



San Fernando Valley Superfund Sites

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • December 2009

San Fernando Valley Superfund Sites Update, and EPA Selects Second Interim Remedy for the North Hollywood Operable Unit

This fact sheet presents an update on the overall status of the San Fernando Valley (SFV) Superfund sites, and in particular, announces the selection of a second interim remedy for the North Hollywood Operable Unit (NHOU). Terms that appear in **bold** are defined in a glossary on page 10.

There are four SFV Superfund sites located in the eastern portion of the San Fernando Valley, two of which are divided into **operable units (OUs)**. The four sites are: North Hollywood (Area 1), which includes the North Hollywood and Burbank OUs; Crystal Springs (Area 2), which includes the Glendale North and South OUs, as well as the Glendale Chromium OU; Verdugo (Area 3); and Pollock (Area 4) (see Figure 1).

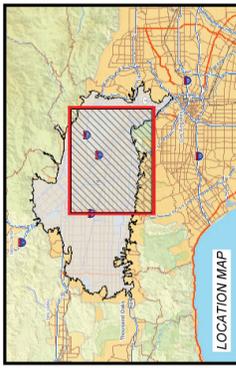
As described below, the U.S. Environmental Protection Agency (EPA) has selected interim remedies (an interim remedy is a temporary remedy, chosen to address contamination until the final remedy can be selected) for the Area 1 and Area 2 sites and a final “no action” remedy for the Area 3 site. Concurrent with the implementation of the interim remedies, EPA is continuing its basin-wide **groundwater** investigation to evaluate remedy performance and provide the basis for selecting final remedies at the sites. The interim remedies were selected to address **volatile organic compound (VOC)** contamination in groundwater, the extent of which is shown in Figure 2.

AREA 1 – NORTH HOLLYWOOD

North Hollywood OU

Since 1989, the Los Angeles Department of Water and Power (LADWP), with EPA funding and oversight, has been operating the existing NHOU remedy, comprised of a groundwater extraction and treatment facility designed to remove VOCs from the groundwater and prevent the movement of contamination within the NHOU. The contaminated groundwater is captured by a series of extraction wells and treated for VOCs using air stripping and **vapor-phase granular activated carbon (VPGAC)**. The treated groundwater is then sent to the LADWP’s North Hollywood Pumping Station, where it is blended into LA’s water supply. In 1996 and 1997, EPA settled with thirty-seven **potentially responsible parties (PRPs)** for the costs incurred in the investigation, construction, and operation of the existing NHOU remedy.

Beginning in 1998, EPA has conducted **Five-Year Reviews (FYRs)** of the effectiveness of the NHOU remedy. The reviews determined that the existing remedial actions at the NHOU were not meeting the objectives, including plume capture, identified in the 1987 **Record of Decision (ROD)** for the NHOU cleanup. The reviews also identified the threat posed by contaminants, such as **hexavalent chromium**, that the existing system is not designed to handle. EPA subsequently prepared a **Focused Feasibility Study (FFS)** to evaluate alternatives for optimizing the system (July 2009), proposed a remedy in a **Proposed Plan** (published July 9, 2009), conducted a public meeting and a 30-day comment period (with an extension), and selected a remedy that is documented in the Second Interim Record of Decision (September 30, 2009).



- LEGEND**
- OPERABLE UNIT EXTRACTION WELL (OPEN SYMBOL IF INACTIVE)
 - OPERABLE UNIT GROUNDWATER TREATMENT PLANT
 - - - APPROXIMATE BOUNDARY OF INVESTIGATION AREAS FOR SAN FERNANDO VALLEY SUPERFUND SITES

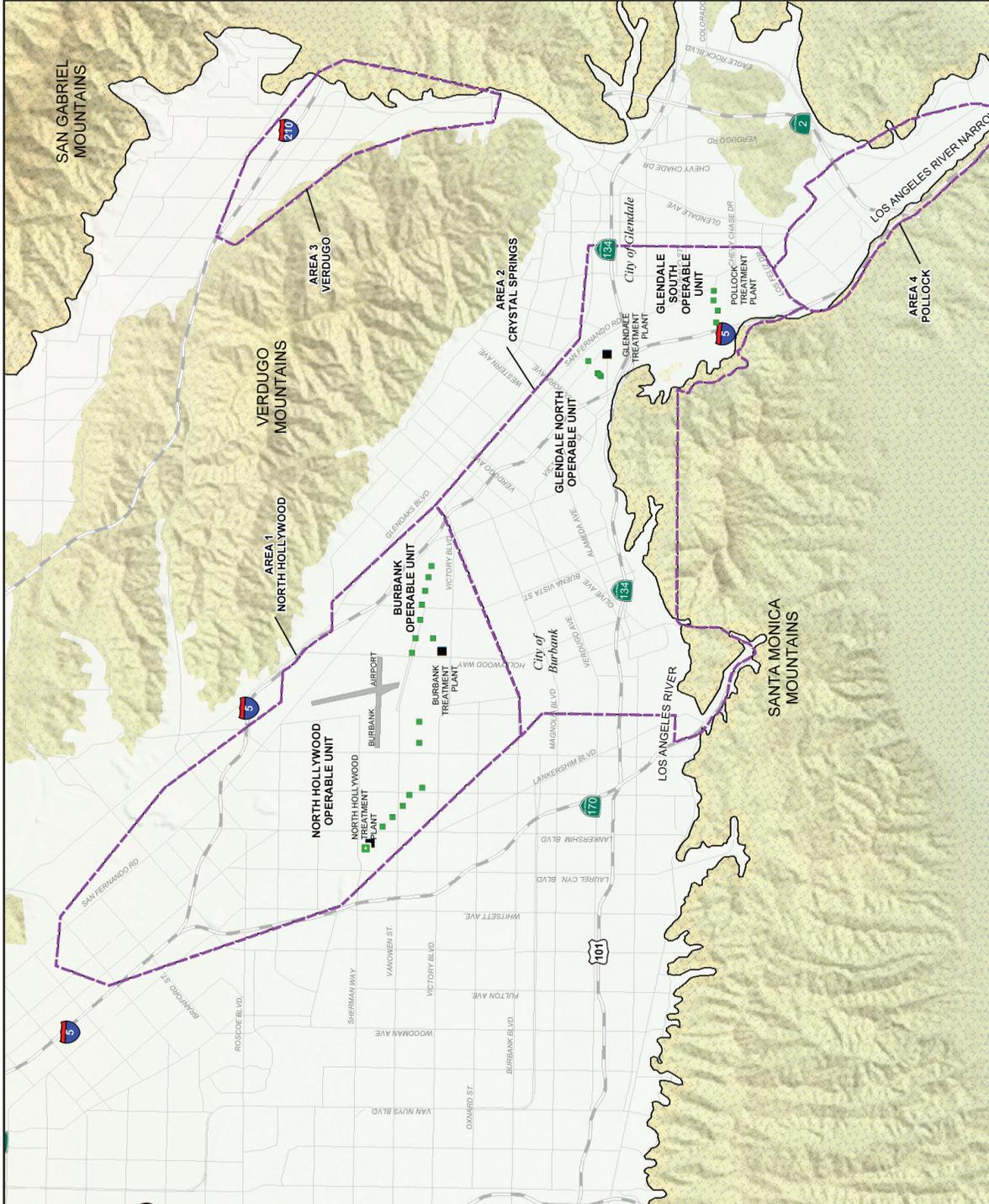
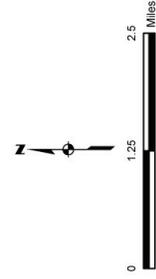


FIGURE 1
APPROXIMATE BOUNDARY OF INITIAL
INVESTIGATION AREAS FOR THE SAN
FERNANDO VALLEY SUPERFUND SITES
 SAN FERNANDO VALLEY SUPERFUND SITES

By improving the capture of the contaminant plume within the NHOU, the Second Interim Remedy will minimize the migration of contaminants from the NHOU to the Burbank OU and to the downgradient SFV Area 2 Superfund Site, as well as into the nearby LADWP water supply wells. The Second Interim Remedy also includes treatment systems to remove **chromium** and **1,4-dioxane**. In the future, following additional plume characterization, evaluation of the performance of the Second Interim Remedy, and an evaluation of the existing Burbank remedy, EPA will select a final remedy for the SFV Area 1 Site. Major components of the Second Interim Remedy are:

1. Groundwater and Treatment System Monitoring

Approximately 37 new monitoring wells will be installed. Data collected from the new monitoring wells and selected existing wells will be used to evaluate contaminant plume migration and the effectiveness of the selected remedial actions.

2. Wellhead Treatment at Extraction Well NHE-2

Wellhead treatment for 1,4-dioxane and hexavalent chromium will occur at well NHE-2. The treatment technology for 1,4 dioxane is the ultraviolet light and hydrogen-peroxide advanced oxidation process (AOP), which provides the most flexibility for future process modifications. Treatment will also occur for hexavalent chromium, by ferrous iron reduction with microfiltration.

3. Replace or Modify Existing Extraction Wells

Replacement or modification of the existing extraction wells to achieve hydraulic containment of the plume will be required due to the fact that the water levels have changed dramatically since these wells were installed, and the depth of contamination is greater than originally believed.

4. Construct New Extraction Wells

Preliminary computer modeling conducted as part of the FFS concluded that three new extraction wells are necessary to further limit contaminant migration and to improve contaminant mass removal. These new wells will be located northwest of the existing NHOU treatment system in order to prevent VOC and chromium migration towards the Rinaldi-Toluca well field and the western portion of the North Hollywood well field.

5. Treatment of VOCs in Extracted Groundwater

Expansion of VOC treatment capacity at the NHOU treatment system will be necessary to treat the increased volume of groundwater produced by the expanded

extraction well system. The existing air stripper will be refurbished and a second air stripper will be installed and operated in parallel with the existing system. With air stripping as the primary VOC treatment process, the VOC treatment train will include the following major components:

- Vapor-phase granular activated carbon (GAC) vessels to remove the **TCE** and **PCE** exiting the air stripper before the air is discharged to the atmosphere.
- A secondary VOC treatment system (such as liquid-phase GAC, **LPGAC**), placed downstream from the air strippers to meet the “double barrier” treatment required by the State for discharge into a drinking water system.

6. Combined Chromium Treatment

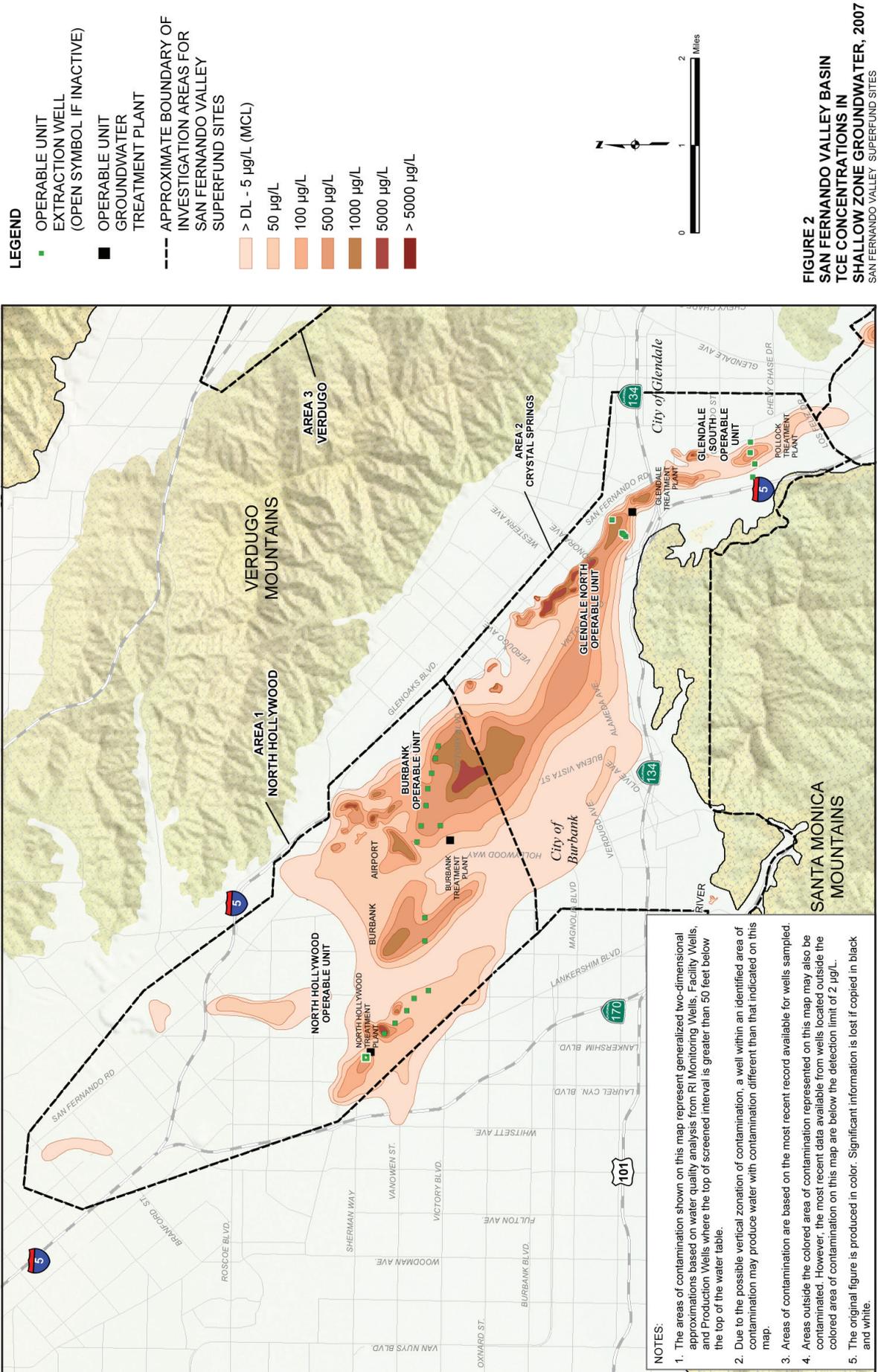
Ex situ treatment of chromium, using a ferrous iron reduction with microfiltration process, will be implemented for the combined flow from three extraction wells at the NHOU groundwater treatment facility. This system would treat the combined influent from extraction well NHE-1 and new extraction wells NEW-2 and NEW-3, all of which are expected to have elevated chromium levels.

7. Delivery of Treated Groundwater to LADWP

The treated groundwater will be used by LADWP as part of its municipal supply (following blending with other water sources and further water treatment). Use of the NHOU treated water in LADWP’s drinking water supply requires compliance with federal and state drinking water standards, including the *Policy Memo 97-005 Policy Guidance for Direct Domestic Use of Extremely Impaired Sources*, issued by the California Department of Public Health (CDPH), which establishes a process for the evaluation of impaired water sources before they can be approved for use as drinking water.

8. Institutional Controls (ICs)

Institutional controls will be developed in the form of a groundwater management plan to mitigate the potential negative impacts to the NHOU system performance that could result from unexpected groundwater withdrawal by water purveyors (e.g., LADWP) in and near the NHOU. This will likely take the form of a written agreement between EPA and LADWP regarding extraction rates for the NHOU Second Interim Remedy and the production well fields.



How Long and How Much Will it Cost?

It will take approximately 4 years to plan, design, and construct the extraction wells and treatment system. It is expected that installation of this system will provide substantially increased containment of the contaminated groundwater. A summary of the estimated capital, annual operating and maintenance, and present worth costs of the major components of the Second Interim Remedy is presented in Table 1.

Table 1. Cost Estimate Summary for the Second Interim Remedy for the NHOU

| Capital Cost ^a | Annual operating and maintenance (O&M) Cost ^b | Present Worth ^c |
|--|--|----------------------------|
| \$36,848,140 | \$6,443,000 | \$107,776,020 |
| Notes: | | |
| ^a Capital cost estimates are not discounted because the construction work will be performed in the first year. | | |
| ^b O&M costs include labor and expenses for repairs, energy for operation, and other costs that accrue on a continuous or periodic basis during an average year of system operation. | | |
| ^c Present worth estimates assume a 7% discount rate on annual O&M costs for a 30-year period for all remedial components. | | |
| Costs for monitoring the treatment system performance are included. | | |

Next Steps at the NHOU – Negotiations and Planning

EPA expects to begin negotiations with the PRPs in 2010 for the design and construction of the Second Interim Remedy. Subsequent to the negotiations, design of the system will be initiated, followed by construction and operation of the expanded extraction and treatment system.

Burbank OU

The interim remedy for the Burbank Operable Unit (BOU) is a pump-and-treat facility designed to capture VOC-contaminated groundwater within the BOU and treat it to drinking water standards for use in the City of Burbank's water supply system. The extraction wells and treatment plant were constructed in 1994 under EPA's oversight pursuant to a settlement between EPA and the PRPs. This remedy has been operational since 1997. The plant's intended design capacity of 9,000 gallons per minute (gpm) can supply up to 50% of Burbank's drinking water needs.

The BOU groundwater remedy was implemented through an agreement between the EPA, Lockheed Martin, and Weber Aircraft (now fiscally dissolved). In March 1992, the EPA entered into a legally enforceable agreement stipulating that the lead PRP, Lockheed Martin, was responsible for designing and constructing a facility capable of producing water that met both California and federal drinking water requirements. The Burbank treatment facility became fully operational by June 1997. Lockheed relinquished facility operations to the City of Burbank in early 2000. Burbank continues to operate and improve the facility with support from both Lockheed and the EPA.

Around the time of the transfer, a decline in well pump efficiency, well flow instability, and other issues related to water extraction caused Lockheed to question the capacity of the SFV **aquifer** to sustain a flow rate of 9,000 gpm. However, EPA determined that operational issues were the cause of low pumping capacity. Since this time, the BOU has embarked on a number of facility improvement projects including wellhead repair, changes in well and facility design, and the retrofit of the vapor phase GAC system.

Operations at the plant have been running smoothly throughout the decade with the exception of a fire in February 2008. High temperatures in an overheated blower set fire to fiberglass and other material. Fire damage kept the plant out of operation until fall 2008. In 2010, the City of Burbank plans to conduct a 60-day test demonstrating the facility is capable of meeting all criteria set forth in the 1992 Agreement with EPA, as amended, including the ability to operate at its 9,000 gpm design capacity. The EPA and Lockheed Martin will continue to monitor the effectiveness of the groundwater remedy and work with Burbank to improve plant operations. Similar to the NHOU, assessments of plant performance and plume containment have been conducted as part of Five-Year reviews, the next of which will occur in 2013.

AREA 2 – GLENDALE

Since August 2000, the City of Glendale, with EPA oversight, has operated the pump-and-treat remedy for the Glendale OU (GOU). In August of 2000, the CDPH issued the drinking water permit for the treatment plant, and operations began. In September 2000, the City of Glendale became concerned about the hexavalent chromium concentrations in the GOU water, and began to operate the system so as to limit the concentration in the

City water supply to 5 **micrograms per liter (µg/L)**. The limit is a voluntary goal of continued operation, since there is no applicable **Maximum Contaminant Level (MCL)** for hexavalent chromium.

As part of its operations, the GOU plant discharges treated water to the Los Angeles River during emergency diversions and routine maintenance. In July 2007, the Los Angeles Regional Water Quality Control Board (RWQCB) lowered the discharge limit for hexavalent chromium to the Los Angeles River to 8 µg/L. The 8 µg/L limit was established to protect aquatic life. To continue operating at full capacity and still comply with the revised limit, the City had to alter operations by varying the pumping rates of the eight extraction wells, some of which have significantly higher levels of chromium than the others. However, the plume capture has been affected by this need to alter the pumping rates of the individual extraction wells.

In September 2008, EPA completed a FYR of the GOU remedy. The conclusion of the FYR was that the remedy is protective of human health and the environment because all exposure pathways are currently being controlled. However, to be protective in the long-term, the operational problems due to the chromium discharge limit and their effect on plume containment must be addressed.

Currently the City of Glendale has nearly completed construction of two chromium treatment demonstration projects that will test two different treatment technologies to remove hexavalent chromium from the drinking water. The demonstration projects are the culmination of a process that began in 2000 and included bench-scale screening of many potential hexavalent chromium treatment technologies, refinement of a select group by pilot plant testing, and the selection of the two most promising technologies for the demonstration projects.

Implementation of the demonstration projects will allow the GOU remedy to operate more effectively and still maintain compliance with the river discharge limit for hexavalent chromium. The research, development, and construction of the demonstration projects were made possible by funding from EPA, California Proposition 50, the Glendale Respondents Group, industry groups, and the Cities of Glendale, Burbank, Los Angeles, and San Fernando.

Completion of the demonstration projects is critically important because in August 2009, the CA Office of Environmental Health Hazard Assessment issued a new proposed **Public Health Goal (PHG)** for hexavalent chromium of 0.06 µg/L.

The proposed PHG is based upon new toxicological studies by the National Toxicology Program, a part of the National Institutes of Health. The PHG, if finalized, will subsequently be used by the CDPH to develop a drinking water standard (i.e., MCL) for hexavalent chromium.

Glendale Chromium Operable Unit

EPA created the Glendale Chromium Operable Unit (GCOU) in 2007 to enhance efforts to address hexavalent chromium contamination in Glendale area groundwater. These efforts are being conducted in collaboration with two state agencies, the Los Angeles Regional Water Quality Control Board (RWQCB) and the CA Department of Toxic Substances Control (DTSC). The focus is on identifying, investigating, and cleaning up the numerous sources of chromium contamination that are causing elevated chromium levels in groundwater. Currently, EPA has taken on the lead agency role for four suspected hexavalent chromium sources: All Metals, Drilube – Broadway, Drilube – Wilson, and Librascope.

To address the All Metals site (an abandoned plating shop), EPA completed a cleanup action in December 2007 which removed large volumes of hazardous substances and contaminated soil from the site, and capped and fenced the site. The site groundwater is being monitored to evaluate the cleanup action's effectiveness in preventing ongoing groundwater contamination.

EPA negotiated and oversaw a PRP-lead investigation of the Drilube – Broadway site in September 2008, which found no significant metals contamination and low levels of VOC contamination. Based on these findings, EPA returned the site to RWQCB lead in 2009.

At the Drilube – Wilson site, EPA completed an investigation of soil, soil gas, surface soil, and indoor air in May 2009 after extensive but unsuccessful efforts to gain cooperation from PRPs. The investigation revealed high levels of chromium and VOC contamination. EPA plans to evaluate cleanup alternatives and begin a cleanup action in 2010.

EPA negotiated and oversaw a PRP-lead investigation of the Librascope site in October 2008. The investigation found no significant metals contamination in one portion of the site, but did find evidence of possible metals and VOC contamination in other site areas. After extensive workplan negotiations, the PRP is currently performing field work for the supplemental investigation of the other Librascope site areas under EPA oversight.

EPA is also providing substantial technical, oversight, and enforcement assistance to the RWQCB on the Excello Plating site in Glendale, including the negotiations and technical evaluation of a potential property purchase and soil cleanup at the site.

Since the creation of the GCOU, EPA has been evaluating current and past suspected hexavalent chromium sites for PRP status related to Glendale area hexavalent chromium groundwater contamination. EPA met with current GCOU groundwater PRPs in July 2009 and provided a draft scope of work and enforcement agreement under which the PRPs could conduct a groundwater investigation of the chromium plume. The PRPs are currently negotiating internally and plan to respond to EPA in late 2009.

In addition, EPA continues to provide on-site support to the RWQCB to assist with the identification, evaluation, investigation, and cleanup of suspected hexavalent chromium sites, as it has since 2003.

EPA conducted a Chromium Workshop in Glendale in March 2008 as a public outreach effort to inform the public about San Fernando Valley groundwater chromium contamination and the multi-agency efforts underway to address it. Information about the workshop and the presentations and posters can be found at: <http://www.epa.gov/region09/superfund/chromium/index.html>

AREA 3 – VERDUGO

EPA conducted an investigation at the SFV Area 3 site, in addition to an investigation of potential contaminant sources conducted by the RWQCB. Based on these investigations, EPA found no significant levels of groundwater contamination in the area. EPA issued a ROD in February 2004 which determined that no further action was needed for this site. The site was officially deleted as a Superfund site in April 2004, and no further action will be performed.

AREA 4 – POLLOCK

The SFV Pollock (Area 4) site comprises a study area located at the southern portion of the San Fernando Valley basin near LADWP's Pollock well field. In 1994, EPA completed a site assessment of this area and determined that selecting and implementing a remedy was not necessary at that time because LADWP planned to install wellhead treatment at the Pollock well field to treat the contaminated groundwater captured by those wells.

In March 1999, LADWP reactivated two wells in the Pollock well field and began operating a groundwater treatment facility. The water is treated to drinking water standards by liquid phase GAC and transferred to LADWP's public water supply system. Pumping in the Pollock well field was expected to capture nearly all the contamination that is not captured by the Glendale OU remedy and prevent movement of contaminated groundwater into the Los Angeles River. EPA plans to evaluate the effectiveness of the Pollock well field project as part of its ongoing basin-wide studies, and determine whether additional actions are needed.

BASINWIDE GROUNDWATER MODEL UPDATE

In 2007 through 2008, EPA updated the basin-wide **groundwater model** by incorporating new information on groundwater pumping and recharge in the San Fernando Valley, and the most current scientific knowledge of the factors affecting groundwater flow and contamination movement in the basin. The updated groundwater model was used in the recent *North Hollywood Operable Unit Focused Feasibility Study* (completed July 2009) to develop and evaluate potential cleanup alternatives. It will be used in the future to estimate the effectiveness of the SFV interim remedies in containing and removing contaminant mass from the groundwater aquifer system and evaluate if further actions are needed. Based on these studies, EPA will issue proposed cleanup plans for public comment prior to selecting additional remedial actions.

GROUNDWATER MONITORING PROGRAM

Since 1992, EPA has monitored SFV groundwater contamination through its Basinwide Monitoring Program, which consists of quarterly and annual groundwater sampling events. EPA uses the groundwater monitoring results to help define the boundaries of the site contamination (extent and depth), develop contamination plume maps, assess the threat from **emerging contaminants**, and refine the **groundwater model** to assist in developing final cleanup remedies for the sites.

During each quarterly sampling event, EPA monitoring wells are sampled for VOCs, primarily TCE and PCE, as well as methyl tertiary butyl ether (MTBE), and hexavalent chromium. In addition, EPA conducts an annual sampling event with an expanded list of chemicals. Additional analytical parameters during the fourth quarter (annual) sampling event include total dissolved metals, total alkalinity, total dissolved solids (TDS), total organic carbon (TOC), **perchlorate** and

general chemistry. The sampling results will allow EPA and other state and local agencies to determine if these contaminants are of concern in the San Fernando Valley basin and whether or not additional cleanup action is necessary.

Groundwater Sampling Results

The EPA sampled 45 monitoring wells during each of the 2008 quarterly sampling events, and 68 monitoring wells during the most recent annual sampling event. The results of the 2008 events are summarized below. The annual SFV groundwater monitoring reports are available on EPA's website at www.epa.gov/region09/SanFernandoAllAreas.

TCE

TCE was detected in groundwater taken from 38 of the 45 wells sampled during the 2008 quarterly events. Groundwater from 23 of the wells exceeded the California MCL of 5 µg/L. The highest detected concentration of TCE in groundwater was 2,300 µg/L.

PCE

PCE was detected in groundwater taken from 40 of the 45 wells sampled during the 2008 quarterly events. Groundwater from 17 of the wells exceeded the California MCL of 5 µg/L. The highest detected concentration of PCE in groundwater was 310 µg/L.

SVOCs and MTBE

Semi-volatile Organic Compounds (SVOCs) were not detected in groundwater taken from any of the 45 wells sampled in the quarterly events, with the exception of 1,2-dichlorobenzene, which was found at 2.3 µg/L in a single well. MTBE was detected in groundwater at five of 45 wells; concentrations ranged between 0.25 µg/L and 3.5 µg/L.

Perchlorate

Perchlorate was detected in groundwater from 38 wells sampled during the most recent annual event. Groundwater from two of these monitoring wells equaled or exceeded the California MCL of 6 µg/L. The highest concentration of perchlorate in groundwater was 23 µg/L.

Hexavalent Chromium (Cr+6)

Concentrations of hexavalent chromium in groundwater were detected in 43 of 45 wells sampled during the 2008 quarterly sampling events. Concentrations in groundwater from five wells exceeded the California total chromium MCL of 50 µg/L. The highest concentration of hexavalent chromium in groundwater from the monitoring wells was 450 µg/L.

COMMUNITY INVOLVEMENT OPPORTUNITIES

Technical Assistant Grant (TAG)

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 get it from the TAG web page: www.epa.gov/superfund/community/tag/resource.htm.

Revision of Community Involvement Plan

A community involvement plan (CIP) is a document developed early on in the cleanup process to facilitate two-way communication between EPA and the community affected by, and interested in, the site cleanup. The latest revision, prepared in 1990, is located at the Site repositories (see page 9 for locations). With the start of the remedial design phase of the cleanup in Area 1 NHOU, EPA will update the plan by conducting community interviews. If you would like to participate in this process, please contact Jackie Lane, Community Involvement Coordinator, at (415) 972-3236, or leave a message toll-free at (800) 231-3075.

INFORMATION REPOSITORIES

EPA maintains site information at the following repositories. These repositories contain the Administrative Record, project documents, fact sheets, and reference materials. EPA encourages you to review these documents to gain a more complete understanding of the site. EPA also has a site information web page at www.epa.gov/region09/SanFernandoAllAreas

Site Information Repositories

Burbank Public Central Library

110 North Glen Oaks Blvd.
Burbank, CA 91502
(818) 238-5580
Repository for Burbank OU, Glendale North and South OU, and North Hollywood OU documents

Glendale Public Library

222 East Harvard Street
Glendale, CA 91205
(818) 548-2021
Repository for Burbank OU, Glendale North and South OUs, North Hollywood OU and Verdugo OU documents

City of Los Angeles Central Library

Science and Technical Department
630 West 5th Street
Los Angeles, CA 90071
(213) 228-7216
Repository for North Hollywood OU documents

US EPA Superfund Records Center

95 Hawthorne Street, Room 403
San Francisco, CA 94105
(415) 536-2000
Repository for all documents

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GLOSSARY OF TERMS

Aquifer: An underground layer of soil, sand, or gravel that can store and supply groundwater to wells and springs.

Chromium: A steel-gray, lustrous, hard metal that takes a high polish, and has a high melting point. The most common oxidation states of chromium are +2, +3, and +6, with +3 being the most stable. The +1, +4 and +5 oxidation states are rare. Chromium compounds of oxidation state 6 (**hexavalent chromium**) are powerful oxidants. Chromium compounds are often used as pigments for photography, and in pyrotechnics, dyes, paints, inks, and plastics. Hexavalent chromium is recognized as a human carcinogen.

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 the **Superfund**, to investigate and clean up abandoned or uncontrolled hazardous waste sites.

1,4-Dioxane: A clear liquid that dissolves easily in water. It is used primarily as a solvent in the manufacture of chemicals and as a laboratory reagent. It is a trace contaminant of some chemicals used in cosmetics, detergents, and shampoos.

Emerging contaminant: An “emerging contaminant” is a chemical or material that is a perceived, potential, or real threat to human health or the environment, or lacks published health standards. A contaminant may also be “emerging” because of the discovery of a new source or a new exposure pathway to humans, or a new detection method or treatment technology has been developed.

Ex Situ: A technology or process for which contaminated material must be removed from its original place (i.e., excavated; removed or recovered from the subsurface) for treatment.

Five-Year Review (FYR): A review required by CERCLA for sites with long-term cleanups or where waste will be left at the site. They are conducted every five years on such sites after a ROD has been signed and the remedial action has begun. It is completed to ensure that the remedy continues to be protective of human health and the environment, and to achieve the cleanup goals.

Focused Feasibility Study (FFS): A study that evaluates a limited range of options to clean up environmental contamination at a Superfund site.

Granular Activated Carbon (GAC): A form of carbon that has been processed to make it extremely porous and thus to have a very large surface area available for adsorption or chemical reactions. It can be used on vapor waste streams (Vapor Phase Granular Activated Carbon – **VPGAC**) or liquid waste streams (Liquid Phase Granular Activated Carbon – **LPGAC**).

Groundwater: The supply of water found below the ground surface that supplies wells and springs.

Groundwater Model: An interactive computer tool that simulates the flow of water and toxins through confined and unconfined aquifers as well as the effects of pumping on these aquifers.

Institutional Controls (ICs): Administrative or legal mechanisms such as permits, zoning, and/or deed restrictions that help to minimize the potential for human exposure to contamination and/or protect the integrity of a remedy.

Maximum Contaminant Level (MCL): MCLs are enforceable standards, and are the highest concentration of a contaminant that is allowed in drinking water. MCLs are set as close as feasible to the level of a contaminant in drinking water below which there is no known or expected risk to health. Best available treatment technology and cost are taken into consideration when setting MCLs.

GLOSSARY OF TERMS *(Continued)*

Micrograms per liter ($\mu\text{g/L}$): A measurement of the amount of contamination in a liquid. It is micrograms of contaminant found per liter of water sampled. It is roughly equivalent to parts per billion (ppb).

Operable Unit (OU): An area that is defined so that EPA may take action on a distinct area or type of contamination, as part of an overall site cleanup.

Perchlorate: A salt derived from perchloric acid. It can occur both naturally and through manufacturing. It is used as a medicine (thyroid treatment) or also used as an oxidizer in rocket fuel and explosives and be found in airbags and fireworks.

Perchloroethylene (also known as Tetrachloroethylene) (**PCE**): A colorless liquid widely used for dry cleaning of fabrics. It has a sweet odor detectable by most people. It is considered a probable carcinogen.

Potentially responsible parties (PRPs): A possible polluter who may eventually be held liable under CERCLA for the contamination or misuse of a particular property or resource.

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

Public Health Goal (PHG): The level at which a contaminant will cause no known risk to human health. The PHG is based strictly on human health considerations. The State of California develops a PHG for every primary drinking water standard developed by the state.

Record of Decision (ROD): The document that formalizes EPA's decision to select and implement a specific remedial action.

Semi-volatile Organic Compounds (SVOCs): Carbon-containing chemical compounds that evaporate somewhat readily (less readily than VOCs) at room temperature. Many are hazardous to human health or the environment.

Superfund: see Comprehensive Environmental Response, Compensation, and Liability Act above.

Trichloroethylene (TCE): A nonflammable, colorless liquid with a somewhat sweet odor and a sweet, burning taste. It is used mainly as a solvent to remove grease from metal parts, but it is also an ingredient in adhesives, paint removers, typewriter correction fluids, and spot removers. It is not thought to occur naturally in the environment. However, it has been found in underground water sources and many surface waters as a result of the manufacture, use, and disposal of the chemical.

Volatile Organic Compounds: Carbon-containing chemical compounds that evaporate readily at room temperature. Many are hazardous to human health or the environment.



San Fernando Valley Superfund Sites Update, and EPA Selects Second Interim Remedy for the North Hollywood Operable Unit

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United States Environmental Protection Agency, Region 9
75 Hawthorne Street (SFD-6-3)
San Francisco, CA 94105
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