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FACT SHEET REGARDING FINAL REMEDIATION SYSTEM FOR BUILDING 181 NAS FORT  
WORTH TX  
8/1/1999  
WRIGHT PATTERSON AIR FORCE BASE

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**NAVAL AIR STATION  
FORT WORTH JRB  
CARSWELL FIELD  
TEXAS**

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**ADMINISTRATIVE RECORD  
COVER SHEET**

AR File Number 626



# Air Force Plant 4

Operated by Lockheed Martin Tactical Aircraft Systems, Fort Worth, Texas

# Fact Sheet

Aeronautical Systems Center • Wright-Patterson Air Force Base, Ohio • August 1999 • PAM 99-151

## Final Remediation System for Building 181 Operational

The Air Force continues its record of remediation actions for the environmental clean up efforts on Air Force Plant 4 (AFP 4), Fort Worth, Texas. The most recent effort is an expansion to the existing Soil Vapor Extraction (SVE) system in bldg. 181.

Bldg. 181 is a chemical processing facility that was used for metal plating, cleaning, and other processes. It is located in the southern end of the Assembly Building/Parts Plant, a mile-long building located in the approximate center of AFP 4. Past spills of trichloroethylene (TCE), the key contaminant of concern at the plant, have reportedly occurred within the chemical processing facility. Trenches, sumps, floor drains, and buried pipelines present throughout this manufacturing facility were possible pathways for TCE to enter the soil under the building. Although TCE was detected at very low concentrations around the perimeter of the building, soil beneath the building became saturated with the solvent. This was discovered during the installation of the pilot-scale SVE system in 1993.

The Air Force began the pilot-scale test of an SVE system in bldg. 181 as an intermediate response to concerns of TCE contamination in the soil under the building. The pilot-scale test was used to determine if TCE contamination could be effectively extracted from the soil. The air stripper off-gas and vapor extracted from the soil with this system were treated with vapor-phase carbon adsorption. Because the pilot-scale

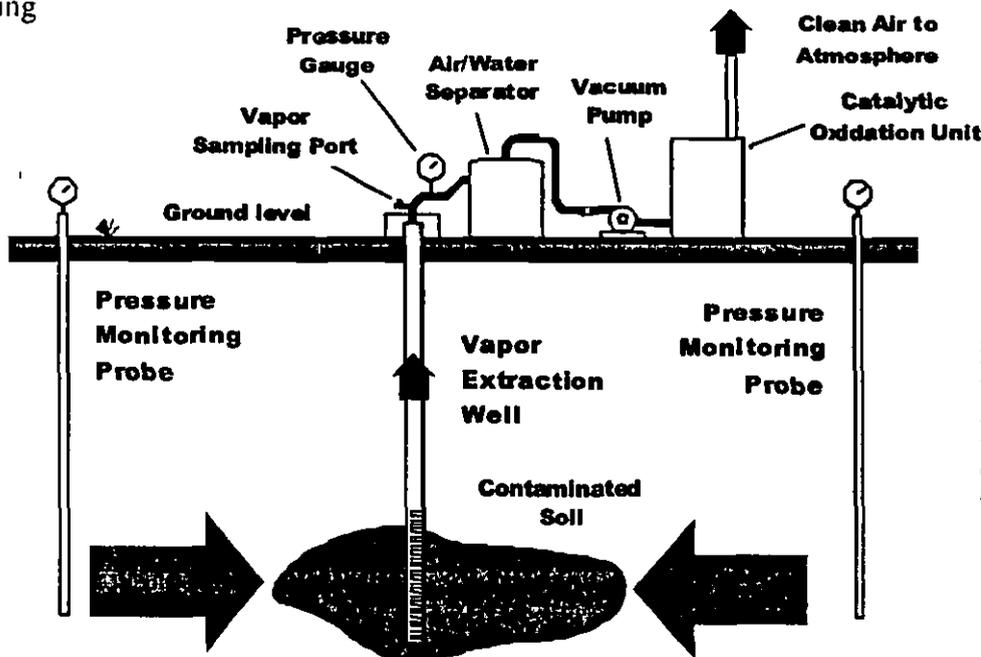
system was successful, the Air Force chose to upgrade the

system as the best alternative for treatment of contamination related to bldg. 181.

The upgrade to the system is accepted by the U.S. Environmental Protection Agency (EPA) and the Texas Natural Resource Conservation Commission (TNRCC) as the final remediation action for bldg.

181. It involves a system expansion to increase its capability and to install dual-phase extraction (DPE) wells and a groundwater treatment system. The DPE wells will remove TCE-contaminated groundwater and vapor. The groundwater treatment system removes the TCE from the groundwater through a process called air stripping.

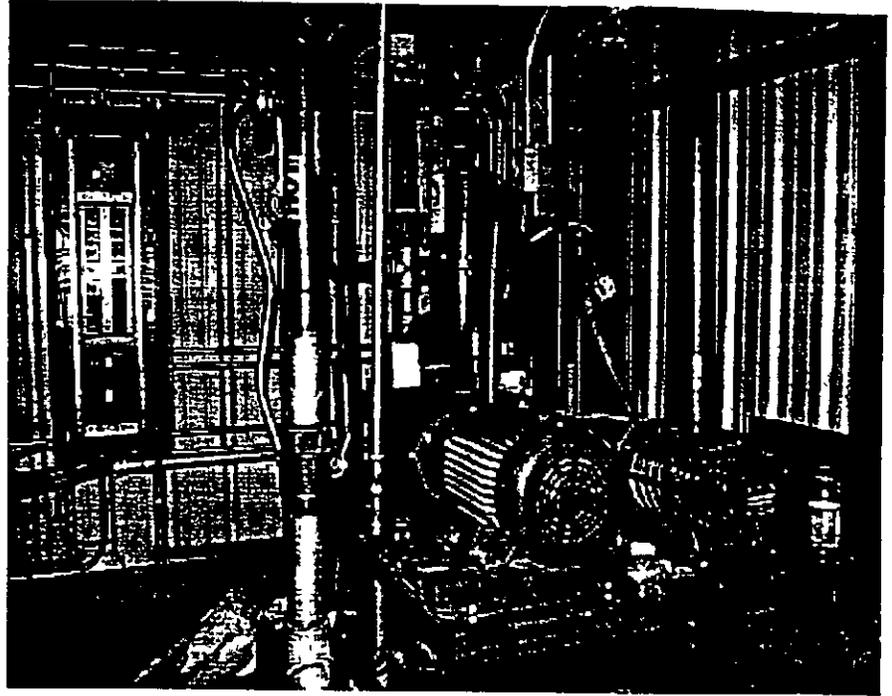
Soil Vapor Extraction (SVE) System



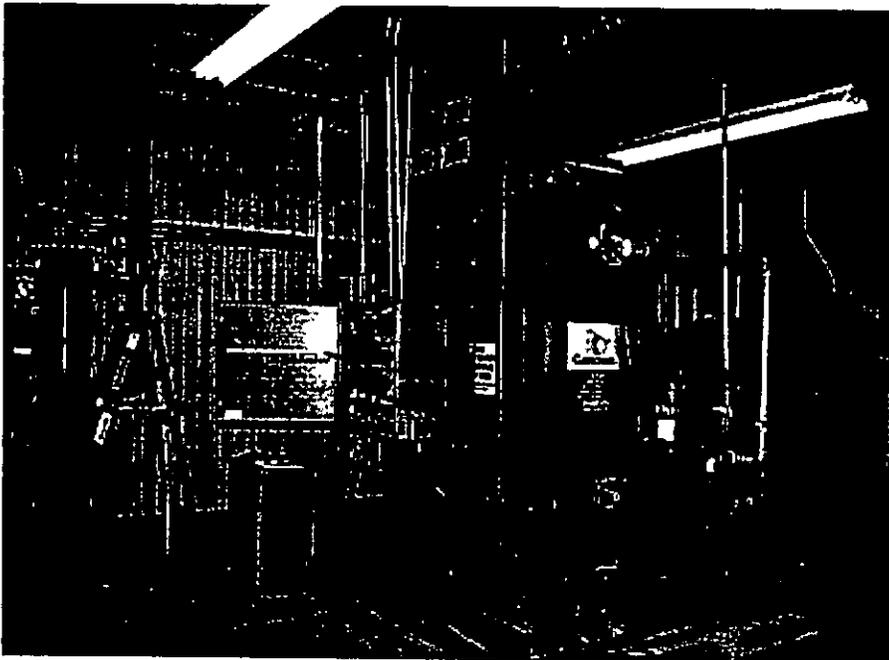
In 1997, Jacobs Engineering Group Inc. (Jacobs) was contracted by the Air Force to prepare a remedial design for expanding the SVE system at bldg. 181. The Air Force subsequently contracted with Jacobs to construct the system based on this design.

The SVE system expansion involved removal and refurbishment of the existing pilot-scale system. Components of the previous system were used whenever possible to reduce equipment costs for the new system. For example, the expanded system utilizes 11 vapor extraction wells and four dual-phase extraction wells from the pilot-scale system, and required the installation of 18 new wells.

Extracted vapor and air stripper gases are destroyed in a system called *catalytic oxidation* designed to remove a



*This photo shows the blower 2 skid, vapor/liquid separator 2, and instrumentation.*



*This photo shows the air stripper and its control panel in the SVE Treatment Building. Vapor/liquid separator 3 can be seen at the far left.*

minimum of 90 percent of the TCE and hydrochloric acid in accordance with Texas Natural Resource Conservation Commission requirements. Following catalytic oxidation, the vapors are conveyed to a quench/scrubber for cooling and the removal of hydrochloric acid vapor prior to discharge to the atmosphere. Groundwater extracted from the extraction wells and condensation water from the vapor/liquid separators are treated by air stripping before being routed to the the City of Fort Worth's sanitary sewer system.

Construction on the permanent SVE system began in January 1999. As the system began operations in July, initially removing 50 pounds of TCE per day, it became one more example of the Air Force's commitment to the environmental clean-up effort at AFP 4.

**For more information, please contact George Walters, remedial project manager, at our toll free number 1-800-982-7248, ext. 416, or Daniel Johnson, environmental public affairs specialist, ext. 346.**

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**ADMINISTRATIVE RECORD**

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