

State Water Resources Control Board

UST CASE CLOSURE SUMMARY

Agency Information

Agency Name: Orange County Division of Environmental Health (Agency)	Address: 1241 E. Dryer Road Suite 120 Santa Ana, CA 92705
Agency Caseworker: Ms. Shyamala Kalyanasundaram	Case No.: 00UT005

Case Information

USTCF Claim No.: 18785	Global ID: T0605999023
Site Name: CR&R, Inc.	Address: 11292 Western Avenue Stanton, CA 90680 Orange County (Site)
Petitioner: CR&R, Inc. Attention: Mr. Paul Relis	Address: 11292 Western Avenue Stanton, CA 90680
USTCF Expenditures to Date: \$0	Number of Years Case Open: 15

URL: [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T0605999023](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605999023)

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 five underground storage tanks (USTs) and product lines were removed in September 1998. The former USTs and product lines were replaced with two USTs. Remediation by dual phase extraction (DPE) was conducted between February 2005 and September 2008. DPE removed approximately 170 pounds of gasoline in vapor and extracted approximately 15,100 gallons of groundwater. The Site is operated as an active fueling facility.

The petroleum release is limited to the shallow soil and groundwater within the Site boundary. The nearest surface water body is the Pacific Ocean located nearly 5 miles southwest of the Site. The nearest public supply wells regulated by the California Department of Public Health are located over 1,700 feet southeast of the Site. Public water is supplied by the Metropolitan Water District of Southern California. The affected groundwater is not currently being used as a source of drinking water or any other designated beneficial use, and it is highly unlikely that the affected groundwater will be used as a source of drinking water or any other beneficial use in the foreseeable future. Public supply wells are

usually constructed with competent sanitary seals. Production intervals are in deeper protected aquifers. Remaining petroleum constituents are limited, stable, and declining. Remedial actions have been implemented and additional corrective action would be ineffective and expensive. Additional assessment/monitoring will not likely change the conceptual model. 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 2**. The contaminant plume that exceeds water quality objectives is less than 250 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 3,000 micrograms per liter ( $\mu\text{g/L}$ ), and the dissolved concentration of MTBE is less than 1,000  $\mu\text{g/L}$ .
- Petroleum Vapor Intrusion to Indoor Air – Site meets the **EXCEPTION**. The Site operates as an active commercial fueling facility and has no release characteristics that can be reasonably believed to pose an unacceptable health risk.
- Direct Contact and Outdoor Air Exposure – Site meets **CRITERIA (3) b**. A Site-specific risk assessment from exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

**Objections to Closure**


Agency does not object to UST case closure.

**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:   
Charlow Arzadon  
Water Resource Control Engineer

7/12/13  
Date

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

7/12/13  
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></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><b>Does the unauthorized release consist only of petroleum?</b></p> <p><b>Has the unauthorized (“primary”) release from the UST system been stopped?</b></p> <p><b>Has free product been removed to the maximum extent practicable?</b></p> <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><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 <input type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</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 soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code, Section 25296.15?</b></p> <p><b>Does nuisance as defined by Water Code, section 13050 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 type="checkbox"/> Yes <input checked="" 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 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 water quality objectives stable or decreasing in areal extent?</b></p> <p><b>Does the contaminant plume that exceeds water quality objectives 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 checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input 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><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 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><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</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>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 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 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 type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" 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>

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

### Site Location/History

- Location: The Site is located at the intersection of Western Avenue and Lincoln Way in Stanton. The Site is operating as an active fueling facility.
- Surrounding Land Usage: The Site is bounded by commercial properties.
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Primary Source of Release: UST system.
- Discovery Date: 1998.
- Release Type: Petroleum<sup>2</sup>.
- Investigation: Seven monitoring wells have been installed.
- Free Product: Measurable free product has not been observed since 2005.

**Table A: USTs Removed in 1998**

Tank No.	Size	Contents	Status	Date
1	10,000-gallon	Diesel	Removed	1998
2	10,000-gallon	Diesel	Removed	1998
3	10,000-gallon	Diesel	Removed	1998
4	5,000-gallon	Gasoline	Removed	1998
5	500-gallon	Waste Oil	Removed	1998

### Receptors

- Groundwater Basin: Santa Ana River – Lower Santa Ana River – East Coastal Plain (80111)
- Groundwater Beneficial Uses: Municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PROC).
- Designated Land Use: General Commercial.
- Public Water System: Metropolitan Water District of Southern California.
- Distance to Nearest Supply Wells: Supply well is greater than 1,000 feet southwest.
- Distance to Nearest Surface Waters: Pacific Ocean is located greater than 1,000 feet southeast.

### Geology/Hydrogeology

- Average Groundwater Depth: ~14 feet bgs.
- Minimum Groundwater Depth: ~13 feet bgs.
- Groundwater Flow Direction: Southwesterly to northwesterly.
- Geology: The Site is generally underlain by fine-to-medium sand and sandy silt to the depth of 16 feet bgs, silty clay from approximately 16 to 21 feet bgs, silty sands from approximately 21 to 26 feet bgs.
- Hydrology: The Site consists of two water-bearing zones. The nearest surface water body is the Pacific Ocean located nearly 5 miles southwest of the Site.

<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 & Safety Code, § 25299.2)

**Corrective Actions**

- Five USTs were removed and replaced with two 15,000-gallon USTs in 1998.
- Weekly manual bailing of free product between 2003 and 2005.
- Dual Phase Extraction was active between February 2005 and September 2008.

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

Constituent	Maximum 0-5 ft. bgs (mg/kg)	Maximum 5-10 ft. bgs (mg/kg)
Benzene	10.802	4.361
Ethylbenzene	26.818	11.242
Naphthalene	Not Analyzed	Not Analyzed
PAHs*	Not Analyzed	Not Analyzed

\*Poly-aromatic hydrocarbons as benzo(a)pyrene toxicity equivalent

**Table C: Concentrations of Petroleum Constituents of Concern in Groundwater**

Sample	Sample Date	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-1S	3/12/13	125	<500	1.5	<0.5	<0.5	<1	7.7	<b>1170</b>
MW-1D	12/5/12	<50	<500	<0.5	<0.5	<0.5	<1	<1	<10
MW-2	12/5/12	<50	<500	<0.5	<0.5	<0.5	<1	5.8	<10
MW-3	12/5/12	<50	<500	<0.5	<0.5	<0.5	<1	<1	<10
MW-4	3/12/13	<50	<500	0.7 <sup>J</sup>	<0.5	1.5	<1	2.5	84.3
MW-5	3/12/13	<50	<500	<0.5	<0.5	<0.5	<1	29.2	<10
MW-6	12/5/12	<50	<500	<0.5	<0.5	<0.5	<1	2.5	<10
DP-1	3/12/13	50 <sup>J</sup>	<500	<0.5	<0.5	<0.5	<1	1.7	<b>719</b>
<b>WQOs</b>	-	-	-	<b>250<sup>1</sup></b>	-	-	-	<b>500<sup>1</sup></b>	<b>500<sup>1</sup></b>

WQOs - Water Quality Objectives

**Bold** = above WQOs

ppb = parts per billion

TPHg = Total Petroleum Hydrocarbons quantified as gasoline

TPHd = Total Petroleum Hydrocarbons quantified as diesel

MTBE = methyl tert-Butyl ether

< = less than the indicated reporting limit

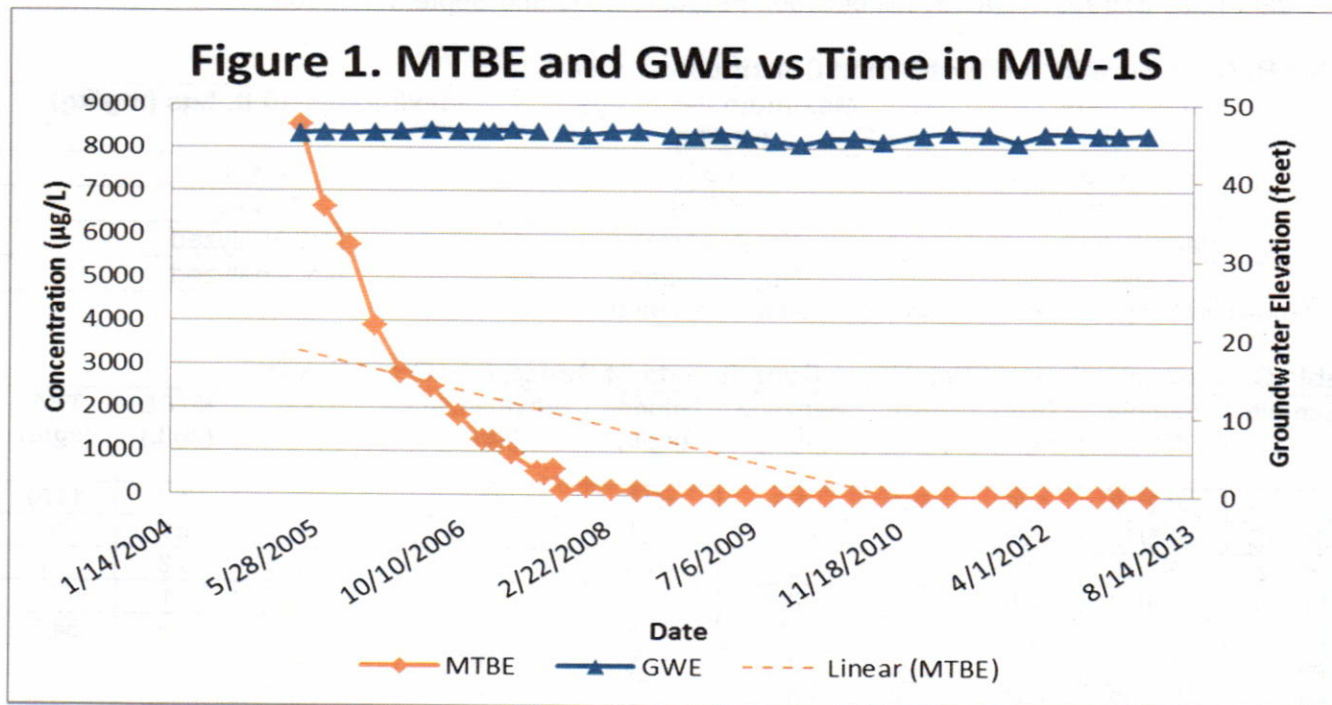
<sup>J</sup> = estimated value; denotes a value between the method detection limit and reporting limit

<sup>1</sup> = Santa Ana Regional Water Quality Control Board Low-Risk Level



**Groundwater Trends:**

Reported concentrations of benzene at the Site have demonstrated stable or decreasing trends over time since 2005.



**Evaluation of Risk Criteria**

- Maximum Petroleum Constituent Plume Length above WQOs: Benzene in groundwater plume is ~120 feet in length.
- 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 – Site meets the exception. The Site operates as an active commercial fueling facility and has no release characteristics that can be reasonably believed to pose an unacceptable health risk.
- 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.
- Residual Petroleum Constituents Pose Significant Direct Contact and Outdoor Air Exposure to Human Health: No – Site meets criteria (3) b. A Site-specific risk assessment from exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health. There are no soil samples 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

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



CR&R, Inc.  
11292 Western Ave, Stanton

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.

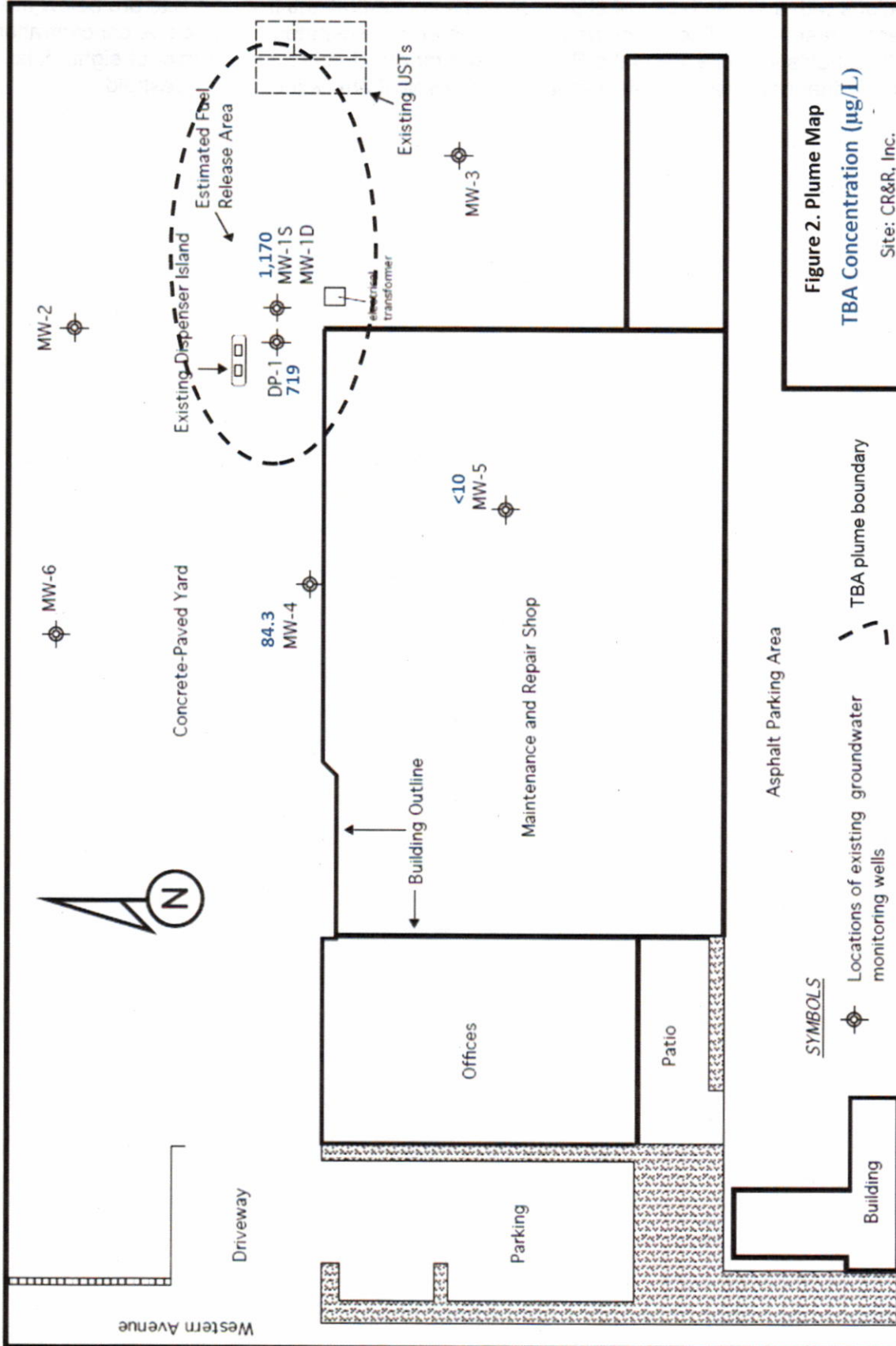


Figure 2. Plume Map

TBA Concentration ( $\mu\text{g/L}$ )

Site: CR&R, Inc.  
 11292 Western Avenue  
 Stanton, California

Drawn by: D.M.S. Date: 9/29/10 Proj. No. 3781



Figure modified by SWRCB.