

## Lahontan Regional Water Quality Control Board

June 3, 2015

Eric Findlay  
Senior Project Manger  
Placer County Facility Services Dept.  
11476 C Avenue  
Auburn, CA 95603

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### **No Further Action Required for the Former Kings Beach Swiss Mart, 8797 North Lake Boulevard, Kings Beach, Placer County, UST Cleanup Fund Case No.15544, Lahontan UST Case No. 6T0069A**

The Regional Water Quality Control Board, Lahontan Region (Water Board) finds the release of petroleum products at this site poses a low threat to human health, safety, and the environment, and concludes the site meets the criteria of the Water Quality Control Policy for Low-Threat Underground Storage Tank (UST) Case Closure.

This letter confirms the completion of a site investigation and corrective action for the USTs formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your UST site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required. This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code.

Claims for reimbursement of corrective action costs submitted to the UST Cleanup Fund more than 365 days after the date of this letter or issuance of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or

- Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

If you have any questions regarding this matter, please contact Tammy Lundquist at (530) 542-5420 or [Tammy.Lundquist@waterboards.ca.gov](mailto:Tammy.Lundquist@waterboards.ca.gov).

  
PATTY Z. KOUYOUMDJIAN  
EXECUTIVE OFFICER

Enclosure: Low-threat UST Case Closure Policy Checklist  
Supplemental Information Form

cc w/enclosures: SWRCB, Underground Storage Tank Cleanup Fund  
West Bourgault, Placer County Environmental Health

FORMER KINGS BEACH SWISS MART (T0906100324) - [MAP THIS SITE](#)

OPEN - ELIGIBLE FOR CLOSURE

8797 NORTH LAKE BLVD  
KINGS BEACH, CA 96143  
PLACER COUNTY

[ACTIVITIES REPORT](#)  
[PUBLIC WEBPAGE](#)

**CLEANUP OVERSIGHT AGENCIES**

LAHONTAN RWQCB (REGION 6T) (LEAD) - CASE #: 6T0069A

CASEWORKER: [TAMMY LUNDQUIST](#) - SUPERVISOR: TOM GAVIGAN  
PLACER COUNTY

CASEWORKER: [West Bourgault](#) - SUPERVISOR: NONE SPECIFIED

CUF Claim #: 15544 CUF Priority Assigned: B CUF Amount Paid: [\\$1,017,844](#)

CR Site ID #: NOT SPECIFIED

THIS PROJECT WAS LAST MODIFIED BY [TAMERLE LUNDQUIST](#) ON 5/15/2015 9:09:24 AM - [HISTORY](#)

THIS SITE HAS SUBMITTALS. CLICK [HERE](#) TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

**CLOSURE POLICY**

THIS VERSION IS IN PROGRESS AS OF 5/15/2015

CHECKLIST INITIATED ON 1/11/2013

[CLOSURE POLICY HISTORY](#)

**General Criteria - The site satisfies the policy general criteria - [CLEAR SECTION ANSWERS](#)**

YES

a. Is the unauthorized release located within the service area of a public water system?

Name of Water System :

NORTH TAHOE PUD - MAIN (TAHOE VISTA,)

YES  NO

b. The unauthorized release consists only of petroleum ([info](#)).

YES  NO

c. The unauthorized ("primary") release from the UST system has been stopped.

YES  NO

d. Free product has been removed to the maximum extent practicable ([info](#)).

FP Not Encountered  YES  NO

e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed ([info](#)).

YES  NO

f. Secondary source has been removed to the extent practicable ([info](#)).

YES  NO

g. Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15.

Not Required  YES  NO

h. Does a nuisance exist, as defined by [Water Code section 13050](#).

YES  NO

**1. Media-Specific Criteria: Groundwater - The contaminant plume that exceeds water quality objectives is stable or decreasing in areal extent, and meets all of the additional characteristics of one of the five classes of sites listed below. - [CLEAR SECTION ANSWERS](#)**

YES

**EXEMPTION - Soil Only Case (Release has not Affected Groundwater - [Info](#))**

YES  NO

Does the site meet any of the Groundwater specific criteria scenarios?

YES  NO

1.5 - The regulatory agency determines, based on an analysis of site specific conditions, that the site under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.

YES  NO

**2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air - The site is considered low-threat for the vapor-intrusion-to-air pathway if site-specific conditions satisfy items 2a, 2b, or 2c - [CLEAR SECTION ANSWERS](#)**

YES

**EXEMPTION - Active Commercial Petroleum Fueling Facility**

YES  NO

Does the site meet any of the Petroleum Vapor Intrusion to Indoor Air specific criteria scenarios?

YES  NO

2a - Scenario 4 ([example](#)): Direct Measurement of Soil Gas Concentrations

YES

i. Soil Gas Sampling Locations - No Bioattenuation Zone:

YES

- Beneath or adjacent to an existing building: Soil gas sample is collected at least 5 feet below the bottom of the building foundation.

YES  NO

- Future construction: The soil gas sample shall be collected from at least 5 feet below the ground surface (bgs).

YES  NO

ii. Soil Gas Sampling Locations - with Bioattenuation Zone: The criteria in Column A in the Soil Gas Criteria table (page 5 of the Policy) apply if the following requirements for a bioattenuation zone are satisfied:

- Minimum of 5 feet of soil between the soil vapor measurement and the foundation of an existing or ground surface of future construction.

YES  NO

- TPH (TPHg + TPHd) is <100 mg/kg (measured in at least two depths within the 5-ft zone)

YES  NO

- Oxygen is ≥ 4% measured at the bottom of the 5-ft zone.

YES  NO

**3. Media Specific Criteria: Direct Contact and Outdoor Air Exposure - The site is considered low-threat for direct contact and outdoor air exposure if it meets 1, 2, or 3 below. - [CLEAR SECTION ANSWERS](#)**

YES

**EXEMPTION - The upper 10 feet of soil is free of petroleum contamination**

YES  NO

Does the site meet any of the Direct Contact and Outdoor Air Exposure criteria scenarios?

YES  NO

3.1 - Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in the following table ([LINK](#)) for the specified depth below ground surface.

YES  NO

**Additional Information**

This case should be kept OPEN in spite of meeting policy criteria.

YES  NO

Has this LTCP Checklist been updated for FY 14/15?

YES  NO

[SPELL CHECK](#)

# Low Threat UST Closure Policy Supplemental Information Form<sup>1</sup>

## Lahontan Regional Water Quality Control Board - Region 6

**South Lake Tahoe Office:**  
2501 Lake Tahoe Blvd.  
South Lake Tahoe, CA 96150

**Victorville Office:**  
14440 Civic Drive, Suite 200  
Victorville, CA 92392

### 1. Lahontan Regional Water Quality Control Board Contact

<b>Case Worker:</b> Tamerle Lundquist	<b>Phone:</b> 530-542-5420
<b>Date Form Completed:</b> May 21, 2015	

### 2. Case Information

<b>Lahontan UST Case #:</b> 6T0069A	<b>UST Cleanup Fund #:</b> 14056, 15544, 15761, and 17689	<b>Geotracker Global ID #:</b> T0606100324
<b>Site Name:</b> Former Kings Beach Swiss Mart	<b>Site Address:</b> 8797 North Lake Boulevard Kings Beach, CA 96143	
<b>Unauthorized Release Form Date:</b> June 6, 1989	<b>County:</b> Placer	
<b>Water Board Permits and Cleanup and Abatement Orders Issued:</b> None		

### 3. Responsible Parties

<b>Fee Title Owner(s):</b> County of Placer Facility Services Department	<b>Operator(s):</b> same
<b>Owner Address(es):</b> 11476 C Avenue Auburn, CA 95603	<b>Operator Address(es):</b>
<b>Designated Responsible Party:</b> County of Placer Facility Services Department	

### 4. Notifications

<b>Date fee title ownership confirmed through county assessor's office?</b> Fee title ownership was confirmed on September 15, 2014 at the start of the 60-day comment period and was re-confirmed on May 21, 2015 prior to issuing no further action required letter.
<b>How was fee title owner notified?</b> The fee title owner is copied on all reports and

<sup>1</sup> This form is required when Water Board staff makes a determination in accordance with (1) Groundwater-Specific Criteria 5a, (2) Petroleum Vapor Intrusion to Indoor Air 2b or 2c, or (3) Direct Contact and Outdoor Air Exposure 3b or 3c.

correspondence and was notified of pending closure via the 60-day notification process.

**60-day comment Period Begin Date:**

September 15, 2014

**Comments:** No comments were received during the comment period.

**5. Unauthorized Release Description**

**Type of product released (e.g. gasoline, diesel):**

Gasoline and diesel

**Primary source/release mechanism:**

USTs piping and dispensers

**Comments:**

A gasoline service station operated at the site from 1960s through the 1990s. Three USTs, associated dispensers and piping were excavated and removed in September 2000. A second group of USTs were removed in September 2007.

**6. Site Setting**

**Site Location (describe general site area, e.g., located in a commercial area) and Site Land Use (current and any known planned use of the site):**

The site is located in an area of commercial and residential properties and is vacant. There are no current plans to change land use.

**Comments:**

**7. Media Specific Criteria**

**Groundwater-Specific Criteria, 5a:** *(Explain the site specific conditions why the contaminant plume poses, under current and reasonably anticipated near-term future scenarios, a low threat to human health and safety, and the water quality objectives will be achieved within a reasonable amount of time.)*

Remediation at the site has consisted of excavation and offsite disposal of 453 tons of petroleum affected soil, soil-vapor extraction, and groundwater extraction and treatment.

Groundwater quality has been monitored at the site from 2003 to 2013. Based on the most recent groundwater monitoring results, only one well (MW-2) contained COCs. Monitoring Well MW-2 is located off-site to the east. Groundwater monitoring has shown the groundwater plume is localized and stable.

There are no municipal supply wells located within 1,000 feet of the site. The nearest surface water body is Lake Tahoe, which is approximately 650 feet from the site.

Because the dissolved plume has been shown to be stable, and secondary sources of petroleum contamination have been remediated to the extent practicable, the dissolved plume poses a low threat to human health, safety, and the environment. The residual dissolved petroleum is expected to naturally attenuate and meet background water quality levels in a reasonable amount of time.

**Petroleum Vapor Intrusion to Indoor Air, Criteria 2b or 2c:** *(Explain the risk assessment results demonstrating human health is protected or mitigation measures or institutional or engineering controls that reduce risk to human health from petroleum vapors migrating from soil or groundwater to indoor air to less than significant levels.)*

No risk assessment results, mitigation measures, or institutional or engineering controls are needed since the subsurface conditions meet the criteria specified in Scenario 2a(i) of the LTCP.

**Direct Contact and Outdoor Air Exposure, Criteria 2b or 3c:** *(Explain the risk assessment results demonstrating human health is protected, or the mitigation measures, institutional or engineering controls that reduce risk to human health from concentrations of petroleum constituents in soil to less than significant levels.)*

No risk assessment results, mitigation measures, or institutional or engineering controls are needed since the subsurface conditions meet the criteria specified in Table 1 of the LTCP

**List of acronyms that may have been used in this form:**

BTEX – benzene, toluene, ethylbenzene, and total xylenes

bgs – below ground surface

COC – constituents of concern

DIPE - di-isopropyl ether,

DPE – dual phase extraction

DTW – depth to water

ETBE - ethyl tertiary butyl ether

GAC – granular activated carbon

MCL – maximum contaminant level

MTBE - methyl-tert-butyl ether

mg/kg – milligrams/kilogram

NA - not applicable

NFAR – No further action required

NS - not sampled

PAH - polycyclic aromatic hydrocarbon

ppmv – parts per million by volume

SVE – soil vapor extraction

TAME - tertiary amyl methyl ether

TBA - tertiary butyl alcohol

TEPH – total extractable petroleum hydrocarbons

TPH - total petroleum hydrocarbons

TPPH – total purgable petroleum hydrocarbons

TPHd – TPH, diesel range

TPHg - TPH, gasoline range

TPHmo –TPH, motor range

UST – underground storage tank

µg/L – micrograms/liter

WQOs – water quality objectives



**COUNTY OF PLACER  
FACILITY SERVICES DEPARTMENT**

Phone 530-886-4900 Fax 530-889-6809  
www.placer.ca.gov

MARY DIETRICH, DIRECTOR  
VALERIE BAYNE, ADMIN. SVS. MANAGER  
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SCOTT BATTLES, DEPUTY DIRECTOR

September 4, 2014

Ms. Tammy Lundquist PG  
Engineering Geologist  
Lahontan Regional Water Quality Control Board  
2501 Lake Tahoe Boulevard  
South Lake Tahoe, CA 96150

**Re: Low-Threat Underground Storage Tank Case Closure Confirmation  
Former Swiss Mart Gasoline Station, Case # 6T0069A  
8797 North Lake Boulevard, Kings Beach, California**

Dear Ms. Lundquist:

A gasoline services station was operated at the Swiss Mart site from the 1960s through the 1990s. An unauthorized release of petroleum hydrocarbons resulted from the operation of the station. Fueling operations were discontinued, the underground storage tanks (USTs) were removed from the site, and phases of soil and groundwater remediation were performed from 2000 through 2008.

The removal of the source with the UST excavations and soil and groundwater remediation has successfully reduced the petroleum hydrocarbon concentrations remaining at the site. This letter and the attached Swiss Mart information summary confirm that the site complies with the Low-Threat Underground Storage Tank Case Closure Policy.

Placer County and the Successor Agency to the Placer County Redevelopment Agency are requesting that the California Regional Water Quality Control Board proceed with site closure process for the Swiss Mart site.

Sincerely

A handwritten signature in black ink, appearing to read "Eric Findlay", is written over a horizontal line.

Eric Findlay PG  
Senior Project Manager

cc. Allison Carlos, Principal Management Analyst, Successor Agency  
Robert Sandman, Deputy County Counsel, Placer County

11476 C Avenue Auburn CA 95603  
Entrance at 2855 2<sup>nd</sup> Street

**Information Summary  
Former Swiss Mart Gasoline Station  
8797 North Lake Boulevard, Kings Beach, California  
Low-Threat Underground Storage Tank Case Closure Confirmation  
Case # 6T0069A**

**Introduction**

The Swiss Mart site is located at 8797 North Lake Boulevard in Kings Beach, California. A gasoline service station was constructed on the site in the 1960s. An unauthorized release of petroleum hydrocarbons was detected at the site in 1996. Between 2000 and 2008 the following activities occurred at the site:

- Six underground storage tanks (USTs) were excavated and removed.
- The pump islands and dispensers were removed.
- Petroleum hydrocarbon impacted soil was excavated and removed in multiple phases.
- Petroleum hydrocarbon impacted groundwater was extracted and treated.
- Petroleum hydrocarbon impacted soil vapor was extracted and treated.
- The extent of impacted soil and groundwater was assessed with borings and 35 groundwater monitoring/extraction wells.
- Tank and soil excavations were backfilled with clean imported fill material.

The source of the petroleum hydrocarbon release was eliminated with the discontinued use and removal of six USTs. The concentrations of petroleum hydrocarbons in the soil and groundwater have been successfully reduced through soil and groundwater remediation efforts. Remediation and cleanup of the soil and groundwater were performed in multiple phases to the extent practicable. The limits of the impacted soil and groundwater remaining at the site have been assessed.

The remediated Swiss Mart site meets the criteria of the Low-Threat Underground Storage Tank Case Closure Policy. Environmental professionals working for engineering consulting firms have performed numerous investigations, tank removals and remediation activities. The results of these activities have been documented in reports submitted to Placer County Redevelopment Agency and the Successor Agency. The reports were also submitted to the California Regional Water Quality Control Board and the Geotracker website. The report information relevant to the closure policy's General Criteria and the Media-Specific Criteria is summarized in the following sections:

## **General Criteria**

### ***a. The unauthorized release is located within the service area of a public water system***

The site is located in the service area of the North Tahoe Public Utility District (NTPUD). NTPUD provides water to the site and surrounding area. The nearest municipal well is approximately 1 mile west of the site.

### ***b. The unauthorized release consists only of petroleum***

The release was associated with the operation of a gasoline services station. The constituents detected at the site consist of total petroleum hydrocarbons purgeable and extractable, and volatile organic constituents (VOCs) associated with gasoline (BTEX, and Oxygenates). VOCs and other constituents not associated with petroleum hydrocarbons have not been detected at the site. PCBs, PAHs and PCPs were not detected in the samples analyzed. Semi-VOCs naphthalene (560 ug/Kg) and 2-methylnaphthalene (200 ug/Kg) were detected in a confirmation soil sample from the removed hydraulic lift and sump in the demolished service station building. LUFT metals were detected at concentrations below California Human Health Screening Levels (CHHSLs).

### ***c. The unauthorized release has been stopped***

The release was stopped with the discontinued use and removal of six USTs, piping and dispensers.

- Three fuel USTs (10,000-gallon, 7,500-gallon and 5,000-gallon) and pumps were removed in September 2000.
- Three additional USTs (1,000-gallon, 500-gallon and 300-gallon) were removed in September 2007.

### ***d. Free product has been removed to the maximum extent practicable***

Free product was initially observed in the shallow groundwater in the vicinity of three larger USTs and dispenser area (southwest quarter of the property). These USTs and dispensers were later removed in September 2000. A groundwater extraction system and recovery well (RW-1) were installed in 1999 to remove free product. Between 2002 and 2003, 500,000 gallons of groundwater were extracted from RW-1 and treated. RW-1 was converted to a dual phase vacuum well to treat both groundwater and soil vapor.

### ***e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed***

A conceptual site model was developed and presented in the LFR Inc. (Levine Fricke Recon) report titled, Remedial Investigation Summary Report dated September 21, 2007. The model was developed to evaluate the potential human and ecological health risks posed by the residual petroleum hydrocarbon concentrations. The model evaluated exposure pathways and receptors.

The groundwater is not a current drinking water source, and ingestion was not considered an exposure pathway. Residual petroleum hydrocarbons were present in

the subsurface soil, and dermal contact to potential construction workers was considered a potential exposure pathway and receptor. Volatile emissions of residual petroleum hydrocarbons present in the subsurface soil and groundwater were considered as a potential inhalation pathway for potential construction or commercial site workers.

A vapor survey was conducted at the site in April 2007. Total petroleum hydrocarbons as gasoline, BTEX and MTBE were not detected in the vapor samples above Environmental Screening Levels (ESLs) or California Human Health Screening Levels (CHHSLs) for commercial use sites. Inhalation was not considered a potential exposure pathway for the site.

***f. Secondary source has been removed to the extent practicable***

The secondary source has been removed to the extent practicable by the removal of additional impacted soil, and the removal and treatment of impacted groundwater.

The first group of three USTs was excavated and removed in September 2000. Based on the confirmation sampling results, additional soil was excavated and removed, as well as the pump islands and piping.

The second group of three USTs was excavated and removed in September 2007. Over excavation of the secondary source included the removal and disposal of 153 tons of petroleum hydrocarbon impacted soil.

Based on a review of the data presented in the 2007 conceptual site model, petroleum impacted soil remained in the vicinity of the former pump and dispenser area. An additional 300 tons of impacted soil were excavated and disposed of in August 2008. Discolored soil was excavated to depths of 4 to 5 feet below the ground surface and to the southern and western limits of the site boundary. Confirmation soil samples show a significant reduction in the petroleum hydrocarbon concentrations remaining in the soil.

A total of 453 tons of petroleum hydrocarbon impacted soil were excavated and removed from the site.

A secondary source was also removed by extracting and treating over 500,000 gallons of impacted groundwater. A dual phase vacuum extraction system was operated to reduce groundwater and soil vapor concentrations as a secondary source.

***g. Soil and groundwater have been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15.***

The soil and groundwater have been tested for MTBE.

**MTBE Soil**

In the soil, MTBE was detected primarily in the vicinity of the former pump and dispenser area. Additional soil excavation was performed to depths of 4 to 5 feet.

MTBE was detected in five of the 10 confirmation samples collected from the bottom and sidewalls of the excavation. MTBE concentrations detected in the confirmation soil samples ranged from 0.0055 ug/Kg at a depth of 1 foot below ground surface to 0.7 ug/Kg at a depth of 5.5 feet below ground surface.

### **MTBE Groundwater**

On site, groundwater samples were analyzed from recovery well RW-1 from March 25, 2002 to October 17, 2007 until RW-1 was abandoned to allow for additional soil excavation in the pump and dispenser area. MBTE concentrations decreased in the groundwater samples collected from RW-1 from 3,000 ug/L to 700 ug/L during this time.

Monitoring wells MW-2 and MW-4 are located off site and are considered downgradient monitoring wells. Monitoring well MW-2 is across North Lake Boulevard southwest of the site, and MW-4 is directly west of the site. MTBE was most recently detected at 350 ug/L in MW-2 (May 2, 2013) and at 0.9 ug/L in MW-4 (May 25, 2011).

### ***h. Nuisance as defined by Water Code section 13050 does not exist at the site.***

A nuisance does not exist at the site. The service station and fueling system have been removed from the site. Impacted soil and groundwater have been remediated to reduce the petroleum hydrocarbon concentrations remaining at the site. Soil excavations have been backfilled with clean imported fill material. There is no indication that a service station was ever present at the site.

### **Media-Specific Criteria**

#### **1. Groundwater**

Petroleum hydrocarbons have been significantly reduced due to groundwater remediation and the removal of over 450 tons of impacted soil as a potential secondary source of contamination. Low concentrations of petroleum hydrocarbons remain in the groundwater. Background levels have not been currently obtained, but the soil and groundwater remediation performed to date represent a reasonable, practicable effort to achieve the best water quality.

The boundaries of the petroleum hydrocarbon impact in groundwater have been assessed by the network of 35 monitoring wells in and around the site.

### **Groundwater- Specific Criteria (3)**

The plume meets Groundwater-Specific Criteria (3).

- a. The plume is less than 250 feet in length.
- b. There is no free product

- c. The plume has been stable or decreasing for a minimum of 5 years.
- d. The nearest existing water supply well is greater than 1000 feet from the plume boundary. The nearest supply well is approximately 1 mile west of the site.
- e. The property owner is willing to accept a land use restriction if the regulatory agency requires as a condition of closure.

Recovery well RW-1 was a source area groundwater recovery and monitoring well. RW-1 was first sampled on March 25, 2002 (TPH purgeable 64,000 ug/L, benzene 4,900 ug/L and MTBE 3,000 ug/L). There was a significant reduction in petroleum hydrocarbon concentrations when RW-1 was last sampled on October 17, 2007 (TPH purgeable 10,000 ug/L, benzene 950 ug/L and MTBE 700 ug/L). The reduction in petroleum hydrocarbons shows that the source area portion of the groundwater plume is decreasing.

Downgradient monitoring well MW-2 is approximately 60 feet southwest of the site boundary (across North Lake Boulevard). MW-2 was first sampled on January 9, 2006 (TPH purgeable 97,000 ug/L, benzene 7,800 ug/L and MTBE <100 ug/L). Petroleum hydrocarbon constituents in the well have steadily declined over the years and reached their lowest levels on May 2, 2012 (TPH purgeable 30,000 ug/L, benzene 2,500 ug/L and MTBE 100 ug/L). The concentrations have increased during the last two sampling events, with the latest sampling occurring on May 2, 2013 (TPH purgeable 84,000 ug/L, benzene 6,000 ug/L and MTBE 350 ug/L). With the exception of MTBE, recent concentrations in MW-2 are lower than the initial concentrations.

Downgradient monitoring well MW-4 is approximately 20 feet west of the site boundary. The only constituent detected during the latest sampling of the well on May 25, 2011 was MTBE at 0.9 ug/L.

The petroleum hydrocarbon concentrations over time in the monitoring wells show the groundwater plume is stable or decreasing. The elevated petroleum hydrocarbon concentrations detected in the groundwater from monitoring well MW-2 appear to be isolated. There is a significant reduction in petroleum hydrocarbon concentrations detected in the groundwater monitoring wells MW-11 and MW-16 downgradient of MW-2.

The source of the petroleum hydrocarbons have been removed in soil to the extent practicable by removing the USTs and over excavating petroleum hydrocarbon affected soil. In groundwater, the secondary source of petroleum hydrocarbons has been significantly reduced with the groundwater remediation activities performed to date. Residual petroleum hydrocarbon concentrations remaining in groundwater will continue to degrade through natural attenuation within a reasonable period of time.

## **2. *Petroleum Vapor Intrusion to Indoor Air***

The potential for petroleum vapor intrusion into indoor air has been evaluated based on soil vapor sampling results and concentrations of petroleum hydrocarbons remaining in soil and groundwater.

### **Vapor Survey**

A vapor survey was conducted in April 2007, prior to the removal of the 300 tons of petroleum impacted soil. Total petroleum hydrocarbons as gasoline, BTEX and MTBE were not detected in the vapor samples above Environmental Screening Levels (ESLs) or California Human Health Screening Levels (CHHSLs) for commercial use sites.

Benzene was detected in the four vapor samples at 4.4, 5.0, 5.6 and 79 ug/m<sup>3</sup>, and ethylbenzene was detected in two of the four vapor samples at 10 and 14 ug/m<sup>3</sup>. The benzene and ethylbenzene vapor concentrations are well below the respective commercial criteria of 280 ug/m<sup>3</sup> and 3,600 ug/m<sup>3</sup> for the site-specific Scenario 4 conditions for potential petroleum hydrocarbon vapor intrusion to indoor air.

### **Soil and Groundwater Concentrations Remaining**

The depth to water is approximately 10 feet below the ground surface. The total combined total petroleum hydrocarbon concentrations (purgable and extractable) are less than 100 mg/Kg in the vadose/bioattenuation zone, with the exception of the southwestern edge of the site along North Lake Boulevard. Soil was excavated up to the edge of the property but could not be extended any further due to the presence of the street. Therefore the combined total petroleum hydrocarbon concentrations along a small portion of the southwestern edge of the site exceeded 100 mg/Kg.

The highest benzene concentrations detected in the groundwater were in on-site, recovery well RW-1 and in off-site, monitoring well MW-2 across North Lake Boulevard from the site. RW-1 was last sampled on October 17, 2007 prior to its abandonment, and benzene was detected at 950 ug/L. RW-1 was abandoned so an additional 300 tons of petroleum hydrocarbon impacted soil could be excavated and removed from the site. Benzene was not detected in the groundwater sample collected from downgradient well MW-4 on May 25, 2011. The dissolved phase benzene concentrations and the TPH concentrations in the bioattenuation zone beneath the Swiss Mart site meet and satisfy the media-specific criteria for potential petroleum vapor intrusion into indoor air for Scenario 3.

Off-site monitoring Well MW-2 is approximately 60 feet southwest of the site across North Lake Boulevard. Monitoring well MW-2 was last sampled on May 2, 2013 and benzene was detected at 6,000 ug/L. The dissolved phase benzene concentration in this well will not impact the potential for petroleum vapor intrusion at the site. The groundwater plume beneath North Lake Boulevard is mitigated by the pavement of the roadway and concentrations decrease further downgradient of MW-2.

Based on the vapor survey results and the low petroleum hydrocarbons remaining in the soil and groundwater beneath the site, there is a low-threat for the potential for petroleum hydrocarbon vapor intrusion to indoor air.

### **3. *Direct Contact and Outdoor Air Exposure***

Benzene is the residual petroleum hydrocarbon constituent of concern at the site. Benzene was below the Low-Threat Closure Policy - Table 1 levels for commercial and utility workers in the confirmation soil samples.

- 0.0094 mg/Kg at 1.5 feet
- 0.011 mg/Kg at 4 feet
- 7.2 mg/Kg at 3.5 feet

The site meets the low-threat criteria for direct contact or outdoor air exposure.

### **Low-Threat Case Closure**

The Swiss Mart site meets the general and media-specific criteria of the Low-Threat Underground Storage Tank Case Closure Policy. Soil and groundwater remediation have been performed on and offsite to the degree practicable. Upon completion of the notification/comment period and after receiving a case closure letter, the Placer County Successor Agency will proceed with the permitting and destruction of the groundwater monitoring and extraction wells at the site.