

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

**ORDER WQ 2013-0065-UST**

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**In the Matter of Underground Storage Tank Case Closure**  
**Pursuant to Health and Safety Code Section 25296.40 and the Low-Threat**  
**Underground Storage Tank Case Closure Policy**

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**BY THE EXECUTIVE DIRECTOR:<sup>1</sup>**

By this order, the Executive Director directs closure of the underground storage tank (UST) case at the site listed below, pursuant to subdivision (a) of section 25296.40 of the Health and Safety Code.<sup>2</sup> The name of the petitioner, the site name, the site address, the Underground Storage Tank Cleanup Fund (Fund) claim number if applicable, the lead agency, and case number are as follows:

**Mr. Kirk Kuzmanic**

**Rancho Car Wash**

**27378 Jefferson Avenue, Temecula, Riverside County**

**Fund Claim No. 17880**

**San Diego Regional Water Quality Control Board, Case No. 9UT4171**

**I. STATUTORY AND PROCEDURAL BACKGROUND**

Upon receipt of a petition from a UST owner, operator, or other responsible party, section 25296.40 authorizes the State Water Resources Control Board (State Water Board) to close or require closure of a UST case where an unauthorized release has occurred, if the State Water Board determines that corrective action at the site is in compliance with all of the requirements of subdivisions (a) and (b) of section 25296.10. The State Water Board, or in certain cases the State Water Board Executive Director, may close a case or require the closure

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<sup>1</sup> State Water Board Resolution No. 2012-0061 delegates to the Executive Director the authority to close or require the closure of any UST case if the case meets the criteria found in the State Water Board's Low-Threat Underground Storage Tank Case Closure Policy adopted by State Water Board Resolution No. 2012-0016.

<sup>2</sup> Unless otherwise noted, all references are to the California Health and Safety Code.

of a UST case. Closure of a UST case is appropriate where the corrective action ensures the protection of human health, safety, and the environment and where the corrective action is consistent with: 1) Chapter 6.7 of division 20 of the Health and Safety Code and implementing regulations; 2) Any applicable waste discharge requirements or other orders issued pursuant to division 7 of the Water Code; 3) All applicable state policies for water quality control; and 4) All applicable water quality control plans.

State Water Board staff has completed a review of the UST case identified above, and recommends that this case be closed. The recommendation is based upon the facts and circumstances of this particular UST case. A UST Case Closure Summary has been prepared for the case identified above and the bases for determining compliance with the Water Quality Control Policy for Low-Threat Underground Storage Tank Case Closures (Low-Threat Closure Policy or Policy) are explained in the Case Closure Summary.

### **Low-Threat Closure Policy**

In State Water Board Resolution No. 2012-0016, the State Water Board adopted the Low-Threat Closure Policy. The Policy became effective on August 17, 2012. The Policy establishes consistent statewide case closure criteria for certain low-threat petroleum UST sites. In the absence of unique attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents, cases that meet the general and media-specific criteria in the Low-Threat Closure Policy pose a low-threat to human health, safety, and the environment and are appropriate for closure under Health and Safety Code section 25296.10. The Policy provides that if a regulatory agency determines that a case meets the general and media-specific criteria of the Policy, then the regulatory agency shall notify responsible parties and other specified interested persons that the case is eligible for case closure. Unless the regulatory agency revises its determination based on comments received on the proposed case closure, the Policy provides that the agency shall issue a uniform closure letter as specified in Health and Safety Code section 25296.10. The uniform closure letter may only be issued after the expiration of the 60-day comment period, proper destruction or maintenance of monitoring wells or borings, and removal of waste associated with investigation and remediation of the site.

Health and Safety Code section 25299.57, subdivision (l)(1) provides that claims for reimbursement of corrective action costs that are received by the Fund more than 365 days after the date of a uniform closure letter or a letter of commitment, whichever occurs later, shall not be reimbursed unless specified conditions are satisfied.

## II. FINDINGS

Based upon the UST Case Closure Summary prepared for the case attached hereto, the State Water Board finds that corrective action taken to address the unauthorized release of petroleum at the UST release site identified as:

**Mr. Kirk Kuzmanic**

**Rancho Car Wash**

**27378 Jefferson Avenue, Temecula, Riverside County**

**Fund Claim No. 17880**

**San Diego Regional Water Quality Control Board, Case No. 9UT4171**

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 Closure Policy and other water quality control policies and applicable water quality control plans.

Pursuant to the Low-Threat Closure Policy, notification has been provided to all entities that are required to receive notice of the proposed case closure, a 60-day comment period has been provided to notified parties, and any comments received have been considered by the State Water Board in determining that the case should be closed.

The UST case identified above may be the subject of orders issued by the Regional Water Quality Control Water Board (Regional Water Board) pursuant to division 7 of the Water Code. Any orders that have been issued by the Regional Water Board pursuant to division 7 of the Water Code, or directives issued by a Local Oversight Program (LOP) agency for this case should be rescinded to the extent they are inconsistent with this Order.

## III. ORDER

**IT IS THEREFORE ORDERED** that:

- A. The UST case identified in Section II of this Order, 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 uniform 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 (d)(1). Penalties may be imposed administratively by the State Water Board or Regional Water Board.

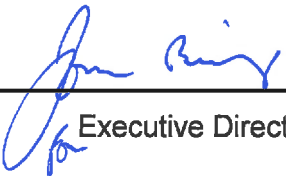
C. Within 30 days of receipt of proper documentation from the Petitioner that requirements in subparagraphs (1) and (2) of Paragraph (A) are complete, the regulatory agency that is responsible for oversight of the UST case identified in Section II of this Order shall notify the State Water Board that the tasks have been satisfactorily completed.

D. Within 30 days of notification from the regulatory agency that the tasks are complete pursuant to Paragraph (C), the Deputy Director of the Division of Water Quality shall issue a uniform 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. As specified in Health and Safety Code section 25299.39.2, subdivision (a) (2), corrective action costs incurred after a recommendation of closure shall be limited to \$10,000 per year unless the State Water Board or its delegated representative agrees that corrective action in excess of that amount is necessary to meet closure requirements, or additional corrective actions are necessary pursuant to section 25296.10, subdivision (a) and (b). 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 or LOP agency directive or order that directs corrective action or other action inconsistent with case closure for the UST case identified in Section II is rescinded, but only to the extent the Regional Water Board order or LOP agency directive is inconsistent with this Order.

  
\_\_\_\_\_  
Executive Director

8/2/2013  
\_\_\_\_\_  
Date



State Water Resources Control Board

UST CASE CLOSURE SUMMARY

Agency Information

Table with 2 columns: Agency Name and Address. Agency Name: San Diego Regional Water Quality Control Board (Regional Water Board). Address: 9174 Sky Park Court, Suite 100 San Diego, CA 92123-4353. Agency Caseworker: Sue J. Pease. Case No.: 9UT4171.

Case Information

Table with 2 columns: Case Details and Address. Rows include: USTCF Claim No.: 17880, Global ID: T0606504561; Site Name: Rancho Car Wash, Address: 27378 Jefferson Avenue Temecula, CA 92590 Riverside County (Site); Petitioner: Mr. Kirk Kuzmanic, Address: 27378 Jefferson Avenue Temecula, CA 92590 Riverside County; USTCF Expenditures to Date: \$167,649, Number of Years Case Open: 11.

URL: http://geotracker.waterboards.ca.gov/profile\_report.asp?global\_id=T0606504561

Summary

The Low-Threat Underground Storage Tank Case Closure Policy (Policy) contains general and media-specific criteria, and cases that meet those criteria are appropriate for closure pursuant to the Policy. This Site meets all of the required criteria of the Policy. A summary evaluation of compliance with the Policy is shown in Attachment 1: Compliance with State Water Board Policies and State Law. The Conceptual Site Model upon which the evaluation of the case has been made is described in Attachment 2: Summary of Basic Site Information. Highlights of the Conceptual Site Model are summarized as follows.

The release at the Site was discovered when two underground storage tanks (USTs) were removed in 2002. The Site is currently operated as a car wash business. No known USTs remain at the Site. During the 2002 UST removal, an unknown quantity of petroleum impacted soil was excavated, over-excavated, and disposed offsite. Subsequent soil sampling results indicate that remaining petroleum-affected soils are delineated within an isolated area surrounding the former dispenser island at depths between 4 and 26 feet below ground surface (bgs). Methyl-tert Butyl Ether (MTBE) is the only reported petroleum constituent in groundwater remaining above Water Quality Objectives (WQOs). All other analyzed petroleum constituents have not been reported in groundwater since June 2009.

The petroleum release is limited to the shallow soil and groundwater. The affected groundwater is not currently being used as a source of drinking water or for any other designated beneficial use, and it is

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE OFFICER

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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. Public supply wells are usually constructed with competent sanitary seals and intake screens that are in deeper more protected aquifers. Remaining petroleum constituents are limited, stable and declining. Remedial actions have been implemented and further remediation would be ineffective and expensive. Additional assessment/monitoring will not likely change the conceptual site model. Any remaining petroleum constituents do not pose significant risk to human health, safety or the environment.

#### **Rationale for Closure under the Policy**

- **General Criteria – Site MEETS ALL EIGHT GENERAL CRITERIA** under the Policy.
- **Groundwater Media-Specific Criteria – Site meets the criterion in CLASS 5.** Based on an analysis of Site-specific conditions that under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low-threat to human health and safety and to the environment and WQOs will be achieved within a reasonable time frame.
- **Petroleum Vapor Intrusion to Indoor Air –Site meets the criterion in CLASS a SCENARIO 3.** As applicable, site-specific conditions at the release site satisfy all of the characteristics and criteria of scenario 3.
- **Direct Contact and Outdoor Air Exposure – Site meets CLASS a.** Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 of the Policy. The estimated naphthalene concentrations in soil are less than the thresholds in Table1 of the Policy for direct contact. It is unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

#### **Objections to Closure**

Regional Water Board staff objected to UST case closure because:

1. The extent of the tert-Amyl Methyl Ether (TAME) and MTBE plumes have not been delineated to the southeast.

Response: TAME was reported during one event in 2009 in grab groundwater from the Jack-in-the-Box property located approximately 200 feet southeast of the Site. However, because TAME has never been reported in groundwater at the Site, it is unlikely that TAME at the Jack-in-the-Box property originated from the Site. TAME, however, has been reported at elevated concentrations at the nearby ARCO #5500 property, 41555 Winchester Road, Temecula (Regional Water Board Case No. 9UT4169).

Stable to decreasing MTBE concentrations have been reported in downgradient monitoring wells MW-3 and MW-5 and likely extends offsite to the east-southeast. However, based on the concentration gradient observed between the central portion of the plume and the lateral portions of the plume, it appears that the MTBE plume terminates beneath Winchester Avenue.

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2. MTBE contamination in groundwater exceeds California Department of Public Health (CDPH) Maximum Contaminant Level (MCL) of 5.0 micrograms per liter ( $\mu\text{g/L}$ ).

Response: Recent groundwater monitoring data (December 2012) indicates that MTBE concentrations in monitoring well MW-4 along the western edge of the Site are at their highest concentrations and exceed the CDPH MCL for MTBE. However, monitoring well MW-4 is located crossgradient to upgradient of the former USTs and MTBE isoconcentration maps suggest that the MTBE plume extends from a source located west of the Site. Based on information from the aforementioned Regional Board Case No. 9UT4169, it is likely that MTBE-affected groundwater from the ARCO #5500 property is migrating onto the Site and is the source of increasing MTBE concentrations recently reported in MW-4. Based on an analysis of Site-specific conditions that under current and reasonably anticipated near-term future scenarios, concentrations of MTBE in groundwater from the Site are stable to decreasing is projected to reach water quality objectives in decades to hundreds of years.

3. The RP has not provided an estimated quantity of mass remaining onsite.

Response: Based on data available within the record, mass remaining onsite represents a low-threat to human health and the environment under the current land use scenarios. Additional source removal would require remedial excavation beneath existing roadways, be cost prohibitive, and would be unnecessary for groundwater to reach WQOs within a reasonable time frame.

4. Information about the depth to drinking water aquifer relative to groundwater pollution has not been provided. Specifically, concern was expressed for the potential impact of MTBE from the Site to two supply wells (#106 and #205) located east of the Site. Direction and distance to nearest water supply has not been provided.

Response: The report "Semi-Annual Groundwater Monitoring Report – January 2012, Rancho Car Wash, 27378 Jefferson Avenue, Temecula, California 92590", dated February 16, 2012 indicates that supply wells #106 and #205 are greater than 0.5 miles to the east and are screened at various intervals ranging between 130 and 985 feet. Petroleum affected groundwater at the Site has been reported in wells screened from 15 to 40 feet bgs. According to the Rancho California Water District (RCWD), the Site is not within the capture zones of these wells. According to records available from the CDPH, petroleum constituents have never been reported in supply wells #106 or #206.

5. Plume stability information has not been provided.

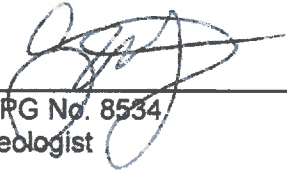
Response: Time-concentration plots provided within the record from all 21 monitoring events performed at the Site between 2004 and 2012 assess plume stability and demonstrate that the plume has been stable and decreasing.



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**Recommendation for Closure**

The corrective action performed at this Site ensures the protection of human health, safety, the environment and is consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations, applicable state policies for water quality control and the applicable water quality control plan, and case closure is recommended.

Prepared By:   
Eric T. Morita, PG No. 8534  
Engineering Geologist

4/25/13  
Date

Reviewed By:   
Benjamin Heningburg, PG No. 8130  
Senior Engineering Geologist

4/25/13  
Date

**ATTACHMENT 1: COMPLIANCE WITH STATE WATER BOARD POLICIES AND STATE LAW**

The site complies with State Water Resources Control Board policies and state law. Section 25296.10 of the Health and Safety Code requires that sites be cleaned up to protect human health, safety, and the environment. Based on available information, any residual petroleum constituents at the site do not pose significant risk to human health, safety, or the environment.

**The site complies with the requirements of the Low-Threat Underground Storage Tank (UST) Case Closure Policy as described below.<sup>1</sup>**

<p><b>Is corrective action consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations?</b>          The corrective action provisions contained in Chapter 6.7 of the Health and Safety Code and the implementing regulations govern the entire corrective action process at leaking UST sites. If it is determined, at any stage in the corrective action process, that UST case closure is appropriate, further compliance with corrective action requirements is not necessary. Corrective action at this site has been consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations and, since this case meets applicable case-closure requirements, further corrective action is not necessary, unless the activity is necessary for case closure.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p><b>Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this site?</b></p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>If so, was the corrective action performed consistent with any order?</b>          There was an order issued for this site. The corrective action performed in the past is consistent with that order. Since this case meets applicable case-closure requirements, further corrective action under the order that is not necessary, unless the activity is necessary for case closure.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p><b><u>General Criteria</u></b>          General criteria that must be satisfied by all candidate sites:</p>	
<p><b>Is the unauthorized release located within the service area of a public water system?</b></p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p><b>Does the unauthorized release consist only of petroleum?</b></p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p><b>Has the unauthorized ("primary") release from the UST system been stopped?</b></p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p><b>Has free product been removed to the maximum extent practicable?</b></p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>

<sup>1</sup> Refer to the Low-Threat Underground Storage Tank Case Closure Policy for closure criteria for low-threat petroleum UST sites.

<p><b>Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?</b></p> <p><b>Has secondary source been removed to the extent practicable?</b></p> <p><b>Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?</b></p> <p><b>Nuisance as defined by Water Code section 13050 does not exist at the site?</b></p> <p><b>Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?</b></p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b><u>Media-Specific Criteria</u></b>        Candidate sites must satisfy all three of these media-specific criteria:</p> <p><b>1. Groundwater:</b>        To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives (WQOs) must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites:</p> <p><b>Is the contaminant plume that exceeds WQOs stable or decreasing in areal extent?</b></p> <p><b>Does the contaminant plume that exceeds WQOs meet all of the additional characteristics of one of the five classes of sites?</b>        If YES, check applicable class: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5</p> <p><b>For sites with releases that have not affected groundwater, do mobile constituents (leachate, vapors, or light non-aqueous phase liquids) contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria?</b></p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p><b>2. Petroleum Vapor Intrusion to Indoor Air:</b>        The site is considered low-threat for vapor intrusion to indoor air if site-specific conditions satisfy all of the characteristics of one of the three classes of sites (a through c) or if the exception for active commercial fueling facilities applies.</p> <p><b>Is the site an active commercial petroleum fueling facility?</b>        Exception: Satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

<p><b>a. Do site-specific conditions at the release site satisfy all of the applicable characteristics and criteria of scenarios 1 through 3 or all of the applicable characteristics and criteria of scenario 4?</b>          If YES, check applicable scenarios: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4</p> <p><b>b. Has a site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency?</b></p> <p><b>c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?</b></p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p><b>3. Direct Contact and Outdoor Air Exposure:</b>          The site is considered low-threat for direct contact and outdoor air exposure if site-specific conditions satisfy one of the three classes of sites (a through c).</p> <p><b>a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 of the Policy for the specified depth below ground surface (bgs)?</b></p> <p><b>b. Are maximum concentrations of petroleum constituents in soil less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health?</b></p> <p><b>c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?</b></p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>

## ATTACHMENT 2: SUMMARY OF BASIC INFORMATION (Conceptual Site Model)

### Site Location/History

- The Site is located on the northern corner of the intersection of Jefferson Avenue and Winchester Road, approximately 600 feet west of the Interstate-15 freeway.
- The Site is a car wash business. No known USTs remain onsite.
- Nature of Contaminants of Concern: Petroleum hydrocarbons and fuel oxygenates.
- Primary Source of Release: UST System.
- Discovery Date: 2002
- Release Type: Petroleum<sup>2</sup>.
- Free Product: None reported.

Table A: USTs

Tank No.	Size	Contents	Status	Date
1	10,000-gallon	Gasoline	Removed	2002
2	10,000-gallon	Gasoline	Removed	2002

### Receptors

- Groundwater Basin: Temecula Valley (9-5)
- Groundwater Beneficial Uses: Municipal and domestic water supply (MUN), agricultural water supply (AGR), industrial service water supply (IND), and industrial process water supply (PRO).
- Designated Land Use: General Commercial (GC)
- Public Water System: Rancho California Water District (RCWD)
- Distance to Nearest Surface Water: The nearest surface water body is Santa Gertrudis Creek located approximately 900 feet north of the Site.
- Distance to Nearest Supply Wells: RCWD public supply well #106 is located approximately 2,800 feet to the northeast. RCWD public supply well #205 is located approximately 3,500 feet to the east.

### Geology/Hydrogeology

- Average Groundwater Depth: Approximately 23 feet below ground surface (bgs).
- Minimum Groundwater Depth: 22.13 feet bgs.
- Groundwater flow direction: Southeast
- Geology: The Site is located within the Elsinore-Temecula Trough and is within the northwest-southeast striking Elsinore fault zone that extends beneath the northwest-southeast trending Temecula Valley. Holocene alluvium deposits that regionally fill the valley consist of unconsolidated gravel, sand, silt and clay. Geology observed at the Site consists of asphalt/concrete underlain by silt and clay to approximately 15 feet bgs and interbedded silt and sand from approximately 15 to a maximum explored depth of 40 feet bgs.

<sup>2</sup> "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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- Hydrology: The Site is located in the Santa Margarita Watershed. Santa Gertrudis Creek flows to the southwest to Murrieta Creek, hence flows to the southeast to Temecula Creek, hence flows to the west to Santa Margarita River and continues to the southwest to the Pacific Ocean.
- Hydrogeology: Groundwater beneath the Site is unconfined.

**Corrective Action**

- In 2002, two USTs were removed. An unknown quantity of petroleum impacted soil was over-excavated and disposed off-site at the time of the UST removal.

**Table B: Concentrations of Petroleum Constituents in Soil**

Constituent	Maximum 0-5 ft. bgs (mg/kg)	Maximum 5-10 ft. bgs (mg/kg)
Benzene	< 2.5	< 0.005
Ethylbenzene	3.52	<0.005
Naphthalene	NA	NA
Polyaromatic Hydrocarbons (PAHs)	NA	NA

bgs = below ground surface

ppm = parts per million

PAHs = Poly-aromatic hydrocarbons as benzo (a) pyrene toxicity equivalent

< = less than the indicated reporting limit

NA = Not analyzed

**Table C: Most Recent Groundwater Sampling Results**

Sample	Last Sample Date	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TAME (µg/L)
MW-1	12/12/12	< 50	< 0.5	< 0.5	< 0.5	< 0.6	< 1	< 1
MW-2	12/20/12	< 50	< 0.5	< 0.5	< 0.5	< 0.6	< 1	< 1
MW-3	12/20/12	< 50	< 0.5	< 0.5	< 0.5	< 1.0	<b>14</b>	< 1
MW-4	12/20/12	< 50	< 0.5	< 0.5	< 0.5	< 0.6	<b>76</b>	< 1
MW-5	12/20/12	< 50	< 0.5	< 0.5	< 0.5	< 0.6	< 1	< 1
DP-1*	11/13/08	< 100	< 0.5	< 0.5	< 0.5	< 0.5	<b>26</b>	< 1
<b>WQOs</b>		--	<b>1</b>	<b>150</b>	<b>300</b>	<b>1,750</b>	<b>5</b>	--

µg/L= micrograms per liter

TPHg = Total Petroleum Hydrocarbons quantified as gasoline

MTBE = methyl tert-Butyl ether

TAME = tert-Amyl methyl ether

< = less than the indicated reporting limit

**Bolded** concentrations exceed the WQO.

**Groundwater Trends:**

- Reported concentrations of petroleum hydrocarbons at the Site have demonstrated stable to decreasing trends over time.



### Evaluation of Risk Criteria

- Maximum Petroleum Constituent Plume Length above WQOs: Approximately 170 to 200 feet.
- Petroleum Constituent Plume Determined Stable or Decreasing: Yes
- Soil/Groundwater Sampled for MTBE: Yes, see Table C above.
- Residual Petroleum Constituents Pose Significant Risk to the Environment: No.  
Residual Petroleum Constituents Pose Significant Vapor Intrusion Risk to Human Health:  
No – Petroleum constituents most likely to pose a threat for vapor intrusion were removed during soil excavation and over-excavation. Site conditions demonstrate that the residual petroleum constituents in soil and groundwater are protective of human health.
- Residual Petroleum Constituents Pose a Nuisance<sup>3</sup> at the Site: No.
- Residual Petroleum Constituents in Soil Pose Significant Risk of Adversely Affecting Human Health: No. Site-specific conditions satisfy all applicable characteristics and criteria for petroleum vapor intrusion to indoor-air under class a. scenario 3.
- Residual Petroleum Constituents Pose Significant Direct Contact and Outdoor Air Exposure to Human Health: No. Maximum concentrations of petroleum constituents in soil (since 2009) are less than or equal to those listed in Table 1. There are no soil sample results in the case record for naphthalene. However, 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% benzene and 0.25% 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.

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<sup>3</sup> Nuisance as defined in California Water Code, section 13050, subdivision (m).

**FIGURE 1: MTBE IN GROUNDWATER, December 2012**  
 Rancho Car Wash, 27378 Jefferson Avenue, Temecula

