Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Quality

1001 I Street, Sacramento, California 95814♦ (916) 341-5851
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Arnold Schwarzenegger
Governor

NOTICE OF OPPORTUNITY FOR PUBLIC COMMENT

ON UNDERGROUND STORAGE TANK CASE CLOSURE FOR HAAGEN GDH PARTNERSHIP AT 1899 E COCHRAN STREET, SIMI VALLEY (FORMER GEMCO STORE)

NOTICE IS HEREBY GIVEN THAT the State Water Resources Control Board (State Water Board) will accept comments on the proposed underground storage tank (UST) case closure for Haagen GDH Partnership, 1899 E Cochran Street, Simi Valley.

Enclosed is a draft UST case closure summary that was prepared by State Water Board staff for the above-entitled matter. Pursuant to Health and Safety Code section 25296.40, the State Water Board will be considering, at a future board meeting, whether this UST case should be closed. You will separately receive an agenda for this meeting.

All comments shall be based solely upon evidence contained in the record or upon legal argument. Supplemental evidence will not be permitted except under the limited circumstances described in California Code of Regulations, title 23, section 2814.8.

Comment letters to the State Water Board **must be received by 12:00 noon on March 26, 2010**. Please send comments to: Jeanine Townsend, Clerk to the Board, by email at commentletters@waterboards.ca.gov (If less than 15 megabytes in size), by fax to (916) 341-5620, or addressed to State Water Resources Control Board, 1001 I Street, Sacramento, CA 95814. Please provide the following information in the subject line: **UST Case Closure, Petition of Haagen GDH Partnership, 1899 E Cochran Street, Simi Valley.**

Please direct questions about this notice to Laura Fisher, Division of Water Quality at (916) 341-5870 (lfisher@waterboards.ca.gov).

February 25, 2010
Date

Jeanine Townsend
Clerk to the Board

State Water Resources Control Board

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D R A F T

UST Case Closure Summary
Haagen GDH Partnership /Former Gemco Store # 533
1899 East Cochran Street, Simi Valley

Summary

The release from the subject site was discovered during a soil investigation in 1987. The residual contaminants impact only soil and shallow groundwater in the immediate vicinity of the site. The Ventura County Local Oversight Program (County) recommended case closure and requested concurrence from Los Angeles Regional Water Quality Control Board (Regional Board) staff. Regional Board staff disagreed with the County because: benzene groundwater concentration exceeded maximum contaminant levels (MCLs); residual soil contamination between 40 feet and 60 feet below ground surface (bgs) continued to be an ongoing source of groundwater contamination; additional hot spot source removal was needed; and the vapor intrusion exposure to human health had not been calculated.

The mass of remaining residual petroleum hydrocarbons is adsorbed to fine grain soil and dissolved petroleum constituents including fuel oxygenate compounds are degrading. Although monitoring wells screened in this area have consistently had high concentrations of residual petroleum hydrocarbons in groundwater, after over 20 years the groundwater plume does not extend more than about 100 feet from the underground storage tank (UST) excavation. Trendlines for down gradient monitoring wells at the perimeter of the source area (greater than 50 feet from the source area) show that water quality objectives (WQOs) will be attained at the perimeter of the source area in approximately a decade. Five monitoring wells located farther than about 50 feet down gradient from the former USTs were sampled from 1992-1997. Analytical data from these wells indicated that the plume was stable to non-detect therefore these wells were abandoned in October 2006. Groundwater within the source area will likely remain above WQOs for decades to hundreds of years.

The commercial area of Simi Valley relies on a public water supply. There are no water supply wells within one mile of the site. The affected shallow groundwater is not used as a source of water supply nor is it likely to be used as a source of water supply in the future. Based on facts in the record and the hydrologic and geologic conditions at the site, the limited residual petroleum hydrocarbons, including oxygenate compounds that remain in deep soil and groundwater pose a low risk to public health, safety and the environment. For these reasons, case closure is appropriate.

Background

This UST Case Closure Summary has been prepared in response to a petition filed by Haagen GDH partnership to the State Water Resources Control Board (State Water Board) for closure of the Former Gemco Store No. 533 UST case located at 1899 East Cochran Street, Simi Valley. All record owners of fee title for this site as well as adjacent property owners and other interested parties have been notified of the recommendation for closure and were given an opportunity to comment.

The site is the former location of a Gemco store that included a gasoline station, tire store, and automotive repair shop located on the northwest corner of the intersection of East Cochran Street and Erringer Street in Simi Valley. The site is currently a paved parking lot that is part of a Vons Grocery Store. The surrounding areas are developed and consist of commercial properties.

Regional Board staff rejected the County's March 31, 2008 recommendation for UST case closure. Regional Board staff asserted that residual soil contamination continued to be a source of groundwater contamination, adequate information was not provided to explain why deep soil could not be adequately cleaned-up, and the extent of the dissolved phase petroleum hydrocarbon plume down gradient of wells V-19S and V-21S was not defined.

Petitioner Information

Haagen GDH Partnership Former Gemco Store # 533	1899 East Cochran Street, Simi Valley, CA 93065
Global ID No: 70611100277	Petition Date: September 3, 2008
USTCF Claim No.: 18057, 2942, 3639	USTCF Expenditures to Date: $0

Agency Information

Los Angeles Regional Water Quality Control Board	Address: 320 West 4th Street, Suite 200 Los Angeles, CA 90013
Regional Board Case No. NA	VCEHD Case No:C88022
Years case open: 22	

Release Information:

- USTs:

Tank No.	Size in Gallons	Contents	Status	Date
1	550	Waste oil	Removed	April 1994
2	12,000	Gasoline	Removed	January 1996
3	12,000	Gasoline	Removed	January 1996
4	12,000	Gasoline	Removed	January 1996

- Source of Release: UST system
- Release Discovery Date: July 1987

- Affected Media: Soil and shallow groundwater
- Free Product: None Reported
- Corrective Actions:
    1. July 1987 – Soil investigation
    2. June 1989 – Soil investigation
    3. October 1989 – Soil investigation
    4. March 1990 – Soil and groundwater investigation
    5. February 1991 – Soil and groundwater investigation
    6. July 1992 – Soil and groundwater investigation
    7. January 1996 – UST removal, soil excavation (about 180 cubic yards).
    8. January 1997 – Air Sparge/Soil Vapor Extraction remediation
    9. February 1998 – Remediation confirmation soil sampling
    10. October 2004 to November 2005 Dual-Phase Extraction

Site Information/ Description/ Conditions:

- Groundwater Basin: Simi Valley
- Beneficial Uses: Municipal (MUN), Industrial (IND), Industrial Process Supply (PRO), Agricultural Supply (AGR)
- Land Use: Commercial, paved parking lot
- Distance to Nearest Supply Well: Municipal well ~5,800 feet
- Minimum Groundwater Depth: ~45 feet
- Distance to Nearest Surface Water: Except for the concrete-lined Arroyo Simi Creek, approximately ¾ mile south-southwest of the site, no surface bodies of water are present within a one-mile radius of the site.
- Groundwater Flow Direction: Southwest
- Geology: Boring logs show that the site is underlain by silty sandy and clayey alluvial fan deposits with low permeability to depths of greater then 100 feet bgs.
- Hydrology: Depth to groundwater beneath the site has ranged between 45 and 57 feet bgs. The area surrounding the site is completely paved so groundwater recharge is derived from subsurface inflow.
- Estimate of Remaining Mass: ~4,500 pounds
- Time to Meet WQOs: Decades to hundreds of years.

Site History:

The case was opened as a County Local Oversight Program case in July 1987 when elevated concentrations of gasoline constituents were reported in soil samples to 50 feet bgs south of the tank cluster.

Between July 1987 and September 2008, corrective actions undertaken by petitioner include advancing over 30 borings to multiple depths down to 79 feet bgs, collecting and analyzing over 100 soil samples, installing over 25 monitoring wells, and extracting groundwater and soil vapors from remediation wells.

The UST system including three 12,000-gallon USTs were removed in January 1996. The site was remediated in 1997 using air sparge and soil vapor extraction (SVE) and between 2004 and 2005 using a dual-phase extraction (DPE) system. In November 2005, DPE operations were shut down after it was determined that these technologies would not be feasible to further reduce levels of residual petroleum hydrocarbons in soil and groundwater.

Concentrations of petroleum compounds decreased in all vapor extraction wells with the exception of one well (V-21S). DPE operations removed approximately 269 pounds of petroleum hydrocarbons or approximately 1.84 pounds/day of vapor phase hydrocarbons. The extraction of over 25,700 gallons of groundwater yielded only six pounds of dissolved petroleum hydrocarbons.

In April 2007, oxygen releasing compounds (ORC) were injected into the subsurface near well V-21S.

A risk based corrective action (RBCA) evaluation of this site was completed in 1999. The site passed a Tier 2 RBCA for a commercial risk scenario. The site is paved and has been used as a commercial parking lot since the tank removals in 1996. No building is located over the contamination, and the site is in a commercial area that is fully developed. The known contamination beneath the site does not pose a threat to human health or the environment according to the commercial risk scenario.

Post-remediation groundwater data collected in 2007 indicates that ORC injection into the subsurface did not effectively degrade dissolved petroleum hydrocarbons that were adsorbed within the silty, sandy clay zone between 45 and 55 feet bgs. Monitoring well data show that the extent of the dissolved hydrocarbon plume is gradually decreasing in size and concentration and does not appear to have been accelerated by additional remediation efforts.

In March 2008, the County referred the case to the Regional Board for concurrence with its recommendation for case closure. The Regional Board did not concur with this recommendation. In September 2008, Petitioner petitioned the State Water Board for case closure.

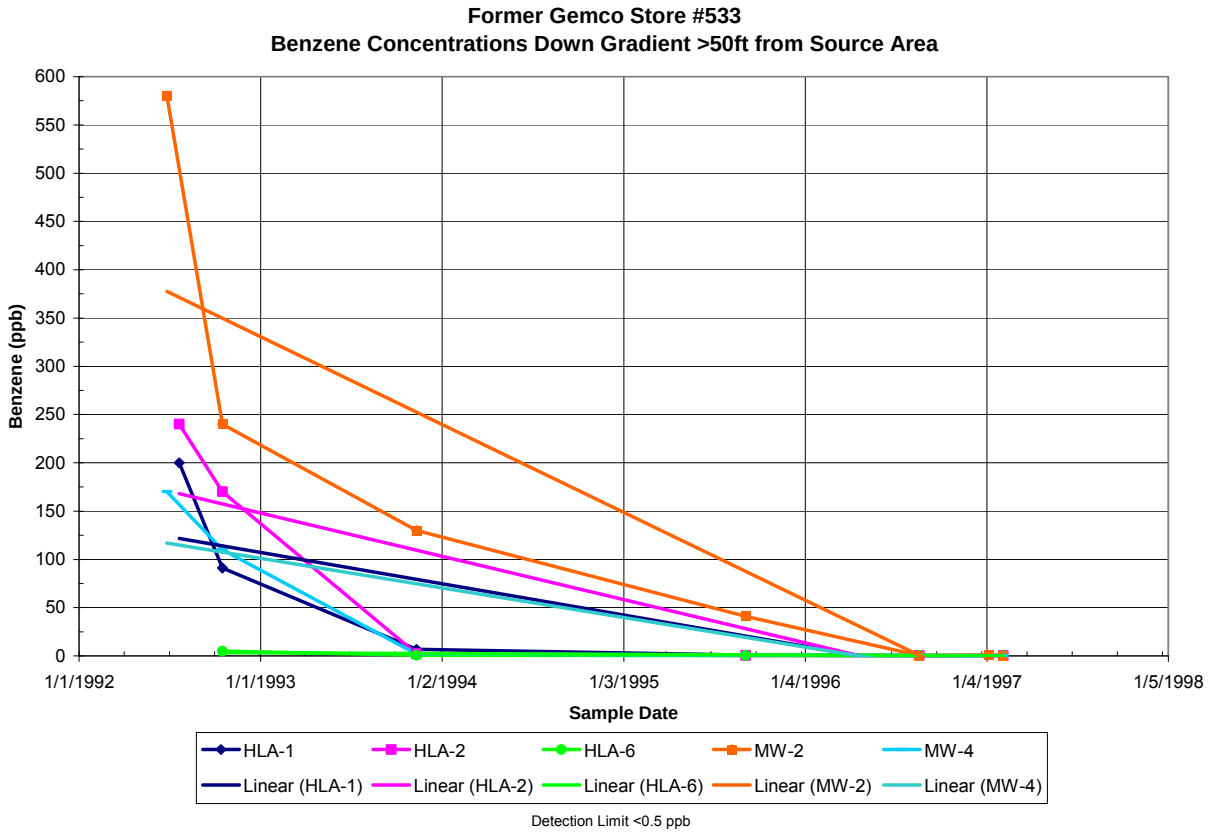
Contaminant Concentrations in Groundwater:
The monitoring wells located at the site appear to fall into two groups based upon the historic trend of petroleum concentrations in groundwater: 1) wells that are more than 50 feet down gradient of the source area, and 2) wells that are constructed within or immediately down gradient of the contaminated soil in the source area.
1) Monitoring wells HLA-1, HLA-2, HLA-6, MW-2 and MW-4 are located more than 50 feet down gradient of the source area. The following graph shows that benzene concentrations in these wells consistently indicated stable or decreasing concentrations

of petroleum constituents in groundwater between 1992 and 1997. Analytical data from these wells indicted that the plume was decreasing to non-detect therefore these wells were abandoned in October 2006.

This down gradient concentration stability and decrease is consistent with a zone of robust biodegradation. Because the source area contamination is adsorbed to tight soils, the rate of biodegradation of the remaining mass is dissolution limited and the natural biodegradation in groundwater has effectively limited the length of the dissolved plume to less than 100 feet from the source area for the past 20 years.

February 1997 Sampling Event for Wells >50ft Down gradient of Source Area						
Well	TVHg* (µg/L)	benzene (µg/L)	toluene (µg/L)	ethyl-benzene (µg/L)	total xylenes (µg/L)	MTBE (µg/L)
HLA-1	ND	ND	ND	ND	ND	ND
HLA-2	ND	ND	0.75	ND	ND	ND
HLA-6	ND	ND	ND	ND	ND	ND
MW-2	ND	ND	ND	ND	ND	ND
MW-4	ND	ND	ND	ND	ND	ND
WQO	**5**	**1**	**42**	**29**	**17**	**5**

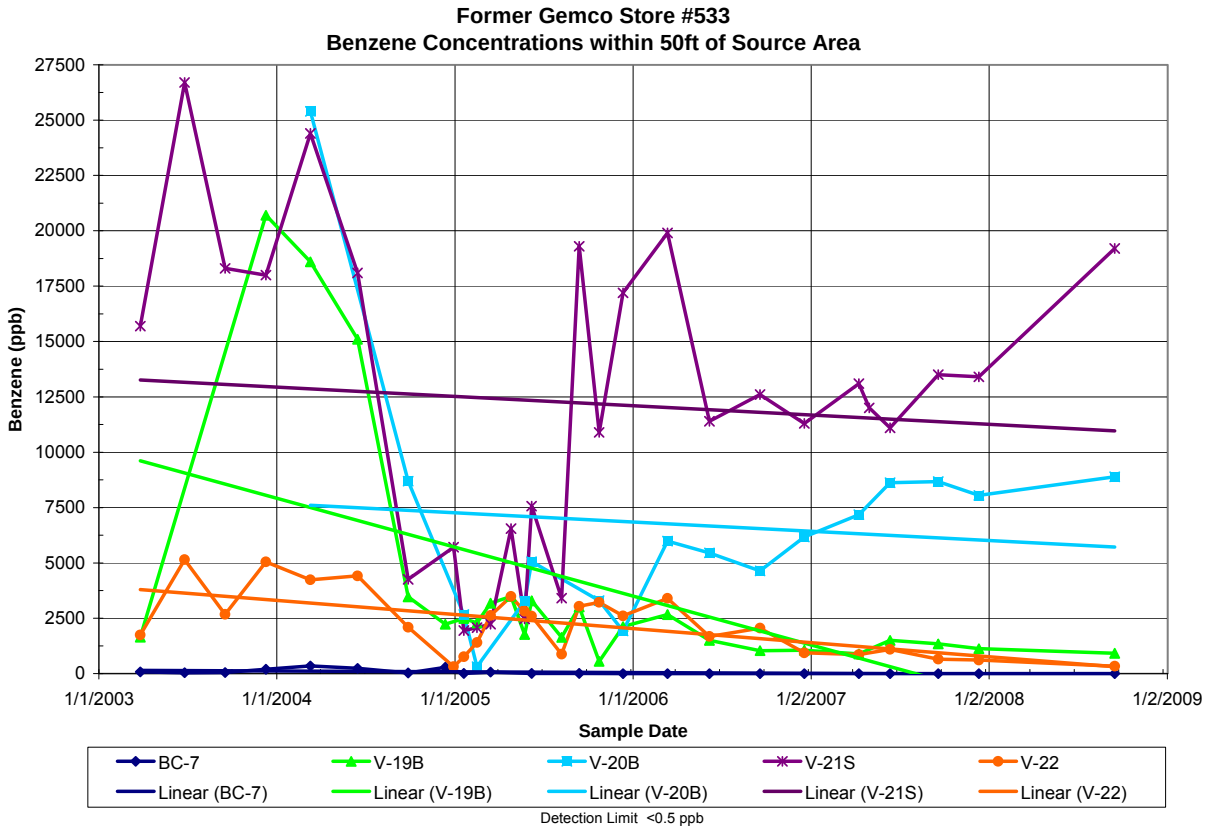
*TVHg=total volative hydrocarbons, reported as gasoline



2) Monitoring wells BC-7, V-19B, V-20B, V-21S and V-22 are constructed within 30 feet or immediately adjacent to the contaminated soil in the source area. The graph below shows consistently high and varying levels of benzene in groundwater. While the levels in these wells are consistently high, they show significant variation between wells from year to year with overall decreasing trends between 2003 and 2008. Some periods show an increasing trend. This variation is not uncommon when wells are screened within a zone of contaminated soil that is in contact with groundwater due to differences in groundwater elevation, purging techniques, rate of dissolution of contaminants and the spatial variation of geologic materials and contamination. Because the contamination is adsorbed in tight soils it is likely to be decades to hundreds of years before WQOs are reached.

September 2008 Sampling Event for Wells within 50ft of Source Area							
Well	TVHg* (µg/L)	benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TBA (µg/L)	MTBE (µg/L)
BC-7	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<1	ND<10	ND<0.5
V-19B	9,300	914	ND<5	1,100	212	722	61.5
V-20B	35,000	8,890	15.7	981	1,790	ND<100	45.9
V-21S	78,300	19,200	67	1,540	5,310	ND<1000	316
V-22	2,950	331	1.15	438	5.92	11.2	1.87
WQO	**5**	**1**	**42**	**29**	**17**	**12**	**5**

*TVHg=total volative hydrocarbons, reported as gasoline



Closure:

Does corrective action performed to date ensure the protection of human health, safety, and the environment? Yes.

Is corrective action and UST case closure consistent with State Water Board Resolution 92-49? Yes.

Is achieving background water quality feasible? No.

To remove all traces of residual petroleum constituents at the site would require significant effort and cost. If complete removal of detectable traces of petroleum constituents becomes the standard for UST corrective actions, however, the statewide technical and economic implications will be enormous. For example, disposal of soils from comparable areas of excavation throughout the state would greatly impact already limited landfill space. In light of the precedent that would be set by requiring additional excavation at this site and the fact that beneficial uses are not threatened, attaining background water quality at this site is not feasible.

If achieving background water quality is not feasible,
Is the alternative cleanup level consistent with the maximum benefit to the people of the state? Yes.

It is impossible to determine the precise level of water quality that will be attained given the limited residual petroleum hydrocarbons that remain at the site, but in light of all the factors discussed above, and the fact that the residual petroleum constituents will not unreasonably affect present and anticipated beneficial uses of groundwater, a level of water quality will be attained that is consistent with the maximum benefit to the people of the state.

Will the alternative cleanup level unreasonably affect present and anticipated beneficial uses of water? No.

Impacted groundwater is not used as a source of drinking water or for any other beneficial use currently and it is highly unlikely that the impacted groundwater will be used as a source of drinking water or for any other beneficial use in the foreseeable future.

Will the alternative level of water quality exceed water quality prescribed in applicable Basin Plans? No.

The final step in determining whether cleanup to a level of water quality less stringent than background is appropriate for this site requires a determination that the alternative level of water quality will not result in water quality less than that prescribed in the relevant basin plan. Pursuant to State Water Board

Resolution 92-49, a site may be closed if the basin plan requirements will be met within a reasonable time frame.

Have factors contained in Title 23 of the California Code of Regulations, Section 2550.4 been considered? Yes.

In approving an alternative level of water quality less stringent than background, the State Water Board has also considered the factors contained in California Code of Regulations, title 23, section 2550.4, subdivision (d). As discussed earlier, the adverse effect on shallow groundwater will be minimal and localized, and there will be no adverse effect on the groundwater contained in deeper aquifers, given the physical and chemical characteristics of petroleum constituents, the hydrogeological characteristics of the site and surrounding land, and the quantity of the groundwater and direction of the groundwater flow. In addition, the potential for adverse effects on beneficial uses of groundwater is low, in light of the proximity of the groundwater supply wells, the current and potential future uses of groundwater in the area, the existing quality of groundwater, the potential for health risks caused by human exposure, the potential damage to wildlife, crops, vegetation, and physical structures, and the persistence and permanence of potential effects. Finally, a level of water quality less stringent than background is unlikely to have any impact on surface water quality, in light of the volume and physical and chemical characteristics of petroleum constituents; the hydrogeological characteristics of the site and surrounding land; the quantity and quality of groundwater and direction of groundwater flow, the patterns of precipitation in the region, and the proximity of residual petroleum to surface waters.

Has the requisite level of water quality been met? No.
If no, the approximate time period in which the requisite level of water quality will be met:

The approximate time period in which the requisite level of water quality for dissolved petroleum hydrocarbons and oxygenate compounds will be met is estimated to be decades to hundreds of years.

Though the requisite level of water quality has not been met, water quality objectives will be achieved via natural attenuation in decades to hundreds of years. This is a reasonable period in which to meet the requisite level of water quality because 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 future. Other designated beneficial uses of water are not adversely impacted and it is highly unlikely that they will be given the nature of the contamination, geology at the site, and the distance to the nearest water supply well. Considering these factors in the context of the site

setting, site conditions do not represent a threat to public health, safety and the environment and case closure is appropriate.

Objections to closure and response:
The Regional Board staff did not concur with the County's recommendation for case closure because of the following concerns;

- Residual soil contamination between 40 feet and 60 feet bgs continues to be an ongoing source of groundwater contamination.

This statement is accurate. However, because residual petroleum hydrocarbons are adsorbed to tight soils, the low rate of dissolution of the remaining mass has effectively limited the length of the dissolved plume to less than 100 feet from the source area for the past 20 years. Therefore, the impact to water quality is limited and localized as discussed above.

- Information provided to the Regional Water Board did not clearly explain why deep soil between 40 feet and 60 feet bgs could not be adequately cleaned-up.

Deep soil can be removed through excavation, but at considerable expense. This site has been extensively remediated to the point where excavation to approximately 55 feet bgs is the only effective means of removing the remaining mass. However, impacts to water quality are limited and localized as discussed above.

- The vapor intrusion exposure to human health has not been calculated.

The remaining petroleum hydrocarbon mass is confined to deep, tight soils that underlie a paved parking lot. Ten feet of unsaturated soil has been shown to effectively degrade petroleum vapors over free product to non-detect levels. At this site, over 40 feet of unsaturated soil exists over the remaining mass. Therefore, there are no vapor pathways of concern.

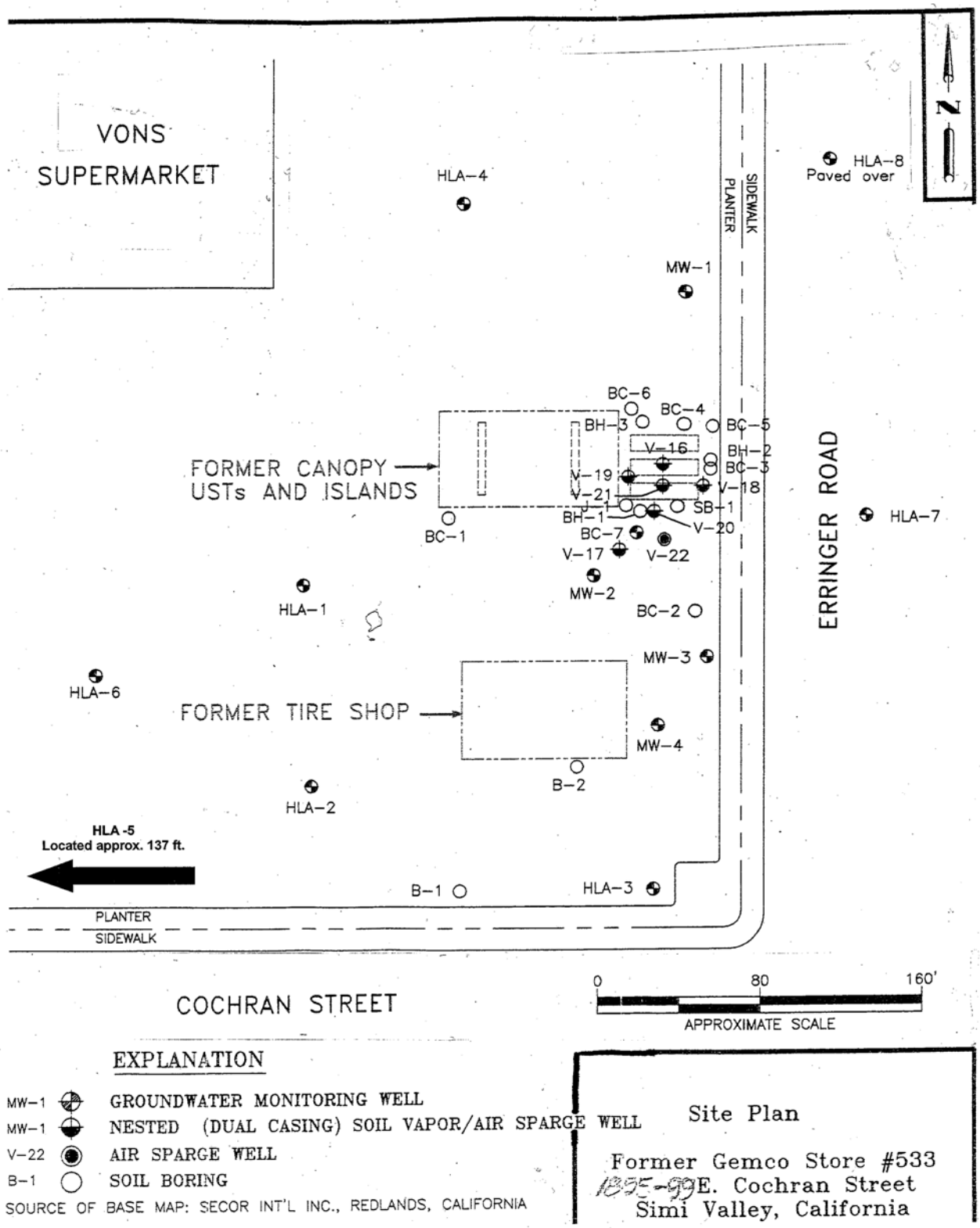
- The extent of dissolved phase petroleum hydrocarbon plume down gradient from groundwater monitoring wells V-19S (V-19B) and V-21S (V-21B) is not defined.

Groundwater monitoring data reported between 1992 and 1997 for down gradient wells HLA-1, HLA-2, HLA-6, MW-2 and MW-4, located down gradient of wells V-19S (V-19B) and V-21S(V-21B), shows that contaminant concentrations in these wells consistently indicated decreasing to non-detect concentrations of petroleum constituents in groundwater. As discussed above, the dissolved petroleum hydrocarbon plume is defined, stable, and degrading.

Summary and Conclusions:
Based on the hydrology, geology, and other factors at and in the vicinity of the site, the residual petroleum hydrocarbons that remain in soil and groundwater pose a low risk to public health, safety and the environment. The remaining mass of residual petroleum hydrocarbons is limited to the immediate vicinity of the former USTs, the plume is stable, and concentrations are decreasing. Site groundwater is not currently used as a source for beneficial uses and it is highly unlikely that it will be used for beneficial uses in the future. Case closure is appropriate.

Benjamin Heningburg
Engineering Geologist
Professional Geologist No. 8130

Date


VONS
SUPERMARKET
HLA–4
HLA–8
Paved over
SIDEWALK
PLANTER
MW–1
BC–6
BC–4
BC–5
BH–3
V–16
BH–2
BC–3
FORMER CANOPY
USTs AND ISLANDS
V–19
V–18
V–21
SB–1
BH–1
V–20
BC–7
BC–1
V–17
V–22
MW–2
HLA–7
ERRINGER ROAD
HLA–1
BC–2
MW–3
HLA–6
FORMER TIRE SHOP
MW–4
B–2
HLA–2
HLA -5
Located approx. 137 ft.
B–1
HLA–3
PLANTER
SIDEWALK
COCHRAN STREET
0
80
160'
APPROXIMATE SCALE
EXPLANATION
MW–1 GROUNDWATER MONITORING WELL
MW–1 NESTED (DUAL CASING) SOIL VAPOR/AIR SPARGE WELL
V–22 AIR SPARGE WELL
B–1 SOIL BORING
SOURCE OF BASE MAP: SECOR INT'L INC., REDLANDS, CALIFORNIA
Site Plan
Former Gemco Store #533
1855-99 E. Cochran Street
Simi Valley, California