STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2013-0071 – 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:

Thrifty Oil Company
Claim No. 1807
Thrifty Oil #75
14121 Newport Boulevard, Tustin
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

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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.

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.

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. 1807

Thrifty Oil #75

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 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 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 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 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

8/19/13
Date

State Water Resources Control Board

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: Shyamala Kalyanasundaram	Case No.: 87UT015

Case Information

USTCF Claim No.: 1807	Global ID: T0605900512
Site Name: Thrifty Oil #075	Site Address: 14121 Newport Boulevard Tustin, CA 92680
Responsible Party: Thrifty Oil Company Attn: Chris Panaitescu	Address: 13116 Imperial Highway Santa Fe Springs, CA 90670
USTCF Expenditures to Date: $253,795	Number of Years Case Open: 26

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605900512

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 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:

An unauthorized leak was reported in December 1986 following the results of a preliminary site assessment. Four gasoline USTs were removed and replaced in July 1988. Soils excavated during the 1988 UST removal and during the 2001 tank sump and dispenser replacement were used as backfill and not removed from the Site. No free product was ever detected at the Site. From 1987 to 1993, ten monitoring wells were installed and regularly monitored to date. In 1992, a vapor extraction test performed on Site wells W-1 and W-7 removed 11 pounds of petroleum hydrocarbons from the soils of the vadose zone. On-site groundwater monitoring wells W-2, W-4, and MW-9 were over-purged, from April 2002 to November 2005, to reduce the concentrations of petroleum hydrocarbons in these wells. Approximately 6,146 gallons of contaminated groundwater were removed from these wells and disposed off-site. Currently, the only contaminant of concern is MTBE. The MTBE plume for this Site is currently defined, stable, and decreasing.

The petroleum release is limited to the shallow soil and groundwater. According to data available in GeoTracker, there are no public supply wells regulated by the California Department of Public Health (CDPH), or surface water bodies, within 250 feet of the defined plume. In addition, according to Orange County Water District Well Location Map, there are no production wells within 250 feet of the defined plume.

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, stable and concentrations 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 1. The contaminant plume that exceeds WQO is less than 100 feet in length. There is no free product and the nearest water supply well or surface water body is greater than 250 feet from the defined plume boundary.
- Vapor Intrusion to Indoor Air – The case meets the Policy Active Station Exclusion – Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility.
- 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 sites and the concentration limits for a Utility Worker are not exceeded. 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 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Policy Table 1. Therefore, the 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.

Objections to Closure and Responses

The Orange County LOP case worker in the January 10, 2013, telephone communication with Fund staff Indicated that the Agency believed that the Site is ready for closure but, closure is being delayed because:

- The LOP has learned recently that the Irvine Water District is planning to reactivate CDPH Wells 21 and 22 (both wells are currently shown on the GeoTracker Map as abandoned and located cross-gradient to the plume at about 900 feet and 1400 feet respectively). The LOP is therefore waiting for these two wells to go into production and then conducting one or more rounds of groundwater monitoring to ensure that water extraction from these wells does not cause the plume to migrate into the wells.

- <u>RESPONSE:</u> Regardless of whether Wells 21 and 22 are activated, this case meets Policy Criterion 1 by Class 1. The contaminant plume that exceeds WQO is less than 100 feet in length. There is no free product, and the nearest water supply well or surface water body is greater than 250 feet from the defined plume boundary.

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 6/5/13

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

Prepared by: Mohammed Khan

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
<u>**General Criteria**</u> 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? If YES, check applicable class: ☒ **1** ☐ **2** ☐ **3** ☐ **4** ☐ **5**	☒ Yes ☐ No ☐ NA
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? If YES, check applicable scenarios: ☐ **1** ☐ **2** ☐ **3** ☐ **4**	☐Yes ☐ No ☒ NA

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, known as Thrifty Oil #75, is located on the west corner of the intersection of Newport and Mitchell Avenue. It is an active retail gasoline station and convenience store operated by ARCO since May 1997 and by Tesoro since May 2012. The address of the case is 14121 Newport Avenue in Tustin.
- The Site is bounded by a commercial property to the southwest, parking lot to the northwest, Mitchell Avenue to the northeast and Newport Avenue to the southwest. About 100 feet southeast of the Site (Thrifty Oil #075) is the ARCO #1865 retail gasoline station on Newport Avenue (UST Claim # 3948). The area is generally a commercial area near Interstate 5 freeway.
- Site map showing the location of the current and former USTs, monitoring wells and groundwater level contours for Thrifty Oil #075 is provided at the end of this closure review summary (Thrifty Oil Co. 2012). A Site map for ARCO #1865 showing Well B-18 is also included at the end of the closure review summary (Stratus Environmental, Inc. 2011).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST System.
- Date reported: December 03, 1986.
- Status of Release: USTs removed.
- Free Product: None reported in GeoTracker.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	10,000	Gasoline	Removed	July 1988
2	10,000	Gasoline	Removed	July 1988
3	12,000	Gasoline	Removed	July 1988
4	12,000	Gasoline	Removed	July 1988
5	10,000	Gasoline	Active	--
6	10,000	Gasoline	Active	--
7	10,000	Gasoline	Active	--

Receptors

- GW Basin: Coastal Plain of Orange County.
- Beneficial Uses: Municipal and Domestic Supply according to GeoTracker.
- Land Use Designation: Commercial according to Geotracker.
- Public Water System: Metropolitan Water District of Southern California and City of Tustin's, Water Operations Division supplies the water to users in the vicinity of the Site.
- Distance to Nearest Supply Well: According to data available in GeoTracker there are no active public supply wells regulated by CDPH within 250 feet of the defined plume. In addition, according to Orange County Water District Well Location Map, there are no active production wells within 250 feet of the defined plume. No other supply wells were identified within 250 feet of the defined plume in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 250 feet of the defined plume.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by silt and silty clay interbedded with layers of silty sand with occasional lenses of gravel.
- Maximum Sample Depth: 72 feet below ground surface (bgs).
- Minimum Groundwater Depth: 42.00 feet bgs at monitoring well MW-9 and MW-10.
- Maximum Groundwater Depth: 53.54 feet bgs at monitoring well MW-11.
- Current Average Depth to Groundwater: 47 feet bgs.
- Saturated Zones(s) Studied: Approximately 40 - 70 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: South to south southeast with an average gradient of 0.001 feet/foot (ft/ft).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (09/25/12)
W-1	October 1987	45 – 65	47.01
W-2	October 1988	41 – 71	47.14
W-3	September 1988	45 – 70	47.49
W-4	August 1991	40 – 70	47.39
W-5	August 1991	40 – 70	46.80
W-6	August 1991	40 – 70	46.84
W-7	August 1991	5 – 35	NS
MW-9	June 1993	45 – 70	46.38
MW-10	June 1993	43 – 68	46.35
MW-11	June 1993	45 – 70	48.36

NS: Not Sampled

Remedial Summary

- Free Product: None reported in GeoTracker.
- Soil Excavation: Soils excavated during the 1988 UST removal and during the 2001 tank sump and dispenser replacement were used as backfill.
- In-Situ Soil Remediation: In 1992 a vapor extraction test performed on Site wells W-1 and W-7 removed 11 pounds of petroleum hydrocarbons from the vadose zone soils during that test.
- Groundwater Remediation: On-site groundwater monitoring wells W-2, W-4, and MW-9 were over-purged, from April 2002 to November 2005, to reduce the concentrations of petroleum hydrocarbons in these wells. Approximately 6,146 gallons of contaminated groundwater were removed from these wells and disposed off-site.

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	<0.00032 (01/16/07)	<0.00032 (01/15/07)
Ethylbenzene	<0.00032 (01/16/07)	<0.00032 (01/15/07)
Naphthalene	NA	NA
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)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
W-1	9/25/12	<50	<1	<5	<5	<5	<1	<10
W-2	9/25/12	<50	<1	<5	<5	<5	<1	<10
W-3	9/25/12	<50	<1	<5	<5	<5	<1	<10
W-4	9/25/12	<50	<1	<5	<5	<5	<1	<10
W-5	9/25/12	<50	<1	<5	<5	<5	<1	<10
W-6	9/25/12	<50	<1	<5	<5	<5	**5.7**	<10
MW-9	9/25/12	<50	<1	<5	<5	<5	<1	<10
MW-10	9/25/12	<50	<1	<5	<5	<5	**18**	<10
MW-11	9/25/12	<50	<1	<5	<5	<5	<1	<10
ARCO B-18[a]	10/24/12	<50	<2	<2	<2	<4	<5	<50
WQOs		--[b]	**1**	**150**	**300**	**1,750**	**5**	**1,200[c]**

NA: Not Analyzed, Not Applicable or Data Not Available
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: Water Quality Objectives, Santa Ana Regional Water Board Basin Plan
[a]: ARCO Well B-18 is located about 80 feet down gradient, in a southerly direction from the off-site Thrifty Well MW-10.
[b] The Santa Ana Regional Water Board Basin Plan does not have a numeric water quality objective for TPHg.
c: California Department of Public Health, Response Level

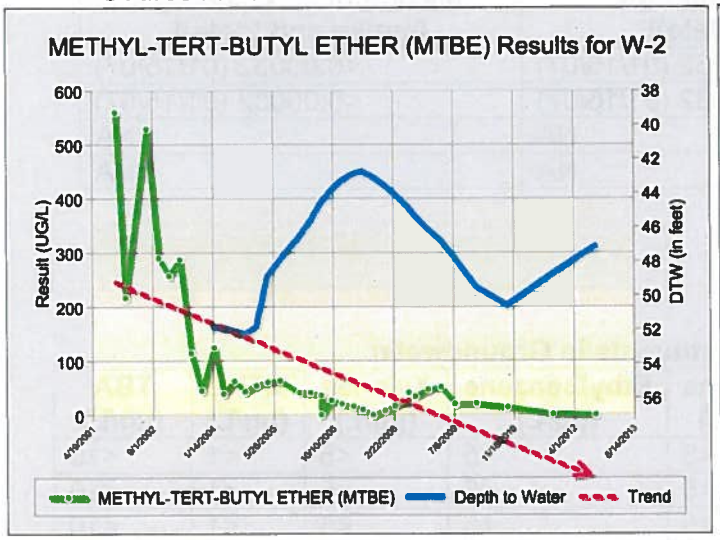
Groundwater Trends

- Since 1987 groundwater has been regularly monitored at this Site. Currently, the only contaminant of concern is MTBE. The MTBE plume for this Site is currently defined, stable, and decreasing. In order to define the plume for this Site, MTBE data from monitoring well B-18, belonging to the ARCO # 1865 station is used. ARCO # 1865 station is located 80 feet downgradient from Thrifty # 075 station.

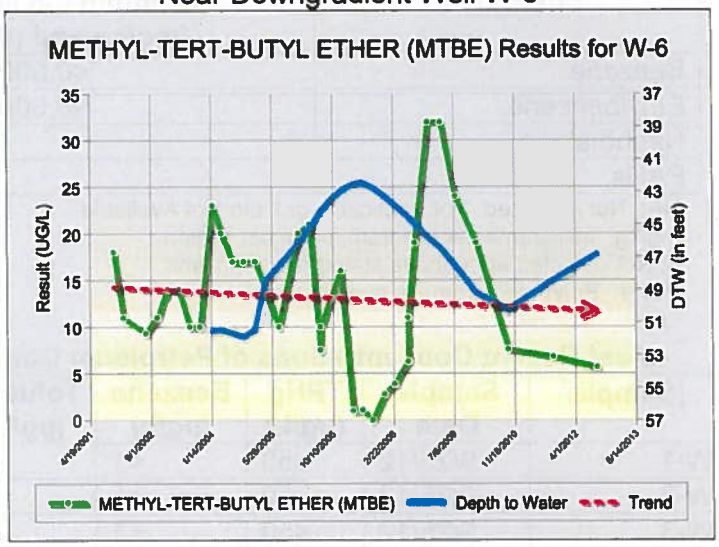
Thrifty Oil #075
14121 Newport Blvd, Tustin
Claim No: 1807

June 2013

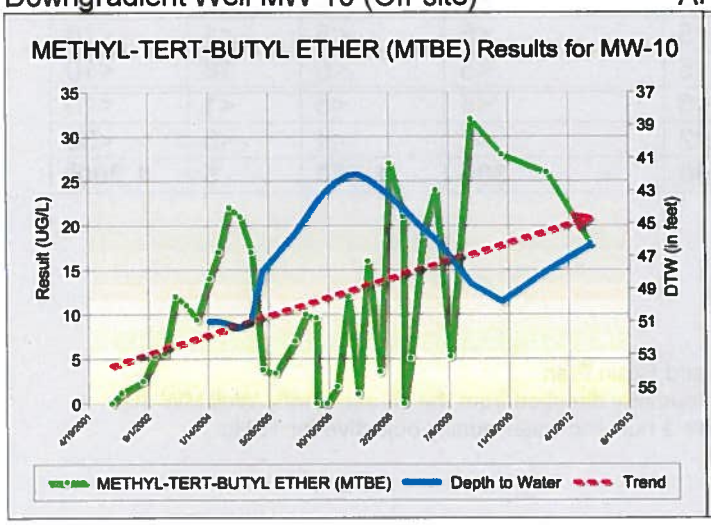
Source Area Well W-2



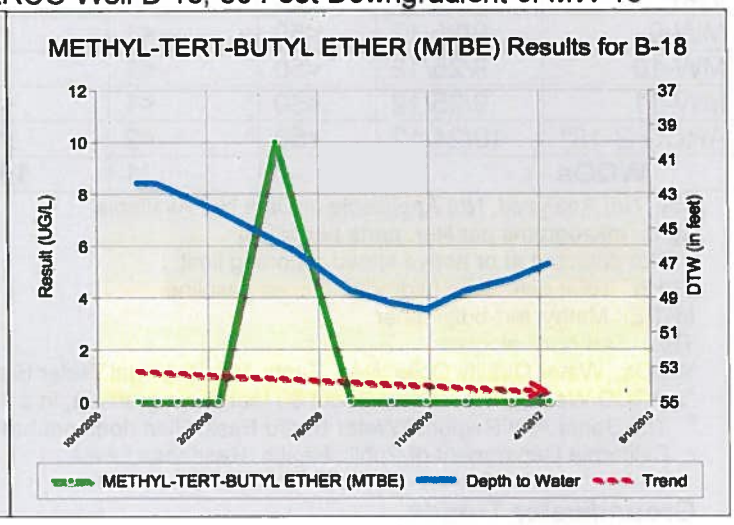
Near Downgradient Well W-6



Downgradient Well MW-10 (Off-site)

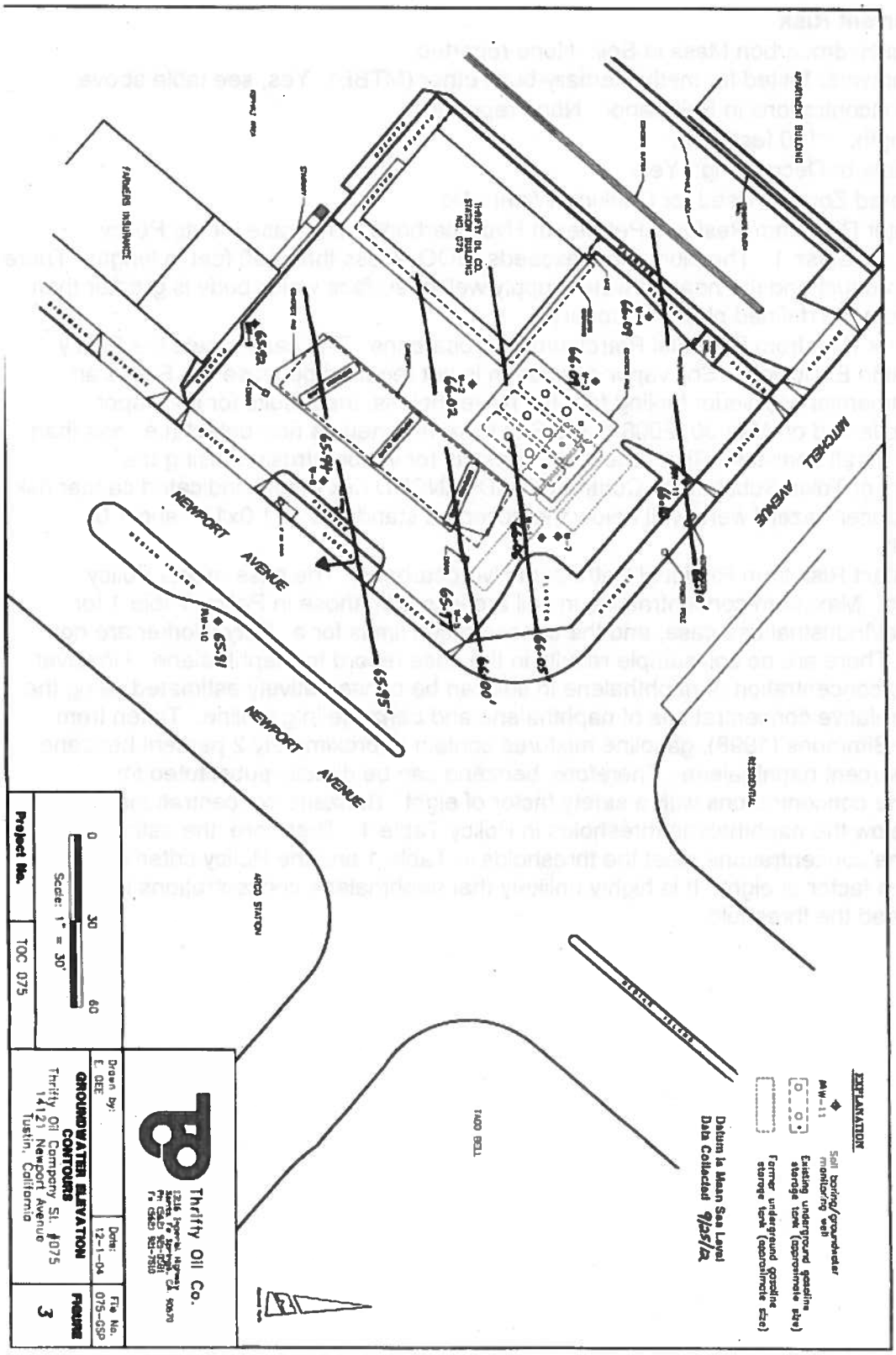


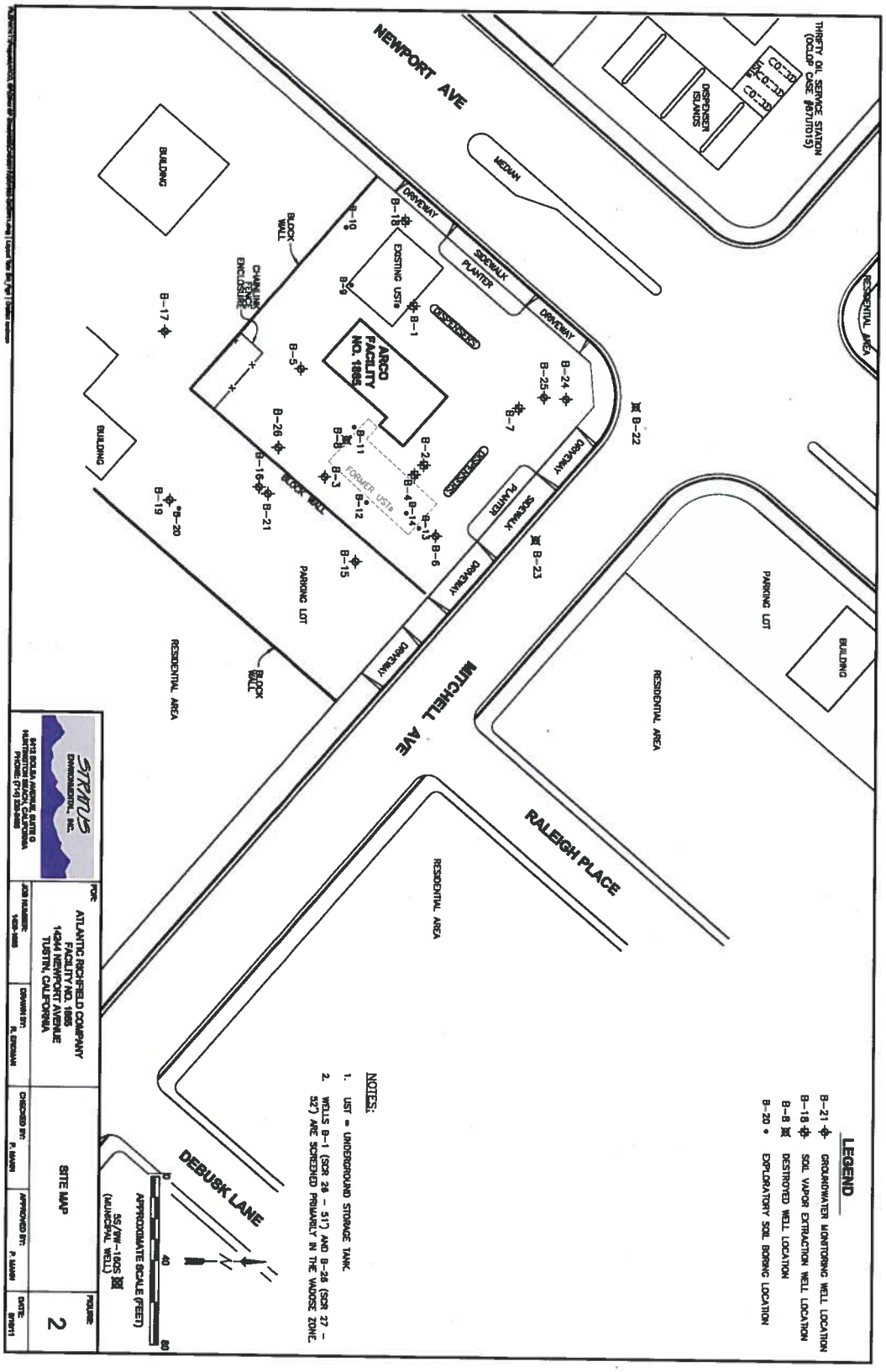
ARCO Well B-18, 80 Feet Downgradient of MW-10



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for methyl tertiary-butyl ether (MTBE): Yes, see table above.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: <100 feet long.
- Plume Stable or Decreasing: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 1 by Class 1. The plume that exceeds WQO is less than 100 feet in length. There is no free product and the nearest water supply well or surface water body is greater than 250 feet from the defined plume boundary.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: The case meets the Policy Active Station Exclusion – Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility. Nevertheless, the results for soil vapor samples collected on May 30, 2008 at the Site were reported as non-detect (i.e. less than 0.02 µg/L) for all analytes. Risk assessment results for vapor intrusion, using the Department of Toxic Substances Control SG-ADVANCED risk model, indicated cancer risk and non-cancer hazard were well below the accepted standards of 1.0×10^{-6} and 1.0 respectively.
- Direct Contact Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial use case, and the concentration limits for a Utility Worker are not exceeded. 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 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Policy Table 1. Therefore, the 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.


NEWPORT AVENUE
NEWPORT AVENUE
MITCHELL AVENUE
APARTMENT BUILDING
FARMERS INSURANCE
ARCO STATION
TACO BELL
RESIDENTIAL
EXPLANATION
Soil boring/groundwater monitoring well
Existing underground gasoline storage tank (approximate size)
Former underground gasoline storage tank (approximate size)
Datum is Mean Sea Level
Data Collected 9/25/12
Scale: 1" = 30'
Project No.
TOC 075
Thrifty Oil Co.
GROUNDWATER ELEVATION CONTOURS
Thrifty Oil Company St. #075
14121 Newport Avenue
Tustin, California
Drawn by: E. OEE
Date: 12-1-04
File No. 075-GSP
FIGURE 3


NEWPORT AVE
MITCHELL AVE
RALEIGH PLACE
DEBUSK LANE
THRIFTY OIL SERVICE STATION (OCLOP CASE #87UT015)
DISPENSER ISLANDS
MEDIAN
DRIVEWAY
SIDEWALK
PLANTER
EXISTING USTs
DISPENSERS
ARCO FACILITY NO. 1865
FORMER USTs
BLOCK WALL
CHAINLINK FENCE ENCLOSURE
BUILDING
PARKING LOT
RESIDENTIAL AREA
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9
B-10
B-11
B-12
B-13
B-14
B-15
B-16
B-17
B-18
B-19
B-20
B-21
B-22
B-23
B-24
B-25
B-26
LEGEND
B-21 GROUNDWATER MONITORING WELL LOCATION
B-18 SOIL VAPOR EXTRACTION WELL LOCATION
B-8 DESTROYED WELL LOCATION
B-20 EXPLORATORY SOIL BORING LOCATION
NOTES:
1. UST = UNDERGROUND STORAGE TANK.
2. WELLS B-1 (SCR 26 - 51') AND B-26 (SCR 27 - 52') ARE SCREENED PRIMARILY IN THE VADOSE ZONE.
APPROXIMATE SCALE (FEET)
0
40
80
55/WW-1805 (MUNICIPAL WELL)
STRATUS ENVIRONMENTAL, INC.
FOR:
ATLANTIC RICHFIELD COMPANY
FACILITY NO. 1865
14244 NEWPORT AVENUE
TUSTIN, CALIFORNIA
SITE MAP
FIGURE:
2