

## State Water Resources Control Board

### UST CASE CLOSURE SUMMARY

#### Agency Information

Current Agency Name: State Water Resources Control Board (State Water Board)	Address: 1001 I Street, P.O. Box 2231 Sacramento, CA 95812
Current Agency Caseworker: Mr. Matthew Cohen	Case No.: N/A

Former Agency Name: Los Angeles County Department of Public Works (Prior to 7/1/2013)	Address: 900 South Fremont Avenue, Alhambra, CA 91803
Former Agency Caseworker: Mr. Rani Iyer	Case No.: 011061-038342

#### Case Information

USTCF Claim No.: None	Global ID: T10000000568
Site Name: ConocoPhillips No. 256228	Site Address: 9093 Imperial Highway Downey, CA 90242
Responsible Parties: ConocoPhillips Company Attention: Ms. Holly Quasem	Address: 3900 Kilroy Airport Way Suite 210 Long Beach, CA 90806
USTCF Expenditures to Date: None	Number of Years Case Open: 5

URL: [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T10000000568](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000000568)

#### 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 Case meets all of the required criteria of the Policy. A summary evaluation of compliance with the Low-Threat Policy is shown in **Attachment 1: Compliance with State Water Board Policies and State Law**. The Conceptual Site Model (CSM) upon which the evaluation of the Case has been made is described in **Attachment 2: Summary of Basic Site Information**. Highlights of the CSM of the Case are as follows:

The release at the Site was discovered when the former underground storage tanks (USTs) were removed from the Site in January 1996. During the UST removals, impacted soil was over-excavated to approximately 17 feet bgs beneath the former gasoline UST basin. Approximately 662 tons of impacted soil was over-excavated beneath waste oil and gasoline USTs. Free product was not encountered. Post remediation soil samples indicate that residual petroleum constituent concentrations were low to non-detectable. Soil samples collected down to 35 feet bgs during 2007 indicate that petroleum concentrations were also low to non-detectable. Five soil borings advanced during 2009 encountered groundwater at 55.5 feet bgs, however groundwater grab samples were not collected due to the absence of a groundwater sampling permit. All soil samples collected between 35 and 55 feet

bgs near the tank area were non-detectable for petroleum constituents. The Site overlies alluvial deposits consisting predominantly of interbedded clay mixtures, silty sands, and clayey sands to a depth of approximately 30 feet bgs, predominantly clay with interbedded silty sands between 30 and 35 feet bgs, and interbedded poorly graded sand, silty sands, clayey sands, clay mixtures between 35 and 55 feet bgs.

The petroleum constituent release is limited to the shallow soil to a depth of approximately 35 feet bgs. The closest surface water body is the Los Angeles River located over 12,000 feet west of the Site. The regional groundwater flow direction is south. The closest supply wells are located approximately 350 feet southeast (crossgradient) and 400 feet east of the Site. Public supply wells are usually constructed with competent sanitary seals and intake screens that are in deeper more protected aquifers. Remaining petroleum constituents in soil are limited. Remedial actions have been implemented and additional corrective action would be unnecessary. Additional assessment/monitoring will not likely change the CSM. 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 releases **HAVE NOT AFFECTED GROUNDWATER**. Soil does not contain sufficient mobile constituents [leachate, vapors, or light non-aqueous-phase liquids (LNAPL)] to cause groundwater to exceed the groundwater criteria in this Policy.
- Petroleum Vapor Intrusion to Indoor Air – Site meets **EXCEPTION**. Exposure to petroleum vapors associated with historical fuel system releases are comparatively insignificant relative to exposures from small surface spills and fugitive vapor releases that typically occur at active fueling facilities.
- Direct Contact and Outdoor Air Exposure – Site meets **CRITERIA (3) a**. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1. The estimated naphthalene concentrations are less than the thresholds in Table 1 of the Policy for direct contact. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

### Objections to Closure

Los Angeles County Department of Public Works objected to UST case closure because:

1. Additional assessment is requested near the tank area.  
**RESPONSE:** Based on soil samples collected during 2007 and 2009, concentrations of residual petroleum constituents in soil were low to non-detectable in soil between the surface and approximately 35 feet bgs. All soil samples collected between 35 and 55 feet bgs near the tank area were non-detectable for petroleum constituents. The lateral extent of soil contamination is delineated by borings B-4 through B-10. Groundwater was encountered at 55 feet bgs during 2009 site assessment. It is highly unlikely that groundwater has been affected by the release.

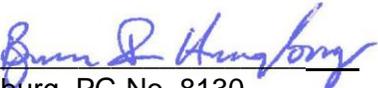
ConocoPhillips No. 256228  
9093 Imperial Highway, Downey

**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

9/3/2013  
Date

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

9/3/2013  
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>General Criteria</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><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 type="checkbox"/> No <input checked="" type="checkbox"/> NA</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 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>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 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 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, does soil contain sufficient mobile constituents (leachate, vapors, or light non-aqueous phase liquids) to cause groundwater to exceed the groundwater criteria?</b></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><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input 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 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 at the northwest corner of the intersection of Columbia Way and Imperial Highway in Downey, California.
- The Site is currently operated as an active fueling station.
- The Site is bounded by commercial facilities.
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Primary Source of Release: UST system.
- Discovery Date: 1996.
- Release Type: Petroleum<sup>2</sup>
- Free Product: None observed.

**Table A. USTs:**

Tank No.	Size	Contents	Status	Date
1	280 gallon	Waste Oil	Removed	1996
2	10,000 gallon	Gasoline	Removed	1996
3	10,000 gallon	Gasoline	Removed	1996

### Receptors

- Groundwater Basin: Coastal Plain Of Los Angeles – Central (4-11.04).
- Groundwater Beneficial Uses: Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).
- Designated Land Use: Commercial.
- Public Water System: Park Water Company – Bellflower/Norwalk Water System.
- Distance to Nearest Surface Waters: Los Angeles River is located over 12,000 feet west of the Site.
- Distance to Nearest Supply Wells: Supply wells are located 350 feet southwest and 400 feet east of the Site.

### Geology/ Hydrogeology

- Average Groundwater Depth: Approximately 55 feet below surface grade (bgs).
- Minimum Groundwater Depth: Approximately 55 feet bgs
- Groundwater Flow Direction: Southerly (Regional)
- Geology: The Site overlies alluvial deposits consisting predominantly of interbedded clay mixtures, silty sands, and clayey sands to a depth of approximately 30 feet bgs, predominantly clay with interbedded silty sands between 30 and 35 feet bgs, and interbedded poorly graded sand, silty sands, clayey sands, clay mixtures between 35 and 55 feet bgs.
- Hydrogeology: Groundwater beneath the Site is unconfined to semi-confined and exists in both the fill and alluvium and within low permeable fractures in the underlining bedrock.

<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.)

**Corrective Actions**

- Three USTs removed from the Site in 1996.
- During the 1996 UST system removal, approximately 662 tons of impacted soils were removed from the Site.

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

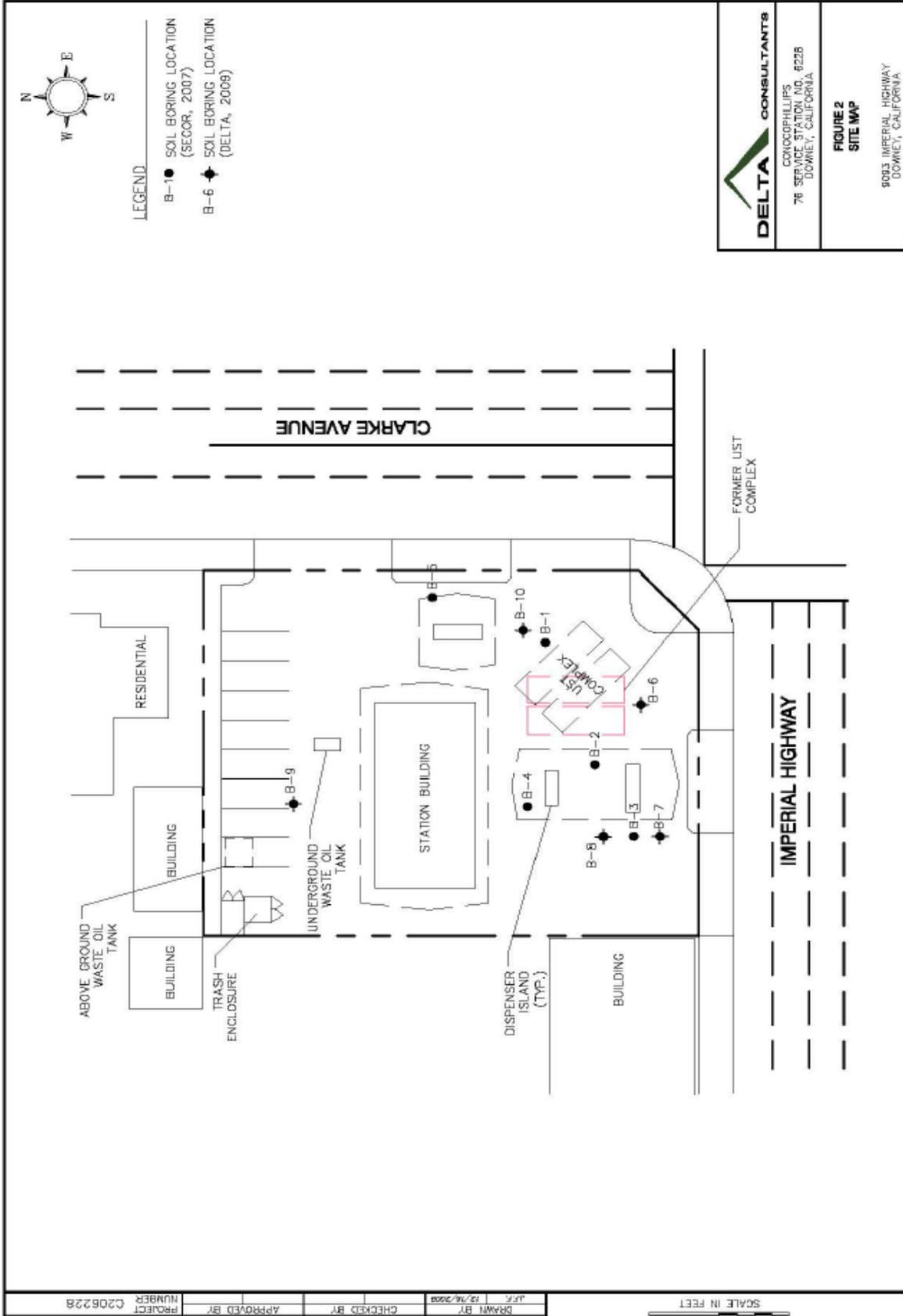
Constituent	Maximum 0-5 feet bgs (mg/kg)	Maximum 5-10 feet bgs (mg/kg)
Benzene	<0.0058	<0.0046
Ethylbenzene	<0.0058	<0.0046
Naphthalene	Not Analyzed	Not Analyzed
PAHs*	Not Analyzed	Not Analyzed

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

**Evaluation of Risk Criteria**

- Maximum Petroleum Constituent Plume Length above WQOs: N/A.
- Petroleum Constituent Plume Determined Stable or Decreasing: N/A.
- Soil/Groundwater Sampled for MTBE: Yes.
- Residual Petroleum Constituents Pose Significant Risk to the Environment: No
- Residual Petroleum Constituents Pose Significant Vapor Intrusion Risk to Human Health: No.
- 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 – 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 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.

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



PROJECT NUMBER C206228	APPROVED BY	CHECKED BY	DRAWN BY	DATE 12/16/2008
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