Site 2: Floor Drain in Battery Room/Acid Neutralization Sump in Building 414. The Aerospace Ground Equipment Maintenance Shop (Building 414) was constructed in the 1960s with a battery room. During the Preliminary Assessment conducted in December 2013, a 52-gallon, 2.5-foot-diameter acid neutralization sump constructed of clay was found adjacent to the working sink in the battery room. Maintenance personnel interviewed had no knowledge the acid neutralization sump existed in the battery room. A floor drain in the middle of the battery room was found to be temporarily plugged. The plug to the floor drain can be removed by Base personnel to drain excess water from usage of the emergency eye wash station in this battery room. Base personnel indicated the drain is directed to the west toward the Building 414 oil-water separator; however, as-built drawings of the sub-floor piping schematic were not available for review during the December 2013 Preliminary Assessment. Base personnel opened the metal plate covering the acid neutralization sump during the December 2013 Preliminary Assessment. Researchers observed the bottom of the neutralization sump filled with a black sludge substance with black colored liquid. The bottom drain of the neutralization sump appeared to be plugged. Neutralization sump contents were observed to overflow when the battery room sink was turned on by Base personnel. Base personnel also indicated sanitary sewer lines run through the floor in the battery room; however, as-built drawings were not available for review. Based upon information collected during the Preliminary Assessment, a Site Investigation commenced.

Two soil samples and one grab groundwater sample were collected from three boring locations at the Floor Drain in Battery Room/Acid Neutralization Sump at Building 414. Prior to conducting environmental sampling at Building 414, concrete coring was conducted at soil boring locations within the building. Soil samples were collected from beneath the concrete floor. Soil samples were analyzed for metals. Arsenic, barium, cadmium, chromium, lead, mercury, and silver were detected. Arsenic concentrations exceed the EPA residential soil screening value in all the soil samples. However, the detected concentrations of arsenic were below the Installation background value. Groundwater samples were analyzed for metals. Eight metals were detected: Arsenic, barium, chromium, and lead were detected at concentrations exceeding Maximum Contaminant Levels. Arsenic and lead concentrations in groundwater also exceeded the Maximum Contaminant Levels; however, these arsenic and lead concentrations were below installation background levels. The Site Investigation recommended a Remedial Investigation/Feasibility Study for groundwater contamination.

During the Remedial Investigation, three permanent groundwater monitoring wells were installed to identify site-related metals in groundwater associated with potential release and subsurface transport of metals associated with the battery acid neutralization sump. Metals were detected in concentrations exceeding screening criteria in unfiltered groundwater. Concentrations of aluminum, cadmium, cobalt, iron, manganese, thallium, and vanadium were detected exceeding the U.S. EPA tap water Regional Screening Levels; however, background criteria do not exist for comparison. Arsenic exceeded the tap water Regional Screening Level in unfiltered groundwater but did not exceed background criteria. Only one chemical (manganese) was detected in filtered groundwater at a concentration exceeding the U.S. EPA tap water Regional Screening Level and was identified as a potential Site Related Chemical. The maximum concentration of manganese in filtered groundwater was observed. Background criteria for manganese in on-site groundwater do not exist. For comparison, manganese in filtered groundwater at the site did not exceed an off-site background concentration. In summary, concentrations of eight metals in unfiltered groundwater exceed their conservative risk-based Regional Screening Levels. However, arsenic exceedances are not a concern because site concentrations are below the background screening value. In addition, uncertainty is associated with the Regional Screening Levels for aluminum, cobalt, iron, and thallium because they

are calculated using provisional toxicity values. In filtered groundwater, only manganese exceeds the risk-based Regional Screening Level based on a target Hazard Quotient of 0.1. However, it does not exceed the Regional Screening Level based on a target Hazard Quotient of 1. The filtered groundwater results are deemed more appropriate for this risk evaluation due to turbidity in the groundwater from the low yield of the wells and the fact that particulate metals tend to be less bioavailable than dissolved metals. Note also the Regional Screening Levels represent a residential drinking water scenario but this is unrealistic at the site due to the low yield of the wells. For these reasons, No Further Action was recommended for groundwater at Site 2.