

# PROJECT SNAPSHOT

## TCH Combined with SEE at Arnold Air Force Base

TCH/SEE

**Location:** Tullahoma, TN

**Client:** Jacobs

**Contamination:** CVOCs

**Volume:** 70,600 cy

**Goal:** Remove DNAPL from source zone

**Heaters and SEE Wells:** 162 TCH and 11 SEE Wells

**Duration:** 16 months of operation

**Mass Removed:** 165,000 lbs.

## WHAT MAKES THIS PROJECT UNIQUE?

A combined in situ thermal remediation approach utilizing thermal conduction heating (TCH) and steam enhanced extraction (SEE) was implemented at a former vapor degreasing facility and leach pit. System modifications had to be implemented on-the-fly, as it was discovered that an unknown water source was adding water to the shallow portion of the target treatment zone (TTZ).

### Important Project Details

- **Approach:** 126 TCH heaters were installed to a depth of 65 ft bgs in the western TTZ and 36 TCH heaters were installed to a depth of 50 ft bgs in the eastern TTZ. The bottom western zone, from 65 ft bgs to 85 ft bgs was heated using the SEE technology.
- **Challenges:** After 7 months of operation, soil and groundwater sample results showed that PCE concentrations in the eastern portion of the site were below the performance standards. However, in the western portion of the site, sample results were above the performance standards due to an unidentified water source cooling the shallow zone. The project team enhanced the western zone treatment system by intercepting the water inflow with extraction sumps and boundary trenches, reconfiguring heating to target the cooler shallow soils, and by adding insulation to the vapor cap to minimize surface heat loss.
- **Results:** After a total of 16 months of system operation, approximately 165,000 pounds of chlorinated VOCs (primarily PCE) were removed from the TTZ.



## CONTACT INFO

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