



Central Valley Regional Water Quality Control Board

9 August 2024

Armen Nahabedian Tetra Oil Company 922 State Street, Suite 6 Santa Barbara, California 93101

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ORDER PURSUANT TO CALIFORNIA WATER CODE SECTION 13267

You are legally obligated to respond to this Order. Read this Order carefully.

Tetra Oil Company is the operator of an oil and gas production well identified as American Petroleum Institute (API) number 02916565 (hereinafter, "well subject to this Order" or "subject well") in Section 16 of Township 28 South, Range 27 East, Mount Diablo Base and Meridian within the Poso Creek Oil Field. On 9 January 2024, the California Geologic Energy Management Division (CalGEM) informed the Central Valley Regional Water Quality Control Board (Central Valley Water Board) of unauthorized injection into the subject well. Information obtained from CalGEM's WellSTAR database revealed multiple shallow casing holes in the subject well, and overdue and noncompliant idle well mechanical integrity testing as the well status has been idle since 2019.

As described further below, for the subject well Tetra Oil Company is required to submit technical reports containing information about (1) the subject well, (2) the fluids injected in the subject well into the aquifer(s), (3) the quality of the groundwater in the aquifer(s) where fluids have been injected, (4) the lateral and vertical extent of the injected fluids and any potential impacts on groundwater quality in the aquifer(s), and (5) water supply wells completed in the aquifer(s).

The Central Valley Water Board's authority to require technical reports derives from section 13267 of the California Water Code, which specifies, in part, that:

- (a) A regional board...in connection with any action relating to any plan or requirement authorized by this division, may investigate the quality of any waters of the state within its region.
- (b)(1) In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged,

 Mark Bradford, Chair | Patrick Pulupa, Esq., executive officer

discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region...that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The Central Valley Water Board is concerned about the potential threat to human health and potential impacts to water quality posed by the discharge of waste associated with the injection of fluids into an aquifer(s) that may be suitable for drinking water supply and other beneficial uses. This California Water Code section 13267 Order (Order) is designed to assess the aquifer(s) where fluids were injected by the subject well, the lateral and vertical extent of the fluids injected, and potential water quality impacts. The technical information and reports required by this Order are necessary to assess the potential threat to human health and potential impacts to water quality. Information regarding the use of the subject well and the materials injected is within Tetra Oil Company's control. Water supply well information required is necessary to determine potential risk to human health and potential impacts to beneficial use water.

The need to understand the potential threat to human health and potential impacts to water quality justifies the information and reports required by this Order. Based on the nature and possible consequences of the discharges of waste on human health and water quality, the burden of providing the required information, including reporting costs, bears a reasonable relationship to the need for the reports, and the benefits to be obtained. Tetra Oil Company is required to submit this information and reports because it is the operator of the well subject to this Order.

The Central Valley Water Board staff estimates that completion of the initial work required by this Order may cost up to \$235,000 and is dependent on an approved work plan. This cost is based upon the following: compilation of requested data for a technical report, cost for the development and implementation of a work plan for the needed groundwater investigation work and reporting, which may include the need for groundwater monitoring well installations, and the collection and analysis of groundwater samples. This cost burden is reasonable when compared to the potential costs associated with mitigating the effects of polluting beneficial use groundwater, and other costs that could be incurred by property owners and downgradient users of groundwater. Based on unauthorized injection by Tetra Oil Company, it is likely that much of the work required by this Order will be completed by Tetra Oil Company staff.

Under the authority of California Water Code section 13267, the Central Valley Water Board hereby orders Tetra Oil Company to:

1. By **9 October 2024**, for the subject well, submit a technical report that contains the following information:

- a. For the fluids being injected into the subject well, an analysis of a representative sample of those fluids in accordance with the water quality analysis and reporting requirements contained in Attachment B to this Order.
- b. Historical chemical analyses of the fluids injected into the subject well with analytical laboratory reports provided as an attachment.
- c. Historical analytical data for groundwater samples collected from the injection zone(s) in the subject well with analytical laboratory reports provided as an attachment.
- d. Historical bottomhole formation pressure data collected from the injection zone(s) in the subject well with documentation provided as an attachment.
- e. A list and location map of all water supply wells within three miles of the subject well.
- f. Available information for each identified water supply well, including the well owner name and contact information; type of well (i.e., domestic, irrigation, industrial, etc.); whether any of the water is used for domestic purposes; well status (i.e., active, idle, etc.); well construction details; borehole geophysical logs; and all analytical results for any water sample(s) collected from each water supply well.
- g. For the subject well, provide the following information. The information for items A-P shall be in table format. The information for items Q-T shall be in attachments:
 - A. The name of the owner and/or operator of the subject well;
 - B. API number for the subject well;
 - C. Subject well name and number;
 - D. Name of the field in which the subject well is located;
 - E. County in the which the subject well is located;
 - F. Latitude and Longitude (decimal degrees) of well head and bottomhole location;
 - G. Latitude and Longitude Datum, indicate "1" for North American Datum of 1983 or "2" for North American Datum of 1927;
 - H. Elevation and datum of the well head (feet above mean sea level);
 - Subject well total depth (feet);
 - J. Top injection depth(s) (feet);
 - K. Formation/Zone name(s) at top injection depth(s);
 - L. Bottom injection depth(s) (feet);
 - M. Formation/Zone name(s) at bottom injection depth;
 - N. Date injection started in the well (Day/Month/Year, xx/xx/xxxx);

- O. Total injection volume in barrels from the date injection began through **9 August 2024**;
- P. Total injection volume in barrels for the 12-month period from **9 August 2023** through **9 August 2024**;
- Q. Well construction diagram including all perforations, annular material, seals, and casing holes;
- R. A description of the sources of fluid injected;
- S. Surface injection pressure data maintained in compliance with California Code of Regulations, title 14, section 1724.10, subdivision (h); and,
- T. Documentation associated with each mechanical integrity test undertaken to comply with California Code of Regulations, title 14, section 1724.10, subdivision (i).
- 2. Based on the information requested in item 1 above, submit a technical report in the form of a work plan by 8 November 2024, that describes proposed tasks and the time schedule to be completed to investigate the lateral and vertical extent of the fluids injected, and potential impacts to groundwater quality in the aquifer(s) from the injection of fluids in the subject well. Collection of current water quality data needs to be used to accurately define the physical lateral and vertical extent of the fluids injected and the potential impacts to the aquifer's groundwater. The collection of water quality data needs to be collected either by the drilling of borings, installation of groundwater monitoring wells, or other approved methods. A schedule for the collection of water quality data needs to be included in the work plan. Upon receiving written approval of the work plan by the Executive Officer, Tetra Oil Company shall implement approved tasks in accordance with the time schedule approved by the Executive Officer.

The technical reports and information required by items 1 and 2 above must be uploaded to the <u>State Water Resources Control Board's (State Water Board's) GeoTracker database</u> (https://geotracker.waterboards.ca.gov/esi/login.asp) in an electronic format that follows the <u>requirements of California Code of Regulations, title 23, section 3893</u> (http://www.waterboards.ca.gov/ust/electronic_submittal/docs/text_regs.pdf). Central Valley Water Board staff has provided, in Attachment A, a unique GeoTracker identifier (Global identification [ID] number). Your state-certified laboratory will need the assigned Global ID number to upload to GeoTracker the certified analytical results for the subject well. GeoTracker upload instructions are also provided in Attachment A.

Based on the information submitted in the technical report and/or work plan, additional information or action may be required.

All required technical information must be submitted to the attention of:

Jill Ghelerter Central Valley Regional Water Quality Control Board 1685 E Street Fresno, California 93706 In addition, all information is to be copied to CalGEM, to the attention of:

Chris Jones, District Deputy, Central District Department of Conservation, Geologic Energy Management Division 11000 River Run Boulevard Bakersfield, California 93311

Submissions pursuant to this Order need to include the following statement signed by an authorized representative of Tetra Oil Company:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Please note that the information produced in response to this Order will be used to ascertain the extent of the migration, as well as the impacts and any necessary remedial actions. Investigative orders are iterative in nature, and subsequent orders may be narrower and more precise in scope.

All technical reports and time schedules required herein are subject to the approval of the Executive Officer. The failure to furnish the required reports by the due dates herein or in a time schedule approved by the Executive Officer, or the submission of a substantially incomplete report or false information, is a misdemeanor, and may result in additional enforcement actions, including issuance of an Administrative Civil Liability Complaint pursuant to California Water Code section 13268. Liability may be imposed pursuant to California Water Code section 13268 in an amount not to exceed one thousand dollars (\$1,000) for each day in which the violation occurs.

In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain work plans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by Tetra Oil Company shall bear the professional's signature and stamp.

Any person aggrieved by this Order of the Central Valley Water Board may petition the State Water Board to review the action in accordance with California Water Code section 13320. The State Water Board must receive the petition by 5:00 p.m., within 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations, and instructions applicable to filing petitions are available at the State Water Board's Website

or will be provided upon request (http://www.waterboards.ca.gov/public notices/petitions/water quality/index.html).

Any questions regarding this matter should be directed to Jill Ghelerter at (559) 445-5088 or at <u>Jill.Ghelerter@waterboards.ca.gov.</u>

For Patrick Pulupa Executive Officer

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Enclosure: Attachment A, Information about the Subject Well, Assigned GeoTracker

Global Identification Number, and GeoTracker Upload Instructions

Attachment B, Water Quality Sampling, Analysis and Reporting

cc by email: Chris Jones, District Deputy, Central District, California Geologic

Energy Management Division, Bakersfield

Cameron Campbell, Supervising Oil and Gas Engineer, California

Geologic Energy Management Division, Bakersfield

Kern County Environmental Health Division, Bakersfield,

eh@kerncounty.com

Armen Nahabedian, Tetra Oil Company, Santa Barbara,

armennahabedian@gmail.com

ATTACHMENT A

Information about the Subject Well and Assigned GeoTracker Global Identification Number

Table 1- Assigned GeoTracker Global ID Number- T10000021579

| Injection Well API No. | Well Number | Latitude | Longitude |
|---------------------------|-------------|-----------|-------------|
| 02916565 | Cauley 1 | 35.498893 | -119.081072 |

GeoTracker Upload Instructions

(https://www.waterboards.ca.gov/ust/electronic_submittal/)

Work plans and technical reports and associated data shall be uploaded in an electronic format compatible with the State Water Board's GeoTracker system. To begin the process:

- Log in or create a password
- Claim your site(s) (i.e. Global ID)
- Add field point name(s)
- Upload the following:
 - -Work plan/Technical report and associated data (GeoReport)
 - -Laboratory report (EDF)
 - -Site Maps (GeoMAP)

For more information, contact the GeoTracker Help Desk at Geotracker@waterboards.ca.gov.

ATTACHMENT B

Water Quality Sampling, Analysis, and Reporting

Water Quality Sampling

All groundwater sampling is to be performed by a qualified person. A qualified person is any person with the knowledge and training in proper sampling methods, chain of custody, and quality assurance/quality control protocols.

Water Quality Analysis

Groundwater samples collected from wells and injection zones shall be analyzed by a laboratory certified by the Environmental Laboratory Accreditation Program. The methods of analysis and the detection limits used shall be appropriate for the expected concentrations. The analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences. Analyze samples for the following:

- A. Total dissolved solids
- B. Metals listed in California Code of Regulations, title 22, section 66261.24, subdivision (a)(2)(A)
- C. Benzene, toluene, ethylbenzene, and xylenes
- D. Total petroleum hydrocarbons for crude oil
- E. Polynuclear aromatic hydrocarbons (including acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenzo[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene)
- F. Radionuclides listed under California Code of Regulations, title 22, Table 64442, which includes Gross Alpha particle activity (excluding radon and uranium), Uranium, Radium-226, and Radium-228
- G. Methane
- H. Stable oxygen and hydrogen isotopes
- I. Major and minor cations (including sodium, potassium, magnesium, and calcium)
- J. Major and minor anions (including nitrate, chloride, sulfate, alkalinity, and bromide)
- K. Trace elements (including lithium, strontium, boron, iron, and manganese)

Water Quality Reporting

Water quality information shall be submitted in a technical report that includes, at a minimum:

- A. Site plan with locations of well(s) sampled.
- B. Description of field sampling procedures.
- C. Table(s) of analytical results organized by well number (including API number).
- D. Copies of analytical laboratory reports, including quality assurance/quality control procedures and analytical test methods.
- E. Waste management and disposal procedures.