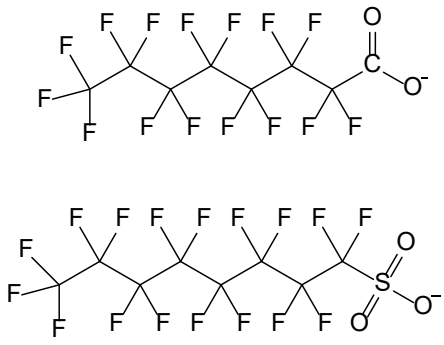
FORENSIC ASSESSMENT: PFAS IN GROUNDWATER

MOUNTAIN VIEW, CA



EKI performed a due diligence investigation prior to development of a military-related facility, which included the analysis of soil and groundwater for selected per- and polyfluoroalkyl substances (PFAS). The facility used Aqueous Film-Forming Foam (AFFF) and also had accidental AFFF releases in the due diligence area.

Four of the five groundwater samples were collected in areas where suspected AFFF releases occurred, and one was collected at an upgradient location. However, PFAS were detected in groundwater collected at all five locations. Unexpectedly, the total PFAS concentration detected in groundwater collected from the "upgradient" location was similar to the concentration in the groundwater sample with the highest total PFAS concentration in the areas of known historical releases.

As a result, EKI reviewed available historical documentation for potential sources of the PFAS in the upgradient location. During this review, EKI learned that vacant land located near the "upgradient" sample was used as a chemical treatment area to remove petroleum hydrocarbons from soil; approximately 550 cubic yards of soil excavated from a distant former firefighting training area was treated in this area. The treated soil was subsequently used as fill within the facility and excess treated soil was stockpiled within the treatment area. Both the historical reports documenting the treatment of the soil in the "upgradient" area and historical aerial photos depicting stockpiled soil provided the documentation to explain the source of PFAS in groundwater upgradient of the facility.

Although the chemical treatment process was successful in addressing petroleum impacts in the excavated soil from the former firefighting training area, not surprisingly, PFAS compounds survived the chemical oxidation process. This work demonstrates the unintended consequence of reusing soil historically treated for non-PFAS impacts that resulted in groundwater impacts at locations where the treated soil was reused.