



AMCO CHEMICAL SUPERFUND SITE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION 9 • JULY 2005

Remedial Investigation (RI) Update

The Site

The AMCO Chemical Superfund Site is located in South Prescott, a vibrant residential neighborhood located in the portion of the City of Oakland known as “West Oakland”. The Site, located one and a half miles southwest of downtown, is bordered by residences, industrial property, and land that may be redeveloped for mixed residential and commercial use.

Beginning in the 1960s and continuing for nearly 29 years, the AMCO Chemical Company off-loaded chemicals from a rail spur on site, stored them in drums and storage tanks and then transferred them to smaller containers for resale. At one time, there were twelve above ground storage tanks (ASTs), two underground storage tanks (USTs), and a large number of drums. Some drums contained diesel and dry cleaning, industrial cleaning and degreasing agents. All containers were removed and AMCO ended its operation in 1989, when DC Metals acquired the property and paved the facility with concrete.

Today, soil and **groundwater** (*see definitions of bold terms in glossary on page 6*) beneath the former facility are contaminated from historical releases and await **remediation**. Site contaminants include **trichloroethene (TCE)**, **vinyl chloride** and **benzene**.

U.S. EPA is conducting a **Remedial Investigation (RI)** to determine the full extent of the contamination. As of 2005, the RI for the AMCO Site was estimated to cost \$1.7 Million.

The Problem

Several chemicals are present in the soil and groundwater beneath the former AMCO facility, including **chlorinated solvents**, benzene-based chemicals, petroleum products, pesticides and **metals**. The Site does not currently pose an immediate threat to the public because the facility is paved and the groundwater is not being used as a drinking water source. However, there is concern that contaminants from the

Site may pose a potential long term threat if nothing is done. Because the groundwater in the area is shallow, the off-site migration of contaminated groundwater raises additional concerns that **volatile organic compounds (VOCs)** may emit vapors that travel upward through the soil and impact the outdoor or indoor air.

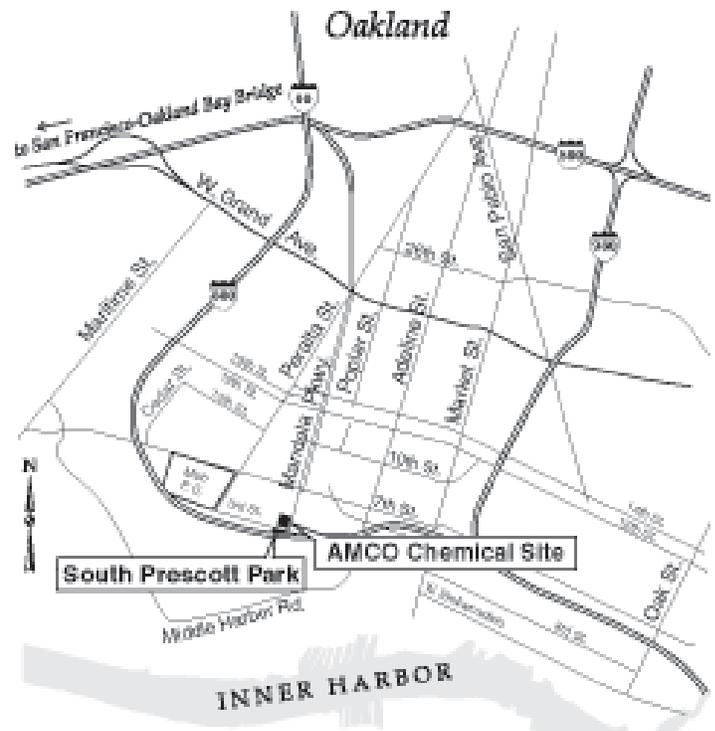


Figure 1: AMCO Chemical Superfund Site

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Due to the presence of residences immediately adjacent to the former facility and a municipal park across the street, community members have raised concerns regarding potential exposure to site-related contamination.

What We Know So Far

U.S. EPA evaluated the residential and park data collected for the dry season, to be sure that no immediate actions are needed and that workers and residents are not being exposed to concentrations of chemicals from the Site that may have adverse effects on their health. Until the RI is completed and U.S. EPA conducts a full evaluation of the data, we cannot make any conclusions about the full extent and nature of the contamination from the AMCO Site. Meanwhile, we are giving you a snapshot of information, that is, what we have found in our sampling to date. After field activities are completed in Winter 2005, we

will complete the evaluation of the data and will prepare a Remedial Investigation Report. The RI Report will be used to determine feasible alternatives to address the contamination at the Site.

As part of the RI we will prepare a risk evaluation. In this evaluation, U.S. EPA estimates the current and future health risks from the Site. The goal is to understand what degree of remediation may be necessary.

Sources not related to the AMCO Site are not evaluated within the RI, although the risk evaluation does take into account **background levels** of contaminants in the area. Also, additional risks that may occur due to chemical interactions are not addressed, because not enough scientific research has been performed to provide a basis for such an evaluation.

In September 2004, U.S. EPA collected outdoor air, crawl-space air, and **soil gas** samples at some residences on Center and Third

Streets bordering the former AMCO facility. In addition, soil gas samples were collected in South Prescott Park. The samples were tested for volatile organic compounds (VOCs). VOCs generally include fuels, fuel additives (such as benzene) and industrial solvents (e.g., TCE).

Of the 41 chemicals tested in the outdoor air and crawlspace air samples, nine were detected above screening levels at least once. Of the 63 chemicals tested in the residential backyard soil gas samples, five were detected above screening levels at least once. Of the 63 chemicals tested in the three soil gas samples collected in the South Prescott Park, three were detected above screening levels at least once.

Vinyl chloride was detected twice in all the residential samples collected and at very low concentrations. Vinyl chloride was not detected in the soil gas samples collected in the park.

Chemicals that were present above screening levels were subjected to further assessment and consideration.

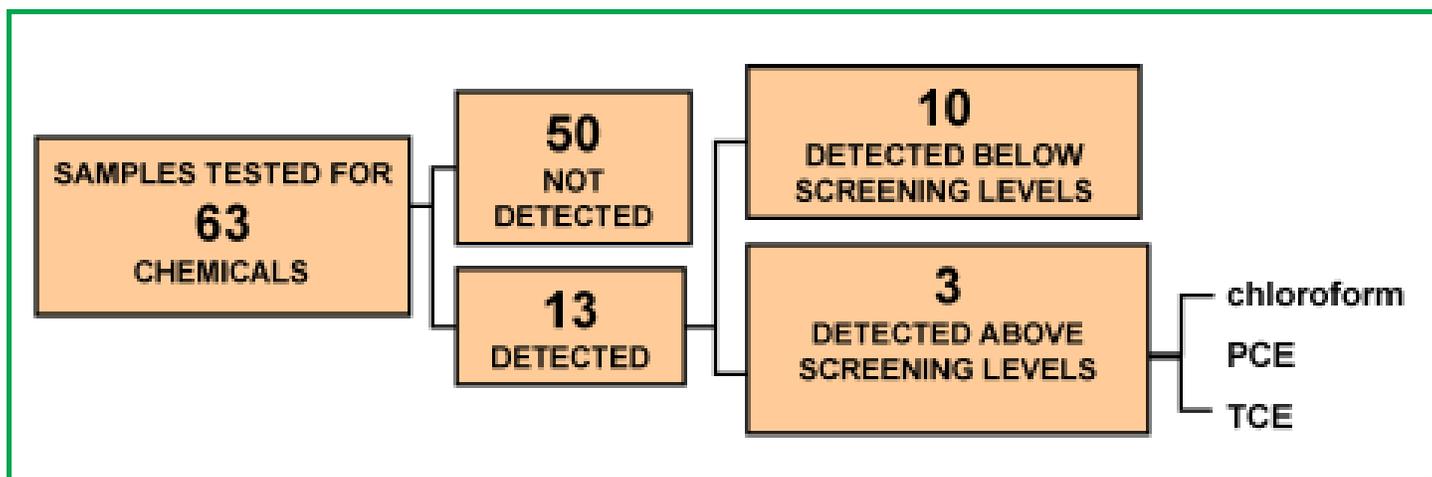


Figure 2: Soil Gas Sampling Results* at South Prescott Park

* 3 samples taken at approximately 2 feet below ground

Outdoor Air

U.S. EPA collected seven outdoor air samples. Five were collected in residential backyards and two were collected on Lewis Street as background samples. Benzene-based chemicals were detected at the highest concentrations of the contaminants analyzed. Some of these chemicals could be associated with the Site and/or the freeway that is next to the Site. The concentrations measured do not pose an immediate human health concern.

Crawlspace Air

For the four crawlspace air samples, benzene-based chemicals were detected at the highest concentrations of the contaminants analyzed. These chemicals could be related to the Site and/or other sources. The concentrations measured do not pose an immediate health concern.

Soil Gas

Twelve soil gas samples, three in the South Prescott Park and nine in residential backyards, were collected

at approximately 2 to 3 feet below the surface. For the residential samples, **tetrachloroethene (PCE)** and TCE were detected at the highest concentrations of the contaminants analyzed. For the park results TCE, PCE and **chloroform** were detected at the highest concentrations of the contaminants analyzed.

Although some concentrations of contaminants detected in residential soil gas are significantly above screening levels, they do *not* represent the actual concentrations that you breathe in air. As described earlier, the levels of contaminants in outdoor air do not represent an immediate human health concern.

U.S. EPA wants to be sure that residents and/or workers are not exposed to the high levels of soil gas contaminants that are below the ground surface. We continue to advise residents and businesses bordering the former AMCO facility to contact us before digging on their property. We continue to work with the City of Oakland to be sure that the facility and surrounding properties are flagged in the City of Oakland permits data base, and that people are taking precautions when doing construction work involving excavation.

What are Screening Levels?

Screening levels are specific concentrations of chemicals that are considered by U.S. EPA to be health protective for human populations (including sensitive groups). Sampling results are compared to screening levels to determine if further assessment is needed.

Screening levels are developed using toxicity values for each chemical and the assumption that children and other sensitive members of the community could be exposed to the chemical for at least 30 years (long term exposure).

Screening levels are designed to be very protective of human health. If a contaminant concentration is below the screening level, then no immediate action is necessary. If a contaminant is present at a concentration above the screening level, it does not necessarily mean that this chemical poses a significant health risk. However, further evaluation of possible exposure to that contaminant may be needed.

Health effects that could occur after only a very short exposure of hours or days (short term exposure) typically develop only in response to much higher exposure concentrations (usually 100-fold or greater) than the screening levels.

South Prescott Park Q&As

Is it safe for children to play in the South Prescott Park?

People may have varying opinions on what is safe. From a U.S. EPA perspective, the available data says that children can play safely in the park without being exposed to harmful concentrations of chemicals that may be associated with the AMCO Chemical Site.

U.S. EPA collected three soil gas samples approximately 2 feet below ground surface in grass areas around the perimeter of the tot lot in the South Prescott Park. Figure 3 shows where the samples were collected. The samples were tested for 63 chemicals. Fifty chemicals were not detected at all and ten were present at low concentrations that were below their screening levels. The remaining three chemicals, TCE, PCE and chloroform, were found at concentrations above their screening levels.

How do you know that there is not a health risk from soil gas?

Concentrations of chemicals found in soil gas were compared to screening levels. U.S. EPA uses screening levels to distinguish chemicals that warrant further assessment from those that clearly do not pose a significant health risk. The presence of the

chemicals above their respective screening levels does not necessarily mean that these chemicals pose a significant health risk.

Why didn't U.S. EPA collect samples right inside the tot lot area?

Samples were not collected inside the tot lot area because it is not possible to sample properly in the sand layer, which is 12" thick. There is a layer of asphalt between the sand and the fill material used as a base layer at the park. The asphalt may help prevent soil gas from migrating into the outdoor air. Even if cracks exist, the impact on outdoor air is insignificant, due to the low concentrations in the soil gas and the slow rate at which the soil gas migrates through the fill material.

What about the carcinogens you did find above screening levels?

Health effects will be a function of the amount and duration of exposure and the potency of the chemical. The concentrations of chemicals found in soil gas at the park are too low to have an adverse effect on your health.

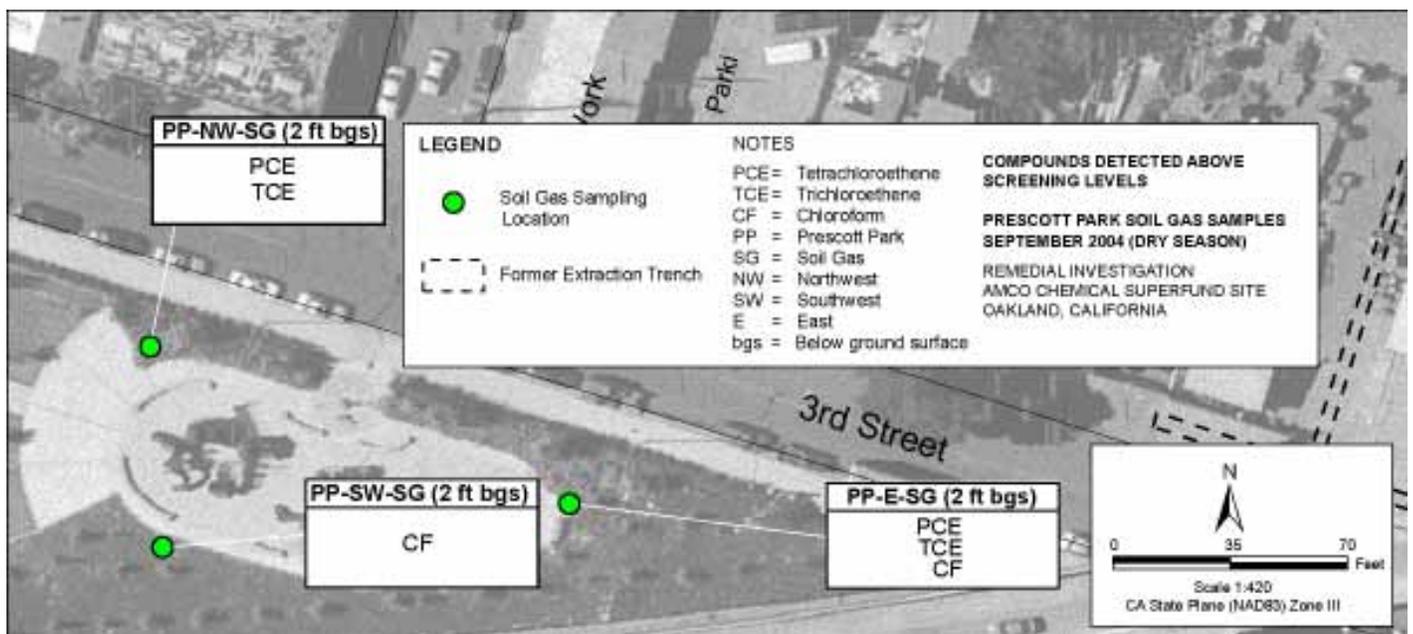


Figure 3: Soil Gas Sampling Locations at South Prescott Park

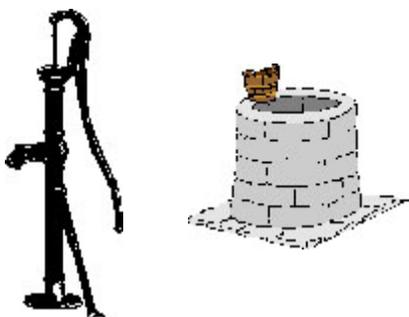
Do You Have a Private Water Well?

The drinking water of the South Prescott community comes from the Mokelumne River, located in the Sierra Nevada, and not from beneath the former AMCO facility. Because the groundwater in your community is shallow, it is possible that some people may have private wells.

Unlike public drinking water systems serving many people, private wells are not regularly checked for water quality. The water from private wells in the South Prescott community is not safe for use as drinking water.

So far, we have found one well in the South Prescott community. U.S. EPA sampled the well for VOCs, SVOCs and metals. All results were well below both Federal and California **Maximum Contaminant Levels (MCLs)**, with the exception of lead.

Boron, manganese and sodium were elements above **Agricultural Water Quality Limits**. These elements are also commonly present in groundwater in this area and may not be related to the historical operations from AMCO Chemical. If you have a private well and you would like us to sample it, please call Viola Cooper, Community Involvement Coordinator at (415) 972-3243 or at our toll-free message line (800) 231-3075.



Field Work: Where Are We Now?*

	Activity Schedule				
	Sep 04	Jan-Feb 05	Mar 05	May 05	Jun, Sep & Dec 05
Air/Soil/Soil Gas studies					
Ambient air survey	C			C	
Crawlspace sampling	C			C	
Soil gas at residences & Park	C			C	
Soil gas @ AMCO facility	C				
Install permanent soil gas probes	C				
Soil sampling at AMCO	C				
Groundwater investigation					
Test borings	C				
Install monitoring wells		C			
Sample wells			C		C P P

C = Completed **P** = Planned

*Validation and evaluation of results ongoing.

Glossary

Agricultural Water Quality Limits: Limits to establish the suitability of water for irrigation of plants/crops.

Background Levels: Background levels are results from samples collected to differentiate between on-site and off-site contributions to contamination. One or more locations are chosen which should be free of contamination from the site, but have similar characteristics to the proposed sampling locations that may have been impacted by site activities.

Benzene: Industrial processes and motor vehicle exhaust are the main sources of benzene. Benzene is a gasoline additive compound and a general purpose solvent in coatings, cleaners and thinners. It is commonly found in the environment. Benzene is known to be a cancer causing chemical when one is exposed to high enough concentrations for a long period of time.

Chlorinated solvents: Organic solvents containing chlorine (for example, TCE contains chlorine). Chlorinated solvents are used in aerosol sprays, certain paints, and in dry cleaning fluids. Some chlorinated solvents, such as TCE, break down into other compounds such as vinyl chloride.

Chloroform: Chloroform is used to make other substances (for example refrigerants) and can also be formed in small amounts when chlorine is added to water. It is known to be a cancer causing chemical when one is exposed to high enough concentrations for a long period of time.

Groundwater: The supply of fresh water trapped beneath the Earth's surface. Groundwater from wells and springs can be a major source of drinking water.

Maximum Contaminant Levels (MCLs): The highest level of a contaminant that is allowed in drinking water.

Metals: Metals are naturally-occurring components of soil, and may also be present in the environment from sources of pollution. For example, lead is a metal.

Remedial Investigation (RI): Under the Superfund Program, an RI is an action undertaken to characterize the full nature and extent of contamination, including characterization of hazardous substances, characterization of the facility, evaluation of human health and ecological risks, and collection and evaluation of information relevant to the identification of hot spots of contamination.

Remediation: Cleanup or other methods used to remove or contain a toxic spill or hazardous material at a contaminated site.

Soil gas: Soil gas is the air found in the pore spaces between soil particles. Soil gas can become contaminated when chemicals evaporate from subsurface sources such as groundwater or soil that contains VOCs.

Tetrachloroethene (PCE) & Trichloroethene (TCE): Solvents widely used in industry as cleaning and degreasing agents. Results of animal studies conducted with high amounts show that PCE and TCE can damage the liver, kidneys, and nervous system, and cause cancer.

Vinyl chloride: A chemical used in producing some plastics, vinyl chloride is known to cause liver cancer in people if one is exposed to high enough concentrations for a long period of time.

Volatile Organic Compounds (VOCs): Substances that evaporate readily at normal temperatures and pressures. VOCs at the AMCO Chemical Superfund Site include benzene, TCE, PCE and chloroform.

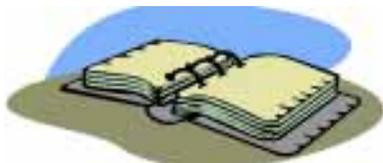
We Want You To Take Action And Get Involved!

- **Attend** the neighborhood meetings and public meetings
- **Sign up** to be added to the mailing list to receive updates
- **Read** the fact sheets and flyers
- **Visit** the Information Repositories
- **Go to** U.S. EPA's Web site at:
<http://www.epa.gov/region9/waste/sfund/superfundsites.html>
- **Contact** the U.S. EPA Community Involvement Coordinator, Viola Cooper at (415) 972-3243 or the toll-free message line at (800) 231-3075 if you have questions or concerns.



What Is An Information Repository?

The **Information Repository** is one tool the public can use to learn about activities at AMCO. This is where you can find up-to-date information, technical reports and reference materials. Repositories are established for all Superfund sites where cleanup activities are expected to last for more than 45 days. Typical locations include public libraries or municipal offices.



The **information repositories** for the AMCO Site are located at:

West Oakland Public Library

1801 Adeline Street
Oakland, CA 94607
(510) 238-7352

U.S. EPA Region 9 - Superfund Records Center

95 Hawthorne Street, 4th Floor
San Francisco, CA 94105
(415) 536-2000

AMCO Chemical Superfund Site Remedial Investigation (RI) Update

For More Information

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U.S. EPA's Web site:

<http://www.epa.gov/region9/waste/sfund/superfundsites.html>

(800) 231-3075 Toll-Free Message Line



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75 Hawthorne Street (SFD-3)
San Francisco, CA 94105
Attn: Viola Cooper (AMCO 7/05)

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Let Us Know What You Think...

Use this space to let us know what you want to hear more about ...

It takes just a few easy steps!

1. In the box below, check which one of the themes you would be most interested in. The listed topics are themes we have heard from residents in the South Prescott Community.
2. Fill in your name and return address on the reverse side.
3. Cut out this self-addressed section, place a stamp on it and drop it in the mail.
4. Call Viola Cooper at (415) 972-3243 or our toll-free message line at (800) 231-3075 or email Viola at cooper.viola@epa.gov if you have questions about this survey.



AMCO Site Workshop Survey

- Risk Assessment: How Do Chemicals Affect My Health? ...
- Groundwater
- Superfund Site and Property Values
- Superfund & Redevelopment

Add any topics you would like us to discuss:



Attn: Viola Cooper

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