

# Green Remediation Focus

Minimizing the environmental footprint of site cleanup

## A Profile in Using Green Remediation Strategies

Additional profiles available at [www.clu-in.org/greenremediation](http://www.clu-in.org/greenremediation)

**Delfasco Forge Site**  
Grand Prairie, TX

**Superfund Removal**

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**Cleanup Objectives:** Mitigate offsite trichloroethene (TCE) vapor migrating through soil from a contaminated ground water plume that resulted from the site's past use for metal forging and fabrication

**Green Remediation Strategy:** Employ onsite sampling and analytical techniques during site investigations, and use renewable energy to power exhaust systems addressing TCE vapor intrusion

- Deployed EPA's mobile laboratory to collect and analyze soil and air samples on over 500 offsite properties located above the estimated ground water plume
- Conducted passive air sampling in a targeted four-block area to further define the plume
- Began installing an exhaust system consisting of a conventional 6-inch fan, operating at a rate of 200 cubic feet per minute, in the crawl space of buildings with TCE concentrations above the 14  $\mu\text{g}/\text{m}^3$  action level
- Connected each exhaust system through exterior-wall wiring to a 10- by 16-inch 10-watt solar panel mounted on the building's roof
- Made available to each building owner a 24-volt battery with a lifespan of 5-7 years to ensure continuous operation of the exhaust system

### Results:

- Reduced materials, time, and costs associated with offsite laboratory analysis of soil and air samples, through onsite use of equipment such as a trace atmospheric gas analyzer and summa-type canisters
- Employed passive air sampling techniques providing continuous, real-time analytical results that optimize field decisions regarding locations for follow-on sampling
- Installed each exhaust system within two days, including less than one hour for the solar equipment
- Incurred equipment costs of only \$200 for the fan and solar panel, plus \$50 for the battery, needed for each building
- Achieved an immediate 95% reduction in TCE vapor in each building's interior following exhaust system installation
- Avoided a building owner burden estimated at \$96 each year for electricity to power the exhaust system, through use of solar energy
- Mitigating offsite vapor intrusion until the contaminated ground water plume at Delfasco Forge is successfully treated through technologies such as soil vapor extraction

**Property End Use:** Continued occupancy of nearby buildings, while onsite Superfund cleanup progresses

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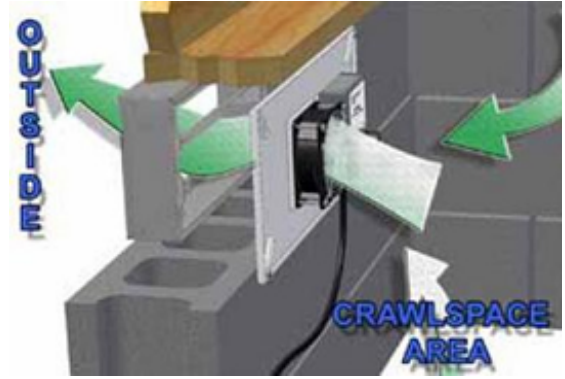
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*The trace atmospheric gas analyzer (TAGA) van is a self-contained mobile laboratory with specialized sampling equipment for measuring indoor air. TAGA equipment can provide analytical results for concentrations reaching the low parts per billion.*



*Each crawl space exhaust system vents to the building's exterior at ground level.*



*Most homes near the Delfasco Forge site are "pier and beam" structures with underlying crawl spaces where exhaust systems can easily be installed.*



*Each solar panel is installed at a 25-50° tilt with unobstructed southern exposure to the sun.*

### **Delfasco Forge Site**

[http://www.cluin.org/greenremediation/profiles/subtab\\_d30.cfm](http://www.cluin.org/greenremediation/profiles/subtab_d30.cfm)



**United States Environmental Protection Agency  
Office of Solid Waste and Emergency Response (5202P)**

**For more information:**  
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