

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER NO. R5-2007-0709

FOR

MR. J. GILBERT MOORE, MS. EILEEN A. MOORE, AND NEW WEST STATIONS, INC.
NEW WEST PETROLEUM #1003/FLAG CITY SHELL
6437 W. BANNER ST., LODI, SAN JOAQUIN COUNTY

This Order is issued to Mr. J. Gilbert Moore, Ms. Eileen A. Moore, and New West Stations, Inc. 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 Water Board) to issue a Cleanup and Abatement Order (Order), and Water Code section 13267, which authorizes the 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. Based on San Joaquin County Grant Deed dated 19 December 1995, the Flag City, L.P. sold the property to Mr. J. Gilbert Moore and Ms. Eileen A. Moore. Mr. J. Gilbert Moore and Ms. Eileen A. Moore are subject to this Order because they owned the property at the time the tank system caused or permitted waste to be discharged to waters of the state where it has created a condition of pollution or nuisance.
2. New West Stations, Inc. is subject to this Order because it operated the tanks at the time the tank system caused or permitted waste to be discharged to waters of the state where it has created a condition of pollution or nuisance. According to Mr. Moore's Application to the SWRCB Cleanup Fund, New West Stations, Inc. operated the UST system at the time of the UST release. Regional Board staff researched the Internet's California Business Portal, which shows that New West Stations, Inc. is currently listed as an active and registered corporation in the State of California (#C1864564) with Mr. J. Gilbert Moore listed as the Agent for Service Process.

BACKGROUND

3. The Site is an operating Shell-branded service station. Three underground storage tanks (USTs), two 10,000-gallon gasoline and one 20,000-gallon diesel, installed in 1996, are currently in use.
4. In 1995, Mr. J. Gilbert Moore and Ms. Eileen A. Moore purchased the Site's commercial lot from the Flag City, L.P, which developed agricultural lands into a commercial subdivision now called Flag City. The Site is located in unincorporated San Joaquin County, approximately 7 miles west of Lodi, California, on the east side of Interstate 5 and south of Highway 12 (Attachment 1).

5. On 3 March 2005, the San Joaquin County Environmental Health Department (SJCEHD) issued an Unauthorized Release Form (URF) for a release of Methyl tert-Butyl Ether (MtBE) to groundwater at the Site. The URF lists the source and cause of the MtBE release as "*Unknown*". The MtBE release was discovered as a result of groundwater monitoring in wells placed in the downgradient groundwater direction from the Site UST system by the consultant for the nearby Flag City Chevron, to investigate the source of MtBE impacts to upgradient monitoring wells at the Flag City Chevron. On 14 May 2005, the Site was placed in the SJCEHD Local Oversight Program.
6. According to SJCEHD files, in a phone conversation with the Dischargers on 9 March 2005, SJCEHD requested a work plan to delineate the vertical and lateral extent of the MtBE groundwater plume within 60 days. The SJCEHD issued a directive letter on 15 July 2005, which required submittal of a work plan by 29 July 2005, proposing the installation of monitoring wells up to 200 feet offsite in the downgradient groundwater direction, while laterally and vertically defining the shallow groundwater MtBE plume from 10 feet to 45 feet depth. The Dischargers' consultant Apex Envirotech Inc. (APEX) submitted the work plan on 22 July 2005, and a SJCEHD letter approved the work plan on 27 July 2005. Six monitoring wells (MW-1, MW-2, MW-3A, MW-3B, MW-4A, and MW-4B, Attachment 2) were installed and sampled by 1 August 2005. MtBE was detected at 56,000 micrograms per Liter ($\mu\text{g/L}$) in MW-3A and 7,400 $\mu\text{g/L}$ in MW-3B, located 20 feet downgradient of the Site USTs in the A depth (shallow portion of single water bearing zone) at 10 to 25 feet below ground surface (bgs) and B depth (middle portion of single water bearing zone) at 25 to 45 feet bgs, respectively. MtBE was also detected at 360 $\mu\text{g/L}$ in MW-4B located approximately 215 feet downgradient of the Site USTs. MtBE was not detected in the shallower well MW-4A at the same location.
7. Following the submittal of the 1 August 2005 MtBE sampling results, the SJCEHD verbally directed the Dischargers to begin monthly sampling of the Site monitoring wells. On 12 September 2005, Regional Board staff collected split groundwater samples from MW-4A and MW-4B, and from the municipal water supply wells for Flag City, County Supply Area 31 (CSA-31) Well 1 (located approximately 2,000 feet southeast of the Site) and Well 2 (located approximately 900 feet south-southeast of the Site). The Regional Board contract lab reported MtBE at 400 $\mu\text{g/L}$ in groundwater from MW-4B, which was similar to the previous month's 360 $\mu\text{g/L}$ result. MtBE was not detected in CSA-31 Well 1 or Well 2. Due to poor deeper regional water quality, public water supply options are reportedly limited. Currently CSA-31 Well 1 and Well 2 provide all of the public water supply for the Flag City commercial subdivision.
8. On 14 September 2005, Mr. Moore submitted an application to the SWRCB UST Cleanup Fund (Fund) for consideration of payment of APEX's investigative costs incurred by Mr. Moore. Submittal of the application indicates the applicant has a basic knowledge of the petroleum hydrocarbon release and contends the source of the

release is from the site named in the Fund application. Subsequently Mr. Moore's application was approved, and UST Cleanup Fund payments have been processed and received by Mr. Moore.

9. On 16 September 2005, SJCEHD issued a directive letter requiring an additional investigation to characterize the vertical and lateral extent of the MtBE plume. CSA-31 Well 1 and Well 2 were placed on a monthly sampling schedule, and the Dischargers were directed to begin interim remediation as "...soon as possible" and submit the proposal for interim remediation "...immediately". The additional investigation work plan was due 17 October 2005.
10. APEX submitted the work plan for an additional investigation on 17 October 2005, and SJCEHD approved it conditionally in a letter dated 18 October 2005. The SJCEHD required sampling of MW-4A and MW-4B weekly for one month with weekly reporting of each event, and the installation of a "*ground water extraction system*" prior to installing the additional monitoring wells, and added that "...*installation and activation of the (interim remediation) ground water extraction system is of paramount importance.*"
11. APEX responded in a letter dated 1 November 2005 that a batch extraction of 28,800 gallons per day would be needed to comply with SJCEHD directive to begin interim remediation immediately, at a cost of \$1,200,860 for six months. Subsequently, the daily batch extraction proposal was not approved by SJCEHD. In subsequent meetings with Mr. J. Gilbert Moore, APEX, SJCEHD, and Regional Board staff on 9 November 2005 and 22 March 2006, additional cost effective alternatives for the interim remediation treated groundwater disposal were suggested by the regulators, including discharge to land under a general permit or to the wastewater treatment plant. During the meetings, Mr. Michael Sgourakis of APEX stated that a discharge to the County Storm Water Sewer under an NPDES surface water permit was the only acceptable option to APEX. Discharge of the Site treated water to the CSA-31 wastewater treatment plant (WWTP) is not practical due to the limited capacity of the WWTP. The San Joaquin County Public Works Department estimates that the cost for MtBE wellhead treatment for CSA-31 Well 2 would be in excess of \$1,500,000.
12. Also during the 22 March 2006 meeting, APEX proposed that the MtBE discharge was not from Site; that the source was the Flag City Chevron site to the south. The monitoring data or historic groundwater directions did not substantiate the evidence for a reversal of the groundwater plume from north to south. The data show that the highest concentrations of MtBE nearest the Site USTs were orders of magnitude above the highest historical Flag City Chevron MtBE groundwater concentrations. The SJCEHD and Regional Board staff verbally rejected the APEX hypothesis.
13. On 11 November 2005, APEX installed off-site monitoring wells MW-5A, MW-5B, MW-6B, and MW-6C. MtBE was not detected in the new monitoring wells from November

until 30 March 2006, when MtBE was detected at 140 µg/L in groundwater at MW-6B. MW-6B is screened in the B depth at 40 to 50 feet bgs, 400 feet downgradient from the USTs, and approximately 500 feet upgradient from CSA-31 Well 2. MtBE was not detected in the deeper well MW-6C (74 feet bgs) at the same location.

14. On 17 November 2005, SJCEHD directed the Dischargers to conduct an Enhanced Leak Detection (ELD) tracer gas test. The ELD tracer gas test was conducted 18 January 2006. The ELD report showed no tracer gas vapor leaks, however, a vapor recovery bucket for the 87 octane tank failed containment in a separate watertight test, indicating that vapors and/or vapor condensate could be released to the unsaturated zone and to underlying groundwater.
15. On 5 December 2005, MtBE was detected at 210,000 µg/L and Tertiary Butyl Alcohol (TBA, a potential MtBE degradation product) was also detected at 260,000 µg/L in the onsite Extraction Well EW-4. Benzene (1.1 µg/L) and Toluene (1 µg/L) were also detected on that date in MW-6B.
16. On 30 March 2006, APEX submitted a letter to SJCEHD proposing installation of additional monitoring wells. The SJCEHD verbally approved APEX's proposal during the meeting on 30 March 2006, and the work plan was submitted 24 April 2006, and approved by a SJCEHD letter dated 8 May 2006. The new wells were installed between 17 and 31 July 2006. On 17 July 2006, Regional Board staff verbally requested that the Dischargers install an additional deeper well MW-9D, screened at approximately 100 feet bgs, due the close proximity (175 feet) of MW-9B and MW-9C to CSA-31 Well 2. The CSA-31 Well 2 is screened from 100 to 150 feet bgs. On 2 August 2006 Regional Board staff collected a split groundwater sample from MW-9D (95 feet bgs). On 3 August 2006, the Regional Board contract lab reported the MtBE groundwater result for MW-9D as non-detect at <0.50 µg/L.
17. In an e-mail dated 14 June 2006, SJCEHD notified Regional Board staff that the primary Flag City supply well CSA-31 Well 1 was off-line for up to 6 weeks due to mechanical failure, necessitating the use of CSA-31 Well 2, nearest the MtBE plume. On 16 June 2006, the SJCEHD directive letter required the Dischargers to begin weekly sampling of CSA-31 Well 2 in order to protect human health. In an e-mail received by SJCEHD on 20 June 2006, APEX responded, "...Flag city chevron should also be responsible for half this work. Apex recommends conducting this work on a bi-weekly basis with Chevron doing the alternate weeks..." The Dischargers did not comply with the SJCEHD directive to sample the CSA-31 Well 2 during the week of 18 through 24 June 2006. Regional Board staff consulted by phone with SJCEHD on 21 June 2006, and, due to the MtBE threat to CSA-31 Well 2, a consensus was reached to transfer lead regulatory status from SJCEHD to the Regional Board. By SJCEHD letter dated 21 June 2006, the lead agency status for the Site was transferred to the Regional Board. The Regional Board letter of 27 June 2006 reiterated the weekly sampling of CSA-31 Well 2, and on 28 June 2006, APEX sampled the well. The CSA-31 Well 1 was subsequently repaired and placed back in service as the primary

production well, and on 6 July 2006, both Regional Board and SJCEHD staff agreed to require monthly sampling for CSA-31 Well 2. A 7 July 2006 Regional Board staff letter directed the Dischargers to resume monthly sampling of CSA-31 Well 2 and selected monitoring wells.

18. The Dischargers' consultant has made three application submittals (Report of Waste Discharge, or ROWD) for an NPDES permit since the SJCEHD letter of 16 September 2005, which directed that the Dischargers obtain a permit for the discharge from the groundwater pump and treatment system discharge. The first two ROWDs (24 March 2006 and 26 May 2006) were determined by Regional Board staff to be incomplete, despite Regional Boards staffs' numerous phone conversations with APEX and a directive letter dated 20 April 2006 for the first attempt to complete the NPDES application with the proper forms and data adequate to characterize the discharge. The proposed treatment system included a problematic addition of nitrates and phosphates to "feed the bioreactor", which would require an expensive reverse osmosis treatment to remove the salts introduced into the bioreactor to meet Waste Discharge Requirements (WDRs) for the NPDES permit.
19. The third ROWD for coverage under the NPDES General Permit was submitted on 9 August 2006. The ROWD monitoring information was still missing two laboratory results for constituents found in the proposed receiving waters, White Slough, found under Section 303 (d) List (impaired water bodies of the State) in the Clean Water Act. The approval for coverage under the NPDES General Permit that was issued 1 September 2006 required monitoring of these constituents. The Notice of Applicability was approved based on the Dischargers' removal of the bioreactor, and addition of activated carbon units plus an air stripper to their treatment facility. The threat that the off-site groundwater petroleum plume may pollute the nearby community drinking water well was considered in deciding to allow coverage under the General Order prior to completion of monitoring. Startup of the Interim Pump and Treatment System occurred 6 September 2006 subsequent to a Regional Water Board staff inspection.
20. The Dischargers have not demonstrated that an NPDES permit is the most cost effective method for the long-term discharge of a groundwater pump and treatment remediation, have not shown hydraulic control of the offsite MtBE plume, and have not considered the Regional Board Basin Plan Wastewater Reuse Policy, which would include the discharge to land under WDRs. The issuance of WDRs for a General Permit to discharge to land, with a combination of an onsite infiltration gallery and injection wells may be feasible, more cost effective for the final remediation plan, and would be more compatible with the Regional Board Basin Plan.
21. All of the currently available data indicate that an MtBE release occurred at the Site. Concentrations of MtBE decrease with distance from the Site USTs and the highest Site MtBE concentration (210,000 µg/L) is in excess of one order of magnitude higher than neighboring Chevron's highest groundwater MtBE concentration (11,000 µg/L) prior to commencement of Chevron's groundwater treatment in 2000.

As of 2 August 2006, the maximum MtBE concentration in extraction well EW-4 at the Site declined to 32,000 µg/L. Seventeen weekly 5,000-gallon batch extractions have removed approximately 35 pounds of MtBE, which is over twice the total of 13 pounds of MtBE removed by Chevron in four years of continuous pump and treatment. On 6 September 2006, interim groundwater pump and treatment with an NPDES discharge to the storm sewer began at the Site. Additional offsite investigations in shallow and deep hydrogeologic units completed in 2005 and 2006 revealed that the MtBE groundwater plume is migrating vertically through the aquifer towards the southeast and extends over 500 feet from the Site.

22. The exact cause of the release has not yet been determined. However, the Dischargers have identified a potential source of the release. The 17 November 2006 Dischargers comments to the Draft CAO, stated that it is *"...entirely possible...contamination occurred through our spill buckets, which failed several annual tests (that were repaired the same day), and...the Gilbarco Vapor Vac system and vents could have released gasoline fumes containing MTBE prior to the change of law in 2003, of which everything was mandated to new, current equipment that prevents the vapors from escaping into the air, unlike its predecessor. The spill buckets were replaced...and that would explain why only MTBE remains..."*
23. To date, the Dischargers have not evaluated threats from vapor intrusion to nearby buildings. In December 2005, results from EW-4 (210,000 µg/L) exceeded Region 2 Environmental Shallow Soil Screening Levels for MtBE for Commercial Groundwater Vapor Emissions to Indoor Air (80,000 µg/L). These MtBE levels may threaten public health of individuals in businesses near the groundwater plume. The pollution detected in groundwater are known carcinogens (TBA), or suspected carcinogens (MtBE).

AUTHORITY – LEGAL REQUIREMENTS

24. 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.”

25. 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”

26. 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.”

27. 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. . . .”

28. The following sections of the California Health and Safety Code (CA-H&SC) requires Enhanced Leak Detection for USTs:

- Section 25292.4 (a): *“On and after November 1, 2000, an owner or operator of an underground storage tank system with a single-walled component that is located within 1,000 feet of a public drinking water well, as identified pursuant to the state*

GIS mapping database, shall implement a program of enhanced leak detection or monitoring, in accordance with the regulations adopted by the board pursuant to subdivision (c)...”

- Section 25292.5 (a): *“On or before January 1, 2005, the owner or operator of an underground storage tank system that is located within 1,000 feet of a public drinking water well, as identified pursuant to the state GIS mapping database, and that is not otherwise subject to subdivision (j) of Section 25290.1, subdivision (i) of Section 25290.2, or Section 25292.4, shall test the system once using an enhanced leak detection test. The enhanced leak detection test shall meet the requirements of subsection (e) of Section 2640 of, and Section 2644.1 of, Title 23 of the California Code of Regulations, as those regulations read on January 1, 2003, except that the requirement in those regulations to repeat the test every 36 months shall not apply.”*
- Section 25292.5 (c): *“Notwithstanding subdivision (a), if the results of the enhanced leak detection test indicate that any component of the underground storage tank system is leaking liquid or vapor, the owner or operator shall take appropriate actions to correct the leakage, and the owner or operator shall retest the system using enhanced leak detection until the system is no longer leaking liquid or vapor.”*

29. 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.

30. Chapter IV of the Basin Plan contains the *Policy for Investigation and Cleanup of Contaminated Sites*, which describes the Water Board’s strategy for managing contaminated sites. This strategy is based on Water Code Sections 13000 and 13304, the Title 27, Division 2, Subdivision 1 regulations, and State Water Board Resolution Nos. 68-16 and 92-49. The strategy 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.

31. 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.)
32. The Water Board's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, 4th 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.
33. The wastes detected at the site (MtBE, TBA, Benzene, Toluene) are not naturally occurring, and some are known human carcinogens (TBA, Benzene) or suspected carcinogens (MtBE). Pollution of groundwater with these wastes impairs or threatens to impair the beneficial uses of the groundwater.
34. 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 WQOs.

Constituent	Limits	WQO	Reference
Benzene	0.15 µg/l	Toxicity	California Public Health Goal (OEHHA)
MTBE	5 µg/l	Taste and Odor	Federal Register, Vol. 54, No. 97
TBA	12 µg/l	Carcinogen, based on cancer risk	California Notification Levels (Department of Health Services)

µg/l = micrograms per liter

OEHHA RBC = Office of Environmental Health Hazard Assessment Risk Based Criteria for Cancer Slope Factor

35. The constituents listed in Finding No. 15 are wastes as defined in California Water Code Section 13050(d). The groundwater exceeds the WQOs for the constituents listed in Finding No. 34. The exceeding of applicable WQOs in the Basin Plan constitutes pollution as defined in California Water Code Section 13050(l)(1).

DISCHARGER LIABILITY

36. 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 and abatement order pursuant to Water Code Section 13304 is appropriate and consistent with policies of the Water Board.
37. 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.
38. As described in Finding 26, 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.
39. 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.

40. If the Dischargers violate this Order, the Discharger may be liable civilly in a monetary amount provided by the Water Code.
41. 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.
42. 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. 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, Dischargers shall:

1. Investigate the discharges of waste, clean up the waste, and abate the effects of the waste, forthwith, resulting from activities at the New West Petroleum #1003/Flag City Shell, 6437 Banner Street, Lodi, San Joaquin County 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 **16 July 2007**, submit a report to the best of the Discharger's 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, the dates and results of all tank system tests, the history and description of all tank system repairs including repairs to the vapor lines, 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.

PUBLIC PARTICIPATION

4. By **16 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 sites. 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.

SITE ASSESSMENT

5. By **16 July 2007**, provide evidence that the UST system and associated vapor lines, sensors, piping and all other potential sources of the unauthorized petroleum hydrocarbon release have been repaired or otherwise rendered incapable of releasing petroleum hydrocarbons, including MtBE, TBA, Benzene, and Toluene. Provide all results of any leaks or evidence of any repairs. Provide evidence that the vapor bucket cited in the ELD report has been repaired or replaced, and that it has been retested hydraulically and passed.
6. By **16 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 and distribution of waste constituents and complete the characterization of the MtBE plume, including its source. The work plan shall contain the information in Appendix A, which is made part of this Order. The active soil gas survey for the surround businesses shall be conducted within 10 feet of the buildings and at such depth as soil vapor intrusion would be expected. The USEPA SW-846 Method 8260B shall be used for the soil gas survey.
7. Within **30 days** of staff concurrence with the *Workplan*, but no later than **21 September 2007**, implement the work plan in accordance with the approved time schedule, which shall become part of this Order.

8. Submit results of the site investigation in a *Preliminary Investigation and Evaluation Report (PIER)* in accordance with the approved time schedule, but no later than **15 November 2007**. The *PIER* shall include recommendations and, if needed, a second workplan for additional investigation. If additional investigation is necessary, the workplan shall include a time schedule for completing the work and submitting the results.
9. Within **30 days** of staff concurrence with the workplan for additional site assessment, and in accordance with the approved time schedule, implement the Workplan.
10. Upon defining the extent of wastes, but no later than **1 February 2008**, submit a *Problem Assessment Report (PAR)* which includes 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.

RISK ASSESSMENT

11. By **30 November 2007**, submit a risk assessment to demonstrate whether the waste constituents pose 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 contamination poses a threat to human health, the report shall include a workplan to abate the risk or exposure. The proposed abatement work shall begin within 60 days of approval by Water Board staff, or by **22 February 2008**, whichever is sooner.

FEASIBILITY STUDY

12. By **18 April 2008**, submit a Feasibility Study 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 Discharger shall attempt to 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.

13. The Feasibility Study shall evaluate remedial options to prevent MtBE and other petroleum hydrocarbon impacts to CSA-31 Well 1 and Well 2.

REMEDIATION

14. Operate the Interim Pump and Treatment System to reduce MtBE concentrations in onsite and offsite groundwater to meet Water Quality Objectives. The Interim Pump and Treatment System shall continue operation until such time that Water Board staff's concurrence that System shutdown is warranted, or a Final Remediation System is operating properly.
15. Within **90 days** of Water Board staff concurrence with the proposed remedial action described in the Feasibility Study but no later than **1 August 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.
16. Within 60 days of Water Board staff's approval of the FRP but no later than **November 2008**, begin implementation of the approved remedial actions.
17. 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:
- site maps indicating the capture zone and waste plumes,
 - average extraction rates of all treatment systems,
 - influent and effluent concentrations of TPHg, benzene, toluene, ethylbenzene, xylene, MtBE and other fuel oxygenates
 - mass of hydrocarbons treated during the reporting period and cumulative to date,
 - estimated mass of wastes remaining and predicted time frame for meeting cleanup objectives,
 - running and down time for the remediation system(s),
 - summary of consultant visits to the site, and
 - evaluation of the overall remediation program and recommendations to correct deficiencies or increase efficiency.

GROUNDWATER MONITORING

18. Conduct monitoring of the existing supply, monitoring and extraction wells and any additional wells in accordance with MRP No. R5-2007-0808 or any revised MRP issued by the Executive Officer.

19. Submit **Quarterly Status Reports** by the 1st day of the second month after the calendar quarter in which the samples were collected. The first quarter report is due **1 May**, the second quarter report is due **1 August**, the third quarter report is due **1 November**, and the fourth quarter report is due **1 February**. Quarterly reports are to include the information specified in Appendix A.

GENERAL REQUIREMENTS

20. 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 Discharger shall include a cover letter signed by the Discharger, 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 Discharger shall also state if they agree with any recommendations/proposals and whether they approved implementation of said proposals.
21. Upon startup of any remediation system(s), operate the remediation system(s) continuously, except for periodic and required maintenance or unpreventable equipment failure. The Discharger shall notify the 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 Water Board staff or without notifying the 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:
- times and dates equipment were not working,
 - cause of shutdown,
 - if not already restarted, a time schedule for restarting the equipment, and,
 - 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.
22. Notify 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.
23. Obtain all local and state permits and access agreements necessary to fulfill the requirements of this Order prior to beginning the work.

24. 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
25. 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.
26. 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 Water Board staff approval, to define the new plume limits.
27. 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.
28. If the Discharger 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 Discharger 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.
29. All work and directives referenced in this Order are required regardless of whether or not the UST Cleanup Fund approves the work for reimbursement.
30. If, in the opinion of the Executive Officer, the Discharger 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.

CLEANUP AND ABATEMENT ORDER NO. R5-2007-0709
J. GILBERT MOORE, EILEEN A. MOORE, AND NEW WEST PETROLEUM, INC.
NEW WEST PETROLEUM #1003/FLAG CITY SHELL
LODI, SAN JOAQUIN COUNTY

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PAMELA C. CREEDON
Executive Officer

30 April 2007
(Date)
