State Water Resources Control Board

UST CASE CLOSURE REVIEW SUMMARY REPORT

Agency Information

Agency Name: Central Valley Regional Water Quality Control Board, Sacramento (Regional Water Board)	Address: 11020 Sun Center Drive #200, Rancho Cordova, CA 95670-6114
Agency Caseworker: Vera Fisher	Case No.: 070053

Case Information

USTCF Claim No.: 17928	Global ID: T0601300776
Site Name: Hickmott Cannery (Former)	Site Address: 5th & B Street, Antioch, CA 94509
Claimant Name: Tom Trost, Assignee	Address: PO Box 584 Bethel Island, CA 94511
USTCF Expenditures to Date: $539,288	Number of Years Case Open: 12

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0601300776

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:

The Site was developed around 1865 and operated as an alcohol distillery. Buildings and a boiler system were constructed to provide heat for the distillation process. When the distillery closed, the property was purchased and operated as a cannery. The Hickmott Cannery operated from approximately 1919 through 1977 and the structures were demolished by the City in 1990, concurrent with removal of the USTs at the Site. Residual cannery material remain onsite. The Site property has been vacant with no known activities since the cannery was closed in 1977. An unauthorized leak was reported in May 1990 following the removal of two USTs (one gasoline, one boiler fuel oil). Approximately 573 cubic yards of contaminated soil were removed in the vicinity of the former USTs in November 2010. Since 1989, eleven groundwater monitoring wells have been installed and regularly monitored. According to groundwater data, water quality objectives have been achieved or nearly achieved for all 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. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. The nearest surface water body, East Antioch Creek, is approximately 100 feet from the defined plume boundary. Water is provided

to water users near the Site by the City of Antioch. 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. The Site fails Classes 1 through 4 because there are surface waters located within 1,000 feet of the plume boundary. The nearest surface water body, East Antioch Creek, is approximately 100 feet from the defined plume boundary. However, the plume is localized around a single source monitoring well and is not expected to migrate further. Low concentrations of total petroleum hydrocarbons as gasoline [TPHg], TPH as diesel [TPHd] and benzene have been stable for approximately ten years. The plume is also in the area of an industrial waste disposal site that has been documented throughout various investigations. There are no water supply wells near the defined plume boundary. The regulatory agency determines, based on an analysis of site specific conditions, which 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.
- Vapor Intrusion to Indoor Air: This 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 potential exposure to petroleum constituents as a result of vapor intrusion found there to be no significant risk of petroleum vapors adversely affecting human health. The Site is a vacant industrial lot with no structures and it is fenced to exclude the public.
- Direct Contact and Outdoor Air Exposure: This case meets Policy Criterion 3b. Although no document titled "Risk Assessment" was found in the files reviewed, a professional assessment of site-specific risk from potential exposure to residual soil contamination found that maximum concentrations of petroleum constituents remaining in soil will have no significant risk of adversely affecting human health. The Site is a vacant industrial lot with no structures and it is fenced to exclude the public. Safety measures necessary to protect future construction workers from any non-petroleum hydrocarbon contamination associated with the former industrial activity at the Sites will also be protective of ingestion, inhalation and dermal contact.

Objections to Closure and Responses

The Regional Water Board objected to UST case closure in their February 2013 letter:

- Policy General criteria are not met because the Site is impacted by chemicals other than petroleum constituents.
  RESPONSE: The Policy General criteria are met. The contaminants from the USTs are petroleum hydrocarbons. Other contaminants present at the Site are from the former cannery operation. The Regional Water Board may open a Site Cleanup Program regulatory case to address non-petroleum groundwater issues.

- Media-Specific Groundwater criteria are not met because there is not a 1,000 foot buffer to the nearest surface water.
  RESPONSE: The plume(s) are stable and/or declining in concentration and even if petroleum contaminants entered surface water they would be far below water quality objectives for beneficial uses of surface water. The case meets Policy Criterion 1 by Class 5.
- Media-Specific Vapor Intrusion criteria are not met because soil vapor exceeds residential protective values for benzene.
  RESPONSE: There are no structures on the Site. The case meets Policy Criterion 2b.
- Media-Specific Direct Contact and Outdoor Air Exposure Criteria are not met because there are risks associated with dermal contact from soil (in the area of S-G-1-8-E) due to benzene and naphthalene levels.
  RESPONSE: The area of concern is small in areal extent and not representative of the Site as allowed by the Policy. Furthermore, the entire Site is a fenced lot with residual cannery waste. The case meets Policy Criterion 3b.

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. Contra Costa County has the regulatory responsibility to supervise the abandonment of monitoring wells.

Lisa Babcock 11/14/13

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

Prepared by: Mark Owens, P.E.

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? 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

- The former Hickmott Cannery is located at the northwest corner of 6th and A Streets in the City of Antioch.
- The Site was developed around 1865 and operated as an alcohol distillery. Buildings and a boiler system were constructed to provide heat for the distillation process. When the distillery closed, the property was purchased and operated as a cannery.
- The Hickmott Cannery operated from approximately 1919 through 1977 and the structures were demolished by the City in 1990, concurrent with removal of the USTs at the Site. Residual cannery material remains onsite.
- The Site property has been vacant with no known activities since the cannery was closed in 1977.
- Site maps showing the location of the former and USTs, monitoring wells, groundwater level contours, and contaminant concentrations are provided at the end of this closure review summary (Taber Consultants, 2011).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: May 1990.
- Status of Release: USTs removed.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	43,000	Fuel Oil for Boilers	Removed	March 1990
2	10,000	Gasoline	Removed	March 1990

Receptors

- GW Basin: San Joaquin Valley – Tracy.
- Beneficial Uses: Regional Water Board Basin Plan lists industrial process and service supply, freshwater replenishment, municipal and domestic supply, agricultural supply, and groundwater recharge.
- Land Use Designation: Aerial photograph available on GeoTracker indicates mixed residential and commercial land use in the vicinity of the Site.
- Public Water System: City of Antioch.
- 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. No other water supply wells were identified within 1,000 feet of the defined plume boundary in the files reviewed.
- Distance to Nearest Surface Water: East Antioch Creek and the San Joaquin River are projected to be located within approximately 100 feet of the defined plume boundary.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by stiff clay, silt and dense sandy soils and lenses of organic rich clay and peat overlain by varying amounts of surficial fill and cannery waste that were disposed on Site.

- Maximum Sample Depth: 45 feet below ground surface (bgs).
- Minimum Groundwater Depth: 3.30 feet bgs at monitoring well KMW-9A.
- Maximum Groundwater Depth: 12.82 feet bgs at monitoring well MW-4.
- Current Average Depth to Groundwater: Approximately 8 feet bgs.
- Saturated Zones(s) Studied: Approximately 4-21 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: North/northeast with an average gradient of 0.0013 feet/foot.

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (09/25/12)
MW-2	August 1989	2-12	7.86
MW-3	August 1989	4-14	8.73
MW-4	August 1989	4-21	12.62
MW-5	January 1990	4-14	8.83
MW-6	January 1990	4-14	7.98
MW-7A	July 2001	5-15	NM
KMW-8	NA	NA-16	7.31
KMW-9A	February 2008	3-8	5.24
KMW-10	NA	NA-14	6.97
KMW-11	NA	NA-15	8.39
MW-12	NA	NA	6.30

NA: Data not available
NM: Not measured

Remediation Summary

- Free Product: None reported in GeoTracker.
- Soil Excavation: Approximately 573 cubic yards of soil were excavated to a depth of 8 feet in the vicinity of the former USTs in November 2010.
- In-Situ Soil Remediation: None reported.
- Groundwater Remediation: None reported.

Most Recent Concentrations of Petroleum Constituents in Soil

Constituent	Maximum 0-5 feet bgs [mg/kg (date)]	Maximum 5-10 feet bgs [mg/kg (date)]
Benzene	<0.005 (12/07/10)	14[a] (11/2/10)
Ethylbenzene	<0.005 (12/07/10)	6.2[a] (11/2/10)
Naphthalene	<0.005 (12/07/10)	47[a] (11/2/10)
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
a: Atypical sample result (most sample results are <0.1 mg/kg or non-detect).

Most Recent Concentrations of Petroleum Constituents in Groundwater

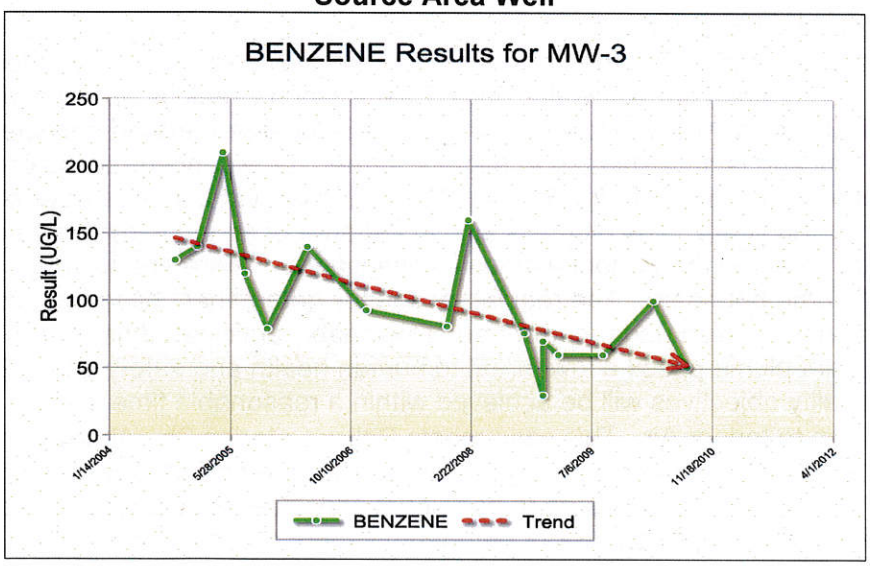
Sample	Sample Date	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)
MW-2	9/25/2012	**<50**	**130**	**<0.5**	**55**	<0.5	<1.0	<1.0	<10
MW-3	9/25/2012	**1,800**	**770**	**93**	7.1	0.57	7.4	<1.0	<10
MW-4	9/25/2012	**NA**	NA	**NA**	NA	NA	NA	NA	<5
MW-5	9/25/2012	**70**	**1,900**	**<0.5**	<0.5	<0.5	<1.0	<1.0	<10
MW-6	9/25/2012	**85**	**410**	**4.7**	1.7	4.8	3.0	**5.9**	<10
MW-7A	9/25/2012	**NA**	NA	**NA**	NA	NA	NA	NA	NA
KMW-8	9/25/2012	**NA**	NA	**NA**	NA	NA	NA	NA	NA
KMW-9A	9/25/2012	**56**	<50	**<0.5**	<0.5	<0.5	<1.0	<1.0	<10
KMW-10	9/25/2012	**NA**	NA	**NA**	NA	NA	NA	NA	NA
KMW-11	9/25/2012	**180**	**270**	**1.9**	<0.5	<0.5	1.0	<1.0	<10
MW-12	9/25/2012	**NA**	NA	**NA**	NA	NA	NA	1.5	NA
WQOs	**-**	**5**	**56**	**0.15**	**42**	**29**	**17**	**5**	**1,200[a]**

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
TPHd: Total petroleum hydrocarbons as diesel
MTBE: Methyl tert-butyl ether
TBA: Tert-butyl alcohol
WQOs: Water Quality Objectives, Regional Water Board Basin Plan
[a]: California Department of Public Health, Response Level

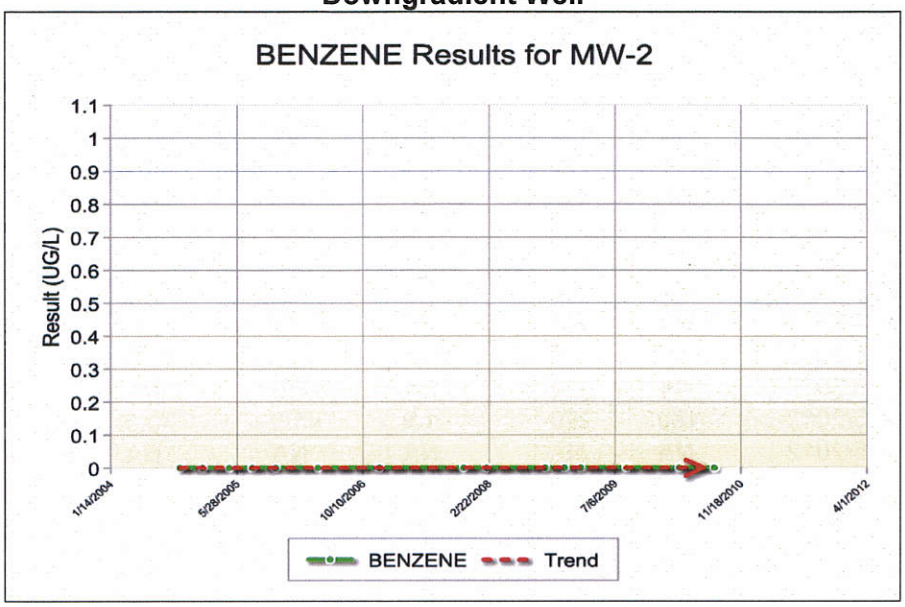
Groundwater Trends

- Since 1989, eleven groundwater monitoring wells have been installed and regularly monitored. Benzene trends are shown below: Source Area (MW-3) and Downgradient (MW-2).

Source Area Well



Downgradient Well



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: 2,294 pounds of TPHg, 6,388 pounds of TPHd, and 65 pounds of benzene.
- Soil/Groundwater tested for methyl tert-butyl ether (MTBE): Yes.
- Oxygen Concentrations in Soil Vapor: None reported.
- Plume Length: The TPHg and TPHd plumes are projected to be approximately 400 feet in length.
- 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. The Site fails Classes 1 through 4 because there are surface waters located within 1,000 feet of the plume boundary. The nearest surface water body, East Antioch Creek, is approximately 100 feet from the defined plume boundary. However, the plume is localized around a single source monitoring well and is not expected to migrate further. Low concentrations of total petroleum hydrocarbons as gasoline [TPHg], TPH as diesel [TPHd] and benzene have been stable for approximately ten years. The plume is also in the area of an industrial waste disposal site that has been documented throughout various investigations. There are no water supply wells near the defined plume boundary. The regulatory agency determines, based on an analysis of site specific conditions, which 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.
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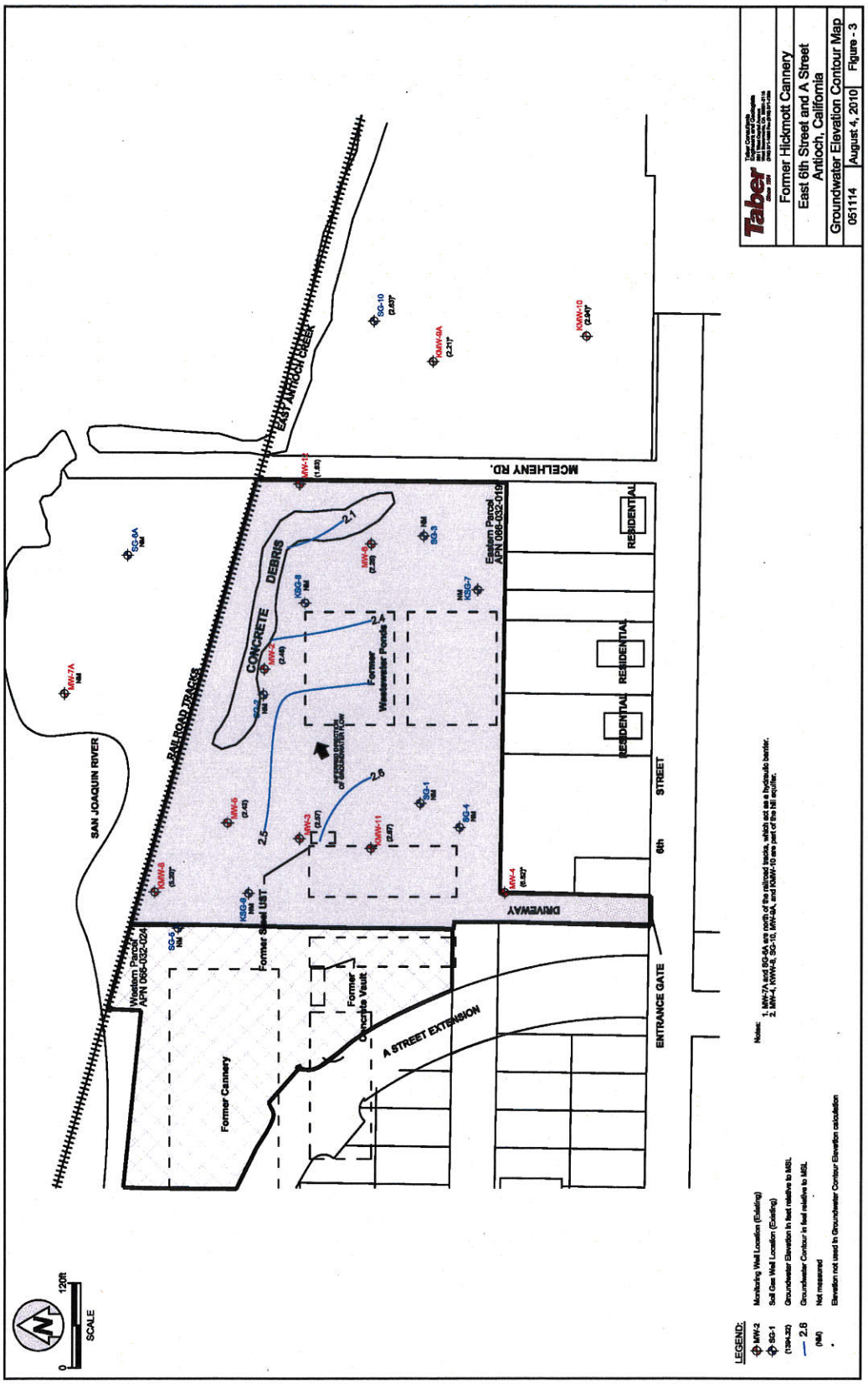
5th & B Street, Antioch
Claim No: 17928

August 2013



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