

UNIT CONVERSION FOR GROUNDWATER DISCHARGE REPORTING

GUIDANCE FOR PERMITTEES

INTRODUCTION

Most of the effluent and groundwater sampling parameters listed in a Groundwater Discharge Permit (GDP) are required to be reported in milligrams per liter (mg/l). However, some parameters (particularly metals and volatile organic compounds) may be required to be reported into the Discharge Monitoring Reporting (DMR) system in micrograms per liter (ug/l). You may encounter the two following scenarios when entering your DMR data: 1) Your laboratory has reported results in ug/l and your permit requires mg/l, or 2) Your laboratory has reported results in mg/l and your permit requires ug/l. It is the permittee's responsibility to report sample results in the units required by their permit. Reporting results in the incorrect units may result in unintended violations of permit limits.

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) has developed this document to advise permittees how to convert laboratory reported concentrations to units required by permit.

EXAMPLE

ug/l to mg/l

Your laboratory reports to you the following groundwater sampling results, but your permit requires you to report the sampling results for iron and manganese in **mg/l**:

Analyte	Analytical Result	Unit
<i>Iron</i>	5,200	ug/l
<i>Manganese</i>	530	ug/l

Conversion factor: 1.0 ug/l = 0.001 mg/l

Multiply the numeric portion of the concentration (in ug/l) x 0.001 (conversion factor) as follows:

$$5,200 \text{ ug/l} \times 0.001 = 5.2 \text{ mg/l}$$

You would report **"5.2" mg/l Iron** on the DMR Daily tab.

$$530 \text{ ug/l} \times 0.001 = 0.53 \text{ mg/l}$$

You would report **"0.53" mg/l Manganese** on the DMR Daily tab.

EXAMPLE **mg/l to ug/l**

Your laboratory reports to you the following groundwater sampling results, but your permit requires you to report the sampling results for iron and manganese in **ug/l**:

Analyte	Analytical Result	Unit
<i>Iron</i>	18.6	mg/l
<i>Manganese</i>	0.75	mg/l

Conversion factor: 1.0 mg/l = 1,000 ug/l

Multiply the numeric portion of the concentration (in ug/l) x 0.001 (conversion factor) as follows:

$$18.6 \text{ mg/l} \times 1,000 = 18,600 \text{ ug/l}$$

You would report **“18,600” ug/l Iron**
on the DMR Daily tab.

$$0.75 \text{ mg/l} \times 1,000 = 750 \text{ ug/l}$$

You would report **“750” ug/l Manganese**
on the DMR Daily tab.

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