

UCMR 4 Contaminants and Corresponding Analytical Methods					
Contaminant		CAS Registry Number1	Minimum Reporting Level	Sampling Points	Analytical Methods
<b>TenAp Cyanotoxin Chemical Contaminants</b>				<b>EPTDS</b>	
1	Total Microcystin	N/A	0.3 µg/L		EPA 546
2	microcystin-LA	96180-79-9	0.008 µg/L		EPA 544
3	microcystin-LF	154037-70-4	0.006 µg/L		EPA 544
4	microcystin-LR	101043-37-2	0.02 µg/L		EPA 544
5	microcystin-LY	123304-10-9	0.009 µg/L		EPA 544
6	microcystin-RR	111755-37-4	0.006 µg/L		EPA 544
7	microcystin-YR	101064-48-6	0.02 µg/L		EPA 544
8	Nodularin	118399-22-7	0.005 µg/L		EPA 544
9	Anatoxin-a	64285-06-9	0.03 µg/L		EPA 545
10	Cylindrospermopsin	143545-90-8	0.09 µg/L		EPA 545
<b>Two Metals</b>				<b>EPTDS</b>	<b><u>EPA 200.8, ASTM D5673-10, SM 3125</u></b>
11	germanium	7440-56-4	0.3 µg/L		
12	manganese	7439-96-8	0.4 µg/L		
<b>Eight Pesticides and One Pesticide</b>				<b>EPTDS</b>	<b>EPA 525.3</b>
13	alpha-hexachlorocyclohexane	319-84-6	0.01 µg/L		
14	chlorpyrifos	2921-88-2	0.03 µg/L		
15	dimethipin	55290-64-7	0.2 µg/L		
16	ethoprop	13194-48-4	0.03 µg/L		
17	oxyfluorfen	42874-03-3	0.05 µg/L		
18	profenofos	41198-08-7	0.3 µg/L		
19	Tebuconazole	107534-96-3	0.2 µg/L		
<b>20</b>	<b>Total permethrin (cis-&amp;trans-)</b>	<b>52645-53-1</b>	<b>0.04</b>		
21	tribufos	78-48-8	0.07 µg/L		
<b>Three Brominated Haloacetic Acid (HAA)<sup>3,4</sup></b>				<b>D/DBPR</b>	<b>EPA 552.3 or EPA 557</b>
21	HAA5	N/A	N/A		
22	HAA6Br	N/A	N/A		
23	HAA9	N/A	N/A		
<b>Three Alcohols</b>				<b>EPTDS</b>	<b>EPA 541</b>
24	1-butanol	71-36-3	2.0 µg/L		
25	2-methoxyethanol	109-86-4	0.4 µg/L		
26	2-propen-1-ol	107-18-6	0.5 µg/L		
<b>Three Other Semivolatile Chemicals</b>				<b>EPTDS</b>	<b>EPA 530</b>

27	Butylated hydroxyanisole	25013-16-5	0.03 µg/L		
28	o-toluidine	95-53-4	0.007 µg/L		
29	Quinolone	91-22-5	0.02 µg/L		

**Group 2: Indicators**

	Contaminant	CAS Registry Number <sup>1</sup>	Minimum Reporting Level	Sampling Points <sup>2</sup>	Analytical Methods
1	total organic carbon (TOC)	N/A	N/A	SR	SM 5310 B, SM 5310 C, SM 5310 D (21 <sup>st</sup> edition), or SM 5310-B-00, SM 5310-C-00, SM 5310 D-00, EPA Method 415.3 (Rev. 1.1 or 1.2)
2	bromide	N/A	N/A	SR	EPA Methods 300.0 (Rev 2.1), 300.0 (Rev 1.0), 317.0 (Rev 2.0), or ASTM D 6581-12

**NOTES:**

**EPTDS-Entry points to Distribution System**

**SR-Source Water Intake Locations (SR)**

<sup>1</sup>Chemical Abstract Service (CAS) Registry Number

<sup>2</sup>Sampling Locations

- Entry points to the distribution system (EPTDS)
- Source Water Intake Locations (SR)
- Stage 2 Disinfectants and Disinfection Byproducts Rule Sampling Locations (D/DBPR)

<sup>3</sup>TOC and bromide samples must be collected at the same time as HAA samples. These indicator samples must be collected at a single source water intake using methods already approved for compliance monitoring.

<sup>4</sup>Regulated HAAs (HAA5) are included in the monitoring program to gain a better understanding of co-occurrence with currently unregulated disinfection byproducts.

- HAA5 includes: dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, trichloroacetic acid.
- HAA6Br includes: bromochloroacetic acid, bromodichloroacetic acid, dibromoacetic acid, dibromochloroacetic acid, monobromoacetic acid, tribromoacetic acid.
- HAA9 includes: bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, tribromoacetic acid, trichloroacetic acid.