



# Montana Department of Transportation Plains Maintenance Facility

Site Update

April 2018

In November 2012, the Montana Department of Transportation (MDT) self-reported to the Montana Department of Environmental Quality (DEQ) that salt had contaminated the MDT Plains Maintenance Facility well. The MDT Plains Facility is located at 2 Lower Lynch Creek Road in the town of Plains, in Sanders County. On December 11, 2012, DEQ's Groundwater Remediation Program issued a "Notice of Violation" letter to MDT regarding the Plains site. DEQ's Groundwater Remediation Program uses the authority of the Montana Water Quality Act to regulate unpermitted releases that contaminate state surface water and groundwater.

**December 2012 and March 2013:** MDT began sampling residential wells near the MDT Plains Facility to investigate the size of the salt plume and whether salt had affected nearby wells. The results showed that MDT Plains salt had affected several domestic wells. MDT offered or is providing bottled water service to affected residents where secondary water quality standards are exceeded. Initially, with the exception of the MDT Plains Facility well, the salt-related characteristics (specific conductivity, chloride, total dissolved solids, and sodium) were only slightly higher than the screening criteria (see below for more information about screening criteria).

**October 2013:** MDT installed a sand/salt storage pad to prevent additional salt leaching to groundwater. With the exception of two wells, water samples collected after pad installation showed, in general, stable levels of the salt-related characteristics. Most wells showed decreases in salt levels in 2015.

**2016 and 2017:** Well water sample results showed increases in salt characteristics in several wells. In three wells, the salt contamination changed the class of the groundwater from Class I (background, high-quality groundwater) to Class III (lower-quality groundwater with fewer beneficial uses). In October 2017, DEQ required MDT to provide "whole home" Class I water to properties where salt contamination affected the beneficial uses of the groundwater. DEQ directed MDT to prioritize its efforts on wells with the most severe contamination (the wells with the Class III water).

In the fall of 2017, MDT constructed a building to house its salt and salt operations. The building will prevent precipitation from contacting the salt, and should prevent additional salt leaching to groundwater.

**Feb-April 2018:** MDT installed new deep replacement wells at three properties.

**Spring 2018– Future Actions:** MDT sampling of soil at the facility will determine if salt concentrations warrant removal of the soil. MDT will also conduct additional groundwater sampling. Based on this work, DEQ will determine if additional steps are needed to address the salt plume.

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## Frequently Asked Questions

### Is my health at risk due to increased salt concentrations in my water?

Unless you are medically required to be on a low-sodium diet, the sodium and chloride in the water do not pose a risk to your health. MDT is providing bottled water for drinking and cooking to affected water users. A 2003 EPA Drinking Water Advisory suggested a guidance level of 20 milligrams of sodium per liter of water for individuals restricted to a total sodium intake of 500 milligrams per day. EPA stated that this guidance level should not be applied to the entire population.

[https://www.epa.gov/sites/production/files/2014-09/documents/support\\_cc1\\_sodium\\_dwreport.pdf](https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_sodium_dwreport.pdf)

## Site Contacts

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**What criteria does DEQ use to determine whether my well is salt-affected, and to determine the quality of my water?**

DEQ uses two main criteria regarding salt in groundwater:

**1. National Secondary Drinking Water Standards:** The screening levels for salt-related characteristics are set by the U.S. Environmental Protection Agency (EPA), and are called “National Secondary Drinking Water Standards” or “Secondary Maximum Contaminant Levels.” The Secondary Standards are guidelines that EPA established to assist public water systems in managing their drinking water for aesthetic criteria including taste, color and odor. EPA states that contaminants are not considered a risk to human health at the Secondary Standard. More information is available at EPA’s website: <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals>. The table below summarizes the Secondary Standards applicable to the MDT Plains Maintenance Facility.

	Secondary Standard (milligrams per liter)	Noticeable Effects above the Secondary Standard
Chloride	250	Salty taste
Total Dissolved Solids	500	Hardness, deposits, colored water, staining, salty taste

**2. Administrative Rules of Montana (17.30.1006):** Montana’s administrative rules define the classification, beneficial uses, and specific standards for groundwater. The class of groundwater is based on its ability to conduct electricity (natural specific conductance). If salt is added to water, the specific conductance of the water increases. Class I groundwater is the highest quality groundwater, and is considered high-quality for most beneficial uses. The table, below summarizes Montana’s groundwater classification system.

	Specific Conductance (microSiemens/cm at 25 degrees C)
Class I	≤1,000
Class II	1,001 to 2,500
Class III	2,501 to 15,000
Class IV	>15,000

**How long will MDT monitor groundwater at the site?**

DEQ will require groundwater monitoring for as long as the salt contaminants exceed screening criteria. Generally, before DEQ closes a groundwater site, it requires at least two consecutive rounds of samples that don’t exceed standard or screening levels.

**If MDT provides me with a new deep well, what happens to my old shallow well?**

Unless your old well needs to be properly abandoned, DEQ will require that MDT use your old well for monitoring purposes. Eventually, after the salt dissipates and shallow groundwater recovers, the old wells could potentially be used again.

