How is the City of Fowler addressing Water Contamination?

Fresno County
Civil Grand Jury

SUMMARY

A citizen complaint was received by the Fresno County Civil Grand Jury regarding the City of Fowler's handling of the contaminants found in their drinking water. The complaint mentioned nothing was being done by the City of Fowler to address the issue. The Grand Jury found that the City's water was not meeting a drinking water standard implemented by the California State Water Resources Control Board in 2018. However, the Grand Jury also found the City of Fowler has been trying to address the issue since 2018, when the water samples did not meet the new standard. The City of Fowler has faced several challenges getting a new water filtration system installed. The biggest challenge was the lack of funds to pay for the new system. It took several years for a lawsuit filed by the City of Fowler against several businesses who put 1,2,3-Trichloropropane into pesticides used by farms that led to the standard not being met. This lawsuit started in 2018 and was settled in early 2021 for $5 million. Unfortunately all the funds were not received at once. An initial settlement payment was made and then three other payments followed over the next few years with the last payment being received in January 2024. Once the City of Fowler had the funds, work began to get the drinking water filtration system installed. The new filtration system should be completed and up and running by the first quarter of 2026. It is expected the new filtration system will make the City of Fowler's drinking water fully compliant with the California State Water Resources Control Board standards.

The City of Fowler's Public Works, Water Department is working diligently and collaboratively with other City of Fowler entities to meet the water needs of a growing community and has been making great improvements in its operations over the last year. The positive direction of the Department was clear throughout the many interviews conducted by the Grand Jury. The Grand Jury made a few recommendations such as the development of written procedures and checklists and improvements to its website which could help the City of Fowler Public Works, Water Department become an even more efficient operation in the future and transparent to the community.

GLOSSARY

AWWA - American Water Works Association

CA-MCL - Maximum Contaminant Level

CRWA - California Rural Water Association

GAC - Granular Activated Carbon

OEHHA - Office of Environmental Health Hazard Assessment

PHG - Public Health Goal

SWRCB - State Water Resources Control Board

TCP - 1,2,3-trichloropropane

BACKGROUND

In 2018, Senate Bill (SB) 1422 was codified as part of the California Safe Drinking Water Act. SB 1422 required the California State Water Resources Control Board (SWRCB) to adopt a definition of microplastics by July 2020 and to develop a standard methodology for the detection of microplastics in drinking water by July 2021. This was impactful on the City of Fowler (City) due to the presence of 1,2,3-trichloropropane (TCP) in the drinking water. TCP is considered a microplastic.

TCP is a regulated chemical in California with an established State Maximum Contaminant Level (CA-MCL) in drinking water of 0.005 µg/L, or 5 parts per trillion (ppt). TCP is a chlorinated hydrocarbon with high chemical stability. TCP began to be used in pesticides in the 1950s. California farms and agribusiness did not know the ramifications of using pesticide products containing TCP. The TCP was seeping through the soil and contaminating the groundwater. Pesticides containing TCP continued being used until the 1980s. TCP sinks lower in the aquifer, slowly migrating and being transported by groundwater.

In addition, it breaks down slowly, making it a persistent contaminant in groundwater. The City was not the only city impacted by the use of TCP.

The California Environmental Protection Agency has classified TCP as likely to be carcinogenic to humans. Based on SWRCB data from 2007 to 2017, 395 active and standby public water supply wells (of 5,863 wells tested, 412 detections) had at least one detection above the CA-MCL. Most detections above the CA-MCL occurred in Kern (110), Fresno (64) and Los Angeles County (51) (TCP Fact Sheet)[1]. Thus, the City found itself along with many other entities in violation of the standards. The City's Water Department provides potable water services to approximately 2,100 customers. There are currently six (6) active wells used by the City. One (1) well, Well #7, was found to have exceeded the TCP CA-MCL.

The level of TCP in public water systems required monitoring and reporting to the SWRCB, starting in January 2018. The notification level was established at 0.005 µg/L in 1999. Analytical methods to meet the notification level were established in 2002. Based on detections of TCP in California's groundwater, the Office of Environmental Health Hazard Assessment (OEHHA) established a 0.0007 µg/L Public Health Goal (PHG) for TCP in 2009[2]. In July 2017, the SWRCB, Division of Drinking Water adopted the CA-MCL for TCP at 0.005 µg/L. The CA-MCL and PHG for drinking water are based on potential cancer risk.

In 2018, affected Fowler residents were notified via mail that their drinking water tests results had shown that there was a higher amount of TCP than the SWRCB allows. The results showed the system exceeded the standard, or maximum contaminant level (CA-MCL), for TCP. The standard for TCP is 0.000005 mg/L (milligrams per liter) which is equivalent to 0.005 µg/L (micrograms per liter). The average level of TCP over the last year was 0.000006 mg/L OR 0.006 µg/L.

For clarification, 0.001 µg/L equals 1 nanogram per liter. Micrograms per liter (µg/L)

[1] https://www.waterboards.ca.gov/gama/docs/coc_tcp123.pdf
[2]https://oehha.ca.gov/water/public-health-goal/final-public-health-goal-123-trichloropropane-drinking-water

equals parts per billion (ppb). Nanograms per liter (ng/L) equals parts per trillion (ppt). If there are 1 trillion grains of sand and 6 grains of that sand were red, that is the amount of TCP detected in the water, with the standard allowing only 5 red grains of sand per trillion. The City missed meeting the new limit, albeit slightly. In 2018, the City filed a lawsuit against the Shell Oil Company, the Dow Chemical Company and various other TCP-related businesses seeking to recover the costs associated with restoring the drinking water supply well.

Quarterly water samples are collected by the City Water Department operators and are sent to an accredited third-party laboratory to perform the compliance monitoring test. The testing results are sent from the laboratory directly to the SWRCB where the results are posted on their website (Water Quality Sampling Results)[3] and are available to the public. The SWRCB granted the City an extension to complete the installation of the needed treatment facilities for Well #7.

The City's water system is supplied by six (6) groundwater wells feeding into a single pressure zone. That pressure zone consists of the entire City's water distribution system. Cycling between these wells is necessary to provide adequate exercising of the wells and to meet water demand in various parts of the City. Well #7, the affected well, is producing slightly over twenty-five percent (25%) of the water for the City. Taking Well #7 off-line without a new source of water would compromise the City's ability to provide adequate water to meet the needs of its consumers and for fire protection needs.

The system does not utilize any water storage tanks other than small hydropneumatic tanks located at each well site. An elevated water storage tank is still present but has been decommissioned and is not in use.

The SWRCB sampling protocol for TCP requires that the City sample each water source (well), not the distribution system. Therefore, it is possible that TCP levels in the distribution

[3] https://sdwis.waterboards.ca.gov/PDWW/JSP/WSamplingResultsByStoret.jsp?SystemNumber=1010006&tinwsys_is_number=879&FacilityID=008&WSFNumber=17623&SamplingPointID=008&SystemName=CITY+OF+FOWLER&SamplingPointName=WELL+07&Analyte=&ChemicalName=&begin_date=&end_date=&mDWW=

system may not be as high as at Well #7 in much of the system due to blending of water from each of the wells as they come on by demand throughout the entire system. There is currently no sample data from the distribution system to substantiate that blending in the system has lowered levels of TCP below the CA-MCL.

METHODOLOGY

The Grand Jury conducted interviews with employees of the City Public Works Department including the Water Department regarding the methods and standard procedures of the Public Works Department. In addition, the Grand Jury reviewed the various training programs available and required of the Water Department staff.

Interviews were also conducted with members of the City management. Inquiries were made regarding well locations, maintenance, construction, as well as financial information for the water system. The Grand Jury also examined the publicly-available web pages of both the City and the SWRCB for various water testing related information.

To fully understand the information being investigated, the Grand Jury also interviewed personnel from the SWRCB.

DISCUSSION

The Annual Water Quality Report (Annual-Water-Quality-Report-2023.pdf)[4] released by the City gives citizens "a snapshot of the last year's water quality." This yearly report has been showing the TCP levels in violation every year since 2019. It also showed for multiple years that a filtering system was being planned or designed, but it had yet to be installed. The Grand Jury found there were several challenges the City faced since it exceeded the TCP CA-MCL. Due to the high cost associated with installing a new filtration system to capture the TCP, the City could not afford to install the Granular Activated Carbon (GAC) filtration system without some funding help. The City had to wait until the lawsuit with the Dow Chemical Company and others was settled to see what funds they would have available to install the filtration system.

[4] https://fowlercity.org/wp-content/uploads/2024/06/Annual-Water-Quality-Report-2023.pdf

The lawsuit was settled in early 2021. Once the City knew they would have the funds available, the planning began for the installation of the filtration system. Unfortunately the design engineers were approximately 60% complete with the design phase when it was discovered the City did not own the additional property needed for the GAC. Acquiring the property delayed the project. It wasn't until March 2023 when an agreement to acquire the property was completed.

The filtration system should address the TCP CA-MCL violation issued by the SWRCB and bring the City's water system into compliance with the TCP below the 0.005 µg/L limit in the future. The Well #7 TCP treatment funding source is primarily from the TCP litigation settlement in 2021 in the amount of $5 million. The City is building a new well and has secured the funding for construction.

The Grand Jury reviewed current and future training needs for the employees working at water wells and water testing and treatment sites. While a training program seems to exist for the water operators, the program has not been disseminated to the operators. All operators should have written procedures and/or checklists for the tasks they perform. This is important for several reasons including: safety, efficiency, training, productivity and succession planning. A simple checklist could help eliminate the possibility of the quarterly water samples not being submitted on time. There were instances of the quarterly samples being submitted late to the SWRCB. It should be noted that the City pays for the training of employees, as well as offering new training to current employees requiring training to further their certifications for their position.

The City will need to plan for on-going maintenance of the filtration system. This will include periodic testing of the treated water to determine when the filtration media is spent and no longer removing TCP, disposal of the spent media, replacement of the media and all associated costs. The City recently increased its water rates on July 1, 2024 incorporating a 5% annual increase each year thereafter for a five (5) year period (City-of-Fowler-Water-Rate-Study-FY-2023-2024.pdf)[5]. The water rate study showed that since 2015, the City's Water Department operating costs had increased and the operating costs were

[5] https://fowlercity.org/wp-content/uploads/2024/03/City-of-Fowler-Water-Rate-Study-FY-2023-2024.pdf

then exceeding the revenues. While the operating and maintenance costs associated with managing the GAC are not fully known at this time, the City should work with other entities who have installed GAC filtration to determine the additional costs associated with the system. To ensure the water customers are not surprised by possible additional increases to their water rates due to the GAC, the City should provide periodic reporting and transparency about the costs once the GAC is up and running.

When reviewing the City's Public Works Water website (https://fowlercity.org/public-works/water/), the Grand Jury found the documents scattered throughout the page make it hard to find certain reports. The website could be more user friendly and organized to allow citizens to easily find links and data. Putting the links to useful water quality informational sites such as the 2024 Lead Service Inventory Public Transparency Dashboard (120Water - Public Water System Service Lines)[6] or the SWRCB SAFER dashboard (SAFER Dashboard | California State Water Resources Control Board)[7] in one section, the annual reports in another section, the water rates in another section, etc. would be helpful. Also, with the significant upcoming capital improvement projects, including the filtration system in the works now, the City may want to consider providing periodic (quarterly) updates on the capital improvement progress. The Redwood City's Public Works Water (Water | City of Redwood City)[8] webpage is an example of a simple organized web page. A user-friendly website that citizens can navigate and understand easily helps provide a positive interaction and enhance transparency.

CONCLUSIONS

The Fresno County Civil Grand Jury found the City of Fowler to be addressing the water contamination issue. The City initially addressed the issue quickly however, with no funding to fix the issue, the City could do little until the lawsuit was settled and the needed settlement funds were received. The City has received the funds and will hopefully have a reduction in their TCP levels below the limit, preventing future violations by the City of

[6] https://pws-ptd.120wateraudit.com/fowlerca
[7] https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/saferdashboard.html
[8] https://www.redwoodcity.org/residents/water

Fowler on their Annual Water Quality reports

In addition, it should be noted that the City of Fowler's Public Works, Water Department has made significant improvements in its processes over the past year. The team continues to do their best with the resources available.

FINDINGS

F1. Not all City of Fowler Public Works, Water Department operators knew written procedures and/or checklists existed for their day to day operation tasks as the procedures were recently developed for the department by the new Public Works Director.

F2. The City of Fowler's water reports are submitted occasionally late to SWRCB due to the absence of the report deadline checklists to remind users.

F3. The City of Fowler Public Works, Water Department website information is not organized in a user friendly, searchable format and is outdated, with the most recent reports not being added in a timely period.

F4. A maintenance and budget plan for the ongoing operation of the soon to be installed GAC filtration system in the City of Fowler has not been developed.

F5. While only one of the City of Fowler's six wells is above the CA-MCL for TCP, all wells, including the TCP contaminated well, must be utilized to satisfy consumer demands and fire protection requirements.

F6. The City of Fowler has been aware of elevated TCP levels in Well #7 since 2018; however, funding to mitigate TCP contamination was delayed because of litigation.

RECOMMENDATIONS

R1. Training for all Public Works, Water Department operators, including written procedures and/or checklists, should be disseminated and implemented for ease of access, continuity and succession planning by the City of Fowler's Public Works Director by March 31, 2026. (F1)

R2. The City of Fowler's Public Works Director should develop a process and or procedure to ensure required water board reports are completed and returned on time to the California State Water Resources Board by October 31, 2025. (F2)

R3. The City of Fowler Public Works, Water Department webpage should be improved making it more user friendly, accessible and straightforward to easily find all water information and important links to enhance transparency by the City of Fowler's Public Works Director by March 31, 2026. (F3)

R4. A maintenance and budget plan for the ongoing operation of the soon to be installed GAC filtration system should be developed by the City of Fowler's Public Works Director by March 31, 2026. (F4)

R5. The City of Fowler Public Works, Water Department should proactively develop plans to increase water system capacity and fire protection needs through new well development, distribution interconnectivity and above ground storage facilities that would assist in providing potable water to Fowler citizens if TCP contamination extends to another City of Fowler water well by March 31, 2026. (F5, F6)

R6. The City of Fowler Public Works, Water Department should identify and establish a water sampling location(s) within the distribution system (apart from well sources mandated by SWRCB) and use the location(s) to begin compiling water quality data from quarterly water samples by September 30, 2025. (F5)

REQUIRED RESPONSES

Pursuant to California Penal Code section 933 and 933.05, each entity or individual named below must respond to the enumerated Findings and Recommendations within specific statutory guidelines.

Responses to Findings shall be either:

- The respondent agrees with the finding; or
- The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefore.

Responses to Recommendations shall be one of the following:

- The recommendation has been implemented, with a summary regarding the implemented action; or
- The recommendation has not yet been implemented, but will be implemented in the future, with a time frame for implementation; or
- The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a time frame for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency where applicable. This time frame shall not exceed six months from the date of the publication of the Grand Jury report; or
- The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefore.

Required response within 90 days:

City of Fowler City Council (F1 - F6) (R1 - R6)

INVITED RESPONSES

City of Fowler Director of Public Works and Public Utilities (F1 - F6) (R1 - R6)

Responses are to be sent to:

The Honorable Judge Houry A. Sanderson
Fresno County Superior Court
1100 Van Ness Avenue
Fresno, CA 93724-0002

WORKS CITED

California State Water Resources Control Board website, Home Page | California State Water Resources Control Board or https://www.waterboards.ca.gov/

California State Water Resources Control Board website - SAFER Dashboard | California State Water Resources Control Board or https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/saferdashboard.html

California State Water Resources Control Board website -Frequently Asked Questions: Per-and Poly-fluoroalkyl Substances (PFAS) Water Monitoring or https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/pfos_and_pfoa/pfas%20faq_final.pdf

California State Water Resources Control Board website, Water Quality Sampling Results or https://sdwis.waterboards.ca.gov/PDWW/JSP/WSamplingResultsByStoret.jsp?SystemNumber=1010006&tinwsys_is_number=879&FacilityID=008&WSFNumber=17623&SamplingPointID=008&SystemName=CITY+OF+FOWLER&SamplingPointName=WELL+07&Analyte=&ChemicalName=&begin_date=&end_date=&mDWW=#

CITY OF FOWLER VS THE DOW CHEMICAL COMPANY ET AL | Court Records - UniCourt or https://unicourt.com/case/ca-sfc-city-of-fowler-vs-the-dow-chemical-company-et-al-522225

California State Water Resources Control Board website -1,2,3,-Trichloropropane (1,2,3 - TCP) | California State Water Quality Control Board or https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/123TCP.html

California State Water Resources Control Board website - Resolution Adopting a Policy Handbook Establishing a Standard Method of Testing and Reporting of Microplastics in Drinking Water or https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/microplastics/rs2022-0032.pdf

California State Office of Environmental Health Hazard Assessment website -https://oehha.ca.gov/water/public-health-goal/final-public-health-goal-123-trichloropropane-drinking-water

City of Fowler TCP Report 4th Quarter 2024 - TCP-Report-4th-Quarter-2024.pdf or https://fowlercity.org/wp-content/uploads/2024/12/TCP-Report-4th-Quarter-2024.pdf

California State Water Resources Control Board website - TCP Fact Sheet or https://www.waterboards.ca.gov/gama/docs/coc_tcp123.pdf

California State Water Resources Control Board website - 123tcp_map_5ppt.pdf or https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/123-tcp/123tcp_map_5ppt.pdf

2021 City of Fowler Water Model Report - FCC-Agenda-05042021.pdf or https://fowlercity.org/wp-content/uploads/2021/04/FCC-Agenda-05042021.pdf

Redwood City Water website - Water | City of Redwood City or https://www.redwoodcity.org/residents/water

California Senate Bill 1422: The Safe Drinking Water Act for Microplastics or https://www.clearwaterinnovation.org/post/california-senate-bill-1422-the-safe-drinking-water-act-for-microplastics

City of Fowler Water Rate Resolution - Water-Rate-Resolution-No-2727.pdf or https://fowlercity.org/wp-content/uploads/2025/02/Water-Rate-Resolution-No-2727.pdf

DISCLAIMER

Reports issued by the Grand Jury do not identify individuals interviewed. Penal Code section 929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Grand Jury.

You can help create a report like this. Go to Civil Grand Jury | Superior Court of California | County of Fresno and apply to be a member of the Civil Grand Jury. (https://www.fresno.courts.ca.gov/divisions/jury-service/civil-grand-jury)