

Project Fact Sheet 4

Avionics Specialties, Incorporated Facility
Earlysville, VA

Winter 2017/2018

Introduction

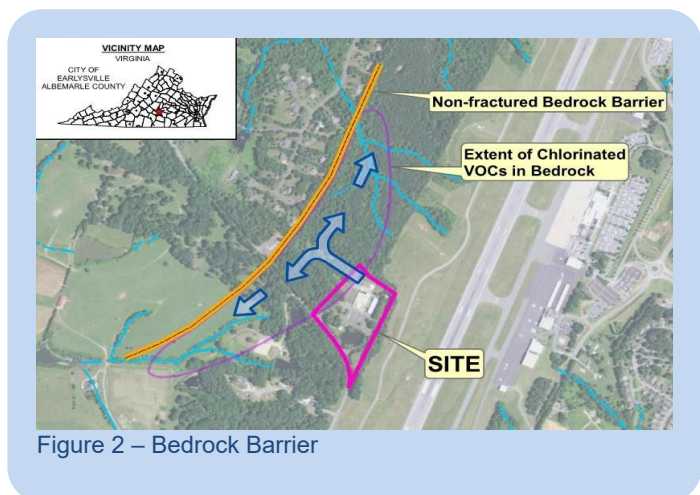
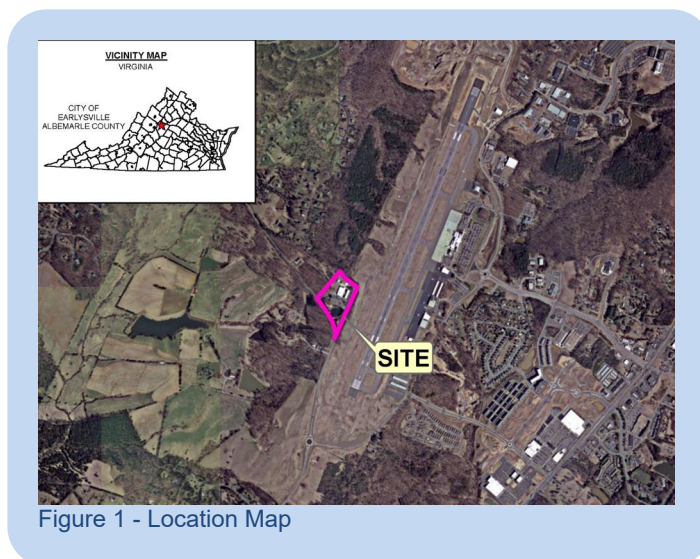
This fourth Project Fact Sheet on the Avionics Specialties, Incorporated (Avionics) Facility has been prepared to update the community on site activities that have occurred since the issuance of the third Project Fact Sheet released in summer 2016. TDY Industries, LLC (TDY) has completed many Resource Conservation and Recovery Act (RCRA) milestones including completion of the RCRA Facility Investigation (RFI), the human health risk assessment, and ecological risk assessment. TDY is also nearing completion of the Interim Measures (IM) proposed in 2016. This fact sheet presents an overview of the RFI, human health risk assessment, and ecological risk assessment reports, and the cleanup achievements made through implementation of IM activities since June 2016. Consistent with the previous work conducted at the site, all activities have been completed under the oversight of the U.S. Environmental Protection Agency (U.S. EPA) and the Virginia Department of Environmental Quality (VADEQ).

RFI, Human Health Risk Assessment, and Ecological Risk Assessment Findings

The purpose of the RFI was to (1) evaluate potential sources of contamination, (2) understand contaminant movement and current location, and (3) collect sufficient data for evaluation of risk to human health and the environment. Thirteen areas were identified at the start of the RFI as potential source areas; at the conclusion of the RFI, it was determined that only three of those areas contain elevated concentrations of volatile organic compounds (VOCs). The three source areas are located in the northwest portion of the plant property where the IM excavation described below took place.

In order to understand contaminant movement, extensive analysis of the hydrogeology was performed during the RFI. A groundwater barrier was discovered along the border between the undeveloped wooded area owned by the Charlottesville Albemarle Airport Authority (CAAA) and the residential subdivision (see Figure 2). This barrier is created by a section of unfractured bedrock and has diverted groundwater with VOCs away from all but one domestic well in the subdivision. That one well was replaced during the IM activities, as described below.

The human health risk assessment determined that there is no unacceptable risk to people under current conditions. The upcoming Corrective Measures Study will evaluate methods to prevent unacceptable risk to people in the future. The ecological risk assessment verified the presence of a functioning and relatively diverse aquatic community living in the nearby surface water streams. The ecological risk assessment concluded that any potential ecologic risk is limited in extent.



IM Activities

The most significant IM activity consisted of the excavation of soils with the highest VOC concentrations during August-September 2016. The areas to be excavated had been determined based upon the laboratory sample results from approximately 40 soil borings. Additional soils with VOCs encountered during the excavations were removed. Approximately 7,845 cubic yards of soil were transported and properly disposed at licensed disposal facilities. The excavations were backfilled with imported soil from a local quarry.

A replacement well was installed at the one residential property where the existing well contained VOCs. After installation, the replacement well was sampled three separate times. The test results indicated that the well does not contain VOCs. The replacement well has been approved for unrestricted use.

The IM activities also tested two cleanup technologies to be considered in the Corrective Measures Study (CMS). The first test evaluated a soil cleanup method using soil vapor extraction (SVE). The results showed that air permeability within the clay-rich soil is irregular and so SVE would likely be ineffective. However, this technology is not likely to be necessary because most of the VOC mass in soil has already been removed by excavation. The second test consists of a 1-year-long pilot study using anaerobic bioremediation to destroy VOCs in shallow groundwater beneath the VOC source area (bioremediation uses the introduction or enhancement of naturally-occurring microorganisms in the aquifer to metabolize or breakdown pollutants; i.e., they use the VOCs as a source of energy or “food”). The year-long pilot study is currently concluding and the results indicate that bioremediation can destroy VOCs in groundwater when favorable aquifer conditions are established and maintained.



Figure 3 – Excavation Operations

What's Next?

Following the approval of the RFI, the human health risk assessment, and the ecological risk assessment reports, TDY will proceed with development of the CMS. This document will analyze a range of remedial alternatives and evaluate their advantages and disadvantages.

How and When Will the Findings be Communicated?

Progress through the U.S. EPA's corrective action program will continue to be presented to the community through the issuance of fact sheets. Final reports will be submitted to the U.S. EPA and VADEQ. Copies of all final approved submissions to the U.S. EPA and VADEQ will also be available for public review at the Jefferson-Madison Regional Library.

Please direct any questions about this project to either:

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Additional information can be found at the U.S. EPA's
website for the Avionics Specialties, Incorporated Facility:

<https://www.epa.gov/hwcorrectiveaction/hazardous-waste-cleanup-avionics-specialties-inc-earlsville-va>