



# **Revised State Implementation Guidance for the Consumer Confidence Report (CCR) Rule**

Office of Water (4606M)  
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[www.epa.gov/safewater](http://www.epa.gov/safewater)  
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*Disclaimer*

This document provides guidance to states, Native American tribes, and U.S. Environmental Protection Agency (EPA) exercising primary enforcement responsibility under the Safe Drinking Water Act (SDWA) and contains EPA's current policy recommendations for complying with the Consumer Confidence Report (CCR) Rule. Throughout this document, the terms "state" and "states" are used to refer to all types of primacy agencies including U.S. territories, Native American tribes, and EPA.

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This is a living document and may be revised periodically without public notice. EPA welcomes public input on this document at any time. Guidance provided in this document reflects provisions published on August 19, 1998 at 63 FR 44526; and as amended at 63 FR 69475, December 16, 1998; 63 FR 69516, December 16, 1998; 64 FR 34733, June 29, 1999; 65 FR 26022, 26023, and 26024, May 4, 2000; 65 FR 76749, December 7, 2000; 66 FR 7064, January 22, 2001; 67 FR 1836, January 14, 2002; 67 FR 70855, November 27, 2002; 67 FR 73011, December 9, 2002; 68 FR 14506, March 25, 2003; 69; 71 FR 483, January 4, 2006; and 71 FR 65651 and 65652, November 8, 2006.

# **Appendix E**

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## **Example CCR and Reporting Monitoring Data**

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## **Example CCR**

EPA is providing the following CCR as an example of report format. In providing this report, EPA is not endorsing the views nor judging the accuracy of the information contained in the report. Be sure to check with your state drinking water program since your state may have different requirements from those under which this report was created. For assistance creating a CCR, systems can access the EPA CCRiWriter tool ([www.ccriwriter.com](http://www.ccriwriter.com)). *Samletown Annual Water Quality Report*, is fictitious and was created as a general example.

# SAMPLETOWN ANNUAL WATER QUALITY REPORT

May 2009

## Spanish (Español)

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

## French (Français)

Ce rapport contient des informations importantes à propos de votre eau potable. Demander à quelqu'un de traduire ces informations pour vous ou discuter avec une personne qui comprend ces informations.

## Is my water safe?

Last year, we conducted tests for over 80 contaminants. We only detected 10 of those contaminants, and found only 1 at a level higher than the Environmental Protection Agency (EPA) allows. As we told you at the time, our water temporarily exceeded drinking water standards. (For more information see the section labeled **Violations and Exceedances** at the end of the report.) This report is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. We are committed to providing you with information because informed customers are our best allies.

## Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

## Where does my water come from?

Your water comes from three municipal wells sunk about 500 feet into an underground source of water called the Low Plain Aquifer. These wells are located west of town. The town owns the land around these wells and restricts any activity that may contaminate them. After the water comes out of the wells, we treat it to remove several contaminants and we also add disinfectant to protect you against microbial contaminants.

## Source water assessment and its availability

The state performed an assessment of our source water in January of 2005. A source water assessment identifies potential sources of contamination to the water we use for your drinking water. The assessment concluded that our water source is most susceptible to contamination from abandoned irrigation wells and farm runoff. Two abandoned wells have been located and have since been properly plugged. Farm runoff

continues to be a concern although many local farmers are participating in a 3 county source water protection program. Please call us at 111-2233 if you would like more information about the assessment.

### **Why are there contaminants in my drinking water?**

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791). The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present include: Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

### **How can I get involved?**

Our Water Board meets on the first Tuesday of each month at 7:30 pm at Edison High School on Maple Lane. Please feel free to participate in these meetings. Your input is important to us!

### **Monitoring and reporting of compliance data violations**

Our water system failed to conduct monitoring for Arsenic on time. We are required to sample annually. Due to an oversight, we took the sample 3 months late. Although the late sample was below the MCL we are uncertain whether or not there may be any adverse health risks associated with this violation. We have recently implemented a new monitoring scheduling system which should prevent this type of monitoring oversight in the future.

### **Additional information for Lead**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Samletown is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been



sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

### Additional information for Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

## Water Quality Data Table

The table below lists all of the drinking water contaminants we detected that are applicable for the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change.

Contaminants	MCLG or MRDLG	MCL, TT or MRDL	Your Water	Range		Sample Date	Violation	Typical Sources
				Low	High			
Disinfectant Residual								
Chloramine (as Cl <sub>2</sub> ) (mg/L)	4	4	1	1	3	2008	No	Water additive to control microbes.
Inorganic Contaminants								
Fluoride (ppm)	4	4	2	1	2	2008	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen) (ppm)	10	10	6	ND	6	2008	No	Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits.
Radioactive Contaminants								
Alpha emitters (pCi/L)	0	15	4*	1	4	2006	No	Erosion of natural deposits
Beta/photon emitters (pCi/L)	0	50**	10	ND	10	2008	No	Decay of natural and man-made deposits.

Contaminants	MCLG or MRDLG	MCL, TT or MRDL	Your Water	Range		Sample Date	Violation	Typical Sources
				Low	High			
Synthetic Organic Contaminants including pesticides and herbicides								
Dibromochloropropane (DBPC) (parts per trillion [ppt])	0	200	15	10	15	2008	No	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples and orchards.
Atrazine (ppb)	3	3	3.75	0.1	10	2008	Yes	Runoff from herbicide used on row crops.
Volatile Organic Contaminants								
Benzene (ppb)	0	5	1	ND	1	2007	No	Discharge from factories; leaching from gas storage tanks and landfills.
TTHMs [Total Trihalomethanes] (ppb)	NA	80	73	40	110	2008	No	Byproduct of drinking water disinfection.

\* If the results of this sample had been above 5 pCi/L, our system would have been required to do additional testing for radium. Because the results were below 5 pCi/L, no testing for radium was required.

\*\* The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

Name	Reported Level	Range	
		Low	High
Unregulated Contaminant Monitoring*			
Dimethoate (ppb)	0.07	ND	0.07

\* Unregulated contaminants monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

Contaminants	MCLG	AL	Your Water (90th%)	Sample Date	# of Samples Exceeding the AL	Violation	Typical Sources
Inorganic Contaminant							
Lead – lead at consumers tap (ppb)	0	15	9	2008	1 of 20	No	Corrosion of household plumbing systems; erosion of natural deposits.

### Data Table Key: Unit Descriptions

mg/L	mg/L: number of milligrams of substance in one liter of water
ppm	ppm: parts per million, or milligrams per liter
ppb	ppb: parts per billion, or micrograms per liter
ppt	ppt: parts per trillion, or nanograms per liter

pCi/L	pCi/L: picocuries per liter ( a measure of radioactivity)
NA	NA: not applicable
ND	ND: not detected
NR	NR: monitoring not required, but recommended

### Important Drinking Water Definitions

<b>MCLG</b>	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
<b>MCL</b>	Maximum Contaminant Level: This highest level of a contaminant that is allowed in drinking water. MCLs are set as close as feasible using the best available treatment technology.
<b>TT</b>	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
<b>AL</b>	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water systems must follow.
<b>MRDLG</b>	Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
<b>MRDL</b>	Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

### Violations and Exceedances: Atrazine

Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties. During March, April and May a surge in use of atrazine-based herbicides by area farmers caused our water to exceed the MCL for atrazine. We sent a notice warning you of the problem when it occurred and offered to provide alternative water to customers at that time. We are working with the state and local farmers to ensure that this never happens again, and we are monitoring atrazine levels monthly. We regret exposing you to any potential risk. If you would like more information about atrazine or the violation call us at 111-2233 or Sample County's health department at 111-3377.

### For More Information Please Contact:

**Dan Jones, 111 Main Street, Samletown, AK 55555**  
**Phone (999) 111-2233, Fax (999) 111-225**

## Reporting Monitoring Data

The following tables provide examples of monitoring data and instructions on how to report certain detects in the CCR. Note all results must be reported in CCR units.

– **Example that demonstrates reporting for 1 sample site and monitoring less than annually:**

- Barium monitoring
- Barium MCL: 2 ppm
- MCL in CCR units: 2 ppm
- March 2006 Result: 0.003 ppm
- Example CCR Table Excerpt for 2008 Report:

	MCL	MCLG	Your Water	Range	Year Sampled	Violation	Typical source
<b>Barium (ppm)</b>	2	2	0.003	N/A	2006	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

Note: System will report this same result each CCR year until the next sample is taken.

**Example that demonstrates reporting for one sampling site and multiple sampling dates**

- Atrazine monitoring
- Atrazine MCL: 0.003 ppm
- MCL in CCR units: 3 ppb
- 2008 Results:

<b>Atrazine Monitoring</b>	<b>1st quarter 2008</b>	<b>2nd quarter 2008</b>	<b>3rd quarter 2008</b>	<b>4th quarter 2008</b>
<b>2008 Analysis Results</b>	0.8 ppb	3.8 ppb	2.1 ppb	0.9 ppb
<b>Running Annual Average*</b>	1.2 ppb	2.1 ppb	1.4 ppb	1.9 ppb

\*Reported RAA for quarters 1-3 are based on results from previous quarters not reported on this table.

Note: Highlighted numbers represent the range and the highest RAA.

- Example CCR Table Excerpt:

	<b>MCL</b>	<b>MCLG</b>	<b>Your Water</b>	<b>Range</b>	<b>Year Sampled</b>	<b>Violation</b>	<b>Typical source</b>
<b>Atrazine (ppb)</b>	3	3	2.1	0.8 - 3.8	2008	No	Runoff from herbicide used on row crops

**Example that demonstrates reporting for disinfectant residuals**

- Monitoring for chloramines
- System size: 1,001-2,500 people
- Samples: 2 times per month
- Chloramines MRDL: 4 ppm
- MRDL in CCR units: 4 ppm
- 2008 Results:

Samples (ppm)	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept	Oct.	Nov.	Dec.
Sample 1	1.0	2.1	1.4	2.2	1.4	1.4	2.5	2.6	1.4	2.9	3.7	1.8
Sample 2	1.4	1.9	0.8	2.2	2.3	1.6	2.1	2.8	1.4	2.7	2.9	1.8
Monthly Average	1.2	2.0	1.1	2.2	1.9	1.5	2.3	2.7	1.4	2.8	3.3	1.8
Quarterly RAA*	1.7			2.3			1.9			2.0		

\*Reported RAA for quarters 1-3 are based on results from previous quarters not reported on this table.

Note: Highlighted numbers represent the range and the highest RAA.

- Example CCR Table Excerpt:

	MRDL	MRDLG	Your Water	Range	Year Sampled	Violation	Typical source
Chloramines (ppm)	4	4	2.3	0.8 - 3.7	2008	No	Water additive used to control microbes

**Example that demonstrates reporting for multiple sampling sites and multiple sampling dates:**

- Total Trihalomethane monitoring under Stage 1 DBPR and Stage 2 DBPR IDSE.
- TTHM MCL: 0.080 ppm
- MCL in CCR units: 80 ppb
- 2008 Results:

<b>Total Trihalomethane Monitoring Results* (in ppb)</b>	<b>1st quarter 2008</b>	<b>2nd quarter 2008</b>	<b>3rd quarter 2008</b>	<b>4th quarter 2008</b>
Site 1	53	62	125	70
Site 2	55	62	119	60
Site 3	50	63	117	70
Site 4	54	69	135	84
<b>System-wide Quarterly Average</b>	53	64	124	71
<b>System-wide Running Annual Average*</b>	75	77	82	78

\*Reported RAA for quarters 1-3 are based on results from previous quarters not reported on this table.

Note: Highlighted numbers represent the range and the average of the results obtained during the calendar year. The highest sample result occurred in the third quarter during IDSE sampling (see following table).

<b>IDSE Results</b>	<b>1st quarter 2008</b>	<b>2nd quarter 2008</b>	<b>3rd quarter 2008</b>	<b>4th quarter 2008</b>
Site 1	45	55	70	50
Site 2	60	85	100	115
Site 3	100	90	140	105
Site 4	45	60	65	50

\* The IDSE results must be included in the range in the CCR Table.

- Example CCR Table Excerpt:

	<b>MCL</b>	<b>MCLG</b>	<b>Your Water</b>	<b>Range</b>	<b>Sample Year</b>	<b>Violation</b>	<b>Typical source</b>
<b>TTHM (ppb)</b>	80	NA	78	50 - 140	2008	Yes*	Byproduct of drinking water disinfection

\* While the average for the year did not exceed the MCL there was an MCL violation that was determined during the year that included results that were collected outside of this calendar year.

Include discussion of the TTHM MCL violation, including health effects language, below the table.

- Notes:
  - Under Stage 1 DBPR for TTHM and HAA5, systems must report the average and the range of sample results.
  - Since the system collected samples under IDSE during the calendar year, the results of the IDSE are included in the reported “range” of results but not the average.



**Example that demonstrates reporting for multiple sampling sites and multiple sampling dates for TTHM with an MCL exceedance at one location:**

- Total Trihalomethane monitoring under Stage 2 DBPR
- TTHM MCL: 0.080 ppm
- MCL in CCR units: 80 ppb
- 2012 Results:

<b>Total Trihalomethane Monitoring Results (in ppb)</b>	<b>1<sup>st</sup> quarter 2012</b>	<b>2<sup>nd</sup> quarter 2012</b>	<b>3<sup>rd</sup> quarter 2012</b>	<b>4<sup>th</sup> quarter 2012</b>
<b>Site 1 Quarterly Results</b>	45	60	125	70
<i>Site 1- LRAA*</i>	47	51	74	75
<b>Site 2 Quarterly Results</b>	40	55	115	60
<i>Site 2- LRAA*</i>	42	49	71	68
<b>Site 3 Quarterly Results</b>	45	60	105	70
<i>Site 3- LRAA*</i>	40	48	69	70
<b>Site 4 Quarterly Results</b>	50	65	135	75
<i>Site 4- LRAA*</i>	49	55	78	81

\*Reported LRAA for quarters 1-3 are based on results from previous quarters not reported on this table.

- Example CCR Table Excerpt:

<b>Monitoring</b>	<b>MCL</b>	<b>MCLG</b>	<b>Your Water</b>	<b>Range</b>	<b>Sample Year</b>	<b>Violation</b>	<b>Typical source</b>
<b>TTHM System (ppb)</b>	80	NA	81 (highest LRAA at Site 4)	40 – 135	2012	Yes	Byproduct of drinking water disinfection

Include discussion of the TTHM MCL violation at Site 4, including health effects language, below the table.

- Notes:
  - Under Stage 2 DBPR, for TTHM and HAA5, systems with no LRAA MCL exceedances or only one location with an exceedance, must report the highest LRAA and the range of quarterly results (for all locations) in their main detected contaminant table.

**Example that demonstrates reporting for multiple sampling sites and multiple sampling dates for TTHM with more than one MCL exceedance:**

- Total Trihalomethane monitoring under Stage 2 DBPR
- TTHM MCL: 0.080 ppm
- MCL in CCR units: 80 ppb
- 2012 Results:

<b>Total Trihalomethane Monitoring Results (in ppb)</b>	<b>1st quarter 2012</b>	<b>2nd quarter 2012</b>	<b>3rd quarter 2012</b>	<b>4th quarter 2012</b>
<b>Site 1 Quarterly Results</b>	62	65	125	100
<i>Site 1- LRAA*</i>	52	87	74	88
<b>Site 2 Quarterly Results</b>	40	55	115	60
<i>Site 2- LRAA*</i>	42	49	71	68
<b>Site 3 Quarterly Results</b>	45	60	105	70
<i>Site 3- LRAA*</i>	40	48	69	70
<b>Site 4 Quarterly Results</b>	50	65	135	62
<i>Site 4- LRAA*</i>	60	55	82	78

\*Reported LRAA for quarters 1-3 are based on results from previous quarters not reported on this table.

- Example CCR Table Excerpt:

<b>Monitoring</b>	<b>MCL</b>	<b>MCLG</b>	<b>Your Water</b>	<b>Range</b>	<b>Sample Year</b>	<b>Violation</b>	<b>Typical source</b>
<b>TTHM System (ppb)</b>	80	NA	88 (highest LRAA)	40- 135	2012	See Sites 1 and 4	Byproduct of drinking water disinfection
<b>TTHM Site 1 (ppb)</b>	80	NA	88	62 - 125	2012	Yes	Byproduct of drinking water disinfection
<b>TTHM Site 4 (ppb)</b>	80	NA	82	50 - 135	2012	Yes	Byproduct of drinking water disinfection

Include discussion of the TTHM MCL violation at Sites 1 and 4, including health effects language, below the table.

- Notes:

- Under Stage 2 DBPR, for TTHM and HAA5, systems must report the highest LRAA and the range of quarterly results (for all locations) in their main detected contaminant table. In addition, systems with an LRAA MCL exceedance at more than one location, must report the LRAA for each location that exceeded the MCL.

**Example that demonstrates reporting of lead results:**

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10
<b>July 2008</b>	ND	ND	8	12	19	3	ND	ND	4	22

- Notes:
  - To calculate the 90<sup>th</sup> percentile: The results of all samples taken during a monitoring period shall be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. Each sample result shall be assigned a number starting with the number 1 for the lowest value. The number of samples taken during the monitoring period shall be multiplied by 0.9. The contaminant concentration in the numbered sample yielded by this calculation is the 90<sup>th</sup> percentile value.

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10
<b>July 2008</b>	ND	ND	ND	ND	3	4	8	12	19	22

- 10 samples x 0.9 = 9 therefore, the ninth value is the 90<sup>th</sup> percentile value.
  - Report in Table: 90<sup>th</sup> percentile=19 ppb AND the number of sites above action level (15 ppb) = 2
- Notes:
  - Regardless of whether lead is detected in your system, you must include an informational statement about lead in your report, which is provided in Section 3.2.2.8.
  - Water quality parameter monitoring data that you collect in association with this rule should not be included in the report.

● Example CCR Table Excerpt:

	MCL	MCLG	Your Water	Range	Sample Year	Violation	Typical source
<b>Lead (ppb)</b>	AL =15	0	19	2 sites over action level	2008	No	Corrosion of household plumbing systems; erosion of natural deposits

**Example that demonstrates reporting turbidity results:**

- When reporting turbidity, systems that provide filtration must report the highest single measurement and the lowest monthly percentage of samples meeting the requirements specified for that technology. In this situation, direct and conventional filtration systems may want to report the data in 2 rows of their table.
- Example CCR Table Excerpt:

	<b>MCL</b>	<b>MCLG</b>	<b>Your Water</b>	<b>Range</b>	<b>Sample Date</b>	<b>Violation</b>	<b>Typical Source</b>
<b>Turbidity</b>	TT=1 NTU	0	0.7 NTU	N/A		No	Soil runoff
	TT= percentage of samples<0.3 NTU		97 %	N/A		No	

- Notes:
  - Alternative filtration systems would want to report the above information using turbidity limits established by the state.

**Example that demonstrates reporting TCR detects with no MCL violation:**

- Detects of coliform, fecal coliform or *E. coli* bacteria during routine monitoring must be reported, even if no MCL violation occurred.
- For a system that collects at least 40 samples per month (i.e., a system that serves > 33,000 people), if no more than 5.0 percent of the samples collected during a month are positive, the system is in compliance with the MCL for total coliforms.
- For a system that collects fewer than 40 samples/month (i.e., a system serving ≤ 33,000 people), if no more than one sample collected during a month is positive, the system is in compliance with the MCL for total coliforms.
- In these situations, you may wish to report detects as shown below. Check with your state to make sure this meets state-specific requirements.

**Systems collecting fewer than 40 total coliform samples per month ( Example CCR Table Excerpt):**

	MCL	MCLG	Your Water	Range	Sample Date	Violation	Typical source
<b>Total Coliform</b>	1 positive sample/month*	0	1 positive sample		xx/xx/xx	No	Naturally present in the environment
<b>Fecal coliform or <i>E. coli</i> bacteria</b>		0	0			No	Human or animal fecal waste

\* If a system collecting fewer than 40 samples per month has two or more positive samples in one month, the system has a MCL violation.

**Systems collecting 40 or more total coliform samples per month (assume for the example that the system collects 50 samples per month) month ( Example CCR Table Excerpt):**

	MCL	MCLG	Your Water	Range	Sample Date	Violation	Typical Source
<b>Total Coliform</b>	5% of monthly samples are positive	0	1.5%		xx/xx/xx	No	Naturally present in the environment
<b>Fecal coliform or <i>E. coli</i> bacteria</b>		0	0			No	Human or animal fecal waste

**Example that demonstrates TOC reporting (surface water treatment plants with conventional treatment or precipitative softening)**

- If any of the following apply, you must report a treatment technique violation for enhanced coagulation or enhanced softening (if applicable):
  - Alternate compliance criteria for enhanced coagulation or enhanced softening cannot be met.
  - Quarterly TOC monitoring does not demonstrate the percentage removal of TOC (demonstrated in the table below).
  - A system does not obtain state approval for alternate minimum TOC removal (Step 2) requirements.
  
- The example CCR Table excerpt below is for a conventional surface water treatment system with source water TOC between 2-4 mg/L and with a source water alkalinity between 0-50 mg/L. It demonstrates how to report this TOC TT violation:

<b>TT Violation</b>	<b>Explanation of the TT Violation</b>	<b>Length of the Violation</b>	<b>Steps Taken to Correct the Violation</b>	<b>Health Effect Language</b>
Failure to remove required amount of total organic carbon (TOC) (DBPP)	On March 3 <sup>rd</sup> , we collected samples for TOC before and after our treatment process to determine the percentage of TOC we were removing. Results showed that we were removing 25 percent of the TOC. We are required to remove 35 percent of the TOC.	1 month	We examined our treatment processes to see if we could improve our removal of TOC. We made some adjustments to our process on March 29 <sup>th</sup> . Samples collected after that time show that we are able to achieve 35 percent removal.	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver, or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

**Example that demonstrates reporting substitution of gross alpha particle results for radium testing**

- A gross alpha particle activity measurement may be substituted for the required radium measurement provided that the measured gross alpha particle activity does not exceed 5 pCi/L.
- In this situation, you may wish to report detects of gross alpha particle activity. Verify with the state that this approach meets their requirements.
- Example CCR Table Excerpt:

	MCL	MCLG	Your Water	Range	Sample Date	Violation	Typical Source
Alpha emitters pCi/L	15	0	3*		xx/xx/xx	No	Erosion of natural deposits

\* If the results of this sample had been above 5 pCi/L, our system would have been required to do additional testing for radium. Because the results were below 5 pCi/L, no testing for radium was required.



**Example that demonstrates reporting substitution of gross alpha particle results for uranium testing**

- A gross alpha particle activity measurement may be substituted for the required uranium measurement provided that the measured gross alpha particle activity does not exceed 15 pCi/L.
- In this situation, you may wish to report detects of gross alpha particle activity. Verify with the state that this approach meets their requirements.
- Example CCR Table Excerpt:

	MCL	MCLG	Your Water	Range	Sample Date	Violation	Typical Source
<b>Alpha emitters pCi/L</b>	15	0	12*		xx/xx/xx	No	Erosion of natural deposits

\* If the results of this sample had been above 15 pCi/L, our system would have been required to do additional testing for uranium. Because the results were below 15pCi/L, no testing for uranium was required.

**Example that demonstrates reporting beta particles results**

- The MCL for beta particles is 4 mrem/year. EPA recognizes that laboratories often report these results in pCi/L, and that there is no simple conversion between the two units. Therefore, it is acceptable for systems to report the detected level for beta particles in pCi/L. So that consumers may have a standard against which to compare the detected level, systems should place 50 in the MCL column and include a footnote explaining that EPA considers 50 pCi/L to be a level of concern for beta particles.
- Example CCR Table Excerpt:

	<b>MCL</b>	<b>MCLG</b>	<b>Your Water</b>	<b>Range</b>	<b>Sample Date</b>	<b>Violation</b>	<b>Typical Source</b>
<b>Beta particles (pCi/L)</b>	50*	0	10**	ND-10	xx/xx/xx	No	Erosion of natural deposits

\* The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

\*\* Because the beta particle results were below 50 pCi/L, no testing for individual beta particle constituents was required.

**Examples that demonstrates treatment technique violation reporting under LT2ESWTR**

- For violations of treatment techniques under LT2ESWTR, the system must provide an explanation of the violation, an indication of the length of the violation, information on steps taken to correct the violation, and health effects language. Because there are no standard health effects language provided for these treatment techniques, the system would have to write language specific to the violation. You can use the health effect language for contaminants as an example or template.
- Example CCR Table Excerpt (**note that not all of these violations would have occurred in the same year**):

<b>TT Violation</b>	<b>Explanation</b>	<b>Length</b>	<b>Steps Taken to Correct the Violation</b>	<b>Health Effect Language</b>
<b>Uncovered and untreated finished water reservoir</b>	The South Street finished water reservoir is uncovered and the discharge is not treated. We were required to address this situation by April 1, 2009.	17 months	We have hired an engineering firm to design a cover for the tank. We intend to have the tank covered by September 2010.	Inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.
<b>Determine and Report Bin Classification</b>	After conducting our source water monitoring for <i>Cryptosporidium</i> , we were required to determine and report our Bin Classification by [date].	1 month	We have since determined our bin classification and reported this to the DEQ.	Inadequately treated water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.
<b>Provide or Install an Additional Level of Treatment</b>	Based on our bin classification, we were required to provide or install an additional level of treatment by [date].	6 months	We hired an engineering firm to prepare a preliminary engineering report. The report listed treatment alternatives. We selected one of the alternatives and are in the process of constructing it. We anticipate that it will be completed by [date].	Inadequately treated water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.

**Example that demonstrates special notice for fecal indicator-positive groundwater source sample reporting**

- This system was triggered to conduct source water monitoring after a TCR positive sample in December of 2009. In this example, both the distribution and the source samples were positive for *E. coli*. The system took five additional source samples and one was positive. Below is an example of reporting for both the TCR violation and the GWR special notice.
- The required special notice language for fecal indicator-positive samples must be provided in the CCR. For this example, we have included it as a footnote to the table.
- Example CCR Table Excerpt:

Contaminant	MCL	MCLG	Your Water	Range	Sample Year	Violation	Source
<i>E. coli</i> (in the distribution system)	0	0	1 positive sample	ND-1	2009	Yes*	Human or animal fecal waste
<i>E. coli</i> (at the ground water source) **	0	0	2 positive samples	ND-1	2009	No	Human or animal fecal waste

\* We were notified on December 9, 2009 of an *E. coli* positive sample in the distribution system. You may remember receiving public notification of this violation on December 10. For reasons discussed in the next paragraph, we took Well 1 off-line on December 11. The duration of the violation was two days. We are addressing this contaminated well as discussed below.

\*\* On December 10, 2009, we sampled the sources (Well 1 and Well 2) for the fecal-indicator, *E. coli*. We were notified on December 11 that Well 1 tested positive for *E. coli*. On December 12, we took five additional samples and were notified on December 13 that two of the five samples were positive for *E. coli*. We immediately took Well 1 off-line at that time. Our system is in contact with the state DEQ, and we have a state-approved plan to abandon this well and replace it with a new well. We will have the new well completed by July 5, 2010, and the old well will be abandoned by July 15, 2010. As an interim measure, we have moved to only utilizing this well as an emergency source and have not had to utilize it since the sampling revealed the contamination.

**Health Effects:** Fecal coliforms and *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

- If the system had sampled for (and found) enterococci or coliphage as their fecal indicator, the table would read as shown in the example below.

Contaminant	MCL	MCLG	Your Water	Range	Sample Year	Violation	Source
<b>Enterococci (at the ground water source)*</b>	TT	N/A	2 positive samples	ND-1	2009	No	Human or animal fecal waste
<b>Coliphage (at the ground water source) *</b>	TT	N/A	2 positive samples	ND-1	2009	No	Human or animal fecal waste

\* Special notice required text and health effects language would be provided in the CCR – possibly in a footnote to the table as shown in the example above.

**Health Effects:** Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

**Example that demonstrates reporting of TT violation for failure to take corrective action for fecal indicator-positive groundwater source sample**

- If in the example above, the system did not take corrective action or set a corrective action plan with the state within 120 days of the fecal indicator-positive additional sample, they will be in violation of a treatment technique.

<b>TT Violation</b>	<b>Explanation</b>	<b>Length</b>	<b>Steps Taken to Correct the Violation</b>	<b>Health Effect Language</b>
<b>Corrective Action for GW Fecal Indicator Source Sample(s)</b>	We were required to take corrective action to address the fecal contamination in our well.	3 months	We have contacted the DEQ and are now on a corrective action plan. We will abandon the contaminated well and drill a new one. We will have the new well completed by July 5, 2010, and the old well will be abandoned by July 15, 2010.	Inadequately protected or treated water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps, and associated headaches.

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# **Appendix F**

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## **Memorandum on Alternative MCL Reporting Format**



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EPA believes the format requirement specified in 40 CFR 141.153(d)(4)(i) that the MCL be reported as a number greater than or equal to one can be changed only in very limited circumstances. This appendix contains a memorandum dated June 29, 1999 that clarifies what those conditions are and the specific criteria under which those conditions may be met.

## **MEMORANDUM**

Subject: Consumer Confidence Report (CCR) Rule -- Units for Reporting Detected Contaminants

To: Water Division Directors  
Regions I - X

From: Cynthia Dougherty, Director  
Office of Ground Water and Drinking Water

I am writing to reaffirm our policy on reporting units for detected contaminants in Consumer Confidence Reports (CCRs). The CCR rule requires water systems to list detected contaminants and to show corresponding Maximum Contaminant Levels (MCLs) and the level detected. The MCL must be expressed as a number greater than or equal to one and the level detected must be expressed in the same units.

Some states contend that CCRs should be prepared with the units most commonly used by water systems. States argue that using these units would limit the effort required to prepare reports and minimize errors. However, we believe that the effort to convert units is well spent. Focus groups conducted independently by EPA and the American Water Works Association showed that the public finds numbers greater than or equal to one easier to understand and use as a basis for comparing with detected levels. I believe that templates produced by EPA and other organizations that automatically convert data will make reporting in numbers greater than or equal to one less difficult for water systems.

At the Association of State Drinking Water Administrators (ASDWA) Winter Meeting, I was asked about the type of information and research that would be required before EPA would approve a CCR Rule primacy revision application that allowed MCL reporting in other than numbers greater than or equal to one. I responded that I would consider approval of such an application upon a good faith State effort showing the proposed reporting format is favored by the State's public over using numbers greater than or equal to one. I believe that there should be a high bar for public involvement for changing the reporting format for detected contaminants. Public involvement should include documented focus group research. This research should target members of communities served. Representatives from water systems and other drinking water professionals can be involved in the research, but they should not be considered the target audience. If the process shows that consumers find an alternative MCL format easier to understand, I would consider approving a State primacy revision application including that format. Thus far no State has tried to make this demonstration.

I strongly recommend that States include their EPA region and a wide range of stakeholders in developing any focus group methodology. If a State intends to change the MCL presentation format, I recommend that the State submit a draft primacy revision application documenting the methodology and the focus group research and explaining the proposed changes.

All focus group research conducted to date that we are aware of shows that numbers greater than or equal to one for presentation of MCLs are easiest for consumers to understand. Please call me with any questions or comments at (202)-260-5543 or have your staff call Kathy Williams at (202)-260-2589.

cc: CCR Implementation Workgroup  
Vanessa Leiby, ASDWA

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