

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Site Summary, Helena Army Aviation Support

In October 2018, contractors hired by the Army National Guard (ARNG) finalized a Preliminary Assessment Report for the Helena Army Aviation Support Facility (HAASF). Interviews with current and former employees confirmed there were four potential Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) release areas that warranted further investigation.

Contractors conducted a Site Inspection (SI) during July 2020 to further evaluate potential sources of PFAS and determine the nature and extent of PFAS contamination on-site. No fire suppression events or firefighting training activities were conducted at the HAASF, so the area of interest where PFAS was potentially released to the environment was limited to the detention pond and surrounding area. Aqueous film forming foam (AFFF) associated with testing of the fire suppression system at Hangar 60 along with approximately 5-gallons of Tri-Max30 that were spilled near Hangar 60 during filling of one of the portable fire extinguishers likely entered the storm drain system and discharged into the detention pond.

Five soil borings/monitoring wells and two surface soil borings were installed during the Site Inspection to evaluate PFAS impacts to soil and groundwater. The soil and groundwater samples were analyzed for a subset of 18 PFAS compounds.

Analytical results were compared to the Montana DEQ-7 human health groundwater standard for combined and individual Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA) of 70 nanograms per liter (ng/L) and Department of Defense DoD screening levels (SLs) for soil and groundwater listed below. Soil from 0-2 feet was compared to Residential SLs, 2-15 feet compared to Industrial SLs, and greater than 15 feet was not compared to either SL.

Table ES-1 Screening Levels (Soil and Groundwater)

Analyte	Residential (Soil) (µg/kg) ^a 0-2 feet bgs	Industrial/ Commercial Composite Worker (Soil) (µg/kg) ^a 2-15 feet bgs	Tap Water (Groundwater) (ng/L) ^a
PFOA	130	1,600	40
PFOS	130	1,600	40
PFBS	130,000	1,600,000	40,000

Notes:

a.) Assistant Secretary of Defense, 2019. Risk Based Screening Levels Calculated for PFOS, PFOA, PFBS in Groundwater and Soil using United States Environmental Protection Agency's (USEPA's) Regional Screening Level Calculator. HQ=0.1. 15 October 2019.

There were no PFOA or PFBS detections in soil, and PFOS was present in only one soil sample. PFOS was reported at a concentration of 1.72 micrograms per kilogram (ug/kg) from soil boring/monitoring well (AOI1-05/HAASF-MW005) located adjacent to the detention pond. The duplicate sample reported 2.37 ug/kg. The groundwater analytical results from monitoring wells (HAASF-MW005 and HAASF-MW003), located adjacent to and downgradient of the detention pond respectively, were above the Montana DEQ-7 groundwater standard of 70 ng/L for PFOS/PFOA either separately or combined. Monitoring well HAASF-MW005 reported PFOS at 775 nanograms per liter (ng/L), and PFOA at 9.59 J ng/L. The duplicate sample reported 814 ng/L PFOS and 10.7 ng/L PFOA. HAASF-MW003 reported a PFOS concentration of 175 ng/L and PFOA at 9.07 J ng/L. The results from the other three monitoring wells were below 70 ng/L. PFBS was detected in groundwater, but at concentrations several orders of magnitude below the SLs.

With PFAS groundwater standard exceedances at the facility boundary, five domestic drinking water wells downgradient of the HAASF were sampled in early 2021 to determine if there were impacts to drinking water. The analytical results PFOA, PFOS, and PFBS were all below SLs and the DEQ-7 groundwater standard.

A remedial investigation is proposed for 2022 to further evaluate the magnitude and extent of PFAS contamination associated with the HAASF. The actual start date is dependent on the risk/contamination levels at other ARNG PFAS sites throughout the nation relative to the HAASF.