STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2014-0043 – UST

In the Matter of Underground Storage Tank Case Closure

Pursuant to Health and Safety Code Section 25299.39.2 and the Low Threat Underground Storage Tank Case Closure Policy

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BY THE EXECUTIVE DIRECTOR[1]:

Pursuant to Health and Safety Code section 25299.39.2, the Manager of the Underground Storage Tank Cleanup Fund (Fund) recommends closure of the underground storage tank (UST) case at the site listed below.[2] The name of the Fund claimant, the Fund claim number, the site name and the applicable site address are as follows:

Chevron Products Company
Claim No. 4861
Chevron #9-5568
12541 Seal Beach Boulevard, Seal Beach

Orange County Environmental Health Department

I. STATUTORY AND PROCEDURAL BACKGROUND

Section 25299.39.2 directs the Fund manager to review the case history of claims that have been active for five years or more (five-year review), unless there is an objection from the UST owner or operator. This section further authorizes the Fund Manager to make recommendations to the State Water Resources Control Board (State Water Board) for closure of a five-year-review case if the UST owner or operator approves. In response to a recommendation by the Fund Manager, the State Water Board, or in certain cases the State Water Board Executive Director, may close a case or require the closure 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:

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[1] 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.

[2] Unless otherwise noted, all references are to the Health and Safety Code.

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.

The Fund Manager has completed a five-year 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 Review Summary Report 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 Review Summary Report.

A. 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 closure letter as specified in Health and Safety Code section 25296.10. The 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 closure letter or a Letter of Commitment, whichever occurs later, shall not be reimbursed unless specified conditions are satisfied. A Letter of Commitment has already been issued on the claim subject to this order and the respective Fund claimant, so the 365-day timeframe for the submittal of claims for corrective action costs will start upon the issuance of the closure letter.

II. FINDINGS

Based upon the UST Case Closure Review Summary Report 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:

Claim No. 4861
Chevron #9-5568

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.

The unauthorized release from the UST consisted only of petroleum. This order directs closure for the petroleum UST case at the site.

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 Board in determining that the case should be closed.

Pursuant to section 21080.5 of the Public Resources Code, environmental impacts associated with the adoption of this Order were analyzed in the substitute environmental document (SED) the State Water Board approved on May 1, 2012. The SED concludes that all environmental effects of adopting and implementing the Low threat Closure Policy are less than significant, and environmental impacts as a result of complying with the Policy are no different from the impacts that are reasonably foreseen as a result of the Policy itself. A Notice of Decision was filed August 17, 2012. No new environmental impacts or any additional reasonably foreseeable impacts beyond those that were not addressed in the SED will result from adopting this Order.

The UST case identified above may be the subject of orders issued by the Regional Water Quality Control 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 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 closure letter, the Fund claimant 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 on page 1 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 Fund claimant 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 Financial Assistance shall issue a closure letter consistent with Health and Safety Code section 25296.10,

subdivision (g) and upload the closure letter and UST Case Closure Review Summary Report 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 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, subdivisions (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 closure letter in order for the costs to be considered.

F. Any Regional Water Board or Local Oversight Program 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 Local Oversight Program Agency directive is inconsistent with this Order.

Thomas Howard
Executive Director

3/24/14
Date

REVISED
UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Orange County Environmental Health Department (County)	Address: 1241 East Dyer Road, Suite 120 Santa Ana, CA 92705
Agency Caseworker: Kevin Lambert	Case No.: 86UT028

Case Information

USTCF Claim No.: 4861	GeoTracker Global ID: T0605940167
Site Name: Chevron #9-5568	Site Address: 12541 Seal Beach Blvd. Seal Beach, CA 90740
Responsible Party: Chevron Products Company Attn: Daryl Pessler, Chevron Environmental Management Company	Address: 145 S. State College Blvd., 5th Floor Brea, CA 92821
USTCF Expenditures to Date: $1,490,000	Number of Years Case Open: 19

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605940167

Summary

The Low-Threat Underground Storage Tank (UST) 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 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 Case Information (Conceptual Site Model).** Highlights of the case follow:

This case is a former active commercial petroleum fueling facility, and is currently being redeveloped as a Rite Aid. An unauthorized release was reported in July 1994 following the removal of five USTs (three gasoline, one diesel and one waste oil UST). One additional waste oil UST was removed in July 1990, four more USTs (three gasoline and one waste oil) were removed in April 2011 and one additional 450-gallon waste oil tank was removed during property redevelopment in October 2013. Soil excavations removed approximately 3,000 cubic yards of impacted soil in 1994 and 2011 during the UST removals. Another soil excavation from July to October 2011 removed approximately 4,214 cubic yards of soil. An unknown volume of soil was removed during the 2013 waste oil tank removal. Soil vapor extraction removed approximately 8,500 pounds of gasoline between 1995 and 2009. Dual phase extraction and air sparging were performed at the Site from 2000 to 2010. Since 1992, 21 groundwater monitoring wells had been installed and monitored. Prior to excavation a total of 18 onsite wells were abandoned. Currently only three downgradient monitoring wells remain and being sampled after soil excavation and Site

demolition. The three downgradient monitoring wells are all below water quality objectives for all petroleum hydrocarbon constituents.

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are no supply wells regulated by the California Department of Public Health within 1,000 feet of the defined plume boundary. One irrigation well and an artificial lake have been identified approximately 900 feet southeast and downgradient of the defined plume boundary in files reviewed. Water is provided to water users near the Site by Golden State Water Company. The affected groundwater is not currently being used as a source of drinking water, and it is highly unlikely that the affected groundwater will be used as a source of drinking water in the foreseeable future.

Other designated beneficial uses of impacted groundwater are not threatened, and it is highly unlikely that they will be, considering these factors in the context of the site setting. Remaining petroleum hydrocarbon constituents are limited and stable and concentrations are decreasing. Corrective actions have been implemented and additional corrective actions are not necessary. Any remaining petroleum hydrocarbon constituents do not pose a significant risk to human health, safety or the environment.

Rationale for Closure under the Policy

- General Criteria: The case meets all eight Policy general criteria.
- Groundwater Specific Criteria: The case meets Policy Criterion 1 by Class 5. Extensive soil excavations were performed at the source areas down to 23 to 27 feet below surface (SAIC, December 2011). Soil samples collected at the bottoms of the excavations showed petroleum constituent concentrations below detection limits or at very low remaining levels. Therefore, the residual groundwater contaminant plume, if present, does not pose significant risk to the irrigation well and artificial lake approximately 900 feet downgradient from the Site. The contaminant plume that exceeds water quality objectives is less than 250 feet in length. There is no free product.
- Vapor Intrusion to Indoor Air: The case meets Policy Criterion 2b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from exposure through the vapor intrusion pathway was performed by Fund staff. The assessment found that there is no significant risk of petroleum vapors adversely affecting human health. Over 7,200 cubic yards of impacted soil in the source areas were excavated down to 23 to 27 feet bgs, removed from the Site and replaced with clean fill.
- Direct Contact and Outdoor Air Exposure: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial use, and the concentration limits for a Utility Worker are not exceeded.

Objections to Closure and Responses

In a letter dated September 7, 2012, the County objected to UST case closure because:

- An irrigation well is located approximately 900 feet downgradient from the Site is screened from 150 feet to 300 feet below ground surface, and large volumes of water are pumped periodically from this well.
  RESPONSE: Downgradient wells MW-8, MW-9, and MW-15 have reported no detectable concentrations of petroleum hydrocarbons since 2001, 2002 and 2009, respectively. This provides 800 foot buffer laterally from these sentinel wells, two of which were installed years prior to the second over-excavation. It can be reasonably assumed that no petroleum hydrocarbons were migrating prior to over-excavation.

- The County approved a workplan to reinstall four monitoring wells to evaluate the effectiveness of the soil excavation conducted between July and October 2011, and requested the installation of two additional depth-discrete groundwater monitoring wells to determine if a diving plume was present between the Site and the downgradient production wells.
  RESPONSE: Due to the extensive excavation and removal of the impacted soil in the source areas down to below the first groundwater table, and soil samples collected at the bottoms of the excavations showing petroleum constituent concentrations below detection limits or at very low residual concentrations, any residual groundwater plume does not pose significant risk to the irrigation well.

Determination
Based on the review performed in accordance with Health & Safety Code Section 25299.39.2 subdivision (a), the Fund Manager has determined that closure of the case is appropriate.

Recommendation for Closure
Based on available information, residual petroleum hydrocarbons at the Site do not pose a significant risk to human health, safety, or the environment, and the case meets the requirements of the Policy. Accordingly, the Fund Manager recommends that the case be closed. The State Water Board is conducting public notification as required by the Policy. Orange County has the regulatory responsibility to supervise the abandonment of monitoring wells.

Lisa Babcock — 12/16/13

Lisa Babcock, P.G. 3939, C.E.G. 1235 — **Date**

Prepared by: James Young, R.C.E. #60266

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

The case complies with the 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 case complies with the requirements of the Low-Threat Underground Storage Tank (UST) Case Closure Policy as described below.[1]

Is corrective action consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations? 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 site 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.	☒ Yes ☐ No
Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this case?	☐ Yes ☒ No
If so, was the corrective action performed consistent with any order?	☐ Yes ☐ No ☒ NA
General Criteria General criteria that must be satisfied by all candidate sites:	
Is the unauthorized release located within the service area of a public water system?	☒ Yes ☐ No
Does the unauthorized release consist only of petroleum?	☒ Yes ☐ No
Has the unauthorized ("primary") release from the UST system been stopped?	☒ Yes ☐ No
Has free product been removed to the maximum extent practicable?	☐ Yes ☐ No ☒ NA
Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?	☒ Yes ☐ No

[1] Refer to the Low-Threat Underground Storage Tank Case Closure Policy for closure criteria for low-threat petroleum UST sites.
http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf

Has secondary source been removed to the extent practicable?	☒ Yes ☐ No
Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?	☒ Yes ☐ No
Nuisance as defined by Water Code section 13050 does not exist at the Site?	☒ Yes ☐ No
Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?	☐ Yes ☒ No
Media-Specific Criteria Candidate sites must satisfy all three of these media-specific criteria: **1. Groundwater:** 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:	
Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?	☒ Yes ☐ No ☐ NA
Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites?	☒ Yes ☐ No ☐ NA
If YES, check applicable class: ☐ **1** ☐ **2** ☐ **3** ☐ **4** ☒ **5**	
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?	☐ Yes ☐ No ☒ NA
2. Petroleum Vapor Intrusion to Indoor Air: 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.	
Is the Site an active commercial petroleum fueling facility? 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.	☐ Yes ☒ No
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?	☐Yes ☐ No ☒ NA

If YES, check applicable scenarios: ☐ **1** ☐ **2** ☐ **3** ☐ **4**	
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?	☒ Yes ☐ No ☐ NA
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?	☐ Yes ☐ No ☒ NA
3. Direct Contact and Outdoor Air Exposure: 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).	
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)?	☒ Yes ☐ No ☐ NA
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?	☐ Yes ☐ No ☒ NA
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?	☐ Yes ☐ No ☒ NA

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

Site Location/History

- This case is located on the northwest corner of Seal Beach Boulevard and St. Cloud Drive in Seal Beach. It was an active commercial petroleum fueling facility until January 2011, when the Site demolition began. The Site is being redeveloped as a Rite Aid store October 2013.
- The Site is bounded by a fast food restaurant to the north, an office building to the west, a shopping facility to the east across Seal Beach Boulevard, residential housing to the south across St. Cloud Drive, and Old Ranch Golf Course to the southeast across Seal Beach Boulevard.
- Site map showing the location of the former USTs, monitoring wells and groundwater level contours is provided at the end of this closure review summary (SAIC, 2013).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: July 1994.
- Status of Release: USTs removed.
- Free Product: None reported.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	12,000	Gasoline	Removed	April 2011
2	12,000	Gasoline	Removed	April 2011
3	12,000	Gasoline	Removed	April 2011
4	1,000	Waste Oil 1	Removed	April 2011
5	120	Waste Oil 2	Removed	April 2011
6	10,000	Gasoline	Removed	August 1994
7	7,000	Gasoline	Removed	August 1994
8	5,000	Gasoline	Removed	August 1994
9	2,000	Diesel	Removed	August 1994
10	Not available	Waste Oil	Removed	July 1990
11	450	Waste Oil	Removed	October 2013

Receptors

- GW Basin: Lower Santa Ana River Basin in the South Coastal Plain.
- Beneficial Uses: The Santa Ana Regional Water Quality Control Board (Regional Water Board) Basin Plan lists municipal and domestic supply.
- Land Use Designation: Aerial photograph available on GeoTracker indicates mixed residential and commercial land use in the vicinity of the Site.
- Public Water System: Golden State Water Company.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no public supply wells regulated by the California Department of Public Health within 1,000 feet of the defined plume boundary. One golf course irrigation well is located 900 feet downgradient of the defined plume boundary in the files reviewed.
- Distance to Nearest Surface Water: One golf course artificial lake is located 900 feet downgradient of the defined plume boundary in the files reviewed.

Geology/Hydrogeology

- Stratigraphy: Past assessment activities indicate that soils beneath the site consist primarily of inter-layered silts and clays, with lesser amounts of fine-grained sand to clean silts.
- Maximum Sample Depth: 35 feet below ground surface (bgs).
- Minimum Groundwater Depth: 7.01 feet bgs at monitoring well MW-11.
- Maximum Groundwater Depth: 21.43 feet bgs at monitoring well MW-10.
- Current Average Depth to Groundwater: Approximately 12 feet bgs.
- Saturated Zones(s) Studied: Approximately 7 to 35 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: South to southeast with an average gradient of 0.05 feet/foot (March 2013).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (03/11/2013)
MW-02A	1995	10-30	Destroyed
MW-03R	2003	10-30	Destroyed
MW-05	1992	7-27	Destroyed
MW-06	1992	12-32	Destroyed
MW-08	1992	12-32	12.60
MW-09	1992	7-27	11.65
MW-10	1992		Destroyed
MW-14	2009	5-29.5	Destroyed
MW-15	2009	5-29.5	10.90
RW-01	1992	10-34.6	Destroyed
EW-01	2006	9.5-29.5	Destroyed

Remediation Summary

- Free Product: None reported.
- Soil Excavation: Soil excavations removed up to 3,000 cubic yards of impacted soil in 1994 and 2011 during the UST removals, and another approximately 4,214 cubic yards in July to October 2011 during Site demolition.
- In-Situ Soil/Groundwater Remediation: Soil vapor extraction removed approximately 8,500 pounds of gasoline in 1995 and 2009. Dual phase extraction and air sparging were performed at the Site from 2000 to 2010.

Most Recent Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 feet bgs [mg/kg and (date)]	Maximum 5-10 feet bgs [mg/kg and (date)]
Benzene	<0.0020 (7/28/11)	<0.00048 (10/14/11)
Ethylbenzene	<0.0020 (7/28/11)	<0.00048 (10/14/11)
Naphthalene	<0.0011 (7/28/11)	<0.0011 (10/14/11)
PAHs	NA	NA

NA: Not Analyzed, Not Applicable or Data Not Available
mg/kg: Milligrams per kilogram, parts per million
<: Not detected at or above stated reporting limit
PAHs: Polycyclic aromatic hydrocarbons

Most Recent Concentrations of Petroleum Constituents in Groundwater

Sample	Sample Date	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-08	3/11/2013	<22	<0.5	<0.5	<0.5	<0.5	<0.5	<2
MW-09	3/11/2013	<22	<0.5	<0.5	<0.5	<0.5	<0.5	<2
MW-15	3/11/2013	<22	<0.5	<0.5	<0.5	<0.5	<0.5	<2
WQOs		--	**1**	**150**	**300**	**1,750**	**5[a]**	**1,200[b]**

µg/L: Micrograms per liter, parts per billion
<: Not detected at or above stated reporting limit
TPHg: Total petroleum hydrocarbons as gasoline
MTBE: Methyl tert-butyl ether
TBA: Tert-butyl alcohol
WQOs: Regional Water Board Basin Plan
--: Regional Water Board Basin Plan does not have a numeric water quality objective for TPHg
[a]: Secondary maximum contaminant level (MCL)
[b]: California Department of Public Health, Response Level

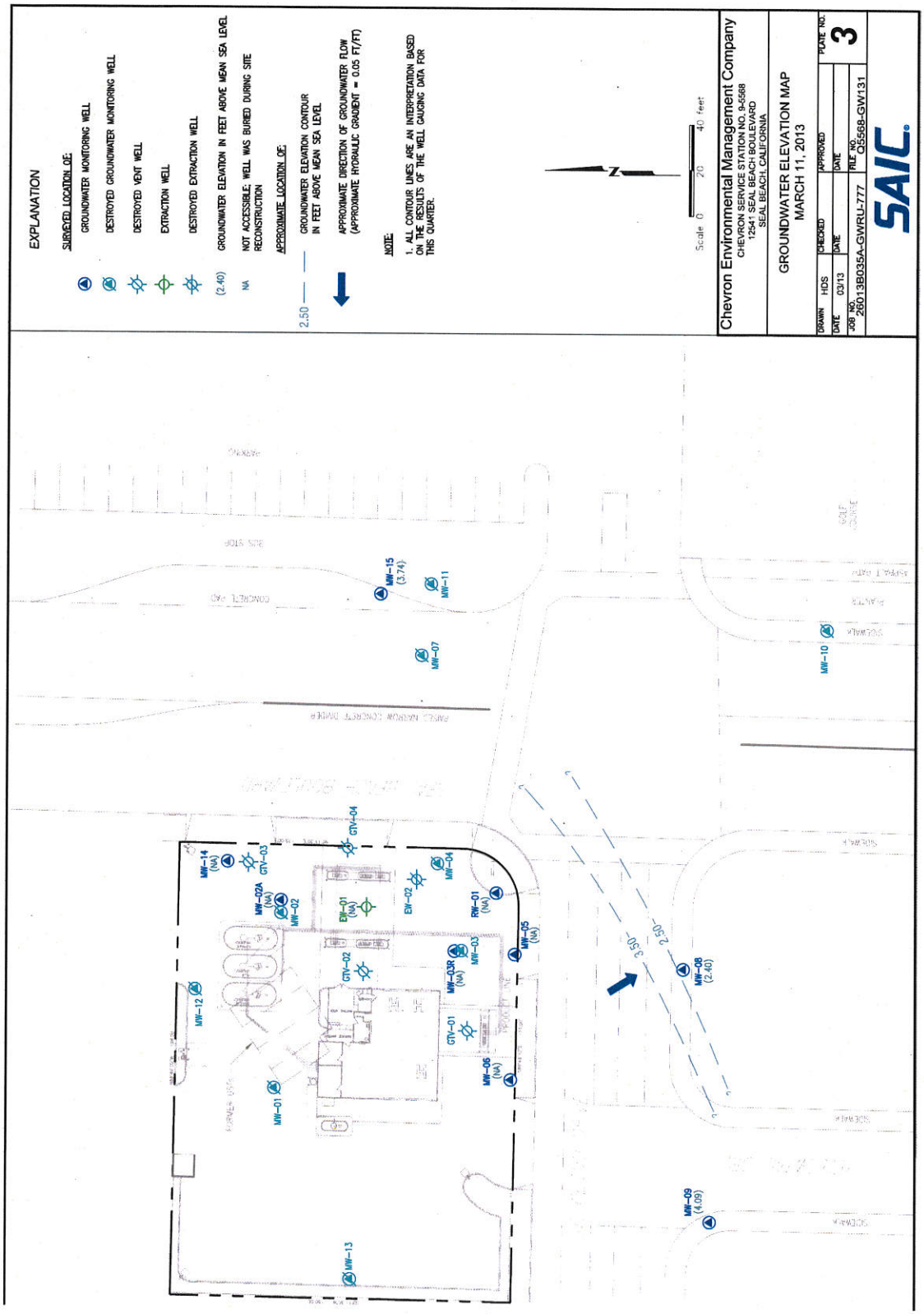
Groundwater Trends

Since 1992, 21 groundwater monitoring wells have been installed and monitored. Currently only three monitoring wells remain to sample. Other wells were destroyed after soil excavation and Site demolition in 2011. Petroleum concentrations have been below laboratory detection limits in the three remaining wells. Although groundwater petroleum hydrocarbon concentrations were above water quality objectives in several source wells prior to the 2011 soil excavation and Site demolition, the plume was stable and not migrating. The removal of an additional approximately 4,214 cubic yards of soil in the source area down to 23 to 27 feet below surface in 2011 further ensured the residual plume does not pose significant risk to human health and the environment. An unknown volume of soil was removed as the result of the October 2013 waste oil tank removal.

Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for methyl tert-butyl ether (MTBE): Yes, see table above.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <250 feet long.
- Plume Stable or Decreasing: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Specific Criteria: The case meets Policy Criterion 1 by Class 5. Extensive soil excavations were performed at the source areas down to 23 to 27 feet below surface (SAIC, December 2011). Soil samples collected at the bottoms of the excavations showed petroleum constituent concentrations below detection limits or at very low remaining levels. Therefore, the residual groundwater contaminant plume, if present, does not pose significant risk to the irrigation well and artificial lake approximately 900 feet downgradient from the Site. The contaminant plume that exceeds water quality objectives is less than 250 feet in length. There is no free product.
- Vapor Intrusion to Indoor Air: The case meets Policy Criterion 2b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from exposure through the vapor intrusion pathway shows that there to be no significant risk of petroleum vapors adversely affecting human health. Over 7,200 cubic yards of impacted soil in the source areas were excavated down to below the first groundwater table and removed from the Site.

- Direct Contact and Outdoor Air Exposure: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial use, and the concentration limits for a Utility Worker are not exceeded.


EXPLANATION
SURVEYED LOCATION OF:
GROUNDWATER MONITORING WELL
DESTROYED GROUNDWATER MONITORING WELL
DESTROYED VENT WELL
EXTRACTION WELL
DESTROYED EXTRACTION WELL
(2.40) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
NA NOT ACCESSIBLE; WELL WAS BURIED DURING SITE RECONSTRUCTION
APPROXIMATE LOCATION OF:
2.50 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL
APPROXIMATE DIRECTION OF GROUNDWATER FLOW (APPROXIMATE HYDRAULIC GRADIENT = 0.05 FT/FT)
NOTE:
1. ALL CONTOUR LINES ARE AN INTERPRETATION BASED ON THE RESULTS OF THE WELL GAUGING DATA FOR THIS QUARTER.
Scale 0 20 40 feet
Chevron Environmental Management Company
CHEVRON SERVICE STATION NO. 9-5568
12541 SEAL BEACH BOULEVARD
SEAL BEACH, CALIFORNIA
GROUNDWATER ELEVATION MAP
MARCH 11, 2013
PLATE NO. 3
DRAWN HDS CHECKED APPROVED
DATE 03/13 DATE DATE
JOB NO. 26013B035A-GWRU-777 FILE NO. Q5568-GW131
SAIC
MW-15 (3.74)
MW-11
MW-07
MW-10
GTV-04
GTV-03
MW-14 (NA)
MW-02A (NA)
MW-02
EW-01 (NA)
EW-02
MW-04
RW-01 (NA)
MW-05 (NA)
GTV-02
MW-03R (NA)
MW-03
MW-12
GTV-01
MW-06 (NA)
MW-01
MW-08 (2.40)
MW-09 (4.09)
MW-13