

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER NO. R5-2007-0713

FOR

ATLANTIC RICHFIELD COMPANY, AND THE THOMAS AND JOSEPHINA KALURAYIL  
FAMILY TRUST, MR. GEORGE PUTHENPURAYIL, AND MS. SHYLIMOL P. ABRAHAM  
FORMER ARCO SERVICE STATION NO. 2019  
3801 47<sup>TH</sup> AVENUE, SACRAMENTO  
SACRAMENTO COUNTY

This Order is issued to the Atlantic Richfield Company and the Thomas and Josephina Kalapurayil Family Trust, Mr. George Puthenpurayil, and Ms. Shylimol Abraham hereafter referred to as Dischargers, based on provisions of California Water Code section 13304, which authorizes the California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Water Board) to issue a Cleanup and Abatement Order (Order), and Water Code section 13267, which authorizes the Regional Water Board to require preparation and submittal of technical and monitoring reports.

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

**PROPERTY OWNERSHIP AND OPERATIONS**

1. According to Sacramento County the Atlantic Richfield Oil Company (now known as the Atlantic Richfield Oil Corporation/Arco) was the owner of the property and owner and operator of the four underground storage tanks at the Arco Service Station No. 2019 formerly located at 3801 47<sup>th</sup> Avenue in Sacramento. The Atlantic Richfield Oil Corporation/Arco (Arco) operated the former Arco Service Station No. 2019 as a gasoline station from 23 January 1963 until 1976, and the property was sold on 18 January 1978. The Site location is shown on Figures 1 and 2, which are made part of this Order. In December 1991, a site investigation revealed that the site is contaminated with petroleum hydrocarbons from the operation of the former underground storage tanks (UST) system. Total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethylbenzene, and total xylenes (BTEX) were detected in composite soil samples collected from soil borings adjacent to the abandoned USTs. Initial groundwater samples collected in March 1994 from monitoring wells contained detectable concentrations of TPH-G and BTEX. The Atlantic Richfield Oil Corporation /Arco is subject to this Order because it owned the property and operated the station at the time the 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. On 12 August 2004, the Thomas and Josephina Kalapurayil Family Trust, Mr. George Puthenpurayil, and Ms. Shylimol Abraham purchased the property at 3801 47<sup>th</sup> Avenue, Sacramento. The Thomas and Josephina Kalapurayil Family Trust, Mr. Puthenpurayil, and Ms. Abraham are subject to this Order and are responsible parties because as the current property owners they are responsible for the condition of their property, they have knowledge of the discharge, and they have ability to control access to the property.

3. From 18 January 1978 to 12 August 2004, Mr. Steve Vathis, Mr. John Asimakopoulous, Mr. Nick Darras, and Mr. Tom Buranis owned the property located at 3801 47<sup>th</sup> Avenue, Sacramento. Mr. Vathis, Mr. Asimakopoulous, Mr. Darras, and Mr. Buranis are not subject to this Order because they never operated the tank system or took actions that exacerbated the condition of pollution. We currently have no knowledge of where these individuals reside. Should additional information be provided substantiating one or more of these parties responsibility for the subject releases, staff may recommend they be added to the Order. Arco is cooperating with work required on this project.

### **BACKGROUND**

4. The Former Arco Service Station No. 2019 (Site) operated as a gasoline service station from 23 January 1963 until 1976. Atlantic Richfield Company sold the property on 18 January 1978, and the tanks were abandoned in place by filling them with a slurry cement prior to the sale of the property. The former UST system consisted of four USTs; a dispenser island, and associated product piping.
5. During a Phase 2 Investigation conducted on 5 December 1991, composite soil samples were collected from the borings advanced adjacent to the abandoned USTs and contained constituents detected at maximum concentrations of 1630 milligrams per kilogram (mg/kg) of TPH-G, 0.4 mg/kg benzene, 8.8 mg/kg toluene, 20.3 mg/kg ethylbenzene, and 79.5 mg/kg total xylenes. Six soil borings were advanced on 12 April 1993, discrete soil samples contained maximum concentrations of TPH-G and BTEX of 230 mg/kg, 3.7 mg/kg, 1.9 mg/kg, 0.57 mg/kg, and 11 mg/kg, respectively.
6. In February 1994, an initial soil and groundwater site assessment investigation showed constituents detected at maximum concentrations of 3,800 mg/kg of TPH-G, 8.0 mg/kg of benzene, 210 mg/kg of toluene, 100 mg/kg of ethylbenzene, and 470 mg/kg of total xylenes, in soil. TPH-G, and BTEX were detected at maximum concentrations of 13,000, 4,300, 1,400, 270, and 2,300 micrograms per liter (ug/l), respectively, in initial groundwater samples collected from Wells MW-1, MW-2, and MW-3. TPH-G, BTEX, methyl tert butyl ether (MTBE), and 1,2-dichloroethane (1,2-DCA) has been detected in groundwater at maximum concentrations of 120,000 ug/l, 21,000 ug/l, 26,000 ug/l, 1,700 ug/l, 15,000 ug/l, 3,600 ug/l, and 2,100 ug/l, respectively.
7. In January 1998 MTBE pollution was detected at 14 micrograms per liter (ug/L), and confirmed by Regional Water Board staff at 20 ug/L, in Fruitridge Vista Water Company (FVWC) Well No. 11, located approximately 500 feet southwest of the Site. FVWC Well No. 11 was removed from service in January 1998.
8. SCEMD staff provided oversight for site investigation and remedial activities conducted at the site until August 2006. Due to waste constituent impacts to multiple wells belonging to the FVWC, including FVWC Well No. 11, and a decision to manage the investigation and cleanup of the multiple open LUFT cases in the vicinity of FVWC well No. 11 comprehensively, the Regional Water Board became the lead agency for this case on 4 August 2006. Since August

2006, the Regional Water Board has been providing regulatory oversight of the investigation and cleanup of this Site.

9. During the first quarter 2007 monitoring event, petroleum constituents in on-site groundwater monitoring wells are reported as high as; TPH-G 51,000 ug/L, benzene 12,000 ug/L, toluene 15,000 ug/L, ethylbenzene 1,300 ug/L, total xylenes 8,800 ug/L, MTBE 1.8 ug/L, and 1,2-DCA at 810 ug/l. These petroleum constituents constitute "waste" as defined in Water Code section 13050. The depth to groundwater at the Site has varied from 33.5 to 41.25 feet below ground surface (bgs).
10. The MTBE pollution detected in site wells is not believed to be related to the petroleum hydrocarbon release from this site. MTBE historically detected in groundwater in on-site wells was previously detected using Environmental Protection Agency (EPA) Method 8020, but was not detected using EPA Method 8260. EPA Method 8020 can result in false positive detections of MTBE. In addition, the underground storage tanks were abandoned in place prior to divestment of the property in 1978, before gasoline containing MTBE was sold by Arco. Current detections of MTBE in off-site Well MW-9 at 0.57 ug/l is attributed to a release from the neighboring site; the Ferg's General Market formerly located at 3735 47<sup>th</sup> Avenue, Sacramento.
11. From 25 September 2006 to 29 September 2006, the Dischargers performed a dual phase extraction (DPE) feasibility test and a soil vapor extraction (SVE) feasibility test. Testing indicated that SVE is a viable remedial alternative, and the Dischargers recommended installation and operation of a SVE system with an airsparge system.
12. The Water Quality Objectives for protection of beneficial uses of groundwater in the area of the Site are: 5 ug/L for TPH-G, 0.15 ug/L for benzene, 42 ug/L toluene, 29 ug/L ethylbenzene, 17 ug/L total xylenes, 5 ug/L for MTBE, and 0.4 ug/L for 1,2-DCA.
13. Soil and groundwater remediation to date has not effectively remediated the entire plume.
14. FVWC Well No. 11 will be properly destroyed, and down-well testing will be performed under funding by the Department of Health Services and as required by a Water Code section 13267 Order issued by the Regional Water Board to FVWC, in January 2003. FVWC intends to install a new water supply well approximately 1,500 feet to the east-northeast of the Site.
15. There are three other active or former service stations in the vicinity that have also discharged from their tank systems: the former Fergs General Market (Fergs), the Superstar Facility (Superstar), and the active Arco Service Station No. 5580 (Active Arco).
16. The former Fergs General Market (Fergs), located at 3735 47<sup>th</sup> Avenue, Sacramento (Figure 2), has discharged petroleum waste from its former underground storage tank system, which has impacted soil and groundwater. Fergs is a contributor of MTBE pollution detected in FVWC Well No. 11. The groundwater pollution plumes emanating from the Ferg's Market

gasoline station and the Site do not appear to be commingled. A separate Cleanup and Abatement Order has been prepared for the Ferg's General Market.

17. The Super Star Plus Facility (Super Star) located at 6351 Franklin Boulevard, Sacramento (Figure 2), has also discharged from its underground storage tank system to soil and groundwater. Super Star may also be a contributor of MTBE pollution detected in FVWC Well No. 11. A separate Cleanup and Abatement Order has been prepared for the Super Star Plus Facility.
18. The Active Arco, located at 3800 47<sup>th</sup> Avenue, Sacramento (Figure 2), has discharged from its underground storage tank system to soil and potentially to groundwater. The source of groundwater pollution detected at the Active Arco has not been determined, and may be due to off-site down-gradient migration from the Ferg's General Market or due to its own release. Additional monitoring is needed prior to determining the source of groundwater pollution under the Active Arco.
19. This Order addresses only the former Arco Service Station No. 2019. Cleanup and Abatement Order No. R5-2007-0712 requires cleanup at the Fergs General Market; and Cleanup and Abatement Order No. R5-2007-0714 requires cleanup at the Super Star Plus Facility. Further evidence of commingled plumes may warrant amendments to some or all of these three Orders.

#### **AUTHORITY – LEGAL REQUIREMENTS**

20. 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. A cleanup and abatement order issued by the state board or a regional board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. 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.”*

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

*“Replacement water provided pursuant to subdivision (a) shall meet all applicable federal, state and local drinking water standards and shall have comparable quality to that pumped by the public water system or private well owner prior to the discharge of waste”*

22. Section 13267(b)(1) 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.”*

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

*“If waste is cleaned up or the effects of the waste are abated, or, in the case of threatened pollution or nuisance, other necessary remedial action is taken by any government agency, 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. 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.

25. Chapter IV of the Basin Plan contains the *Policy for Investigation and Cleanup of Contaminated Sites*, which describes the Regional Water Board’s policy for managing

contaminated sites. This Policy is based on Water Code Sections 13000 and 13304, the Title 27 CCR, Division 2, Subdivision 1 regulations, and State Water Board Resolution Nos. 68-16 and 92-49. The Policy includes site investigation, source removal or containment, information required to be submitted for consideration in establishing cleanup levels, and the bases for establishment of soil and groundwater cleanup levels.

26. The State Board adopted the *Water Quality Enforcement Policy*, which states in part: "At a minimum, cleanup levels must be sufficiently stringent to fully support beneficial uses, unless the RWQCB allows a containment zone. In the interim, and if restoration of background water quality cannot be achieved, the CAO 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.)
27. The Water Board's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, 4<sup>th</sup> 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 the site are domestic, municipal, industrial, and agricultural supply.
28. The wastes detected at the site are not naturally occurring, and some are known human carcinogens. Pollution of groundwater with these wastes impairs or threatens to impair the beneficial uses of the groundwater.
29. WQOs listed in the Basin Plan include numeric WQOs, e.g., state drinking water maximum contaminant levels (MCLs), and narrative WQOs, including the narrative toxicity objective and the narrative tastes and odors objective for surface and groundwater. Chapter IV of the Basin Plan contains the *Policy for Application of Water Quality Objectives*, which provides that "[w]here compliance with narrative objectives is required (i.e., where the objectives are applicable to protect specified beneficial uses), the Water 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
1,2-DCA	0.4 µg/l	Toxicity	California public health Goal (OEHHA)

ug/L= micrograms per liter

30. The constituents listed in Finding No. 5, 6, and 9 are wastes as defined in California Water Code Section 13050(d). The groundwater exceeds the WQOs for the constituents listed in Findings No. 12 and 29. The exceeding of applicable WQOs in the Basin Plan constitutes pollution as defined in California Water Code Section 13050(l)(1).

### **DISCHARGERS LIABILITY**

31. As described in Findings 1 and 2, the Dischargers are subject to an order pursuant to Water Code section 13304 because the Dischargers have 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. The condition of pollution is a priority violation and issuance or adoption of a cleanup or abatement order pursuant to Water Code Section 13304 is appropriate and consistent with policies of the Regional Water Board.
32. This Order requires investigation and cleanup of the site in compliance with the Water Code, the applicable Basin Plan, Resolution 92-49, and other applicable plans, policies, and regulations.
33. As described in Findings 5, 6, and 9, the Dischargers are subject to an order pursuant to Water Code section 13267 to submit technical reports because existing data and information about the site indicate that waste has been discharged, is discharging, or is suspected of discharging, at the property, which is or was owned and/or operated by the Dischargers named in this Order. The technical reports required by this Order are necessary to assure compliance with Section 13304 of the California Water Code, including to adequately investigate and cleanup the site to protect the beneficial uses of waters of the state, to protect against nuisance, and to protect human health and the environment.
34. If the Dischargers fail to comply with this Order, the Executive Officer may request the Attorney General to petition the superior court for the issuance of an injunction.
35. If the Dischargers violate this Order, the Dischargers may be liable civilly in a monetary amount provided by the Water Code.
36. 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 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.
37. Any person affected by this action of the Central Valley Water Board may petition the State Water 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](http://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 13000, Section 13304 and Section 13267, the Atlantic Richfield Company, and the Thomas and Josephina Kalapurayil Family Trust, Mr. George Puthenpurayil, and Ms. Shylimol Abraham shall:

1. Investigate the discharges of waste, clean up the waste, and abate the effects of the waste, forthwith, resulting from activities at the Arco Service Station No. 2019 former located at 3801 47<sup>th</sup> Avenue, Sacramento, 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 Water 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. All work and reports shall follow the *Appendix A - Reports, Tri-Regional Recommendations for Preliminary Investigation and Evaluation of Underground Storage Tank Sites* (Appendix A - Reports) which is attached and made a part of this Order, and under permits required by State, County, and/or local agencies.

### SITE HISTORY

3. By **15 July 2007** submit a report to the best of the Dischargers' abilities documenting the site's history since the tanks were installed including a chronology of the site's ownership and operator history, any evidence detailing the time and origin of the release, and the fee title owner. Information in this report may be used to identify additional responsible parties who may be added to this or future orders.

### SITE ASSESSMENT

4. By **30 July 2007** submit a *Site Investigation Workplan (Workplan)* to collect a sufficient number of soil, soil vapor and groundwater samples to determine the lateral and vertical extent of waste constituents and to complete site characterization. The work plan shall contain the information in Appendix A, which is made part of this Order. Within **30 days** of staff concurrence with the *Workplan*, but no later than **30 September 2007**, implement the work plan in accordance with the approved time schedule, which shall become part of this Order.
5. Upon defining the extent of wastes, but no later than **15 November 2007**, submit a combined *Problem Assessment Report (PAR)*, *Site Conceptual Model (SCM)*, and *Feasibility Study (FS)*, which includes the information from the implementation of the *Workplan* and sufficient detail on

the nature and extent of the release to provide a basis for future decisions regarding subsequent cleanup and abatement actions.

### FEASIBILITY STUDY

6. By **15 November 2007**, submit a Feasibility Study (FS) in conjunction with the PAR and SCM that provides a summary of remedial alternatives evaluated to address applicable cleanup levels for the affected or threatened human health and/or waters of the State. The Feasibility Study 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. The Feasibility Study shall include the rationale for selecting the preferred remedial alternative. The Dischargers shall clean up each constituent to background concentrations, or to the lowest level that is technically and economically achievable and which complies with all applicable WQOs of the Basin Plan and promulgated water quality criteria.

### REMEDATION

7. Within **90 days** of Regional Water Board staff concurrence with the proposed remedial action described in the Feasibility Study but no later than **1 March 2008**, submit a Final Remedial Plan (FRP). The FRP must include a detailed description of the remedial actions to address cleanup of the entire groundwater plume and source area soils. The FRP shall also include a schedule to implement all remedial actions.
8. Within **90 days** of Regional Water Board staff's approval of the FRP but no later than **15 May 2008**, implement the approved remedial actions in accordance with the approved time schedule, which shall become part of this Order.
9. Submit for remediation system(s), **monthly** status reports for the first three months of operation of any new systems. At a minimum, the monthly status reports shall include:
  - a. Site maps indicating the capture zone and/or radius of influence on waste plumes.
  - b. Average extraction rates of all treatment systems.
  - c. Influent and effluent concentrations of TPH-G, benzene, toluene, ethylbenzene, total xylenes, MTBE, 1,2 DCA, and total Lead.
  - d. Mass of hydrocarbons treated during the reporting period and cumulative to date.
  - e. Estimated mass of wastes remaining and predicted time frame for meeting cleanup objectives.
  - f. Running and down time for the remediation system(s).
  - g. Summary of consultant visits to the site.
  - h. Evaluation of the overall remediation program and recommendations to correct deficiencies or increase efficiency.

10. The Dischargers shall insure that any soil vapor or groundwater extraction system(s) "zone of capture" completely envelops and controls the contaminant plume(s) (lines of zero pollution in all targeted zones). If sampling results in any two consecutive months (or quarters) demonstrate that any part of the pollution plume(s) is not within the "zone of capture", the Dischargers shall include with the second status report a proposal to mitigate the condition. The proposed actions shall be completed within 60 days (adjust as appropriate) of staff approval of the proposal.

### GROUNDWATER MONITORING

11. Conduct monitoring of the existing wells and any additional wells in accordance with MRP No. R5-2007-0812 or any revised MRP issued by the Executive Officer.
12. The Dischargers shall submit a paper copy of all groundwater monitoring reports to this Regional Water Board office and submit an electronic copy, which conforms to the requirements of the California Code of Regulations, Title 23, Division 3, Chapter 30, electronically over the internet to the GeoTracker database system. The electronic copy and all associated electronic files are due to the GeoTracker database the same day the paper copy is due to this office. Groundwater monitoring reports are not considered submitted to the regulatory agency until all required files have been uploaded to the GeoTracker database. Electronic submittals shall comply with GeoTracker standards and procedures as specified on the State Water Board's web site.

### RISK ASSESSMENT

13. By **30 July 2007**, submit a risk assessment to demonstrate whether the existing pollution poses unacceptable risks to human health or the environment. The site-specific risk assessment must use the Office of Environmental Health Hazard Assessment (OEHHA) toxicity data (California cancer slopes). If the risk assessment suggests that the pollution poses a threat to human health, the report shall include a work plan to abate the risk or exposure. The proposed abatement work shall begin within 60 days of approval by Regional Water Board staff, or by **15 October 2007** whichever is sooner.

### PUBLIC PARTICIPATION

14. By **30 July 2007**, submit a *Public Participation Plan*. The *Public Participation Plan* shall solicit the public's concerns and disseminate information to the public regarding the investigation and proposed cleanup activities at the site. The *Public Participation Plan* shall be updated as necessary to reflect any significant changes in the degree of public interest as the site investigation and cleanup process moves toward completion.

### GENERAL REQUIREMENTS

15. As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, have appropriate reports prepared by, or under the supervision of, a registered

professional engineer or geologist and signed by the registered professional. All technical reports submitted by the Dischargers shall include a cover letter signed by the Dischargers, or an authorized representative, certifying under penalty of law that the signer has examined and is familiar with the report and that to their knowledge, the report is true, complete, and accurate. The Dischargers shall also state if they agree with any recommendations/proposals and whether they approved implementation of said proposals.

16. Upon startup of any remediation system(s), operate the remediation system(s) continuously, except for periodic and required maintenance or unpreventable equipment failure. The Dischargers shall notify the Regional Water Board within 24 hours of any unscheduled shutdown of the remediation system(s) that lasts longer than 48 hours. This notification shall include the cause of the shutdown and the corrective action taken (or proposed to be taken) to restart the system. Any interruptions in the operation of the remediation system(s), other than for maintenance, emergencies, or equipment failure, without prior approval from Regional Water Board staff or without notifying the Regional Water Board within the specified time is 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:
  - a. Times and dates equipment were not working.
  - b. Cause of shutdown.
  - c. If not already restarted, a time schedule for restarting the equipment.
  - d. A Cleanup Assurance Plan to ensure that similar shutdowns do not reoccur. Proposed Cleanup Assurance Plans are to be completed within 30 days of the system shutdown.
17. Notify Regional Water Board staff at least three working days prior to any onsite work, testing, or sampling that pertains to environmental remediation and investigation and is not routine monitoring, maintenance, or inspection.
18. Obtain all local and state permits and access agreements necessary to fulfill the requirements of this Order prior to beginning the work.
19. Continue any remediation 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 either amended or rescinded in writing.
20. 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.
21. Maintain a sufficient number of monitoring wells to completely define and encompass the waste plume(s). If groundwater monitoring indicates the waste in groundwater has migrated beyond laterally or vertically defined limits during the quarter, then the quarterly monitoring reports must include a work plan and schedule, with work to begin within thirty days of Regional Water Board staff approval, to define the new plume limits.

22. Electronic copies of all reports and analytical results are to be submitted over the Internet to the State Water Board Geographic Environmental Information Management System database (GeoTracker) at <http://geotracker.swrcb.ca.gov>. Electronic submittals shall comply with GeoTracker standards and procedures as specified on the State Board's web site.
23. If the Dischargers is unable to perform any activity or submit any document in compliance with the schedule set forth herein, or in compliance with any work schedule submitted pursuant to this Order and approved by the Executive Officer, the Dischargers may request, in writing, an extension of the time specified. The extension request shall include justification for the delay. Any extension request shall be submitted as soon as the situation is recognized and no later than the compliance date. An extension may be granted by revision of this Order or by a letter from the Executive Officer. Extension requests not approved in writing by the Executive Officer with reference to this order are denied.
24. All work and directives referenced in this Order are required regardless of whether or not the UST Cleanup Fund approves the work for reimbursement.
25. If, in the opinion of the Executive Officer, the Dischargers fails 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.

This Order is effective upon the date of signature.

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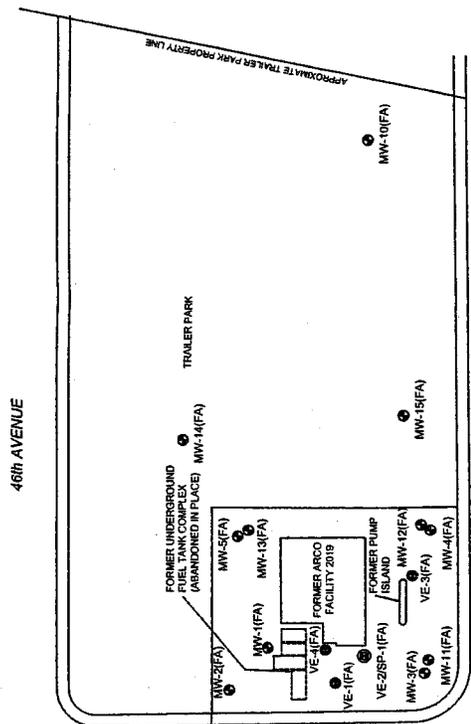
PAMELA C. CREEDON  
Executive Officer

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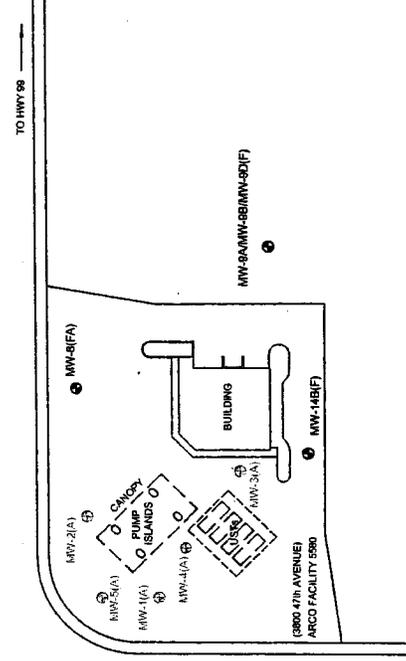
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**LEGEND:**

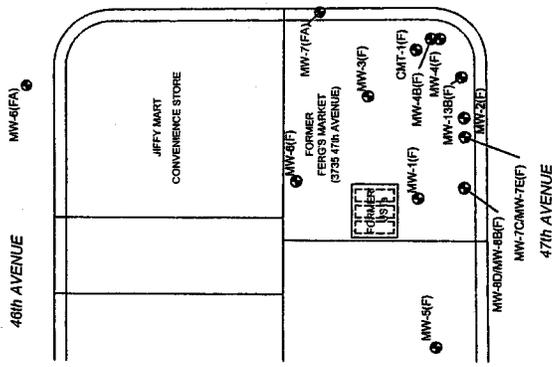
- MW-1(FA) ● GROUNDWATER MONITORING WELL (FORMER ARCO 2019)
- MW-1(F) ● GROUNDWATER MONITORING WELL (FERG'S)
- MW-1(A) ● GROUNDWATER MONITORING WELL (ARCO 5580)
- VE-1(FA) ● SOIL VAPOR EXTRACTION WELL (FORMER ARCO 2019)
- VE-2/SP-1(FA) ● VAPOR EXTRACTION/AIR SPARGING WELL (FORMER ARCO 2019)



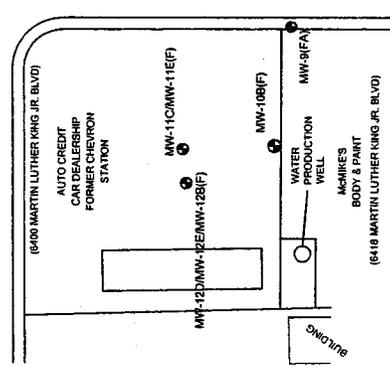
47th AVENUE



TO HWY 99

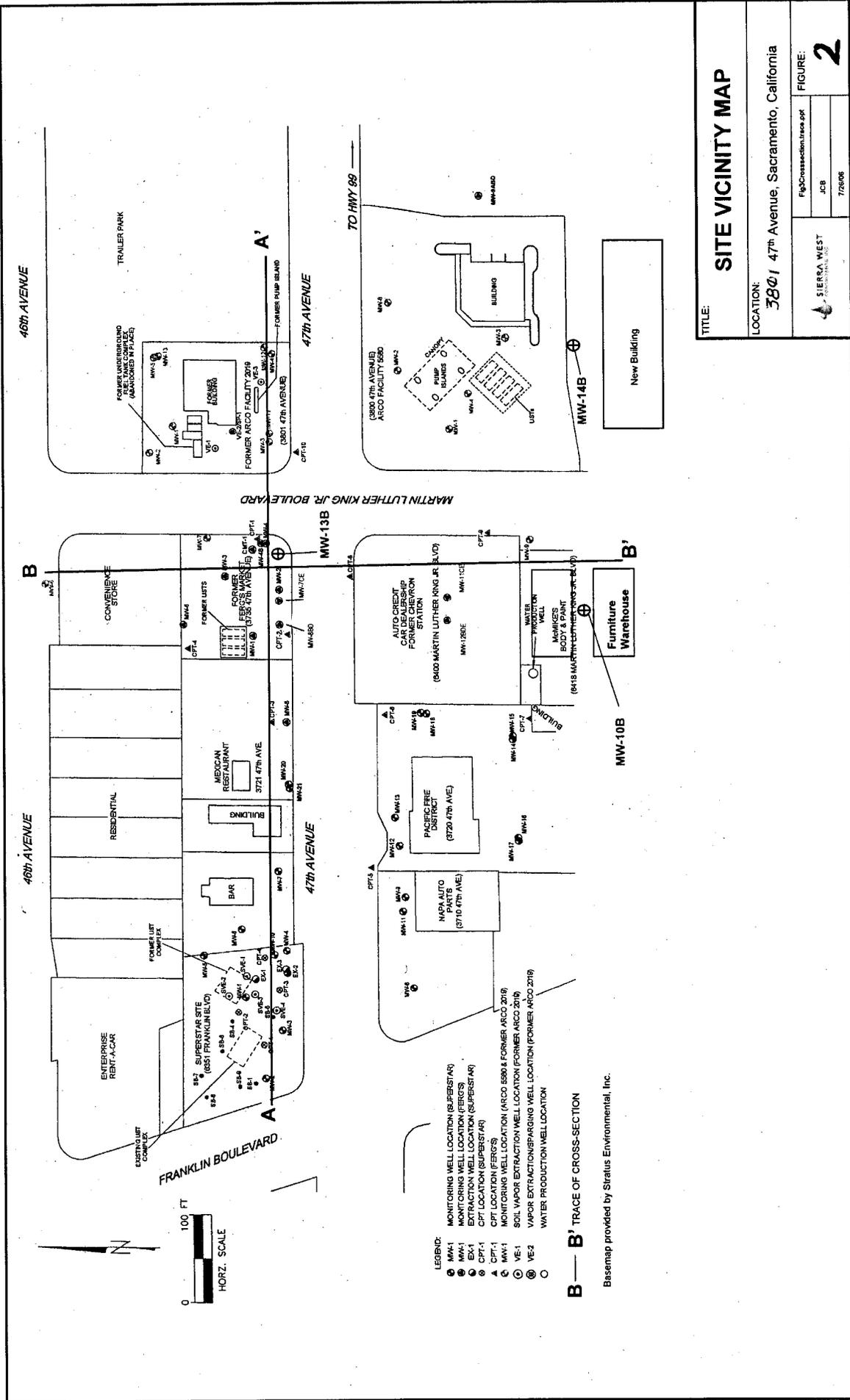


47th AVENUE



<p><b>SECOR</b> 3817 KILGORE ROAD, SUITE 100 RANCHO CORDOVA, CALIFORNIA PHONE: (916) 881-0408/881-0430 (FAX)</p>	<p>FOR: ARCO SERVICE STATION NO. 2019 SACRAMENTO, CALIFORNIA ARCO SERVICE STATION NO. 5580 SACRAMENTO, CALIFORNIA</p>	<p>FIGURE: 1</p>
	<p>CHECKED BY: MALS</p>	<p>APPROVED BY: RB</p>
<p>JOB NUMBERS: 778P (02/18/07) 778P (03/28/07)</p>	<p>DRAWN BY: CDH</p>	

REFERENCE: THIS FIGURE IS BASED ON A MAP PROVIDED BY STRATUS ENVIRONMENTAL, INC.



<b>TITLE:</b>	
<b>SITE VICINITY MAP</b>	
<b>LOCATION:</b>	
3801 47th Avenue, Sacramento, California	
<b>FIG:</b>	FigCrossSectionTrace.spt
<b>FIGURE:</b>	JCB
<b>FIGURE:</b>	2
SIERRA WEST	
7/26/06	