

Table 4-3
Data Quality Objectives for AOC 21 (Former “Decon” Building)

Problem Statement

AOC 21 consists of former Building 470, which is shown as a “Decon” structure on a 1943 utilities map of Bellows. The building was approximately 40 by 70 feet. No information has been located describing the purpose, uses, or history of the “Decon” structure. However, because it is named a “Decon” building on the 1944 map, it is possible that its purpose was to decontaminate personnel and/or equipment that came into contact with fuels, pesticides, or other chemicals in use at the installation. No chemical weapons were known to be used or handled at Bellows AFS during World War II. It is unknown whether military training activities at Bellows involved simulants such as smoke, tear gas, or fog oil for training purposes that may have resulted in the facility being used for simulated chemical weapons decontamination. It is also unknown whether the facility was used for activities involving handling or decontamination of conventional explosives, although this is not expected due to the location, size, and surrounding land uses of the facility. The possibility exists that the facility may have been used to mix or rinse containers for pesticide or herbicide application.

Decisions to be Made

Soil: Does site surface or subsurface soil present an unacceptable risk to possible human and ecological receptors? Specifically, do constituents exist in surface soil that pose a threat to humans or terrestrial wildlife? Also, do constituents exist in subsurface soil and if so, could they adversely impact groundwater beneath the AOC? If so, the need for further site characterization and possible remedial action needs to be determined.

Groundwater: Have chemicals from former Decon activities infiltrated to groundwater beneath the AOC? If significant groundwater contamination is discovered beneath AOC 21, the need for further site characterization and possible remedial action needs to be determined.

Inputs to the Decision

Soil and Groundwater:

- Soil and groundwater analytical results
- Conceptual site exposure model
- Comparison of analytical results for soil and groundwater to screening criteria

Boundaries to the Study

- For groundwater contaminants (and soil contaminants that may potentially leach to groundwater), data will be evaluated to determine whether analytical results exceed screening criteria (HDOH Tier 1 Soil and Groundwater Action Levels).
- For surface soil, human health risks will be evaluated for direct-contact exposure and will be compared to acceptable levels (HDOH Tier 1 Soil Action Levels and EPA Region IX PRGs).
- NFRAP guidance criteria or technology screening will be used, as necessary.

Decision Rules

- If data for soil and groundwater do not exceed screening criteria, proceed toward a NFRAP designation.
- If soil and/or groundwater data do exceed screening criteria, determine whether additional data or refinement of evaluation assumptions would support a NFRAP designation or whether the site should be investigated further under the IRP.
 - If additional data or refinement of evaluation assumptions might support a NFRAP designation, identify and recommend additional data needs or specific refinements to the evaluation assumptions.
 - If the AOC requires further investigation under the IRP, identify and recommend additional data needs to support the further investigation.

Specify Limits of Uncertainty

- Analytical data must meet the project specifications for precision, accuracy, representativeness, completeness, and comparability as prescribed by the IWQAPP (CH2M HILL, August 1998b).
- AFCEE reporting limits will be compared to screening criteria to evaluate data usability.

Optimize the Design

Surface Soil:

- Collect four surface soil samples (zero to 0.5 foot bgs) from around former Building 470 to evaluate potential risks to human health and ecological receptors.
- Analyze four surface soil samples for TPHs, SVOCs, PAHs, pesticides, herbicides, PCBs, explosives residues, and metals.

Subsurface Soil:

- Drill three soil borings around former Building 470 to evaluate potential impacts to subsurface soil and groundwater. Collect one subsurface soil sample (generally at the capillary fringe of the local water table) from each boring.
- Analyze three subsurface soil samples for TPHs, VOCs, SVOCs, PAHs, pesticides, herbicides, PCBs, and metals.

Groundwater:

- Complete the three soil borings as temporary groundwater monitoring wells to characterize groundwater.
- Analyze three groundwater samples for TPHs, VOCs, SVOCs, PAHs, pesticides, herbicides, PCBs, and dissolved metals.