

State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Santa Ana Regional Water Quality Control Board (Region)	Address: 3737 Main Street, Suite 500, Riverside, CA 92501
Agency Caseworker: Valerie Jahn-Bull	Case No.: 083003573T

Case Information

USTCF Claim No.: 15989	Global ID: T0605902334
Site Name: A&D Compserv & MiniMart	Site Address: 2721 West Edinger Avenue, Santa Ana, CA 92704
Responsible Party (RP): A&D Compserv, Inc.	Address: 2721 West Edinger Avenue, Santa Ana, CA 92704
USTCF Expenditures to Date: \$1,244,645	Number of Years Case Open: 13

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0605902334

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 Site Information (Conceptual Site Model)**. Highlights of the case follow:

A leak was reported in July 1989 following the removal of seven USTs (six gasoline USTs, one waste oil UST). Since 2001, twenty-seven monitoring wells have been installed and monitored regularly. Contaminated soil was excavated and disposed offsite in 1989. Active soil and groundwater remediation has been conducted between 2006 and 2011. According to groundwater data, water quality objectives have been achieved for all constituents except low levels of total petroleum hydrocarbons as gasoline (TPHg). However, the Region has no established water quality objective for TPHg in groundwater.

The petroleum release is limited to the shallow soil and groundwater. According to data available in GeoTracker, there is no active public supply well regulated by California Department of Public Health within 250 feet of the Site. No other supply wells have been identified within 250 feet of the defined plume boundary in files reviewed. There is no identified surface water within 250 feet of the Site. Water is provided to water users near the Site by the Metropolitan Water District and Diamond Park Mutual 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.

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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 declining. Corrective actions have been implemented and additional corrective actions are not necessary. Any remaining petroleum hydrocarbon constituents do not pose significant risk to human health, safety or the environment.

Rationale for Closure under the Policy

- General Criteria – The case meets all eight general criteria.
- Groundwater Specific Criteria – The case meets Policy Criterion 1 by Class 1. The contaminant plume that exceeds water quality objectives is less than 100 feet in length. There is no free product. The nearest water supply well or surface water body is greater than 250 feet from the defined plume boundary. For the same reason, the low level TPHg plume downgradient and off the site does not pose significant risk to human health, safety, or the environment.
- Vapor Intrusion to Indoor Air – This case meets Policy Exclusion for Active Station. 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 3b. Constituents in soil are less than levels that a site-specific assessment of risk demonstrates will have no significant risk of adversely affecting human health. The Site is paved and accidental access to Site soils is prevented. In addition, as an active gas station, any construction worker working at the Site will be prepared for potential exposure in their normal daily work.

Objections to Closure and Response

The Region caseworker communicated to the UST Cleanup Fund, via telephone on November 1, 2012, that the Region office has no objections to UST case closure for this case.

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

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

3/22/13

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

<p>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.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued for this case?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>If so, was the corrective action performed consistent with any order? There was an order issued for this case. The corrective action performed in the past is consistent with that order. Since this case meets applicable case-closure requirements, further corrective action under the order is not necessary, unless the activity is necessary for case closure.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p>
<p><u>General Criteria</u> General criteria that must be satisfied by all candidate sites:</p> <p>Is the unauthorized release located within the service area of a public water system?</p> <p>Does the unauthorized release consist only of petroleum?</p> <p>Has the unauthorized (“primary”) release from the UST system been stopped?</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>

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

<p>Has free product been removed to the maximum extent practicable? Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?</p> <p>Has secondary source been removed to the extent practicable?</p> <p>Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?</p> <p>Nuisance as defined by Water Code section 13050 does not exist at the site?</p> <p>Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?</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> <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><u>Media-Specific Criteria</u> Candidate sites must satisfy all three of these media-specific criteria:</p> <p>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:</p> <p>Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?</p> <p>Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites?</p> <p>If YES, check applicable class: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>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?</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>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.</p> <p>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.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

<p>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: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4</p> <p>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?</p> <p>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?</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 type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p>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).</p> <p>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)?</p> <p>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?</p> <p>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?</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 CASE INFORMATION (Conceptual Site Model)

Site Location/History

- This case is an active commercial petroleum fueling facility located on the northeastern corner of West Edinger Avenue and South Fairview Street.
- The Site is bounded by South Fairview Street to the west, West Hood Avenue to the north, South Sullivan Street to the East, and West Edinger Avenue to the South. The Area in the immediate vicinity of the site along South Fairview Street and West Edinger Avenue is commercial in nature. Areas immediately beyond West Hood Avenue and South Sullivan Street are residential.
- In July 1989, soil and groundwater contamination was identified during UST replacement operations.
- Twenty-seven monitoring wells have been installed on- and off-site and monitored regularly.
- Site map showing the location of the former and current USTs, monitoring wells and groundwater level contours is provided at the end of this closure review summary.
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: July 1999.
- Status of Release: USTs removed.
- Free Product: Free product noted historically, none since 2002.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1-3	10,000	Gasoline	Removed	1972
4	280	Waste Oil	Removed	1972
5	12,000	Gasoline	Removed	May 89
6	8,000	Gasoline	Removed	May 89
7	5,000	Gasoline	Removed	May 89
8-10	12,000	Gasoline	Active	-
11	12,000	Diesel	Active	-

Receptors

- GW Basin: Coastal Plain of Orange County.
- Beneficial Uses: Municipal and Domestic Supply.
- Land Use Designation: None specified in GeoTracker, aerial photo shows Site is mixed commercial/residential. The immediate vicinity of the Site is commercial along West Edinger Avenue and South Fairview Street. Beyond major streets is mainly residential.
- Public Water System: The Metropolitan Water District and Diamond Park Mutual Water Company supply the water to users in the vicinity of the Site.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there is no active public supply well regulated by California Department of Public Health within 250 feet of the Site. No other water supply wells were identified within 250 feet of the Site.
- Distance to Nearest Surface Water: There is no identified surface water within 250 feet of the Site.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by interbedded sand, silty sand, and clayey sand to approximately 14 feet below ground surface (bgs); silty clay from approximately 14 to 16 feet bgs; sand from approximately 16 to 24 feet bgs; silty to sandy clay from approximately 24 to 34 feet bgs; underlain by sandy silt and sand to the total depth explored.
- Maximum Sample Depth: 40 feet bgs.
- Minimum Groundwater Depth: 6.60 feet bgs at monitoring well MW-12.
- Maximum Groundwater Depth: 13.15 feet bgs at monitoring well MW-25.
- Current Average Depth to Groundwater: 9.32 feet bgs on June 29, 2011.
- Saturated Zones(s) Studied: Approximately 5 - 45 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: South with an average gradient of 0.013 feet/foot (ft/ft). Flow direction and gradient have been trending toward the south-southeast to southwest.

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (6/29/2011)
MW-1	October 2001	?-26	10.10
MW-2	October 2001	?-24	9.10
MW-3	October 2001	?-23	8.98
MW-4	October 2001	?-24	9.90
MW-5	May 2002	?-25	9.00
MW-6	April 2002	5-25	8.56
MW-7	April 2002	5-25	Not Measured
MW-8	April 2002	5-25	7.40
MW-9	April 2002	5-25	Not Measured
MW-10	April 2002	5-25	Not Measured
MW-11	May 2002	?-25	7.14
MW-12	October 2003	5-20	6.60
MW-13	October 2003	30-45	Not Measured
MW-14	June 2004	5-20	9.00
MW-15	June 2004	5-20	8.04
MW-16	June 2004	5-20	8.95
MW-17	June 2004	5-20	Not Measured
MW-18	June 2004	5-20	12.08
MW-19	June 2004	30-45	Not Measured
MW-20	April 2006	30-45	9.40
MW-21	April 2006	5-20	9.40
MW-22	April 2006	5-20	Not Measured
MW-23	April 2006	5-20	11.56
MW-24	October 2006	6-22	Not Measured
MW-25	November 2007	5-25	13.15

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Remedial Action

- Free Product: Free product noted historically, none since 2002.
- Soil Excavation: 500 cubic yards of impacted soil were removed and disposed offsite in 1989.
- In-Situ Soil Remediation: Dual phase extraction pilot test was conducted in August 2008, and determined to be not viable. Oxygen Release Compound injections conducted in December 2006, September 2009 and June 2011 have reduced petroleum constituents significantly.
- Groundwater Remediation: Same as in above In-Situ Soil Remediation.

Most Recent Concentrations of Petroleum Constituents in Soil *

Constituent	Maximum 0-5 ft. bgs. [mg/kg and (date)]	Maximum 5-10 ft. bgs [mg/kg and (date)]
Benzene	NA	NA
Ethylbenzene	NA	NA
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

*: Approximately 500 cubic yards of impacted soil were removed and disposed offsite in 1989. The Site is paved and accidental access to Site soils is prevented. In addition, as an active gas station, any construction worker working at the Site will be prepared for potential exposure in their normal daily work.

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)
MW-1	6/29/2011	150	<0.50	<0.50	<0.50	<1.0	0.66	<10
MW-2	3/08/2012	50	<0.50	<0.50	<0.50	<1.0	1.5	200
MW-3	6/29/2011	210	<0.50	0.32	0.75	0.74	0.28	31
MW-4	6/29/2011	160	<0.50	<0.50	<0.50	<1.0	<0.50	8.5 ^J
MW-5	3/08/2012	100	<0.50	<0.50	<0.50	<1.0	1.7	22
MW-6	6/29/2011	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-7	12/9/2010	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-8	3/08/2012	<50	<0.50	<0.50	<0.50	<1.0	0.75	<0.50
MW-9	3/08/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-10	12/9/2010	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-11	6/29/2011	<50	<0.50	<0.50	<0.50	<1.0	1.1	<10
MW-12	3/08/2012	60	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50
MW-13	12/9/2010	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-14	6/29/2011	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-15	3/08/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	10
MW-16	6/29/2011	<50	<0.50	<0.50	<0.50	<1.0	0.50	<10
MW-17	3/08/2012	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-18	6/29/2011	<50	<0.50	<0.50	<0.50	<0.50	0.49 ^J	<10
MW-19	12/9/2010	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-20	6/29/2011	120	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-21	6/29/2011	150	<0.50	<0.50	<0.50	<1.0	1.2	<10
MW-22	12/9/2010	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-23	6/29/2011	180	<0.50	<0.50	<0.50	<1.0	0.32	<10
MW-24	6/29/2010	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10
MW-25	6/29/2011	<50	<0.50	<0.50	<0.50	<1.0	0.20 ^J	<10
WQOs		NA	1	150	300	1,750	5	1,200^a

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, Region 8 Basin Plan

NA: No TPHg WQO has been established in the Region 8 Basin Plan

^a: California Department of Public Health Response Level

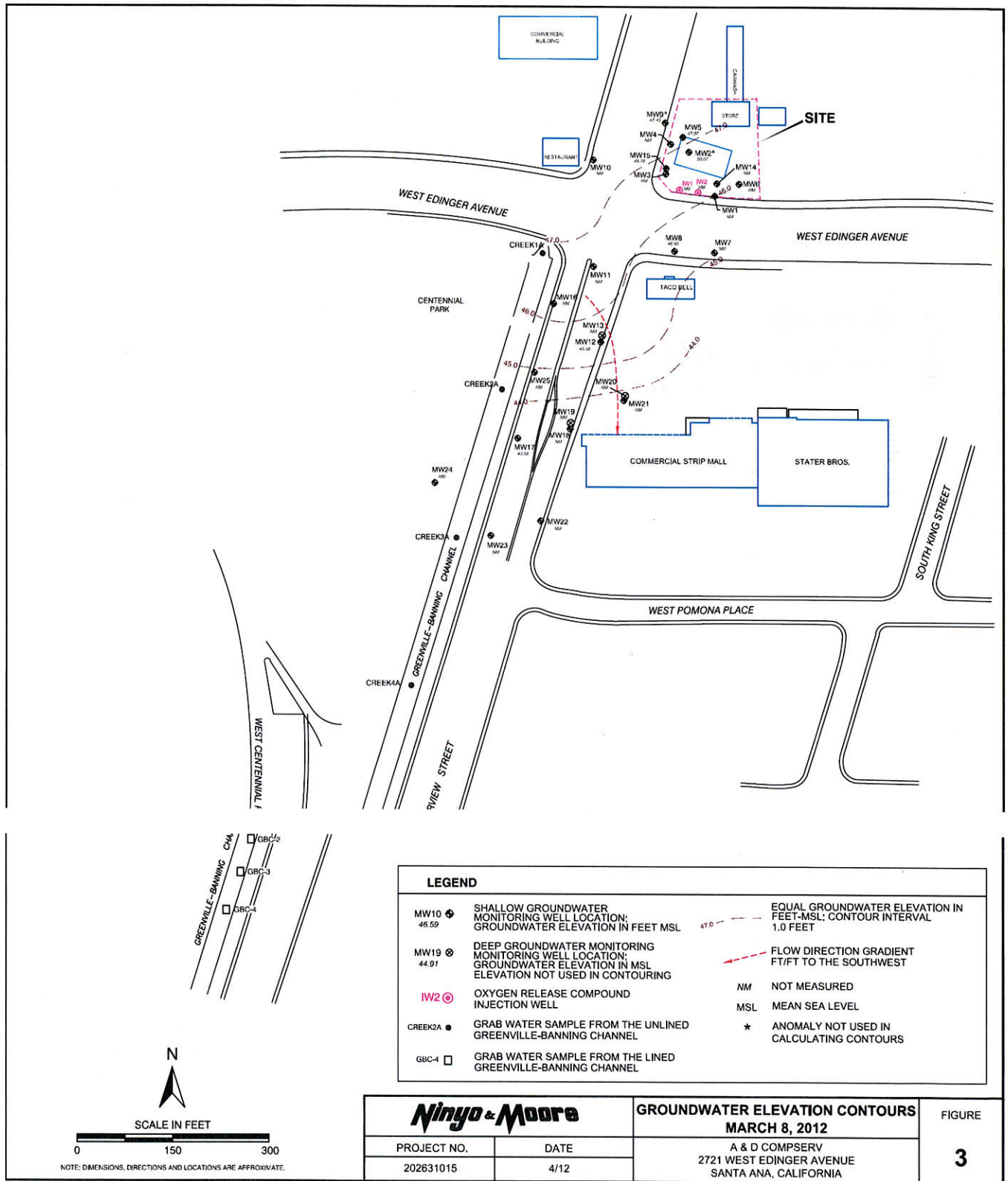
^J: Analyte detected below quantitation limits.

Groundwater Trends:

- There are more than ten years of groundwater monitoring data for this Site. Recent monitoring data for the chemical constituents of concern in the 25 monitoring wells indicate that water quality objectives for all the constituents have been attained except for TPHg. TPHg levels are low, and there is no established water quality objective for TPHg in the Region's Basin Plan. Moreover, the on-going natural attenuation process at the Site is expected to further reduce the residual petroleum hydrocarbon impact in the shallow groundwater.

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: <100 feet long.
- Plume Stable or Degrading: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 1 by Class 1. Based on the most recent groundwater monitoring data, all petroleum constituents in groundwater are below water quality objectives except TPHg, which has no established water quality objective based on the Region's Basin Plan. Therefore the contaminant plume that exceeds water quality objectives 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. For the same reason, the low level TPHg plume downgradient and off the site does not pose significant risk to human health, safety, or the environment
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: The case meets Policy Exclusion for Active Station. Soil vapor evaluation is not required because the Site is an active commercial petroleum fueling facility.
- Direct Contact Risk and Outdoor Air Exposure from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 3b. Constituents in soil are less than levels that a site-specific assessment of risk demonstrates will have no significant risk of adversely affecting human health. The Site is paved and accidental access to site soils is prevented. In addition, as an active gas station, any construction worker working at the Site will be prepared for potential exposure in their normal daily work.



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