San Gabriel Valley Superfund Sites Progress Update

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • May 2021

San Gabriel Valley Groundwater Cleanup Continues

The U.S. Environmental Protection Agency (EPA) continues to make significant progress in our decades-long effort to clean up groundwater contamination in the San Gabriel Valley (SGV). EPA, along with the State of California and local agencies, is protecting the groundwater by removing toxic chemicals from contaminated portions of the aquifer.* This fact sheet describes cleanup progress at four Superfund sites within the SGV. The sites are called San Gabriel Valley Area 1, Area 2, Area 3, and Area 4.

CLEANUP HIGHLIGHTS SINCE 2002

More than 200 billion gallons of contaminated water have been treated, and more than 100,000 pounds of contaminants removed.

Through EPA legal work, the companies responsible by law to clean up the sites' contamination paid an estimated $470 million for cleanup.

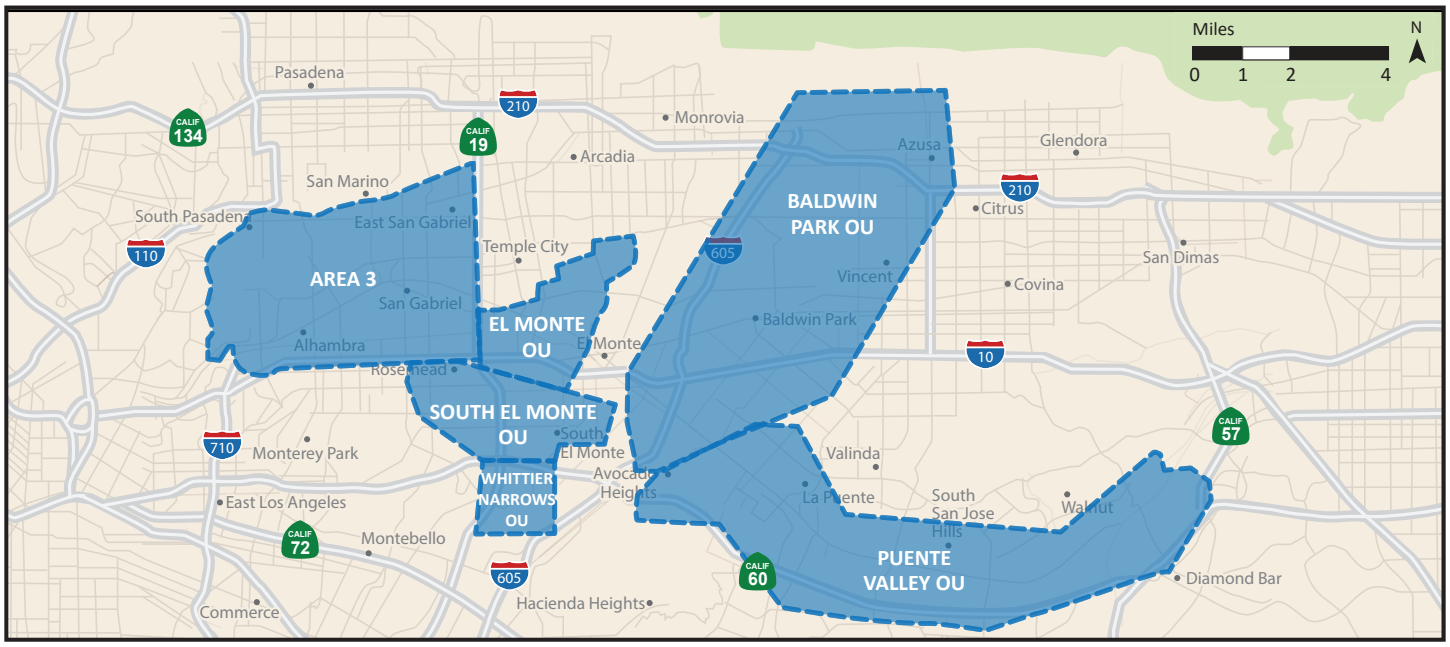
In 2019, EPA hosted the SGV Superfund Job Training Initiative, an environmental job readiness program. The program provided job training for 20 trainees living near the SGV Superfund sites.

To manage the cleanup more easily, EPA split the four Superfund sites into smaller sections called "operable units" (OUs). There are six active OUs:

- Whittier Narrows OU, El Monte OU, South El Monte OU are in Area 1;
- Baldwin Park OU is in Area 2;
- Area 3 (no OUs in this area because EPA is completing the groundwater investigation); and
- Puente Valley OU is in Area 4. *See map below.*

The Valley's Drinking Water

The San Gabriel Basin Aquifer is the main source of drinking water for more than one million residents in the San Gabriel Valley. Water agencies test the area's drinking water wells regularly to ensure drinking water meets state and federal safe drinking water standards.



San Gabriel Valley Superfund sites (boundaries are approximate)

*An aquifer is an area below the ground that contains water.

HISTORY AND CLEANUP PROGRESS

Below is a brief history of the sites through key steps of the Superfund cleanup process.
More details on the status of the cleanup at each of the OUs is provided on pages 4 – 9.

Discovery and Assessment

In 1979, the state required water providers to increase testing of drinking water supplies. The testing found multiple areas of contamination in the San Gabriel Valley's water supply. In 1984, EPA added four areas of the most contaminated groundwater to the Superfund program. After the sites were added, EPA began a multi-year effort to understand how the water got contaminated and where the contamination went.

What We Found

EPA found many solvents commonly used for degreasing industrial equipment—such as trichloroethylene (TCE) and perchloroethylene (PCE)—in the soil and groundwater. EPA also found the chemicals perchlorate, 1,2,3-trichloropropane (1,2,3 -TCP); N-nitrosodimethylamine (NDMA); 1,4 dioxane; and hexavalent chromium. *See page 3 for more information on the contaminants and sources.*

Ongoing Work

EPA regularly evaluates how its cleanups at each of the Superfund sites are working. Every five years, EPA does a more in-depth review called a Five-Year Review to see if the cleanup plans are working as designed. EPA did reviews for SGV Areas 1-3 from 2016-2017, and will be doing a review for Area 4 in 2021.

Selecting Cleanup Plans

From 1993 – 2000, EPA developed interim (immediate actions taken to address groundwater contamination) cleanup plans for most of the sites' contaminated groundwater. Since then EPA has ordered, or reached legal agreements with, the companies responsible for the contamination to clean up the sites.

Cleanup

In 2001, EPA began building the groundwater extraction and treatment systems needed to do the cleanup. There are 14 groundwater treatment systems operate as part of the SGV Superfund cleanup:

- five in the Baldwin Park OU;
- four in the El Monte OU;
- four in the South El Monte OU; and
- one in the Whittier Narrows OU.

Two systems are being built in the Puente Valley OU, and a third is in the design phase.

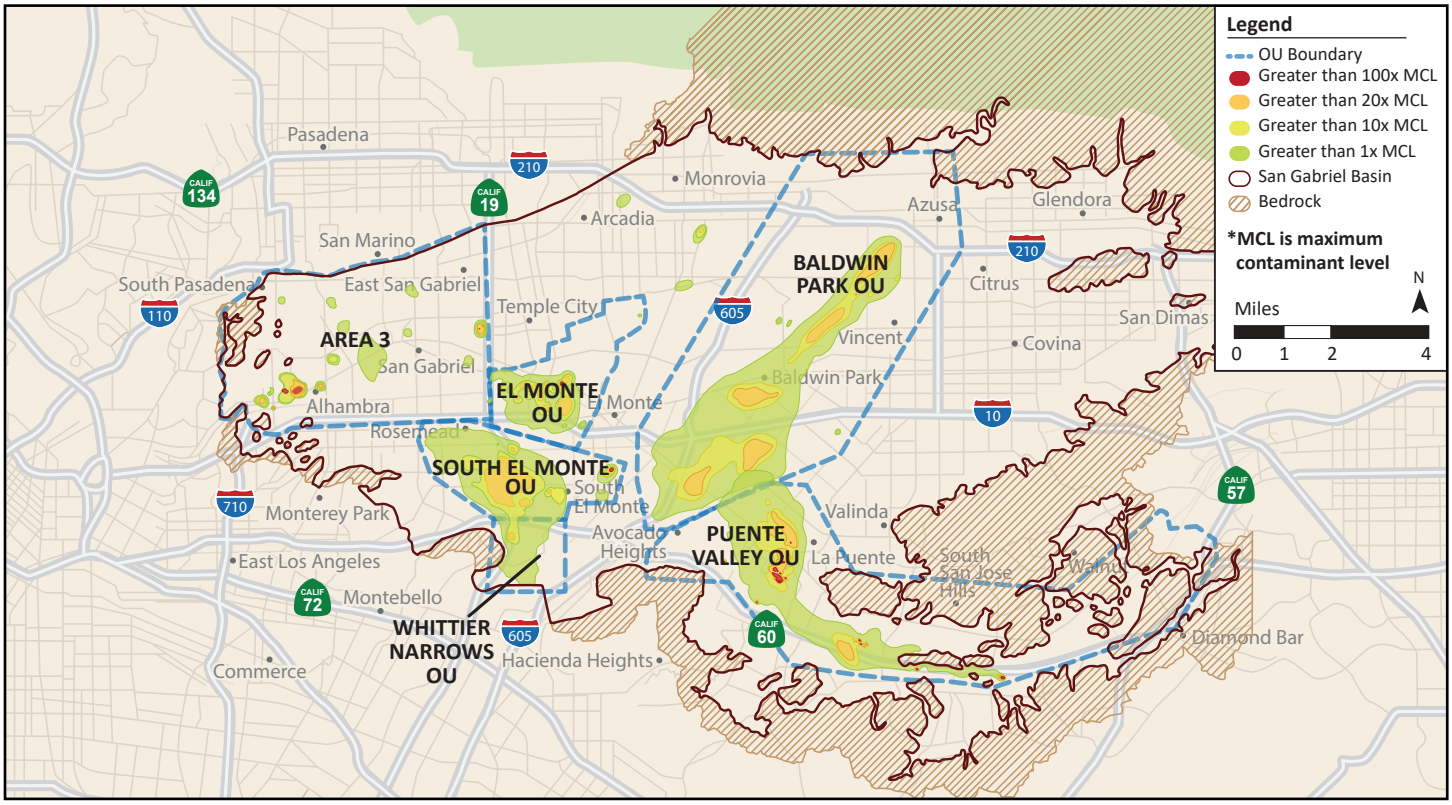
Community Involvement

EPA involves the community throughout the Superfund process. These activities inform the community of cleanup work and include them in the decision-making process. The EPA Community Involvement Plan guides these activities and is based on research and interviews from community members and other stakeholders. In November 2018, EPA updated its Community Involvement Plans for the SGV Superfund sites. To see the plan, please visit the websites on page 4-9.

Who Pays?

Hundreds of businesses and companies contaminated over 30 square miles of groundwater in the sites. These Potentially Responsible Parties (PRPs) may also include individuals, trusts or other entities. These PRPs have paid, or are paying, for most of the cleanup costs, while both local water agencies and PRPs are operating the water treatment systems. EPA and the State of California have also paid for some cleanup costs. EPA oversees cleanup in all of the OUs except Whittier Narrows OU, which the State cleans up and pays for. The following state and local agencies also play important roles in the cleanup process:

- Los Angeles Regional Water Quality Control Board (LARWQCB);
- California Department of Toxic Substances Control (DTSC);
- Main San Gabriel Basin Watermaster; and
- San Gabriel Basin Water Quality Authority.



The figure shows approximate locations and concentrations of groundwater contamination from data taken between 2012 and 2017.

Sources of Contamination

The groundwater contamination is the result of decades of poor chemical handling and disposal practices. Most of the activities that led to the contamination likely occurred between the 1940s and 1970s. This period was before EPA established the Superfund cleanup program and environmental laws covering hazardous waste.

What chemicals contaminated the groundwater?

Below is a list of the main chemicals found at one or more of the sites, and how they are used.

- Volatile Organic Compounds (VOCs) which include chlorinated chemicals, such as TCE and PCE, that were commonly used to degrease machinery or for dry-cleaning.
- 1,4-Dioxane may be found in industrial solvents, paint strippers, greases, and waxes.
- 1,2,3-TCP may have been used as a sealant and soil fumigant.
- NDMA and Perchlorate have been associated with the manufacture and testing of rockets.
- Hexavalent chromium is used in chrome plating facilities.

Sources

Chemical storage	Metal cleaning and degreasing	Manufacture and testing of solid and liquid fuel rockets	Chemical recycling

For more information, the Centers for Disease Control and Prevention's Agency for Toxic Substances and Disease Registry has a series of summaries about contaminants called ToxFAQs that can be found at www.atsdr.cdc.gov/toxfaqs

AREA 1

WHITTIER NARROWS OU

- 2 square miles of contaminated groundwater
- Southern-most portion of the San Gabriel Valley

Main Chemicals Being Cleaned Up

PCE and TCE

CURRENT STATUS

DTSC operates and maintains an EPA-built water treatment system. The system has treated more than 22 billion gallons of water and removed thousands of pounds of contaminants from the groundwater.

WHAT'S NEXT

- DTSC continues to explore other options for the use of the treated water, while continuing to pump water to Legg Lakes through an agreement with Los Angeles County.
- In 2021, EPA will complete a Five-Year review of the current cleanup plan. *See last page for further details.*

CLEANUP PROGRESS TIMELINE

1993: EPA issued an interim (short-term) cleanup plan. EPA updated the plan in 1999.

2002: As part of the cleanup plan, EPA built a $12 million groundwater treatment system. This system cleans the groundwater and keeps the contamination from spreading, which protects the drinking water supply.

2004 – 2013: The City of Whittier operated the treatment system under an agreement with EPA. The system supplied clean groundwater to residents and businesses in Whittier and to Legg Lake in the Whittier Narrows Recreation Area.

2013: DTSC starts operating the system for EPA and contracts with the San Gabriel Valley Water Company to operate the treatment plant.

2016: EPA completed a Five-Year Review of the interim cleanup plan and found that it was working as intended.

Whittier Narrows OU groundwater treatment system.

WHO PAYS?

The total cleanup costs is estimated to be $50 million. EPA funded cleanup activities from 2003 until 2013 before the agency transfered operations to DTSC. In 2013, EPA also transferred financial responsibility to DTSC.

To date, about:

$27 MILLION Spent

EPA Spent **$20 MILLION**

DTSC Spent **$7 MILLION**

Cleanup System Operation Costs **$1-2 MILLION ANNUALLY**

MORE INFORMATION

www.epa.gov/superfund/sangabrielelmonte

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INFORMATION REPOSITORIES

See page 10 for locations where site documents can be reviewed.

AREA 1

SOUTH EL MONTE OU

- **8 square miles of contaminated groundwater**
- **In the center of SGV, under portions of the cities of South El Monte, El Monte and Rosemead**

Main Chemicals Being Cleaned Up

PCE and TCE

CURRENT STATUS

Local water agencies operate three water treatment systems that clean the groundwater and provide drinking water to about 50,000 homes in the San Gabriel Valley. The systems have treated more than 27 billion gallons of contaminated water and removed more than 13,000 pounds of contaminants from the aquifer.

WHAT'S NEXT

- In 2021, EPA will complete an streamline study for cleanup options, and do a Five-Year Review of the current cleanup plan. *See last page for further details.*

CLEANUP PROGRESS TIMELINE

2000: EPA issued a cleanup plan to keep chemicals in the groundwater from spreading. EPA updated the plan in 2005. The plan uses eight groundwater extraction wells which also serve as drinking water supply wells and three water treatment systems, owned and operated by water agencies.

2008: EPA entered into an agreement through which the San Gabriel Basin Water Quality Authority subcontracted with two private and one public water agencies to treat South El Monte OU water. After the water is treated, these water agencies distribute the drinking water to local residents. This arrangement continues.

2016: EPA completed a Five-Year Review of the interim cleanup plan and found it is working as intended.

2019: EPA completed a additional study of the site's groundwater. EPA is using this study to develop an optimization plan for the cleanup at both the South El Monte OU and the adjacent Whittier Narrows OU.

Drilling Monitoring Wells at South El Monte OU.

WHO PAYS?

The total cleanup cost is estimated to be $75 million. EPA's legal settlements with more than 50 companies continue to fund the cleanup.

To date, about:

$30 MILLION
Spent

Cleanup Systems Operation Cost
$1.5-2 MILLION ANNUALLY

MORE INFORMATION
www.epa.gov/superfund/sangabrielelmonte

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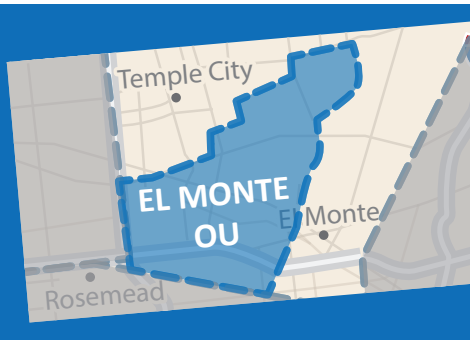
AREA 1

EL MONTE OU

- 2 square miles of contaminated groundwater
- Under portions of the cities of El Monte and Rosemead, and a small portion of Temple City

Main Chemicals Being Cleaned Up

TCE, PCE, 1,4-dioxane, perchlorate, and hexavalent chromium



CURRENT STATUS

The companies responsible for cleaning up the contamination and local water providers are operating four groundwater water treatment systems. EPA is doing more groundwater investigations and system improvements for the two West Side treatment systems.

WHAT'S NEXT

- The company responsible for cleaning up the West Side of the site will install more pipeline and system improvements to prevent contamination from spreading into cleaner areas.
- The company will also do more investigations to protect deep drinking water beneath the City of Rosemead.
- In 2021, EPA will do a Five-Year review of the cleanup plan. *See last page for further details.*

CLEANUP PROGRESS TIMELINE

1999: EPA issued an interim cleanup plan for the El Monte area and updated the plan in 2002. The plan protects the community from contaminated groundwater and prevents the spread of contaminated groundwater. The cleanup for the El Monte OU is divided into the East Side and West Side areas.

2002: A local water utility begins operating the West Side system for deep groundwater treatment and delivers treated water for drinking.

2012: Another West Side system for shallow groundwater treatment began operating but did not prevent the spread of contaminated groundwater in certain areas.

2015: Two East Side (shallow and deep) groundwater treatment systems were built. The City of El Monte operates the East Side (deep) system and delivers drinking water to its customers. The other (shallow) system treats contaminated groundwater and the treated water is reintroduced back to the aquifer to conserve the water supply.

2016: EPA completed a Five-Year Review of the groundwater cleanup plan and found with design improvements it will be working as intended.

West Side Treatment System at El Monte OU.

WHO PAYS?

The total cleanup cost is estimated to be $65 million. The East Side PRP and West Side PRP are paying most of the cleanup costs.

To date, about:

$50 MILLION
Spent

Cleanup Systems Operation Cost
$1.5 MILLION ANNUALLY

MORE INFORMATION

www.epa.gov/superfund/sangabrielelmonte

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INFORMATION REPOSITORIES

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AREA 2

BALDWIN PARK OU

- 8 square miles of contaminated groundwater
- Under portions of the cities of Azusa, Irwindale, Baldwin Park, West Covina, La Puente, and City of Industry.

Main Chemicals Being Cleaned Up

TCE, PCE, carbon tetrachloride, perchlorate, NDMA, 1,2,3-TCP, and 1,4-dioxane.

CURRENT STATUS

Local water agencies operate five large water treatment systems. To date, these systems have treated more than 175 billion gallons of water and removed more than 95,000 pounds of contamination from the groundwater.

WHAT'S NEXT

- EPA continues to oversee upgrades to the water treatment systems and monitor progress toward cleanup goals.
- Spring 2021, EPA will post the annual performance report for the water treatment systems.

CLEANUP PROGRESS TIMELINE

1994: EPA adopted an interim cleanup plan for the Baldwin Park area and updated the plan in 1999.

2000 to 2006: Under EPA oversight, local water agencies built five large groundwater extraction and treatment systems, costing more than $100 million. The companies responsible for the contamination paid for most of the systems. The systems supply clean, treated water to residents. Recent improvements to the systems include replacing equipment to increase reliability and efficiency.

2000 to present: Soil cleanup at industrial properties has removed tens of thousands of pounds of contaminants from the soil and **soil gas.***

2017: EPA completed the third Five-Year Review of the interim cleanup plan and found it is working as intended.

Groundwater Treatment System at One of Five Baldwin Park OU Treatment Systems.

WHO PAYS?

The total cleanup cost is estimated to exceed $500 million. Companies responsible to clean up the site have been paying for the cleanup.

To date, more than:

$400+ MILLION
Spent

Cleanup Systems Operation Cost
$16 MILLION ANNUALLY

MORE INFORMATION

www.epa.gov/superfund/sangabrielbaldwinpark

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*Volatile Organic Compounds or VOCs tend to collect in soil gas (the air space between soil particles).

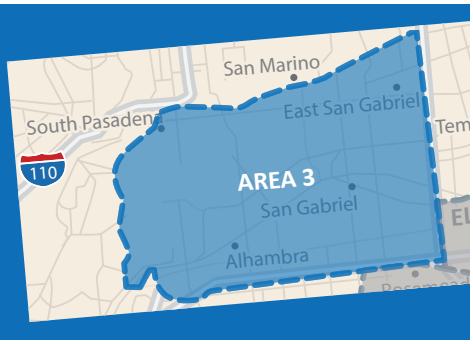
AREA 3

AREA 3 (No OUs)

- **19 square miles of contaminated groundwater**
- **Under portions of the cities of Alhambra, Rosemead, San Gabriel, San Marino, South Pasadena, and Temple City**

Main Chemicals Being Cleaned Up

TCE, PCE, and 1,2,3-TCP



CURRENT STATUS

EPA is finishing an investigation on the extent of groundwater contamination for Area 3. A report on the investigation will be published in 2021.

WHAT'S NEXT

- In 2021, EPA will finish the groundwater investigation and develop next steps for potential action.

CLEANUP PROGRESS TIMELINE

1980s: Los Angeles Regional Water Quality Control Board and DTSC started overseeing the investigation and soil cleanup of facilities that may have contaminated groundwater. The water board directs limited soil and soil gas cleanups at 13 facilities.

2008: The City of Alhambra started operating a groundwater treatment plant to remove contamination from the drinking water.

2009: EPA completed its initial groundwater investigation showing the extent of contamination for the area. The investigation included installing eight new groundwater monitoring wells and testing more than 70 wells.

2012: EPA began additional studies to better understand the sources of contaminated groundwater.

2019: EPA installed two more wells and completed additional groundwater contamination investigations.

Drilling investigation in Alhambra.

WHO PAYS?

EPA is in the process of finding companies responsible for contamination in Area 3.

To date, about:

$12 MILLION
EPA Spent

MORE INFORMATION

www.epa.gov/superfund/sangabrielall

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INFORMATION REPOSITORIES

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AREA 4

PUENTE VALLEY OU

- 5 square miles of contaminated groundwater
- Under portions of the cities of Industry and La Puente, and unincorporated Los Angeles County

Main Chemicals Being Cleaned Up

PCE, TCE, 1,1-DCE, 1,4-dioxane, and hexavalent chromium

CURRENT STATUS

More than 150 groundwater monitoring wells have been installed and are used to monitor and track contaminated groundwater. In 2021, the company responsible for cleaning up the site's contamination began building the second of the three groundwater treatment systems.

WHAT'S NEXT

In 2021, EPA will:

- update the site's interim cleanup plan and make available for public comment,
- complete the next Five-Year Review (*see last page for further details)*, and
- continue the work to build the third (last) treatment system. By 2023, EPA expects this system to be built and running.

CLEANUP PROGRESS TIMELINE

1980s: State agencies started to clean up soil contamination at source facilities.

1998: EPA issued an interim cleanup plan and updates it in 2005. The plan calls for three groundwater extraction and treatment systems to be built. The systems will prevent the spread of contaminated groundwater and protect drinking water.

2016: EPA did a second Five-Year Review of the interim cleanup plan and found it will protect human health and the environment.

2019: One company started building a treatment system for the site's "Intermediate Zone" groundwater. Water will be served to the community after being treated.

2020 – 2021: 12 additional monitoring wells are installed. These monitoring wells will help design the system that will address contaminated shallow groundwater north of Puente Creek.

2021: One company will start building a treatment system for the site's "Shallow Zone" in the southern area of the site. The treatment system will clean up highly contaminated groundwater south of Puente Creek.

Construction of Puente Valley OU Intermediate Zone Treatment Facility, City of Industry.

WHO PAYS?

The total cost of the interim cleanup is estimated to be $100 million. EPA identified more than 75 companies responsible for the contamination. Two of the responsible companies will do the cleanup.

To date, about:

$60 MILLION Spent

EPA Spent **$10 MILLION**

Companies Spent **$50 MILLION**

Cleanup Systems Operation Cost **$2 MILLION ANNUALLY**

MORE INFORMATION

www.epa.gov/superfund/sangabrielelpuentevalley

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INFORMATION REPOSITORIES

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Information Repositories

Site information may also be viewed in-person at the site's information repositories, which have reports, fact sheets and other key documents. Please call for current hours of operation.

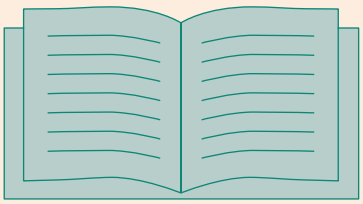
The repositories are found at:

EPA Region 9 **Superfund Records Center** 75 Hawthorne Street San Francisco, CA 94105 (415) 947 – 8717	**Rosemead Public Library** 8800 Valley Boulevard Rosemead, CA 91770 (626) 573 – 5220	**Alhambra Civic Center Library** 101 South First Street Alhambra, CA 91801 (626) 570 – 5008
West Covina Public Library 1601 West Covina Parkway West Covina, CA 91790 (626) 962 – 3541	**El Monte Library** 3224 Tyler Avenue El Monte, CA 91731 (626) 444 – 9506	**South El Monte Library** 1430 North Central Avenue South El Monte, CA 91733 (626) 443 – 4158
Baldwin Park Library 4181 Baldwin Park Boulevard Baldwin Park, CA 91706 (626) 962 – 6947	**Hacienda Heights Library** 16010 La Monde Street Hacienda Heights, CA 91745 (626) 968 – 9356	**La Puente Library** 15920 East Central Avenue La Puente, CA 91744 (626) 968 – 4613

Five Year Reviews

In 2021, EPA is doing a Five-Year Review for cleanup work at the SGV Area 1 and Area 4. According to the Superfund law, EPA must review its cleanup plan every five years if either:

- the cleanup takes more than five years to complete; or
- waste remains on site.



A Five-Year Review includes:

- an inspection of the site and cleanup technologies;
- a review of monitoring data, operating data, and maintenance records; and
- a check for any new legal requirements or standards that have been passed since EPA made its original cleanup decision.

A report summing up the Five-Year Review will be completed no later than September 30, 2021 and will be posted on the sites' webpages when complete.

To offer your comments and/or access more information visit:
www.epa.gov/superfund/sangabrielpuentevalley and www.epa.gov/superfund/sangabrielelmonte or contact:

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