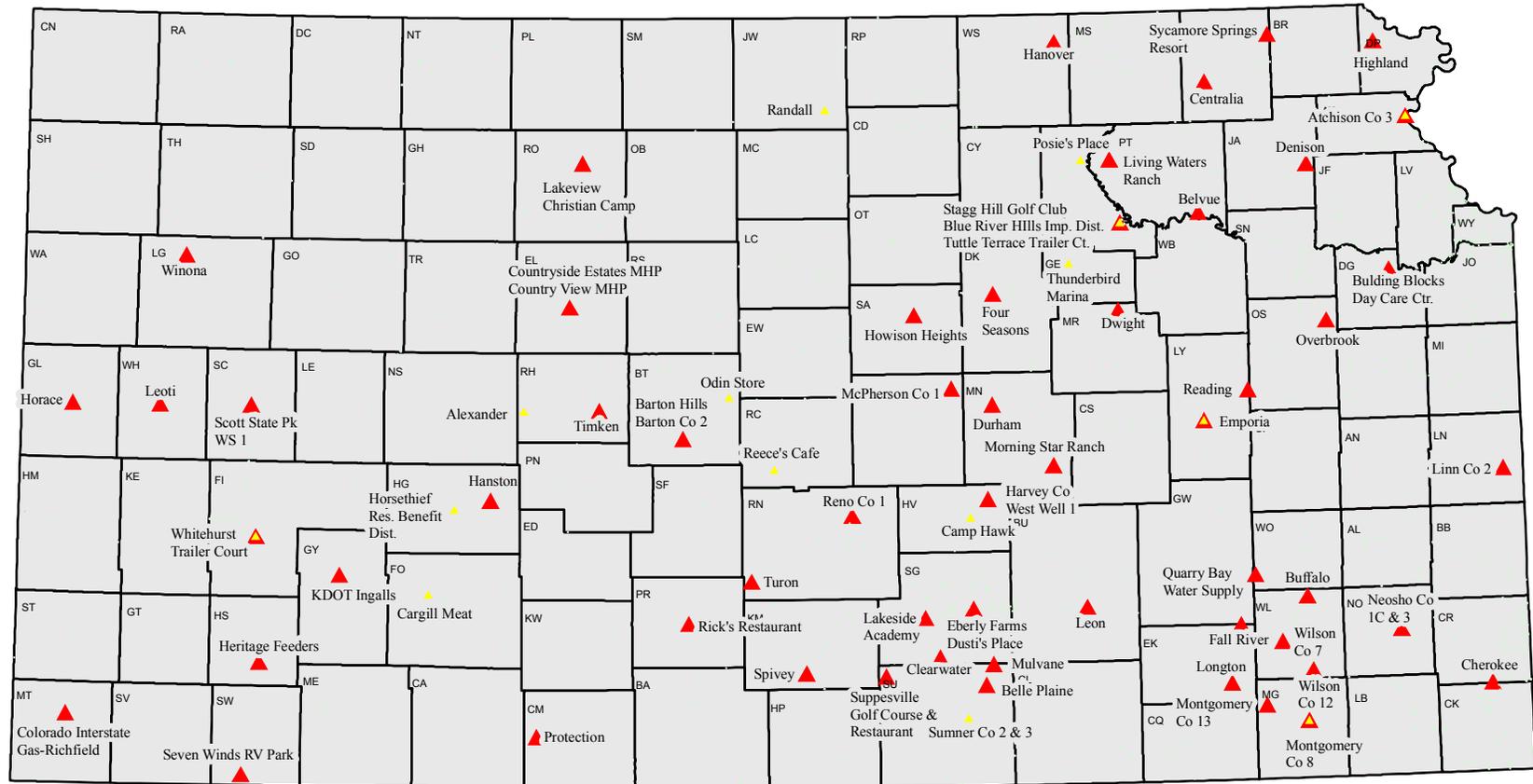
TOTAL COLIFORM MONTHLY MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2016503	ALEXANDER	RUSH	63	1
KS2020110	BARNES	WASHINGTON	155	1
KS2016106	BLUE RIVER HILLS IMPRV	RILEY	89	1
KS2001505	BUTLER CO 2	BUTLER	1534	1
KS2107908	CAMP HAWK	HARVEY	25	1
KS2105716	CARGILL MEAT	FORD	2600	2
KS2015105	COATS	PRATT	86	1
KS2003508	COWLEY CO 5	COWLEY	2000	1
KS2008507	DELIA	JACKSON	168	1
KS2107304	FALL RIVER RES WHITEHALL	GREENWOOD	25	1
KS2011708	FRANKFORT	MARSHALL	709	1
KS2003718	GIRARD	CRAWFORD	2779	1
KS2004904	GRENOLA	ELK	197	1
KS2005116	HAYS SUBURBAN ESTATES	ELLIS	38	1
KS2995111	HAYS	ELLIS	21038	1
KS2007101	HORACE	GREELEY	74	1
KS2108303	HORSETHIEF RES. BENEFIT	HODGEMAN	25	1
KS2010312	LANSING	LEAVENWORT	3500	1

TOTAL COLIFORM MONTHLY MCL VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2018501	MACKSVILLE	STAFFORD	545	1
KS2011301	MCPHERSON CO 1	MCPHERSON	176	2
KS2012101	MIAMI CO 2	MIAMI	8,631	1
KS2012302	MITCHELL CO 1	MITCHELL	345	1
KS2012505	MONTGOMERY CO 1	MONTGOMER	175	1
KS2012501	MONTGOMERY CO 4	MONTGOMER	745	1
KS2001307	MORRILL	BROWN	226	1
KS2118101	NORTHERN SUN ADM	SHERMAN	28	1
KS2013910	OSAGE CO 3	OSAGE	900	1
KS2115109	PARK HILLS	PRATT	25	2
KS2009914	PARSONS	LABETTE	10164	1
KS2000916	PAWNEE ROCK	BARTON	247	1
KS2010704	PLEASANTON	LINN	1187	1
KS2016135	RILEY CO 1	RILEY	1431	1
KS2014502	ROZEL	PAWNEE	157	1
KS2004105	SOLOMON	DICKINSON	1072	1
KS2116114	STAGG HILL GOLF CLUB	RILEY	50	3
KS2101303	SYCAMORE SPRINGS RESORT	BROWN	25	1
KS2007102	TRIBUNE	GREELEY	766	1
KS2001108	UNIONTOWN	BOURBON	264	2
KS2004309	WHITE CLOUD	DONIPHAN	175	1
KS2005536	WHITEHURST TRAILER PARK	FINNEY	150	1
KS2117351	YMCA CAMP	SEDGWICK	300	1
TOTALS	41		62889	47

Figure 18: TCR Major Violations



▲ Routine Major Violations ▲ Repeat Major Violations



Data Source: KDHE, Bureau of Water, Public Water Supply
 Date Published: July 1, 2015



TOTAL COLIFORM ROUTINE MAJOR MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2000504	ATCHISON CO 3	ATCHISON	110	2
KS2000907	BARTON CO 2	BARTON	344	2
KS2000915	BARTON HILLS	BARTON	176	2
KS2019115	BELLE PLAINE	SUMNER	1630	1
KS2014902	BELVUE	POTTAWATOMIE	202	2
KS2016106	BLUE RIVER HILLS IMPVT. DIST.	RILEY	89	2
KS2020511	BUFFALO	WILSON	224	1
KS2104506	BUILDING BLOCKS DAY CARE CENTER, LLC	DOUGLAS	125	1
KS2013106	CENTRALIA	NEMAHA	510	1
KS2003714	CHEROKEE	CRAWFORD	712	1
KS2017329	CLEARWATER	SEDGWICK	2530	1
KS2112902	COLORADO INTERSTATE GAS-RICHFIELD	MORTON	28	1
KS2005121	COUNRY VIEW MHP	ELLIS	125	4
KS2005107	COUNTRYSIDE ESTATES MHP	ELLIS	300	2
KS2008505	DENISON	JACKSON	186	1
KS2011502	DURHAM	MARION	108	1
KS2017346	DUSTI'S PLACE	SEDGWICK	65	1
KS2012701	DWIGHT	MORRIS	259	1
KS2117337	EBERLY FARM	SEDGWICK	200	1
KS2007304	FALL RIVER	GREENWOOD	154	1
KS2104108	FOUR SEASONS	DICKINSON	25	1
KS2020108	HANOVER	WASHINGTON	668	4
KS2008302	HANSTON	HODGEMAN	206	3
KS2107906	HARVEY CO WEST WELL 1	HARVEY	26	1
KS2005545	HERITAGE FEEDERS	HASKELL	32	1
KS2004306	HIGHLAND	DONIPHAN	1008	1
KS2007101	HORACE	GREELEY	74	1
KS2016909	HOWISON HEIGHTS	SALINE	200	1
KS2106903	KDOT INGALLS	GRAY	25	1

TOTAL COLIFORM ROUTINE MAJOR MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2117330	LAKESIDE ACADEMY	SEDGWICK	50	3
KS2116306	LAKEVIEW CHRISTIAN CAMP	ROOKS	25	1
KS2001515	LEON	BUTLER	691	1
KS2020301	LEOTI	WICHITA	1503	1
KS2010707	LINN CO 2	LINN	1960	1
KS2114910	LIVING WATER RANCH	POTTAWATOMIE	40	1
KS2004903	LONGTON	ELK	318	2
KS2012524	MONTGOMERY CO 13	MONTGOMERY	160	1
KS2012507	MONTGOMERY CO 8	MONTGOMERY	340	1
KS2111513	MORNING STAR RANCH	MARION	35	1
KS2019113	MULVANE	SUMNER	6287	1
KS2013320	NEOSHO CO 1C	NEOSHO	670	1
KS2013315	NEOSHO CO 3	NEOSHO	128	1
KS2013903	OVERBROOK	OSAGE	1042	1
KS2003302	PROTECTION	COMANCHE	530	1
KS2107302	QUARRY BAY WATER SUPPLY	GREENWOOD	25	3
KS2011114	READING	LYON	231	1
KS2015510	RENO CO 1	RENO	123	1
KS2115110	RICK'S RESTAURANT	PRATT	25	1
KS2117101	SCOTT STATE PARK WS 1	SCOTT	25	4
KS2017501	SEVEN WINDS RV PARK	SEWARD	25	5
KS2009504	SPIVEY	KINGMAN	78	1
KS2119103	SUPPEVILLE GOLF COURSE & RESTAURANT	SUMNER	40	2
KS2101303	SYCAMORE SPRINGS RESORT	BROWN	25	1
KS2016504	TIMKEN	RUSH	74	2
KS2015503	TURON	RENO	381	1
KS2016102	TUTTLE TERRACE TRAILER COUR	RILEY	50	2
KS2005536	WHITEHURST TRAILER PARK	FINNEY	150	4
KS2020501	WILSON CO 12	WILSON	123	1
KS2020516	WILSON CO 7	WILSON	460	1

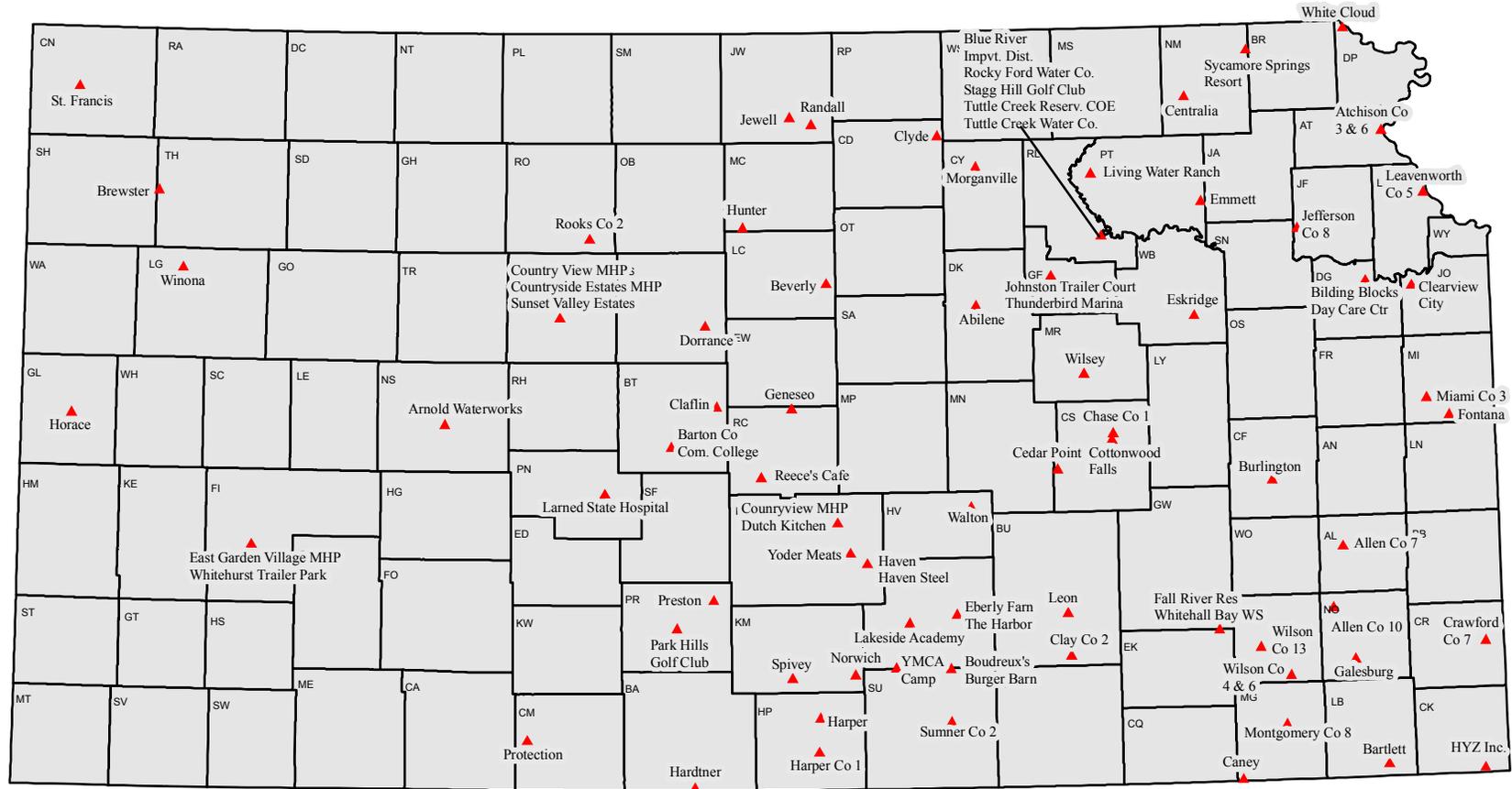
TOTAL COLIFORM ROUTINE MAJOR MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2010903	WINONA	LOGAN	160	1
TOTALS		60	26115	92

TOTAL COLIFORM REPEAT MAJOR MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2016503	ALEXANDER	RUSH	63	1
KS2000504	ATCHISON CO RWD 3	ATCHISON	110	1
KS2107908	CAMP HAWK	HARVEY	25	1
KS2105716	CARGILL MEAT	FORD	2600	1
KS2011105	EMPORIA	LYON	24799	1
KS2108303	HORSETHIEF RESERVOIR BENEFIT DISTRICT	HODGEMAN	25	1
KS2011301	MCPHERSON CO RWD 1	MCPHERSON	176	1
KS2012507	MONTGOMERY CO RWD 8	MONTGOMERY	340	1
KS2100916	ODIN STORE	BARTON	25	1
KS2116112	POSSIE'S PLACE	RILEY	256	1
KS2008901	RANDALL	JEWELL	65	1
KS2115904	REECE'S CAFÉ	RICE	25	2
KS2116114	STAGG HILL GOLF CLUB	RILEY	50	1
KS2019107	SUMNER CO 2	SUMNER	495	1
KS2019105	SUMNER CO 3	SUMNER	85	1
KS2106113	THUNDERBIRD MARINA	GEARY	25	1
KS2005536	WHITEHURST TRAILER PARK	FINNEY	150	1
TOTALS		17	29314	18

Figure 19: TCR Minor Monitoring Violations



▲ Monitoring Violations



TOTAL COLIFORM MINOR MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2004112	ABILENE	DICKINSON	6665	1
KS2000109	ALLEN CO 10	ALLEN	125	2
KS2000104	ALLEN CO 7	ALLEN	199	1
KS2013506	ARNOLD WATER WORKS	NESS	40	1
KS2000504	ATCHISON CO 3	ATCHISON	110	1
KS2000510	ATCHISON CO 6	ATCHISON	670	4
KS2009902	BARTLETT	LABETTE	78	2
KS2000913	BARTON COUNTY COMMUNITY COLLEGE	BARTON	1000	1
KS2010504	BEVERLY	LINCOLN	158	1
KS2016106	BLUE RIVER HILLS IMPVMT DISTRICT	RILEY	89	4
KS2017348	BOUDREUX'S BURGER BARN	SUMNER	50	1
KS2019303	BREWSTER	THOMAS	303	1
KS2104506	BUILDING BLOCKS DAY CARE CTR	DOUGLAS	125	1
KS2003101	BURLINGTON	COFFEY	2630	1
KS2012517	CANEY	MONTGOMERY	2140	1
KS2001706	CEDAR POINT	CHASE	27	2
KS2013106	CENTRALIA	NEMAHA	510	1
KS2001705	CHASE CO 1	CHASE	369	1
KS2000905	CLAFLIN	BARTON	641	1
KS2002710	CLAY CO 2	CLAY	950	1
KS2009123	CLEARVIEW	JOHNSON	317	1
KS2002905	CLYDE	CLOUD	692	1

TOTAL COLIFORM MINOR MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2001703	COTTONWOOD FALLS	CHASE	874	1
KS2005121	COUNTRY VIEW MHP	ELLIS	125	1
KS2005107	COUNTRYSIDE ESTATES	ELLIS	300	1
KS2015520	COUNTRYVIEW MHP	RENO	48	1
KS2003722	CRAWFORD CO 7	CRAWFORD	450	1
KS2016711	DORRANCE	RUSSELL	181	1
KS2115505	DUTCH KITCHEN	RENO	325	2
KS2005543	EAST GARDEN VILLAGE MHP	FINNEY	1525	1
KS2117337	EBERLY FARM	SEDGWICK	200	1
KS2014901	EMMETT	POTAWATOMIE	189	2
KS2019703	ESKRIDGE	WABAUNSEE	527	1
KS2107304	FALL RIVER RES WHITHALL BAY WS	GREENWOOD	25	1
KS2012107	FONTANA	MIAMI	216	1
KS2013308	GALESBURG	NEOSHO	124	1
KS2015907	GENSEO	RICE267	267	2
KS2000706	HARDTNER	BARBER	177	1
KS2007706	HARPER CO 1	HARPER	50	1
KS2007702	HARPER	HARPER	1412	1
KS2115537	HAVEN STEEL	RENO	100	1
KS2015514	HAVEN	RENO	1233	1
KS2007101	HORACE	GREELEY	74	1
KS2012306	HUNTER	MITCHELL	57	1
KS2002122	HYZ INC. HAI YING	CHEROKEE	25	3

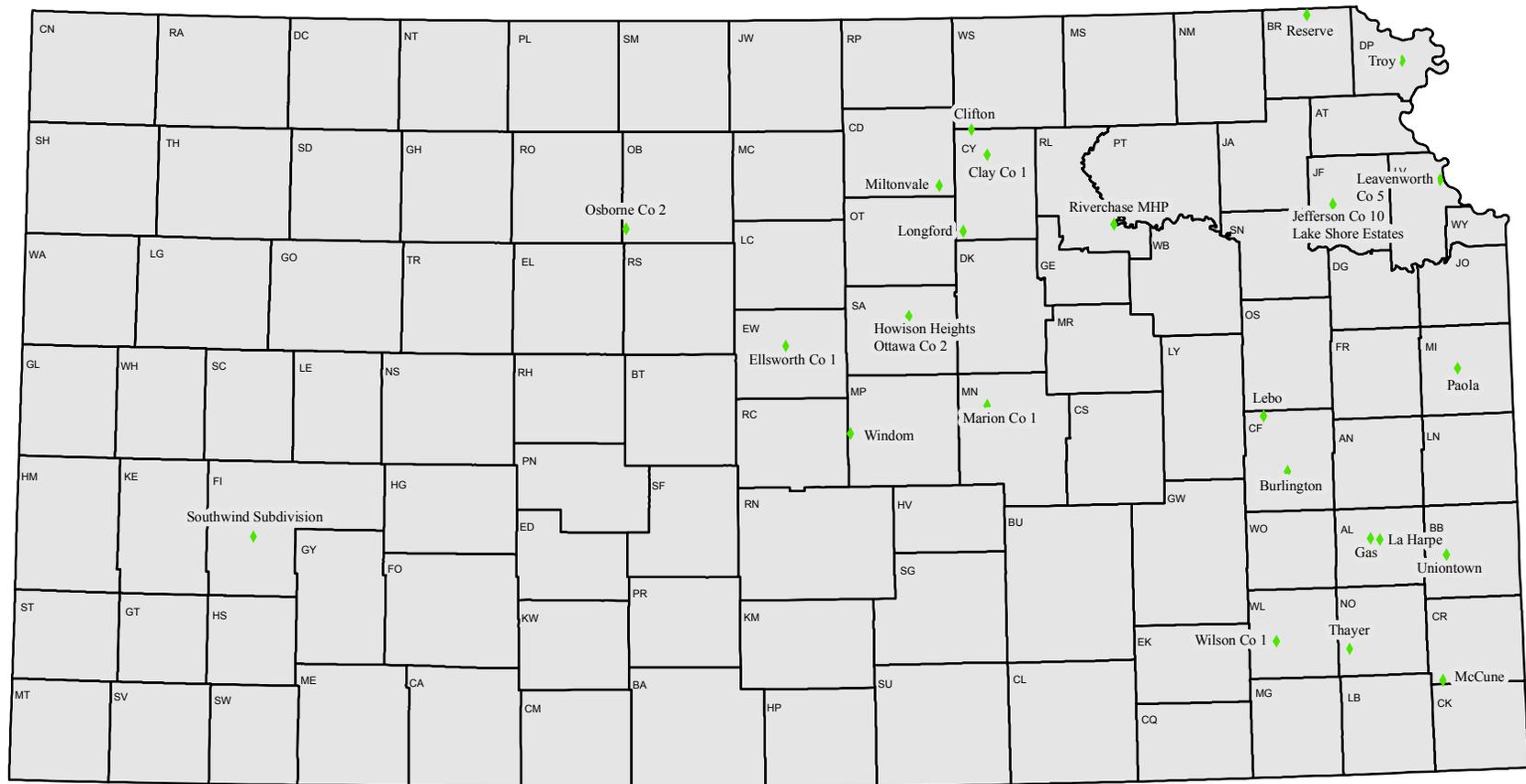
TOTAL COLIFORM MINOR MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2008705	JEFFERSON CO 8	JEFFERSON	53	1
KS2008902	JEWELL	JEWELL	426	1
KS2006116	JOHNSTON TRAILER COURT	GEARY	25	1
KS2117330	LAKESIDE ACADEMY	SEDGWICK	50	1
KS2014503	LARNED STATE HOSPITAL	PAWNEE	1700	1
KS2010318	LEAVENWORTH CO 5	LEAVENWORTH	740	1
KS2001515	LEON	BUTLER	691	1
KS2114910	LIVING WATER RANCH	POTAWATOMIE	40	1
KS2012104	MIAMI CO 3	MIAMI	2435	3
KS2012507	MONTGOMERY CO 8	MONTGOMERY	340	1
KS2002705	MORGANVILLE	CLAY	189	1
KS2009505	NORWICH	KINGMAN	487	1
KS2115109	PARK HILLS GOLF CLUB	PRATT	25	2
KS2015102	PRESTON	PRATT	163	1
KS2003302	PROTECTION	COMANCHE	530	1
KS2008901	RANDALL	JEWELL	65	2
KS2115904	REECE'S CAFÉ	RICE	25	3
KS2016136	ROCKY FORD WATER COMPANY	RILEY	52	2
KS2016306	ROOKS CO 2	ROOKS	70	1
KS2009504	SPIVEY	KINGMAN	78	1
KS2002302	ST FRANCIS	CHEYENNE	1310	2

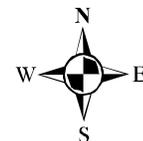
TOTAL COLIFORM MINOR MONITORING VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2116114	STAGG HILL GOLF CLUB	RILEY	50	1
KS2019107	SUMNER CO 2	SUMNER	495	3
KS2005101	SUNSET VALLEY ESTATES	ELLIS	60	1
KS2101303	SYCAMORE SPRINGS RESORT	BROWN	25	1
KS2017312	THE HARBOR	SEDGWICK	35	1
KS2106113	THUNDERBIRD MARINA	GEARY	25	4
KS2116105	TUTTLE CREEK RESERVOIR COE	RILEY	25	2
KS2016117	TUTTLE CREEK WATER COMPANY	RILEY	81	3
KS2007908	WALTON	HARVEY	233	1
KS2004309	WHITE CLOUD	DONIPHAN	175	1
KS2005536	WHITEHURST TRAILER PARK	FINNEY	150	1
KS2012705	WILSEY	MORRIS	149	1
KS2020512	WILSON CO 13	WILSON	223	1
KS2020504	WILSON CO 4	WILSON	293	1
KS2020505	WILSON CO 6	WILSON	30	1
KS2010903	WINONA	LOGAN	160	1
KS2117351	YMCA CAMP	SEDGWICK	300	2
KS2115533	YODER MEATS	RENO	45	1
TOTALS	84		38440	115

Figure 20: Boil Water Advisories



◆ Boil Water Advisory



BOIL WATER ADVISORIES

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2003101	BURLINGTON	COFFEY	2630	1
KS2002704	CLAY CO 1	CLAY	98	1
KS2002709	CLIFTON	WASHINGTON	537	1
KS2005309	ELLSWORTH CO 1- POST ROCK	ELLSWORTH	2626	13
KS2000102	GAS	ALLEN	540	1
KS2016909	HOWISON HEIGHTS	SALINE	200	1
KS2008709	JEFFERSON CO 10-LAKE SHORE ESTATES	JEFFERSON	300	2
KS2000105	LA HARPE	ALLEN	561	2
KS2010318	LEAVENWORTH CO 5	LEAVENWORTH	740	1
KS2003104	LEBO	COFFEY	915	1
KS2002706	LONGFORD	CLAY	78	1
KS2011510	MARION CO 1	MARION	780	1
KS2003708	MCCUNE	CRAWFORD	407	2
KS2002903	MILTONVALE	CLOUD	523	1
KS2014107	OSBORNE CO 2	CLOUD	55	1
KS2014307	OTTAWA CO 2	OTTAWA	1794	1
KS2012103	PAOLA	MIAMI	5630	1
KS2001302	RESERVE	BROWN	85	2
KS2016119	RIVERCHASE MHP	RILEY	460	1
KS2005527	SOUTHWIND SUBDIVISION	FINNEY	762	1
KS2013312	THAYER	NEOSHO	481	1
KS2004304	TROY	DONIPHAN	994	1
KS2001108	UNIONTOWN	BOURBON	264	1
KS2020515	WILSON CO 1	WILSON	307	1
KS2011314	WINDOM	MCPHERSON	131	1
TOTALS	25		21898	41

PUBLIC NOTICE VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2019116	ARGONIA	SUMNER	497	4
KS2000504	ATCHISON CO 3	ATCHISON	110	1
KS2000510	ATCHISON CO 6	ATCHISON	670	2
KS2020110	BARNES	WASHINGTON	155	1
KS2006707	BEDROCK MHP	GRANT	150	1
KS2010504	BEVERLY	LINCOLN	158	5
KS2016106	BLUE RIVER HILLS IMPV.	RILEY	89	2
KS2017348	BOUDREUX'S BURGER BARN	SUMNER	50	3
KS2001304	BROWN CO 1	BROWN	709	1
KS2001312	BROWN CO 2	BROWN	724	1
KS2013504	BROWNELL	NESS	29	1
KS2001505	BUTLER CO 2	BUTLER	1534	1
KS2012517	CANEY	MONTGOMERY	2140	1
KS2001706	CEDAR POINT	CHASE	27	4
KS2003714	CHEROKEE	CRAWFORD	712	1
KS2019118	CONWAY SPRINGS	SUMNER	1243	3
KS2005121	COUNTRY VIEW MHC	ELLIS	125	2
KS2005107	COUNTRYSIDE ESTATES MHP	ELLIS	300	1
KS2003512	COWLEY CO 2	COWLEY	600	1
KS2008507	DELIA	JACKSON	168	1
KS2014305	DELPHOS	OTAWA	353	1
KS2004305	DONIPHAN CO 1	DONIPHAN	75	1
KS2011502	DURHAM	MARION	108	1
KS2017346	DUSTY'S PLACE	SEDGWICK	65	1
KS2117337	EBERLY FARMS	SEDGWICK	200	1
KS2005122	ELLIS CO RWD 6	ELLIS	250	1
KS2002503	ENGLEWOOD	CLARK	76	1
KS2115514	FAIRFIELD HIGH SCHOOL	RENO	300	1
KS2012305	GLEN ELDER	MITCHELL	443	1
KS2006303	GOVE	GOVE	82	1
KS2000706	HARDTNER	BARBER	177	1

PUBLIC NOTICE VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2007708	HARPER CO 4	HARPER	320	1
KS2009703	HAVILAND	KIOWA	686	3
KS2005530	HILLCREST COURTS	FINNEY	70	2
KS2007101	HORACE	GREELEY	74	1
KS2018101	KANORADO	SHERMAN	157	1
KS2115106	KDWP OPERATIONS	PRATT	90	1
KS2018302	KENSINGTON	SMITH	451	1
KS2009919	LABETTE CO 1C	LABETTE	285	1
KS2008716	LAKESIDE VILLAGE	JEFFERSON	290	1
KS2009301	LAKIN	KEARNY	2185	1
KS2004903	LONGTON	ELK	318	1
KS2012302	MITCHELL CO 1	MITCHELL	345	1
KS2012507	MONTGOMERY CO 8	MONTGOMERY	340	1
KS2009505	NORWICH	KINGMAN	487	6
KS2003903	OBERLIN	DECATUR	1761	2
KS2100916	ODIN STORE	BARTON	25	1
KS2115109	PARK HILLS GOLF CLUB	PRATT	25	1
KS2006304	PARK	GOVE	129	1
KS2115515	PARTRIDGE GRADE SCHOOL	RENO	160	1
KS2001303	POWHATTAN	BROWN	78	1
KS2115101	PRATT AIRPORT	PRATT	175	3
KS2015510	RENO CO RWD 1	RENO	123	1
KS2106114	ROCK SPRINGS 4H CENTER	GEARY	63	1
KS2014502	ROZEL	PAWNEE	157	1
KS2016705	RUSSELL CO 4	RUSSELL	90	1
KS2001903	SEDAN	CHAUTAUQUA	1088	1
KS2019105	SUMNER CO 3	SUMNER	85	2
KS2019101	SUMNER CO5	SUMNER	1452	1
KS2017313	VIOLA	SEDGWICK	131	2
KS2015519	WEST HILLS SUBDIVISION	RENO	75	1
KS2005536	WHITEHURST TRAILER PARK	FINNEY	150	1

PUBLIC NOTICE VIOLATIONS

EPA #	PWS NAME	COUNTY	POP	VIOLATIONS
KS2105720	WILROADS GARDEN SCHOOL	FORD	130	1
KS2020501	WILSON CO 12	WILSON	123	1
KS2010903	WINONA	LOGAN	160	1
TOTALS		65	24597	95

APPENDIX C

LIST OF KDHE CONTACTS

2014



Vision – Healthy Kansans living in safe and sustainable environments

**KDHE – BUREAU OF WATER
PUBLIC WATER SUPPLY**
www.kdheks.gov

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