



San Gabriel Valley Superfund Site Puente Valley Operable Unit Proposed Plan

U.S. ENVIRONMENTAL PROTECTION AGENCY • REGION 9 • SAN FRANCISCO, CALIFORNIA

EPA PROPOSES PLAN TO ADDRESS GROUND-WATER CONTAMINATION AT PUENTE VALLEY OPERABLE UNIT

INTRODUCTION

This fact sheet is the U. S. Environmental Protection Agency's (EPA's) Proposed Plan for the Puente Valley Operable Unit (PVOU) of the San Gabriel Valley Superfund Site in Los Angeles County, California. This Proposed Plan presents four alternatives, including EPA's preferred alternative, for addressing ground-water contamination at the site. In accordance with section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, the EPA announces a proposed plan to solicit public review and comment. **EPA encourages members of the public to review and comment on the alternatives described in this Proposed Plan during the public comment**

period (January 15 to February 14, 1998). This Proposed Plan summarizes the more detailed information found in the Puente Valley Operable Unit Interim Remedial Investigation/Feasibility Study (RI/FS) report and other documents in the Administrative Record. These documents are available for review at the information repositories listed on page 9. EPA encourages the public to review these documents to gain a more comprehensive understanding of the PVOU and the associated Superfund activities.

A community meeting will be held on Wednesday, January 28 to discuss the alternatives presented in this plan and to take comments on the Proposed Plan (see box for details).

COMMUNITY MEETING

Regarding the Proposed Plan for the San Gabriel Valley Superfund Site Puente Valley Operable Unit

Wednesday, January 28, 1998
7:00 to 9:00 p.m.
La Puente High School
15615 E. Nelson Avenue
(at Hacienda Blvd.)
La Puente, CA

At this meeting, EPA representatives will describe the alternatives evaluated and present EPA's preferred alternative. Community members will have the opportunity to ask questions, and give written and verbal comments on all the alternatives described in the Proposed Plan and other site-related Superfund documents. EPA encourages comments on the Proposed Plan and other site-related Superfund documents during the public comment period (January 15 to February 14, 1998). Comments may be submitted orally or in writing at the community meeting or by mail, fax, or e-mail to:

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*Note: Comments sent by mail must be postmarked no later than February 14, 1998. Comments sent by fax or e-mail must be received no later than February 14, 1998.

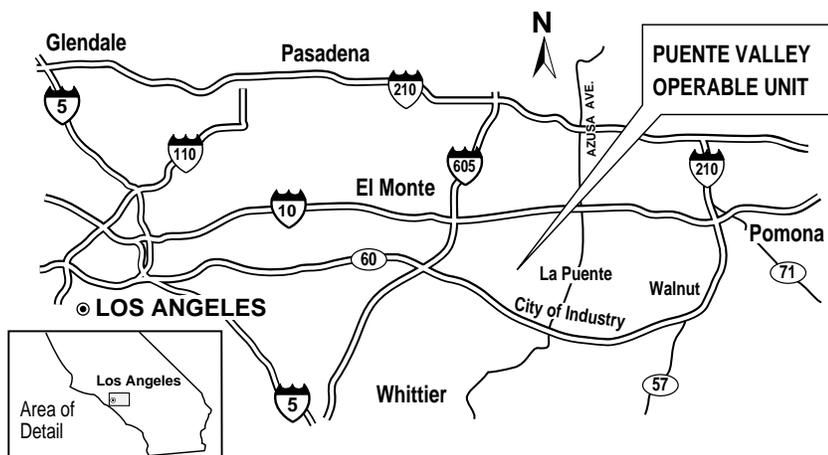


Figure 1: Location map of Puente Valley Operable Unit

EPA's objective is to protect human health and the environment. For the PVOU, EPA has evaluated interim remedial alternatives to contain the spread of ground-water contamination. After evaluating the alternatives, EPA is proposing to extract, treat and contain contaminated ground water in the shallow and intermediate zones at the mouth of Puente Valley to prevent further migration of existing ground-water contamination. In addition, EPA proposes ground-water monitoring in the shallow, intermediate, and deep zones at mid-valley (near Hacienda Boulevard) and at the mouth of the valley.

As the lead agency for the PVOU, EPA has worked with the Los Angeles Regional Water Quality Control Board (LARWQCB) and the California Department of Toxic Substances Control (DTSC) on this site. Both the LARWQCB and the DTSC concur with EPA's preferred alternative. After the public comment period EPA, in consultation with the DTSC and the LARWQCB, will select one of the alternatives presented in this Plan. EPA will then summarize the alternative selected in the interim Record of Decision (ROD) for the PVOU.

Public input on all alternatives, and on the information that supports the alternatives, is an important contribution to the remedy selection process. The public is encouraged to comment; these comments can influence EPA's decision. The interim remedy chosen could differ from EPA's preferred alternative, if warranted, because of new information or public comments that EPA receives.

SITE DESCRIPTION

The PVOU is part of the San Gabriel Valley Superfund Site located in eastern Los Angeles County, California (see Figure 1 on page 1). The term "Operable Unit" is used to define a discrete action that is an incremental step toward a comprehensive site remedy. Operable units may address certain geographic areas, specific site problems, initial phases of a remedy, or a set of actions over time.

The San Gabriel Valley encompasses a basin that is approximately 170 square miles. Ground water in the San Gabriel basin is the primary drinking water source for more than one million people. Regional ground-water contamination by volatile organic compounds (VOCs) prompted EPA to place the San Gabriel Valley on the National Priorities List (NPL) in 1984. This list identifies the highest priority hazardous waste sites in the United States for investigation and cleanup.

Ground water from the San Gabriel Valley flows into the Central Basin to the south and southwest through the Whittier Narrows. The potential migration of contamination from the San Gabriel Basin into the Central

Basin could affect the water supply of the Los Angeles metropolitan area.

The majority of the PVOU is highly industrialized and is occupied by the City of Industry, an incorporated city that covers approximately 11 square miles. Approximately 96 percent of the city is zoned for industrial purposes, the rest is zoned for commercial purposes. Nearly 85% of the land within the boundaries of the City of Industry has been developed, and accommodates approximately 1,700 businesses. Future development plans will likely be for industrial and commercial uses.

A small amount of land within the City of Industry is allotted for residential purposes and is occupied by approximately 631 residents. The cities of La Puente and Walnut also occupy portions of the PVOU. These portions are zoned primarily for residential purposes and are likely to remain residential.

All aquifers (shallow, intermediate, and deep) in the PVOU are considered to be municipal water sources by the State of California. VOCs are the primary organic contaminants found in the PVOU above EPA Maximum Contaminant Levels (MCLs). Tetrachloroethene (PCE) and Trichloroethene (TCE) are the VOCs that have been detected most often in ground water, although 1,1 Dichloroethane, 1,1 Dichloroethene, 1,2 Dichloroethene, and 1,1,1 Trichloroethane have also been detected above MCLs in the PVOU.

Sources of the ground-water contamination include firms engaged in metal cleaning, coating and manufacturing, chemical product manufacturing, plastics, aerosols, electric component manufacturing, printing, rubber manufacturing, die casting and engineering. In general, VOC concentrations are highest in the shallow ground water beneath facility source areas where releases have occurred. VOCs have also spread to the intermediate zone and portions of the deep zone as a result of downward hydraulic gradients. In order to address these sources of ground-water contamination, the LARWQCB, under a grant from EPA, oversees investigations and cleanups at facilities where releases have occurred. Figures 2 and 3 show 1996 VOC concentrations in the shallow and intermediate zones.

ASSESSMENT OF HEALTH RISK

In 1994, EPA completed a baseline risk assessment for the PVOU. The purpose of the risk assessment was to evaluate potential health effects from exposure to contaminated ground water. The results of the risk assessment helped EPA determine if any remedial actions would be necessary to protect human health or the

Figure 2: 1996 VOC Concentrations in Shallow Zone

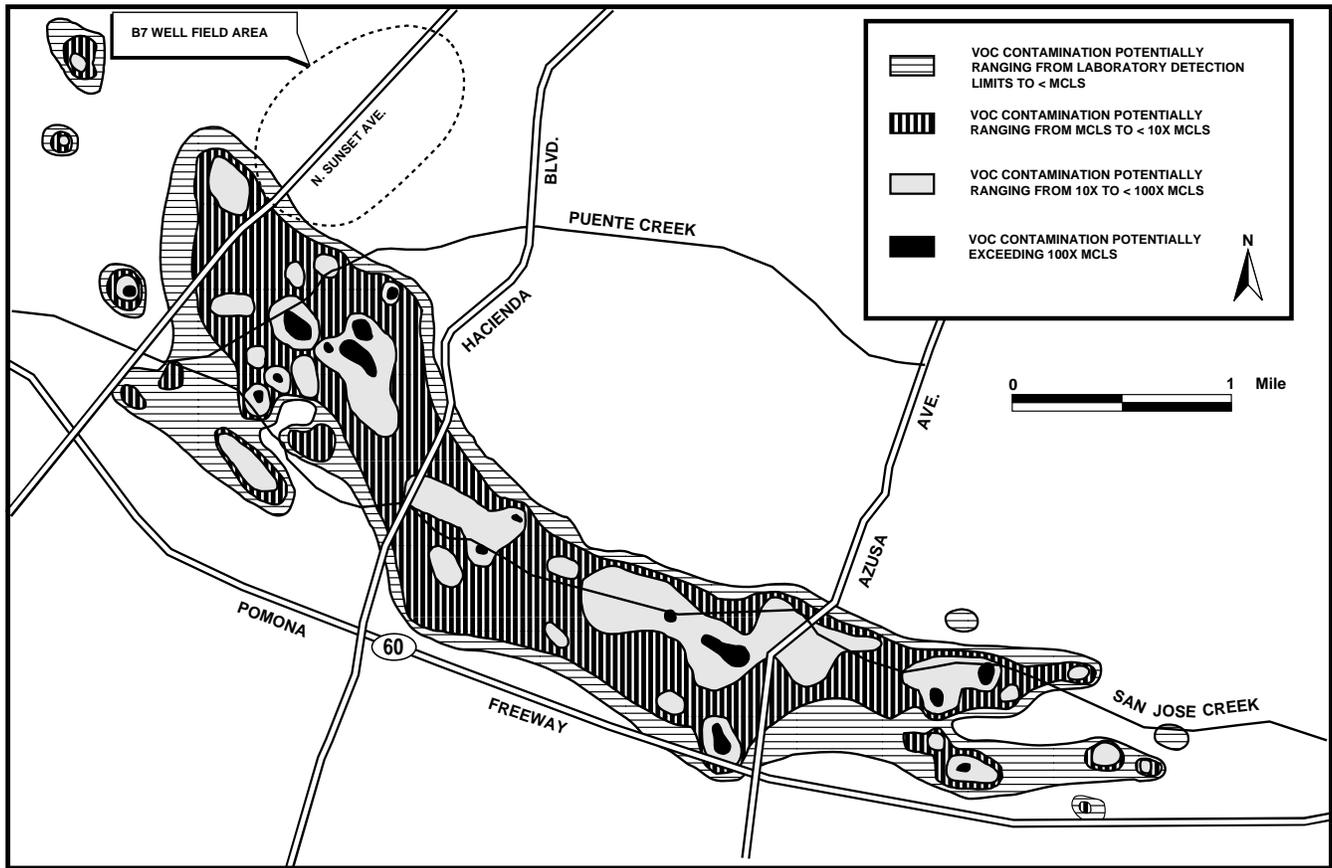
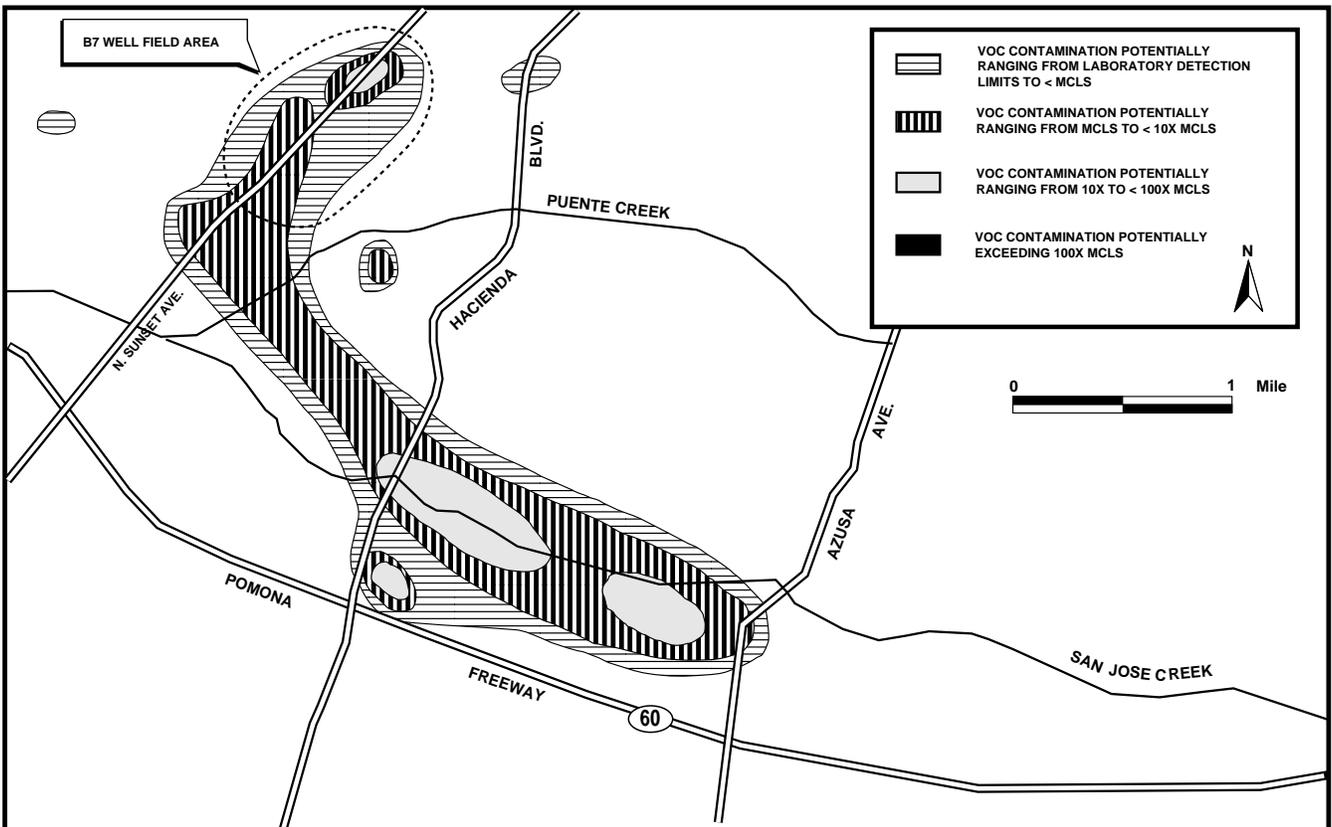


Figure 3: 1996 VOC Concentrations in Intermediate Zone



environment. The risk assessment process includes:

- identifying chemicals present in the ground water;
- characterizing the population potentially exposed to these contaminants; and
- evaluating the potential health effects resulting from exposure to the contaminated ground water.

EPA evaluated how individuals might be exposed to these contaminants under both current and future conditions, and potential risks to natural resources.

As part of the risk assessment, EPA evaluated three scenarios in which individuals might be exposed to the contaminated ground water:

- potential for a current resident to be exposed to ground water through domestic use;
- potential for a future resident to be exposed to contamination in ground water through domestic use; and
- potential for current and future workers and residents to be exposed to contamination in ground water through transport of VOCs from ground water through the foundation of a building.

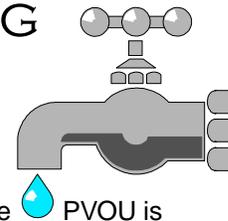
EPA uses a “target risk range” of one person in ten thousand (10^{-4}) to one person in one million (10^{-6}) getting cancer from the contamination at the site. Risks that fall within or below this range are acceptable and therefore generally do not warrant remedial action. Risks greater than one in ten thousand (10^{-4}) generally warrant remedial action. The results of the baseline risk assessment indicated that the potential for a future resident to be exposed to ground-water contamination through domestic use resulted in a total estimated excess lifetime cancer risk of five in one thousand (5×10^{-3}). This risk, estimated as the “reasonable maximum exposure” (the highest exposure that is reasonably expected to occur at the site), warrants action at the site.

EPA also evaluated how the environment, including plants and wildlife, might be exposed to, and impacted by contaminated ground water. Eight VOCs were detected in surface water in San Jose Creek, however, the VOCs are removed from surface water primarily by evaporation to the atmosphere. The VOCs are not expected to bioconcentrate in aquatic life or adhere to sediment, and therefore no adverse impact to aquatic life is predicted.

EPA is expected to address “principal threats” posed by a site. A principal threat is one that is highly toxic or highly mobile and would present a significant risk to human health and the environment. The principal threat identified for the PVOU is the possibility that Dense Non-Aqueous Phase Liquids (DNAPLs) are present in the ground water. DNAPLs are contaminants, such as PCE and TCE, that are denser than water. After release on the

IS MY DRINKING WATER SAFE?

Yes! Although ground-water contamination has occurred, municipal drinking water from the PVOU is treated by the water purveyors to meet all State and Federal drinking water standards.



surface, DNAPLs sink and may accumulate in pockets in the subsurface. DNAPLs generally are extremely difficult to remove from ground water and because the contaminants dissolve very slowly, may act as a continuing source of ground-water contamination. Although DNAPLs have not been observed in any of the deep monitoring wells installed during the Remedial Investigation, high concentrations of the contaminant PCE detected in some areas suggest the possible presence of DNAPLs.

Actual or threatened releases of hazardous substances from this site, if not addressed by the preferred alternative or one of the other active measures considered, may present a current or potential threat to public health, welfare, or the environment.

SUMMARY OF ALTERNATIVES

EPA’s Remedial Action Objectives (RAOs) for the PVOU are:

- to prevent exposure of the public to contaminated ground water;
- to inhibit contaminant migration from the more highly contaminated portions of the aquifer to the less contaminated areas or depths;
- to reduce the impact of continued contaminant migration on downgradient water supply wells; and
- to protect future uses of less contaminated and uncontaminated areas.

These RAOs reflect EPA’s regulatory goal of restoring usable ground waters to their beneficial uses wherever practicable, within a time frame that is reasonable, or, if restoration is deemed impracticable, to prevent further migration of the plume, prevent exposure to the contaminated ground water, and evaluate further risk reduction (40 CFR Section 300.430(a)(1)(iii)(F)).

The RAOs for the PVOU do not include numeric,

Table 1: Comparison of Alternatives

ALTERNATIVE EVALUATION TABLE				
Evaluation Criteria	Alternative 1 No action	Alternative 2 Ground-water monitoring	Alternative 3 (EPA's preferred alternative) Ground-water control in the shallow and intermediate zones at the mouth of the valley and ground-water monitoring	Alternative 4 Ground-water control in the shallow and intermediate zones at the mouth of the valley, in the intermediate zone at mid-valley, and ground-water monitoring
Overall Protectiveness	⊘	⊘	●	●
Compliance with State and Federal Requirements	⊘	⊘	●	●
Long-term Effectiveness	⊘	⊘	●	●
Reduction of Toxicity, Mobility or Volume by Treatment	⊘	⊘	●	●
Short-term Effectiveness	Not applicable	○	●	●
Implementability	Not applicable	●	○	○
Present Worth Cost	\$0	\$7.88 million	\$27.80 million	\$36.87 million
State Agency Acceptance	DTSC and the LARWQCB concur with EPA's preferred alternative.			
Community Acceptance	Community acceptance for the recommended alternative will be evaluated after the public comment period.			

 Does not meet criterion
  Partially meets criterion
  Fully meets criterion

SELECTING A REMEDY

THE U.S. EPA USES NINE CRITERIA TO EVALUATE ALTERNATIVES FOR ADDRESSING CONTAMINATION AT A HAZARDOUS WASTE SITE.

THEY ARE:



REMEDY

chemical-specific objectives in the aquifer or a time frame for restoration because this is an interim action. They do include VOC “mass removal” as a secondary objective. EPA’s preferred alternative will remove significant contaminant mass from the aquifer, in effect beginning the restoration process, but it will be designed for migration control rather than mass removal.

EPA considered several alternatives to reduce risk from potential exposure to the contaminated ground water. In the evaluation of these alternatives for selection as the preferred alternative, EPA used nine specific criteria: overall protection of human health and the environment; compliance with State and Federal requirements; long-term effectiveness; reduction of toxicity, mobility, or volume by treatment; short-term effectiveness; implementability; cost; state acceptance; and community acceptance (see page 6).

Alternative 1 - No Action

Present Worth Cost Estimate: \$0

Annual Operation and Maintenance (“O&M”) Cost Estimate: \$0

EPA is required to consider a no action alternative and to evaluate the risk to the public if no action were taken. In this alternative, no remedial actions are taken to control migration of contaminants from or within the Puente Valley area. This alternative does not include any ground-water monitoring, extraction, or treatment. There is no cost associated with this alternative and it would provide the least overall protection of human health and the environment.

Alternative 2 - Ground-water Monitoring

Present Worth Cost Estimate: \$7.88 million

Annual O&M Cost Estimate: \$0.36 million

The only remedial action incorporated into this alternative is ground-water monitoring. The alternative would rely on natural attenuation mechanisms such as dilution and dispersion to address contaminant migration. Alternative 2 does not have any ground-water containment, extraction, treatment, conveyance, or discharge components. This alternative includes installing a monitoring system to monitor compliance with the RAOs and performance criteria in the shallow, intermediate, and deep zones at mid-valley and the mouth of Puente Valley. A total of 16 new wells would be installed, including four new wells downgradient of mid-valley, in the intermediate and deep zones, and 12 new wells near the mouth of the valley, in the shallow and intermediate zones.

EPA’S PREFERRED ALTERNATIVE

Alternative 3 - Ground-water Control in the Shallow and Intermediate Zones at the Mouth of Puente Valley and Ground-water Monitoring

Present Worth Cost Estimate: \$27.80 million

Annual O&M Cost Estimate: \$1.27 million

This alternative includes extraction, containment and treatment of contaminated ground water in the shallow and intermediate zones at the mouth of Puente Valley. In addition, this alternative includes a ground-water monitoring system to monitor compliance with RAOs and performance criteria in the shallow, intermediate and deep zones at mid-valley and the mouth of the valley. In order to develop cost estimates for the Feasibility Study, additional extraction and treatment systems were assumed for both the intermediate and shallow zones. This alternative incorporates a performance-based approach which specifies criteria that must be met while providing flexibility in implementation.

For example, in the intermediate zone, this alternative provides the option of either installing a series of extraction wells, or using an existing well field extraction system to provide containment of the intermediate zone at the mouth of the valley. EPA proposes the following performance criteria for the intermediate zone: “the remedial action shall provide sufficient hydraulic control, through ground-water extraction, to capture ground water contaminated with VOCs above MCLs, and prevent it from migrating into or beyond the B7 well field area (depending on the location of extraction).”

For the shallow zone, this alternative requires either the installation of an extraction and treatment system or, if possible, demonstration through monitoring that natural attenuation is currently containing the shallow ground-water contamination. For the shallow zone, EPA proposes the following performance criteria: “the remedial action shall apply measures necessary to prevent further migration of ground water in the shallow zone with VOC contamination above MCLs (or possibly a multiple of MCLs) from migrating beyond its current lateral and vertical extent. (Migration shall not occur beyond a specified buffer zone.)”

Extracted ground water will be treated to remove VOCs before being discharged to either San Jose Creek or to a municipal water supply system. This alternative assumes a treatment system consisting of air stripping and adsorption of VOCs in the off-gas. The cost estimate for this alternative included the construction of a

single, centralized treatment plant near the mouth of the valley. The present worth cost of this alternative is \$27.8 million. However, it may be necessary to treat the extracted ground water to reduce concentrations of Total Dissolved Solids (TDS), certain metals and/or nitrate as required by the State of California. For cost estimating purposes, a reverse osmosis membrane separation process was assumed to address TDS, metals and/or nitrate. The present worth cost of this alternative with the use of reverse osmosis treatment is \$51.6 million. The LARWQCB has indicated that it may be possible to obtain a waiver from the requirement to treat the extracted ground water for TDS, metals and/or nitrates. EPA strongly supports the use of a treatment waiver to reduce cost associated with this alternative.

Alternative 4 - Ground-water Control in the Shallow and Intermediate Zones at the Mouth of Puente Valley and in the Intermediate Zone at Mid-Valley and Ground-water Monitoring

Present Worth Cost Estimate: \$36.87 million

Annual O&M Cost Estimate: \$1.63 million

This alternative includes all of the components of Alternative 3, plus ground-water extraction and treatment in the intermediate zone at mid-valley. The additional extraction is intended to address horizontal and vertical migration of contamination in the intermediate zone. This alternative would prevent the vertical migration of

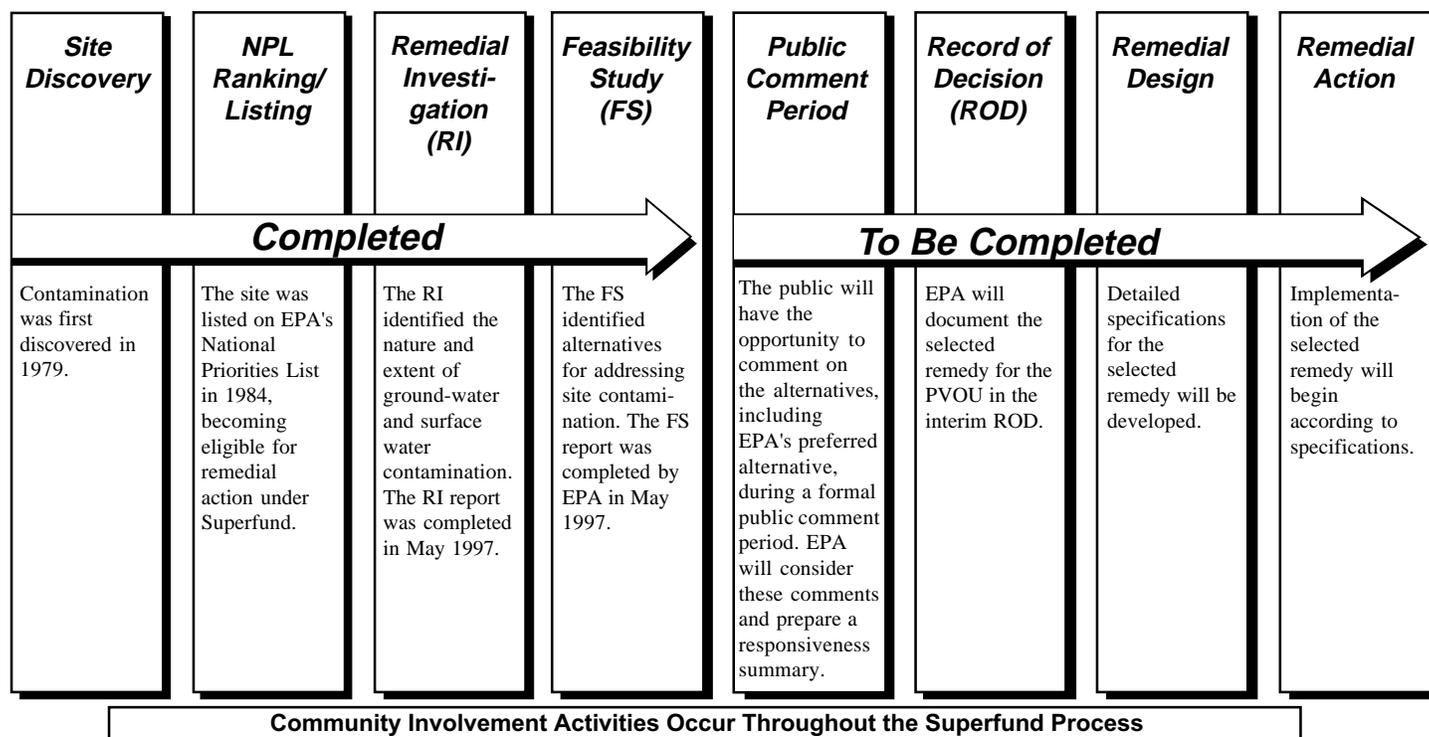
contamination into the deep zone downgradient of mid-valley which is currently uncontaminated. The additional extraction would also prevent the horizontal migration of contamination into the currently uncontaminated portions of the intermediate aquifer. Performance criteria for ground-water control in the shallow and intermediate zones at the mouth of the valley would be the same as those proposed for Alternative 3. Alternative 4 adds a performance criterion for the intermediate zone at mid-valley: “the remedial action shall protect water quality in the intermediate and deep zones downgradient of the mid-valley location from becoming more contaminated.”

As described in Alternative 3, this alternative includes treatment of extracted ground water for VOCs before being discharged. The present worth cost estimate for this alternative without reverse osmosis treatment is \$36.87 million. If reverse osmosis treatment before discharge is required, the present worth cost estimate is \$68.1 million.

CONCLUSION

Based on EPA’s evaluation of the alternatives against the nine criteria, EPA prefers Alternative 3. Alternatives 1 and 2 provide the least overall protection of human health and the environment and do not comply with State and Federal requirements. There are advantages to both Alternative 3 and Alternative 4, however in EPA’s judgment, Alternative 3 is preferred because it meets all of the evaluation criteria at a lower cost. The RI/FS for the PVOU provides a more detailed evaluation of the alternatives with respect to the nine criteria. ■

Figure 4: The Superfund Process for the Puente Valley Operable Unit



INFORMATION REPOSITORIES

Copies of the Interim Remedial Investigation/Feasibility Study report and other Superfund technical documents for the San Gabriel Valley Superfund Site Puente Valley Operable Unit are available for review at the locations listed below. These documents are part of the Administrative Record for the PVOU.

U.S. EPA Superfund Records Center

95 Hawthorne Street, Suite 403S
San Francisco, CA 94105-3901
Phone: (415) 536-2000
Fax: (415) 764-4963
Hours: Monday to Friday 8:00 a.m. - 5:00 p.m.
Saturday & Sunday Closed

Rosemead Library

8800 Valley Boulevard
Rosemead, CA 91770
Phone: (626) 573-5220
Hours: Sunday & Monday Closed
Tuesday & Wednesday 12:00 p.m. - 8:00 p.m.
Thursday 10:00 a.m. - 6:00 p.m.
Friday 12:00 p.m. - 5:00 p.m.
Saturday 11:00 a.m. - 5:00 p.m.

Hacienda Heights Public Library

16010 La Monde Street
Hacienda Heights, CA 91745
Phone: (626) 968-9356
Hours: Monday to Thursday 9:00 a.m. - 9:00 p.m.
Friday 9:00 a.m. - 6:00 p.m.
Saturday 9:00 a.m. - 5:00 p.m.
Sunday 1:00 p.m. - 5:00 p.m.

West Covina Library

1601 West Covina Parkway
West Covina, CA 91790
Phone: (626) 962-3541
Hours: Monday to Wednesday 1:00 p.m. - 8:00 p.m.
Thursday to Saturday 10:00 a.m. - 5:00 p.m.
Sunday Closed

MAILING LIST COUPON

If you did not receive this notice in the mail and would like to be included on the mailing list to receive future mailings about the San Gabriel Valley Superfund Site, please fill out the coupon below and return to:

Catherine McCracken, Community Involvement Specialist, U.S. Environmental Protection Agency,
Region 9, 75 Hawthorne Street (SFD-3), San Francisco, CA 94105

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*ORGANIZATIONAL AFFILIATION: _____

(*Optional items)

You may also provide the above information via e-mail to: mccracken.catherine@epamail.epa.gov

FOR ADDITIONAL INFORMATION

For additional copies of this fact sheet or for other information on the Proposed Plan for the San Gabriel Valley Superfund Site, Puente Valley Operable Unit, please contact:

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...or you may leave a message on
EPA's Office of Community Involvement
toll-free line at **(800) 231-3075**
and your call will be returned.

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