



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

July 15, 2014

**PERSONAL SERVICE AND
CERTIFIED MAIL
7011 2970 0003 2761 5467**

Brad C. Califf, Agent
Longbow, LLC
1701 Westwind Drive, Suite 101
Bakersfield, CA 93301

AMENDMENT TO ORDER PURSUANT TO CALIFORNIA WATER CODE SECTION 13267. You are legally obligated to respond to this Order. Read this Order carefully.

Longbow, LLC, is the operator of the injection wells identified as API numbers 02966045 and 03046608 (hereinafter "injection wells subject to this Order"). The California Division of Oil, Gas, and Geothermal Resources (Division) determined that the injection wells subject to this Order have been injecting fluids produced by oil or gas extraction activities into aquifers that may not have been properly designated as exempt aquifers under the federal Safe Drinking Water Act (42 U.S.C. § 300f et seq.). These aquifers may be suitable for drinking water supply and other beneficial uses. The Division issued an Emergency Order to Immediately Cease Injection Operations (Emergency Order) to Longbow, LLC, for the injection wells subject to this Order concurrently with the issuance of this Order by the Central Valley Regional Water Quality Control Board (Central Valley Water Board).

This Order is amended as follows based on additional information provided by the Division. The Division determined that the injection well identified as API number 03046608 is injecting into the Santa Margarita Formation, which is an exempt aquifer in the Comanche Point oil field. Therefore, this Order is amended, and Longbow, LLC, is not required to submit information about the quality of groundwater within the zone(s) where fluids have been injected using the injection well identified as API number 03046608. All other requirements of the 2 July 2014 Order remain applicable.

This amendment does not relieve Longbow, LLC, from the requirement to submit the location and contact information for all water supply wells within one (1) mile of the injection well identified as API number 02966045 subject to this Order by the date specified in this Order. The Division's Emergency Order requires Longbow, LLC, to submit other information that is also needed to assess the threat to groundwater quality posed by the operation of the injection wells subject to this Order. The Division's Emergency Order requires Longbow, LLC, to submit that information to the Division and to the Central Valley Water Board. This Order is not intended to require Longbow, LLC, to submit any information that the Division's Emergency Order also requires Longbow, LLC, to submit.

This Order is intended to complement the Division's Emergency Order. As described further below, this Order requires Longbow, LLC, to submit information about the quality of groundwater within the zone(s) where fluids have been injected using the injection wells subject to this Order. In addition, this Order requires Longbow, LLC, to submit the location and contact information for all water supply wells within one (1) mile of each of the injection wells subject to this Order. The Division's Emergency Order requires Longbow, LLC, to submit other information that is also needed to assess the threat to groundwater quality posed by the operation of the injection wells subject to this Order. The Division's Emergency Order requires Longbow, LLC, to submit that information to the Division and to the Central Valley Water Board. This Order is not intended to require Longbow, LLC, to submit any information that the Division's Emergency Order also requires Longbow, LLC, to submit.

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, 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 aquifers that were not properly designated as exempt aquifers under the federal Safe Drinking Water Act and that may be suitable for drinking water supply and other beneficial uses. 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. The need to understand the potential threat to human health and potential impacts to water quality justifies the need for the information and reports required by this Order. Based on the nature and possible consequences of the discharges of waste, the burden of providing the required information, including reporting costs, bears a reasonable relationship to the need for the report, and the benefits to be obtained. Longbow, LLC, is required to submit this information and reports because it is the operator of the injection wells subject to this Order.

Under the authority of California Water Code section 13267, the Central Valley Water Board hereby orders Longbow, LLC, to:

1. **By 11 July 2014¹**, submit a work plan that adequately describes the procedures to collect a representative groundwater sample from the injection zone(s) for each of the injection wells subject to this Order. **By 1 August 2014**, submit a technical report with the analyses of each of the groundwater samples, in accordance with the water quality analysis and reporting requirements contained in Attachment A to this Order.

Note: If a representative sample cannot feasibly be collected from one or more of the injection zones for any of the injection wells subject to this Order within the required timeframe (e.g., due to constraints posed by the design of the injection well), then **by 18 July 2014**, submit a technical report demonstrating that collection of a representative sample from those injection zones is not feasible within the required timeframe, and proposing an alternative sampling procedure and expeditious time schedule for obtaining a representative sample of groundwater from those injection zones. Alternative sampling procedures and time schedules are subject to approval by the Assistant Executive Officer of the Central Valley Water Board.

2. **By 1 August 2014**, submit all previously-obtained analytical data for fluid samples collected from any injection zones within one (1) mile of each of the injection wells subject to this Order.
3. **By 1 August 2014**, submit a technical report containing the following:
 - A. A list and location map of all water supply wells within one mile of each injection well subject to this Order.
 - B. All 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.); status (i.e., active, idle, etc.); well construction; borehole geophysical logs; and all analytical results for any water sample(s) collected from each water supply well. Notify Central Valley Water Board staff within 24 hours upon determination that any water supply well information cannot be obtained from the California Department of Water Resources because it is confidential.

Submissions pursuant to this Order must include the following statement signed by an authorized representative of Longbow, LLC:

"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

¹ The initial 13267 Orders, dated July 2, 2014, had initial deliverables of July 9 and July 11, 2014, to call Mr. Dane Johnson at the Central Valley Water Board and submit initial work plans. All recipients timely called Mr. Johnson, and work plans are being reviewed for completeness.

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."

The failure to furnish the required report, 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.

Any person aggrieved by this Order of the Central Valley Water Board may petition the State Water Resources Control Board (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, may be found at http://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.shtml, or will be provided upon request.

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

Dane S. Johnson
Central Valley Water Board
1685 E Street
Fresno, CA 93706

In addition, all information is to be copied to the Division, to the attention of:

Steven R. Bohlen, State Oil and Gas Supervisor
Department of Conservation, DOGGR
801 K Street
Sacramento, CA 95814-3500

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

Be advised that sections 13260 and 13264 of the California Water Code require any person who proposes to discharge waste that could affect waters of the state to submit a Report of Waste Discharge for any new discharge or change in the character, volume, or location of an existing discharge. Fluids produced by oil or gas extraction activities that can no longer be disposed of in the injection wells subject to this Order cannot be discharged to land or waters of the state prior to the issuance of Waste Discharge Requirements, and cannot be discharged to waters of the United States prior to the issuance of an National Pollutant Discharge Elimination

System (NPDES) Permit. Failure to comply with these requirements may constitute a misdemeanor under Water Code section 13265 or a felony under Water Code section 13387, and may also subject Longbow, LLC, to judicial or administrative civil liabilities. It is strongly recommended that you contact Central Valley Water Board staff to discuss any proposed changes to the discharge of the fluids that had previously been disposed of in an injection well subject to this Order.

Any questions regarding this matter should be directed to me at (559) 445-5116 or at Clay.Rodgers@waterboards.ca.gov.

A handwritten signature in blue ink that reads "Clay L. Rodgers". The signature is written in a cursive style with a large initial "C".

Clay L. Rodgers
Assistant Executive Officer

ATTACHMENT A

Water Quality Analysis

Groundwater samples collected from wells and injection zones shall be analyzed by a laboratory certified by the Environmental Laboratory Accreditation Program, using current applicable EPA-approved analytical methods for water 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
- G. Methane
- H. Major and minor cations (including sodium, potassium, magnesium, and calcium)
- I. Major and minor anions (including nitrate, chloride, sulfate, alkalinity, and bromide)
- J. 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.