Fact Sheet – November 2010

Former Hughes Aircraft Company Facility, Malvern Avenue, Fullerton, California

Environmental Investigation and Corrective Measures Study Update

This fact sheet provides updated information about the environmental investigation and cleanup activities for the former Hughes Aircraft (HAC) Facility located at 1901 West Malvern Avenue in Fullerton, California (referred to as the "Site").

This fact sheet includes the following information:

- Facility background
- Summary of environmental site investigations to date
- Summary of cleanup activities to date
- Next steps

Overview

The Department of Toxic Substances Control (DTSC) is the **lead agency** overseeing environmental investigations at the Site with regard to the nature and extent of **groundwater** and soil contamination resulting from former operations at the Site. The investigations known as the **Resource Conservation and Recovery Act** (**RCRA) Facility Investigation (RFI)** and **Corrective Measures Study (CMS)** are key steps in the Site cleanup process.

Soil and perched zone (an underground pocket of water - not a source of drinking water) investigations have been completed and the RFI was completed in 2005. Currently ongoing investigations are focused on: 1) assessing the extent of **constituents of potential concern (COPCs)** in the deeper groundwater to the west and south of the Site; and 2) testing processes to extract the COPCs and treat the deeper groundwater. Both of these investigations are being conducted to develop and evaluate appropriate cleanup methods in the CMS report. Once the CMS is complete, DTSC will propose a **final remedy** for the Site in a **Statement of Basis** document. There will be a public comment period and a public hearing before the proposed final remedy is approved.

Facility Background

HAC purchased the 313-acre site in 1957 and operations began in 1959. Prior to 1957, the site was used for orange grove cultivation. The former HAC facility consisted of approximately 100 buildings and temporary structures. Raytheon Company purchased the former HAC facility in 1997.

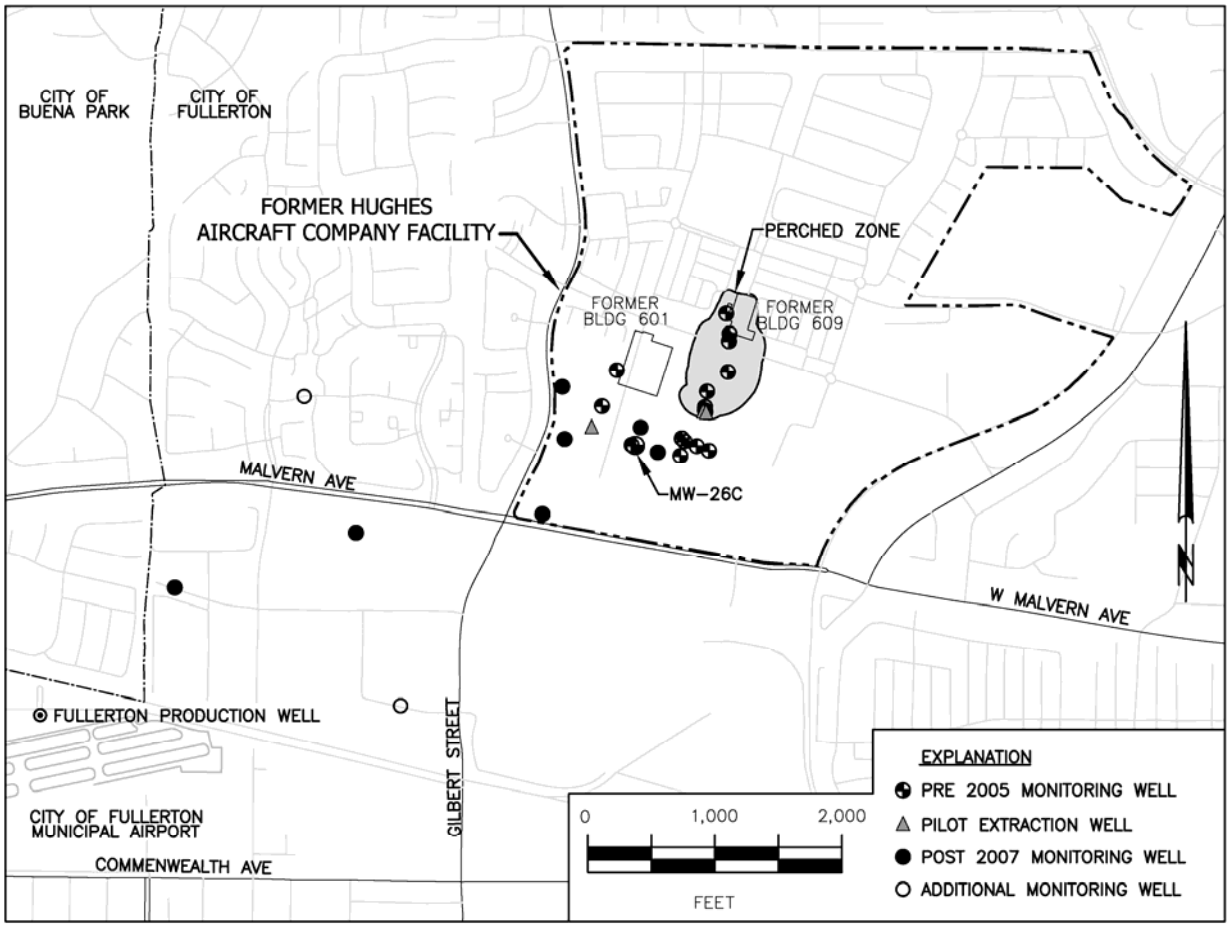
Raytheon sold approximately 293 acres of land to LSF II Fullerton in December 1998. LSF II Fullerton and successors redeveloped the acreage acquired from Raytheon.

Current manufacturing facility operations were significantly reduced from prior use.

Summary of Investigation Findings

The RFI began in 1996 and was completed in April 2005, and involved the collection of more than 500 soil / soil vapor samples and the installation of 26 groundwater monitoring wells. Samples were collected from the soil surface, down to approximately 500 feet below ground surface. The results of this assessment indicated that the primary compounds were related to solvents used during former Facility

Words in **bold** *are defined in Glossary of Terms.*



The recent deeper groundwater monitoring wells (solid black circles) were generally installed to west/southwest of monitoring well MW-26C. Additional deeper groundwater monitoring wells are planned to be installed and tested in late 2010 and the first half of 2011 to the west and southwest of the Site (open circles). Pilot testing of groundwater extraction and treatment is underway. These activities provide information to support the CMS.

operations. These solvents, typically referred to as **Volatile Organic Compounds (VOCs)**, were often historically used as industrial cleaning agents. Former Buildings 601 and 609 were the primary areas where these solvents were detected in deep soil, the perched zone, and groundwater. The figure above shows these former Buildings and the perched zone.

Risk Assessments were prepared using the results of the soil and perched zone water samples collected at the Site, and in September 2002 DTSC accepted the risk assessment to allow for the developers' land use plan for the Site.

In 2003, a monitoring plan for deeper groundwater was implemented, and in December 2007 there was a detection of VOCs (1,1-dichloroethene and 1,4-dioxane) in Site monitor well MW-26C. Raytheon and DTSC initiated additional groundwater investigations to determine the extent of VOCs in deeper groundwater. As of November 2010, an additional seven groundwater monitoring wells have been installed to investigate the extent both on the Site and to the west/southwest of

Pictured above is a drill rig constructing a groundwater monitoring well west of the Site.

the Site. These monitoring wells vary in depth and are completed at depths of up to 1,080 feet below ground surface.

Summary of Cleanup Activities

A voluntary self-directed soil and perched zone cleanup effort was completed between 1998 and 2000 to reduce VOCs in the deep soil area and perched zone at and in the vicinity of a former manufacturing building.

Beginning in 2005, construction of a pilot test groundwater extraction well and bench testing of groundwater treatment technologies was initiated as part of the CMS process. A pilot test groundwater treatment system was constructed and began operation in July 2008. The initial pilot test system extracted and treated deeper groundwater from two extraction wells south of the perched zone. Based on the results of ongoing deeper groundwater investigations conducted in 2008, an additional extraction well was constructed to extract and treat groundwater near the southwest portion of the Site. This extraction well was connected to the pilot test treatment system and began operating in March 2010. The pilot test system will continue to operate as part of the CMS and additional testing of alternate groundwater treatment technologies is planned.

Next Steps

Additional groundwater investigations and pilot testing of treatment technologies are currently being implemented in support of the CMS. The bench/pilot testing of alternate treatment technologies is anticipated to be finished by the end of 2011. The next phase of groundwater investigation is anticipated to be completed by mid 2011; at that time Raytheon and DTSC will meet to determine whether additional assessment is required to determine the extent of deeper groundwater contamination. Once the deeper groundwater investigation and testing of treatment technologies are complete, the CMS will be prepared to evaluate alternatives for the cleanup of the groundwater contamination associated with former Facility operations at the Site. If assessment is complete by the end of 2011, completion of the CMS would likely occur in 2012. The CMS is subject to public comment before the proposed final remedy is approved. In addition, it is currently anticipated that the pilot groundwater extraction and treatment system will continue operations until the final groundwater remedy is selected.

GLOSSARY OF TERMS

Constituents of Potential Concern (COPCs): Chemical elements or compounds (e.g., 1,1-dichloroethene) which may or may not be present at a project site.

Corrective Measures Study (CMS): A study conducted by the facility owner/operator to identify and evaluate alternative cleanup options to address contamination at a project site.

Department of Toxic Substances Control (DTSC): A department within the California Environmental Protection Agency in charge of the regulation of hazardous waste from generation to final disposal, and for overseeing the investigation and cleanup of hazardous waste sites.

Final Remedy: The final cleanup action proposed for managing contaminants at a project site.

Groundwater: Water beneath the earth's surface that flows through soil and rock openings (aquifers) and often serves as a primary source of drinking water.

Lead Agency: A public agency with the principal responsibility for ordering and overseeing site investigation and cleanup.

Resource Conservation and Recovery Act (RCRA): A federal law that establishes a regulatory system to track and provide safe procedures for management of hazardous wastes from the time of generation to final disposal.

RCRA Facility Investigation (RFI): An investigation that occurs in the corrective action process following a RCRA Facility Assessment. It is an in-depth study designed to gather data needed to determine the nature and extent of contamination at site.

Risk Assessment: Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants.

Statement of Basis: A document which describes the basis for DTSC's proposed remedy and cleanup standards.

Volatile Organic Compounds (VOCs): Chemicals that easily dissipate from liquids to vapors. VOCs include solvents that are used during industrial and manufacturing processes, for degreasing metal parts, and in the dry cleaning process.

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