



Feasibility Study

Former Lockbourne Air Force Base Areas of Concern 17, 18, 19, 94, and 103

U.S. ARMY CORPS OF ENGINEERS

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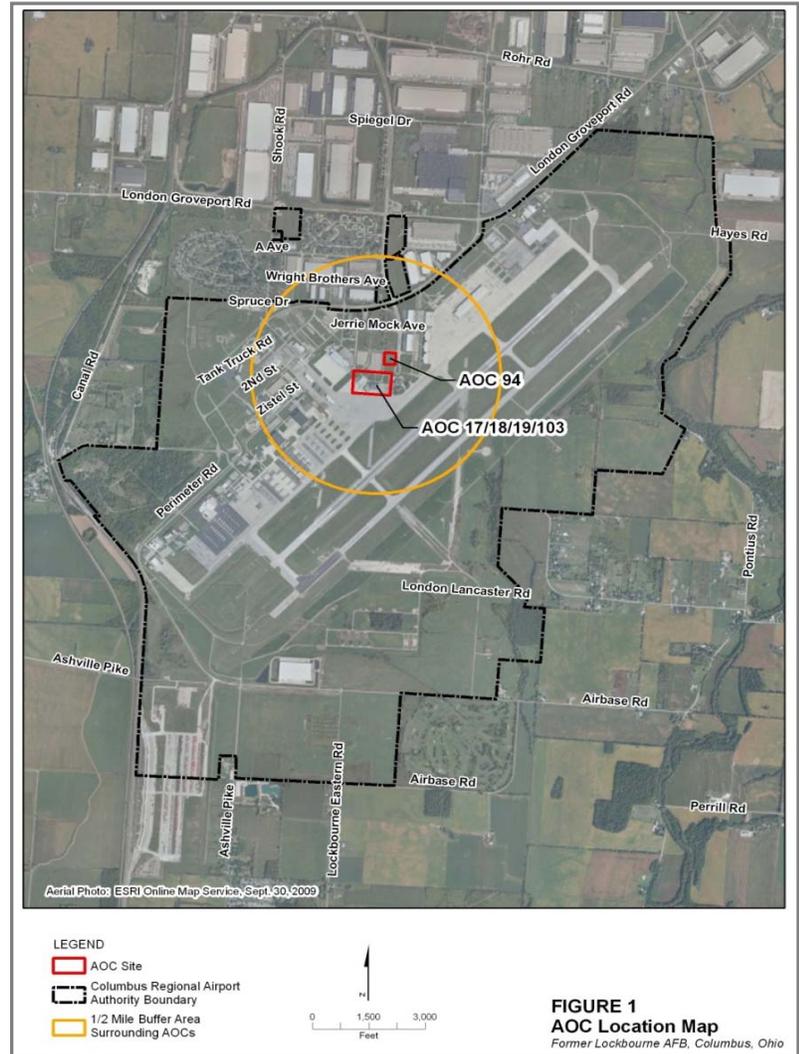
Introduction

This fact sheet describes the status of the ongoing environmental restoration of the former Lockbourne Air Force Base (AFB), now Rickenbacker International Airport (RIA). An investigation was conducted to determine the limits of contamination at areas of concern (AOCs) 17, 18, 19, and 103 adjacent to the RIA taxiway (Figure 1). The investigation indicated that there is **no current risk to human health or the environment**, but identified potential future human health risks if nothing is done to address the contamination. The potential future risk is to people breathing indoor air at one of the two buildings within these AOCs (Figure 2). In response to these findings, a feasibility study was recommended to evaluate remedial alternatives to mitigate this potential future risk. Investigations at AOC 94 indicate that no further action is necessary.

Remedial Investigation

A remedial investigation was conducted in 2013 and 2014, during which industrial solvents, such as trichloroethene (TCE), were found in surface and subsurface soil and groundwater samples.

Under the right conditions, certain types of chemicals (including TCE) can move through shallow groundwater and soil and then seep through cracks in foundations or other openings of a building in the form of vapor. This is known as “vapor intrusion.” Therefore, field activities also



History and Overview

The Lockbourne AFB is a formerly-used defense site (FUDS) in Columbus, Ohio. The property was used as a training base for B-17 and glider crews from 1942 to 1949, and later became an Air Force Strategic Air Command Base and then a Tactical Air Command Base. It was transferred to the Ohio Air National Guard in 1980 and renamed the Rickenbacker Air National Guard Base. In 1984, 1,640 acres (of the original 4,370 acres) were conveyed to the Rickenbacker Port Authority, which renamed the site Rickenbacker International Airport and established a passenger terminal. Rickenbacker Port Authority merged with the Columbus Airport Authority in 2003, forming the Columbus Regional Airport Authority, which owns and operates the airport.

The Department of Defense is responsible for evaluating and cleaning up Department-generated environmental contamination at FUDS properties. The FUDS program follows the remedial process outlined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The Army Corps of Engineers is the lead agency for purposes of implementing the FUDS program in Ohio for the Department of Defense and works in coordination with the Ohio Environmental Protection Agency.

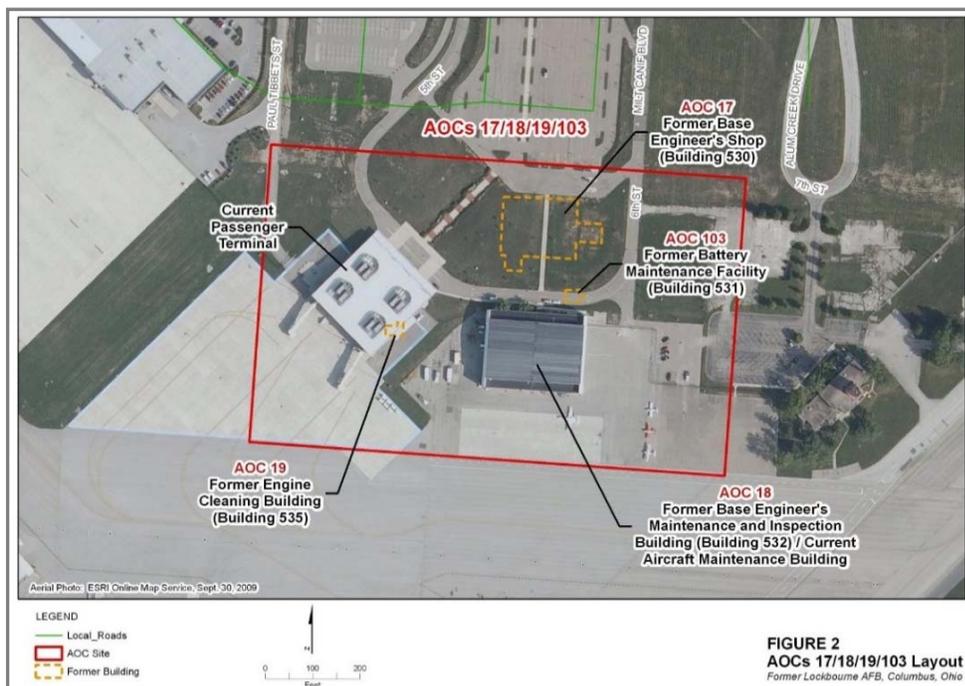
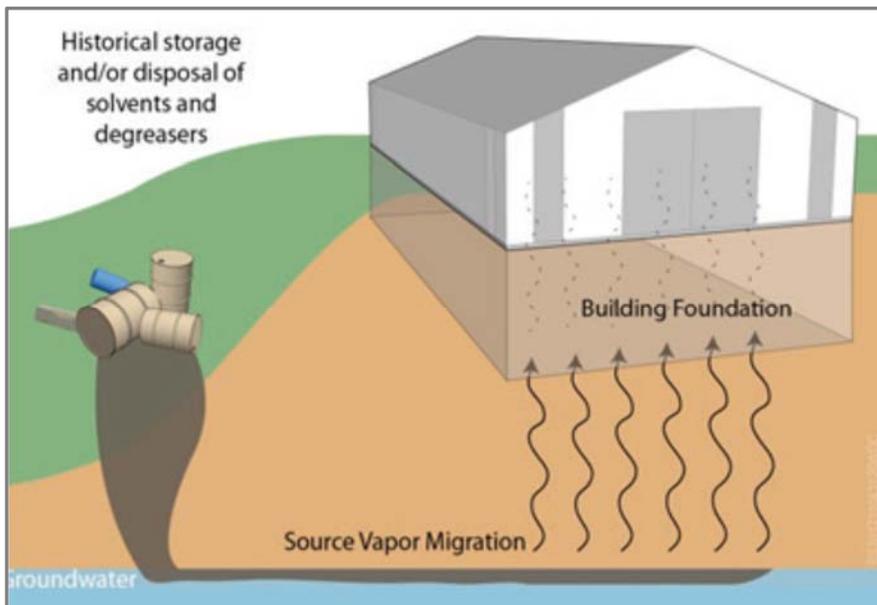
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included sampling soil gas below the slab of the buildings, the vapors coming out of exhaust stacks, and air inside the buildings.

A human health risk assessment was conducted to evaluate potential human health risks from exposure to soil, groundwater, exhaust stack vapors, and indoor air. The risk assessment considers how the property is used now, as well as how it is likely to be used. The land use is, and based on the property deed will continue to be, commercial or industrial.

The remedial investigation concluded:

- Soil and Groundwater:** There are no unacceptable human health risks from exposure to chemicals in soil or groundwater at the site. Acceptable risk levels are defined by the United States Environmental Protection Agency (USEPA). Therefore, no further action is recommended for soil and groundwater.
- Indoor Air, Passenger Terminal Building:** The concentration of chemicals in the soil gas below the concrete slab of the passenger terminal building and in the exhaust stack vapor sample were below health-based screening levels. The exhaust stack is associated with a vapor control system that was installed beneath the passenger terminal building as a precaution before the remedial investigation was conducted. Because of the low concentration of chemicals and the operation of the vapor control system, there are no unacceptable human health risks for indoor air in the passenger terminal building. Therefore, no further action is recommended.
- Indoor Air, Aircraft Maintenance Building:** There are no unacceptable human health risks from exposure to *current* indoor air at the aircraft maintenance building. However, the concentrations of TCE in indoor air could change in the future due to:
 - Variations in TCE concentrations in soil gas below the building;
 - Changes in building use, condition, or operation (such as altering walls, making changes that result in additional cracks in the subslab, changing the heating and ventilation system, etc.); or,
 - Changes in outdoor temperature and pressure that alter the flow of air between the subslab and indoor air.



As a result, the risk assessment determined there is *potential future* unacceptable human health risk from the vapor intrusion of TCE in soil gas under the aircraft maintenance building. Therefore, a feasibility study was recommended to evaluate remedial alternatives to address the vapor intrusion of TCE into indoor air in the aircraft maintenance building.

Feasibility Study

A feasibility study is underway to evaluate alternatives for addressing the potential vapor intrusion at the aircraft maintenance building. The goal, or “remedial action objective,” for the site is:

To prevent future unacceptable risk from exposure to TCE by future commercial/industrial workers at concentrations above the preliminary remediation goal.

A range of potential cleanup technologies were evaluated and screened based on effectiveness, implementability, and cost. Based on results of this preliminary screening process, the most feasible approaches were identified, and four remedial alternatives were developed. Alternative 1 is not based on a particular future land use. Alternatives 2 and 3 are based on future commercial or industrial use. Alternative 4 goes beyond the stated remedial action objective by addressing a hypothetical future residential use. Although commercial/industrial use is currently dictated by the property deed and is the most likely future use, Department of Defense guidance requires that feasibility study alternatives should address a range of land use scenarios.

Alternative 1 consists of taking no action. Federal law requires that a No Action Alternative be considered to provide a baseline for comparison to the other approaches.

Alternative 2 consists of sealing vapor entry points, if any, and routinely collecting subslab soil gas and indoor air samples to evaluate how TCE concentrations in indoor air and subslab soil gas change over time. This alternative would allow airport operations (or future commercial or industrial use) to continue with minimal disruption.

Alternative 3 consists of an active subslab depressurization system that would use fans or blowers to extract vapors from beneath the surface. The extracted vapors would be discharged to the atmosphere, either with or without treatment, depending on the TCE concentrations in the emissions. This alternative would allow airport operations (or future commercial or industrial use) to be continued; however, there would be short-term disruptions during the construction.

Alternative 4 consists of treating soil and groundwater to remove or reduce the contaminant mass that is the potential source of vapors to indoor air for a hypothetical future resident. Contamination would be removed using soil vapor extraction. Groundwater would be treated by injecting a substrate (for example, vegetable oil) into the subsurface to break down TCE. Treating the chemicals in the soil and groundwater would shorten how long cleanup and long-term monitoring would take. For added protection, entry points where vapors could enter the building would be sealed.

As part of the CERCLA process, each alternative is then evaluated against nine criteria to identify advantages and disadvantages. The criteria are:

- Overall protection of human health and the environment
- Compliance with applicable and relevant and appropriate requirements
- Long-term effectiveness and permanence
- Reduction of toxicity, mobility, or volume of contaminants through treatment
- Short-term effectiveness
- Implementability
- Cost
- State acceptance (evaluated following a public comment period)
- Community acceptance (evaluated following a public comment period)

The alternative comparison and proposed remedy selection will be presented in the upcoming proposed plan.

What's Next?

Once the feasibility study report has been finalized, a proposed plan will be developed. The proposed plan will summarize the remedial investigation, the remedial alternatives, how the alternatives compare to the nine criteria, and will outline the Army Corps of Engineers' recommended alternative. The proposed plan will be placed in the library and on the Army Corps of Engineers' website (<http://bit.ly/Lockbourne>), and a public comment period and public meeting will be held to accept comments on the plan. After public comments have been received and considered, a final decision will be made by the Army Corps of Engineers. The final decision will be issued in a decision document, which will include responses to public comments.

How Do I Get More Information?

The Army Corps of Engineers will issue fact sheets such as this one to update the public on environmental restoration work at the site, and will hold public meetings based on the level of public interest. Public availability sessions and the proposed plan public meeting will be advertised in local newspapers and on the Army Corps of Engineers' website. For more information, please visit the website at <http://bit.ly/Lockbourne> or contact:

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