



Omega Chemical Superfund Site

U.S. ENVIRONMENTAL PROTECTION AGENCY • REGION 9 • SAN FRANCISCO, CA • JUNE 2008

Proposed Plan for Soil Cleanup

The United States Environmental Protection Agency (EPA) and a group of potentially responsible parties (PRPs) have been conducting an investigation of the **groundwater*** and soil contamination at the Omega Chemical **Superfund** Site in Whittier, CA. At this time the EPA is requesting public comments on the **Proposed Plan** to clean up soil contamination associated with the property formerly used by the Omega Chemical Corporation (Omega).

The 30-day public comment period will begin on June 9, 2008 and end on July 10, 2008. On June 24th, the EPA will hold a public meeting to present the Proposed Plan, answer questions and receive public comments. In the box to the right, you will find the time and place for the public meeting, as well as information on how the public can submit comments in writing.

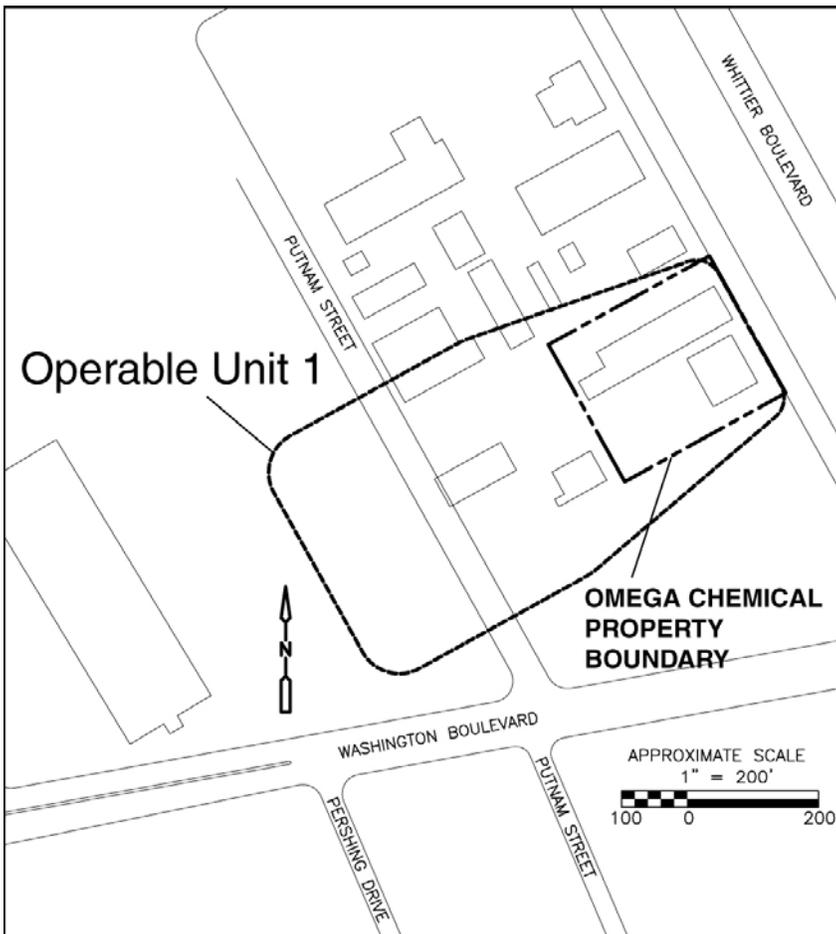


Figure 1: Location of Operable Unit 1 at the Omega site

Comment Period

The EPA encourages the public to comment on this proposed soil cleanup action at the Omega Chemical Superfund site. The comment period is June 9, 2008 through July 10, 2008. You can comment in person at the public meeting or in writing to the remedial project manager. Please send comments, post-marked no later than July 10, 2008, by mail, fax, or email to:

Christopher Lichens

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Email: lichens.christopher@epa.gov

Public Meeting

June 24, 2008

7:00 PM to 9:00 PM

Whittier Community Center
7630 Washington Avenue
Whittier, California 90602
(562) 464-3439

This fact sheet summarizes the EPA's preferred cleanup alternative and the other alternatives that were evaluated. All of the alternatives are described in more detail in the May 2008 **Feasibility Study Report (FS)**. The California EPA Department of Toxic Substances Control (DTSC), the lead state agency for the Omega site, also reviewed the FS and concurs with EPA's preferred alternative. The public can review the FS and other site documents at the Site's **information repositories** or online at www.epa.gov/region09/OmegaChemical.

Estimado residente: Si prefiere este folleto en español, por favor llame 1-800-231-3075 y deje su nombre y domicilio. Se lo enviaremos inmediatamente.

* Words in "**bold**" are defined in the Glossary at the end of this fact sheet.

Introduction

Omega was a solvent and refrigerant recycler that operated from approximately 1976 to 1991. Drums and bulk loads of waste solvents and other chemicals from various industrial activities were processed at Omega to form commercial products. As a result of spills and leaks, the soil and groundwater beneath the Omega property became contaminated. In 1995 a group of PRPs, later known as the Omega Chemical Site PRP Organized Group (OPOG), performed the removal of approximately 2700 drums under EPA oversight.

To better handle large site cleanups, EPA often separates the cleanup actions into parts called Operable Units. At the Omega Chemical Superfund site, Operable Unit One (OU-1) includes soil and groundwater contamination on and near the former Omega property (see Figure 1). In 2001, the EPA signed a settlement agreement called a **Consent Decree (CD)** with the OPOG to investigate soil and groundwater contamination within OU-1.

With EPA oversight OPOG completed a **remedial investigation (RI)** for soils in November 2007 which evaluated the nature and extent of soil and soil vapor contamination associated with the Omega Site. The FS, completed in May 2008, describes potential soil cleanup alternatives and includes a detailed analysis of these alternatives. EPA's preferred cleanup alternative, described in this fact sheet, was selected based on the results of the FS.

The CD also specifies that OPOG will implement an interim groundwater remedy to contain the existing contaminated groundwater within OU-1. Construction of the groundwater treatment system is underway and is expected to be complete in late 2008.

Operable Unit Two (OU-2) consists of the groundwater contamination that has migrated downgradient (southwest) of OU-1. The EPA is near completion of the OU-2 RI, which will be released for public review in mid 2008. The OU-2 FS is expected to be complete in late 2008 or early 2009.

Contaminants of Concern

The primary **contaminants of concern (COCs)** at the Omega site are **volatile organic compounds (VOCs)**, meaning that they evaporate readily in air. Less volatile or semi-volatile organic compounds (SVOCs), including 1,4-dioxane are also present at the Omega site. The primary VOCs of concern are tetrachloroethene (PCE), trichloroethene (TCE), and 1,1-dichloroethene (1,1-DCE). PCE and TCE are sol-

vents that have been widely used by industry as cleaning and degreasing agents. 1,1-DCE is not commonly used in commercial products but can be formed when other VOCs degrade. Another group of VOCs, Freons, are also contaminants at the Omega site. Freons are used as coolants and pressurizers in spray can products.

Remedial Investigation Results

The RI found that high concentrations of VOCs are present in soil and soil vapor on the former Omega property and extend to adjacent parcels, with PCE generally present at the highest levels. High concentrations of 1,4-dioxane are also present in the soil. The contamination continues, but decreases laterally, to the south and southwest. The highest soil vapor concentrations are present near the ground surface.

Other contaminants are also present in the soil. These include various metals, polychlorinated biphenyls (PCBs) and poly-nuclear aromatic hydrocarbons (PAHs). Based on the available data, these contaminants present a long-term risk that is within acceptable limits for residential use of the property, and therefore EPA is not proposing a cleanup plan for those contaminants.

Summary of OU-1 Risks from Contaminated Soil

The OU-1 property is currently used for commercial/industrial purposes. However, the zoning plan allows for residential use. Consequently the **human health risk assessment (HHRA)**, completed by OPOG as part of the RI, evaluated existing commercial exposure scenarios as well as possible future residential scenarios.

The HHRA identified several possible ways that people might be exposed to OU-1 soil contamination. These "pathways" for exposure include direct contact with contaminated soil (through dermal contact or ingestion) and inhalation of soil vapors. Inhalation of soil vapor that has migrated into buildings (**vapor intrusion**) represents the most significant risk. Vapor intrusion has been documented in several buildings within the OU-1 area, although there is no short-term risk to workers based on the data collected. Because the OU-1 area is largely paved, direct contact is not considered to be a current risk with the exception of construction workers. EPA also conducted a screening evaluation of possible ecological risks in the OU-1 area and found that because the area is largely paved and contamination is below the ground surface, there are no significant ecological risks.

EPA's Nine Evaluation Criteria For Superfund Remedial Alternatives

1 Overall Protectiveness of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

2 Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.

3 Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment.

4 Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

5 Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.

6 Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

7 Cost includes estimated capital and annual operations and maintenance costs, which are expressed in terms of present worth. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.

8 State Acceptance considers whether the State agrees with the EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.

9 Community Acceptance considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

**Final
Remedy**

Scope and Objectives of this Proposed Action

This Proposed Plan presents EPA's preferred alternative for the soil cleanup in OU-1. There are three primary goals, or **Remedial Action Objectives (RAOs)**, which are based on cleaning up the site to allow for residential use of the property. The RAOs are as follows:

- § Reduce or eliminate the vapor intrusion risk associated with VOC vapors in contaminated soils.
- § Reduce or eliminate the risk associated with direct exposure to, contact with and/or ingestion of contaminated soils.
- § Reduce or eliminate contaminant migration to groundwater to levels that protect the groundwater resource.

The purpose of this Proposed Plan is to summarize the alternatives considered in the FS and to present EPA's preferred alternative so that the public can provide comments on EPA's proposed soil cleanup plan. The Proposed Plan and the FS report are both included in the **Administrative Record** file, located in the information repositories (see page 6). At the end of the public comment period, EPA will review the comments and make a final decision on the cleanup plan. The EPA will memorialize its remedy selection in a **Record of Decision (ROD)** that will include a responsiveness summary addressing comments submitted by the public. The ROD will be placed in the information repositories, and notice of its availability will be announced in the local newspaper.

Cleanup Evaluation Criteria

Using data and other information gathered through the investigation of the Omega site, remedial action alternatives were identified to achieve the RAOs described above for OU-1. The alternatives were then evaluated against the EPA's nine evaluation criteria (see Figure 2). The first two are considered "threshold criteria" because any alternative selected as the remedy must meet these criteria. The last criterion, community acceptance, will be evaluated after EPA conducts the public meeting and receives comments on its preferred alternative.

Figure 2: EPA's Nine Evaluation Criteria

Alternatives Evaluated

1. **No Action:** EPA is required to evaluate the No Action alternative under the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)**. This alternative establishes a baseline against which other alternatives can be compared. The No Action alternative would allow the OU-1 contamination to remain in place with no remedial actions being implemented.
2. **Soil Vapor Extraction/Institutional Controls (EPA's Preferred Alternative):** Under this alternative, **soil vapor extraction (SVE)** would be conducted to remove contaminated vapors from below the ground surface (see Figure 3). Contingencies for increasing the effectiveness of SVE, including hot air injection and dual-phase extraction (DPE), would also be implemented if necessary to meet the cleanup goals. The SVE component would include installation and operation of extraction wells, which remove contaminated soil vapor and pipe it to a treatment system proposed to be located on the former Skateland property. Soil vapors would be treated by passing them through Granular Activated Carbon (GAC) to remove contaminants so that the treated air meets the limits specified by the South Coast Air Quality Management District (AQMD) before being released to the atmosphere.

SVE wells would be installed on the former Omega and Skateland properties, and the adjacent Terra Pave property to the southwest (see Figure 4). The actual number and locations of these wells may change during design of the cleanup. Hot air injection and/or DPE would be used if the cleanup goals are not achieved through SVE alone. Hot air increases the effectiveness of SVE by causing additional vapors to be released from the soil. DPE consists of simultaneous soil vapor and groundwater extraction and would be used if sampling data indicate that vapors coming from the groundwater are causing soil vapor concentrations to exceed the cleanup goals. Water generated from DPE would be pumped to the groundwater treatment system on the former Skateland property that is part of the interim groundwater remedy.

Institutional Controls (ICs) to maintain paved areas and to place restrictions on excavation in some areas during operation of the SVE system would also be part of this alternative. The estimated total cost to implement this alternative is \$5.6 million (present worth),

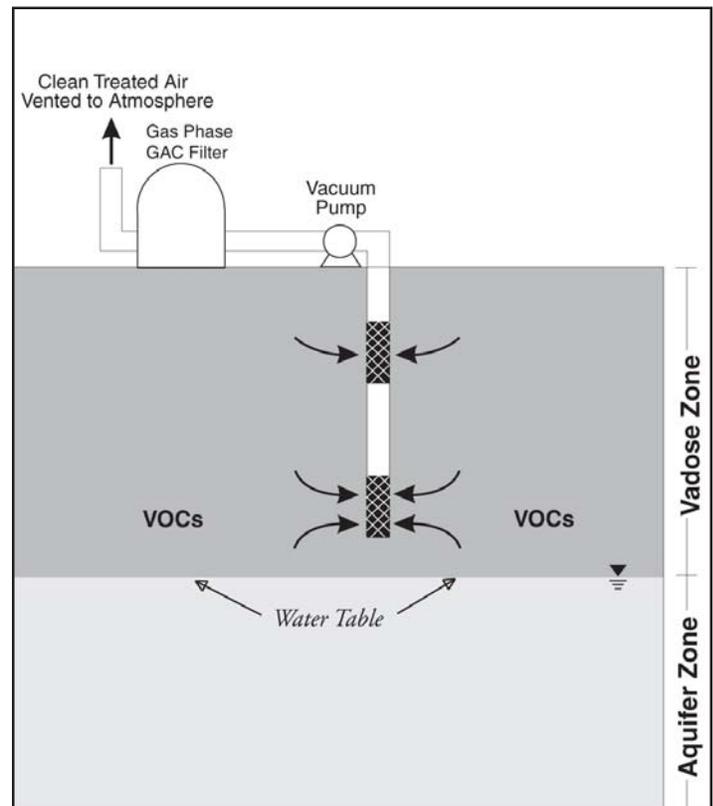


Figure 3: Components of SVE System

including \$2.1 million in capital costs and \$3.5 million in operation and maintenance costs (present worth). The estimated additional costs for hot air injection and DPE are \$0.9 million and \$2.9 million, respectively. The estimated time of operation for this alternative is five years.

3. **Hot Spot Excavation/SVE/ICs:** This alternative includes all the components in Alternative 2 as well as excavation of the most contaminated soil, which has the advantage of removing the risk from these soils immediately. Excavation would occur on the former Omega property in a 5000-square-foot area south and west of the building housing Star City Auto Body. The excavation would include removal and replacement of all existing pavement in this area. Excavated soil would be transported to an off-site landfill for treatment and subsequent disposal. The excavated area would be back-filled with clean soil. The estimated total cost to implement this alternative is \$8.6 million (present worth), including \$5.1 million in capital costs and \$3.5 million

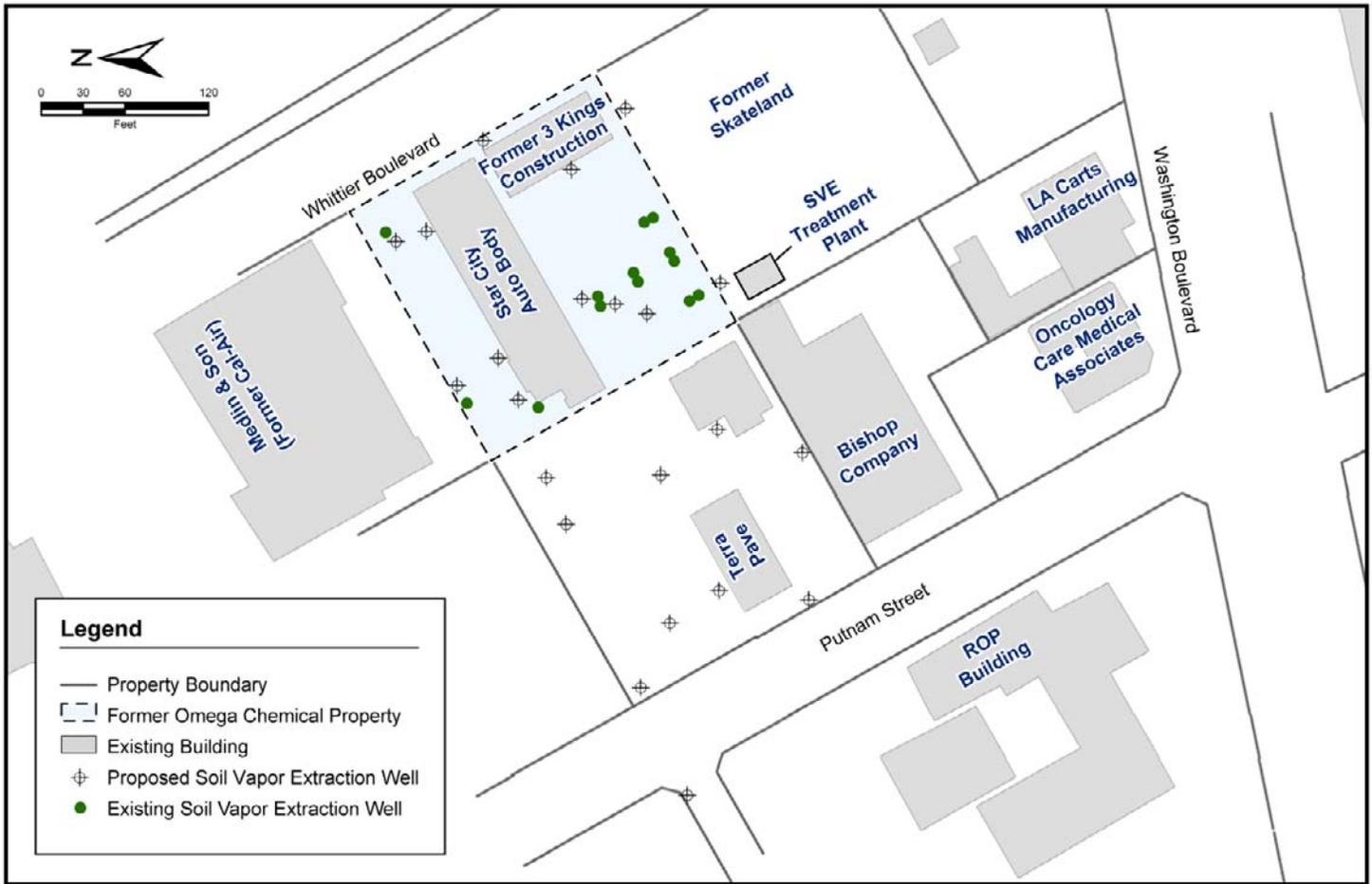


Figure 4: Soil Vapor Extraction Well Locations

in operation and maintenance costs (present worth). The estimated additional costs for hot air injection and DPE are \$0.9 million and \$2.9 million, respectively. The estimated time of operation for this alternative is five years.

4. **Thermally-Enhanced SVE/ICs:** This alternative includes the components in Alternative 2, although SVE would be thermally enhanced by electrical resistive heating (ERH). ERH increases the effectiveness of SVE by increasing the temperature of contaminated soils, therefore removing more VOC contaminant vapors in a shorter period of time. The estimated total cost to implement this alternative is \$16 million (present worth), including \$9.5 million in capital costs and \$6.5 million in operation and maintenance costs (present worth). The estimated time of operation for this alternative is one year.

Comparative Analysis of Alternatives

Table 1 summarizes the comparative analysis of alternatives. Each alternative is compared to the other three and rated “low”, “medium”, or “high” with respect to the criteria previously discussed. A high rating is most favorable and a low rating is least favorable. Rather than rating costs, the estimated costs for each alternative are presented.

Alternatives 2, 3, and 4 each received a high rating for the threshold criteria of “Overall Protection of Human Health and the Environment” and “Compliance with ARARs”. Alternative 1 would not meet these criteria and therefore received “low” ratings on each.

Alternatives 2, 3, and 4 received moderate or high ratings for each of the primary modifying criteria, but have increasingly higher estimated costs. Alternative 1 was rated “low” on all

Alternative	Description	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-term Effectiveness and Permanence	Reduction of Toxicity, Mobility, or Volume through Treatment	Short-term Effectiveness	Implementability	Cost (\$ millions)
1	No Action	Low	Low	Low	Low	Low	High	\$0
2	SVE & ICs 5 years O&M	High	High	Moderate	High	Moderate	High	Capital \$2.1 O&M \$3.5 Total Cost \$5.6 Hot air \$0.9 DPE \$2.9
3	Hot Spot Excavation, SVE & ICs 5 years O&M	High	High	Moderate	High	Moderate	Moderate	Capital \$5.1 O&M \$3.5 Total Cost \$8.6 Hot air injection \$0.9 DPE \$2.9
4	Thermally-Enhanced SVE & ICs 1 year O&M	High	High	High	High	High	Moderate	Capital \$9.5 O&M \$6.5 Total Cost \$16.0

Table 1: Comparative Analysis of Alternatives

criteria other than implementability, and it has the lowest cost. Alternative 3 would achieve immediate reduction of the highest levels of soil contamination and Alternative 4 would reduce residual contamination to the lowest levels, but both are more difficult to implement and more expensive than Alternative 2. Alternatives 2, 3 and 4 are each expected to achieve the cleanup goals.

Alternative 2 is EPA's preferred alternative because it received "moderate" or "high" ratings for each criterion, and can be implemented with the least disruption to the occupants of the former Omega property. Alternative 2 will also achieve the RAOs at a lower cost than the other alternatives.

Next Steps

The public comment period on this Proposed Plan will continue until July 10, 2008. After EPA evaluates all public comments and issues the ROD, it will negotiate a new agreement with the PRPs for implementation of the cleanup. Design and construction of the treatment system is expected to begin in 2009.

Technical Assistance Program

A Technical Assistance Grant (TAG) is available for citizens who live near a Superfund site. The grant helps qualified citizen groups affected by a Superfund site to hire an independent technical advisor to help interpret and comment on site-related information. An initial grant of up to \$50,000 is available. For further information about the grant, please call us and request an application (toll free 800-231-3075) or go to <http://www.epa.gov/superfund/community/tag/resource.htm>.

Site Information Repositories

EPA maintains site information repositories at the Whittier Public Library and at the EPA Superfund Records Center. These repositories contain project documents, fact sheets, and reference materials. EPA encourages you to review these documents to gain a more complete understanding of the site. The information repositories' locations are listed below. EPA also has a site information web page at www.epa.gov/region09/OmegaChemical.

U.S. EPA Superfund Records Center

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

Hours: 8:30 AM-4:00 PM

Whittier Public Library

7344 S. Washington Avenue
Whittier, CA 90602
(562) 464-3450

Hours: Mon. - Wed. 10:00 AM-9:00 PM
Tues. - Thurs. 10:00 AM- 6:00 PM
Sat. 10:00 AM-5:00 PM



Glossary of Terms

Administrative Record: The supporting documents that EPA relies on to implement a remedial action.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law first passed in 1980 and subsequently amended that created a trust fund, known as Superfund, to investigate and clean up abandoned or uncontrolled hazardous waste sites.

Consent Decree: A legal document approved and issued by a judge that formalizes an agreement reached between EPA and potentially responsible parties where they perform all or part of a site cleanup.

Contaminants of Concern: Site-specific chemicals that exceed regulatory levels or pose a potentially significant risk to human health and the environment.

Feasibility Study: A study that determines the best way to clean up environmental contamination.

Groundwater: The supply of water found below the ground surface, usually in aquifers.

Human Health Risk Assessment: Qualitative and quantitative evaluation of the risk posed to human health by the specific pollutants found at the site.

Information Repository: A location accessible to community members (such as a local library) that houses documents, reports and other site-related information, general information about Superfund, newspaper notices and the Administrative Record for the site. EPA also maintains an information repository for all Superfund sites at its offices in San Francisco.

Institutional Controls: Land use restrictions and other non-engineering controls that prevent or limit exposure to contamination.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): Provides the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances.

Proposed Plan: A document that summarizes the cleanup alternatives evaluated as part of the Feasibility Study process and identifies the preferred cleanup alternative.

Remedial Action Objectives: The cleanup goals established by EPA when implementing a remedial action.

Remedial Investigation: The CERCLA process of determining the type and extent of hazardous material contamination at a site.

Record of Decision: The document that formalizes EPA's decision to implement a specific remedial action.

Soil Vapor Extraction: A technology that removes contaminants from the subsurface by extracting and treating contaminant vapors.

Superfund: The common name for the process established by CERCLA to investigate and clean up abandoned or uncontrolled hazardous waste sites.

Vapor Intrusion: The process by which contaminant vapors in the soil and/or groundwater migrate through subsurface soils and enter overlying buildings.

Volatile Organic Compounds: Carbon-containing chemical compounds that evaporate readily at room temperature.

U.S. EPA Contacts

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You may also call the toll-free message line at 800-231-3075. Your call will be returned.



Omega Chemical Superfund Site

Proposed Plan for Soil Cleanup

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