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Semi-Annual Plume Status Report

South Archibald Plume
April 2026

CONTAMINANTS

The primary contaminant is trichloroethene (TCE). The California maximum contaminant level (MCL) for TCE is 5 micrograms per liter (µgl). The maximum TCE concentration detected in a groundwater sample collected from wells within the plume during the last five years (January 2021 to December 2025) is 74 µgl.

LOCATION

The South Archibald TCE plume is located in the southern Chino Basin within the City of Ontario. Exhibit 1 shows the spatial extent of the plume where detectable TCE concentrations are equal to or greater than 0.5 µgl, as delineated by the Chino Basin Watermaster (Watermaster) for the *2024 State of the Basin Report*.[1] This extent is based on the five-year maximum TCE concentration measured from July 2019 to June 2024. The TCE plume is approximately 23,200 feet long, extending southward from State Route 60 to roughly Kimball Avenue, and is about 14,300 feet wide extending from Grove Avenue to Turner Avenue. Exhibit 1 also shows the complete extent of the plume and the extent of the plume with concentrations greater than 5 µgl as delineated by the responsible parties during the most recent sampling event in 2025.

Regulatory Orders

- 2005 Draft Cleanup and Abatement Orders (CAOs) — In 2005, six Draft CAOs were issued to the following parties: Aerojet-General Corporation, The Boeing Company, Northrop Grumman Corporation, Lockheed Martin Corporation, General Electric Company, and United States Department of Defense.
- Draft CAO R8-2012-00XX for the City of Ontario, City of Upland, and Inland Empire Utilities Agency (IEUA), Former Ontario-Upland Sewage Treatment Plant (Regional Recycling Plant No. 1), City of Ontario, San Bernardino County — This CAO was issued jointly to the City of Ontario, City of Upland, and IEUA.
- Stipulated Settlement and CAO No. R8-2016-0016 for the City of Ontario, the City of Upland, the IEUA, Aerojet Rocketdyne, Inc.[2], The Boeing Company, General Electric Company, Lockheed Martin Corporation and the United States of America, Former Ontario-Upland Sewage Treatment Plant (Regional Recycling Plant No. 1) City of Ontario— This was the final CAO issued to all parties previously issued Draft CAOs in 2005 and 2012, excluding Northrop Grumman.

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

[2] Formerly known as Aerojet-General Corporation.

REGULATORY AND MONITORING HISTORY

In the mid-1980s, as part of its work associated with the Chino Basin Storage Program, the Metropolitan Water District of Southern California collected water quality samples that indicated that TCE was present in private wells in the southern Chino Basin. The Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) confirmed these findings through subsequent rounds of sampling.

In 2005, the Santa Ana Water Board issued Draft CAOs to six parties who were tenants on the Ontario Airport property. On a voluntary basis, four of these parties — Aerojet-General Corporation, The Boeing Company, General Electric Company, and Lockheed Martin Corporation, collectively the ABGL parties, worked with the U.S. Department of Defense to investigate the source of contamination. As part of the investigation, the ABGL parties collected water quality samples from private wells and residential taps, as well from four triple-nested monitoring wells (ABGL wells) constructed in the northern portion of the plume. Private residences in the area where TCE concentrations in groundwater were above the MCL were provided alternative water systems.

In 2008, Santa Ana Water Board staff conducted research to identify the likely source of TCE contamination. Based on their findings, the Santa Ana Water Board staff identified discharges of wastewater to the RP-1 treatment plant and associated disposal areas as potential sources of TCE. Several industries, including previously identified tenants of the Ontario Airport property, were found to have likely used TCE solvents before and during the early 1970's and discharged waste into the sewage system of the Cities of Ontario and Upland, which were tributary to the RP-1 treatment plant and disposal areas. In 2012, the Santa Ana Water Board issued an additional Draft CAO jointly to the City of Ontario, City of Upland, and IEUA as the previous and current operators of the RP-1 treatment plant and disposal area (collectively the RP-1 parties).

From 2007 through 2014, under the oversight of the Santa Ana Water Board, the ABGL parties and the RP- 1 parties individually and jointly conducted sampling at private residential wells and taps in areas where groundwater was potentially contaminated with TCE approximately every two years. By 2014, the ABGL parties had sampled all private wells and taps within the plume area at least once as part of the monitoring program. The data was documented in a report published in November 2014.[3] Both the ABGL and RP-1 parties provided potable water to residences in the area where water contained TCE concentrations equal to or above 80 percent of the MCL for TCE (e.g., equal to or greater than 4.0 µgl) either through water tank systems or by bottled water service.

In July 2015, the RP-1 parties completed a draft feasibility study report for the South Archibald plume (Feasibility Study).[4] The Feasibility Study established cleanup objectives for domestic water supply and plume remediation and evaluated alternatives to achieve these objectives. In August 2015, the RP-1 parties prepared a Draft Remedial Action Plan (RAP) presenting the preferred alternatives for plume remediation and domestic water supply.[5] A public review period followed, and two community meetings were held in September 2015 to educate the public about the plume, the Feasibility Study, and the RAP, and to solicit comments on these reports. In November 2015, the revised Draft Feasibility Study and RAP,

[3] Erler & Kalinowski, Inc. (2014). *Supplemental Data Report Trichloroethene Plume Central Chino Basin.* Prepared for Aerojet Rocketdyne, Boeing, General Electric, and Lockheed Martin. November 19, 2014.
[4] Dudek. (2015). *Draft Feasibility Study Report South Archibald Plume, Ontario, California.* Prepared for City of Ontario, City of Upland, and Inland Empire Utilities Agency. July 2015.
[5] Dudek. (2015). *Draft Remedial Action Plan South Archibald Plume, Ontario, California.* Prepared for City of Ontario, City of Upland, and Inland Empire Utilities Agency. August 2015.

along with responses to comments, were completed to address input from the public, ABGL, and other parties.[6,7]

In September 2016, the Santa Ana Water Board issued the Final Stipulated Settlement and CAO R8-2016-0016 (Stipulated CAO) jointly to the RP-1 parties and the ABGL parties (excluding Northrop Grumman). The Stipulated CAO was adopted by all parties in November 2016, thus approving the preferred plume remediation and domestic water supply alternatives identified in the RAP. The parties also reached a settlement agreement that aligned with the Stipulated CAO and authorized funding to initiate implementation of the plume remediation alternative.

In July 2021, the RP-1 parties collaborated with the Santa Ana Water Board and Watermaster to distribute a Community Fact Sheet to residences overlying the plume. The Fact Sheet addressed the health and environmental impacts of TCE and other potential contaminants such as per- and polyfluoroalkyl substances (PFAS), as well as their presence in the plume area, and available sampling resources.[8]

REMEDIAL ACTION

Plume Remediation

The plume remediation alternative identified in the Feasibility Study, RAP, and Stipulated CAO involves utilizing both existing and newly constructed Chino Basin Desalter Authority (CDA) wells and treatment facilities. The RP-1 parties and the CDA reached a Joint Facility Development Agreement for implementation of a project designed to remediate the South Archibald plume by modifying the CDA facilities to treat TCE and other volatile organic compounds (VOCs) while continuing to use existing facilities (i.e., reverse osmosis membranes) to treat total dissolved solids (TDS) and nitrate. The project consisted of the construction and operation of three new CDA wells (II-10, II-11, and II-12), the construction of a dedicated pipeline to convey groundwater produced from these wells to the Chino-II Desalter treatment facility, and the replacement of existing decarbonators at the Chino-II Desalter facility with an air stripping system to remove TCE and other VOCs from the water treated through the reverse osmosis (RO) trains. Additionally, a new pipeline was constructed to connect existing CDA Well I-11 to the pipeline conveying groundwater produced at the new CDA wells to the Chino-II Desalter facility.

Portions of project construction were funded by Proposition 1 Grant Agreement No. D1712507 (Prop 1 Grant Agreement) and Title XVI grants from the United States Bureau of Reclamation. Construction of CDA wells II-10 and II-11 was completed in September 2015. The equipping of these wells was completed in 2018, and pumping initiated at wells II-11 and II-10 in July and September 2018, respectively. An onsite monitoring well (II-MW-3) near the proposed location of Well II-12 was constructed in 2019 and the construction of Well II-12 was completed in November 2020. The CDA finished equipping Well II-12 in July 2021, and pumping began on August 24, 2021.

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[6] Dudek. (2015). *Draft Feasibility Study Report South Archibald Plume, Ontario, California.* Prepared for City of Ontario, City of Upland, and Inland Empire Utilities Agency. November 2015.

[7] Dudek. (2015). *Draft Remedial Action Plan South Archibald Plume, Ontario, California.* Prepared for City of Ontario, City of Upland, and Inland Empire Utilities Agency. November 2015.

[8] Santa Ana Water Board. (2021). Community Fact Sheet. https://documents.geotracker.waterboards.ca.gov/regulators/deliverable_documents/9334058463/20210407_CommunityFactSheet_SouthArchibaldPrivateWells-Short_ADA_Final.pdf

Domestic Water Supply

The domestic water supply alternative identified in the Feasibility Study and RAP is a hybrid between the installation of tank systems for some residences, where potable water is delivered from the City of Ontario, and the installation of a pipeline to connect residences directly to the City of Ontario potable water system. Pursuant to the Stipulated CAO, the Cities of Ontario and Upland assumed the responsibility for implementing the domestic water supply alternative and in February 2017, the Cities submitted a *Domestic Water Supply Work Plan* to the Santa Ana Water Board (2017 Work Plan), outlining the approach to provide alternative water supplies to affected residences that were receiving bottled water at the time.[9] The Santa Ana Water Board approved the 2017 Work Plan on March 3, 2017.[10] At that time, 32 residences were using previously installed tank systems and 21 residences were receiving bottled water.

The alternative water supply plan options included: 1) installation of a tank system; 2) connection to an existing City of Ontario water main; 3) connection to a future City of Ontario water main; or 4) remain on bottled water. In accordance with the schedule in the Stipulated CAO and the work plan, tank systems were to be installed within six months of resident consent, connections to Ontario's existing municipal water system were to be constructed within three months of resident consent, and construction and connection to a new water main was to occur within 18 months of resident consent. Additionally, bottled water would be supplied to any newly affected residents immediately upon the determination of the presence of TCE in their water supply at concentrations greater than 4 µgl. Since 2017, the City of Ontario has continued to conduct annual monitoring at private wells and taps in the area in support of the Stipulated CAO and 2017 Work Plan.

MONITORING AND REPORTING

Pursuant to the Stipulated CAO and the 2017 Work Plan, the Cities of Ontario and Upland collect annual groundwater quality samples from approximately 50-60 private wells and taps at about 45 residential and agricultural locations within the plume area. The purpose of this sampling is to: 1) evaluate the lateral extent of the plume in accordance with the Stipulated CAO, 2) identify locations where TCE concentrations in private water supply wells exceed the MCL, 3) identify locations where TCE concentrations that were previously above the MCL are now below 80 percent of the MCL, and 4) identify residences that may qualify for participation in the City of Ontario's alternative water supply program. Since 2017, the Cities of Ontario and Upland have conducted nine rounds of sampling, and all the results are documented in annual groundwater monitoring reports submitted to the Santa Ana Water Board. The annual reports are all available to view on the State Water Resources Control Board's GeoTracker online portal.[11]

The IEUA and CDA also conduct groundwater quality sampling under a monitoring and reporting plan developed in 2021 pursuant to the Prop 1 Grant Agreement for the funding of the expansion of the CDA facilities to cleanup TCE in the South Archibald plume, in addition to the high nitrates and TDS in groundwater (Prop 1 Monitoring Plan[12]). The Prop 1 Monitoring Plan includes collecting samples at the CDA production and monitoring wells located within and near the plume. As part of the monitoring

[9] Dudek. (2017). *Domestic Water Supply Work Plan South Archibald Plume, Ontario, California.* Prepared for the City of Ontario, City of Upland. February 2017.

[10] Santa Ana Water Board. (2017). *Domestic Water Supply Workplan – South Archibald Trichloroethylene Plume*, *Ontario, California*. Letter to the City of Ontario from Kurt Berchtold. March 3, 2017.

[11] https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000004658

[12] Hazen and Sawyer. (2021). *Monitoring Plan – Chino Basin Improvement and Groundwater Clean-up Project.* Prepared for CDA and IEUA. January 2021.

program, two CDA monitoring wells were constructed at the request of the Santa Ana Water Board and California State Water Resources Control Board (State Board) to monitor key locations in the plume: 1) multi-nested Well II-MW-5 (a, b, c, d) located within the area of the highest concentration of TCE within the plume; and 2) Well II-MW-4 located just upgradient of CDA Well II-12.[13,14] The locations of II-MW-5 (a, b, c, d) and II-MW-4 are shown in Exhibit 1.

The Prop 1 Monitoring Plan includes quarterly sampling for TCE, nitrate, and TDS at CDA production and monitoring wells. The Prop 1 Monitoring Plan also includes sampling for the following additional constituents at all wells except II-MW-5: 1,2,3-trichloropropane (1,2,3-TCP), 1,4-dioxane, perchlorate, and hexavalent chromium. Per the Prop 1 Monitoring Plan, sampling for these additional constituents were conducted at all four well casings at II-MW-5 upon construction completion (March 2021) and then again after the first (2022) and second years (2023). In April and September 2025, the IEUA conducted two more rounds of optional sampling to provide additional data. Moving forward, these constituents will also be sampled at two newly constructed monitoring wells (II-MW-6 and II-MW-7), as outlined in Section 2.2 of the Prop 1 Monitoring Plan and described in the Recent Activity section.

The Prop 1 Monitoring Plan also requires the submission of quarterly and annual Operational Reports[15], which include data collected during each reporting period. Additionally, the groundwater data is uploaded to the State Board's GeoTracker website.

In addition to the monitoring conducted by the CDA and the RP-1 Parties, Watermaster routinely collects groundwater samples from private wells in the plume area. Watermaster uses data from its own monitoring efforts, along with data collected by the CDA, IEUA, and the City of Ontario, to delineate the South Archibald TCE plume as part of the biennial Chino Basin State of the Basin Report.

RECENT ACTIVITY

In accordance with the Stipulated CAO, the most recent annual sampling event conducted by the Cities of Ontario and Upland at private wells and taps within the plume area took place from October through November 2025. The sampling was conducted pursuant to the 2025 Sampling Workplan, which was submitted by the City of Ontario in June 2025 and approved by the Santa Ana Water Board on August 22, 2025.[16] During the 2025 sampling event, a total of 47 samples were collected at 35 residential, commercial, and agricultural locations. Additionally, the CDA collected samples from ten CDA pumping and monitoring wells located within and adjacent to the plume. The results of these sampling efforts are documented in the *2025 Annual Groundwater Monitoring Report*[17] and summarized below:

- TCE was detected in 17 samples at residential, commercial, and agricultural locations, ranging from 0.31 µgl to 46 µgl and exceeded the MCL of 5 µgl in six of these samples.

[13] CDA Board of Directors July 2020 Meeting Agenda and Minutes. https://www.chinodesalter.org/AgendaCenter/ViewFile/Agenda/_07022020-309

[14] Santa Ana Water Board. (2020). *Comments on Responses to Comments on Monitoring and Reporting Plan and Request for Additional Monitoring for Inland Empire Utilities Agency and Chino Basin Desalter Authority Clean-Up Project (Grant Agreement No. D1712507)*. April 24, 2020.

[15] Operational Reports are required to be submitted after the end of the grant term in January 2026.

[16] EEC Environmental. 2025. Workplan Private Water Supply Well Sampling. Prepared for City of Ontario. June 30, 2025.

[17] Dudek. (2025). *Annual Groundwater Monitoring Report South Archibald TCE Plume – Ontario, California.* Prepared for the City of Ontario and City of Upland. December 2025.

- TCE was also detected at nine CDA production and monitoring wells sampled throughout 2025.
  - TCE was detected in all groundwater samples from CDA production wells I-10, I-11, II-11, and II-12 with concentrations ranging from 1 µgl at I-10 to 32 µgl at II-12 in the center of the plume but only exceeded the MCL of 5 µgl in CDA Well II-12.
  - The concentration of TCE ranged from 1.2 µgl to 50 µgl in groundwater samples collected at various screen intervals from Well II-MW-5 and from 13 µgl to 40 µgl in samples collected from Well II-MW-4.
- TCE concentrations in fourteen residential locations along the western edge of the plume are continuing to decline over time. TCE concentrations at CDA Well II-12 and three of the monitoring well intervals in CDA Well II-MW-5 also had a statistically significant decreasing trend.
- TCE concentrations remain the highest in the north-central part of the plume with increasing concentrations observed in residential locations and at CDA Well II-MW-4 in the central part of the plume just north of CDA Well II-12, likely due to groundwater pumping at Well II-12.
- TCE concentrations are also increasing at CDA Wells I-8 and I-11 at the southern extent of the plume. This likely reflects concentrations of TCE in groundwater south of CDA Well II-12 prior to installation.
- Two residential locations were identified as suitable candidates for removal from the alternative water supply program.

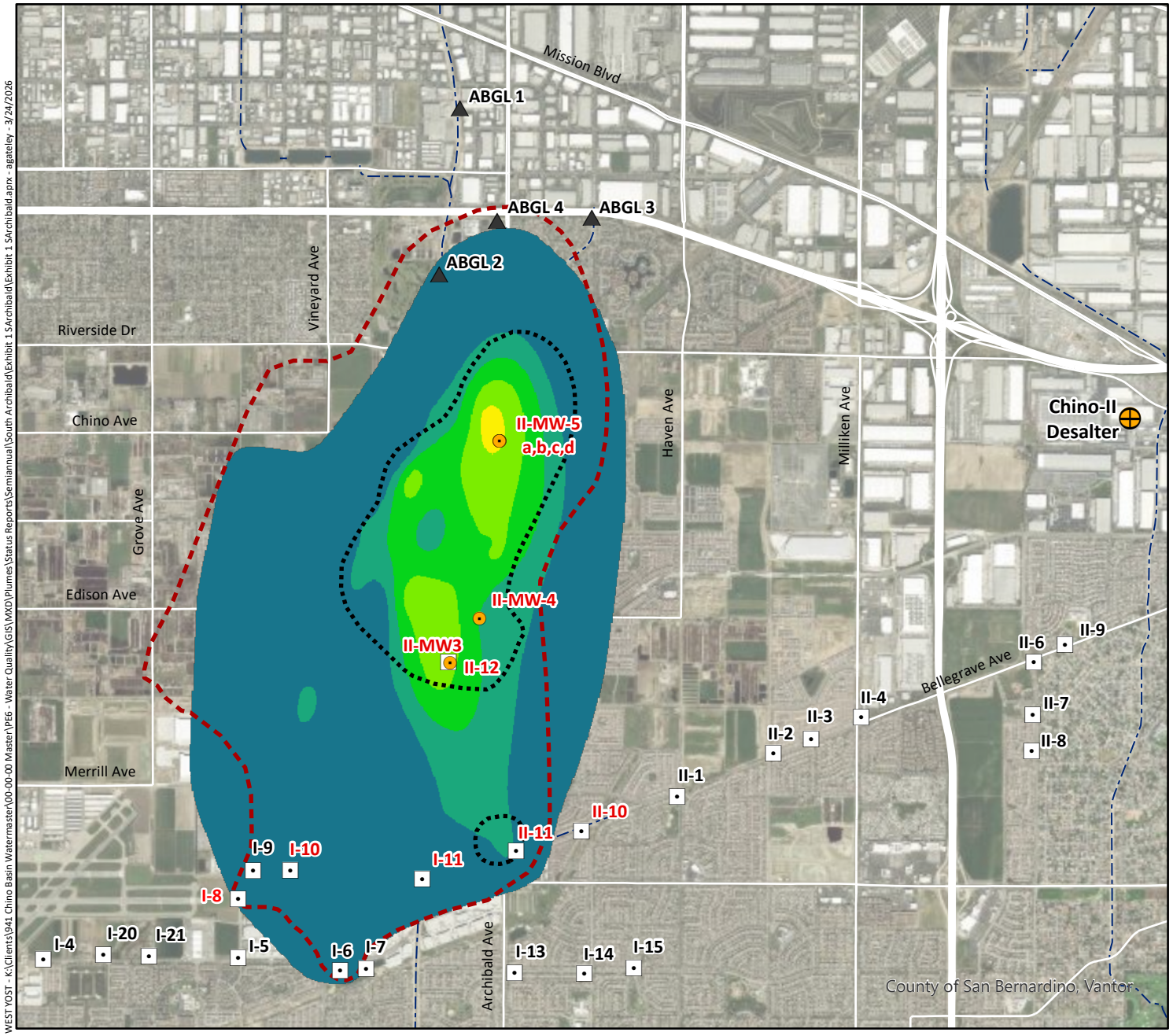
On February 17, 2026, the Santa Ana Water Board reviewed the *2025 Annual Groundwater Monitoring Report* and had no comments.

As of the end of 2025, 19 affected residences are supplied water by 13 tank systems. Of these, approximately ten systems are located at the western edge of the plume, where TCE concentrations have remained stable or are declining over time. The City of Ontario will continue to monitor TCE at all potentially affected residences and provide residences with TCE concentrations that exceed 80 percent of the MCL with an alternative water supply.

Construction of all Prop 1 facilities was completed in January 2026 with the completion of new monitoring wells II-MW-6 and II-MW-7. The last Progress Report was submitted in December 2025 and the grant completion date, which marks the transition to the Operational Period was January 31, 2026. The first Operational Report will be due in August 2026 and will cover the full first quarter of the Operational Period from February to April 2026, as well as June 2026.

Exhibit 1

The exhibit presented below is intended to be interpreted alongside the above Status Report.



Maximum TCE Concentration (µgl)
July 2019 to June 2024

- 0.5 to ≤ 5
- > 5 to ≤ 10
- > 10 to ≤ 20
- > 20 to ≤ 50
- > 50 to ≤ 100

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

Approximate Extent of the Plume Delineated in the 2025 Annual Groundwater Monitoring Report

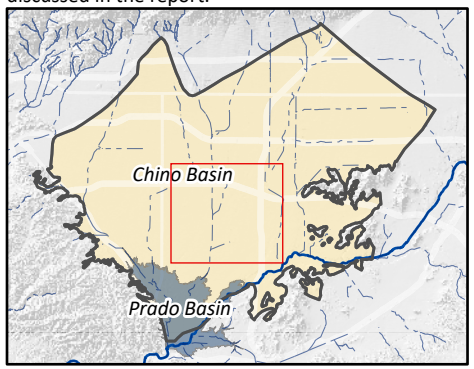
- Extent Greater Than 5 µgl
- Complete Extent

Chino Basin Desalter Authority Facilities:

- Pumping Well*
- Monitoring Well*
- Chino-II Desalter Treatment Facility

- ABGL Monitoring Well
- Streams & Flood Control Channels

*Red labels indicate wells that are specifically discussed in the report.



Prepared by:

WEST YOST

0 2 4 Miles
0 3 6 Km

Prepared for:

Chino Basin Watermaster
Semi-Annual Plume Report
South Archibald

South Archibald
TCE Plume

Exhibit 1