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STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 2013-

**In the Matter of the Petition of
JAMES SALVATORE
For Review of Denial of Petroleum Underground Storage Tank Case
Closure at 10439 Prospect Avenue, Santee, California**

BY THE BOARD:

James Salvatore (Petitioner) seeks review of the decision that denies closure of Petitioner's case involving an unauthorized release of petroleum from an underground storage tank (UST) located at 10439 Prospect Avenue, Santee, California (Site). For the reasons set forth below, the State Water Resources Control Board (State Water Board) determines that Petitioner's case should be closed.

I. STATUTORY AND REGULATORY BACKGROUND

Owners and operators of USTs and other responsible parties can petition the State Water Board for a review of a case if they believe the corrective action plan for the site has been satisfactorily implemented, but closure has not been granted. (Health & Saf. Code, § 25296.40, subd. (a)(1).) After review of the petition, the State Water Board may close the case or remand the case for action consistent with the State Water Board's decision. (*Id.*, subd. (a)(2).) The State Water Board may also take other action as it deems appropriate. (Cal. Code Regs., tit. 23, § 2814.7, subd. (d)(5).)

Several statutory and regulatory provisions provide the State Water Board, regional water boards, and local agencies with broad authority to require responsible parties to clean up a release from a petroleum UST. (See, e.g., Health & Saf. Code, § 25296.10; Wat. Code, § 13304, subd. (a).) The State Water Board has promulgated regulations specifying corrective action requirements for petroleum UST cases. (Cal. Code Regs., tit. 23, §§ 2720-2728.) The regulations define corrective action as:

any activity necessary to investigate and analyze the effects of an unauthorized release, propose a cost-effective plan to adequately protect human health, safety and the environment and to restore or protect current and potential beneficial uses of water, and implement and evaluate the effectiveness of the activity (ies).

(*Id.*, § 2720.)

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Corrective action consists of one or more of the following phases: (1) preliminary site investigation, (2) soil and water investigation, (3) corrective action plan implementation, and (4) verification monitoring. (*Id.*, § 2722, subd. (a).)

The preliminary site assessment phase includes initial site investigation, initial abatement actions, initial site characterization and any interim remedial action. (Cal. Code Regs., tit. 23, § 2723, subd. (a).) Corrective action is complete at the conclusion of the preliminary site assessment phase, unless conditions warrant a soil and water investigation. A soil and water investigation is required if any of the following conditions exists: (1) there is evidence that surface water or groundwater has been or may be affected by the unauthorized release; (2) free product is found at the site where the unauthorized release occurred or in the surrounding area; (3) there is evidence that contaminated soils are, or may be in contact with surface water or groundwater; or (4) the regulatory agency requests an investigation based on the actual or potential effects of contaminated soil or groundwater on nearby surface water or groundwater resources, or based on the increased risk of fire or explosion. (*Id.*, § 2724.) The purpose of a soil and water investigation is “to assess the nature and vertical and lateral extent of the unauthorized release and to determine a cost-effective method of cleanup.” (*Id.*, § 2725, subd. (a).)

State Water Board [Resolution No. 92-49](#), *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* also applies to petroleum UST cases. State Water Board Resolution No. 92-49 directs regional water boards to make reasonable efforts to identify the dischargers associated with the discharge. (State Water Board Resolution No. 92-49, § I.B.) It also directs that water affected by an unauthorized release attain either background water quality or the best water quality that is reasonable if background water quality cannot be restored. (*Id.*, § III.G.) Any alternative level of water quality less stringent than background must be consistent with the maximum benefit to the people of the state, not unreasonably affect current and anticipated beneficial use of affected water, and not result in water quality less than that prescribed in the water quality control plan for the basin within which the site is located. (*Ibid.*) Resolution No. 92-49 does not require, however, that the requisite level of water quality be met at the time of site closure. Resolution No. 92-49 specifies compliance with cleanup goals and objectives within a reasonable time frame. (*Id.*, § III.A.) Therefore, even if the requisite level of water quality has not yet been attained, a site may be closed if the level will be attained within a reasonable period.

On May 1, 2012, the State Water Board adopted [Resolution No. 2012-0016](#), the Low-Threat Underground Storage Tank Case Closure Policy (Low-Threat Policy). This policy, which is also a state policy for water quality control, provides standard closure criteria for petroleum UST cases. Resolution No. 92-49 governs all investigations and cleanups under Water Code section 13304. If a petroleum

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UST case does not meet the closure criteria in the Low-Threat Policy, regulatory agencies are required to consider case closure pursuant to Resolution No. 92-49.

II. FACTUAL BACKGROUND

A. Site History

The Site is a commercial property that operated a UST and single dispenser to fuel commercial vehicles. The surrounding area is used for commercial and residential purposes. A local utility district provides water and sewer service. In July 1997, one 1,000 gallon gasoline UST and a single dispenser were removed. Analytical results from soil samples indicated an impact by petroleum constituents. Four groundwater monitoring wells have been installed and sampled. (Table 1 presents a summary of soil samples and Table 2 presents a summary of groundwater samples.)

B. Contaminant Concentrations

Table 1: Historic Soil Assessment Sampling

Sample Date	Depth	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	MTBE (ppm)	TBA (ppm)
SAL-B1/MW-1	8-8.5	<10	NA	NA	NA	NA	NA	NA
7/24/08	9.5-10	<10	5.1	6.0	<5.0	<15	17	190
	11-11.4	<10	NA	NA	NA	NA	NA	NA
	13-13.5	<10	NA	NA	NA	NA	NA	NA
SAL-B2A/MW-2	9-9.5	<10	<0.5	<0.5	<0.5	<15	<5.0	<25
8/6/08	10.5-11	<10	NA	NA	NA	NA	NA	NA
	12-12.5	<10	NA	NA	NA	NA	NA	NA
SAL-B3/MW-3	6-6.5	<10	NA	NA	NA	NA	NA	NA
8/6/08	9-9.4	<10	<0.5	<0.5	<0.5	<15	<5.0	<25
	10.5-11	<10	NA	NA	NA	NA	NA	NA
SAL-B4/MW-4	8.5-8.8	<10	<0.5	<0.5	<0.5	<15	<5.0	<25
8/6/08	9.5-9.7	<10	NA	NA	NA	NA	NA	NA
	11.5-11.6	<10	NA	NA	NA	NA	NA	NA

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Table 2: Historic Groundwater Assessment Sampling

Sample	Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TBA (ppb)
MW-1	7/28/08	2600	150	230	190	1010	14	44
MW-1	8/7/08	<500	7.6	5	1.7	44	<2	43
MW-1	9/9/08	<500	4	1	1.3	8.9	4.5	<5
MW-1	11/10/08	<500	<0.5	<0.5	<0.5	<1.5	74	<5
MW-1	11/30/09	<500	<0.5	<0.5	<0.5	<1.5	1600	<5
MW-2	8/7/08	<500	<0.5	<0.5	<0.5	<1.5	19	19
MW-2	9/9/08	<500	<0.5	<0.5	<0.5	<1.5	17	<5
MW-2	11/10/08	<500	<0.5	<0.5	<0.5	<1.5	30	<5
MW-2	11/30/09	<500	<5	<5	<5	<15	740	<50
MW-3	8/7/08	650	17	20	36	170	<2	<10
MW-3	9/9/08	560	54	21	22	105	<2.5	<12
MW-3	11/10/08	<500	95	12	37	133	2.5	6.7
MW-3	11/30/09	<500	20	8.8	<5	26.8	1100	<50
MW-4	8/7/08	<500	<0.5	<0.5	<0.5	<1.5	<1	16
MW-4	9/9/08	<500	<0.5	<0.5	<0.5	<1.5	<1	<5
MW-4	11/10/08	<500	<0.5	<0.5	<0.5	<1.5	<1	<5
MW-4	11/30/09	<500	<0.5	<0.5	<0.5	<1.5	<1	<5
WQO	-	50	1	42	29	17	5	12*

ppm - parts per million
 ppb - parts per billion
 TPHg - total petroleum hydrocarbons as gasoline
 MTBE - methyl tert-butyl ether
 WQO - water quality objective
 TBA - tert-butyl alcohol
 * - California Notification Level
 NA - not analyzed

C. Sensitive Receptor/Risk Evaluation/Conceptual Site Model

The primary source of the on-Site unauthorized release was removed during UST system removal activities in 1997. The data show that petroleum constituents remain in the undisturbed soil immediately surrounding the former UST excavation.

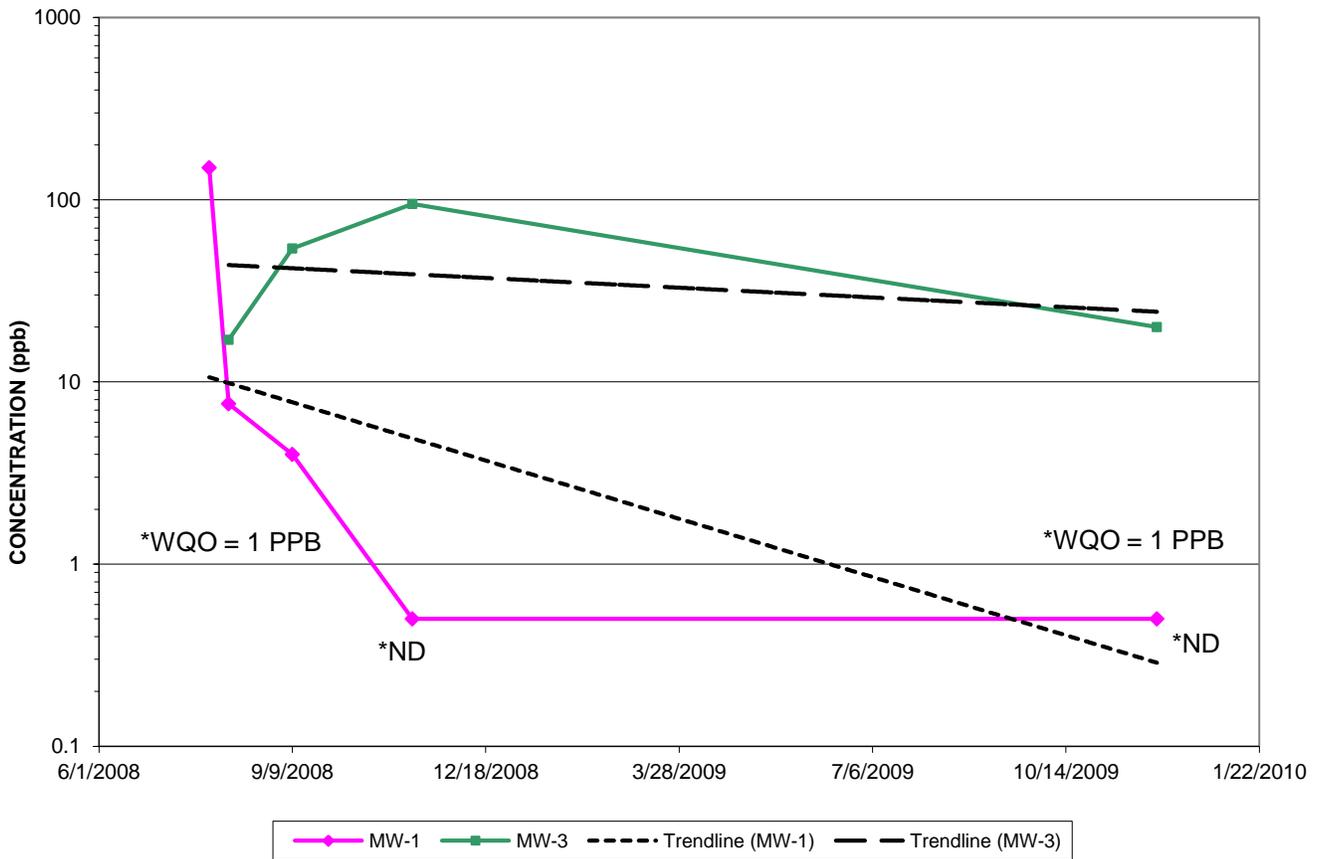
A residential well is located approximately 2,300 feet northwest of the Site. The groundwater flow direction is westerly. The affected shallow groundwater (9 feet below ground surface (bgs)) in the vicinity of the former UST system is not used as a source of water supply nor is it likely to be used as a source of water supply in the foreseeable future.

The Site is located in an area of Santee that is zoned for mixed use (commercial and residential) and is covered with concrete and asphalt; this in turn puts a control on the quantity of surface water, i.e. precipitation, available for infiltration. The annual average precipitation in the area is approximately 13 inches. The residual petroleum constituents in soil will continue to attenuate over

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time and result in future mass reduction. With the exception of methyl tert-butyl ether (MTBE), concentrations of petroleum constituents in groundwater are decreasing in all Site wells and are estimated to reach water quality objectives (WQOs) in a few decades. Benzene concentrations trends for wells MW-1 and MW-3 are shown in Figure 1.

FIGURE 1: BENZENE CONCENTRATIONS



The data indicate low concentrations of petroleum constituents in the affected shallow groundwater (9 feet bgs) extend downgradient to the contiguous property currently occupied by the California Department of Transportation (Caltrans).

III. SUMMARY OF STATE WATER BOARD TECHNICAL CONCLUSIONS

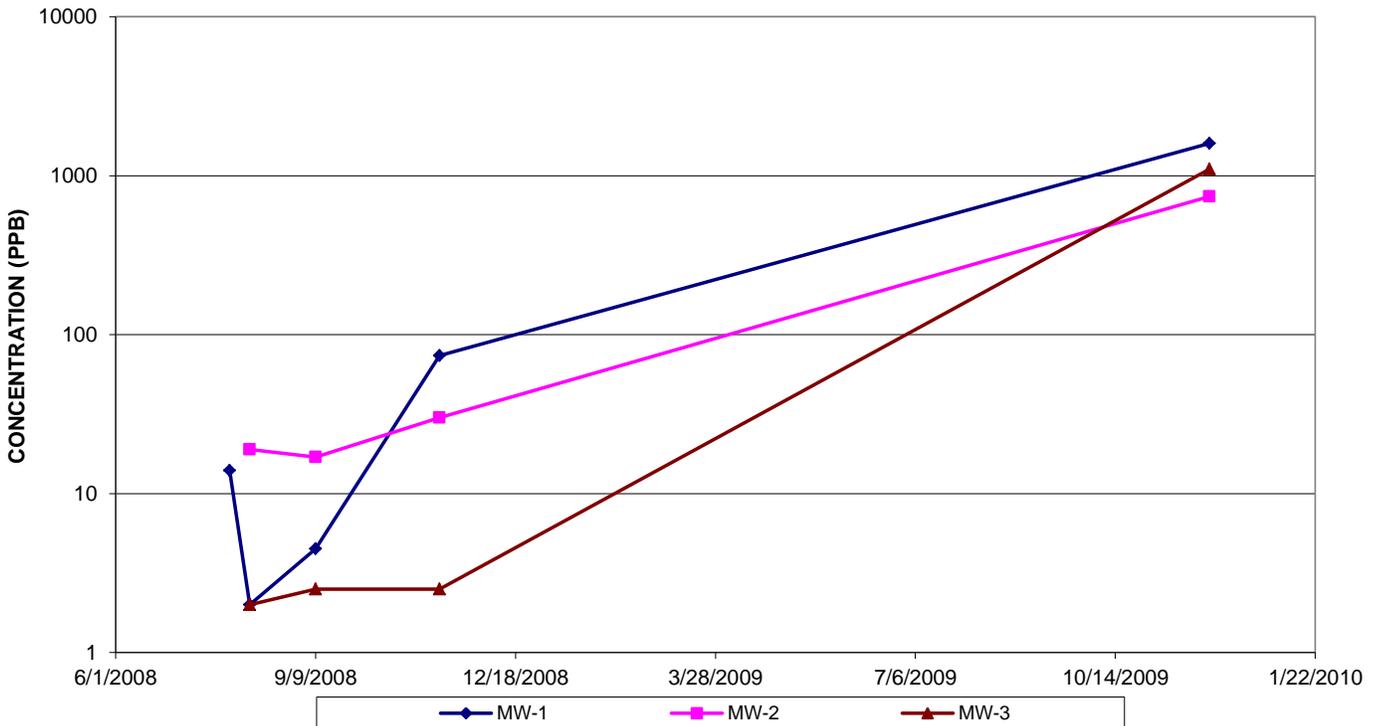
State Water Board technical staff analyzed the geologic and technical information concerning the Site, as well as the contentions of the Petitioner and the County of San Diego Department of Environmental Health Division of Land and Water Quality (San Diego County). Based on that analysis, State Water Board technical staff developed a conceptual model to assist in understanding the high

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MTBE concentrations in the Petitioner's monitoring wells. Based on this conceptual site model, State Water Board staff has determined that the source of elevated levels of MTBE is the off-Site unauthorized release that originated at the United States Border Patrol (Border Patrol) site that is located upgradient from the Site at 225 Kenney Street.

Analysis of on-Site technical data indicate that the elevated MTBE concentrations reported in the Petitioner's monitoring wells after September 2008 originated from the upgradient Border Patrol release located approximately 1,600 feet southeast of the Site. Analytical results from the Petitioner's soil samples indicated a minor impact of MTBE from Petitioner's UST in only one soil sample near the former UST location. Monitoring well data indicate a pattern of lower MTBE concentrations over time, followed by a sudden and substantial increase in MTBE concentrations. Because the Petitioner's UST was removed in 1997, a subsequent unauthorized release originating from the Petitioner's Site has been ruled out. Groundwater below the Site has remained stable since the tank was removed in 1997, with only minor fluctuations, so dissolution of any residual petroleum constituents in soil to groundwater is highly unlikely. The data, therefore, indicate that the increase of MTBE concentrations in groundwater originated from an off-Site source. MTBE concentrations trends for wells MW-1 through MW-3 are shown in Figure 2.

FIGURE 2: MTBE CONCENTRATIONS



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Analysis of off-Site technical data indicate that the majority of the MTBE reported in the Petitioner's monitoring wells originated from the upgradient Border Patrol release located approximately 1,600 feet southeast of the Site. San Diego County staff has suggested the MTBE plume from the Border Patrol release has migrated about 2,000 feet from the source.¹ Because the Petitioner's property is approximately 1,600 feet northwest (downgradient) of the Border Patrol release, San Diego County's assessment of the extent of the release from the Border Patrol site is consistent with the State Water Board's technical conclusions.

Multiple reports prepared by California Licensed Professionals document that a large MTBE plume emanating from the Border Patrol property has migrated below and likely beyond the Petitioner's property.² The Border Patrol site has been an open UST release case since 1997 with up to 3.87 feet free product measured in off-site well GF-12 during 2012. Twenty monitoring wells have been drilled and sampled to delineate and characterize the Border Patrol's release and downgradient plume. Border Patrol monitoring well OW-4 that is positioned between the Petitioner's property and the Border Patrol's site, approximately 720 feet southeast (upgradient) of the Petitioner's property, has reported consistently high and increasing MTBE concentrations averaging around 208,000 parts per billion (ppb) since 2006.

IV. OBJECTIONS TO CLOSURE AND RESPONSE TO OBJECTIONS

1. In a response to the petition dated November 16, 2009, San Diego County staff indicated that the extent of soil contamination appears to have been adequately defined, but the extent of groundwater contamination has not been adequately delineated in the downgradient (west-southwest) direction.

Response: Existing soil and groundwater data indicate that the on-Site petroleum constituent plume is adequately delineated. Soil data indicate a limited residual source. Groundwater samples collected during multiple on-Site assessments support a finding that a groundwater plume originating from Petitioner's former UST system exists with higher concentrations of petroleum constituents from other sources within the Petitioner's property boundary. Lower concentrations of

¹ State Water Board GeoTracker Database, Closure Review Page, Impediments to Closure Section, Groundwater Impacts Subsection

² RORE, Inc./CH2MHILL, *First Semi-Annual Monitoring Event, June 2012, United States Border Patrol Station, El Cajon, California*, November, 2012; Weston Solutions, Inc., *Groundwater Monitoring Report, Third Quarter (August 2006) Monitoring Event, Office of Border Patrol, 225 Kenney Street, El Cajon, California 92071*, November 10, 2006; EnvirOmega Consultants, Inc., *Report on November 2009 Groundwater Monitoring Event, Sal's Plumbing, 10439 Prospect Avenue, Santee, CA 92071*, January 28, 2010

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petroleum constituents in groundwater extend downgradient to the contiguous property currently occupied by the Caltrans. No further site assessment or groundwater monitoring is necessary to adequately understand the extent of petroleum constituents in soil or groundwater that can be attributed to Petitioner's release.

2. San Diego County staff further contends that on the basis of the increasing trend of benzene concentrations in downgradient well MW-3, it appears that the groundwater plume is not stable and that petroleum constituents have potentially moved off-Site, impacting the adjacent property.

Response: The data indicate low concentrations of petroleum constituents extend downgradient to the contiguous property currently occupied by Caltrans. The record indicates that a UST cleanup case was opened at the Caltrans site in 1987 and closed in 1992; consequently, it is likely that residual contamination remains from the UST release at the Caltrans site.

3. San Diego County staff further contends that additional work is required to complete delineation of the extent of groundwater contamination (and address potential off-Site contamination), and that the continuation of quarterly groundwater monitoring program is required and inclusion of trend analyses for benzene and MTBE concentrations in future reports.

Response: As discussed above, no further site assessment or groundwater monitoring is necessary to adequately understand the extent of petroleum constituents in soil and groundwater that resulted from the Petitioner's release. With the exception of MTBE, concentrations of petroleum constituents have decreased in all Site wells and are estimated to reach WQOs in a few decades. The data indicate a majority of the MTBE concentrations reported in monitoring wells at the Petitioner's property originated from the upgradient Border Patrol release.

4. San Diego County staff further contends that the submittal of a corrective action plan (CAP) is required after delineation of the extent of contamination is complete.

Response: Soil sampling confirms that petroleum impacted soil remains at the Site. However, to remove all traces of residual petroleum constituents at Petitioner's Site in the short-term would require additional excavation of soil at the Site to depths of up to 9 feet. Excavation of approximately 1,100 cubic yards of soil would eliminate most if not all of the residual petroleum constituents at the Site. However, there would be little benefit to current or anticipated actual uses

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of groundwater that is not meeting WQOs for benzene and MTBE. In addition, if complete removal of detectable traces of petroleum constituents becomes the standard for UST corrective actions, the statewide technical and economic implications will be enormous. For example, disposal of soils from comparable areas of excavation throughout the state would greatly impact already limited landfill space. In light of the minimal benefit of attaining further reductions in concentrations of benzene and MTBE at this Site, the precedent that would be set by requiring additional excavation and the fact that affected groundwater is unlikely to be used during the period of impairment, additional excavation at Petitioner's Site is neither reasonable nor necessary.

5. San Diego County staff further contends that while some sites in the vicinity of the Petitioner's property have been closed with higher concentrations of MTBE and benzene than reported at the Petitioner's property, these cases met all conditions for closure. For example, at each site, a full delineation of the extent of soil and groundwater contamination was completed; contaminant trends were provided that showed stable or decreasing plumes in the majority of wells; contaminant concentrations were estimated to meet maximum contaminant levels (MCLs) for benzene and/or MTBE in a reasonable timeframe; and a CAP to address site mitigation was submitted and approved.

Response: As discussed above, no further site assessment or groundwater monitoring is necessary to adequately understand the extent of petroleum contaminants in soil and groundwater that resulted from the Petitioner's release. Additional corrective actions would not change the conceptual site model for the Site, which in its current condition is highly unlikely to pose a risk to human health, safety or the environment.

6. San Diego County staff further contends that while groundwater samples collected from the Site's upgradient monitoring well, MW-2, did contain low levels of MTBE, no other petroleum hydrocarbons have been detected in the well samples. Therefore, additional data (evidence) to support an off-Site petroleum constituent source is required.

Response: San Diego County staff's contention actually provides supporting data/evidence that the MTBE concentrations in groundwater at the Petitioner's Site originate from an off-site source. It is precisely because the upgradient well MW-2 did contain concentrations of MTBE and no other petroleum constituents that affirms that the MTBE plume emanating from the Border Patrol property

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has reached the Petitioner's property and that a majority of the MTBE concentrations reported in monitoring wells originated from the upgradient Border Patrol release.

7. San Diego County staff further contends that the San Diego Regional Water Quality Control Board (Regional Water Board) must also approve site closure at sites where groundwater designated for beneficial uses has been impacted. The Regional Water Board reviewed the March 4, 2009, San Diego County letter and based on a limited review of materials provided by the Petitioner's consultant, concurred with the conclusions and requirements of San Diego County.

Response: The Regional Water Board's response was considered during the State Water Board's Division of Water Quality evaluation of the petition. Based on facts in the record and the hydrologic and geologic conditions at the Site, the Board determines that the limited residual petroleum hydrocarbons that remain in shallow soil and groundwater in the immediate vicinity of the Site pose a low risk to human health, safety and the environment.

V. CLOSURE OF PETITIONER'S UST CASE

The State Water Board technical analysis concludes that based on this conceptual site model, the elevated concentrations of MTBE in groundwater below the Petitioner's Site originate from the upgradient Border Patrol release. Based on the State Water Board's technical analysis, Petitioner's UST case (the residual petroleum constituents that can be attributed to the release from Petitioner's UST) would be eligible for case closure. The affected groundwater is not currently being used as a source of drinking water or for any other designated beneficial use, and it is highly unlikely that the affected groundwater will be used as a source of drinking water or for any other beneficial use in the foreseeable future. Remaining petroleum constituents are limited, stable and declining. Corrective actions have been implemented and additional assessment/monitoring will not likely change the conceptual model. Any remaining petroleum constituents attributable to Petitioner's release do not pose significant risk to human health, safety or the environment.

Although the release from Petitioner's UST meets the criteria for closure, the fact that it has commingled with the release from the upgradient Border Patrol property presents a complication.

A. Petitioner's Responsibility for Commingled Releases

When releases from two or more different sources commingle, the State Water Board generally considers all responsible parties of the separate releases as jointly and severally liable for the

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commingled release. ([State Water Board Orders WQ 1990-2](#) (*Union Oil Company of California*); [WQ 2009-0001-UST](#) (*Ultramar, Inc.*)). This is true where the releases originate from different properties or where the releases originate from the same property but at different times. All parties that contributed to the commingled release are generally considered liable until the entire commingled release requires no further action. Based on these precedential Board decisions, it would be appropriate to consider Petitioner and the Border Patrol as jointly and severally liable for the releases that have commingled at Petitioner's Site. If Petitioner's case is closed, Petitioner would not be required to perform any additional corrective action related to the release from its USTs. Granting the Petition and closing Petitioner's UST case would remove Petitioner as one of the responsible parties for the commingled releases.

B. Responsible Parties at Commingled-Release Sites

In 2002, the State Water Board adopted *In the Matter of the Petition of Mehdi Mohammadian*, [Order WQ 2002-0021](#) (*Mohammadian*), a test for relieving a party from responsibility where the party's release had commingled with a release from another party. In *Mohammadian*, there was a release from a first generation UST system, and a subsequent release from the second generation UST system at the same site. The responsible parties for the initial and subsequent releases were all identified as responsible parties for the commingled releases. Later, the regulatory agency overseeing corrective action removed the responsible party designation for the parties responsible for the initial release. The parties responsible for the subsequent release challenged that decision by filing a petition with the State Water Board. In *Mohammadian*, the Board set forth the following test for when a local agency may appropriately remove a responsible party:

[I]t is not appropriate for an LOP agency to remove a person who has been properly named as a responsible party for cleanup of an unauthorized release unless it finds, by a preponderance of the evidence, that constituents from that party's release, when taken in conjunction with commingled constituents from another release(s) that have similar effects on beneficial uses, do not contribute to the need for cleanup at the site.

(Order WQ 2002-0021, *In the Matter of the Petition of Mehdi Mohammadian*, p. 8.)

The test under *Mohammadian* is whether constituents from one release are contributing to the need for cleanup of the commingled plume as a whole, considering the constituents of each release and their relative impacts on beneficial uses. The test is not whether one release, when considered

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separately from one or more other commingled releases, would be the basis for a determination that a site could be closed.³

An exception to the general rule established in the *Mohammadian* Order applies where a responsible party has received closure for its release before it commingles with another release. (*Mohammadian*, p.8, fn. 10.) Consequently, even if the remaining petroleum constituents from the release are present and contributing to the need for cleanup, a party would not be responsible for further cleanup of the commingled releases if the party obtained UST case closure before the releases commingled.

Before the *Mohammadian* Order, a responsible party who contributed to a commingled release could only be relieved of liability when no further cleanup or corrective action was required. The test in *Mohammadian* was designed to provide relief to responsible parties in limited situations. The State Water Board recognized the importance of naming multiple responsible parties to promote cleanup of water quality problems. Limiting the number of responsible parties increases the likelihood that public funds will have to be used to ensure site cleanup. The State Water Board also considered the inequitable aspect of requiring one responsible party to clean up the release of another. The State Water Board addressed these competing policy concerns in *Mohammadian* and the result was a test that was intended to provide relief to certain responsible parties in limited scenarios.

After considering the Petition before us, we conclude that the test established in *Mohammadian* will result in the removal of responsible parties in an overly limited number of cases. The State Water Board recognizes that there are many unauthorized releases that meet the criteria for closure but, for one reason or another, are not closed in a timely manner or before the release commingles with another release. As illustrated by this case, there are scenarios where a party responsible for the relatively minor unauthorized release may be unable to prevent the commingling of releases.

It is appropriate, under certain circumstances, to provide relief at commingled-release sites not only to parties that actually obtained closure from the applicable regulatory agency for their release before it commingled with another release, but to parties whose release, when considered separately, could support a site closure determination. Under this new test, established in this Order, if a party's unauthorized release has been adequately characterized and there are sufficient data to determine that the individual release could be closed, then the party responsible for that release may be relieved from responsibility even though the release has commingled with another release. This test applies in situations like Petitioner's, where case closure for the relatively minor release was warranted before the commingling occurred. This test also applies to situations where case closure for the minor release

³ Under the test established in *Mohammadian*, Petitioner could not be removed as a responsible party because remaining petroleum constituents from Petitioner's release are contributing to the need for cleanup of the commingled release.

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could not have been obtained before the commingling occurred, for example in situations where the minor release impacts groundwater that has already been significantly impacted by another release. The party seeking removal of responsible party status under this new test must demonstrate that its release has been adequately investigated and characterized, and that there are sufficient data to analyze whether the individual release meets case-closure criteria. This may be more difficult to demonstrate in those cases described in the second scenario, where case closure for the minor release cannot be performed before the commingling occurs. But if the responsible party can provide sufficient data to support a finding that the responsible party's release would have resulted in case closure, there is no reason to treat these types of commingled cases different from that of Petitioner's. This new test acknowledges the relative contributions of the responsible parties and provides relief to the party whose release is not significant enough on its own to require corrective action.

As a safeguard, the application of the above-described responsible party removal test does not apply where multiple minor releases, which could be closed if considered separately, combine to make corrective action necessary. Although unlikely, there could be cases involving multiple, minor commingled releases that could be closed when considered separately but require corrective action when considered together. Under a strict application of the closure test described above, parties responsible for each minor release could be relieved of responsibility if they demonstrate that the release for which they are responsible, considered individually, would meet closure criteria. If all parties responsible for the commingled release were relieved of responsibility, then cleanup would fall on the public, rather than the responsible parties, which is an unacceptable result.

By this Order, the State Water Board is modifying the *Mohammadian* test for determining when it is appropriate to relieve a party from responsibility when two or more releases have commingled at a site. We retain the exception in the *Mohammadian* Order for responsible parties who received official closure of their UST case before that release commingles with another release. We encourage responsible parties to perform corrective action and to pursue case closure in a timely and effective manner. If a party obtains case closure from the appropriate regulatory agency consistent with *Mohammadian*, then that party is relieved of further responsibility for the release that is subject of case closure.⁴

Pursuant to the new test established in this Order, a responsible party may also be removed if that party demonstrates that the release, considered separately from other commingled releases, meets case closure criteria and the site could be closed. The party seeking relief must demonstrate that the separate release for which the party is responsible has been adequately investigated and

⁴ UST cases may be reopened if information about the release that was provided to the regulatory agency was inaccurate or not representative of site conditions, if site conditions change or if actual or anticipated uses of area groundwater change.

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characterized and that there are sufficient data to determine that the case based on the individual release could be closed.

In addition, and as a condition of closure, the responsible party seeking relief must provide reasonable access to the responsible party(ies) performing corrective action at the relieved party's site. Failure to provide reasonable access may cause the regulatory agency overseeing corrective action to identify the relieved party as a responsible party.

C. Application of Test to Petitioner's UST Case

Petitioner's unauthorized release has been adequately characterized and there are sufficient data to determine that the release, considered separately from the Border Patrol or other known releases could be closed. As stated earlier, if the criteria in the Low-Threat Policy are met, a petroleum UST case may be closed. If the criteria in the Low-Threat Policy are not satisfied, the petroleum UST case may still be closed using the analytical framework that has been established in numerous precedential State Water Board orders governing closure of petroleum UST cases, which includes the application of State Water Board Resolution No. 92-49.

1. There are sufficient data to determine that the Petitioner's unauthorized release, considered separately, meets all of the specified criteria of the State Water Board's Low-Threat Policy.

The Low-Threat Policy establishes both general and media-specific criteria.⁵ If both the general and applicable media-specific criteria are satisfied, then the UST case is generally considered to present a low threat to human health, safety and the environment. The Policy recognizes, however, that even if all of the specified criteria in the Policy are met, there may be unique attributes of the case or site-specific conditions that increase the risk associated with the residual petroleum constituents.

General Criteria

General criteria that must be satisfied by all candidate sites are listed as follows:

- a. The unauthorized release is located within the service area of a public water system;
- b. The unauthorized release consists only of petroleum;
- c. The unauthorized release from the UST system has been stopped;
- d. Free product has been removed to the maximum extent practicable;

⁵ The Low-Threat Policy was adopted by State Water Board [Resolution No. 2012-0016](#).

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- e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed;
- f. Secondary source has been removed to the extent practicable;
- g. Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15; and
- h. Nuisance as defined by Water Code section 13050 does not exist at the site.

If all the general criteria are satisfied, the site must meet applicable, media-specific criteria in order to be closed under the Low-Threat Policy. The exposure scenarios related to petroleum releases have been combined into three media-specific criteria: Groundwater, vapor intrusion to indoor air, and direct contact and outdoor air exposure.

Media-Specific Criteria:

1. Groundwater: To satisfy the groundwater criteria, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, which means that the distance from the release where attenuation exceeds migration is no longer expanding. In addition, the site must meet all of the specified criteria of at least one of the five classes of groundwater sites, as specified in the Low-Threat Policy.
2. Vapor Intrusion to Indoor Air: The vapor intrusion criterion applies to petroleum release sites when existing buildings are occupied or are reasonably expected to be occupied or where buildings for human occupancy are reasonably expected to be constructed in the near future. If one of the three specified tests under Section 2 of the Low-Threat Policy, "Petroleum Vapor Intrusion to Indoor Air," is satisfied, then the site satisfies the media-specific criteria.
3. Direct Contact and Outdoor Air Exposure: The Low-Threat Policy describes conditions where direct contact with petroleum-contaminated soil or inhalation of petroleum volatilized to outdoor air poses an insignificant threat to human health. If one of the three specified tests is satisfied, the media-specific criterion for direct contact and outdoor air exposure is satisfied.

Site data used to determine that the Petitioner's unauthorized release, considered separately, meet all of the specified criteria of the State Water Board's Low-Threat Policy:

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Site Description/Conditions

The land use designation for the Site is commercial with a few private residences located in the area. Water is supplied by the Padre Dam Municipal Water District. The San Diego River is the nearest surface water body (approximately 6,000 feet northwest of the Site.) The Site is located within the El Cajon groundwater basin with beneficial uses designated as, Municipal and Domestic (MUN), Agricultural (AGR), Industrial Service (IND), and Industrial Process (PROC). The nearest supply wells are located approximately 2,300 feet northwest (residential well) and approximately 2,500 feet northwest (irrigation well)

The Site is underlain with sand with some silt and clay (Fill) to approximately 7 feet bgs; sand and silty/clayey sand grading medium to coarse from approximately 7 to 11 feet bgs; weathered granite, weathering decreasing with depth from approximately 11 to 22 feet bgs. The average groundwater depth is approximately 9 feet bgs, and the minimum groundwater depth is approximately 8.6 feet bgs. Groundwater flow direction is westerly.

Unauthorized Release Information and Corrective Actions

In July 1997, one 1,000 gallon gasoline UST and a single dispenser were removed. A petroleum⁶ release was discovered during removal and the UST system was determined to have been the primary source of the release. Soil and shallow groundwater were affected by the release although no free product was reported. The petroleum constituents of concern are total petroleum hydrocarbons as gasoline (TPHg), benzene, xylenes, MTBE, and tert-butyl alcohol (TBA).

Corrective Actions: July 1997 – UST system removed; July 2008 – soil and groundwater assessment; August 2008 – soil and groundwater assessment; and 2008 through 2009 – groundwater monitoring.

Evaluation of Risk Criteria

Soil and groundwater were sampled for MTBE, see Tables 1 and 2 above. The MTBE plume resulting from the Petitioner's release was determined to have a maximum length of approximately 225 feet and to be stable or decreasing. These Site-specific conditions satisfy the Low-Threat Policy criteria for groundwater.

Residual petroleum constituents have been determined not to pose a significant risk to the environment or pose a significant vapor intrusion risk to human health. These Site-specific conditions satisfy the Low-Threat Policy criteria for vapor intrusion to indoor air. Petroleum constituents most

⁶ "Petroleum" means crude oil, or any fraction thereof, which is liquid at standard conditions of temperature and pressure, which means at 60 degrees Fahrenheit and 14.7 pounds per square inch absolute. (Health & Saf. Code, § 25299.2.)

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likely to pose a threat for vapor intrusion were removed during soil excavation and over-excavation. Residual petroleum constituents have been determined not to pose a nuisance⁷ at the Site and do not pose a significant risk of adversely affecting human health. A Site-specific risk assessment of potential vapor exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

Residual petroleum constituents at the Site have been determined not to pose significant direct contact and outdoor air exposure to human health. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 of the Policy. Although there are no soil sample results in the case record for naphthalene, the relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2 percent benzene and 0.25 percent naphthalene. Therefore, benzene concentrations can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Table 1 of the Policy. Therefore, estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

2. Based on the data for the Petitioner's release, corrective actions performed for the separate release ensure the protection of human health, safety and the environment.

The release at the Petitioner's Site was discovered when one 1,000 gallon gasoline UST and single dispenser were removed in 1997. No known USTs remain at the Site. The Site is located in a mixed commercial and residential area that is served by public water supply. A residential well is located approximately 2,300 feet northwest of the Site. Groundwater samples collected during site assessments support the conclusion that a groundwater plume originating from the former UST system exists with higher concentrations within the Petitioner's property boundary. Lower concentrations extend downgradient to the contiguous property currently occupied by Caltrans.

Based on the State Water Board's technical analysis, Petitioner's UST case (the residual petroleum constituents that can be attributed to the release from Petitioner's UST) would be eligible for case closure. The affected groundwater is not currently being used as a source of drinking water or for any other designated beneficial use, and it is highly unlikely that the affected groundwater will be used as a source of drinking water or for any other beneficial use in the foreseeable future. Remaining petroleum constituents are limited, stable and declining. Additional assessment/monitoring will not

⁷ Nuisance as defined in California Water Code, section 13050, subdivision (m).

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likely change the conceptual model. Any remaining petroleum constituents that can be attributed to Petitioner's release do not pose significant risk to human health, safety or the environment.

3. Petitioner's case is consistent with the Low-Threat Policy.

The Petitioner's Site meets all the General Criteria and all the applicable Media-Specific Criteria.

1. Groundwater – Based on an analysis of site-specific conditions, the contaminant plume that exceeds water quality objectives is stable or decreasing and less than 1,000 feet in length, there is no free product, the nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary, the dissolved concentration of benzene is less than 1,000 micrograms per liter ($\mu\text{g/l}$), and the Petitioner's contribution of dissolved concentration of MTBE was determined to be less than 1,000 $\mu\text{g/l}$.
2. Vapor Intrusion to Indoor Air – Based on an analysis of site-specific conditions, benzene concentrations are less than 100 $\mu\text{g/l}$, the bioattenuation zone is continuous and provides a separation of at least 5 feet vertically between the dissolved phase benzene and the foundation of existing or potential buildings, and the bioattenuation zone contain Total TPH (TPH-g and TPH-d combined) less than 100 milligrams per kilogram (mg/kg) throughout the entire depth of the bioattenuation zone.
3. Direct Contact and Outdoor Air Exposure – Based on an analysis of Site-specific conditions, maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 of the Low-Threat Policy for the specified depth bgs.

VI. FINDINGS

1. Pursuant to the test established by this Order, a party may be removed as a responsible party for a UST cleanup site if that party demonstrates that the release, when considered separately from other releases that have commingled with the responsible party's release, meets State Water Board closure policies. The application of the above-described responsible party removal test does not apply where multiple minor releases, which could be closed if considered separately, combine to make corrective action necessary. Petitioner has demonstrated that the separate release for which Petitioner is responsible has been adequately investigated and characterized, and that there are sufficient data for the State Water Board to determine that Petitioner's case should be closed.⁸

⁸ This Order does not decide whether application of this test is appropriate in circumstances where removal of a responsible party would result in the creation of an orphan site.

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2. The State Water Board provided a 60 day comment period in accordance with the Low-Threat Policy.
3. Based upon the case data, the State Water Board finds that corrective action performed at the UST release Site located at 10439 Prospect Avenue, Santee, California ensures protection of human health, safety and the environment and is consistent with Chapter 6.7 of Division 20 of the Health and Safety Code and implementing regulations, the Low-Threat Policy, and applicable water quality control plans. Additional corrective action at the Site is limited to proper destruction of monitoring wells and removal of waste and debris, as described in the Low-Threat Policy and as ordered below.

VII. ORDER

IT IS THEREFORE ORDERED that:

- A. The UST case located at 10439 Prospect Avenue, Santee, meeting the general and media-specific criteria established in the Low-Threat Closure Policy, be closed in accordance with the following conditions and after the following actions are complete. Prior to the issuance of a closure letter, the Petitioner is ordered to:
 1. Properly destroy monitoring wells and borings unless the owner of real property on which the well or boring is located certifies that the wells or borings will be maintained in accordance with local or state requirements;
 2. Properly remove from the Site and manage all waste piles, drums, debris, and other investigation and remediation derived materials in accordance with local or state requirements; and
 3. Within six months of the date of this Order, submit documentation to the regulatory agency overseeing the UST case identified in Section II of this Order that the tasks in subparagraphs (1) and (2) have been completed.
- B. The tasks in subparagraphs (1) and (2) of Paragraph (A) are ordered pursuant to Health and Safety Code section 25296.10 and failure to comply with these requirements may result in the imposition of civil penalties pursuant to Health and Safety Code section 25299, subdivision

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- (d)(1). Penalties may be imposed administratively by the State Water Board or Regional Water Board.
- C. Within 30 days of receipt of proper documentation from the Petitioner that requirements in subparagraphs (1) and (2) of Paragraph (A) are complete, San Diego County shall notify the State Water Board that the tasks have been satisfactorily completed.
- D. Within 30 days of notification from San Diego County that the tasks are complete pursuant to Paragraph (C), the Deputy Director of the Division of Water Quality shall issue a closure letter consistent with Health and Safety Code, section 25296.10. subdivision (g) and upload the uniform closure letter and UST Case Closure Summary to GeoTracker.
- E. Pursuant to section 25299.57, subdivision (l) (1), and except in specified circumstances, all claims for reimbursement of corrective action costs must be received by the Fund within 365 days of issuance of the uniform closure letter in order for the costs to be considered.
- F. Any Regional Water Board order that directs corrective action or other action inconsistent with case closure for the UST case located at 10439 Prospect Avenue, Santee, California is rescinded, but only to the extent the Regional Water Board order is inconsistent with this Order.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on _____.

Jeanine Townsend
Clerk to the Board