

Annual Plume Status Report

California Institution for Men (CIM) Plume October 2026

CONTAMINANTS

The primary contaminant is tetrachloroethene (PCE). The California maximum contaminant level (MCL) for PCE is 5 micrograms per liter ($\mu\text{g/l}$). The highest concentration of PCE measured historically within the plume is approximately 1,990 $\mu\text{g/l}$.¹ In the last five years, from July 2021 to June 2026, the maximum concentration of PCE was 18 $\mu\text{g/l}$ at Well 1. No other wells had concentrations of PCE that exceeded the MCL.

LOCATION

The California Institution for Men (CIM) is a state correctional facility located in the City of Chino. The property is approximately 1,500 acres and is bounded by Eucalyptus Avenue to the north, Euclid Avenue to the east, Kimball Avenue to the south, and Central Avenue to the west. The plume is located predominantly beneath the northwestern portion of the CIM property. Exhibit 1 shows the spatial extent of the PCE plume, as delineated by the Chino Basin Watermaster (Watermaster) in the *2024 State of the Basin Report*.² The extent of the plume with detectable PCE concentrations greater than 0.5 $\mu\text{g/l}$ is about 4,000 feet long and 3,000 feet wide. The PCE plume with concentrations greater than the MCL of 5 $\mu\text{g/l}$ is estimated to be about 1,000 feet long and 900 feet wide.

SITE HISTORY

The State of California Department of Corrections and Rehabilitation (State) has operated CIM since 1939. The primary uses of the CIM property include agricultural operations, inmate housing, and correctional facilities. The Heman G. Stark Youth Correctional Facility (Youth Correctional Facility) occupies the eastern portion of the CIM property. There are eleven drinking water supply wells located on the CIM property; five of these wells are actively producing groundwater as of 2026. The CIM operates the drinking water supply wells, a potable water distribution system, and a treatment plant to provide drinking water supply to the CIM facilities, Youth Correctional Facility, and the California Institution for Women. The land surrounding the CIM property was historically used for agriculture and dairy activities but has rapidly developed in recent years for residential and commercial uses.

¹ Based on a water quality sample collected at MW-7 in 1998.

² West Yost. (2025). *Chino Basin Optimum Basin Management Program-2024 State of the Basin Report*. Prepared for the Chino Basin Watermaster. September 2025.

REGULATORY ORDERS

No regulatory orders for site remediation and monitoring were issued by the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) for PCE contamination. The State conducted voluntary cleanup and monitoring under the Santa Ana Water Board's direction from 1992 to 2009. On December 17, 2009, the Santa Ana Water Board determined "No Further Action" was required for remediation and monitoring.

Unrelated to the PCE contamination, there are three leaking underground storage tank (LUST) cleanup sites located on the CIM property that are regulated under the State Water Resources Control Board (State Board) Underground Storage Tank (UST) program. The UST program directs Regional Water Boards to implement a monitoring plan and oversee site closures under the State Board's Low Threat Closure Policy (LTCP). There are no regulatory orders for groundwater remediation or monitoring at the CIM LUST sites. Two of the three sites met the requirements for site closure under the LTCP and were closed by the State Board in 2006. The remaining LUST site is the CIM State Garage LUST site, which is currently pending formal closure. The CIM State Garage LUST site is shown in Exhibit 1.

REGULATORY AND MONITORING HISTORY

In 1990, PCE was detected at a concentration of 26 µg/l at CIM drinking water supply Well 1. This prompted the California Department of Health Services (CDHS), now the California State Board Division of Drinking Water (DDW), to direct CIM to stop using the well as a source of drinking water. The detection of PCE concentrations in two other CIM drinking water supply wells (1A and 11A) triggered the Santa Ana Water Board to request an investigation of the source and extent of the onsite PCE contamination. Following an initial investigation, the Santa Ana Water Board sent the State a written request to perform a subsurface investigation to define the vertical and lateral extent of PCE in soil at four locations where PCE was detected in soil vapor samples during the investigation.

The Phase I Site Assessment was performed at the CIM site in 1992, and included a review of CIM's history, operations, and chemical use.³ The investigation identified five potential sites where VOCs were used and could have impacted soil and groundwater. These areas included: the old laundry building, the furniture factory, the vocational shops, the state garage, and the powerhouse.

The Phase II Site Assessment was performed from 1992 to 1994 to assess the presence and concentrations of VOCs in soil vapor, soil, and groundwater beneath the five potential sites identified in Phase I.⁴ Seven groundwater monitoring wells were installed and sampled as part of this investigation. The results from the soil and the groundwater investigations showed low concentrations of contaminants throughout the site, with concentrations of PCE in groundwater samples from monitoring wells ranging from 0.6 to 19 µg/l. The old laundry facility and nearby areas had the highest concentration of PCE in soil samples and was thus identified as the most likely principal source of VOCs. A Phase III assessment was performed in 1996 to further investigate the distributions of VOC contamination beneath the CIM and included depth-discrete groundwater sampling at four exploratory boreholes. The investigation showed three distinct aquifer zones below the CIM, and that PCE and other VOCs were migrating laterally from the shallow zone to the intermediate and deep zones where the drinking water supply wells are screened.⁵ Between August 1994 and May 2001, a network of 43 monitoring wells at varying depths in the shallow, intermediate, and deep aquifer zones were constructed.

³ Geomatrix Consultants, Inc. (1992). *Report of Phase I Investigation, VOCs in Soil and Groundwater, Department of Corrections California Institution for Men, Chino*. April 20, 1992.

⁴ Geomatrix Consultants, Inc. (1994). *Phase II Assessment of VOCs in Soil and Groundwater, California Institution for Men Chino, California*. Prepared for the Department of General Services Development and Management. October 4, 1994.

⁵ Geomatrix Consultants, Inc. (1997). *Phase III Groundwater Assessment and Remediation Planning Report, California Institution for Men, Chino*. July 21, 1997.

In 1997, the Santa Ana Water Board approved an interim pump-and-treat system for the hydraulic containment of VOC-affected groundwater using Well 1. In 2001, construction began on two new CIM water supply wells (Wells 14 and 15) and associated pipelines to prevent VOC-impacted groundwater at the southern end of the plume from migrating away from the site. Additionally, two agricultural wells were destroyed to protect the deeper aquifer from the downward movement of VOC contaminated groundwater due to pumping.

The 43 monitoring wells were sampled intermittently through 2007 to analyze the extent and concentrations of VOCs in the groundwater beneath the CIM property. It was determined that the VOC impacts to groundwater were limited to the source area and immediately downgradient. Furthermore, the plume had not and was not expected to migrate off the property. A final monitoring event was conducted by the State in January 2007, which included groundwater quality sampling at 39 water supply and monitoring wells at the CIM property.⁶ The results of this and previous monitoring events indicated that despite the PCE concentrations exceeding the MCL at three monitoring wells, PCE concentrations in the shallow groundwater were decreasing or remaining stable. PCE concentrations in the deeper aquifer at the CIM drinking water supply wells had been below the MCL since April 2003 with a few exceptions in early/mid 2006. Moreover, there had been no detections of TCE or other VOCs above the MCL in groundwater samples since December 2002. Based on this monitoring, in February 2007 the State submitted a request to the Santa Ana Water Board for a No Further Action (NFA) finding for groundwater remediation and monitoring at the CIM site. On December 17, 2009, the Santa Ana Water Board issued a determination of NFA for the CIM site.⁷

In March 2019, the Santa Ana Water Board formally rejected the State's request for closure of the State Garage LUST site located northwest of the CIM drinking water supply Well 1A within the center of the PCE plume, and requested further assessment to determine if fuel-related contaminants beneath the site could impact downgradient Well 1A.⁸ An investigation was completed in May 2020 and a report on the monitoring and findings was submitted to the Santa Ana Water Board in July 2020.⁹ The investigation concluded that: (1) fuel-related contaminants have decreased several orders of magnitude in the perched aquifer below the State Garage LUST site; and (2) the downgradient extent of the dissolved total petroleum hydrocarbon plume from the site is not migrating and has not impacted the CIM water supply Well 1A. However, the findings indicated that gasoline residue remains in the soil downgradient of the source area. Results from the annual groundwater monitoring event in May 2021 indicated that fuel-related contaminants have decreased, and the plume is not migrating or impacting Well 1A.¹⁰

⁶ Geomatrix Consultants, Inc. (2007). *January 2007 Groundwater Monitoring PCE Remediation Project California Institution for Men Chino, California*. Prepared for the Department of General Services Real Estate Services Division Project Management Branch. May 17, 2007.

⁷ California Regional Water Quality Control Board, Santa Ana Region (2009). *Determination of No Further Action (NFA), Tetrachloroethylene Remediation Project, California Institution for Men, Chino*. December 17, 2009.

⁸ California Regional Water Quality Control Board, Santa Ana Region. (2019). *Response to Soil Vapor Investigation and Path to Closure, California Institution for Men, Garage*. March 8, 2019.

⁹ Avocet Environmental, Inc. (2020). *2020 Annual Groundwater Monitoring and Additional Investigations Report California Institution for Men – State Garage*. July 29, 2020.

¹⁰ Avocet Environmental, Inc. (2021). *2021 Annual Groundwater Monitoring Report and Request for Closure*. Prepared for California Department of Corrections and Rehabilitation, FPCM – Environmental and Regulatory Compliance Section. August 17, 2021.

In August 2021, the State submitted the 2021 Annual Groundwater Monitoring Report along with a Request for Closure of the CIM State Garage LUST site under the LTCP.¹¹ The Santa Ana Water Board did not review the report until spring 2024 and requested updated data to verify that site conditions had not changed since closure was requested in 2021. In December 2024, the State collected additional data and submitted report to the Santa Ana Water Board.¹² Overall, the results were consistent with historical findings, indicating that fuel-related VOCs have decreased significantly since 2001 and are not generally detected in groundwater sampled from wells located to the south and west of the State Garage Building or migrated to production Well 1A. Based on these results, the State once again requested site closure. The Santa Ana Water Board reviewed the report in April 2025 and found the results were supportive of site closure, but denied request because it was not a formal closure application addressing LTCP criteria.¹³ The State has since issued the formal closure request which has been recently approved as described in the Recent Activity Section of this report.

REMEDIAL ACTION

In July 1997, the State implemented remediation activities, termed *The PCE Remediation Project*, with an interim remedial measure to pump and treat groundwater from Well 1.¹⁴ The groundwater was treated for VOCs using air stripping. Operation of the air stripper continued until 2004, when the permeability of the air stripper packing was compromised by the accumulation of mineral precipitates. During its operation, the pump-and-treat process at Well 1 removed approximately 58 pounds of PCE and TCE collectively. After 2004, both PCE and TCE concentrations were below the MCL in groundwater extracted from Well 1, and pumping continued without treatment with approval from the CDHS and Santa Ana Water Board. A supplemental remedial measure began in 2001 which included the construction of two new CIM water supply wells (Well 14 and Well 15) located in an area to intercept the toe of the VOC plume, promoting hydraulic containment of the VOCs within the groundwater beneath CIM. Wells 14 and 15 operated without treatment from January 2003 to December 2008; during this time, these two wells removed an additional 14 pounds of PCE and TCE collectively.

Remediation requirements at CIM ended in December 2009 with the Santa Ana Water Board's determination of NFA. Since then, PCE has been periodically detected at concentrations above the MCL at CIM supply Wells 1 and 15. Additionally, other contaminants have been detected above their respective MCLs, including 1,2,3-TCP and nitrate. CIM operates a water treatment plant to remove contaminants for drinking water supply.

The need for remedial action was considered to address elevated levels of PCE in the soil below the old laundry site, but it was determined that it would not be cost-effective in protecting the groundwater quality despite some potential contribution of PCE from the soil to groundwater beneath the site.

¹¹ Avocet Environmental, Inc. (2021). *2021 Annual Groundwater Monitoring Report and Request for Closure*. Prepared for California Department of Corrections and Rehabilitation, FPCM – Environmental and Regulatory Compliance Section. August 17, 2021.

¹² Weaver Consultants Group. (2025). *2024 Annual Groundwater Monitoring Report and Request for Low threat Closure*. Prepared for California Department of Corrections and Rehabilitation, FPCM – Environmental and Regulatory Compliance Section. February 5, 2025.

¹³ Email Correspondence from the State Waterboard on April 8, 2025.

¹⁴ Geomatrix Consultants, Inc. (2005). *PCE Remediation Project Report. California Institution for Men*. Prepared for the California Department of General Services. July 2005.

MONITORING AND REPORTING

The State conducted voluntary monitoring at CIM from 1992 to 2007 at 43 monitoring wells and 14 water supply wells. Voluntary monitoring ended in December 2009 with the Santa Ana Water Board's determination of NFA. As part of the NFA, the State was required to decommission the monitoring wells located onsite in accordance with California Well Standards (DWR Bulletin No. 74-81). The State decommissioned a majority of these wells and preserved 16 wells to be included in the Watermaster's groundwater-level monitoring program conducted pursuant to the *Optimum Basin Management Program* (OBMP).¹⁵ The locations of these wells are included in Exhibit 1.

The CIM continues to monitor groundwater quality at its supply wells as part of its water supply operations under DDW regulations. The State samples the active drinking water supply wells for PCE and TCE quarterly and reports the data to the DDW. Watermaster routinely collects all groundwater-quality data from the DDW's Water Quality Analyses Database for the CIM potable supply wells as part of the OBMP groundwater-quality monitoring program and uses these data to characterize the areal extent and concentration of the PCE plume every two years.¹⁶

RECENT ACTIVITY

There has been no further regulatory activity associated with PCE contamination monitoring and remediation at CIM since the NFA determination in December 2009.

The most recent characterization of the plume was completed by Watermaster in the *2024 State of the Basin Report* (Exhibit 1). Based on available data, the PCE plume remains relatively stable; however, the maximum concentration of PCE near Well 1 has slightly increased ranging 10–20 µg/L during the July 2019 – June 2024 delineation period. Well 1 was inactive from 2018 to mid-2024. Concentrations of PCE at Well 1 remained below the MCL from Q4 2024 to Q3 2025, then increased above the MCL during the October and November 2025 quarterly and triennial sampling events and the most recent quarterly sampling event in April 2026.

The State continues to sample its drinking water supply wells pursuant to DDW regulations. Table 1 below summarizes the five-year maximum PCE concentration (July 2021 to June 2026) sampled at the CIM drinking water supply wells.

Table 1. Maximum PCE Concentration in CIM Supply Wells between July 2021 and June 2026		
Well	Maximum PCE, µg/l	Date
1	18	11/12/2025
1A	1.6	11/23/2022
3	not detected (<0.5)	all samples during this period
11A	0.98	7/5/2023
15	2.1	11/23/2022
16	not detected (<0.5)	all samples during this period

¹⁵ Wildermuth Environmental, Inc. (1999). *Optimum Basin Management Program. Phase I Report*. Prepared for the Chino Basin Watermaster. August 19, 1999.

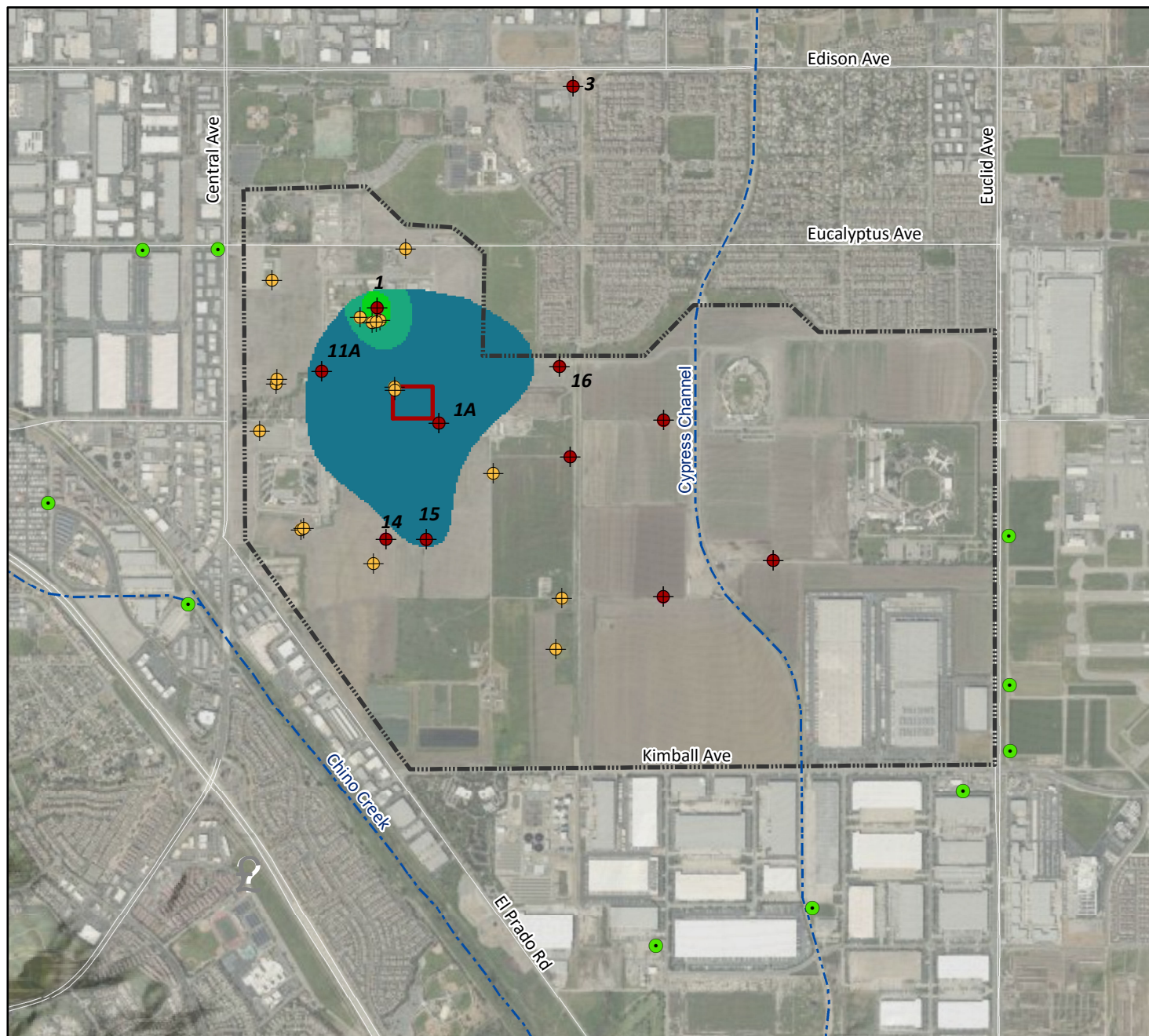
¹⁶ https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/EDTlibrary.shtml

In June 2025, the State submitted an official Request for Closure for the CIM State Garage LUST site, which presented the findings of the 2024 groundwater monitoring activities completed to satisfy the criteria established for underground storage tank case closure under the State Water Resources Control Board's Low-Threat Closure Policy.¹⁷ The Santa Ana Water Board and DDW reviewed the request and in September 2025, the DDW agreed to site closure following a review of the results of the most recent sampling event at Well 1A in November 2025. In March 2026, the DDW and the Santa Ana Water Board completed their evaluation and concurred with the case closure under the condition that CIM will continue to monitor VOCs once every three years with more frequent sampling for 1,2,3-TCP, TCE, and PCE. The Santa Ana Water Board issued a public notice for the proposed case closure, with the public comment period extending through August 24, 2026.¹⁸ On September 10, 2026, following the public review period, the Santa Ana Water Board issued a Closure Directive for case closure once CIM completes the required actions, including destroying all associated monitoring wells and borings, removing all waste from the site, and submitting documentation once the required actions have been completed.¹⁹

¹⁷ Weaver Consultants Group. (2025). *Request for Closure California Institution for Men – State Garage*. Prepared for California Department of Corrections and Rehabilitation, FPCM – Environmental and Regulatory Compliance Section. June 11, 2025.

¹⁸ Santa Ana Regional Water Quality Control Board. (2026). *Notice of Opportunity for Public Comment and Opportunity for Tribal Engagement, Proposed Underground Storage Tank Case Closure, California Department of Corrections and Rehabilitation, CA Institute for Men, Garage, Chino, California*. June 23, 2026.

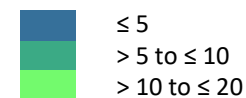
¹⁹ Santa Ana Regional Water Quality Control Board. (2026). *Closure Directive – California Department of Corrections and Rehabilitation, CA Institute for Men, Garage, 14901 Central Ave, Chino, CA 91710 (Global ID No. T0607100474*. September 10, 2026.



Maximum Concentration (µg/L)

July 2019 - June 2024

PCE



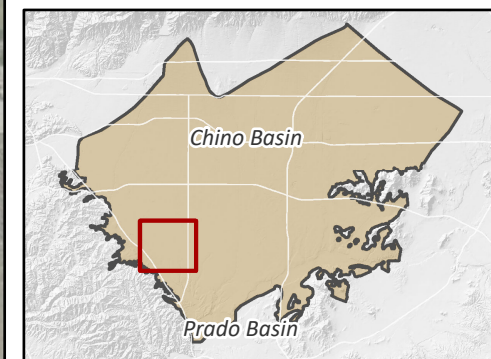
MCL = 5 µg/L

(Delineated by Watermaster in the 2024 State of the Basin Report)

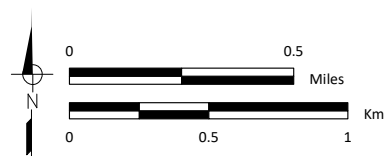
- CIM Water Supply Well*
- Other Agency Municipal Water Supply Well
- CIM Monitoring Well Preserved for the Watermaster Groundwater-Level Monitoring Program**
- CIM Property Boundary
- CIM State Garage LUST Boundary
- Streams & Flood Control Channels

*Wells labeled by name if mentioned in report

**Some locations have multiple wells at varying depths



Prepared by:



Prepared for:

Chino Basin Watermaster
Annual Plume Report



California Institution for Men (CIM)
PCE Plume

Exhibit 1

Annual Plume Status Report

General Electric Flatiron Plume October 2026

CONTAMINANTS

The primary contaminant is trichloroethene (TCE). Other contaminants of concern include tetrachloroethylene (PCE), total chromium, and hexavalent chromium. For each of these contaminants, the table below lists the California maximum contaminant level (MCL) and maximum concentration detected in groundwater samples from wells within the plume over the last five years.

Table 1. Maximum Concentration of Contaminants of Concern from July 2021 to June 2026				
Contaminant	MCL, micrograms per liter (µg/l)	Max Concentration, µg/l	Sample Date	Well
TCE	5	29,000	July 2021	MW-22A
PCE	5	2,000	July 2021	MW-22A
Total Chromium	50	5,930	February 2023	MW-23A
Hexavalent Chromium	10 ^(b)	7,000 ^(a)	February 2023	MW-23A
Notes:				
(a) This is the maximum concentration ever measured at a monitoring well in the GE Flatiron plume.				

LOCATION

The General Electric (GE) Flatiron TCE plume is located in the northern Chino Basin within the City of Ontario. It extends south-southwest from the former GE Flatiron Facility, located at 234 East Main Street. The Chino Basin Watermaster (Watermaster) last updated its delineation of the plume's extent in the *2024 State of the Basin Report*.¹ This characterization is based on the five-year maximum TCE concentration measured between July 2019 and June 2024. Exhibit 1 shows the location and extent of the TCE plume as delineated by Watermaster in 2024. The extent of the plume with TCE concentrations greater than 0.5 µg/l measures approximately 0.6 miles wide and about 2.6 miles long. Exhibit 1 also shows contours of TCE concentration and inferred TCE concentration in the shallow zone of the aquifer based on the 2024 quarter 1 and quarter 2 sampling events delineated by GE in a 2025 technical memorandum on the groundwater flow modeling at the GE Flatiron site.²

¹ West Yost. (2025). *Optimum Basin Management Program – 2024 State of the Basin Report*. Prepared for the Chino Basin Watermaster. September 2025.

² B. Kueper & Associates Ltd. (2025). *Technical Memorandum – Groundwater Flow Modeling of Flatiron Extraction and Injection Wells*. Prepared for General Electric Company. February 20, 2025.

SITE HISTORY

GE manufactured clothes irons at the Flatiron Facility from the early 1900s to 1982. During World War II, the facility was also used to manufacture equipment for the U.S. War Department. In 1982, GE closed the facility and sold the property. Since then, ownership has changed several times; the property is currently owned by Ontario Business Park, LLC.

REGULATORY ORDERS

- Investigative Order No. 87-146—Requires the characterization of onsite conditions and groundwater beneath and downgradient of the GE Flatiron site using gas surveys, soil boring installation and sampling, and groundwater monitoring well installation and sampling.
- Waste Discharge Requirements (WDRs) and Monitoring and Reporting Programs (M&RPs) Order No. 95-62 and R8-2011-0019 (current), and new tentative order R8-2025-0067—General WDRs and M&RPs for the discharge of treated water from the pump-and-treat system.

REGULATORY AND MONITORING HISTORY

In 1987, groundwater-quality samples collected from an inactive City of Ontario production well downgradient of the Flatiron Facility had TCE and chromium concentrations that exceeded drinking water regulatory standards. This prompted the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) to request that GE conduct a Phase I investigation to determine whether the Flatiron Facility was the source of the contamination.

The results of the Phase I investigation prompted the Santa Ana Water Board to issue Investigative Order No. 87-146, requiring GE and West End Investments (property owner at the time) to characterize onsite conditions and the groundwater flow gradient beneath the Flatiron Facility. The Phase II through V investigations^{3, 4, 5, 6} included soil gas surveys, soil boring installation and sampling, and groundwater monitoring well installation and sampling to define the extent of contaminants in groundwater both on and offsite of the property. The Phase II through V investigations were conducted from 1987 to 1992 and confirmed the presence of a contaminant plume beneath and downgradient of the Flatiron Facility. The investigations also showed that TCE and total dissolved chromium concentrations in groundwater exceeded the California primary MCLs of 5 and 50 µg/l, respectively. The Phase IV investigation also established a quarterly groundwater monitoring program for ongoing plume monitoring.

In 1993, the results from the multi-phase investigations led to the proposal of an interim remedial measure (IRM) for groundwater contamination. Local and regional-scale numerical groundwater models were developed to support the IRM design and evaluate the use of extraction wells for hydraulic containment near the downgradient extent of the plume. In December 1993, extraction well EW-01 was completed along with a monitoring well and three nearby piezometers to serve as observation points during aquifer testing. The IRM began in 1996 and involved pumping groundwater from EW-01, treating

³ Bechtel Environmental, Inc. (1989). *Phase II Soil and Groundwater Investigation, Former GE Flatiron Manufacturing, Ontario, California*. January 1989.

⁴ Bechtel Environmental, Inc. (1990). *Phase III Investigation Report, Former GE Flatiron Manufacturing, Ontario, California*. August 1990.

⁵ Geomatrix Consultants, Inc. and Beak Consultants Ltd. (1992). *Phase IV Investigation Report, 234 East Main Street and Vicinity, Ontario, California*. January 1992.

⁶ Geomatrix Consultants, Inc. and Beak Consultants Ltd. (1993). *Phase V Investigation Report, 234 East Main Street and Vicinity, Ontario, California*. January 1993.

it at GE Flatiron's groundwater treatment system to remove TCE and other contaminants of concern, and discharging the treated water to the Ely Basins for groundwater recharge. Discharge to the Ely Basins was regulated under WDR Order No. 95-62, issued by the Santa Ana Water Board.

In 1995, a feasibility study was completed to evaluate groundwater and soil remediation alternatives.⁷ In October 1997, the Santa Ana Water Board approved a groundwater remediation alternative that included the continued use of extraction well EW-01 and the construction of an additional extraction well (EW-02) near the center of the plume. EW-02 was constructed in 1999 and began operation in 2002.

In 2003, GE constructed a soil vapor extraction (SVE) system to remove VOC mass from impacted site soils. The system, consisting of five SVE wells and a treatment system was completed and began operation the same year.

Due to the Inland Empire Utilities Agency (IEUA) and Watermaster's increased use of the Ely Basins for stormwater, recycled water, and imported water recharge, capacity eventually became insufficient to accommodate GE's discharge into the Ely Basins. In 2005, GE began evaluating alternative discharge options for its treated groundwater and decided to install an injection well field at 2025 South Bon View Avenue to receive the treated groundwater. In 2011, the Santa Ana Water Board approved WDR Order R8-2011-0019 to modify the point of discharge for the treated groundwater from the Ely Basins to the injection wells at this site.⁸ The 2011 WDR defines the discharge prohibitions, effluent limitations, and required monitoring and reporting program.

In 2015, GE submitted a work plan to the Santa Ana Water Board outlining a program to evaluate the effectiveness of existing remedial measures and to provide recommendations for additional investigation or remediation.⁹ Implementation of the work plan began in 2016 with the drilling of four borings to collect discrete-depth soil and groundwater samples, which were analyzed for TCE, PCE, total dissolved chromium, and hexavalent chromium.

From May 2016 to March 2017, four additional monitoring well clusters (MW-21 through MW-24) were constructed at the upgradient end of the plume as part of the supplemental remedial investigation activities. Since monitoring began at these well, the highest concentrations of PCE, TCE, total dissolved chromium, and hexavalent chromium associated with the plume have been detected at these wells (specifically, MW-21 through MW-23).

In 2016, the Santa Ana Water Board required the development of a conceptual site model incorporating all historical data and new information from recent investigations. This model was intended to be used to develop a framework to identify data gaps and guide future decisions on investigation, monitoring, and remedial actions.¹⁰

A critical component of the conceptual site model, as highlighted by the Santa Ana Water Board, was the installation of a sentinel monitoring well downgradient of the plume. On June 22, 2016, GE submitted a work plan to the Santa Ana Water Board detailing the plan and schedule for constructing a new-multi-depth well cluster (MW-19) to further assess the dissolved-phase chromium and VOC concentrations downgradient of the known

⁷ Geomatrix Consultants, Inc. (1995). Feasibility Study Report, 234 East Main Street and Vicinity, Ontario, California. November 1995.

⁸ Santa Ana Regional Water Quality Control Board. (2011). Issuance of Waste Discharge Requirements for General Electric Company, GE Francis Water Treatment Plant, San Bernardino County, Order No. R8-2011-0019. April 22, 2011.

⁹ Amec Foster Wheeler. (2015). Work Plan for Supplemental Remedial Investigation, 234 East Main Street and Vicinity, Ontario California. Prepared for General Electric Company. March 30, 2015.

¹⁰ Amec Foster Wheeler. (2016). 2016 Conceptual Site Model, Former General Electric Company Housewares Site 234 East Main Street, Ontario, California. Prepared for General Electric Company. October 4, 2016.

plume extent.¹¹ The first sampling event at MW-19 in January 2017 indicated that TCE concentrations in the shallow casing exceeded the MCL. This finding prompted the Santa Ana Water Board to request the construction of an additional monitoring well cluster downgradient of MW-19 and upgradient of the City of Chino's municipal production well (Chino-11) to further evaluate the plume's extent. On November 14, 2016, GE submitted a work plan for the construction of well cluster MW-20, to be located approximately 420 feet upgradient from Chino-11. Construction of the well cluster was completed in May 2017.¹² The first sampling event at MW-20 in July 2017 indicated that TCE in the intermediate-depth casing (MW-20B) exceeded the MCL.

In July 2021, the City of Chino wrote a letter to the Santa Ana Water Board requesting information on the migration and remediation of the GE Flatiron plume and to investigate whether Chino-11, located directly downgradient of the plume is, or will be, impacted. The State of California Division of Drinking Water (DDW) recommended Chino-11 be sampled for TCE and PCE that potentially migrated from the Flatiron plume to the well. The results showed TCE concentrations above the MCL. In October 2021, the Santa Ana Water Board responded to the City of Chino acknowledging that the current plume extraction well network does not adequately address plume migration and that the TCE contamination is likely from the migration of the GE Flatiron plume.¹³

The Santa Ana Water Board requested that GE install an additional monitoring well cluster downgradient of Chino-11 to further delineate the plume's extent and asked that it be constructed prior to the proposed start-up of Chino-11 since operating the well could complicate the investigation and potentially draw the plume into deeper zones. On August 30, 2021, GE submitted a *Work Plan for Groundwater Investigation Downgradient of Chino-11 and Engineering Studies for Installation of Groundwater Extraction Well EW-03* to the Santa Ana Water Board.¹⁴ The objectives of the work plan were to evaluate whether the site-related plume of TCE and hexavalent chromium extends to the area downgradient of Chino-11 by constructing a new well cluster and to determine the optimum location for a third extraction well between wells EW-01 and EW-02. In September 2022 GE submitted a *Technical Report for Groundwater Investigation Downgradient of Chino 11* presenting results from the investigation.¹⁵ GE installed well cluster MW-25 with three discrete-depth monitoring wells (A, B, C). PCE was not detected in any groundwater samples. TCE was detected only in MW-25C at a concentration of 3.8 µg/l and hexavalent chromium was detected in all three wells at concentrations ranging from 9.8-13 µg/l. These values are similar to historical concentrations in monitoring wells upgradient of the GE Flatiron site.

In 2023, the Santa Ana Water Board directed GE to conduct per- and poly-fluoroalkyl substances (PFAS) monitoring at the former GE Flatiron site due to the potential for PFAS associated with historical chromium-plating operations. GE worked with the Santa Ana Water Board to develop a work plan to sample four monitoring wells where historical hexavalent concentrations exceeded the MCL. The PFAS sampling was completed during quarter 1 of 2024 and GE submitted a report on April 29, 2024 to the

¹¹ Amec Forster Wheeler. (2016). *Work Plan for Installation of Cross-Gradient Monitoring Well Clusters*, General Electric Company Former Flatiron Facility. Prepared for General Electric Company. August 15, 2016.

¹² Amec Forster Wheeler. (2016). *Work Plan for Installation of Additional Sentinel Monitoring Well Cluster*, General Electric Company Former Flatiron Facility. Prepared for General Electric Company. November 14, 2016.

¹³ Santa Ana Water Board. (2021). *Response to the City of Chino's Letter regarding General Electric Flatiron Contaminant Plume for GE Flatiron*. Letter dated October 18, 2021.

¹⁴ Wood Environment & Infrastructure Solutions, Inc. (2021). *Work Plan for Groundwater Investigation Downgradient of Chino 11 and Engineering Studies for Installation of Groundwater Extraction Well EW-03*. Prepared for General Electric Company. August 30, 2021.

¹⁵ Wood Environment & Infrastructure Solutions, Inc. (2022). *Technical Report for Groundwater Investigation Downgradient of Chino 11*. Prepared for General Electric Company. September 1, 2022.

Santa Ana Water Board detailing the results.¹⁶ In the report, GE concluded that PFAS were detected at low concentrations and are not indicative of a release from the site. On August 27, 2025, the Santa Ana Water Board provided comments on GE's April 2024 report, disagreeing with GE's conclusion that PFAS had not been released to groundwater from the site, citing the site's long industrial history, PFAS's tendency to persist in and absorb to soil, absence of soil sampling at potential source areas, and the presence of a 350-foot-thick vadose zone. They emphasized that groundwater data alone are insufficient to rule out PFAS contamination and requested a soil investigation work plan by December 1, 2025. More recent developments of the PFAS study are described in the Recent Activity section of the report.

REMEDIAL ACTION

Groundwater

In 1996, GE began operation of a groundwater treatment system located at 501 West Francis Street in Ontario, CA. Its two extraction wells (EW-01 and EW-02) began operating in 1996 and 2002, respectively, and are intended to prevent migration of the plume. Pumped groundwater is conveyed by separate pipelines to the treatment system where ion exchange resin removes chromium, followed by liquid-phase granular activated carbon to remove VOCs. Currently, three injection wells (IW-01, IW-02, and IW-03) are used to inject treated water into the Chino Basin. Exhibit 1 shows the locations of the extraction wells, the treatment system facility, and the injection well field.

In 2022, GE initiated planning to construct a third well, EW-03, to increase groundwater extraction and extend the operational lifespan of EW-01 and EW-02. Because GE was unable to acquire any of the original proposed properties for the new well despite negotiations and purchase offers, they developed a revised design for EW-03 at the property where extraction well EW-01 and the groundwater treatment facility are located.¹⁷ The revised design was presented in an April 2024 report and well construction and testing were completed in October 2025.¹⁸ In November 2023, GE also submitted a plan to construct an additional injection well, IW-04, at the Bon View Park Injection Well Field.¹⁹ Exploratory drilling for the well was conducted during February and March 2025 and well construction and testing activities were completed in August 2025. Startup of the new extraction and injection wells are pending finalization of tentative Order R8-2025-0067 to update the WDRs and M&RPs to include the new wells.

In March 2024, B. Kueper & Associates, Ltd. (BKA) submitted a report on the development of a groundwater flow model of the GE Flatiron and GE Test Cell area to quantitatively assess and predict groundwater flow conditions in the vicinity of the two sites.²⁰ Following the development and calibration of the model, GE then retained BKA to utilize the model to perform groundwater flow simulations to determine the capture zone for the existing and proposed extraction wells and the pathways of groundwater flow from existing

¹⁶ WSP USA Environment and Infrastructure Inc. (2024). Sampling and Analysis Report to Evaluation the Presence of Selected Per- and Poly-Fluoroalkyl Substances (PFAS) for the former General Electric Flatiron facility, located at 234 Main Street in Ontario. April 29, 2024.

¹⁷ WSP USA Environment and Infrastructure Inc. (2024). *Revised Basis of Design for Well EW-03. Former General Electric Company Flatiron Facility*. Prepared for General Electric Company. April 30, 2024.

¹⁸ WSP USA Environment & Infrastructure Inc. (2026). *Second Half and Annual 2025 Groundwater Monitoring and Remediation Report*. Prepared for General Electric Company. January 26, 2026.

¹⁹ WSP USA Environment & Infrastructure Inc. (2023) Letter to the Santa Ana Regional Water Quality Control Board, on behalf of General Electric, Subject: Plan to Construct Injection Well IW-04 at the Existing Bon View Park Injection Well Field. November 21, 2023.

²⁰ B. Kueper & Associates, Ltd. (2024). *Groundwater Flow Model Report. GE Flatiron and Test Cell Sites Ontario California*. Prepared for General Electric Company. March 12, 2024.

and proposed injection wells. The modeling results were documented in a technical memorandum dated February 20, 2025.²¹

Soil

In 2003, in accordance with the *Draft Remedial Action Plan*, GE began operating a soil vapor extraction (SVE) system, on the east side of the property to treat TCE, PCE, and other VOCs in the soil.^{22,23} This SVE system, termed SVE1, consisted of five onsite SVE wells that extracted VOC-impacted vapors from shallow soil. In 2007, GE constructed three additional SVE wells, which were later connected to the SVE1 system.²⁴

Between 2019 and 2020, GE expanded the treatment system to limit potential offsite soil vapor migration and groundwater impacts. This expansion included two additional SVE systems (SVE2 and SVE3) consisting of three nested deep SVE wells and three shallow SVE wells on the west side of the property. Upon completion of the SVE expansion, GE submitted the *Implementation of the Phase I Expansion of the Interim Measures* summarizing the work performed.²⁵

In January 2024 GE submitted a Work Plan for Interim Measures – Phase II Soil Vapor Extraction Expansion (Phase II SVE Work Plan).²⁶ The work plan included recommendations for lateral and vertical vadose zone investigations and the conceptual design for expansion of the SVE well network, including the addition of 15 shallow SVE wells, five deep nested SVE wells, and three deep nested soil vapor monitoring wells to extend the influence of the SVE. In September 2024, GE completed the construction of the 15 new shallow SVE wells and submitted a report to the Santa Ana waterboard summarizing the drilling, sampling, and installation of these wells.²⁷ Due to access issues and equipment restrictions, the eight deep nested SVE and soil vapor monitoring wells planned for construction as part of the expansion were unable to be constructed. In May 2025, GE prepared an addendum to the Phase II SVE Work Plan to describe modifications to the original work plan regarding the deep nested SVE and soil vapor monitoring wells.²⁸ The plan in the Addendum is to drill four of the eight deep wells, but at shallower depths using different equipment with no access issues. The Santa Ana Water Board approved the Addendum in August 2025, requiring that field work preparation must begin no later than September 8, 2025, and that a report of the findings must be submitted no later than 60 days after the completion of field work.²⁹ The recent developments of the Phase II SVE Work Plan Addendum are described in the Recent Activity section of the report.

²¹ B. Kueper & Associates, Ltd. (2025). *Technical Memorandum: Groundwater Flow Modeling of Flatiron Extraction and Injection Wells*. Prepared for General Electric Company. February 20, 2025.

²² Geomatrix. (2002). *Draft Remedial Action Plan*. August 2002.

²³ Geomatrix. (2003). *SVE Implementation Report*. July 2003.

²⁴ Arcadis U.S., Inc. (2007). *Soil Vapor Extraction System Modification Workplan, General Electric (GE) Flatiron Facility, 234 E. Main Street, Ontario, CA*. Letter to General Electric Company. August 21, 2007.

²⁵ Wood Environment & Infrastructure Solutions, Inc. (2021). *Implementation of the Phase I Expansion of the Interim Measures, General Electric Company Flatiron Facility, 234 East Main Street and Vicinity, Ontario, California*. Prepared for General Electric Company. April 8, 2021.

²⁶ WSP USA Environment and Infrastructure Inc. (2024). *Work Plan for Interim Measures – Phase II Soil Vapor Extraction Expansion*. Prepared for General Electric Company. January 16, 2024.

²⁷ WSP USA Environment and Infrastructure Inc. (2025). *Shallow Soil Vapor Extraction Well Installation Report – Phase II Soil Vapor Extraction Expansion. Former General Electric Company Flatiron Facility*. February 19, 2025.

²⁸ WSP USA Environment and Infrastructure Inc. (2025). Letter to Santa Ana Regional Water Quality Control Board, Subject: *Work Plan for Interim Measures – Phase II Soil Vapor Extraction Expansion, Addendum 1*. May 30, 2025.

²⁹ Santa Ana Water Board. Email Communication with GE. Subject: GE Flatiron: Comments on Work Plan for Interim Measures – Phase II Soil Vapor Expansion, Addendum 1. August 25, 2025.

Monitoring and Reporting

The monitoring and reporting program for the GE Flatiron site includes both plume and remediation system monitoring and reporting. The objectives of the respective programs are to monitor groundwater elevations and contaminant concentrations in the plume over time and to track and evaluate the performance of the remediation system.

Plume monitoring is conducted in accordance with the Quarterly Groundwater Monitoring Program,³⁰ which includes measurements of groundwater levels and collection of groundwater-quality samples. Depth to groundwater is measured at 34 wells and three piezometers each quarter. Groundwater-quality samples are also collected at these locations, although the number of wells sampled each quarter varies based on the specific quarter's monitoring plan. Water-quality samples are analyzed for dissolved metals, VOCs, and general minerals. Results are summarized in semiannual reports published in January and July.

Remediation system monitoring includes monitoring operations at both the groundwater and SVE treatment systems. For the groundwater treatment system, at a minimum, monthly sampling and analysis of the influent to the treatment plant from EW-01 and EW-02 and treated effluent is performed pursuant to WDR Order No. R8-2011-0019. The results from the treatment system monitoring are included in the semiannual groundwater monitoring reports. Additionally, monthly operational compliance reports on the groundwater treatment system are submitted to the Santa Ana Water Board. Monitoring of the SVE treatment system occurs weekly and monthly, with quarterly and semi-annual reporting in compliance with the Sampling and Monitoring Plan.³¹ Additionally, indoor air sampling is conducted on a semiannual basis.

All semiannual and monthly reports, and other relevant documents/data, can be found on the State Water Resources Control Board [GeoTracker website](#).³²

RECENT ACTIVITY

The most recent groundwater monitoring report prepared by GE is the *First Half 2026 Groundwater Monitoring and Remediation Report*.³³ This report summarizes groundwater monitoring at 34 wells and three piezometers, as well as the remediation activities performed between January 1 and June 30, 2026. First-quarter groundwater elevation measurements and groundwater samples were collected in January 2026 and second-quarter groundwater elevation measurements and groundwater samples were collected in May 2026. The following summarizes the key findings presented in the report:

- Groundwater flow trended generally towards the south-southwest. Groundwater elevations generally increased from the second half of 2025 through the first half of 2026.
- Concentrations of all four contaminants of concern remain stable and consistent with historical values.
- MW-22A had the highest concentrations of TCE and PCE (15,000 and 1,300 µg/l, respectively).
- MW-23A had the highest concentration of chromium and hexavalent chromium (504 and 480 µg/l, respectively), although both continue to show a declining trend in concentrations since their peak in 2023.

³⁰ Bechtel. (1991). *Quarterly Groundwater Monitoring Plan (QGMP)*. 1991

³¹ Geomatrix. (2002). *Sampling and Monitoring Plan*. Prepared for General Electric Company. 2002.

³² https://geotracker.waterboards.ca.gov/profile_report?global_id=SL0607132486

³³ WSP USA Environment and Infrastructure Inc. (2026). *First Half 2026 Groundwater Monitoring and Remediation Report*. Prepared for General Electric Company. July 27, 2026.

- Overall, the highest concentrations of TCE, PCE, total chromium, and hexavalent chromium continue to be detected at onsite wells at the north end of the plume (MW-21 through MW-23).
- Approximately 295 acre-feet of groundwater from EW-01 and 327 acre-feet of groundwater from EW-02 were treated and discharged to the Bon View injection well field, removing approximately:
 - 46 pounds of TCE and 21 pounds of total chromium from EW-01
 - 755 pounds of TCE and 167 pounds of total chromium from EW-02

During the reporting period, monthly Facility Treatment System Summaries were posted to GeoTracker providing information on the groundwater treatment system status, including well operation, compliance sampling, system operation, and any periods of shutdowns. Since operations initiated at EW-01 (1996) and EW-02 (2002) through August 2026, EW-01 has treated 17,989 acre-feet, and EW-02 has treated 7,282 acre-feet.

In September 2025, the Santa Ana Water Board issued a public notice for tentative Order R8-2025-0067³⁴, which would replace the current Order (R8-2011-0019) and update the WDRs and M&RP to include the new extraction well EW-03 and injection well IW-04. In October 2025, GE provided comments on the tentative order³⁵ and in January 2026, the Santa Ana Water Board issued a response to GE's comments, indicating areas of agreement and disagreement.³⁶ Since then, there have been no additional public updates regarding the status of the tentative order and startup of EW-03 and IW-04 has not yet commenced pending approval of R8-2025-0067.

In October 2025, GE submitted the 2025 Quarter 3 SVE operation reports for the SVE-1 and SVE-3 systems.^{37,38} These reports proposed modifications to the reporting because: 1) the data has been asymptotic since 2018; 2) TCE and PCE concentrations in indoor air samples are below the applicable Environmental Screening Levels (ESLs); and 3) TCE and PCE concentrations at the inlet to SVE-3 have decreased to below applicable ESLs. On February 2026, the Santa Ana Water Board agreed with GE's conclusions and approved the reporting frequency of SVE-1 and SVE-3 to be changed from quarterly to semi-annual and combined into a single report.³⁹ On July 2026, GE submitted the first semi-annual monitoring report for SVE-1 and SVE-3 for the first half of 2026.⁴⁰ Since the startup of SVE-1 in 2003, approximately 50,552 pounds of VOCs have been removed from the soil and since the startup of SVE-3, approximately 46 pounds of VOCs have been removed. On July 28, 2026, GE submitted the 2026 Quarter 2 operation report for SVE-2 summarizing the operation, monitoring activities, and system mass removal during the Quarter 2

³⁴ Santa Ana Water Board (2025). Notice of Public Hearing for Waste Discharge Requirements for Remediation of Groundwater at the Flatiron Groundwater Treatment Facility, 501 West Francis Street, Ontario. September 22, 2025.

³⁵ WSP USA Environment and Infrastructure Inc. (2025). Letter to Santa Ana Regional Water Quality Control Board, Subject: Comments to Tentative Waste Discharge Requirements Order R8-2025-0067. October 15, 2025

³⁶ Santa Ana Water Board. Email Communication with GE. Subject: Response To Comments on Tentative Waste Discharge Requirements Order R8-2025-0067— Former GE Flatiron Facility, Ontario CA. January 12, 2026

³⁷ WSP USA Environment and Infrastructure Inc. (2025). *Third Quarter 2025 Eastside Shallow Soil Vapor Extraction System Operation, Maintenance, And Monitoring Status Report Former General Electric Company Flatiron Facility*. Prepared for General Electric Company. October 27, 2025.

³⁸ WSP USA Environment and Infrastructure Inc. (2025). *Third Quarter 2025 Operation Report, Soil Vapor Extraction System 3*. Prepared for General Electric Company.

³⁹ Santa Ana Water Board. Email Communication with GE. Subject: Approval of Modified Reporting Frequency for SVE-1 and SVE-3 – Former GE Flatiron Facility, Ontario CA. February 18, 2026

⁴⁰ WSP USA Environment and Infrastructure Inc. (2026). *First Half 2026 Operation, Maintenance, and Monitoring Status Report – Soil Vapor Extraction Systems 1 and 3*. July 28, 2026.

monitoring period.⁴¹ Since the startup of SVE-2 approximately 110,337 pounds of PCE and TCE have been removed from the soil.

In March and April 2026, GE completed the installation of the four new dual-nested deep soil vapor extraction wells per the Phase II SVE expansion Work Plan Addendum and submitted a report in July 2026 on the implementation of the expansion.⁴²

At the request of the Santa Ana Water Board, GE prepared a soil investigation work plan in November 2025 to evaluate the potential presence of PFAS in soil at the site.⁴³ On January 2026, the Santa Ana Water Board provided comments on the work plan, requesting changes in proposed sampling locations and the collection of additional soil samples.⁴⁴ GE prepared an Addendum to the work plan in March 2026 addressing the comments and sampling was completed in May 2026.⁴⁵ The results of the sampling event were included in a sampling and analysis report that was submitted to the Santa Ana Water Board in June 2026.⁴⁶ The report concluded that Perfluorooctanesulfonic acid (PFOS) was the primary PFAS compound detected in soil samples.

In August 2026, the Santa Ana Water Board distributed a Community Fact Sheet to the public regarding the ongoing environmental investigation and cleanup at the former GE Flatiron site.

⁴¹ WSP USA Environment and Infrastructure Inc. (2026). *Second Quarter 2026 Operation Report, Soil Vapor Extraction System 2*. Prepared for General Electric Company. July 28, 2026.

⁴² WSP USA Environment and Infrastructure Inc. (2026). *Implementation of Interim Measures - Phase II Soil Vapor Extraction Expansion. Former General Electric Company Flatiron Facility*. July 2, 2026.

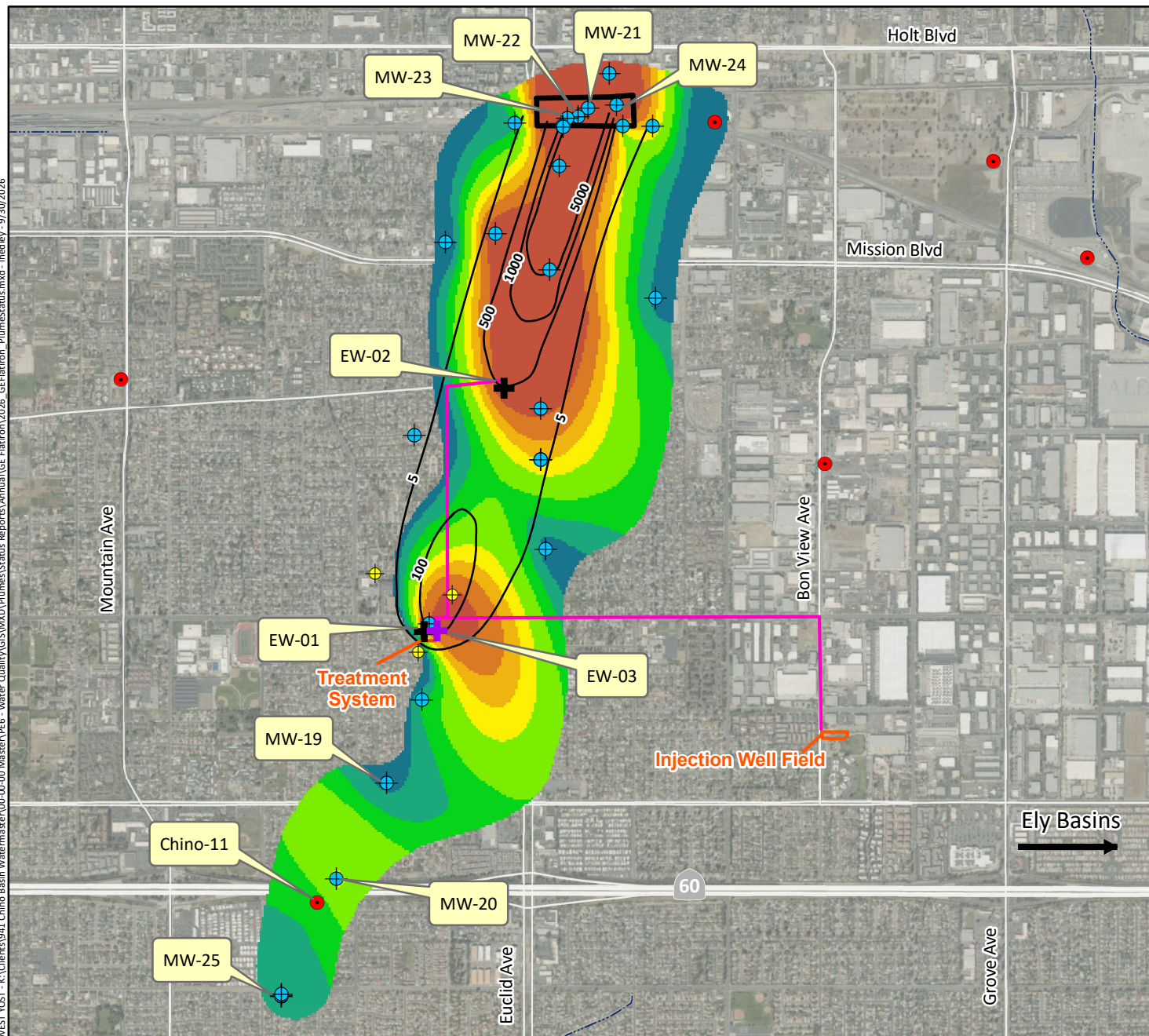
⁴³ WSP USA Environment and Infrastructure Inc. (2025). *Work Plan to Evaluate the Presence of Selected Per- and Poly-Fluoroalkyl Substances in Soil. Former General Electric Company Flatiron Facility*. November 18, 2025.

⁴⁴ Santa Ana Water Board. Email Communication with GE. Subject: Comments On The "Work Plan to Evaluate the Presence of Selected Per- And Poly-Fluoroalkyl Substances in Soil". January 26, 2026.

⁴⁵ WSP USA Environment and Infrastructure Inc. (2026). *Work Plan to Evaluate the Presence of Selected Per- and Poly-Fluoroalkyl Substances in Soil, Addendum No. 1. Former General Electric Company Flatiron Facility*. March 26, 2026.

⁴⁶ WSP USA Environment and Infrastructure Inc. (2026). *Sampling and Analysis Report to Evaluate the Presence of Per- and Poly-Fluoroalkyl Substances in Soil. Former General Electric Company Flatiron Facility*. June 26, 2026.

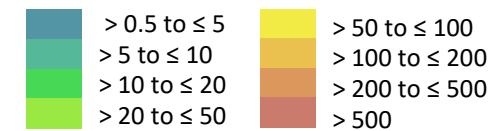
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Maximum Concentration ($\mu\text{g/L}$)

July 2019 - June 2024

TCE

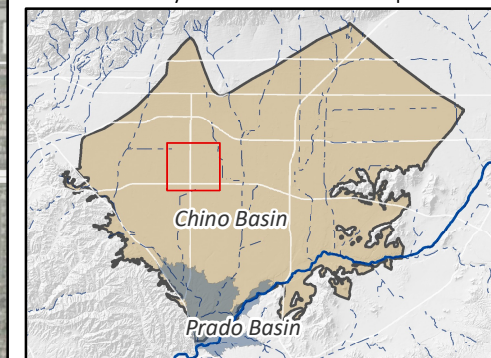


MCL = 5 $\mu\text{g/L}$

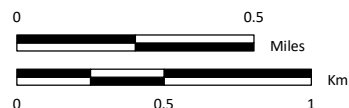
(Delineated by Watermaster in the 2024 State of the Basin Report)

- GE Extraction Well
- Proposed Location of New Extraction Well
- GE Monitoring Well (some locations have multiple wells at various depths)*
- GE Piezometer
- Active/Inactive Potable Municipal Water Supply Well
- Contours of TCE concentration and inferred TCE concentration ($\mu\text{g/L}$) in the shallow zone delineated by GE in the 2025 Groundwater Flow Modeling Technical Memorandum (BKA, 2025)
- Conveyance Pipeline
- Former GE Flatiron Property Boundary

* Wells labeled by name if mentioned in report



Prepared by:



Prepared for:

Chino Basin Watermaster
Annual Plume Report



General Electric (GE) Flatiron
TCE Plume

Exhibit 1

Annual Plume Status Report

General Electric Test Cell Plume October 2026

CONTAMINANTS

The primary contaminant is trichloroethene (TCE). Other contaminants of concern include the following volatile organic compounds (VOCs): tetrachloroethene (PCE), 1,1-dichloroethene (1,1-DCE), 1,2-dichloroethane (1,2-DCA), and cis-1,2-dichloroethene (cis-1,2-DCE). For each of these contaminants, the table below lists the California maximum contaminant level (MCL) and maximum concentration detected in groundwater samples from wells within the plume over the last five years.

Table 1. Maximum Concentration of Contaminants of Concern between July 2021 and June 2026

Contaminant	MCL, micrograms per liter (µg/l)	Max Concentration, µg/l	Sample Date	Well
TCE	5	6,700 ^(a)	January 2026	AW-01
PCE	5	59	July 2024	MW-13-d
1,1-DCE	6	100	January 2026	AW-01
1,2-DCA	0.5	3.7	October 2025	MW-10-sR
cis-1,2-DCE	6	640	January and April 2026	AW-02

Notes:

(a) This is the maximum TCE concentration ever measured at a monitoring well in the GE Test Cell plume.

LOCATION

The General Electric (GE) Test Cell plume is located in the central Chino Basin within the City of Ontario, south of the Ontario International Airport. It extends southwest from the former GE Engine Services Test Cell Facility (Test Cell Facility) located at 2264 East Avion Place. The plume is elongated, extending approximately 1.9 miles downgradient from the facility, and is about 0.6 miles wide.

The most recent delineation of the plume's extent was done by Chino Basin Watermaster (Watermaster) for the *2024 State of the Basin Report*.¹ This characterization is based on the five-year maximum TCE concentration measured from July 2019 through June 2024. Exhibit 1 shows the location and extent of

¹ West Yost Associates. (2025). *Chino Basin Optimum Basin Management Program, 2024 State of the Basin Report*. Prepared for Chino Basin Watermaster. September 2025.

the plume as delineated by Watermaster in 2025, compared to the most recent characterization by GE in its *2026 Second Quarter Groundwater Monitoring Report*.²

SITE HISTORY

From 1956 to 2010, the Test Cell Facility was used to test and maintain commercial and military jet engines. Chlorinated solvents used at the facility for cleaning and degreasing, including TCE, were stored in 55-gallon drums and aboveground storage tanks. In the early 1970s, TCE was replaced with 1,1,1-TCA, which was subsequently replaced in 1981 with isopropyl alcohol—the only solvent used onsite through 1996.

Until 1974, wastewater containing residual solvents, along with fuel and oil residues, was diverted to below-ground separators for recycling. Excess wastewater from the separators occasionally flowed into a natural wash along the north side of the property, which drained into the Cucamonga Creek. From 1974 to 1980, two dry wells were connected to the separators, extending approximately 270 feet below ground surface (ft-bgs). From 1980 to 2006, wastewater continued to be captured by the separators and was either recycled or treated offsite. Beginning in 2006, wastewater was stored in aboveground storage tanks and transported offsite for treatment and disposal. The Test Cell Facility ceased operations in 2011 and the site is currently vacant.

REGULATORY ORDERS

- State of California Department of Health Services (CDHS) Docket No. 88/89- 009CO. Consent Order Health and Safety Code Section 25355.5(a)(1)(B) and 25355.5 (a)(1)(C). In the Matter of: General Electric Engine Maintenance Center. September 1988. This Order required GE to conduct a remedial investigation and feasibility study to evaluate and monitor soil, surface water, and groundwater contamination at the site and to prepare a remedial action plan.

REGULATORY AND MONITORING HISTORY

In 1984, an investigation performed by C.H.J, Inc. soil engineers detected TCE, PCE, 1,1,1-TCA, and dibromochloromethane in soil samples near the dry wells; however, the results from this investigation were deemed invalid due to the use of inappropriate analytical methods.³ In 1985, another consulting firm retained by GE detected TCE, PCE and 1,1,1-TCA in subsurface soil samples collected onsite.⁴ A subsequent investigation in 1987 revealed the presence of multiple VOCs in soil near the disposal sites.⁵

In 1988, a Consent Order was signed between GE and the CDHS (now the Department of Toxic Substances and Control [DTSC]) to initiate an investigation of soil, surface water, and groundwater contamination, and identify appropriate remedial actions. In 1990, GE performed a Phase I remedial soil investigation to

² WSP USA Environment and Infrastructure Inc. (2026). *Second Quarter 2026 Groundwater Monitoring Report Former General Electric Engine Services Test Cell Facility*. Prepared for General Electric Company. July 28, 2026.

³ The investigation is described in State of California Department of Health Services. (1998). Docket No. 88/89-009CO. Consent Order Health and Safety Code Section 25355.5(a)(1)(B) and 25355.5 (a)(1)(C). In the Matter of General Electric Engine Maintenance Center. September 1988.

⁴ Ibid.

⁵ Dames & Moore. (1987). *Subsurface Investigation, Ontario California, for General Electric Aviation Services Operations*. Prepared for GE Engine Services Test Cell Facility. February 4, 1987.

assess the impacts of VOCs and jet fuel in the soil near the dry wells and Cucamonga Creek.⁶ During the investigation, VOCs were detected in soil samples collected onsite and in excavated soil from the dry wells.

Phase II of the remedial investigation focused on assessing groundwater conditions beneath the site, including evaluating the nature, extent, and migration characteristics of dissolved VOCs in groundwater.^{7,8} In 1991, as part of the Phase II investigation, GE installed seven monitoring wells onsite and upgradient of the site. Monitoring performed at these wells indicated the presence of VOCs in groundwater beneath the Test Cell Facility with potential for offsite migration.

Pursuant to the DTSC 1988 Consent Order, a feasibility study and a remedial investigation were completed in 1993, followed by the preparation of a remedial action plan in 1994.^{9,10,11} The remedial action identified was an in-situ soil vapor extraction treatment system (VETS) to reduce VOC concentrations to levels that would not impact groundwater. The VETS began operating in 1996.

In 1994, the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) was designated as the lead agency to oversee the groundwater investigation, while the DTSC retained oversight of the soil investigation and operation of the VETS. The Santa Ana Water Board requested that GE perform an offsite investigation to determine the extent of groundwater contamination. An extensive offsite investigation was completed in multiple phases from 1995 to the early 2000s. The initial phase, completed in 1995 included the installation of four offsite monitoring wells. Subsequent phases of the offsite investigation were conducted from 1996 to the early 2000s and resulted in the construction of 22 additional offsite monitoring wells within multi-depth well clusters. Monitoring at these wells indicated that the VOC plume composed of TCE, cis-1,2-DCE, and 1,1-DCE (byproducts of TCE degradation) had migrated offsite and that TCE concentrations were highest in the intermediate and deep aquifer zones. In 2003, GE submitted a groundwater feasibility study to the Santa Ana Water Board (2003 Feasibility Study), followed by a draft remedial action plan (RAP) in 2006.^{12,13} The 2003 Feasibility Study and 2006 RAP identified pump-and-treat and monitored natural attenuation as remedial alternatives.

In 2008, GE met with the Santa Ana Water Board to discuss the status of the plume and to reevaluate the RAP to consider monitored natural attenuation as the primary remedial action. Based on this discussion, GE agreed to install additional monitoring well clusters between the former GE facility and well cluster

⁶ Dames & Moore. (1990). *Phase I Remedial Investigation, Engine Maintenance Center Test Cell Facility, Ontario, California*. Prepared for General Electric Company. 1990.

⁷ Dames & Moore. (1990). *Phase II A Remedial Investigation Work Plan, Engine Maintenance Center Test Cell Facility, Ontario, California*. Prepared for General Electric Company. 1990.

⁸ Dames & Moore. (1991). *Phase II B Remedial Investigation, Engine Maintenance Center Test Cell Facility, Ontario, California*. Prepared for General Electric Company. 1991.

⁹ Dames & Moore. (1993). *Feasibility Study Report, General Electric Jet Engine Test Cell Facility, Jet Engine Test Cell Facility, 2264 Avion Place, Ontario, California*. 1993.

¹⁰ Dames & Moore (1993). *Remedial Investigation Report, Jet Engine Test Cell Facility, 2264 Avion Place, Ontario California*. 1993

¹¹ Dames & Moore. (1994). *Remedial Action Plan for Impacted Soil, General Electric Jet Engine Test Cell Facility, 2264 Avion Place, Ontario, California*. September 16, 1994.

¹² Geosyntec. (2003). *Groundwater Feasibility Study – GE Engines Test Cell Facility, Ontario, California*. Prepared for GE Engine Services. December 3, 2003.

¹³ Geosyntec. (2006). *Draft Groundwater Remedial Action Plan, GE Engine Services Test Cell Facility, 2264 Avion Place, Ontario, California*. Prepared for GE Engine Services Test Cell Facility. November 17, 2006.

OW-16, located near the center of the plume.¹⁴ OW-16 was selected because, at the time, it had the highest historical offsite TCE concentrations in the intermediate and deep intervals of the aquifer. Pursuant to this agreement, two offsite well clusters (OW- 17 and OW-18) and one onsite well cluster (MW-8) were installed in August and September 2009 and in February 2010, the 2006 draft RAP was formally withdrawn. Following the withdrawal of the 2006 draft RAP, GE and the Santa Ana Water Board continued to meet to evaluate whether monitored natural attenuation remained an appropriate remedial action for the Test Cell Facility.

In 2005 and 2008, GE submitted five-year review reports to the DTSC in compliance with the 1988 Consent Order, evaluating the performance of the soil VETS.^{15,16} Following the 2008 report, GE requested site closure and cessation of VETS operations. The DTSC granted final closure and completion of the soil remediation in 2009, contingent upon the implementation of institutional controls limiting the site to commercial/industrial use. Following the closure of the soil VETS, GE continued conducting quarterly groundwater monitoring at their network of onsite and offsite monitoring wells and constructed additional multi-depth wells at six locations.

In May 2019, the DTSC transferred regulatory oversight of all environmental activities at the Test Cell Facility to the Santa Ana Water Board, including the soil investigation. This transfer was made for the following reasons: (1) the Santa Ana Water Board was already the lead agency overseeing the groundwater investigations related to the site; (2) recent increases in VOC concentrations in some groundwater monitoring wells could have warranted further evaluation; and (3) the transfer would minimize any overlap of the investigation or cleanup activities between the two agencies. In 2019, the Santa Ana Water Board concluded that the impacts to groundwater and soil had not been adequately addressed and indicated that monitored natural attenuation may not be sufficient as the sole groundwater remedial action. The Santa Ana Water Board requested that GE prepare a Conceptual Site Model (CSM) to help determine the appropriate remedial action.¹⁷ GE submitted the CSM to the Santa Ana Water Board in November 2019.¹⁸ Overall, the CSM concluded that natural attenuation is occurring and has maintained a stable groundwater plume. This was supported by declining TCE concentrations near the source, consistently low levels at the downgradient well, and plume behavior consistent with displacement from increased recharge at the Ely Basins rather than new releases.

From 2021 to 2023, GE conducted multiple investigations to assess whether the historical VETS operation had sufficiently removed VOCs from the soil vapor and there had been no rebound. This work included multiple rounds of soil vapor and groundwater sampling and the installation new vapor probes and deep groundwater monitoring wells at seven onsite locations (MW-10D to MW-16D). Results and analyses were reported to the Santa Ana Water Board along with the *On-Site Soil Vapor and Groundwater Investigation*

¹⁴ Geosyntec. (2009). *Monitoring Well Installation Work Plan, GE Engines Services Test Cell Facility*. Prepared for GE Engine Services Test Cell Facility. July 2, 2009.

¹⁵ Geosyntec. (2005). *First Five-Year Review Report Shallow Soil Remedy*. Prepared for GE Engine Services Test Cell Facility, City of Ontario, San Bernardino County, California. July 15, 2005.

¹⁶ Geosyntec. (2008). *Second Five-Year Review Report, GE Engine Services Test Cell Facility, 2264 Avion Place Ontario, California*. Prepared for GE Engine Services. October 27, 2008.

¹⁷ Email correspondence with Mr. Alan Kouch at the Santa Ana Water Board on September 19, 2019.

¹⁸ Wood Environmental & Infrastructure Solutions, Inc. (2019). *Conceptual Site Model Former General Electric Engine Services Test Cell Facility*. Prepared for General Electric Company. November 5, 2019.

Report.^{19,20} GE concluded that the historical soil remediation activities were successful in mitigating TCE concentrations in soil beneath the site and that no further investigation of the soil was warranted.

In December 2022, GE submitted a groundwater sampling plan to further investigate increasing TCE concentrations in the northern part of the plume and to identify potential contributing sources.²¹ To guide the investigation, GE used steady state groundwater flow model of the GE Flatiron and GE Test Cell area to perform backward particle tracking, which pointed to an adjacent area on the Ontario International Airport (OIA) property just to the northwest of the GE Test Cell site.²² Between July and November 2023, GE completed a borehole investigation and installed two new monitoring wells—AW-01 and AW-02—on the OIA property, as shown in Exhibit 1. Groundwater sampling at these wells revealed elevated TCE concentrations, at historically high levels in these upgradient wells.

In March 2024, GE submitted the Summary Report: Investigation Upgradient of Well OW-6 to the Santa Ana Water Board.²³ The work included discrete-depth groundwater sampling within the upper 50 feet of the saturated zone and monitoring well installation and groundwater sampling of two new OIA monitoring wells, AW-01 and AW-02. The report concludes that based on multiple lines of evidence, that the OIA source of TCE is distinct from the GE Test Cell facility and the wells in the plume offsite; increased TCE concentrations at well OW-6 and other nearby wells within the plume are from source/s at the OIA property to the north-northeast; and TCE concentrations in the offsite plume have been shown to be naturally attenuating. Furthermore, TCE concentrations on and in the vicinity of the GE Test Cell facility property have remained relatively low since the completion of the SVE system (VETS) in 2010. The report concluded that no further onsite source investigation is warranted for either the soil-vapor-to-groundwater or groundwater-to-offsite pathways, beyond continued monitoring of groundwater conditions at the existing wells.

In 2024, Ontario International Airport Authority (OIAA) requested that GE conduct additional investigative work. In January 2025, OIAA began collecting quarterly split samples at select wells within the GE well field and at AW-01 and AW-02. In August 2025, the Santa Ana Water Board requested that OIAA present appropriate next steps for environmental investigation on OIAA property— this is discussed further in the Recent Activity Section of this report.

¹⁸ Wood Environmental & Infrastructure Solutions, Inc. (2022). *Data Transmittal for On-Site Soil Vapor Well Sampling*. Letter sent on behalf of GE Engine Services Test Cell Facility to the Santa Ana Water Board. January 24, 2022.

²⁰ WSP USA Environment & Infrastructure Inc. (2024). *On-Site Soil Vapor and Groundwater Investigation Report, Former General Electric Engine Services Test Cell Facility, 2264 East Avion Place, Ontario, California*. January 24, 2024.

²¹ WSP. (2022). *Plan for Groundwater Sampling Upgradient from Well OW-6*. Prepared for General Electric Company. December 12, 2022.

²² B. Kueper & Associates, Ltd. (2024). *Groundwater Flow Model Report. GE Flatiron and Test Cell Sites Ontario California*. Prepared for General Electric Company. March 12, 2024.

²³ WSP. (2024). *Summary Report: Investigation Upgradient of Well OW-6, Ontario, California*. Prepared for General Electric Company. March 29, 2024.

REMEDIAL ACTION

Groundwater

The 2003 Feasibility Study and 2006 draft RAP identified two groundwater remediation alternatives:

1. Extraction and treatment of groundwater in areas where VOC concentrations are approximately ten times the MCL (>50 µg/l).
2. Monitored natural attenuation of groundwater in areas where VOC concentrations are less than ten times the MCL.

Following the submittal of the draft RAP, GE determined that the plume extending downgradient from the facility with TCE concentrations above 50 µg/l had decreased in size from approximately 4,000 feet to about 2,600 feet. Fate and transport modeling indicated that either monitored natural attenuation or a pump-and-treat alternative would reduce the TCE concentrations in the plume to levels at or below the MCL within the same time frame of 50 years. In 2008, GE met with the Santa Ana Water Board to discuss the status of the plume and to reevaluate the RAP to consider monitored natural attenuation as the primary remedial action. As requested by the Santa Ana Water Board, GE installed several new monitoring well clusters in 2009 and in February 2010, the 2006 draft RAP was formally withdrawn. Following the withdrawal of the 2006 draft RAP, GE and the Santa Ana Water Board continued to meet to evaluate whether monitored natural attenuation remained an appropriate remedial action for the Test Cell Facility.

In March 2023, the Santa Ana Water Board approved a new Plume Migration Control work plan for the feasibility, design, and installation of a plume migration control system in the relatively higher concentration core of the plume.²⁴ In April 2023, however, GE and the Santa Ana Water Board determined that the plume needed to be carefully defined through assessing upgradient contributions before selecting a site for groundwater extraction and treatment.²⁵ A 2024 investigation into the upgradient wells, including newly installed AW-01 and AW-02 found that the upgradient source of TCE is distinct from the GE Test Cell facility and distinct to the attenuating TCE concentrations in groundwater and concluded that no further onsite source investigation is warranted or recommended for onsite soil vapor or for groundwater. As of October 2026, no further formal action has been taken by GE or the Santa Ana Water Board towards implementation of a plume migration control system; however, the Santa Ana Water Board has requested that Ontario International Airport Authority (OIAA) complete an investigation on potential upgradient concentrations, as described in the Recent Activity Section of this report.

Soil

In 1996, pursuant to the 1988 Consent Order, GE began operating the VETS to remove VOCs from the onsite soil and to prevent these contaminants from entering the groundwater. The treatment system operated from 1996 to 2005, with verification monitoring conducted from 2004 to 2007. During this time, GE was required to submit a review and reevaluation of the remedial actions every five years. The *Second Five-Year Review Report* was submitted to the DTSC in October 2008 and concluded that the soil remediation program had significantly reduced VOC concentrations in soil to levels that were no longer

²⁴ Wood. (2022). *Work Plans for Off-Site Groundwater Investigations and Plume Migration Control Near the Former General Electric Engine Services Test Cell Facility, Ontario, California*. April 14, 2022.

²⁵ April 18, 2023 email transmittal of call between GE, WSP and the Santa Ana Water Board.

harmful to human health or groundwater quality.²⁶ It also indicated that there was no significant VOC rebound after treatment ceased in 2005. The report recommended that soil remediation be deemed complete and that the DTSC grant final closure. The DTSC granted final closure in 2009 with the condition that institutional controls to limit the site to commercial/industrial use were implemented.

From 2021 to 2023, GE conducted multiple investigations to assess whether the historical VETS operation had sufficiently removed VOCs from the soil vapor and there had been no rebound. This work included multiple rounds of soil vapor and groundwater sampling and the installation new vapor probes and deep groundwater monitoring wells at seven onsite locations (MW-10D to MW-16D). Results and analyses were reported to the Santa Ana Water Board along with the *On-Site Soil Vapor and Groundwater Investigation Report*.^{27,28} GE concluded that the historical soil remediation activities were successful in mitigating TCE concentrations in soil beneath the site and that no further investigation of the soil was warranted.

MONITORING AND REPORTING PROGRAM

The objectives of the monitoring program are to evaluate the extent and magnitude of the plume emanating from the Test Cell Facility and to support the ongoing evaluation of monitored natural attenuation as a remedial action. Groundwater monitoring is conducted quarterly and includes measuring groundwater levels and collecting groundwater samples at up to 50 onsite and offsite monitoring wells²⁹, as well as measuring groundwater levels at four piezometers located adjacent to the Ely Basins. Exhibit 1 shows the locations of all monitoring sites. Quarterly groundwater quality samples are analyzed for VOCs and reports summarizing the results and conclusions are published each quarter. These reports, along with all data collected by GE since 2005 are posted on the State Water Resources Control Board GeoTracker website.³⁰

Annual soil sampling and monitoring ceased following the approval of the VETS closure request in 2009. Since then, soil-vapor has been sampled twice, once in 2014 and again in 2021, at the request of the Santa Ana Water Board.

RECENT ACTIVITY

The most recently submitted monitoring report for the GE Test Cell Facility is the *Second Quarter 2026 Groundwater Monitoring Report*.³¹ Groundwater quality samples and groundwater-level measurements were collected at 47 GE monitoring wells, and groundwater-level measurements were collected at four

²⁶ Geosyntec. (2008). *Second Five-Year Review Report, Ge Engine Services Test Cell Facility*. Prepared for GE Engine Services Test Cell Facility. October 27, 2008.

¹⁸ Wood Environmental & Infrastructure Solutions, Inc. (2022). *Data Transmittal for On-Site Soil Vapor Well Sampling*. Letter sent on behalf of GE Engine Services Test Cell Facility to the Santa Ana Water Board. January 24, 2022.

²⁸ WSP USA Environment & Infrastructure Inc. (2024). *On-Site Soil Vapor and Groundwater Investigation Report, Former General Electric Engine Services Test Cell Facility, 2264 East Avion Place, Ontario, California*. January 24, 2024.

²⁹ Following three consecutive unsuccessful quarterly monitoring attempts to collect samples from OW-4p, OW-8p, and OW-14p, monitoring at these wells was terminated and the current monitoring network consists of a total of 47 onsite and offsite monitoring wells.

²⁶ https://geotracker.waterboards.ca.gov/profile_report?global_id=SL208133868

³¹ WSP USA Environment and Infrastructure Inc. (2026). *Second Quarter 2026 Groundwater Monitoring Report Former General Electric Engine Services Test Cell Facility*. Prepared for General Electric Company. July 28, 2026.

Ely Basin piezometers owned by San Bernadino County. The monitoring event was conducted in April 2026. The following summarizes key results and conclusions from the report:

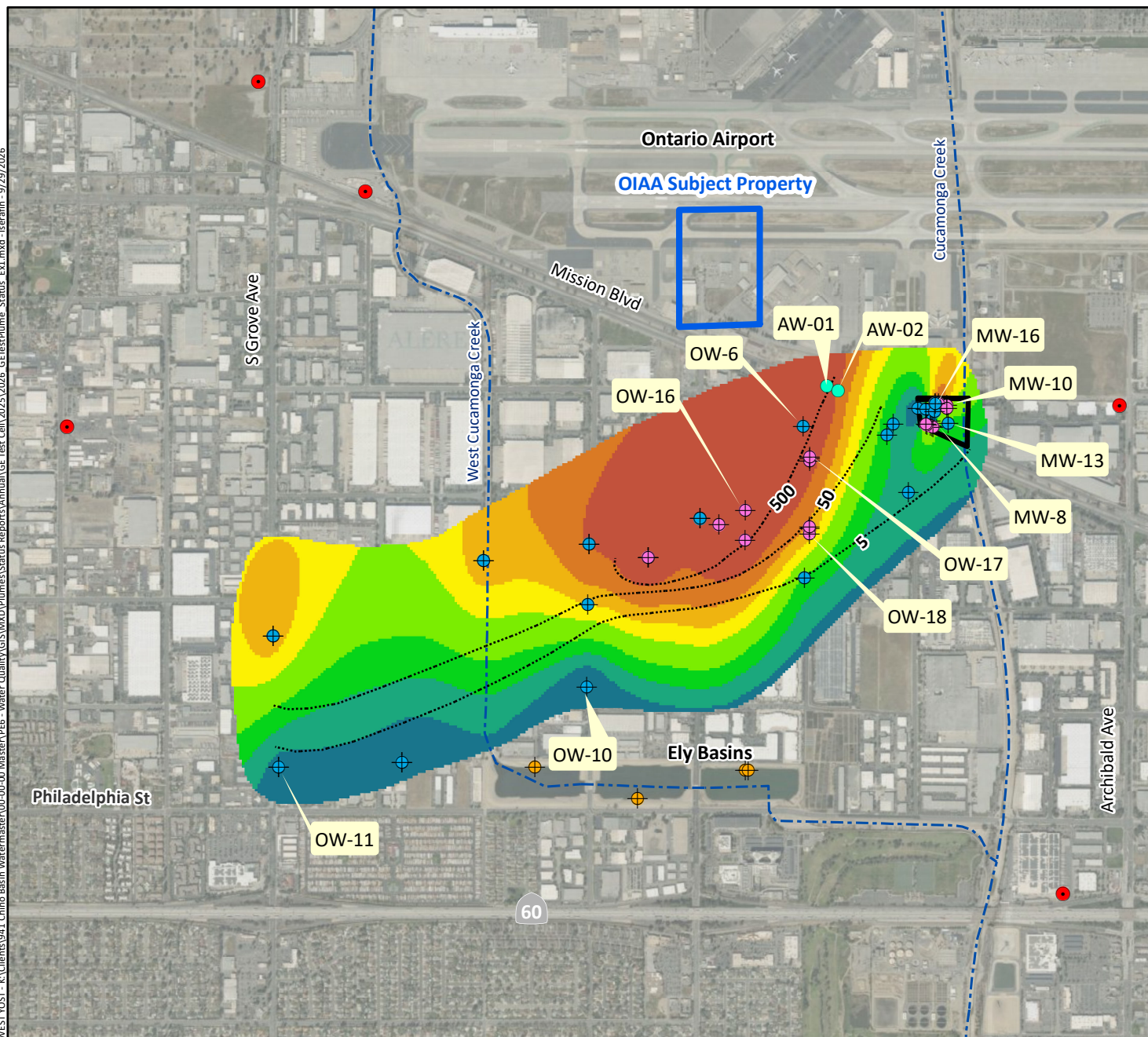
- Groundwater sampling indicated the presence of detectable concentrations of 18 VOCs, with TCE having the highest concentrations in most wells.
- TCE concentrations exceeded the MCL in 32 of the 47 wells sampled, while four wells showed non-detect levels of TCE.
- The highest TCE concentration in groundwater was 4,500 µg/l at the OW-16-i monitoring well and TCE concentrations in this well and the other northernmost wells have continued to increase. Additionally, TCE concentrations in three offsite monitoring wells located off the OIA property and downgradient of the AW wells were higher than historical results. On the OIA property, the highest TCE concentration was 3,900 µg/l at the offsite cross-gradient monitoring well AW-01. These results suggest that elevated concentrations of TCE are migrating from a source or sources on OIA property north-northeast of wells AW-01 and AW-02 in a southwest to south-southwest direction.
- Overall, results for the other wells were within historical range and detected TCE concentrations at wells onsite and adjacent to the former GE Test Cell Facility remain relatively low, with a maximum TCE concentration of 30 µg/l well MW-10-SR.
- The most downgradient monitoring well (OW-11) has had TCE concentrations below the MCL since groundwater monitoring began.
- Groundwater elevations are generally within historical ranges but have been increasing since October 2022. Higher elevations were observed closer to the Ely Basins, indicating groundwater recharge. The general groundwater flow direction continues to be predominantly southwest.

Following the request by the Santa Ana Water Board for OIAA to present appropriate next steps for an environmental investigation on OIA property, OIAA approved an Oversight Cost Recovery Program (OCRP) and began to prepare a scope of work for the investigation. On July 6, 2026, OIAA submitted a *Workplan for Groundwater Investigation* to the Santa Ana Water Board for review.³² The Workplan outlines soil vapor and groundwater investigations to assess conditions and potential sources of groundwater impacts from an approximately 48-acre portion of land located along the southern boundary of the OIA. The scope includes installing 3 borings upgradient of AW-01 and AW-02, collecting depth discrete soil vapor and groundwater samples, and evaluating the results to (1) assess the potential for vapor intrusion into nearby onsite buildings, and (2) determine whether there is an onsite groundwater source. Following the completion of field work, a report will be prepared and submitted to the Santa Ana Water Board and posted on the site's GeoTracker webpage.³³ The Santa Ana Water Board reviewed the Workplan and on August 19, 2026, sent a letter to OIAA with comments on the Workplan. The proposed sampling will begin once permits have been acquired.

³² Waterstone Environmental, Inc. (2026). *Workplan for Groundwater Investigation*. Prepared for Ontario International Airport Authority. July 6, 2026.

³³ [GeoTracker: Ontario International Airport \(T10000012861\)](#)

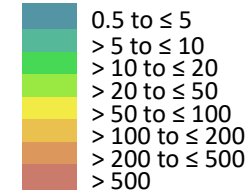
WEST YOST - K:\Clients\941 Chino Basin Watermaster\00-00-00 Master\PE6 - Water Quality\GIS\MXD\Plumes\Status Reports\Annual\GE Test Cell\2015\2016 GETestPlume Status Ex1.mxd - Iserafin - 9/29/2026



Maximum Concentration ($\mu\text{g/L}$)

July 2019 - June 2024

TCE



MCL = 5 $\mu\text{g/L}$

(Delineated by Watermaster in the 2024 State of the Basin Report)

Contours of TCE Concentration ($\mu\text{g/L}$)

in the shallow zone delineated by GE in the 2025 Quarter 2 Groundwater Monitoring Report (WSP Consultants, 2025)

Former GE Test Cell Property Boundary

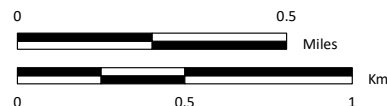
General Electric Active Monitoring Wells*

- Single Casing
- Multi-Depth Cluster
- Piezometers
- New Monitoring Well Drilled in 2024
- Active/Inactive Potable Municipal Water Supply Wells
- Streams & Flood Control Channels

*Wells labeled by name if mentioned in report



Prepared by:



Prepared for:

Chino Basin Watermaster
Annual Plume Report



General Electric (GE) Test Cell
TCE Plume

Exhibit 1

Annual Plume Status Report

Former Kaiser Steel Mill Plume and CCG Ontario Monitoring and Remediation October 2026

CONTAMINANTS

From 1983 to 1993, the primary contaminants of concern (COCs) for the Former Kaiser Steel Mill site were total dissolved solids (TDS) and total organic carbon (TOC). In 2008, additional investigations commenced to identify other COCs. Currently, the COCs associated with the site include hexavalent chromium, carbon tetrachloride, and chloroform. Table 1 below shows the maximum concentrations of these COCs detected in groundwater samples collected from the Former Kaiser Steel Mill site from July 2021 through June 2026 compared to the maximum contaminant levels (MCLs).¹

Table 1. Maximum Concentration of Contaminants of Concern between July 2021 and June 2026				
Contaminant	MCL, µg/l	Max Concentration, µg/l	Sample Date	Well
Hexavalent Chromium	10	289	February 2024	MW-14S
Carbon Tetrachloride	0.5	3.03	February 2024	MW-25
Chloroform	80	16.6	February 2023	SW-3
Notes: µg/l = micrograms per liter				

TDS and TOC are no longer considered COCs associated with Former Kaiser Steel Mill site.

LOCATION

The Former Kaiser Steel Mill site is a 1,200-acre parcel in an unincorporated area of San Bernardino County between the Cities of Fontana and Ontario. The site is bound by Whittram Avenue to the north, Interstate 10 to the south, and Etiwanda and Cherry Avenues to the west and east, respectively. Exhibit 1 shows the location of the Former Kaiser Steel Mill site.

¹ United States Environmental Protection Agency (USEPA) MCLs are maintained online at <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>

SITE HISTORY

The Kaiser Steel Corporation operated the Kaiser Steel Mill from 1942 to 1983 and during peak production, the facility was the largest steel producer in the western United States. From 1942 through 1972, solid and liquid waste produced from manufacturing processes were disposed of in waste pits and unlined surface impoundments for percolation and evaporation throughout the site. In the early 1970s, the surface impoundments were lined to eliminate percolation to groundwater. In 1987, the Kaiser Steel Corporation filed for bankruptcy and reorganized into Kaiser Resources, Inc., which became Kaiser Ventures, Inc. in 1995 and portions of the property were divided and leased or sold to the following organizations:

- Chemwest Industrial, Inc., a chemical manufacturing company, leased land in the southwest portion of the property (East Slag Pile Area in Exhibit 1) but no longer operates onsite.
- California Steel Industries (CSI) purchased and continues to operate 458 acres to manufacture rolled steel.
- The Auto Club Speedway (formerly California Speedway) was constructed by the Penske Corporation on 500 acres in the northern corner of the site in 1995.
- CCG Ontario, LLC (CCG)² purchased 592 acres along the western and southern portions of the property in 2000 and inherited responsibility for site contamination, remediation, and monitoring from Kaiser Ventures, Inc. at the purchased property and at the Coal Tar Pits (see Exhibit 1 for the property location).

REGULATORY ORDERS

There have been several regulatory orders issued to various tenants of the Former Kaiser Steel Mill site for the investigation and remediation of soil and groundwater contamination:

- Regional Water Quality Control Board Santa Ana Region (Santa Ana Water Board) Cleanup and Abatement Order (CAO) No. 87-121 (August 1987)—Required Kaiser Steel Corporation to initiate a Phase IV groundwater investigation and implement a remediation action alternative for TDS and TOC groundwater contamination.
- California Department of Health Services (now Department of Toxic Substances Control (DTSC)) Consent Order with the Kaiser Steel Corporation (August 1988)—Required Kaiser Steel Corporation to investigate any release of contamination to air, soil, surface water, and groundwater, and to ensure appropriate remedial measures were taken prior to regulatory closure of the site.
- Santa Ana Water Board CAO No. 91-40 (March 1991)—Required Kaiser Resources, Inc. perform a feasibility study for a salt-offset remediation alternative for groundwater contamination.

² CCG Ontario is a subsidiary of Prologis, a real estate and supply chain logistics company.

- California Department of Health Services (now DTSC) Consent Order with CSI (August 1995)—Required CSI to conduct a Site Investigation, perform health risk assessment at the CSI property, and develop and implement an action plan to remediate contamination on site.
- DTSC Imminent and Substantial Endangerment Determination Consent Order with CCG (August 2000)—Transferred responsibility of investigation and remedial activities associated with the 592 acres purchased by CCG and the Coal Tar Pits Parcel from Kaiser Ventures, Inc. to CCG.

REGULATORY AND MONITORING HISTORY

In July 1983, a phased investigation of potential groundwater contamination resulting from the disposal of high-salinity wastewater to unlined ponds during its early years of operation was performed at the Former Kaiser Steel Mill site. The Phase I and II investigations were completed in December 1983 and identified 28 waste sites and four likely point-sources that contributed to TDS and TOC groundwater contamination beneath the facility.³ Groundwater samples were collected at existing onsite and offsite wells to determine the preliminary extent of groundwater contamination and to assess groundwater quality downgradient from the site. The Phase III investigation, completed in March 1986, resulted in the construction of monitoring wells at six additional locations (five single-nested and one quadruple-nested wells).⁴ Based on these investigations, three separate TDS plumes were identified: one located onsite, extending to a depth of 770 feet below ground surface (ft-bgs), and two that migrated offsite. Additionally, one TOC plume was identified onsite extending to a depth of approximately 100 ft-bgs. The Phase III investigation determined that the TDS plumes were moving downgradient at a rate of 100 to 300 feet per year with the potential to impact downgradient municipal production wells.

Between 1986 and 1994, an interim groundwater-quality monitoring program was implemented to further characterize the extent of the TDS and TOC groundwater contamination. The monitoring program consisted of a sampling a network of 30 onsite and offsite monitoring and production wells, including newly constructed monitoring wells KOSF-1 and Kaiser-MP2. The maximum TDS and TOC concentrations detected in groundwater samples during this time were 1,600 milligrams per liter (mg/l) and 70 mg/l, respectively.

In response to the findings of the phased investigations, in 1987 the Santa Ana Water Board issued CAO No. 87-121 to the Kaiser Steel Corporation, which required a Phase IV groundwater investigation to further characterize the extent of the plumes and evaluate remediation strategies.⁵ Meanwhile, on August 22, 1988, a Consent Order was signed between the Kaiser Steel Corporation and the California Department of Health Services, Toxic Substances Control Division (now known as the DTSC) to ensure that any release or threatened release of other contamination to the air, soil, surface water, or groundwater at the site was

³ James M. Montgomery and Associates. (1983). *Final Report, Kaiser Steel Corporation Groundwater Evaluations*. December 1983.

⁴ James M. Montgomery and Associates. (1986). *Kaiser Steel Corporation Phase III Groundwater Investigation*. Prepared for Kaiser Steel Corporation. March 1986.

⁵ Santa Ana Water Board. (1987). *Cleanup and Abatement Order No. 87-121 for Kaiser Steel Corporation Fontana, San Bernardino County*. August 26, 1987.

thoroughly investigated, and that appropriate remedial actions were taken.⁶ Two preliminary assessments/site investigations were completed in August 1988 and January 1989. The results of these investigations were published in the *Resource Conservation and Recovery Act (RCRA) Facility Assessment Report*, which identified twenty areas for remedial investigation.⁷

The Phase I and II remedial investigations were completed in April and October of 1990, respectively.⁸ The results of these investigations concluded that three areas of the Former Kaiser Steel Mill site required remediation and further investigation: 1) the tar pits; 2) the byproducts plant area; and 3) the east slag pile. The phase II remedial investigation also found that the cooling tower sludge bed required minor material removal. Due to the limited remediation required, it was recommended that the cooling tower sludge bed be included in the remedial action plan for the east slag pile. The Phase II remedial investigation also concluded that material from the furnace dust/mill scale piles would require removal. Ultimately this material was recycled into the cement industry and didn't require further remediation. For each of the three areas requiring remediation, individual feasibility studies and remedial action plans were prepared, waste was removed from several areas, and caps were constructed. Further investigations into some of the areas found that those areas did not require additional remedial work.

In 1990, while Kaiser Resources, Inc. (formerly Kaiser Steel Corporation) was preparing the feasibility studies and remedial action plans for the three areas identified in the Phase I and II remedial investigations, it also initiated plans for a 'salt-offset' strategy to remediate the TDS and TOC plumes.⁹ In March 1991, the Santa Ana Water Board rescinded CAO No. 87-121 and issued CAO No. 91-40, which allowed Kaiser Resources, Inc. to complete a feasibility study for a salt-offset program. The *Phase IV Groundwater Remediation Feasibility Study Draft Report* was published in 1991. The report analyzed a salt-offset alternative in addition to nine other groundwater remediation alternatives.¹⁰ In 1993, CAO No. 91-40 was rescinded when Kaiser Resources, Inc. and the Santa Ana Water Board entered into a settlement agreement (known as the Salt Offset Agreement).¹¹ Under the Salt Offset Agreement, Kaiser Resources, Inc. would contribute financial resources and dedicate its Chino Basin water rights to support the construction and operation of the Chino Basin Desalters in exchange for release from any future liability for TDS and TOC contamination. Kaiser Resources, Inc. made a one-time contribution of \$1.5 million and 25,000 acre-feet of its water rights established under the Chino Basin Judgement.

⁶ DTSC Docket No. HAS 87/88-032CO. Consent Order (Health and Safety code sections 205,25355.1(a)(1)) August 22, 1988.

⁷ JMM. (1989). *RCRA Facility Assessment Report*. Prepared for Kaiser Steel Resources, Inc. January 1989.

⁸ https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60001356

⁹ A salt-offset was proposed as an alternative to a groundwater extraction and treatment system to remediate the TDS and TOC plumes.

¹⁰ Mark J. Wildermuth. (1991). *Phase IV Groundwater Remediation Feasibility Draft Report*. Prepared for Kaiser Steel Resources, Inc. November 1991.

¹¹ Santa Ana Water Board. (1993). Settlement Agreement – Kaiser Resources, Inc. and California Regional Water Quality Control Board, Santa Ana Region. October 21, 1993.

In 1995, following the sale of 458 acres of the property from Kaiser Resources, Inc. to CSI, the DTSC issued a Consent Order to CSI to develop and implement an Expedited Remedial Action Plan (ERAP) on the property purchased from the Former Kaiser Steel Mill Site.¹² Pursuant to the ERAP, CSI performed a site investigation at 28 areas on the CSI property and identified 31 Areas of Concern (AOCs). In 2004 and 2013, carcinogen risk assessments of onsite soil indicated that 26 AOCs required no further remediation other than restrictions that land use can only be industrial uses. The selected mitigation measures for the remaining AOCs included the installation of a surface soil cover system (cap) and maintaining an existing surface cap.¹³ Contaminant fate and transport analyses conducted as part of the site investigation indicated that there were no risks to the underlying groundwater at these areas.

In 2000, CCG purchased 592 acres of the Former Kaiser Steel Mill site and entered into a new Consent Order with the DTSC, transferring responsibility for the remediation and monitoring of site-related contamination at the purchased property, the Coal Tar Pits Parcel, and the Auto Club Speedway from Kaiser Ventures, Inc. (formerly Kaiser Steel Corporation and Kaiser Resources Inc.) to CCG.¹⁴ The 2000 Consent Order also divided the site into four 'Operable Units' (OUs) (see Exhibit 1 for OU boundaries) for remediation and monitoring and required CCG to perform additional groundwater investigations and, if necessary, develop remediation alternatives.

In 2008, an additional operable unit, OU-5 Sitewide Groundwater, was established to prescribe site-wide monitoring of groundwater. The 2008 *Groundwater Remedial Investigation Work Plan* (2008 Work Plan) was prepared to address site-wide data gaps in characterizing groundwater contamination to develop a long-term, site-wide monitoring program.¹⁵ The 2008 Work Plan was approved by the DTSC on November 3, 2008 and resulted in the creation of the site-wide groundwater monitoring program which included construction of 32 new monitoring wells at 24 locations and eight quarterly sampling events from 2009 to 2011. Data collected from the sampling efforts were used to perform a health risk assessment by comparing contaminant concentrations detected in the offsite groundwater monitoring wells with Environmental Protection Agency regional screening levels (RSLs) ¹⁶. Hexavalent chromium, carbon tetrachloride, and chloroform were detected at concentrations above the risk-based screening concentrations and were therefore determined to be site-wide constituents of concern, warranting continued monitoring.

¹² DTSC No. HAS 95/96-068 Expedited Remedial Action Voluntary Enforceable Agreement (Health and Safety Code Section 25398.2b). August 8, 1995.

¹³ DTSC. (2015). *Approval of the Final Remedial Design and Implementation Plan for Area of Concern (AOC) 9 and AOC 22, California Steel Industries, Inc., Fontana, California*. September 15, 2015.

¹⁴ DTSC Docket No. I&SE – CO 00/01-001. Imminent and Substantial Endangerment Determination and Consent Order (Health and Safety code sections 25355.5(a)(1)(B) and (C), 25358.3 (a), 58009 and 58010. August 10, 2000.

¹⁵ Shaw Environmental, Inc. (2008). *Groundwater Remedial Investigation Work Plan; Former Kaiser Steel Mill*. Prepared for CCG Ontario LLC. October 2008.

¹⁶ United States Environmental Protection Agency (USEPA) RSLs are maintained online at <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

On September 1, 2016, CCG completed the *Final Groundwater Remedial Investigation Report/Feasibility Study and Remedial Action Plan* (2016 Final RI/FS and RAP), which included the results of the 2009-2011 site-wide groundwater monitoring program and selected the RAP for OU-5 Sitewide Groundwater as monitored natural attenuation.¹⁷

In December 2019, the DTSC sent a letter to CSI indicating that the release of hazardous materials from the CSI property may be the cause of elevated concentrations of chromium being reported in groundwater downgradient of the CSI property at OU-4. The DTSC required that CSI prepare a work plan to evaluate groundwater quality at the CSI property. CSI submitted a response disputing the request for a work plan and a response from DTSC is not available in public records.

REMEDIAL ACTION

As previously noted, remediation activities associated with the TDS and TOC plumes ended with the adoption of the 1993 Salt Offset Agreement.

The 1988 Consent Order between the DTSC and Kaiser Ventures, Inc. required remediation and further investigation of several areas. Following initial investigations, remedial action plans (RAPs) were prepared for each of the primary areas identified for remediation. The following describes the remedial actions implemented by Kaiser Ventures, Inc. during this time in each of the primary areas:

- **Materials Recover Facility (MRF)/Tar Pits (later incorporated in OU-1).** The Remedial Design for the MRF was executed by Kaiser Ventures, Inc. in 1997 and included the construction of a soil cement cap and building floor cap over parts of the MRF.¹⁸ Remediation of the Tar Pits was not included in the remediation activities performed by Kaiser Ventures, Inc. during this time.
- **By-Products Area/Auto Club Speedway (later incorporated into OU-2).** On May 1, 1995, the DTSC approved a RAP¹⁹ for: (1) the removal and treatment of contaminated sludge waste, (2) the construction of a two-foot protective soil layer, and (3) the construction of a 13-acre cap over the protective soil layer.²⁰ In 1995, following the implementation of the RAP, the DTSC issued a “No Further Action” notice and from 1996 to 1997 the area was redeveloped as part of the California Speedway. In 1996, two monitoring wells were installed to monitor for potential impacts to groundwater from residual vadose zone contaminants following the remediation activities.

¹⁷ Iris Environmental, Inc. (2016). *Final Groundwater Remedial Investigation Report/Feasibility Study and Remedial Action Plan*. Prepared for CCG Ontario, LLC. September 2016.

¹⁸ Sigma Plus Environmental. (1997). *Report of Remedial Action, Remedial Cap Installation, Materials Recovery Facility Parcel of Operable Unit No. 1, Former Kaiser Steel Mill, Fontana, California*. Prepared for Kaiser Ventures Inc. December 8, 1997.

¹⁹ DTSC. (1995). *Letter – Remedial Action Plan for Kaiser Resources, Inc. Operable Unit No. 2 is Approved*. May 1, 1995.

²⁰ Iris Environmental. (2014). *Third Five-Year Review Report Auto Club Speedway Operable Unit No. 2, By-Products Area Former Kaiser Steel Mill Facility San Bernardino County, California*. Prepared for CCG-Ontario LLC. June 2014.

- **East Slag Pile Landfill Area (ESPLA) (later incorporated into OU-3).** The RAP for this area was not developed until after CCG purchased the property in 2000 (see below for more information).

The 1995 Consent Order between the DTSC and CSI required CSI to develop and implement an Expedited Remedial Action Plan (ERAP). The selected mitigation measure included the installation of a surface soil cover system (cap) and maintaining the existing surface cap.²¹ Annual cap inspections and five-year reviews are ongoing with supplemental characterization and remedial actions conducted intermittently as required. Because contaminant fate and transport analyses conducted as part of the site investigation indicated that there are no risks to the underlying groundwater at these areas, no remedial action was required for groundwater.

The 2000 Consent Order between the DTSC and CCG, which overrode the 1988 Consent Order with Kaiser Ventures, Inc. and divided the site into four OUs required both continued monitoring at sites that had been previously remediated by Kaiser Ventures, Inc. and additional remediation at sites that were still contaminated. The following describes the monitoring and remediation at each of the OUs performed by CCG pursuant to the 2000 Consent Order.

- **OU-1 – Tar Pits/Materials Recover Facility (MRF).** Following the closure of the Tar Pits in 2000, CCG prepared a RAP for an in-situ solidification of the tar and surrounding soil, and the construction of a cover system (cap) over the tar pits parcel.²² The DTSC approved the final amended RAP in 2001.²³ In 2010, the DTSC certified that all remedial work required for the Tar Pits was completed and in 2012 DTSC issued a Correction Action Completeness Determination which confirmed that, with the exception of the ongoing sitewide groundwater investigation, all remedial and investigatory work required by the Consent Order had been completed.²⁴ Pursuant to the 2010 Operation and Maintenance Plan, CCG continues to conduct semi-annual inspections of the cover system.²⁵ CCG also continues to conduct semi-annual inspections of the caps installed at the MRF pursuant to the MRF Operation and Maintenance Plan²⁶ developed by Kaiser Ventures, Inc. in 1997. Currently, there are no requirements for additional remediation or groundwater monitoring for OU-1.

²¹ DTSC. (2015). *Approval of the Final Remedial Design and Implementation Plan for Area of Concern (AOC) 9 and AOC 22, California Steel Industries, Inc., Fontana, California*. September 15, 2015.

²² Arcadis Geraghty & Miller, Inc. (2001). *Second Amendment to the Remedial Action Plan – Operable Unit No. 1 Tar Pits Parcel, Former Kaiser Steel Corporation, Fontana, California*. Prepared for Kaiser Ventures. December 10, 2001.

²³ DTSC. (2001). *Letter from Thomas M. Cota – Final Second Amendment to the Remedial Action Plan for the Kaiser Steel Site, Operable Unit Number 1, Tar Pits Area*. December 20, 2001.

²⁴ DTSC (2012). *RCRA Corrective Action Complete Determination for Property Subject to 2000 Consent Order between DTSC and CCG Ontario, LLC*. June 7, 2012.

²⁵ Shaw Environmental, Inc. (2010). *Operations and Maintenance Plan – Tar Pits Parcel, Former Kaiser Steel Mill Facility, Fontana, California*. Prepared for CCG Ontario, LLC. June 2010.

²⁶ Sigma Plus Environmental Consultants. (1997). *Operations and Maintenance Plan – Materials Recovery Facility Building Floor Cap and Soil Cement Cap Areas Containing Affected Soils, Operable Unit No. 1, Former Kaiser Steel Mill Facility, Fontana, California*. Prepared for Kaiser Ventura Inc. Ontario, LLC. June 1997.

- **OU-2 – By-Products Area/Auto Club Speedway.** After acquiring the property in 2000, CCG continued groundwater monitoring activities in accordance with the 1995 RAP Operations and Monitoring Plan.²⁷ No additional remedial actions were required. In 2008, following declines in groundwater elevations at the monitoring wells, the DTSC requested that CCG replace the two monitoring wells and install nested upgradient monitoring wells to serve a dual function as upgradient wells for the By-Products Area and for the site-wide groundwater remedial investigation detailed in the 2009 Work Plan.²⁸ In 2014, the DTSC approved an updated Operations and Monitoring Plan for OU-2 submitted by CCG.²⁹
- **OU-3 – East Slag Pile Landfill Area (ESPLA).** In 2007, CCG submitted a RAP for the construction of a four-foot thick monolithic soil cover, a landfill gas collection and control system, landfill gas monitoring probes, pavement on the upper surface of east slag pile, a surface water drainage system, groundwater monitoring, and long-term operations and maintenance of at least 30 years.³⁰ The DTSC approved the RAP on October 31, 2007³¹ and monitoring requirements were established in the 2010 Operations and Maintenance Plan.³² Monitoring requirements were later updated in the 2024 Water Quality Sampling and Analysis Plan for ESPLA Groundwater Monitoring (ESPLA WQSAP).³³
- **OU-4 – Chemwest Upper Ponds/Consolidated Waste Cell/Aboveground Storage Tanks/Chrome Ponds and Adjacent Areas (CCAC).** On February 13, 2009, the DTSC approved a RAP³⁴ for the construction of a cap over the CCAC, groundwater monitoring, and long-term operations and

²⁷ DTSC. (1995). *Letter – Remedial Action Plan for Kaiser Resources, Inc. Operable Unit No. 2 is Approved*. May 1, 1995.

²⁸ Shaw Environmental, Inc. (2009). *Groundwater Monitoring Well Destruction and Installation Work Plan, By-Products Area, Operable Unit No. 2, Former Kaiser Steel Mill Site, Fontana, California*. Prepared for CCG Ontario, LLC. May 2009.

²⁹ Iris Environmental (2014). *Revised Addendum #1 to Operations and Maintenance Plan, By-Products Area - Operable Unit No. 2, Former Kaiser Steel Mill Site, Fontana, California*. Prepared for CCG Ontario, LLC. May 2014.

³⁰ Shaw Environmental, Inc. (2007). *Remedial Action Plan – East Slag Pile Landfill, Former Kaiser Steel Mill Site, Fontana, California*. Prepared for CCG Ontario, LLC. August 2007.

³¹ DTSC. (2007). *Letter from Rebecca Chou – Approval of the Final Remedial Action Plan for the East Slag Pile Landfill (ESPL) Area, Former Kaiser Steel Mill, Fontana, California*. October 31, 2007.

³² Shaw Environmental, Inc. (2010). *Operations and Maintenance Plan, East Slag Pile Landfill Area, Former Kaiser Steel Mill Facility, Fontana, California*. Prepared for CCG Ontario, LLC. June 24, 2010.

³³ Iris. (2024). *Final Water Quality Sampling and Groundwater Monitoring Report, First Quarter 2024 CCAC, Operable Unit 4 and First Semi-Annual 2024 ESPLA, Operable Unit 3 Former Kaiser Steel Mill, San Bernardino County, California*. Prepared for CCG Ontario, LLC. June 6, 2024.

³⁴ Shaw Environmental, Inc. (2009). *Final Remedial Action Plan OU-4*. Prepared for CCG Ontario LLC. January 2009.

maintenance. The associated CCAC Operations and Maintenance Plan and Water Quality Sampling and Analysis Plan (CCAC WQSAP) were approved the following year in 2010.³⁵

The remedial actions specified for OU-1 through OU-4 above have since been implemented and site maintenance, inspection, and monitoring reports at each of the OUs are published quarterly, semi-annually, and annually to ensure the completed remedies are operating properly.

On September 13, 2016, DTSC approved the RAP for OU-5 Sitewide Groundwater, which selected monitored natural attenuation as the remedial alternative, and requested CCG submit a Remedial Design and Implementation Plan (RDIP) to implement the RAP.³⁶ A draft RDIP (2016 RDIP) for OU-5, including a *Water Quality Sampling and Analysis Plan*, was submitted to the DTSC for review in November 2016.³⁷ The DTSC provided multiple rounds of comments on the 2016 RDIP due to concerns about potential offsite migration of carbon tetrachloride and requested CCG perform additional sampling of specified wells and update the conceptual site model based on the results. In a letter dated September 26, 2019, DTSC also requested that CCG prepare a Decision Tree for actions when downgradient monitoring points exceed half the MCL. CCG submitted a draft Decision Tree on December 21, 2020³⁸ and a Revised Decision Tree addressing DTSC's comments on September 30, 2021.³⁹ It was finalized and approved by the DTSC on December 10, 2021.⁴⁰ On June 17, 2022 CCG submitted a Revised RDIP with the final, approved Decision Tree.⁴¹ After subsequent review and an additional round of comments, CCG submitted a revised Updated RDIP⁴², dated October 27, 2025 that was approved by DTSC on November 12, 2025.⁴³ The Updated RDIP incorporates the approved Decision Tree, prior DTSC comments, and changes to the groundwater

³⁵ Shaw Environmental, Inc. (2010). *Operations and Maintenance Plan, Chemwest Upper Ponds/Consolidated Waste Cell, Above-Ground Storage Tanks, Chrome Ponds, and Adjacent Areas, Former Kaiser Steel Mill Facility, Fontana, California*. Prepared for CCG Ontario, LLC. June 25, 2010.

³⁶ DTSC. (2016). *Letter from Eileen Mananian – Approval of the Final Groundwater Remedial Investigation/ Feasibility Study and Remedial Action Plan, Former Kaiser Steel Mill, Fontana, California*. September 13, 2016.

³⁷ RPS Iris Environmental (2016). *Draft Remedial Design and Implementation Plan, Sitewide Groundwater, Former Kaiser Steel Mill Site, San Bernardino County, California*. November 3, 2016.

³⁸ RMD Environmental Solutions, Inc. (2020). *Decision Tree for Sitewide groundwater for the Former Kaiser Steel Mill in San Bernardino County, California*. Prepared for CCG Ontario, LLC. December 21, 2020.

³⁹ RMD Environmental Solutions, Inc. (2021). *Revised Decision Tree for Sitewide groundwater for the Former Kaiser Steel Mill in San Bernardino County, California*. Prepared for CCG Ontario, LLC. September 31, 2021.

⁴⁰ DTSC. (2021). *Letter from Mohsen Behbahani – Approval of the Decision Tree-Sitewide Groundwater-Operable Unit No.5, Former Kaiser Steel Mill, Fontana, California*. December 10, 2021.

⁴¹ RMD Environmental Solutions, Inc. (2022). *Revised Remedial Design and Implementation Plan Site Groundwater*. Prepared for CCG Ontario, LLC. 2022.

⁴² Citadel EHS. (2025). *Updated Remedial Design and Implementation Plan-Sitewide Groundwater, Former Kaiser Steel Mill, San Bernardino County, California*. Prepared for CCG Ontario, LLC. October 27, 2025.

⁴³ DTSC. (2025). *Letter from Nicholas Ta – Approval of the Updated Remedial Design and Implementation Plan, Sitewide Groundwater, Former Kaiser Steel Mill, 9400 Cherry Avenue, Fontana, California 92335 (Site Code: 400081, Docket No. I&SE - CO 00/01-001)*. November 12, 2025.

monitoring network associated with the Post-Closure Permit Renewal for the CCAC area (OU-4). The Updated RDIP also includes the remedy selection process, design of the selected remedy, and implementation plan.

MONITORING AND REPORTING

Current groundwater monitoring activities are performed pursuant to the long-term⁴⁴ operations and maintenance plans for OU-2,⁴⁵ OU-3,⁴⁶ and OU-4.⁴⁷ Exhibit 1 shows the locations of the current monitoring well sites monitored for OU-2 through OU-4; some well sites have multiple wells at various depths.

Table 2 below summarizes the number of monitoring wells, sampling frequency, and duration of sampling for each monitored OU.

Table 2. Summary of Operable Units, Monitoring Wells, and Monitoring Frequency			
OU	No. of Wells ^(a)	Sampling Frequency (Duration)	Well
OU-2	5	Quarterly (2009-2014); Semi-annual (2015-present)	SW-1[S, M, D], SW-2, SW-3
OU-3	9	Quarterly (2009-2014); Semi-annual (2015-present)	MW-9, MW-10[S, M, D], MW-11, MW-12[S, M, D], MW-13
OU-4	13	Quarterly (2009-present)	MW-01, MW-02, MW-09, MW-16[S, D], MW-03, MW-13, MW-14[S, M, D], MW-15, MW-26, MW-02
Notes:			
(a) Some wells are sampled as part of more than one OU monitoring program.			

Per the 2000 Consent Order, CCG is required to prepare monitoring reports and five-year site-wide review reports that evaluate whether the remedial actions remain protective of human health and the environment. Groundwater monitoring reports for OU-2, OU-3, and OU-4 are prepared on a quarterly or semi-annual basis. To date, two *Sitewide Five-Year Review Reports* have been submitted to and approved by the DTSC, including the first one in 2016 and the second one in 2023. The third Five-Year review is due in 2027.

⁴⁴ Long-term includes at least 30 years of operations and maintenance for each OU.

⁴⁵ SCS Engineers. (1995). *Operation & Maintenance Agreement – Operable Unit No. 2*. Prepared for Kaiser Resources, Inc. September 1995.

⁴⁶ Shaw Environmental, Inc. (2010). *Operations and Maintenance Plan – East Slag Pile Landfill Area, Former Kaiser Steel Mill Facility, Fontana, California*. Prepared for CCG Ontario, LLC. June 2010.

⁴⁷ Shaw Environmental, Inc. (2010). *Operations and Maintenance Plan – Chemwest Upper Ponds/Consolidated Waste Cell, Above-Ground Storage Tanks, Chrome Ponds, and Adjacent Areas, Former Kaiser Steel Mill Facility, Fontana California*. Prepared for CCG Ontario, LLC. June 2010.

In 2016, it was determined that MW-03 was unable to be sampled and, thus, sampling was discontinued at the well. On April 30, 2024, the DTSC reviewed and approved a workplan to install MW-27 to replace MW-03. MW-27 was constructed in October 2024 and is currently part of the quarterly sampling program.

The site-wide groundwater monitoring program for OU-5 was included in the Updated RDIP approved in 2025 and the first annual sitewide groundwater monitoring event is scheduled for the third quarter 2026.

Watermaster also samples eleven monitoring wells annually at four downgradient locations for the Key Well Groundwater Quality Monitoring Program (KWGWQMP) and provides monitoring results to CCG upon request. The key wells are Kaiser - MP1 [A, B, C, D], Kaiser -MP2 [A, B, C, D], KOSF-1, MZ3-1/[1, 2, 3], and MZ3-2/[1, 2, 3]. Five of the key wells are Former Kaiser Steel Mill site monitoring wells in two locations and six Chino Basin Management Zone 3 (MZ-3) monitoring wells in two locations shown in Exhibit 1. Table 3 below summarizes the contaminants with concentrations that exceeded the MCL at one or more monitoring wells in the KWGWQMP over the last five years from July 2021 to June 2026.

Contaminant	MCL	Max Concentration	No. of Wells That Exceeded MCL	Well
1,1-Dichloroethene	6 µgl	13 µgl	1	Kaiser - MP2A
1,2,3-Trichloropropane	0.005 µgl	0.0085 µgl	2	Kaiser - MP2D, MZ3-2/2
1,4 Dioxane	1 µgl ^(a)	7.3 µgl	2	Kaiser - MP2[A, B]
Bromodichloromethane	0.06 µgl ^(b)	11 µgl	2	MZ3-2/1, MZ3-2/2
Chloroform	0.4 µgl ^(b)	57 µgl	4	MZ3-1/1, MZ3-2/[1, 2, 3]
Chromium	50 µgl	590 µgl	4	MZ3-1/3, MZ3-2/[1, 2, 3]
Hexavalent Chromium	10 µgl	14 µgl	2	MZ3-2/1, MZ3-2/2
Nitrate ^(c)	10 mg/l	17 mg/l	5	Kaiser - MP2[B, C, D], KOSF-1, MZ3-1/1
Perchlorate	6 µgl	10 µgl	2	Kaiser - MP2[C, D]
PFHxS	10 ngl	17.3 ngl	2	Kaiser - MP2[A, B]
TDS	500 mg/l	790 mg/l	2	Kaiser – MP2B, KOSF-1
Turbidity	5 NTU	78 NTU	7	Kaiser - MP2[A, B, D], MZ3-1/3, MZ3-2/[1, 2, 3]
Notes: Not all key wells were sampled in August and September 2021. µgl = micrograms per liter, mg/l = milligrams per liter, NTU = nephelometric turbidity unit (a) Exceeds the California State Notification Level (b) Exceeds the California Public Health Goal (c) Nitrate as nitrogen				

RECENT ACTIVITY

The DTSC completed its technical review of the Updated RDIP and approved the plan on November 12, 2025, with no further technical comments. Monitoring activities for OU-5 will begin in the third quarter of 2026 and will be conducted in conjunction with groundwater sampling for OU-2, OU-3, and OU-4.

Semi-annual groundwater monitoring events for OU-2 and OU-3 and quarterly groundwater monitoring events for OU-4 continued pursuant to their respective operations and maintenance plans.

- **OU-2:** The most recent monitoring event conducted during the first half of 2026⁴⁸ showed chloroform exceeded its public health goal (PHG) of 0.4 µgl at two shallow wells and hexavalent chromium exceeded its PHG of 0.02 µgl at all five wells. There were, however, no exceedances of MCLs for chloroform, hexavalent chromium, or any other COCs at OU-2. Nitrate, which is not a COC, did exceed its MCL of 10 µgl at all five wells. Additionally, sulfate was reported in two shallow wells at concentrations that exceeded the recommended secondary MCL of 250 mg/l. Overall, results from the sampling event were consistent with historical groundwater monitoring results and confirm that the remedial action is performing as designed, such that organic compounds are not migrating vertically through the vadose zone. In accordance with the 2000 CAO issued by the DTSC to CCG, the results of the OU-2 monitoring event were documented in the First Semi-Annual 2026 Groundwater Monitoring Report, which was submitted to the DTSC on June 30, 2026 and approved on July 24, 2026.
- **OU-3 and OU-4:** Pursuant to the ESPLA WQSAP and CCAC WQSAP, 10 CCAC monitoring wells, 7 ESPLA monitoring wells, and 2 monitoring wells that are part of both the ESPLA and CCAC monitoring programs were sampled during the most recent monitoring events in February 2026. At OU-3, results showed hexavalent chromium above its PHG (0.02 µgl); however, there were no exceedances of MCLs for any of the COCs. At OU-4, during the first quarter 2026 monitoring event, chloroform, carbon tetrachloride, and hexavalent chromium exceeded their PHGs, with the latter two also exceeding MCLs. Additional exceedances of MCLs for other analytes were observed in OU-3 and OU-4 during the first half of 2026, including an exceedance for iron at OU-3 and exceedances for chromium, manganese, nitrate, and sulfate at OU-4. Overall, the findings of the monitoring events at both OU-3 and OU-4 were consistent with the previous sampling events.

Table 4 provides a summary of COC concentrations for OU-3 and OU-4 from the 2026 first semi-annual and first quarter 2026 sampling events. Groundwater samples were not collected from damaged well MW-03 or MW-20, which was inaccessible during the sampling events. The results of the sampling events were reported in the 2026 CCAC First Quarter and ESPLA First Semi-Annual Groundwater Monitoring Report, which was submitted to the DTSC on April 23, 2026 and approved on May 28, 2026.

⁴⁸ Citadel EHS (2026). *First Semi-Annual 2026 Groundwater Monitoring Report Auto Club Speedway, Operable Unit No. 2, Former Kaiser Steel Mill San Bernardino County, CA*. Prepared for CCG Ontario LLC. June 30, 2026.

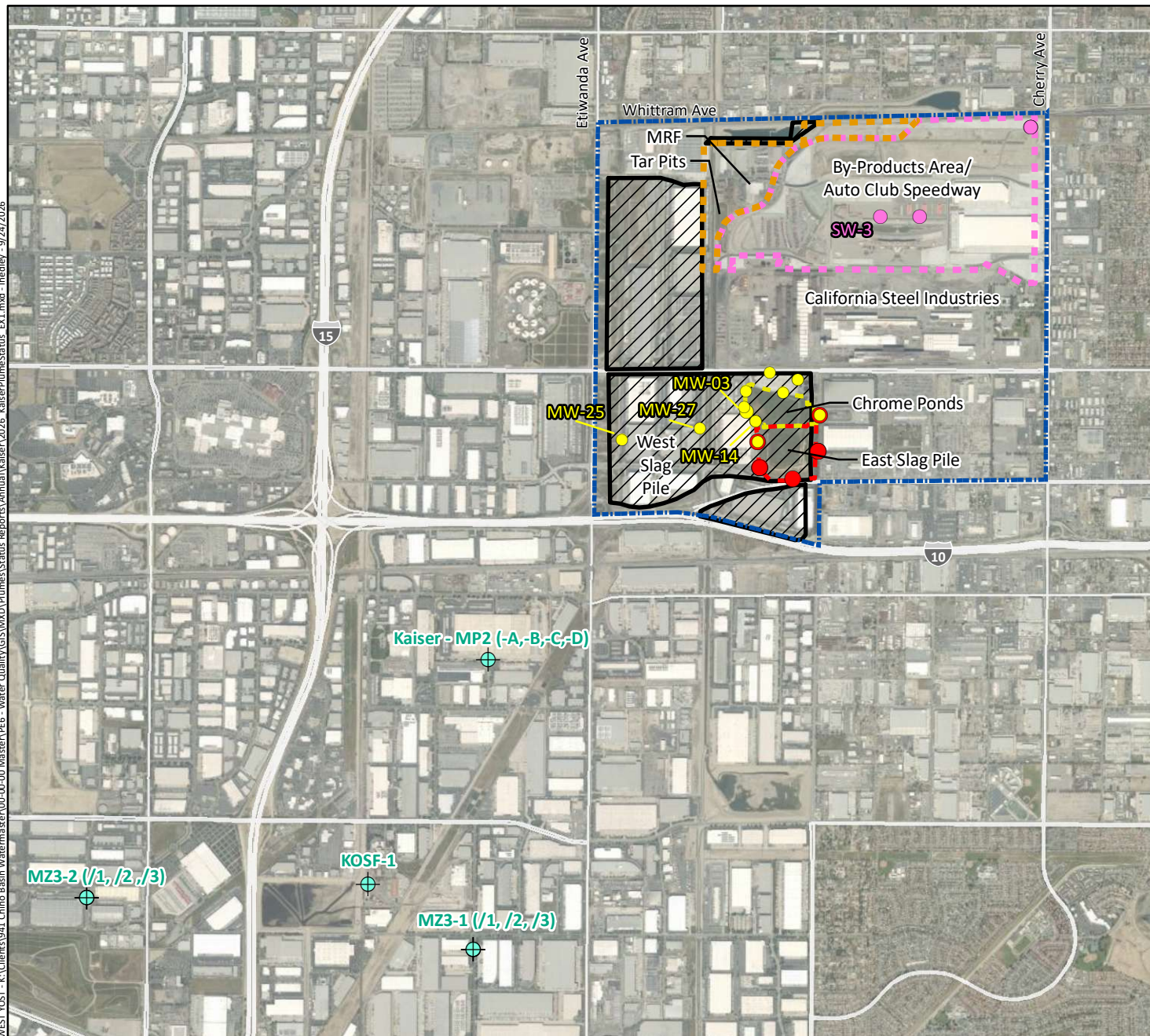
Table 4. Maximum Concentration of Contaminants of Concern for 2026 Semi-Annual and Quarter 1 Monitoring at OU-3 and OU-4				
Contaminant	Primary MCL, µg/l	Max Concentration, µg/l	Number of Wells Exceeded MCL	Well
Hexavalent Chromium	10	154	7	MW-14[M,D, S],MW-15, MW-16S,MW-26, MW-27
Carbon Tetrachloride	0.5	1.47	1	MW-25
Chloroform	80	2.01	0	--
Notes: µg/l = micrograms per liter				

Because carbon tetrachloride concentrations in downgradient MW-25 had previously exceeded the applicable action level of 0.5 µg/l, for evaluation in the Decision Tree analysis, concentrations of carbon tetrachloride for eight consecutive quarters from February 2024 to November 2025 were evaluated. Because eight consecutive quarters of exceedances did not occur and the data from these quarters do not demonstrate a stable or increasing trend, the Decision Tree criterion requiring an update to the Conceptual Site Model (CSM) and additional source evaluation was not triggered.

Groundwater monitoring data for dissolved chromium and hexavalent chromium were also evaluated using results from upgradient and downgradient monitoring wells over the last eight sampling periods. Because concentrations of chromium and hexavalent chromium in downgradient wells are generally within the range observed in upgradient wells, the monitoring data do not demonstrate a clear site-related concentration gradient or increasing trend. Therefore, the Decision Tree criterion has not been triggered and an update to the CSM is not warranted.

Because CSI declined to submit a work plan to the DTSC for additional monitoring for the release of hazardous materials from the CSI property that may be the cause of elevated concentrations of chromium being reported in groundwater downgradient of the CSI property at OU-4, there are currently no plans for an additional investigation of dissolved chromium and hexavalent chromium.

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-  Original Property Extent of Former Kaiser Steel Mill
-  Property Extent Purchased by CCG Ontario From Kaiser Ventures Inc. in 2000 (592 acres)

Operable Unit (OU) Boundaries

-  OU-1
-  OU-2
-  OU-3
-  OU-4

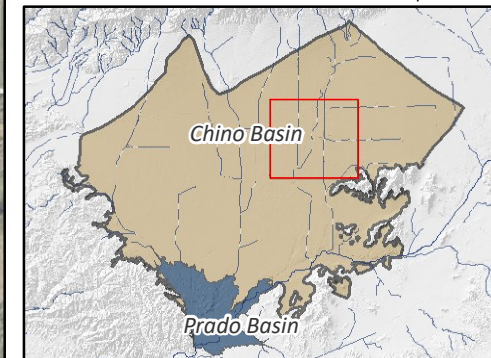
CCG Site Monitoring Wells* (some locations have multiple wells at various depths)**

-  OU-2
-  OU-3
-  OU-4

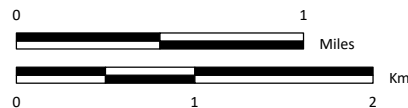
 Monitoring Wells Sampled Annually by Watermaster for the KWGWMP (some locations have wells at various depths)

*Multiple wells are part of more than one OU monitoring program and are shown as overlapping wells.

**Labels indicate wells that are mentioned in the report.



Prepared by:



Prepared for:

Chino Basin Watermaster
Annual Plume Report



Former Kaiser Steel
Mill and CCG Ontario Plume

Exhibit 1

Annual Plume Status Report

Milliken Landfill Plume October 2026

CONTAMINANTS

The primary contaminant is trichloroethene (TCE). The California maximum contaminant level (MCL) for TCE is 5 micrograms per liter (µg/l). The maximum TCE concentration detected in groundwater samples collected from wells within the plume area during the last five years (July 2021 to June 2026) is 9.0 µg/l (measured at well M-8B in October 2024). The highest concentration of TCE ever measured on site is 178 µg/l (measured at well M-2B in April 1997). Other contaminants of concern include the following volatile organic compounds (VOCs): tetrachloroethene (PCE), dichlorodifluoromethane, trichlorofluoromethane, 1,1-dichloroethane, and cis-1,2-dichloroethene.

LOCATION

The Milliken Sanitary Landfill (MSL) is a closed unlined landfill located in the City of Ontario along the northwest intersection of Milliken Avenue and Mission Boulevard. The MSL occupies an area of approximately 196 acres, about one mile west of Interstate 15 and 1.2 miles southeast of Ontario International Airport. The land bordering the site to the north, south and west was historically used for animal pastures and vineyards but is now primarily industrial with residential housing and commercial businesses present in the areas south and southwest of the site. The MSL is owned and managed by the County of San Bernardino Solid Waste Management Division (County). The MSL TCE plume extends downgradient from the site in a southwestern direction. The Chino Basin Watermaster (Watermaster) last updated its delineation of the extent of the plume in the *2024 State of the Basin Report*.¹ This characterization is based on the five-year maximum TCE concentration measured over the period of July 2019 through June 2024. The extent of the plume is approximately 2,400 feet wide and 1,700 feet long. Exhibit 1 shows the location and extent of the TCE plume as delineated by Watermaster.

SITE HISTORY AND CLOSURE

The MSL was operated as a Class III Municipal Solid Waste Management Unit, accepting non-hazardous waste from 1956 to March 1999. During this time, 140 acres of the 196-acre property were used for waste disposal. On June 24, 1991, the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) issued Cleanup and Abatement Order (CAO) No. 91-92 to the County and other landfill operators in the Santa Ana Region.² The order required the correction of drainage and erosion control deficiencies on the landfill property that could potentially cause the discharge of pollutants to groundwater. In 1994, the CAO

¹ West Yost Associates. (2025). Chino Basin Optimum Basin Management Program, 2024 State of the Basin Report. Prepared for Chino Basin Watermaster. September 2025.

² Santa Ana Water Board. (1991). Cleanup and Abatement Orders for County and City Landfills (CAO) No. 91-92. Letter from Gerard J. Thibeault to the County of San Bernardino Solid Waste Management Department. June 24, 1991.

was rescinded when the landfills achieved compliance, and concurrently, Order No. 94-17 was adopted to amend the Waste Discharge Requirements (WDRs) for all landfills in the Santa Ana Region and combine them under one WDR and Monitoring and Reporting Program (M&RP).³ In April 1996, the Santa Ana Water Board issued Cease and Desist Order No. 96-41 for the MSL for failure to maintain the drainage and erosion control systems.⁴ The order required the MSL to cease and desist the discharge of waste and to submit a workplan with a schedule for the design and construction of a permanent and effective drainage and erosion control system for site closure. In October 1996, the Santa Ana Water Board approved the *Final Closure and Post Closure Maintenance Plan* for the MSL.⁵ The MSL began its multiphase closure process while still accepting waste. Phase one, termed the “East Mound Closure”, was completed in March 1997, and was a pilot project to aid in the design of a soil cover for the rest of the landfill to prevent soil contaminants from leaching into the groundwater during precipitation events. Phase two, termed the “North and East Slope Closure”, was completed later in 1997 and included the construction of a six-foot-thick monolithic cover over 45 acres of the landfill. The final phase of the landfill closure was completed in March 2005 when the remaining 72 acres of the landfill were covered with a four-foot-thick monolithic cover.

Since its closure, the County maintains the MSL drainage and erosion control systems to ensure, to the greatest extent possible, that ponding, infiltration, inundation, erosion, slope failure, and washout are prevented during peak storm flows. The drainage control facilities consist of a network of earthen berms, benches, asphalt down drains and V-channels, concrete channels, reinforced concrete pipes, and sedimentation basins.

Since 2017, the County has leased a portion of the MSL property to PVN Milliken, LLC for a photovoltaic solar facility. The three-megawatt power generating solar facility consists of about 14.5 acres of solar panels located on the top and intermediate decks of the closed landfill. Exhibit 1 shows the footprint of this facility.

REGULATORY ORDERS

- Waste Discharge Requirements (WDR) and Monitoring and Reporting Program (M&RP) Order No. 81-3 and subsequent WDRs and M&RPs Order Nos. 93-57, 94-17, 96-40, 98-89, and R8-2015-0040 (current). Requirements for the design, construction, and maintenance of run-on runoff drainage control systems at the landfill and the supportive monitoring and reporting requirements. Orders Nos. 93-57, 94-17, 96-40, and 98-89 are combined WDRs and M&RPs for all landfills in the Santa Ana Region.
- CAO Order No. 91-92. Requirement for the MSL to correct drainage and erosion control deficiencies that existed on the landfill property.
- Cease and Desist Order No. 96-41. Order to cease and desist the discharge of waste in violation of waste discharge requirements and requirement for the MSL to submit a

³ Santa Ana Water Board. (1994). Tentative Order No. 94-17, Amending Waste Discharge Requirement for Municipal Solid Waste Landfills Within the Santa Ana Region. Letter from Kurt V. Berchtold to the County of San Bernardino Solid Waste Management Department. February 9, 1994.

⁴ Santa Ana Water Board. (1996). Tentative Cease and Desist Order No. 96-41, for Violations of WDRs (Order No. 81-3, as Amended by Order No. 93-57, Order No. 94-17, and Order No. 96-40) at the Milliken Sanitary Landfill, San Bernardino County. April 5, 1996.

⁵ Project Navigator, Ltd. (1999). Final Postclosure Maintenance Plan, Milliken Sanitary Landfill. Prepared for the County of San Bernardino Solid Waste System Division. September 1999.

workplan with a schedule for the design and construction of a permanent and effective drainage and erosion control system and for the implementation of the workplan.

- WDRs R8-2002-0033, amended by R8-2002-0085 and R8-2013-0020. General WDRs for the re-injection/percolation of extracted and treated groundwater within the Santa Ana Region. Terminated in May 2019 because the pump-and-treat system is no longer operable.⁶
- Water Code Section 13267 Order No. R8-2020-0033 (For the Determination of the Presence of Per- and Polyfluoroalkyl Substances (PFAS) at Closed Municipal Solid Waste Landfills Within the Santa Ana Region, San Bernardino County). Requirement to prepare workplan, conduct sampling and analysis, and submit sampling results to determine the presence of PFAS.

REGULATORY AND MONITORING HISTORY

On February 26, 1981, the Santa Ana Water Board adopted WDR No. 81-3 for the discharge of municipal solid wastes to land at the MSL.⁷ The WDR addressed the placement, monitoring, and reporting of waste at the landfill; however, it did not require groundwater monitoring. In 1987, groundwater monitoring began with the installation of five monitoring wells as part of the Solid Waste Assessment Test (SWAT) investigation.⁸ The initial monitoring results indicated that there were multiple contaminants in the groundwater underlying and adjacent to the landfill at concentrations significantly above background levels. The contaminants included multiple VOCs: dichlorodifluoromethane, 1,1-dichloroethene, PCE, and TCE.

On May 1989, the Santa Ana Water Board requested that the County investigate the nature and extent of the VOC contamination. The County submitted a workplan to the Santa Ana Water Board in July 1989 to implement the Phase I Evaluation Monitoring Program (EMP) and began implementing the approved Phase I EMP in 1992.⁹ During the implementation of the Phase I EMP, the County installed ten new monitoring wells: eight wells downgradient from the facility and two wells upgradient from the facility.¹⁰ Contaminants including TCE and PCE were detected in the new downgradient monitoring wells. After the implementation of the Phase I EMP, the County installed three additional monitoring wells along the southern boundary of the property, as well as one well upgradient and six wells downgradient of the property to further characterize the lateral and vertical extent of the TCE plume.

In January 1996, the County submitted a workplan for the Phase II EMP to install two additional monitoring wells along the southern boundary of the facility and two additional monitoring wells downgradient. The workplan was approved by the Santa Ana Water Board in February 1996.¹¹ Under the direction of the

⁶ Santa Ana Water Board. (2019). *Termination of Regulatory Coverage Under Waste Discharge Requirements, Order No. R8-2002-0033, Groundwater Cleanup Project for Milliken Sanitary Landfill, San Bernardino County*. Letter from Cindy Li to the County. May 9, 2019.

⁷ Santa Ana Water Board. (1981). *Order No. 81-3, Waste Discharge Requirements for the County of San Bernardino Solid Waste Management, Milliken Sanitary Landfill*. February 26, 1981.

⁸ IT Corporation. (1989). *Final Report Solid Waste Assessment Test Milliken Sanitary Landfill, Project No. 240275*. Prepared for County of San Bernardino Environmental Public Works Agency Solid Waste Management Department. June 1898.

⁹ IT Corporation. (1989). *Quarterly Report: Subchapter 15 Detection Monitoring Program for Cajon, Colton, Midvalley, Milliken, Plunge Creek, San Timoteo, and Yucaipa Landfills*. Prepared for County of San Bernardino Solid Waste Management Division. July 1989.

¹⁰ Converse Consultants Inland Empire. (1994). *Groundwater Contamination Evaluation, Milliken Sanitary Landfill*. Prepared for the County of San Bernardino Solid Waste Management Division.

¹¹ Santa Ana Water Board. (1996). *Milliken Landfill – Addendum to Phase II Workplan, Contaminant Plume Investigation*. Letter from Dixie B. Lass. February 6, 1996.

Santa Ana Water Board, the County completed the Phase II EMP and an Engineering Feasibility Study in 1998.^{12,13} Groundwater flow modeling was performed to support the selection of an appropriate remediation strategy.¹⁴

The Santa Ana Water Board approved a remediation alternative that included: (1) a pump-and-treat system for onsite contaminated groundwater and (2) monitored natural attenuation for offsite contaminated groundwater. Construction of the Point of Compliance Corrective Action Program (CAP) pump-and-treat system was completed on March 4, 1999, and consisted of 13 groundwater extraction wells located at the downgradient edge of the MSL site. Offsite monitoring for natural attenuation began at four offsite wells in 1998.

In 2000, groundwater levels began to decline monotonically in the vicinity of the MSL and by 2007, the groundwater level dropped below the total depths of all 13 onsite extraction wells and five offsite monitoring wells. In response, the Santa Ana Water Board requested that the County complete an updated feasibility study to evaluate the effectiveness of the remediation strategy and the extent of the contaminant plume. In March 2013, the County finalized the Updated Engineering Feasibility Study for the MSL (2013 Feasibility Study).¹⁵ The 2013 Feasibility Study evaluated several potential alternative treatments to mitigate the plume. The County concluded that monitored natural attenuation was the appropriate remediation alternative. This revised remediation alternative was approved by the Santa Ana Water Board on May 15, 2013.

The County and PVN Milliken, LLC submitted a revised Final Post-Closure Maintenance Plan in November 2016 and a land use plan in December 2016 to modify the MSL's end use plan to include the solar plant on the landfill surface.^{16,17} The Santa Ana Water Board approved the plans in January 2017.¹⁸ The revised post-closure maintenance plan provides a basis for plan inspection, maintenance, and monitoring of the MSL during the post-closure maintenance period. The revised land use plan describes PVN Milliken's modification to the landfill, and its responsibility to maintain and monitor the land in a way that does not impact groundwater and surface water quality.

¹² Geo-Logic Associates. (1998). *Phase II Evaluation Monitoring Report, Milliken Sanitary Landfill*. Prepared for the County of San Bernardino Solid Waste System Division. May 1998.

¹³ Geo-Logic Associates. (1998). *Engineering Feasibility Study, Milliken Sanitary Landfill*. Prepared for the County of San Bernardino Solid Waste System Division. May 1998.

¹⁴ Geo-Logic Associates. (1999). *Groundwater Flow Model, Milliken Sanitary Landfill*. Prepared for the County of San Bernardino Solid Waste System Division. February 1999.

¹⁵ Geo-Logic Associates. (2013). *Updated Engineering Feasibility Study for Corrective Action, Milliken Sanitary Landfill County of San Bernardino, California*. Prepared for the County of San Bernardino Solid Waste System Division. March 2013.

¹⁶ Project Navigator, Ltd. (2016). *Final Postclosure Maintenance Plan Milliken Sanitary Landfill 36-AA-0054 Ontario, California. Prepared for the County of San Bernardino Department of Public Works – Solid Waste Management Division on behalf of PVN Milliken, LLC*. September 10, 1999. Revised June 2004. Revised 2014. Revised November 2016.

¹⁷ Project Navigator, Ltd. (2016). *Land Use Plan for the Milliken Sanitary Landfill 36-AA-0054 Ontario, California, County of San Bernardino*. Prepared for the County of San Bernardino Department of Public Works – Solid Waste Management Division on behalf of PVN Milliken, LLC. December 2016.

¹⁸ Santa Ana Water Board. (2017). *Approval of the Revised Final Post Closure Maintenance Plan and Land Use Plan for Milliken Landfill, Ontario, San Bernardino County*. January 19, 2017.

In 2018, the County performed an evaluation of offsite impacts to groundwater at the MSL in response to a June 17, 2015 letter from the Santa Ana Water Board.¹⁹ The 2015 letter requested that the evaluation of offsite impacts include the following actions: (1) update the 1998 groundwater-flow model to incorporate the non-operating groundwater pump-and-treat system and use updated monitoring data; (2) collect gas samples from specified landfill gas probes; and (3) prepare a report and evaluate the need for corrective action based on the findings. Based on the results of the updated modeling and monitoring for the offsite evaluation, the County proposed the installation of a downgradient monitoring well and a pilot study at select groundwater treatment system wells to evaluate the effects of long-term gas withdrawal from the existing groundwater extraction wells and determine the feasibility of converting the groundwater treatment system to a Soil Vapor Extraction (SVE) system. The Santa Ana Water Board accepted the proposed actions on March 29, 2018.²⁰

The County conducted an SVE pilot test from October to December 2019 to evaluate the feasibility of using the now dry extraction wells for the pump-and-treat system to remove VOCs from the soil vapor in the vadose zone above the water table.²¹ The SVE pilot test involved using all 13 dry groundwater extraction wells installed along the downgradient edge of the MSL (see Exhibit 1) that connect to a 4-inch conveyance header-line routing to an SVE treatment unit.

REMEDIAL ACTION

As previously noted, the original remedial action plan of a pump-and-treat system and monitored natural attenuation was revised due to declining water levels. All 13 onsite extraction wells and five of the eight offsite monitoring wells dried up as groundwater elevations declined below well depths, causing the pump-and-treat system to cease operations in 2007. The 2013 Feasibility Study identified monitored natural attenuation, coupled with the existing mitigation measures, as the best remedial alternative of downgradient groundwater impacts and included certain trigger points that would require mitigation measures to be initiated. These trigger points include:

- When the total VOC load²² in samples from downgradient monitoring wells M-8A or M-8B exceeds the model-predicted VOC concentrations for two consecutive quarters, this will trigger improvements to the existing landfill gas extraction system.
- Once improvements to the landfill gas extraction system are implemented and a statistically significant increasing VOC concentration trend is identified in monitoring well M-8A or M-8B over a one-year period, this will trigger a requirement for additional mitigation measures to be implemented.

The trigger points were approved by the Santa Ana Water Board in 2013.²³ If additional remedial action is deemed necessary based on these trigger points, the most appropriate and cost-effective remediation

¹⁹ Santa Ana Water Board. (2015) *Groundwater Impacts Evaluation for Milliken Sanitary Landfill, San Bernardino County*. June 17, 2015

²⁰ Santa Ana Water Board. (2018). *Evaluation of Off-Site Impacts to Groundwater at the Milliken Sanitary Landfill, San Bernardino County* Global ID: L1000745844. March 29, 2018. Letter from Keith Person on behalf of Cindy Li.

²¹ Geo-Logic Associates in Association with Invirotreat Inc. (2020). *Pilot Test No. 2 Results Soil Vapor Extraction System Milliken Sanitary Landfill San Bernardino, California*. February 12, 2020.

²² Statistically significant increasing or decreasing trends are determined using Sen's Slope/Mann Kendall trend test.

²³ Santa Ana Water Board. (2013). *Identification of Triggers for Additional Corrective Action System for the Milliken Landfill, San Bernardino County*. Letter dated May 15, 2013.

measure will be evaluated at that time. The 2013 Feasibility Study also specified that if VOC concentrations increase to one-half of the model-predicted VOC concentrations in wells at the center of the plume, an additional offsite monitoring well would be necessary near well M-19 to monitor the natural attenuation of the plume in the lower aquifer as the plume moves away from the site.

Following completion of the SVE pilot study in 2019, the County submitted a report to the Santa Ana Water Board describing the results. The report concluded that full-scale operation of an SVE system at the MSL would be an effective means to minimize the potential for VOC impacts to groundwater without negatively impacting the operations of the landfill gas collection system at the site.²⁴ In May 2023, the South Coast Air Quality Management District issued a permit for the SVE extraction and treatment system and in August 2023, an SVE system (SVE-1) was installed to utilize the 13 existing dry groundwater extraction wells for the removal of VOCs in soil to minimize potential VOC impacts to groundwater. The County also installed an additional SVE system (SVE- 2) along the southern border of the MSL during the same month. Both systems remain in operation today.

MONITORING AND REPORTING

Pursuant to WDR and M&RP Order R8-2015-0040, the County conducts a groundwater, surface water, and soil-pore gas monitoring program at the MSL. The monitoring program consists of 17 groundwater monitoring wells, 11 piezometers, three surface water monitoring stations, and five soil-pore gas monitoring probes. Groundwater quality and groundwater levels are collected quarterly at the monitoring wells that are not dry (more than half are typically dry). Surface-water quality sampling is conducted quarterly when there is water at the sites.

Groundwater and surface water samples are analyzed for indicator general chemistry constituents, indicator metals, and VOCs. Additional constituents are monitored every five years. The results of the quarterly sampling events are documented in quarterly Water Quality Monitoring Program CAP reports and in an annual summary report in accordance with WDR and M&RP Order R8-2015-0040. The soil-pore gas monitoring probes are field-screened quarterly, and a measurement is collected for laboratory analysis when methane is detected at a concentration that is greater than five percent in volume. Landfill gas condensate sampling is conducted annually in the fourth quarter. Prior to being converted into SVE wells, the extraction wells were also monitored quarterly but were consistently dry. Since the conversion of the wells and the construction of the SVE system, air from the SVE wells has been sampled monthly, and the SVE system is sampled weekly. Additionally, the County also submits monthly inspection reports of site maintenance to the Santa Ana Water Board. These reports and all data that have been collected since 2005 are posted on the State Water Resources Control Board [GeoTracker website](#).²⁵

The groundwater data collected during the quarterly sampling events is statistically analyzed to identify increasing or decreasing trends of VOCs and other constituents of concern. The quarterly groundwater monitoring data are also used to assess the natural attenuation of the offsite extent of the plume. VOC concentrations at monitoring wells M-8B and M-8A (if not dry) are used to determine if there are triggers that would necessitate further corrective actions. These triggers are based on model-predicted concentrations from the 1999 groundwater modeling conducted to evaluate the pump-and-treat system. Exhibit 1 shows the locations of wells M-8A and M-8B.

²⁴ Geo-Logic Associates in Association with Invirotreat Inc. (2020). *Pilot Test No. 2 Results Soil Vapor Extraction System Milliken Sanitary Landfill San Bernardino, California*. February 12, 2020.

²⁵ https://geotracker.waterboards.ca.gov/profile_report?global_id=L10007458441

The following table shows the model-predicted VOC concentrations over time:

Table 1. Model Predicted Total VOC Load to Trigger Remedial Action at the MSL					
Year	Total VOC Load at M-8A or M-8B ^(a), µg/l	Year	Total VOC Load at M-8A or M-8B ^(a), µg/l	Year	Total VOC Load at M-8A or M-8B ^(a), µg/l
2013	120	2027	123	2041	50
2014	123	2028	117	2042	45
2015	125	2029	112	2043	40
2016	128	2030	106	2044	35
2017	130	2031	101	2045	30
2018	130	2032	96	2046	25
2019	129	2033	90	2047	20
2020	128	2034	85	2048	18
2021	127	2035	80	2049	16
2022	126	2036	75	2050	14
2023	125	2037	70	2051	13
2024	124	2038	65	2052	12
2025	124	2039	60	2053	11
2026	123	2040	55	2054	10
Notes:					
(a) Total VOC load (µg/l) equals the sum of all detected VOC concentrations in a given sample.					

In November 2020, the County conducted a one-time monitoring event for per- and polyfluoroalkyl substances (PFAS) pursuant to an Investigative Order by the Santa Ana Water Board pursuant to California Water Code Section 13267.26 Sampling for PFAS occurred at four monitoring wells (M-5B, M-2D, M-6B, M-15B) and one landfill gas condensate location. The final report was submitted to the Santa Ana Water Board on December 30, 2020. Perfluoro-n-pentanoic acid (PFPeA) and 6:2 fluorotelomer sulfonate (6:2 FTS) were detected at concentrations above the laboratory reporting limits at wells M-5B, M-6B, and M-15B, and perfluorohexane sulfonate (PFHxS) and perfluorooctanoic acid (PFOS) were detected above the laboratory reporting limits at well M-5B. The concentration of PFOS was 4.5 nanograms per liter (ngl), which was below the California (CA) notification level of 6.5 ngl at the time, but above the current federal MCL of 4 ngl.²⁷ The concentration of PFHxS was below the CA notification level of 10 ngl at the time.²⁸ All other PFAS constituents were non-detect.

²⁶ Santa Ana Water Board. (2020). *Water Code Section 13267 Order No. R8-2020-0033, For the Determination of the Presence of Per- and Polyfluoroalkyl Substances (PFAS) at Closed Municipal Solid Waste Landfills Within the Santa Ana Region, San Bernardino County*. July 21, 2020.

²⁷ Geo-Logic Associates. (2020). *Results for Sampling and Analyses of Per – and Polyfluoroalkyl Substances at Select Santa Ana Region Closed Landfill Facilities*. December 30, 2020.

²⁸ In October 2025, the CA notification levels for PFOS and PFHxS were revised based on the federal Fifth Unregulated Contaminant Monitoring Rule minimum reporting levels. Currently, the notification level for PFOS is 4 ngl and the notification level for PFHxS is 3 ngl. Additionally, in 2024 the EPA established an MCL of 10 ngl for PFHxS.

RECENT ACTIVITY

The results of the 2025 annual monitoring activities are described in the First Quarter 2026 and 2025 Annual Summary Monitoring Report.²⁹ Key findings from 2025 include the following:

- An extended list of general minerals and parameters, which are monitored every five years were included in the 2025 monitoring efforts.
- Concentrations of most VOCs and inorganic constituents have been variable over the past five years except for chloride, nitrate, calcium, and sulfate which have been increasing in some wells since 2021.
- PCE and TCE were both reported above the MCL of 5 µgl in 2025; however total VOC concentrations were significantly below the trigger level for remedial action shown in Table 1.
- Bromodichloromethane and chloroform in well M-6B show slightly increasing trends since 2022 but remain below the Federal MCL of 80 µgl for both constituents.
- Nitrate concentrations were also reported above the MCL in samples collected from two wells in 2025 and have been increasing since 2022 likely due to historical agricultural land use.
- Groundwater elevations continued to increase since 2023 but remain 30 to 40 feet below elevations measured in the mid-1990s and most wells remain dry.
- Surface water sites were dry, so no surface water samples were collected during 2025.
- No landfill gas sample were collected for VOC testing during 2025 since field screening found no methane at concentrations at or above 5 percent.
- Approximately 81.26 pounds of VOCs were removed by the SVE system in 2025.

The County's most recent monitoring event occurred in June of 2026 and the results were reported in the Second Quarter 2026 Monitoring Report submitted to the Santa Ana Water Board on July 29, 2026.³⁰ During the sampling event, groundwater levels were measured at seven monitoring wells and groundwater-quality samples were collected at seven monitoring wells. The rest of the monitoring wells and piezometers were dry. During the second quarter sampling event all three surface water sites were dry and therefore were not sampled. Exhibit 1 shows the monitoring wells that were sampled during the second quarter of 2026, and the wells that were dry. Key findings include:

- Overall, observed groundwater monitoring results were consistent with historical results.
- TCE concentrations exceed the MCL of 5 µgl in M-8B but are well below the level to trigger corrective action (See Table 1).
- VOC concentrations in site monitoring wells appear to be either stable or decreasing and no corrective action was triggered through the first half of 2026.
- Nitrate was detected above the MCL in two wells (M-7B and M-8B) and at concentrations higher than historic values in three wells. Sulfate also exceeded the previous historical maximum concentration in one well but remained below the MCL.
- No methane was detected in the soil-pore gas screening samples; therefore, no samples were collected for laboratory sampling. Additionally, no newly detected compounds were

²⁹ Geo-Logic Associates. (2026). *First Quarter 2026 and 2025 Annual Summary Water Quality Monitoring Program Corrective Action Program*. Prepared for San Bernardino County Solid Waste Management Division. April 28, 2026.

³⁰ Geo-Logic. (2026). *Second Quarter 2026 Monitoring Report Water Quality Monitoring Program Corrective Action Program Milliken Sanitary Landfill Ontario, California*. Prepared for San Bernardino County Solid Waste Management Division. July 29, 2026.

identified in the landfill gas condensate sample collected during the fourth quarter 2025 so retesting was not required in April 2026.

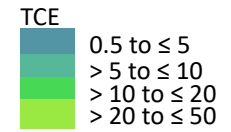
- During the second quarter 2026 monitoring period the SVE system removed a total of approximately 14.32 pounds of VOCs from the vadose zone.
- The upper aquifer remained dry during the first half of 2026, while groundwater levels increased in the lower, semi-confined aquifer.

Overall, the continued presence of low concentrations of VOCs in downgradient monitoring wells indicates landfill gas impacts to groundwater. Concentrations of most VOCs, however, appear to be stable or decreasing and the SVE system is expected to continue to decrease VOC concentrations in groundwater. Locally elevated inorganic constituent concentrations in site monitoring wells attest to a minor leachate component of the historical landfill release to groundwater. Therefore, the report recommends that monitoring at the MSL continue under existing protocols.

WEST YOST - K:\Clients\941 Chino Basin Watermaster\00-00-00 Master\PE6 - Water Quality\GIS\Map\Plumes\Status\Annual\Milliken Landfill\2026\2026 - MillikenPlume Status_Ext.mxd - 9/29/2026



Maximum Concentration ($\mu\text{g/L}$)
July 2019 - June 2024

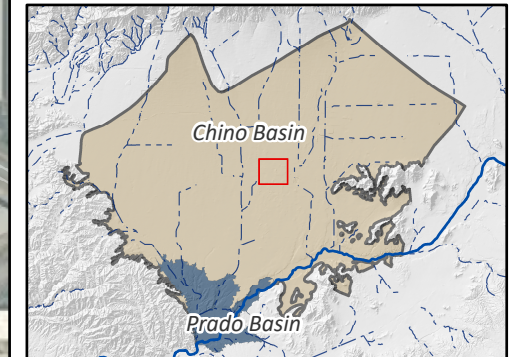


(Delineated by Watermaster in the 2024 State
of the Basin Report)

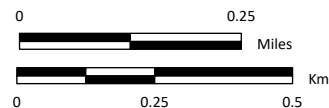
County of San Bernardino Monitoring Wells*
and Piezometers

- Sampled in 2026
- Dry in 2026
- Surface Water Monitoring Station
 - Sampled in 2026
 - Dry in 2026
- Former Groundwater Extraction Well
and Current SVE Well
- Extent of Solar Facility
- Milliken Sanitary Landfill Boundary

* Wells labeled by name if mentioned in report



Prepared by:



Prepared for:

Chino Basin Watermaster
Annual Plume Report



Milliken Sanitary Landfill
TCE Plume

Exhibit 1

Annual Plume Status Report

Stringfellow Plume October 2026

CONTAMINANTS

The primary contaminants at the Stringfellow site are perchlorate, trichloroethene (TCE), and chloroform. The California maximum contaminant levels (MCL) for perchlorate and TCE are 6 micrograms per liter (µg/l) and 5 µg/l, respectively. Chloroform does not have an MCL but is assessed to a cleanup level of 6 µg/l for the Stringfellow site.¹ The maximum contaminant concentrations detected in groundwater for the recent five years within the various designated zones of the Stringfellow site are shown in Table 1 below.

Table 1. Five-Year Maximum Contaminant Concentrations in Stringfellow by Zone between July 2021 and June 2026			
Contaminant	MCL or Cleanup Level, µg/l	Five-Year Maximum Concentration – July 2021 – June 2026, µg/l	
		Zones 1-3 (Within Pyrite Canyon)	Zone 4 (Downgradient of Pyrite Canyon)
perchlorate	6	1,300	86
TCE	5	180,000	23
chloroform	6	5,600	15

Additional contaminants at the site include other volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, para-chlorobenzene sulfonic acid, n-nitrosodimethylamine, and various heavy metals. Furthermore, the groundwater beneath the former waste evaporation ponds is highly acidic with pH levels measuring below 4.

LOCATION

The Stringfellow plume is located in the City of Jurupa Valley in the eastern portion of the Chino Basin in Riverside County. The plume extends south-southwest from Pyrite Canyon in the Jurupa Mountains which is the location of the former Stringfellow hazardous waste facility (Stringfellow site). The plume is geographically divided into four groundwater zones in consideration of various operational and remediation activities: three in Pyrite Canyon, and one downgradient from the canyon. These zones shown in Exhibit 1, include:

- **Zone 1 (On-site/Upper Mid-Canyon Area)** is located in the northernmost part of Pyrite Canyon and includes the original 17-acre disposal facility. It is divided into two areas (Zone 1A and Zone 1B) that are separated by a man-made clay barrier constructed downgradient of the evaporation ponds in 1980 to mitigate subsurface flow. Zone 1A is located upgradient of the clay barrier and includes the former evaporation ponds. Zone 1B extends 600 feet south of the barrier below the evaporation ponds and includes the Pyrite Canyon Treatment Facility.

¹ Cleanup levels were established for TCE (5 µg/l and equal to the MCL) and chloroform (6 µg/l) in the Interim Records of Decision 4 by the United States Environmental Protection Agency.

- **Zone 2 (Mid-Canyon Area)** comprises the central portion of Pyrite Canyon and includes the Pre-Treatment Plant and a line of extraction wells.
- **Zone 3 (Lower Canyon Area)** extends from just south of the extraction wells in Zone 2 to just north of Highway 60 and includes the Lower Canyon Treatment Facility.
- **Zone 4** is the largest zone and extends from Highway 60 to immediately north of the Santa Ana River; it is a residential and light industrial area in the City of Jurupa Valley and includes the Community Well Head Treatment System.

In addition to these four zones, there are two areas defined by the United States Environmental Protection Agency (USEPA) in Pyrite Canyon (Area 1 and Area 2) where the USEPA conducts investigations to characterize potential additional sources of perchlorate that contribute to surface water runoff and groundwater contamination in Zones 1-4. These areas are also shown in Exhibit 1.

Exhibit 1 shows the general extent of the TCE plume originating from the former Stringfellow site with detectable concentrations of TCE greater than or equal to 0.5 µgl, as delineated by the Chino Basin Watermaster (Watermaster) for the *2024 State of the Basin Report*.² The plume is approximately 3.2 miles long and 0.3 miles wide and extends from Zone 1 to the midpoint of Zone 4 near the Community Wellhead Treatment System.

Exhibit 1 also shows the extent of the Undifferentiated Perchlorate Plume originating from the Stringfellow site with concentrations greater than or equal to 6 µgl, as delineated in the *2022 Annual Groundwater Monitoring and Remedy Effectiveness Evaluation Report*.³ The perchlorate plume extends from Zone 1 approximately 0.94 miles south/southwest to Zone 3, and then extends again through Zone 4 approximately 3.6 miles to just north of the Santa Ana River. The width of the perchlorate plume varies between approximately 0.1 and 1 mile. There are also a few smaller perchlorate plumes to the east and west of the main plume as shown in Exhibit 1. The source of these plumes is undetermined. Investigations by the USEPA in Areas 1 and 2 indicated that there are sources of perchlorate located upstream and lateral to the Stringfellow site that are contributing to the groundwater plume in addition to the perchlorate originating from the Stringfellow site.^{4,5} In 2022, the DTSC submitted a technical memorandum titled *Sources of Perchlorate in Pyrite Canyon, Riverside County, California* to the USEPA which identifies additional sources of perchlorate and calculates the perchlorate mass being contributed to the plume by each source.⁶ The technical memorandum concludes that the majority of perchlorate in groundwater in the Pyrite Canyon was due to surface water releases from other areas that infiltrated the unlined sections of Pyrite Creek.

² West Yost Associates. (2025). *Optimum Basin Management Program - 2024 State of the Basin Report*. Prepared for the Chino Basin Watermaster. September 2025.

³ Kleinfelder. (2026). *2022 Annual Groundwater Monitoring and Remedy Effectiveness Evaluation Report, Stringfellow Superfund Site*. Prepared for California Department of Toxic Substances Control. January 161, 2026.

⁴ CH2M. (2017). *Draft Final Remedial Investigation Report EPA Area 1, Stringfellow Superfund Site, Jurupa Valley, California*. Prepared for U.S. Environmental Protection Agency, Region 9. April 2017.

⁵ Ramboll US Corporation. (2020). *EPA Area 2 Remedial Investigation Report, Stringfellow Superfund Site, Jurupa Valley, California*. Prepared for California Environmental Protection Agency, Department of Toxic Substances Control. April 6, 2020.

⁶ California Department of Toxic Substances Control. (2022). *Sources of Perchlorate in Pyrite Canyon, Riverside County, California*. Technical Memorandum. December 22, 2022.

The 2023 *Final Zone 4 Data Gap Investigation Report* assessed perchlorate in groundwater based on chemical composition.⁷ Based on the investigation, the DTSC updated its Conceptual Site Model to define two perchlorate plumes in Zone 4: (1) the Undifferentiated Perchlorate Plume that extends south towards the Santa Ana River and is attributed to releases from multiple sources in and near Pyrite canyon as well as perchlorate releases from sources in Jurupa Valley, including historical application of perchlorate-containing fertilizers; and (2) the Pyrite Canyon Synthetic Perchlorate Plume that extends to about 54th Street and is defined as the contiguous aquifer zone in which perchlorate concentrations exceed the MCL and the fraction of synthetic perchlorate is dominant (70% or greater). The Zone 4 remedy will target perchlorate contamination within the Pyrite Canyon Synthetic Perchlorate Plume. The extent of perchlorate in Zone 4 appears stable in both the undifferentiated and synthetic plumes and overall concentrations are declining.

The extent of the chloroform plume, which is much smaller than the TCE and perchlorate plumes, is limited to Zones 1 and 2 and is not shown in Exhibit 1.

SITE AND REGULATORY HISTORY

Stringfellow Quarry Company Inc. operated the Stringfellow site as a Class I Hazardous Waste Disposal Facility from 1956 to 1972 pursuant to the issuance of a land use variance by the Riverside County Planning Commission in 1952. During this time, an estimated 34 million gallons of industrial liquid waste containing spent acids, caustics, solvents, pesticide byproducts, metals, and other organic and inorganic constituents—derived primarily from electroplating, metal finishing, and pesticide manufacturing—were deposited in as many as 20 evaporation ponds (located within Zone 1A on Exhibit 1).⁸ Liquid wastes were also sprayed into the air to reduce the volume of wastes accumulating in the ponds. In 1969, heavy rainfall caused the disposal ponds at the facility to overflow resulting in the discharge of contaminated liquids to Pyrite Creek and violating the waste discharge requirements imposed by the County of Riverside and the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board). In November 1972, the site ceased operation and by 1975, all efforts by the site operator to re-open had been exhausted. In 1978, heavy rains again threatened to cause the ponds to overflow and the Santa Ana Water Board authorized an 800,000-gallon release from the ponds to prevent a larger uncontrolled release caused by the heavy rains.

Between 1975 and 1980, approximately 6.5 million gallons of liquid wastes were removed from the facility. Following the removal activities, the USEPA and the United States Coast Guard (USCG) assisted the Santa Ana Water Board with the initiation of response actions and site investigation studies. In October 1981, the Stringfellow site was placed on the USEPA Interim Priorities List of Hazardous Waste Sites. On December 30, 1982, the Stringfellow site was proposed for the USEPA's final National Priorities List (NPL) as a Superfund site, and on September 8, 1983, it was placed on the final NPL. In 1993 the Department of Toxic Substances Control (DTSC) assumed responsibility for maintenance of the Stringfellow site on behalf of the State of California through a Cooperative Agreement with the USEPA. Since that time, over 45 phases of investigation, feasibility testing, and remedial actions have been performed by various entities at the site. A record of these activities and associated reports can be found on the DTSC EnviroStor website.⁹

⁷ Kleinfelder, Inc. (2023). *Final Zone 4 Data Gap Investigation Report Jurupa Valley California*. Prepared for California Department of Toxic Substances Control. August 30, 2023.

⁸ U.S. Army Corps of Engineers. (2016). *Fifth Five-Year Review Report for Stringfellow Superfund Site Riverside County, California*. September 2016.

⁹ <https://www.envirostor.dtsc.ca.gov/public/>

REGULATORY ORDERS

From 1983 to 1990, the USEPA adopted four interim Records of Decision (RODs) to guide remediation efforts at the Stringfellow site. The following summarizes the four RODs and major remedial actions set forth therein:

- **ROD 1** (USEPA 1983).¹⁰ The first ROD directed completion of several initial abatement activities including: fencing the site, erosion control, hauling and disposal of contaminated liquids, and interim source control.
- **ROD 2** (USEPA 1984).¹¹ The second ROD included the construction of the Pre-Treatment Plant in the mid-canyon area located within Zone 2.
- **ROD 3** (USEPA 1987).¹² The third ROD included the installation of an upgradient surface water diversion north of the original contamination site within Zone 1A, and the installation of a groundwater barrier system in the lower canyon area located within Zone 3.
- **ROD 4** (USEPA 1990).¹³ The fourth ROD delineated the site into four geographic zones (Zones 1-4, as described above), and directed the construction of the Community Wellhead Treatment Facility in Zone 4, the installation of additional extraction wells for dewatering the original disposal area in Zone 1, field testing of soil vapor extraction, and field testing of the reinjection of treated groundwater in the upper canyon area.

A fifth and **final ROD (ROD 5)**, outlining the final remedial action objectives for Zones 1, 2, 3, and 4, is currently being prepared by the USEPA and DTSC. The agencies will first release a plan outlining the remediation options for ROD 5. After selecting a remedy, USEPA will issue the Final ROD 5 detailing the rationale and goals for the chosen approach. ROD 5 is being developed based on multiple planning studies:

- **Interim Final Technical Impracticability Evaluation (Interim Final TIE) report.** The Interim Final TIE report states that while current remedial actions are effective at containing the plume, there are no remedial actions that would be effective at restoring groundwater to regulatory levels.
- **Final Supplemental Feasibility Study Addendum for Zones 1 to 3 (2022 Feasibility Addendum).** Addendum provides: 1) recommendations to optimize existing remedies; 2) additional remedial action objectives for Zone 3; and 3) recommendations for three Remedy Optimization Alternatives to reduce migration of site-related contamination from Zone 3 to

¹⁰ United States Environmental Protection Agency (USEPA). (1983). *EPA Superfund, Record of Decision: Stringfellow Acid Pits Site*. USEPA ID: CAT080012826, OU01, Mira Loma, California. July 1983.

¹¹ United States Environmental Protection Agency (USEPA). (1984). *Record of Decision, Stringfellow Acid Pits, Summary of Remedial Alternative Selection*. July 1984.

¹² United States Environmental Protection Agency (USEPA). (1987). *Record of Decision: Stringfellow Acid Pits, Summary of Remedial Alternative Selection (Early Implementation Action)*. June 1987.

¹³ United States Environmental Protection Agency (USEPA). (1990). *Record of Decision: Stringfellow Hazardous Waste Site*. September 1990.

Zone 4.^{14,15} Although more costly, the Addendum identifies the installation of a horizontal well as the most effective alternative to reduce the migration of site-related contamination from Zone 3 to Zone 4.

- **Draft Zone 4 Feasibility Study Report, Revision 8 (Zone 4 Feasibility Study).**¹⁶ Includes revised remedial action objectives for Zone 4, along with an evaluation of five potential remedial alternatives for the synthetic perchlorate plume, all of which have been supported by multiple investigations and assessments, including the most recent *Zone 4 Data Gap Investigation* and *Zone 4 Monitored Natural Attenuation Technical Memorandum*.^{17,18}

REMEDIAL ACTION

In 1980, prior to the first ROD, the Santa Ana Water Board adopted an interim abatement program to contain the waste and minimize the risk of further contaminant migration. Several remedial solutions were implemented, including the removal of liquid waste from ponds, partial neutralization and capping of wastes, the construction of a subsurface clay barrier wall downgradient from the pond area, and drainage control features.

Groundwater Extraction and Treatment System

Following the completion of remedial measures required by ROD 1 and the issuance of ROD 2, a groundwater extraction and treatment system was developed and has become the primary remedial action implemented at the site. The groundwater extraction and treatment system, which has expanded over time, currently consists of a network of 65 extraction wells throughout Zones 1-4 and two treatment plants operated by the DTSC on behalf of the State of California: the Pyrite Canyon Treatment Facility and the Community Wellhead Treatment System. The Pre-Treatment Plant and Lower Canyon Treatment Facility are no longer active. Exhibit 1 shows the locations of the four treatment plants; the following is a brief description of each:

- **Pyrite Canyon Treatment Facility (active).** This plant is located in Zone 1B and treats contaminated groundwater from extraction wells in Zones 1, 2, 3, and 4. The Pyrite Canyon Treatment Facility was constructed in 2017 to replace the aging infrastructure of Pre-Treatment Plant and began operating on April 4, 2017. The treatment facility uses granular activated carbon (GAC) to treat for low pH, pesticides, metals, perchlorate, and VOCs. Treated effluent is stored onsite and then released to the Inland Empire Brine Line and the Orange County Sanitation Districts wastewater collection, treatment, and disposal

¹⁴ Ramboll US Consulting, Inc. (2022). *Interim Final Technical Impracticability Evaluation Report, Stringfellow Superfund Site, Jurupa Valley, California*. Prepared for California Environmental Protection Agency Department of Toxic Substances Control. March 11, 2022.

¹⁵ Ramboll US Consulting, Inc. (2022). *Final Supplemental Feasibility Study Addendum for Zones 1 to 3, Stringfellow Superfund Site, Jurupa Valley, California*. Prepared for California Environmental Protection Agency Department of Toxic Substances Control. March 11, 2022.

¹⁶ Kleinfelder. (2025). *Draft Zone 4 Feasibility Study Report for the Pyrite Canyon Synthetic Perchlorate Plume, Revision 8*. Prepared for California Environmental Protection Agency Department of Toxic Substances Control.

¹⁷ Kleinfelder, Inc. (2022). *Revised Final Zone 4 Monitored Natural Attenuation Technical Memorandum*, Jurupa Valley California. Prepared for California Department of Toxic Substances Control. May 26, 2022.

¹⁸ Kleinfelder, Inc. (2023). *Final Zone 4 Data Gap Investigation Report Jurupa Valley California*. Prepared for California Department of Toxic Substances Control. August 30, 2023.

facilities, under a permit from the Santa Ana Watershed Project Authority (SAWPA Brine Line Permit). Some of the treated effluent is used for utility water at the treatment facility.

- **Community Wellhead Treatment System (active).** This plant is located in Zone 4 and treats contaminated groundwater pumped from two wells in Zone 4 for VOCs and perchlorate. Treated effluent is discharged to Pyrite Creek under an NPDES permit in compliance with Order # R-8-2012-0027 and Monitoring and Reporting Program No. R8-2012-0027-002. Treated effluent is also used for irrigation by local residents. Discharge volumes are summarized in monthly summary reports that are submitted to the Santa Ana Water Board.
- **Pre-Treatment Plant (inactive).** This plant is located in Zone 2 and began operating in 1985 pursuant to the second ROD. It formerly treated VOCs in groundwater from extraction wells in Zones 3 and 4 and stored at the Lower Canyon Treatment Facility. The Pre-Treatment Plant was shut down on October 29, 2019, and since then groundwater from Zones 3 and 4 extraction wells is redirected to the Pyrite Canyon Treatment Facility for treatment.
- **Lower Canyon Treatment Facility (inactive).** This facility is located in Zone 3 and formerly treated groundwater pumped from extraction wells in Zones 3 and 4 for VOCs. Treated effluent from the Lower Canyon Treatment Facility was piped to and stored at the Pre-Treatment Plant and subsequently released to the Inland Empire Brine Line. Currently, the facility is in a standby state. Since October 29, 2019, groundwater extracted from Zones 3 and 4 has been first stored at the Lower Canyon Treatment Facility and then pumped for treatment at the Pyrite Canyon Treatment Facility.

Pursuant to the *Final Project Management Plan for Stringfellow Acid Pits Superfund Site*¹⁹, the DTSC submits sitewide monthly progress reports to the USEPA on the operation and effectiveness of the groundwater pump-and-treat system.

The USEPA prepares 5-year review reports for the Stringfellow Site to determine if the remedy is, and will continue to be, protective of human health and the environment. The most recent 5-year report was prepared in 2021²⁰ and the main findings included:

- The remedy is operating as intended and is minimizing the migration of the groundwater plume from all four zones.
- Zone 4 continues to progress towards meeting the remedial action objectives of restoring groundwater to cleanup levels.
- Summarizes and considers the findings of the 2021 Pyrite Canyon Groundwater Flow Model report²¹ that the groundwater extraction systems prevent site-related chemicals in groundwater from migrating further down canyon and into Zone 4, except for a few areas identified in Zones 2 and 3.
- Perchlorate concentrations in Zone 4 in excess of the MCL extend past the Community Wellhead Treatment System extraction wells; however, perchlorate in this area is attributable to historical use of Chilean fertilizer rather than site-related sources. However, there are institutional controls

¹⁹ State of California Department of Toxic Substances Control. (2014). *Final Project Management Plan for Stringfellow Acid Pits Superfund Site 3450 Pyrite Street Jurupa Valley, California*. December 22, 2014.

²⁰ U.S. Army Corps of Engineers, Seattle District. (2021). *Sixth Five-Year Review Report for the Stringfellow Superfund Site Riverside County, California*. Prepared for U.S. Environmental Protection Agency Region 9. September 27, 2021.

²¹ Ramboll US Corporation. (2021). *Pyrite Canyon Groundwater Flow Model*. Prepared for California Department of Toxic Substances Control. January 27, 2021.

restricting potable well use in Zone 4 and former domestic-well residences were connected to the municipal system in 1989.

The next 5-Year review is expected to be prepared by the end of 2026 and will provide an updated assessment of the remedy effectiveness.

MONITORING AND REPORTING

The DTSC has collected and analyzed groundwater samples at the Stringfellow site at varying intervals throughout its history. Currently, there are approximately 640 extraction and monitoring wells and piezometers at the Stringfellow site that are actively monitored for groundwater elevations and/or groundwater quality. Table 2 summarizes the number and type of wells by zone or area as of 2022.

Groundwater sampling at the Stringfellow site monitoring wells is performed in accordance with the *Final Sitewide Groundwater and Surface Water Monitoring Plan and Sampling and Analysis Plan* (2016 SAP) and includes quarterly groundwater level measurements at both monitoring and extraction wells, and the collection of annual groundwater samples from selected monitoring wells.²² While most wells are sampled annually, new wells and selected upgradient monitoring wells are sampled quarterly. The groundwater samples are analyzed for VOCs, perchlorate, para-chlorobenzenesulfonic acid or 4-chlorobenzenesulfonic acid (pCBSA)²³, total dissolved chromium, and hexavalent chromium and the findings are presented in quarterly and annual reports.

Groundwater extraction wells are sampled separately in accordance with the 2024 Influent Systems OM&M Manual and are analyzed for several additional analyte groups, including SVOCs, 1,4-dioxane, NDMA, PCBs, metals, and anions and cations.²⁴ In accordance with monitoring requirements, all extraction wells are sampled annually with the exception of Zone 4 extraction wells CTP-TW1 and CTP-TW2, which are sampled quarterly for VOCs, perchlorate, nitrate, sulfate, and total dissolved solids (TDS), and CTN-TW1 and CTS-TW2 which are sampled monthly for VOCs. The results of the extraction well sampling are presented in both monthly and annual operations, maintenance, and monitoring reports.

In 2005, the DTSC initiated surface water sampling to evaluate perchlorate concentrations in storm water runoff in Pyrite Creek and its tributary channels. Currently, surface water sampling and reporting are executed pursuant to the 2024 *Final Surface Water Sampling and Analysis Plan*, which is included as an appendix to the 2016 SAP. Surface water sampling is performed during qualifying storm events, which are classified using the following criteria: at least 72 hours of dry weather have elapsed since a previous storm event, and a storm event produces sufficient runoff during daylight hours to perform sampling. Results from surface water sampling events are reported in Surface Water Sampling Results reports and in an Annual Surface Water Sampling Analysis Report.

²² Kleinfelder. (2016). *Final Sitewide and Surface Water Monitoring Plan and Sampling and Analysis Plan Stringfellow Superfund Site, Jurupa Valley California*. Prepared for California Department of Toxic Substances Control. July 19, 2016.

²³ pCBSA is a chemical contaminant generated as a byproduct of dichloro-diphenyl-trichloroethane (DDT) manufacturing. Although a cleanup criterion has not been established for pCBSA, an evaluation of the compound is included in monitoring efforts since it is considered to be an indicator parameter from the Stringfellow source area. pCBSA has a California Public Health Protective Concentration of 3 milligrams per liter.

²⁴ Veolia Water. (2024). *Influent Systems Operations, Monitoring, and Maintenance Manual*. Prepared for State of California Department of Toxic Substances Control. August 2024.

Results of the groundwater and surface water sampling are also included in annual groundwater remedy effectiveness evaluation reports, which include a review and assessment of all the data collected to evaluate the effectiveness of the remedial actions.

Table 2. Monitoring Well Schedule						
Zone or Area	Number of Wells	Well Type				
		Monitoring Well	Extraction Well	Piezometer	Extraction Sump	Water Supply Well
1A	136	87	43	0	6	-
1B	76	53	10	13	-	-
2	35	27	8	0	-	-
3	136	120	12	0	-	-
4	171	134	4	33	-	-
USEPA Area 1/2	33	33	0	0	-	-
Total	587	454	78	46	6	-

Watermaster collects all relevant groundwater and surface water data from the DTSC's Stringfellow LIMS Database on a bi-annual basis as part of its Chino Basin Data Collection effort. These data are periodically used by Watermaster to support its basin management initiatives.

RECENT ACTIVITY

The most recent groundwater monitoring report, the *2024 Annual Groundwater Sampling and Analysis Report* was originally submitted by the DTSC to the USEPA on February 11, 2025.²⁵ A draft of the Revised Annual Groundwater Sampling report was submitted in April 2026. During the 2024 monitoring event, groundwater levels were measured at 626 monitoring and extraction wells, and groundwater-quality samples were collected from 338 monitoring wells and piezometers. Groundwater quality samples and groundwater level measurements were unable to be collected at 39 wells for various reasons, such as access restrictions and insufficient water.

The most recent surface water monitoring report, the *Draft 2024-2025 Annual Surface Water Sampling and Analysis Report* was submitted by the DTSC to the USEPA on July 13, 2026.²⁶ The report provides a summary of the two stormwater monitoring events during the 2024-2025 rain year. It also describes discrepancies from 2016 SAP procedures, one of which was that several parameters specified in the 2016 SAP were not analyzed during the first sampling event in February 2025.

The most recent *Annual Groundwater Monitoring and Remedy Effectiveness Evaluation Report* was for 2022 and was submitted by the DTSC on January 16, 2026. The report includes a review and assessment of groundwater flow data, groundwater and surface water quality data, groundwater treatment system data,

²⁵ Geo-Logic Associates. (2025). *2024 Annual Groundwater Sampling and Analysis Report, Jurupa Valley California*. Prepared for California Department of Toxic Substances Control. February 11, 2025.

²⁶ Geo-Logic Associates. (2026). *Draft 2024-2025 Annual Surface Water Sampling and Analysis Report, Stringfellow Superfund Site, Riverside County, California*. Prepared for California Department of Toxic Substances Control. July 13, 2026.

and evaluation of the effectiveness of sitewide remedial actions.²⁷ The report concludes that, overall, remedial actions have been effective in reducing contaminants by removing a substantial mass of solutes. Other key findings include the following:

- The distribution and pattern of COCs in groundwater are similar to previous years.
- Perchlorate concentrations above the 6 µg/l MCL extend into Zone 4 in each of the aquifer layers.
- TCE concentrations at or above the 5 µg/l MCL extend from the northern portion of Zone 1 to the southern end of Zone 3 and were detected in seven Zone 4 wells.
- Chloroform concentrations above the 6 µg/l cleanup level are limited to Zones 1A, 1B, and 2.
- Perchlorate and TCE are predominantly decreasing, suggesting the plumes are stable or decreasing.
- Approximately 1,169 pounds of perchlorate, TCE, chloroform, other VOCs, and metals were extracted from the groundwater in 2022, of which approximately 92 percent was from Zone 1A.
- Between 2009 and 2022, 1,845 pounds of TCE, 342 pounds of chloroform, and 205 pounds of perchlorate were removed from the groundwater via the treatment systems.
- Particle capture analysis indicates that extraction wells are capturing contaminated groundwater.
- Assessment of system performance indicates that ongoing remediation activities and treatment systems continue to effectively reduce contamination at the Stringfellow site.

The DTSC continues to inform the Jurupa Valley community about ongoing remediation and monitoring efforts at the Stringfellow Site through its annual *Community Update Fact Sheet*. The most recent fact sheet was completed in October 2025.²⁸ In addition, DTSC and the USRPA host quarterly Stringfellow Advisory Committee meetings to provide updates and engage with the public. The latest meeting was held on July 29, 2026. Meeting materials—including the agenda, presentation, notes, and handouts—are available on EnviroStor Stringfellow page on the Community Involvement section. The operations update for the most recent Committee meeting reported a total of 40,728,431 gallons of water were pumped and treated in 2025, and 20,404,491 gallons have been pumped and treated in 2026 through June.

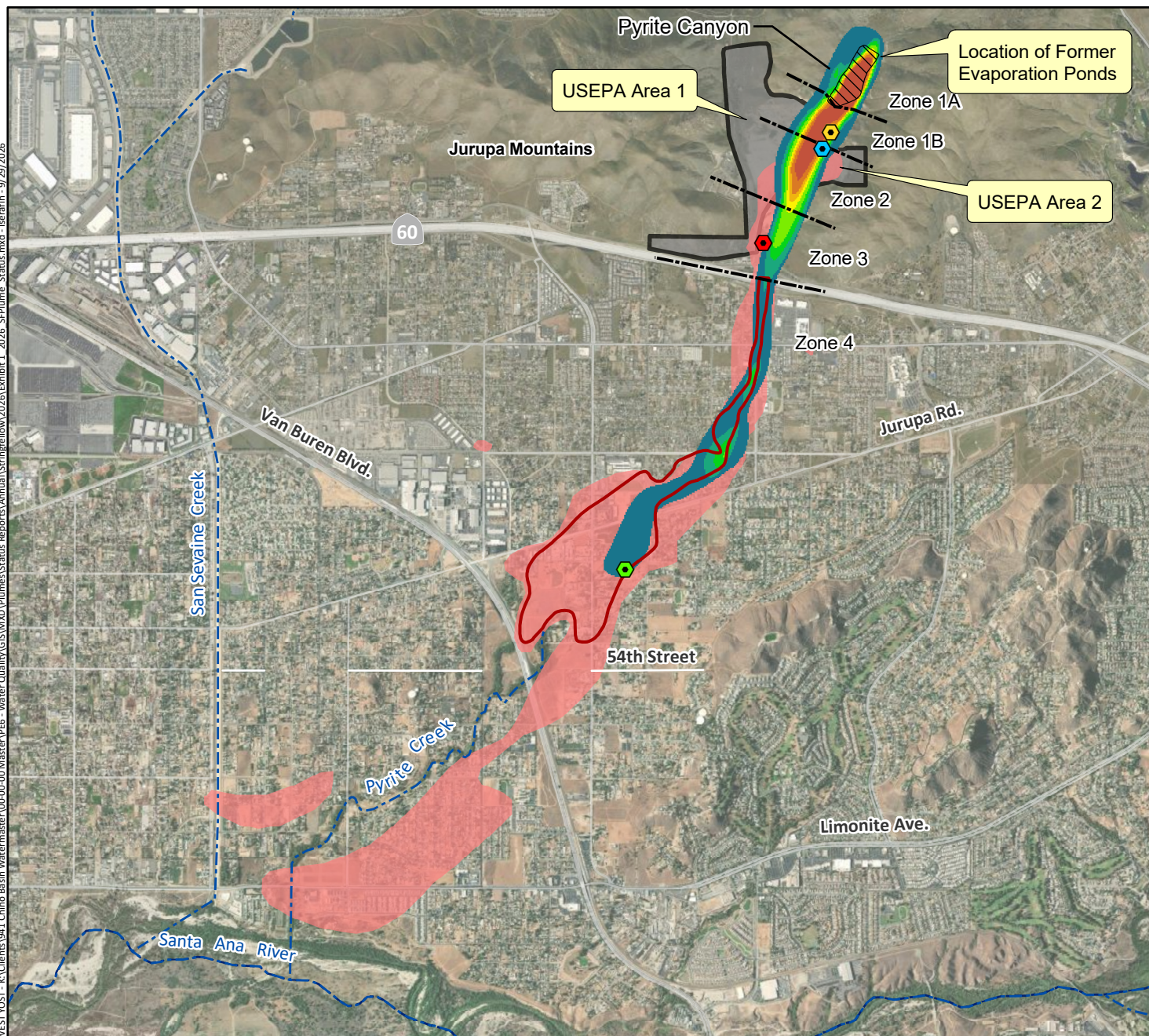
Future planned reporting and activities include the following:

- Installation of the new Zone 4 extraction well CTN-TW2 expected to begin in September 2026.
- Submittal of the Draft 2025 Annual Groundwater Sampling and Analysis Report anticipated in September 2026.

²⁷ Kleinfelder. (2026). Draft 2022 Annual Groundwater Monitoring and Remedy Effectiveness Evaluation Report, Stringfellow Superfund Site. Prepared for California Department of Toxic Substances Control. January 16, 2026.

²⁸ California Department of Toxic Substances Control. (2025). *Community Update: Stringfellow Superfund Site*. October 2025.

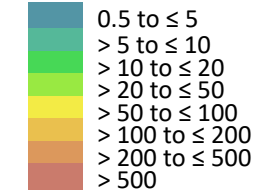
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Maximum Concentration ($\mu\text{g/L}$)

July 2019 - June 2024

TCE



MCL = $5 \mu\text{g/L}$

(Delineated by Watermaster in the 2024 State of the Basin Report)

Extent of Perchlorate Plume ($\geq 6 \mu\text{g/L}$)

Undifferentiated Perchlorate Plume

Delineated by Stringfellow in the 2022 Annual Groundwater Monitoring and Remedy Effectiveness Evaluation Report (Kleinfelder, 2026)

Zone 4 Pyrite Canyon Synthetic Perchlorate Plume

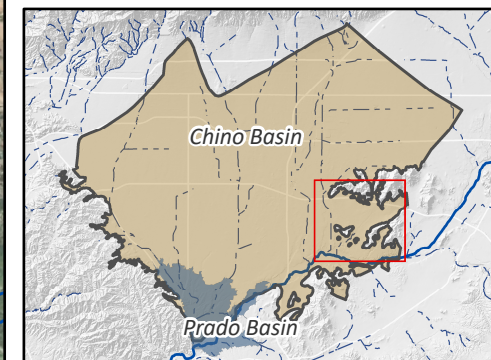
Delineated by Stringfellow in the Final Zone 4 Data Gap Investigation Report (Kleinfelder, 2023)

Groundwater Treatment Facilities

- Pyrite Canyon Treatment Facility
- Pre-Treatment Plant
- Lower Canyon Treatment Facility
- Community Wellhead Treatment System

Boundary Between Remediation Zones

Streams & Flood Control Channels



Prepared by:



Prepared for:

Chino Basin Watermaster
Annual Plume Report



Stringfellow
TCE and Perchlorate Plumes
Exhibit 1