

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER NO. R5-2005-0717

FOR

MR. ROGER JOHNSON AND MS. LAURA JOHNSON
AND MR. GIL MOORE
EXPRESS LANE CHEVRON
301 PINE STREET, GALT, SACRAMENTO COUNTY

This Order is issued to Roger and Laura Johnson as husband and wife, and Gil Moore, all parties having conducted business as Express Lane Chevron, and hereafter collectively referred to as Dischargers, based on provisions of California Water Code (CWC) Section 13304, which authorizes the California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Board) to issue a Cleanup and Abatement Order (Order).

The Executive Officer of the Regional Board finds, with respect to the Dischargers' acts or failure to act, the following:

INTRODUCTION

1. Mr. Roger Johnson and Ms. Laura Johnson owned and operated the Chevron fueling station and mini-market at 301 Pine Street in Galt, Sacramento County, as shown in Figure 1 which is made part of this Order, from 1980 to 1997. During tank removal activities July 1996, stained soil was observed and total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), were detected in soil at the limits of the tank excavation. Mr. and Ms. Johnson are subject to this Order because they owned the property and operated the station at the time the underground storage tank (UST) system caused or permitted waste to be discharged to waters of the state where it has created a condition of pollution and nuisance.
2. In January 1997, the initial soil and groundwater investigation showed TPHg up to 2,100 mg/kg, methyl tert butyl ether (MtBE) up to 390 mg/kg, and BTEX up to 100, 380, 91, 510 mg/kg, respectively, in soil to 60 feet below ground surface (bgs). TPHg, MtBE, and BTEX were at 110,000, 31,000, 48,000, 62,000, 5,500, and 38,000 micrograms per liter ($\mu\text{g/L}$), respectively, in groundwater at 74 feet bgs.
3. In February 1997, Mr. Johnson and Ms. Johnson sold the property to Mr. Gil Moore. Mr. Gil Moore is subject to this Order because he currently owns and operates the facility that caused the condition of pollution and nuisance.
4. Sacramento County Environmental Management Department (SCEMD) staff provided oversight for UST replacement, investigation and remedial activities conducted at the site until March 2002. Since March 2002 the Regional Board has been providing regulatory oversight of the investigation and cleanup of this site.

5. Concentrations of petroleum constituents in groundwater since January 1997 have been found as high as: TPHg 420,000 µg/L, benzene 43,000 µg/L, toluene 53,000 µg/L, ethylbenzene 7,700 µg/L, total xylenes 47,000 µg/L, methyl tert butyl ether (MtBE) 330,000 µg/L, tertiary butyl alcohol (TBA) 43,000 µg/L, tertiary amyl methyl ether (TAME) 1,300 µg/L, and di-isopropyl ether (DIPE) 5.0 µg/L. These petroleum constituents constitute “waste” as defined in Water Code section 13050. Free phase product was detected once on 14 August 2002 in one monitoring well. Depth to groundwater varies from 55 to 75 feet bgs. The waste has migrated in groundwater beneath State Highway 99 nearly 1,000 feet offsite.
6. The Water Quality Objectives for protection of beneficial uses of groundwater in the area of the site are 0.15 µg/L for benzene, 42 µg/L toluene, 29 µg/L ethylbenzene, 17 µg/L total xylenes, and 5 µg/L for MtBE.
7. On 4 June 1998, SCEMD directed the Dischargers to conduct a survey of water supply wells within 2,000 feet of the site. This work was not begun until November 1999, and to date 11 water supply wells have been identified within 2,000 feet of the site as shown in Table 1, which is made part of this Order. On 18 June 2001, SCEMD directed the dischargers to collect a water sample from one of the downgradient water supply wells. The first downgradient water supply well was not sampled until 19 October 2001 when 54 µg/L of MtBE was detected in the private domestic water supply well. On 8 November 2001 SCEMD directed the Dischargers to provide an alternative water source to the owner of this well. On 15 March 2002, SCEMD requested that this Regional Board become the lead agency for the case because of the impacts to water supply wells in the area. The owner of the contaminated water supply well was connected to the City of Galt municipal water system in January 2003, and the impacted well was destroyed in February 2003.
8. In February 2002, the Discharger began operation of a soil vapor extraction (SVE) system to cleanup wastes in soil. In November 2002, the Discharger installed and began operation of a groundwater pump and treatment system. Currently, there are 13 groundwater monitoring wells, one groundwater extraction well, six SVE wells, and three air sparging wells on and off-site. The groundwater waste plume extends off-site to the northeast nearly 1,000 feet, and the waste has affected four private water supply wells (see Figure 1).
9. The current method of soil and groundwater remediation does not effectively remediate the entire plume and waste continues to migrate off-site.
10. In a 31 May 2002 letter to the Dischargers, Regional Board staff requested additional work to define the extent of waste in groundwater, remediate soil and groundwater, and evaluate additional impacts to water supply wells in the area. The extent of waste in groundwater has been defined by grab groundwater sampling but additional monitoring well installations are still needed to confirm this condition. Soil and groundwater remedial actions have been implemented on-site and additional off-site remediation of groundwater has been proposed but not implemented. The Dischargers have properly abandoned four water supply wells impacted with MtBE. Three agricultural wells and two active domestic wells remain down-gradient of the Site. The domestic

wells are sampled quarterly. A third, threatened domestic well was recently discovered and has not yet been sampled.

11. In a 15 September 2004 letter, Regional Board staff approved a workplan submitted by the Dischargers to implement additional on-site and off-site remedial measures. The workplan proposed enhancing on-site remediation with a series of ozone sparge wells. Similarly, the workplan proposed a series of off-site ozone sparge wells to remediate the off-site portion of the plume. The Regional Board staff requested that a Feasibility Study be developed based on bench-scale studies of ozone sparge tests. Ozone bench scale test has not been performed and no off-site cleanup has been implemented.
12. To date, approximately \$981,561 of the maximum 1.5 million dollars available from the SWRCB UST Cleanup Fund account has been used by the Dischargers for investigation and cleanup. Regional Board staff are concerned that work necessary to complete the investigation and remediation of soil and groundwater, and provide alternative water sources for impacted water supply wells, will incur costs that exceed the maximum funds available from the SWRCB UST Cleanup Fund.

AUTHORITY – LEGAL REQUIREMENTS

13. The Regional Board's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan) designates beneficial uses of the waters of the State, establishes water quality objectives (WQOs) to protect these uses, and establishes implementation policies to implement WQOs. The beneficial uses of the groundwater beneath this site are domestic, municipal, industrial, and agricultural supply.
14. The constituents listed in Finding No. 5 are wastes as defined in California Water Code Section 13050.
15. The wastes detected at the site are not naturally-occurring, and some are known human carcinogens. Pollution of groundwater with these constituents impairs or threatens to impair the beneficial uses of the groundwater.
16. WQOs listed in the Basin Plan include numeric WQOs, e.g., state drinking water maximum contaminant levels (MCL) that are incorporated by reference, and narrative WQOs, including the narrative toxicity objective and the narrative tastes and odors objective for surface water and groundwater. Chapter IV of the Basin Plan contains the *Policy for Application of Water Quality Objectives*, which provides that "where compliance with narrative objectives is required (i.e., where the objectives are applicable to protect specified beneficial uses), the Regional Board will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives." The numerical limits for the constituents of concern listed in the following table implement the Basin Plan WQOs.

Constituent	Limits	WQO	Reference
Total Petroleum Hydrocarbons as Gasoline	5 µg/L	Tastes and Odors	McKee & Wolf, <i>Water Quality Criteria</i> , SWRCB, p. 230
Benzene	0.15 µg/L	Toxicity	California Public Health Goal (OEHHA)
Toluene	42 µg/l	Taste and Odor	Federal Register, Vol. 54, No. 97
Ethylbenzene	29 µg/l	Taste and Odor	Federal Register, Vol. 54, No. 97
Xylene	17 µg/l	Taste and Odor	Federal Register, Vol. 54, No. 97
Methyl t-butyl ether (MtBE)	5 µg/L	Taste and Odor	California Secondary MCL
Tertiary butyl alcohol (TBA)	12 µg/l	Toxicity	California Drinking Water Action Level (DHS)
Di-isopropyl ether (DIPE)	0.8 µg/l	Taste and Odor	J. of Applied Toxicology, Vol. 3, No. 6

µg/L = micrograms per liter

17. The groundwater exceeds the WQOs for the constituents listed in Finding No. 4. The exceedance of applicable WQOs in the Basin Plan constitutes pollution as defined in California Water Code Section 13050. The Discharger has caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance.
18. The State Water Resources Control Board (hereafter State Board) has adopted Resolution No. 92-49, the *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*. This Policy sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Board Resolution 68-16, the *Statement of Policy With Respect to Maintaining High Quality of Waters in California*. Resolution 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution 92-49 requires the waste to be cleaned up to background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with Title 23, California Code of Regulations (CCR) Section 2550.4. Any alternative cleanup level to background must; (1) be consistent with the maximum benefit to the people of the state, (2) not unreasonably affect present and anticipated beneficial use of such water, and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Board.
19. Chapter IV of the Basin Plan contains the *Policy for Investigation and Cleanup of Contaminated Sites*, which describes the Regional Board's policy for managing contaminated sites. This policy is based on California Water Code Sections 13000 and 13304, the Title 27, Division 2, Subdivision 1 regulations, and State Board Resolution Nos. 68-16 and 92-49. The policy addresses site investigation, source removal or containment, information required to be submitted for consideration in establishing cleanup levels, and the basis for establishment of soil and groundwater cleanup levels.

20. The State Board's *Water Quality Enforcement Policy* states in part: "At a minimum, cleanup levels must be sufficiently stringent to fully support beneficial uses, unless the Regional Board allows a containment zone. In the interim, and if restoration of background water quality cannot be achieved, the Order should require the discharger(s) to abate the effects of the discharge. Abatement activities may include the provision of alternate water supplies." (Enforcement Policy, p. 19)

21. Section 13304(a) of the California Water Code provides that:

"Any person who has discharged or discharges waste into waters of the state in violation of any waste discharge requirements or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including but not limited to, overseeing cleanup and abatement efforts. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the regional board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant."

22. Section 13267(b) of the California Water Code provides that:

"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, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of 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 technical reports required by this Order are necessary to assure compliance with Section 13304 of the California Water Code. Existing data and information about the site indicates that waste has been discharged or is discharging at the property, which is owned and operated by the Dischargers named in this Order.

23. Section 13304(c)(1) of the California Water Code provides that:

“ . . . the person or persons who discharged the waste, discharges the waste, or threatened to cause or permit the discharge of the waste within the meaning of subdivision (a), are liable to that government agency to the extent of the reasonable costs actually incurred in cleaning up the waste, abating the effects of the waste, supervising cleanup or abatement activities, or taking other remedial actions. . . .”

24. If the Discharger fails to comply with this Order, the Executive Officer may request the Attorney General to petition the superior court for the issuance of an injunction.
25. If the Discharger intentionally or negligently violates this Order, then the Discharger may be liable civilly in a monetary amount provided by the California Water Code.
26. The issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), pursuant to Title 14 California Code of Regulations (CCR) Section 15321(a)(2). The implementation of this Order is also an action to assure the restoration of the environment and is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), in accordance with Title 14 CCR, Sections 15308 and 15330.
27. Any person affected by this action of the Regional Board may petition the State Board to review the action in accordance with Title 23 CCR Sections 2050-2068. The regulations may be provided upon request and are available at www.swrcb.ca.gov. The State Board must receive the petition within 30 days of the date of this Order.

REQUIRED ACTIONS

IT IS HEREBY ORDERED that, pursuant to California Water Code Section 13267 and Section 13304, Roger and Laura Johnson and Gil Moore (Dischargers) shall:

1. Investigate the discharges of waste, clean up the waste, and abate the effects of the waste, forthwith, resulting from activities at Chevron, 301 Pine Street, Galt, in conformance with State Board Resolution No. 92-49 *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* and with the Regional Board’s *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (in particular the Policies and Plans listed within the Control Action Considerations portion of Chapter IV). “Forthwith” means as soon as is reasonably possible. Compliance with this requirement shall include, but not be limited to, completing the tasks listed below.
2. By **6 February 2006** submit a Feasibility Study (FS) that evaluates remedial technologies for cleanup of the waste in groundwater. The FS must be prepared work according to Appendix A of the *Tri-Regional Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites* (Appendix A), which is hereby made part of this order. Appendix A can be found at

http://www.swrcb.ca.gov/rwqcb5/available_documents. The FS shall propose at least two remedial technologies that have a substantial likelihood to achieve cleanup of all impacted soils and groundwater and shall include a schedule for achieving cleanup. The remedial technologies must be evaluated with respect to their ability to be implemented, cost and effectiveness.

3. By **6 February 2006** submit a Work Plan for preparing a Health Risk Assessment. The Health Risk Assessment must include evaluation of all exposure pathways including evaluation of indoor air impacts to commercial and residential occupants overlying identified soil and groundwater pollution. The Work Plan must include an implementation schedule and detailed description of the proposed selected site data for comparison to the *Use of California Human Health Screening Levels in Evaluation of Contaminated Properties* as prepared by the California Environmental Protection Agency (Cal/EPA). The approved time schedule in the Work Plan shall become part of this Order.
4. By **2 March 2006** submit a Public Participation Plan (PPP) that facilitates notification of environmental conditions and plans for remediation to all residents and property owners overlying and within 100 feet of the plume. The PPP must include an evaluation of the demographics of the community, a plan for disseminating information to the public including the mailing of fact sheets, and establishing a public repository so that members of the public have easy access to information regarding investigation and remediation of the site as well as a forum to communicate their comments or concerns.

Remediation

5. Within **90 days** of Board staff concurrence with the FS, and no later than **30 April 2006**, submit a Final Remediation Plan (FRP) in accordance with Appendix A. The FRP must include a detailed description of the remedial actions to address cleanup of the entire groundwater plume and source area soils, a schedule for installing monitoring wells to confirm the lateral and vertical extent of pollution and an implementation schedule for construction and startup of the approved remedial system by **6 July 2006**. The approved implementation schedule and schedule to install additional monitoring wells shall become part of this Order.
6. Submit **monthly** status reports for the first three months of operation of any new remediation system(s), and combine information into quarterly reports thereafter, as required in item 8 below. At a minimum, the monthly status reports of the remediation system performance shall include:
 - average extraction rates of all treatment systems,
 - influent and effluent concentrations of TPHg, BTEX, MtBE and other fuel oxygenates (TBA, DIPE and TAME),
 - mass of hydrocarbons treated during the reporting period and cumulative to date,
 - running and down time for the remediation system(s), and
 - summary of consultant visits to the site.

7. Monitor and sample **quarterly** all monitoring wells and threatened offsite water supply wells for TPHg, BTEX, MtBE, TBA, DIPE and TAME until otherwise directed in writing by the Executive Officer or his representative(s). All analyses shall follow the Tri-Regional Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites (1990) that state the applicable detection limits that are to be achieved to insure a representative comparison with current water quality criteria. Method Detection Limits (MDLs) shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. The MDLs shall reflect the detection capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLS are expected to closely agree with published USEPA MDLs.
8. Submit **quarterly** monitoring and remediation status reports according to Appendix A by the 1st day of the second month after each calendar quarter. The quarterly reports should include all items in item 6 above in addition to the following items:
 - groundwater elevation contour maps,
 - pollutant concentration contour maps,
 - groundwater purge data sheets,
 - tabular results of all current and previous data,
 - a narrative describing the work performed during the reporting period,
 - a discussion of the status of investigation and cleanup activities including an evaluation of the effectiveness of cleanup activities,
 - an estimate of pollutants treated/removed for each quarter with cumulative totals,
 - a schedule for future activities, and
 - documentation of treatment or proper disposal of any polluted soil or groundwater generated during the investigation and cleanup activities.
9. In addition to the items in Order #8, the 1st quarterly report of each year shall include:
 - site maps indicating the capture zone and waste plumes,
 - estimated mass of wastes remaining and predicted time frame for meeting cleanup objectives,
 - evaluation of the overall remediation program and recommendation to correct deficiencies or increase efficiency
10. Optimize remedial systems as needed to improve system efficiency, operating time, and/or waste removal rates, and report on the effectiveness of the optimization in the quarterly reports.
11. Notify the Regional Board within **24 hours** of any unapproved shutdown of the remediation system(s). Upon startup of any new remediation system(s), and for the continued operation of any remediation systems, the Dischargers shall operate the systems continuously, except for periodic and routine maintenance. Any interruptions in the operation of the remediation systems, other than routine maintenance, without prior approval from the Executive Officer are a violation of this

Order. Within 7 working days of a shutdown, the Dischargers shall submit a Technical Report containing at a minimum, but not limited to the following information:

- times and dates equipment were not working,
 - cause of shutdown, and
 - a Corrective Action Plan (CAP) to ensure that similar shutdowns do not reoccur. Proposed CAPs are to be completed within 30 days of the system shutdown.
12. Notify Regional Board staff at least two working days prior to any fieldwork or sampling activities.
 13. Obtain all necessary local and state permits prior to beginning work.
 14. Analytical results shall be submitted electronically using the Electronic Deliverable Format (EDF) for analyses of soil and/or groundwater samples to the State Water Board Geographic Environmental Information Management System database (Geotracker) over the internet, in addition to the customary paper format. In addition to the laboratory data, site specific information is required to be submitted in electronic format for the following: 1) the latitude and longitude of groundwater monitoring wells (including any other well or permanent sampling point designated as part of the site monitoring program) accurate to within one meter; 2) the surveyed elevation, relative to mean sea level, for any groundwater sampled, accurate to within a tenth of a foot; 3) groundwater information, including depth to water, free product/thickness and well status; 4) a site map in electronic format (PDF, JIFF, TIFF, JPEG, etc.) showing property boundaries, buildings, and soil and water sampling locations, and 5) copies of all technical reports (monthly and quarterly monitoring reports, work plans, FS, FRP, etc). The Regional Board requests one paper copy of all technical data and reports be submitted to the Board's office until we determine such copies are no longer necessary.
 15. Continue any cleanup or monitoring activities until such time as the Executive Officer determines that sufficient cleanup has been accomplished to fully comply with this Order and this Order has been rescinded.
 16. If, in the opinion of the Executive Officer, the Dischargers fail to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.
 17. Ensure that all technical reports and plans, including drilling logs and soil and groundwater sampling, are prepared by, or under the direction of, and signed and certified by a Registered Geologist, Registered Civil Engineer, Certified Engineering Geologist, or Certified Hydrogeologist (all must be licensed by the State of California).
 18. All work and directives referenced in this Order are required regardless of whether the UST Fund approved the work for reimbursement.

CLEANUP AND ABATEMENT ORDER NO. R5-2005-0717
ROGER AND LAURA JOHNSON, GIL MOORE
301 PINE STREET
GALT, SACRAMENTO COUNTY

This Order is effective upon the date of signature.

THOMAS R. PINKOS, Executive Officer

(Date)

Attachments