



Town of Hinsdale

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Greetings:

Here are the latest Iron and Manganese Test Results from Howard Laboratories, with information to help Water Users understand the results of the regular iron and manganese testing that the Town does.

Understanding Iron and Manganese Testing Results

Iron and Manganese are naturally occurring minerals found in the bedrock in most of Massachusetts. These minerals leach into the water as the bedrock weathers, common in surface and groundwater.

Iron and Manganese are USEPA **Secondary Contaminants** – contaminants that may cause cosmetic effects (such as skin or tooth discoloration and staining of fixtures, dishes, and laundry) or aesthetic results (such as taste, odor, or color) in drinking water. **On the other hand, primary contaminants** can pose an acute or chronic health risk.

Table 1 – Iron and Manganese testing results for the Hinsdale Water Plant, March 2022 through March 2023.

| Sample Date | Iron | | | Manganese | | |
|---------------|------------------|-------------------|------------|------------------|-----------------|-------|
| | Result* | Detection limit** | MCL** * | Result | Detection limit | MCL |
| | ----- mg/L ----- | | | ----- mg/L ----- | | |
| 3-23-2022 | | | | | | |
| Raw water | 0.2130 | 0.003 | 0.30 | 0.0692 | 0.001 | 0.050 |
| Treated Water | 0.0516 | 0.003 | 0.30 | 0.0485 | 0.001 | 0.050 |
| 6-22-2022 | | | | | | |
| Raw water | 0.896 | 0.003 | 0.30 | 0.0563 | 0.001 | 0.050 |
| Treated Water | ND | 0.003 | 0.30 | 0.104 | 0.001 | 0.050 |
| 8-17-2022 | | | | | | |
| Raw water | 0.600 | 0.003 | 0.30 | 0.0472 | 0.001 | 0.050 |
| Treated Water | 0.130 | 0.003 | 0.30 | 0.0358 | 0.001 | 0.050 |
| 11-21-2022 | | | | | | |
| Raw water | 0.118 | 0.003 | 0.30 | 0.0329 | 0.001 | 0.050 |
| Treated Water | 1.180 | 0.003 | 0.30 | 1.8700 | 0.001 | 0.050 |
| 1-24-2023 | | | | | | |
| Raw water | 0.0951 | 0.003 | 0.30 | 0.0508 | 0.001 | 0.050 |
| Treated Water | ND | 0.003 | 0.30 | 0.0106 | 0.001 | 0.050 |

| | | | | | | |
|----------------------|--------------|-------|------|---------------|-------|-------|
| 3-23-2023 | | | | | | |
| <i>Raw water</i> | 0.246 | 0.003 | 0.30 | 0.0745 | 0.001 | 0.050 |
| <i>Treated Water</i> | ND | 0.003 | 0.30 | 0.0071 | 0.001 | 0.050 |

* The result column is the actual amount of the mineral found in the water sample.

** The Detection Limit column is the smallest amount of that particular mineral that can be detected. The detection limit must be less than or equal to the “Minimum Reporting Level” established by MassDEP. For iron, the minimum reporting level is 0.05 mg/L, and for Manganese, it is 0.002 mg/l.

*** MassDEP establishes the MCL (maximum contaminant level), but usually the equivalent of the USEPA limits. **After reviewing health effects data**, EPA sets a maximum contaminant level goal (MCLG). The MCL, established by MassDEP, is an enforceable level.

Raw water samples are untreated samples of the water that enters the treatment plant from Belmont Reservoir. Treated water samples are taken from a sample tap after flowing through the slow sand filter bed; the pH has been adjusted and stabilized for corrosion control before entering the distribution system.

Levels of iron and Manganese found in the late November 2022 samples are elevated, most likely due to the drought that Western Massachusetts experienced last year. The significantly lower levels in both the raw and finished water in the January and March 2023 samples are a much better indication of the typical levels. There is a significant reduction in both minerals in the treated water resulting from the slow sand filter treatment system, which is why it was installed.

It should also be pointed out that the Hinsdale Water System must monitor for iron and Manganese only once every three months, while many small PWS systems on wells must monitor monthly. This difference indicates the level of concern primarily for the manganese levels.

The Town will continue testing the Water Supply as Mass DEP requires and will share the results on the [Water / Sewer Department | Hinsdale, MA \(hinsdalemass.com\)](#) webpage.

Sincerely,

Bob Graves
Town Administrator