



EPA to Begin Fieldwork to Install Groundwater Cleanup System in the El Monte Area

The United States Environmental Protection Agency (EPA) will oversee the installation of a groundwater cleanup project in the El Monte Operable Unit (EMOU) of the San Gabriel Valley Superfund Site Area 1 in Los Angeles County, California. Construction will begin in the winter 2010-2011 and continue through the fall 2012 and will include the installation of extraction and injection wells, pipelines, and groundwater treatment plants in the City of El Monte, City of Rosemead, and Temple City. Locations of the wells, pipelines, and treatment plants are shown on the map on page 3.

This fact sheet provides information to the community about the following:

- Description of the cleanup project and contamination in the groundwaterpage 1 and 2
- What to expect during construction page 2
- How the work will affect nearby communities, and measures that EPA plans to take to minimize impacts to the communities..... page 2
- Who is doing the cleanup work and what are the cleanup remedies..... page 4

Site Background

The EMOU project is one of the cleanup projects in the San Gabriel Valley Superfund Site and addresses an approximately 10 square mile **plume** of contaminated groundwater that extends beneath portions of the City of El Monte, City of Rosemead, and Temple City. The San Gabriel Valley Superfund Site consists of four large areas of groundwater contamination that underlie significant portions of the Cities of Alhambra, Arcadia, Azusa, Baldwin Park, City of Industry, Irwindale, El Monte, La Puente, Monrovia, Rosemead, South El Monte, Temple City, and West Covina.

Groundwater Cleanup Project

The EMOU project will consist of four cleanup systems that will remove and treat contamination from four impacted groundwater zones (the Eastern **Shallow Zone**, Southern **Deep Zone**, Western Shallow Zone, and Northwestern Deep Zone). Each system will include **groundwater extraction wells**, pipelines, and a groundwater treatment plant. Five shallow zone extraction wells, three deep zone extraction wells, three **injection wells**, and two treatment plants will be installed in the eastern and southern portions of the project area. A treatment plant will be installed in the western portion of the project area where five shallow zone extraction wells are already in place. Three existing deep zone production/extraction wells, pipelines and a treatment plant, owned and operated by the Golden State Water Company and located in the

Para ver y descargar esta hoja informativa en español, visite el sitio web de la EPA que se indica a continuación.
Para solicitar una copia impresa, llame al número gratuito que se indica a continuación.

要檢視和下載此概要說明的中文版，請造訪下列 EPA 網站。
請撥打下列免費電話索取印刷本。

Để xem và lấy trang thông tin này bằng tiếng Việt, vui lòng vào trang mạng của Cơ quan EPA theo địa chỉ dưới đây.

Vui lòng gọi số điện thoại miễn phí dưới đây để yêu cầu bản in của thông tin này.

<http://www.epa.gov/region09/SanGabrielElMonte>
Toll Free Message Line: (800)-231-3075

Community Meetings

Informational community meetings on the project will be held prior to the start of construction activities.

Once the community meetings are scheduled, the community will be notified.

<http://www.epa.gov/region09/SanGabrielElMonte>

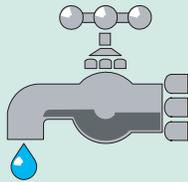
Terms in bold are defined in the Glossary on page 5.

northwestern portion of the project area, will address the Northwestern Deep Zone contamination. More than 4 miles of underground pipeline will be installed to link the extraction wells to the new treatment plants.

The extraction wells will pump out contaminated groundwater. The pipelines will deliver this water to the treatment plants where the water will be treated to reduce contaminant concentrations to levels that are protective of human health and the environment. The shallow zone treated water will either be discharged to Eaton Wash, or re-injected into the shallow groundwater zone. The deep zone water will be treated to federal and state drinking water standards before being blended for use in the municipal water supply system. A groundwater conceptual site model is shown in the simplified illustration on page 4.

What about drinking water?

All drinking water provided by utilities in the San Gabriel Valley communities meets current federal and state drinking water standards.



Contamination in the Groundwater

Volatile organic compound (VOC) groundwater contamination in the EMOU area was first detected in 1979. The groundwater contamination is the result of decades of poor chemical handling and disposal practices by hundreds of industrial facilities, practices which released various VOCs, primarily industrial **solvents**, into the soil and groundwater. The primary chemical contaminants in the EMOU groundwater are two chlorinated industrial solvents - **tetrachloroethene (PCE)** and **trichloroethene (TCE)**. Other less widespread contaminants include **1,4-dioxane**, used as a stabilizer in chlorinated industrial solvents; **perchlorate**, used in fireworks and rocket fuel; and, **hexavalent chromium (Cr+6)**, used in metal plating.

What to Expect During Construction

Fieldwork activities will include the construction of 11 extraction and injection wells, 4 sections of pipelines, and 3 groundwater treatment plants. EPA anticipates that each well installation will require one to two weeks to complete and each section of pipeline will require a few weeks to complete. Flyers will be distributed to notify residents and businesses in advance of upcoming construction activities.

Construction Methods and Equipment. The construction crew will install wells using a truck-mounted drill rig. **Boreholes** will be drilled to approximate depths of 118 feet for shallow wells and 365 feet for deep wells. The crew will install pipelines using open trench construction (see photo) or **horizontal directional drilling (HDD)**.



Typical open trench pipeline installation

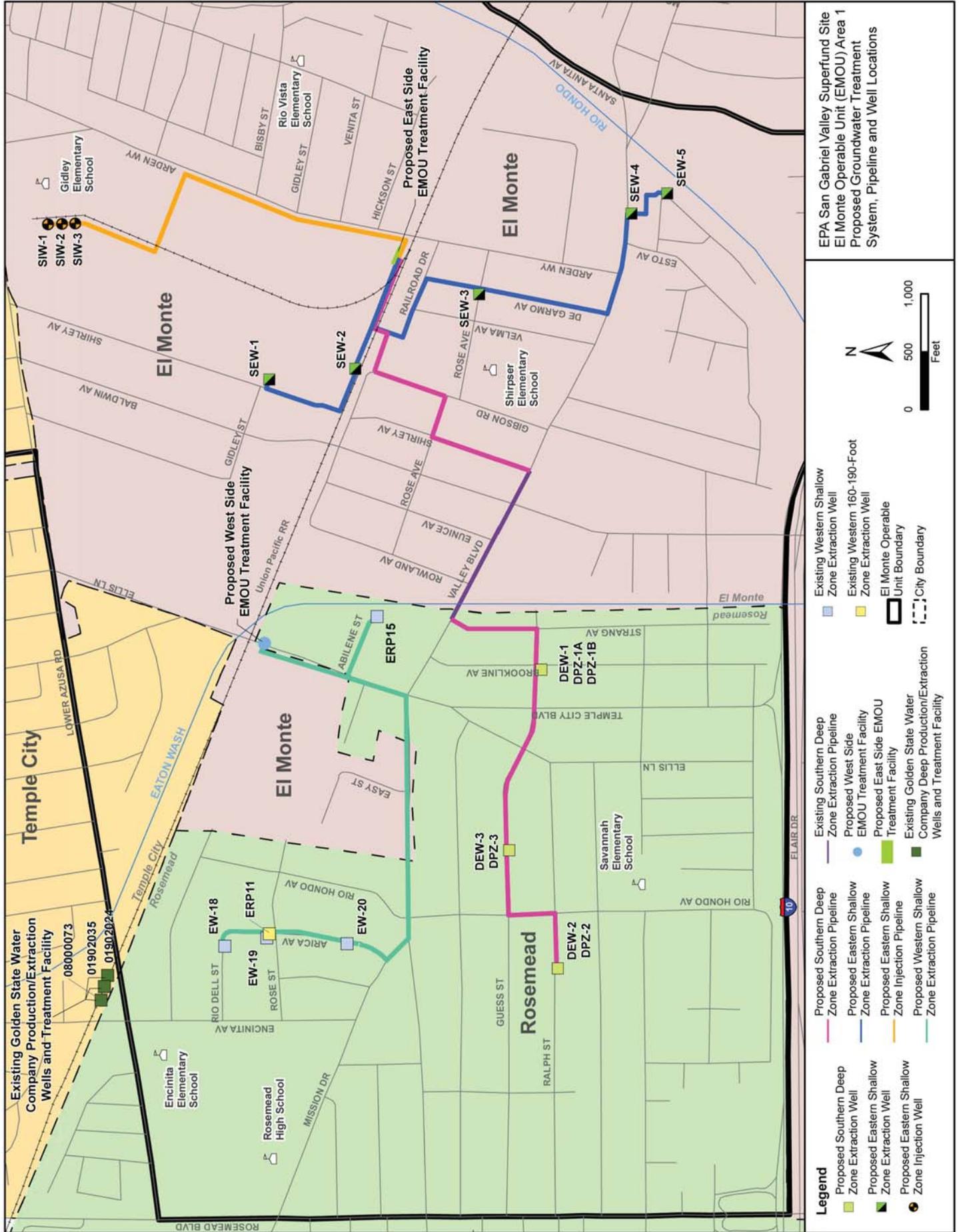
Both methods will involve excavating soil, laying pipelines, backfilling the excavation, and repaving the ground surface. Equipment for well installation will include a truck-mounted drill rig and large containers for temporarily storing drill cuttings and liquids. Equipment for pipeline installation will include dump trucks, backhoes, flatbed delivery trucks, cement mixers, and an asphalt paving machine.

Impact Reduction and Safety Measures. EPA will take the following measures to protect public health and safety and minimize community impacts:

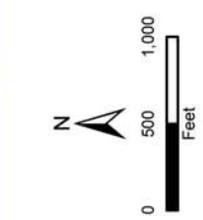
- Implement sound mitigation measures to reduce drilling noise levels (see photo below);
- Deploy safety barriers and traffic cones to protect children, pedestrians, cyclists, and drivers;
- Cover excavations at night with steel plates;
- Make every effort to avoid blocking driveways to keep traffic flowing and provide alternate routes if necessary; and,
- Spray water during trench excavation and backfilling operations to reduce dust emissions.



Well construction site with sound mitigation measures



EPA San Gabriel Valley Superfund Site
 El Monte Operable Unit (EMOU) Area 1
 Proposed Groundwater Treatment System, Pipeline and Well Locations



- Existing Western Shallow Zone Extraction Well
- Existing Western 160-190-Foot Zone Extraction Well
- El Monte Operable Unit Boundary
- City Boundary

- Existing Southern Deep Zone Extraction Pipeline
- Proposed West Side EMOU Treatment Facility
- Proposed East Side EMOU Treatment Facility
- Existing Golden State Water Company Deep Production/Extraction Wells and Treatment Facility

- Proposed Southern Deep Zone Extraction Pipeline
- Proposed Eastern Shallow Zone Extraction Pipeline
- Proposed Eastern Shallow Zone Injection Pipeline
- Proposed Western Shallow Zone Extraction Pipeline

- Proposed Southern Deep Zone Extraction Well
- Proposed Eastern Shallow Zone Extraction Well
- Proposed Eastern Shallow Zone Injection Well
- Proposed Western Shallow Zone Extraction Well

In addition, the construction areas will be patrolled by security during non-working hours.

The fieldwork will not affect local drinking water or otherwise expose people living or working near the construction sites to contaminated water or hazardous chemicals.

Construction Schedule. Construction will begin in the winter 2010-2011 and continue through the fall 2012.

Work Hours. Construction crews will generally work Monday through Friday between the hours of 7:00 a.m. to 6:00 p.m. In some cases, crews may have to work up to 24 hours per day. People living in neighboring areas will be notified of this potential 24-hour schedule on a case-by-case basis.

Who is Doing the Cleanup Work?

While dozens of facilities may have contributed to contamination in the area, the parties required to complete the groundwater cleanup are the East Side Performing Settling Defendants (ESPSDs) and the West Side Performing Settling Defendant (WSPSD).

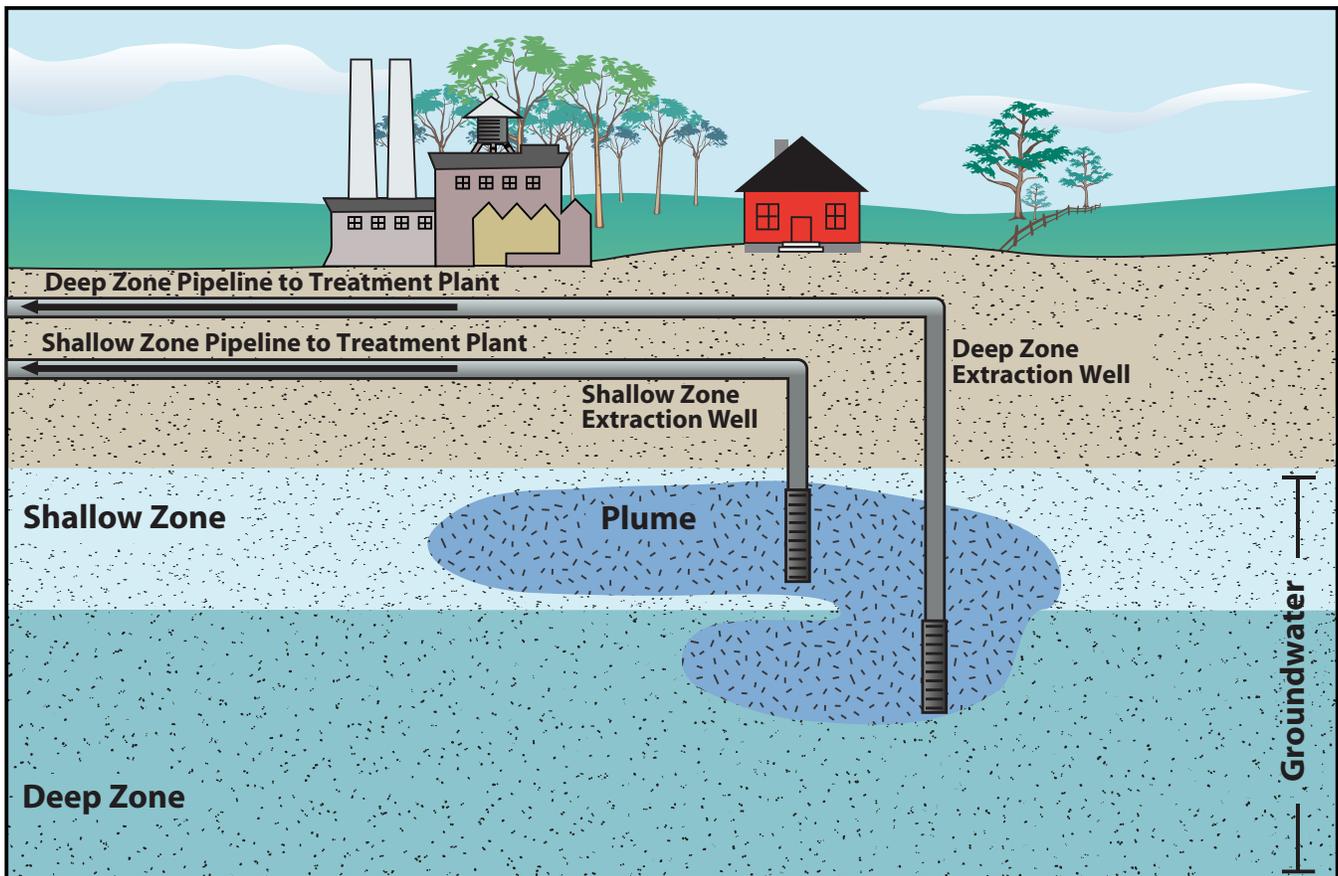
The ESPSDs and the WSPSD are a subset of the parties responsible for the groundwater contamination. The ESPSDs will be completing the cleanup of the Eastern Shallow Zone and the Southern Deep Zone groundwater. The WSPSD will be completing the cleanup of the Western Shallow Zone and the Northwestern Deep Zone groundwater. EPA will oversee the work.

What Types of Groundwater Treatment Systems Will Be Used?

Once extracted, contaminated groundwater will be treated to drinking water standards using some or all of the following treatment systems:

- **Liquid-phase Granular Activated Carbon (LGAC)** to remove TCE, PCE and other VOCs;
- **Fluidized Bed Reactor** or an **Ion Exchange**, if necessary, to remove nitrate, perchlorate and hexavalent chromium (Cr+6); and,
- **Advanced Oxidation and Ultra Violet (UV) Light**, if necessary, to remove 1,4-dioxane.

Simplified Illustration of Subsurface - El Monte Operable Unit of the San Gabriel Valley Superfund Site Area 1



SC0392127.CR.01.01.conceptual_model.ai.2/10

Glossary

Advanced Oxidation and Ultra Violet Light - A water treatment process that uses chemical oxidants, in combination with ultraviolet light, to treat organic chemicals that cannot be removed by Liquid-phase Granulated Activated Carbon (LGAC).

Boreholes - Narrow shafts drilled vertically into the ground.

Deep Zone - Two zones were defined to describe the groundwater bearing layers beneath the EMOU: the Shallow Zone and Deep Zone. The Deep Zone occurs below 150 feet below ground surface (bgs) and supplies water for domestic consumption.

1,4-dioxane - An organic chemical used as a stabilizer in solvents and for other purposes.

Fluidized Bed Reactor - A biological water treatment technology capable of removing selected inorganic ions from water. If used in the cleanup, a fluidized bed reactor will be designed to remove nitrate, perchlorate, and hexavalent chromium (Cr+6), as necessary, from the water.

Groundwater Extraction Wells - Wells used to pump groundwater for cleanup.

Hexavalent Chromium (Cr+6) - A chemical that contains the element chromium in the +6 oxidation state; used for the production of stainless steel, textile dyes, wood preservation, anti-corrosion, and electroplating.

Horizontal Directional Drilling (HDD) - A method for installing pipe beneath the ground whereby pits are excavated every few hundred feet. A drilling machine is lowered into the pit, drills a borehole from one pit to the next, and then pulls the pipe through to the next pit, eliminating the need to trench the entire length of the pipeline.

Injection Wells - Wells used to inject clean treated groundwater into the shallow groundwater zone.

Ion Exchange - A chemical water treatment technology capable of removing selected inorganic ions from the water. If used in the cleanup, an ion exchange system will be designed to remove perchlorate and hexavalent chromium (Cr+6), as necessary, from the water.

Liquid-phase Granular Activated Carbon (LGAC) - A liquid carbon filtering system used to remove organics from water.

Perchlorate - A chemical used as the primary ingredient of solid rocket fuel and explosives.

Plume - A visible or measurable discharge of a contaminant from a given point of origin, such as in groundwater.

Shallow Zone - The groundwater bearing zone that extends from the water table (the shallowest depth at which groundwater occurs) to a depth of approximately 150 feet below ground surface.

Solvent - A liquid or gas substance that is used for industrial, commercial, and household products, such as paint thinners, nail polish, dry cleaning, and detergents.

Tetrachloroethene (also known as PCE, tetrachloroethylene or perchloroethylene) - A VOC used primarily as an industrial solvent and for dry cleaning.

Trichloroethene (also known as TCE or trichloroethylene) - A VOC used primarily as a solvent to remove grease from metal parts.

Volatile Organic Compounds (VOCs) - Organic (carbon-based) chemicals that tend to significantly vaporize and enter the atmosphere under normal conditions; commonly used in dry cleaning, machinery degreasing, and metal plating.

FOR MORE INFORMATION

Contact information is available below if you have any questions, comments, or concerns

US EPA Contacts



Bella G. Dizon

Project Manager
75 Hawthorne Street, SFD-7-3
San Francisco, CA 94105
(415) 972-3190
Dizon.Bella@epa.gov

Dana Barton

Community Involvement Coordinator
75 Hawthorne Street, SFD-6-3
San Francisco, CA 94105
(415) 972-3087
Barton.Dana@epa.gov



Toll-Free (English and Spanish)
Community Involvement Office Message line: (800) 231-3075

Information Repositories

EPA provides general information about the Superfund Program, as well as copies of EMOU fact sheets and technical documents at the locations below:



Rosemead Public Library

8800 Valley Boulevard
Rosemead, CA 91770
(626) 573-5220

West Covina Public Library

1801 West Covina Parkway
West Covina, CA 91790
(626) 962-3541

Superfund Records Center

95 Hawthorne Street, Room 403 (SFD-7C)
San Francisco, CA 94105
(415) 536-2000

Information about the EMOU is available at <http://www.epa.gov/region09/SanGabrielElMonte>
General information about the Superfund program is available at <http://www.epa.gov/region09/superfund>