

PFAS Site Summary, Montana Air National Guard/Great Falls International Airport

In July 2018, the National Guard Bureau (NGB) completed a site inspection at the Montana Air National Guard (MANG)/Great Falls International Airport in Great Falls, Montana. This inspection revealed per- and polyfluoroalkyl substances (PFAS) in all media (soil, sediment, groundwater, and surface water) sampled. Eight PFAS-impacted locations, known as PRL-3 through PRL-10, were identified. The suspected PFAS source is aqueous film forming foam (AFFF) discharges to the environment from multiple sources, including fire hose nozzle testing/training, fire suppression system testing, an airplane crash site response action, an AFFF retention pond, and surface dissipation to a storm water outfall. The highest concentrations of combined perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), two of the most studied PFAS, were 11,500 nanograms/liter (ng/L) in surface water at a stormwater outfall and 4,020 ng/L in groundwater (Montana has a human health groundwater standard for PFOS and PFOA, individually or combined, of 70 ng/L*). The highest PFOS concentration in soil was 2,800 J micrograms/kilogram ($\mu\text{g}/\text{kg}$) and the highest PFOS concentration in sediment was 33 $\mu\text{g}/\text{kg}$. The residential risk-based soil screening level for PFOS and PFOA is 126 $\mu\text{g}/\text{kg}$.

In July 2020, the NGB completed a supplemental site investigation (SI) at Environmental Restoration Program (ERP) Site 1, a former fire training area (FTA) located near the western boundary of the Great Falls International Airport. Site 1 was used as an FTA from 1968 until early 1989 and AFFF was reportedly used at this location during that timeframe. Eight soil samples were collected from four soil borings within ERP Site 1 and the adjacent one-time landfarm for PFAS analysis. Seven groundwater monitoring wells were also installed to evaluate potential PFAS impacts to groundwater. The highest combined PFOS and PFOA concentration in soil was 1,568 ng/g which exceeded the soil screening level of 126 ng/g (or $\mu\text{g}/\text{kg}$). The highest combined PFOS and PFOA concentration in groundwater was 216 ng/L, which exceeded Montana's human health groundwater standard of 70 ng/L.

The results of the July 2020 supplemental SI prompted the NGB to sample two nearby off-base/off-airport water supply wells for potential PFAS impacts during summer/fall 2021. One of the two water supply wells sampled is currently in use. Combined PFOS and PFOA concentrations exceeded the 70 ng/L human health groundwater standard for the in-use water supply well. In response, the NGB immediately provided bottled water to the resident and are planning to install a water treatment system this month to remove the PFOS and PFOA from the groundwater prior to household use. PFOS and PFOA concentrations were also detected in the out-of-use water supply well, but below the 70 ng/L human health groundwater standard.

The NGB is planning to complete a remedial investigation (RI) to determine the full extent and magnitude of PFAS impacts at the Montana Air National Guard/Great Falls International Airport; however, this RI has not yet been scheduled due to federal funding constraints. For additional information, please contact Patrick Skibicki at (406) 444-6452 or e-mail pskibicki@mt.gov.

*EPA's 2016 drinking water health advisory for PFOS and PFOA, individually or combined, is 70 ng/L.

Updated June 2022