1,4-Dioxane

What is 1,4-Dioxane?

1,4-Dioxane is a synthetic industrial chemical previously used as a stabilizing agent for chlorinated solvents, such as Trichloroethane (TCA).

How does 1,4-Dioxane get in my water?

1,4-Dioxane is not natural. For many decades, Lansing was the heart of industry and industrial waste was not heavily regulated resulting in the potential for the water supplies to be impacted by leakage, poor storage or inadequate disposal practices.

Is 1,4-Dioxane in drinking water a concern?

The EPA has identified 1,4-Dioxane as "likely to be carcinogenic to human[s]." The EPA currently has a risk assessment level for 1,4-Dioxane of 0.35 ppb. The EPA concludes that a lifetime exposure over this level may lead to 1 in a million people having negative health impacts or getting cancer.

The EGLE has established a drinking water cleanup standard for contaminated sites of 7.2 ppb.

Is there 1,4-Dioxane in my water?

The BWL has two water conditioning plants; Dye and Wise. The BWL initially monitored for 1,4-Dioxane under the UCMR3 in 2015. Our Dye water conditioning plant showed trace levels of 1,4-Dioxane at 0.14 ppb, less than half the EPA's risk assessment level, 0.35 ppb, and approximately 50 times lower than the EGLE Part 201 clean-up standard. Our Wise water conditioning plant showed no 1,4-Dioxane. 1 ppb is equivalent to 1 drop of water in an Olympic size swimming pool. *See table below for results.*

What are the steps the BWL has or is taking?

The BWL discussed the findings with EGLE, developed an action plan and continues to monitor Dye on a quarterly basis. Quarterly monitoring has shown no significant change in the levels detected. Although the levels in our drinking water are trace, based on the number of industrial sources in our area we feel it is important to continue to monitor the levels so that timely action can occur if needed.

For further information about 1,4-dioxane, please visit:

DrinkTap: https://drinktap.org/Water-Info/Whats-in-My-Water/Dioxane

CDC: https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=199

https://www.atsdr.cdc.gov/ToxProfiles/tp187-c1-b.pdf

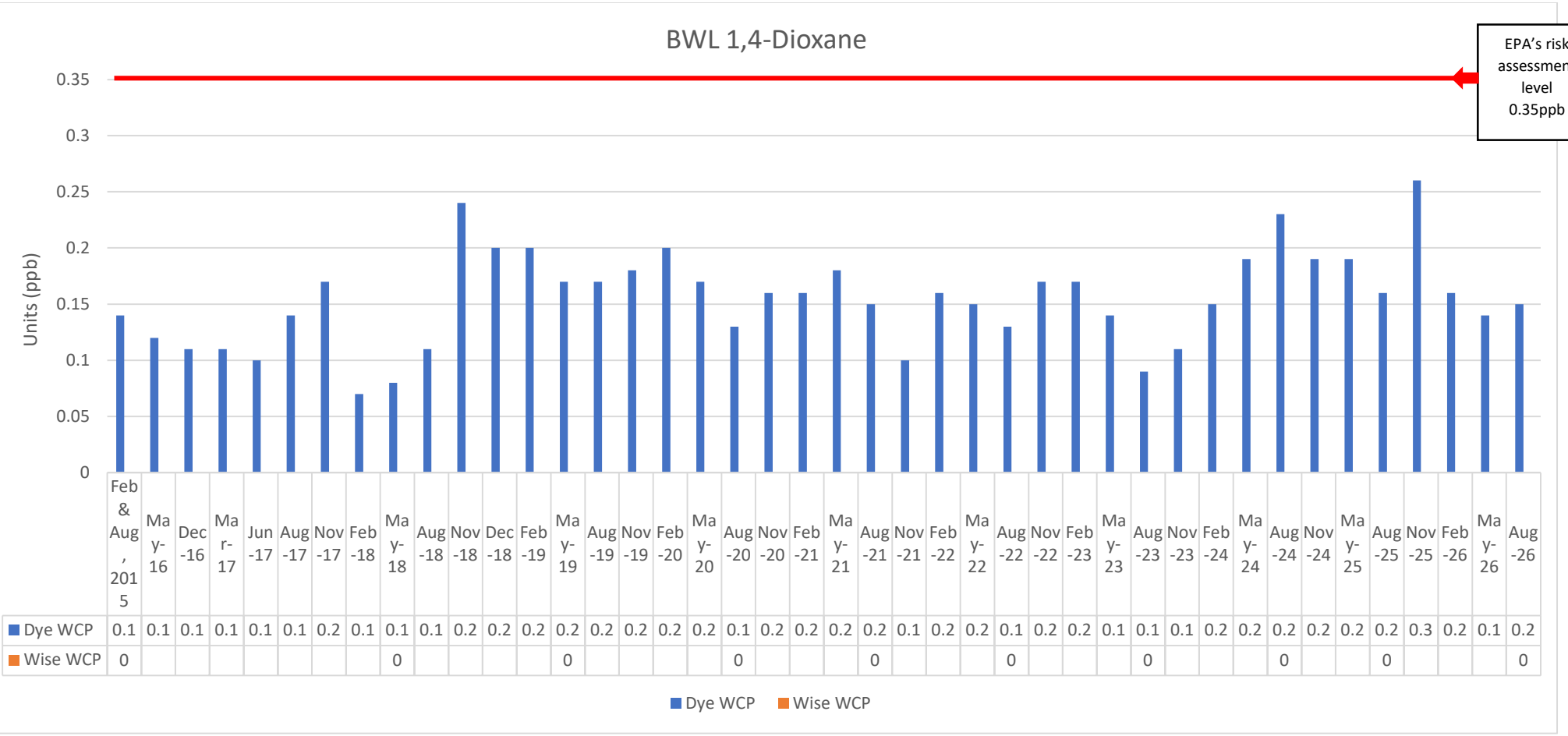
BWL 1,4-Dioxane Results:

	Dye	Wise	Reporting Limit*	Units
Feb & Aug, 2015	0.14	Non-Detect	0.07	ppb
May 2016	0.12	Not Sampled	0.07	ppb
Dec 2016	0.11	Not Sampled	0.07	ppb
March 2017	0.11	Not Sampled	0.07	ppb
June 2017	0.10	Not Sampled	0.07	ppb
Aug 2017	0.14	Not Sampled	0.07	ppb
Nov 2017	0.17	Not Sampled	0.07	ppb
February 2018	0.07	Not Sampled	0.07	ppb
May 2018	0.08	Non-Detect	0.07	ppb
Aug 2018	0.11	Not Sampled	0.07	ppb
Nov 2018	0.24	Not Sampled	0.07	ppb
Dec 2018	0.20	Not Sampled	0.07	ppb
Feb 2019	0.20	Not Sampled	0.07	ppb
May 2019	0.17	Non-Detect	0.07	ppb
Aug 2019	0.17	Not Sampled	0.07	ppb
Nov 2019	0.18	Not Sampled	0.07	ppb
Feb 2020	0.20	Not Sampled	0.07	ppb
May 2020	0.17	Not Sampled	0.07	ppb
Aug 2020	0.13	Non-Detect	0.07	ppb
Nov 2020	0.16	Not Sampled	0.07	ppb
Feb 2021	0.16	Not Sampled	0.07	ppb
May 2021	0.18	Not Sampled	0.07	ppb
Aug 2021	0.15	Non-Detect	0.07	ppb
Nov 2021	0.10	Not Sampled	0.07	ppb
Feb 2022	0.16	Not Sampled	0.07	ppb
May 2022	0.15	Not Sampled	0.07	ppb
Aug 2022	0.13	Non-Detect	0.07	ppb
Nov 2022	0.17	Not Sampled	0.07	ppb
Feb 2023	0.17	Not Sampled	0.07	ppb
May 2023	0.14	Not Sampled	0.07	ppb
Aug 2023	0.09	Non-Detect	0.07	ppb

Nov 2023	0.11	Not Sampled	0.07	ppb
Feb 2024	0.15	Not Sampled	0.07	ppb
May 2024	0.19	Not Sampled	0.07	ppb
Aug 2024	0.23	Non-Detect	0.07	ppb
Nov 2024	0.19	Not Sampled	0.07	ppb
May 2025	0.19	Not Sampled	0.07	ppb
Aug 2025	0.16	Non-Detect	0.07	ppb
Nov 2025	0.26	Not Sampled	0.07	ppb
Feb 2026	0.16	Not Sampled	0.07	ppb
May 2026	0.14	Not Sampled	0.07	ppb
Aug 2026	0.15	Non-Detect	0.07	ppb

***A Reporting Limit** is the **limit** of detection for a specific target analyte

Note: Aug 2024 Wise Rd showed 1,4-dioxane at 0.077 ppb, a resample was performed and it was non-detect.



	Feb & Aug, 2015	May-16	Dec-16	Mar-17	Jun-17	Aug-17	Nov-17	Feb-18	May-18	Aug-18	Nov-18	Dec-18	Feb-19	May-19	Aug-19	Nov-19	Feb-20	May-20	Aug-20	Nov-20	Feb-21	May-21	Aug-21	Nov-21	Feb-22	May-22	Aug-22	Nov-22	Feb-23	May-23	Aug-23	Nov-23	Feb-24	May-24	Aug-24	Nov-24	May-25	Aug-25	Nov-25	Feb-26	May-26	Aug-26
Dye WCP	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.2
Wise WCP	0								0					0					0				0				0				0				0				0				0