

Unregulated Contaminant Monitoring Rule (UCMR)

In accordance with the 1996 Safe Drinking Water Act (SDWA), the Environmental Protection Agency (EPA) requires water systems throughout the US to participate in sampling events targeting unregulated, yet potentially harmful, contaminants. The EPA then uses this data to determine the need to establish regulations to protect public health. Below you will find a summary of the parameters collected for City of San Marcos Public Water System during the UCMR4 monitoring period. The monitoring period was in 2018 and 2020. You may find more information on the EPA's UCMR website: <https://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule>

1 µg/L = 1 part per billion

Disinfection Byproducts – Disinfection byproducts (DBPs) are chemicals that form during drinking water treatment and distribution when naturally occurring organic matter reacts with chlorine or other disinfectants used to kill pathogenic organisms.¹

These samples were collected quarterly – once every 3 months – at eight (8) representative locations within the City for a total of thirty-two (32) samples

Analyte	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)	Average Concentration Detected (µg/L)
HAA5	0.40	19.17	8.50
HAA6Br	1.31	34.59	14.61
HAA9	1.31	44.11	19.41

Metals - While some metals are essential as nutrients, all metals can be toxic at some level.²

These samples were collected quarterly – once every 3 months – at six (6) representative locations after treatment but prior to entering the distribution lines that deliver water to customer's taps. *NOTE: The following table only displays the detected concentration of manganese. Manganese was only detected in eight (8) of twenty-four (24) samples.*

Analyte	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)	Average Concentration Detected (µg/L)
Germanium	Not Detected	Not Detected	Not Detected
Manganese	0.4	3.5	1.1

¹ TCEQ, Disinfection Byproducts in Public Water Systems:

<https://www.tceq.texas.gov/drinkingwater/chemicals/dbp#:~:text=Contacts%20and%20Assistance-,Disinfection%20Byproducts%20that%20TCEQ%20Regulates,used%20to%20kill%20pathogenic%20organisms.>

² EPA, Metals: <https://www.epa.gov/caddis-vol2/metals#:~:text=Metals%20and%20metalloids%20are%20electropositive,vary%20according%20to%20local%20geology.&text=While%20some%20metals%20are%20essential,are%20toxic%20in%20minute%20amounts.>

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Cyanotoxins – Blue-green algae, more correctly known as cyanobacteria, are frequently found in freshwater systems. Some freshwater cyanobacterial blooms can produce highly potent toxins, known as cyanotoxins.³

These samples were collected bimonthly – every two (2) weeks – at six (6) representative locations after treatment but prior to entering the distribution lines which bring water to customer’s taps.

Analyte	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)	Average Concentration Detected (µg/L)
total microcystin	Not Detected	Not Detected	Not Detected
anatoxin-a	Not Detected	Not Detected	Not Detected
cylindrospermopsin	Not Detected	Not Detected	Not Detected

Alcohols – Like the semi-volatile organic chemicals below, the following alcohols were collected to determine the possible presence of compounds that may be harmful if ingested. Many VOCs are human-made compounds used in the production of paints, cleaning products, pesticides, etc.⁴ None were detected.

Analyte	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)	Average Concentration Detected (µg/L)
1-butanol	Not Detected	Not Detected	Not Detected
2-methoxyethanol	Not Detected	Not Detected	Not Detected
2-propen-1-ol	Not Detected	Not Detected	Not Detected

Semi-volatile Organic Chemicals – Like the alcohols above, the following semi-volatile organic chemicals were collected to determine the possible presence of compounds that may be harmful if ingested. Many VOCs are human-made compounds used in the production of paints, cleaning products, pesticides, etc.⁴ None were detected.

Analyte	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)	Average Concentration Detected (µg/L)
butylated hydroxyanisole	Not Detected	Not Detected	Not Detected
o-toluidine	Not Detected	Not Detected	Not Detected
quinoline	Not Detected	Not Detected	Not Detected

³ EPA, Learn about Cyanobacteria and Cyanotoxins: <https://www.epa.gov/cyanohabs/learn-about-cyanobacteria-and-cyanotoxins#:~:text=Blue%2Dgreen%20algae%2C%20more%20correctly,frequently%20found%20in%20freshwater%20systems.&text=Some%20freshwater%20cyanobacterial%20blooms%20or,potent%20toxins%2C%20known%20as%20cyanotoxins.>

⁴ EPA, What Are Volatile Organic Compounds (VOCs)?: <https://www.epa.gov/indoor-air-quality-iaq/what-are-volatile-organic-compounds-vocs>

Pesticides and Pesticide Manufacturing Byproduct – The following chemicals originate or are byproducts of pesticides.

Analyte	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)	Average Concentration Detected (µg/L)
alpha-hexachlorocyclohexane	Not Detected	Not Detected	Not Detected
chlorpyrifos	Not Detected	Not Detected	Not Detected
dimethipin	Not Detected	Not Detected	Not Detected
ethoprop	Not Detected	Not Detected	Not Detected
oxyfluorfen	Not Detected	Not Detected	Not Detected
profenofos	Not Detected	Not Detected	Not Detected
tebuconazole	Not Detected	Not Detected	Not Detected
total permethrin (cis- & trans-)	Not Detected	Not Detected	Not Detected
tribufos	Not Detected	Not Detected	Not Detected

Indicators – The following indicators are naturally occurring contaminants not necessarily harmful to consume. However, during disinfection a byproduct can potentially be created. Refer to *Section I* for byproducts related to these indicators.

Analyte	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)	Average Concentration Detected (µg/L)
Bromide	94.4	114	102.6
Total Organic Carbon	1090	1580	1410