

1200-Z NPDES Industrial Stormwater General Permit: Annual Geometric Mean Reporting in Your DEQ Online



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Environmental
Quality

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Visit DEQ's
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The [1200-Z industrial stormwater general permit](#) that was issued by the Department of Environmental Quality in March 2021 requires permit registrants to report the Tier 2 geometric mean benchmark evaluation on the Aug. 15 Discharge Monitoring Report annually. The geometric mean is a specific calculation performed on a series of numbers, and it is different than an average. For registrants reporting to DEQ using [Your DEQ Online](#), this fact sheet provides assistance with calculating and reporting this information to DEQ.

Where in the 1200-Z permit does it require the geometric mean for Tier 2?

Please review Schedule A.12, permit page 21, for the full requirements about Tier 2. Schedule B.13.b, permit page 35, requires registrants to report Tier 2 geometric mean benchmark evaluations on the discharge monitoring report, or DMR, due Aug. 15 annually.

Which pollutants require a geometric mean calculation?

Statewide benchmark pollutants are the only category of pollutants subject to Tier 2 evaluation. In Your DEQ Online, the statewide benchmark pollutants may be found under the georegion DMR tab, which are abbreviated CS, PH, CS, CO, CR, EA, WV and MW. Each facility has been assigned a georegion based on geographic location. The georegion's statewide benchmarks are in Table 4 of the 1200-Z permit on page 26.

Which pollutants are exempt from Tier 2 geometric mean calculation?

During the 2021-2026 permit term, if any pollutant and monitoring location triggered Tier 2 status, no additional Tier 2 evaluation is required during the permit term for that pollutant at that monitoring location. Please review Schedule A.12, 1200-Z permit page 21, for the full permit requirements and exemptions.

How do I calculate geometric mean?

The most common way is to use Microsoft Excel. Additionally, there are many free tools available online that will assist you with this calculation, as well as posted instructions for calculating geometric means for the type of handheld calculator if you prefer that method. Please consult online resources for questions on how to accurately calculate the number.

When your lab result is "Not Detected" use one-half of the detection level

Per Schedule B.13.a.iv, permit page 35, when calculating the geometric mean, use one-half of the detection level for non-detections. When your lab reports "ND" or "Not Detected" as the result, look in the Definitions section of your lab report to see how your lab defines not detected, find the limit they reference, and use half that value in your geometric mean calculation. Do not use zero in your calculation because it is not accurate.

Geometric Mean Calculation Will be Entered in the Aug. 15 DMR

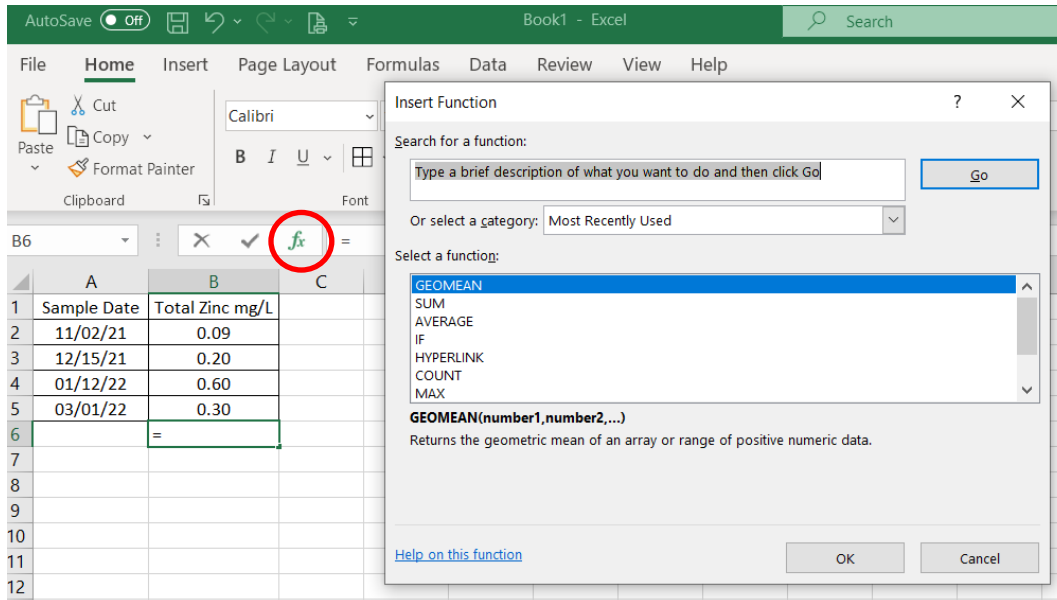
In your account in Your DEQ Online, open the DMR due Aug. 15. You will see a new tab called "GM" for geometric mean.

To report your calculated geometric mean, first select the date June 30 on the sample date calendar, and then add your calculated geometric mean to each location. Save and submit this DMR just like your other DMRs.

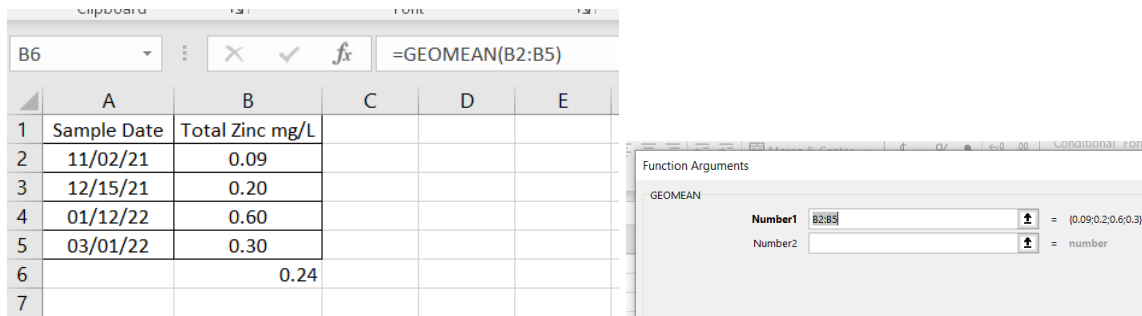
Please refer to [DEQ Stormwater's Your DEQ Online manual](#) for instructions on how to access, complete and submit DMRs and other reports in Your DEQ Online.

Examples: Calculating annual geometric mean in Excel

This facility analyzed four stormwater samples during July 1, 2021, to June 30, 2022, and entered the four results from their laboratory reports vertically into Excel like this. After clicking in cell B6, select the fx function icon, circled below, to get the Insert Function pop up box:



Select GEOMEAN from the function list, then select the OK button. Choose the cells for the data you want to calculate the geometric mean of, either by typing them in or clicking and dragging the column with your mouse. The calculated geometric mean will then appear in the cell you clicked on, in this case B6. Enter that value (0.24 milligram per liter, or mg/L in this example) into your GM Aug. 15 DMR tab to report your geometric mean for total zinc:



When the Laboratory Report Result is “Not Detected”

This laboratory report for TSS (total suspended solids) has the result ND. Within this laboratory report, in the Notes and Conventions section, this laboratory defines ND as “analyte not detected at or above the reporting limit.” You can also see the Reporting Limit is reported as 5.00 mg/L.

In this case, the permit requires you use half the value of the limit within your geometric mean calculation, which is 2.5 mg/L:

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed
SW OF 005 (Compliance) (A7L0728-01)			Matrix: Water			
Batch: 7121025						
Total Suspended Solids	ND	---	5.00	mg/L	1	12/28/17 12:40

Notes and Conventions:

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported

Alternative formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.oregon.gov.