ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

March 11, 2010

Anthony Varni
P.O. Box 570
Hayward, CA 94543-0570

REMEDIAL ACTION COMPLETION CERTIFICATE

Subject: Fuel Leak Case No. RO0000322 and GeoTracker Global ID T0600101435, Varni Property, 2691 Castro Valley Boulevard, Castro Valley, California 94546

Dear Mr. Varni:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks 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 tank(s) 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 underground storage tank(s) 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 (h) of Section 25299.37 of the Health and Safety Code.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Ariu Levi
Director
Alameda County Environmental Health

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Subject: Fuel Leak Case No. RO0000322 and GeoTracker Global ID T0600101435, Varni Property, 2691 Castro Valley Boulevard, Castro Valley, CA 94546

Dear Mr. Varni:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Residual pollution remaining in soil beneath the site includes total petroleum hydrocarbons as gasoline (TPH-g) at a concentration of 6.1 mg/kg. However, groundwater samples collected from the site did not detect TPH-g contamination above the laboratory detection limit.

If you have any questions, please call Paresh Khatri at (510) 777-2478. Thank you.

Sincerely,

Donna L. Drogos, P.E.
Chief

Enclosures:
1. Remedial Action Completion Certificate
2. Case Closure Summary

cc:
Ms. Cherie McCaulou (w/enc)
SF- Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Closure Unit (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Paresh Khatri (w/orig enc), D. Drogos (w/enc)

CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Date: January 7, 2010

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 777-2478
Responsible Staff Person: Paresh Khatri	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Varni Property		
Site Facility Address: 2961 Castro Valley Boulevard, Castro Valley, California 94546		
RB Case No.: 01-1560	Local Case No.: 4246	LOP Case No.: RO0000322
URF Filing Date: 7/7/1988	Global ID No.: T0600101435	APN: 84A-12-4

Responsible Parties	Addresses	Phone Numbers
Anthony Varni	P.O. Box 570 Hayward, CA 94543-0570	

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	1 x 1,000-gallon	Gasoline	Removed	6/24/1988
Piping			Removed	6/24/1988

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unknown	
Site characterization complete? Yes	Date Approved By Oversight Agency: ---

Monitoring wells installed? No	Number: ---	Proper screened interval? ---
Highest GW Depth Below Ground Surface: 4.5 ft bgs (at RO0000665) located 150 ft to the north of the subject site	Lowest Depth: 15 ft bgs	Flow Direction: Assumed South to Southwest based Shell site located across the street (RO0000665)
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity: A well survey was not conducted. However, a well survey was conducted for site RO0000665 located approximately 150 to the north of the subject site. Ten wells were located within a ¼ mile of the site of which seven are monitoring wells, one is an irrigation well, one is used as an industrial well, and the use of last well was not identified. These wells are not considered receptors due to their respective distances from the subject site.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain Groundwater Basin
Is surface water affected? No	Nearest SW Name: small south-flowing creek is present immediately west of the site.
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	One 1,000-gallon	Disposal, unknown location	6/24/1988
Piping	Unknown	Disposal, unknown location	6/24/1988
Free Product	NA	---	---
Soil	Unknown	---	---
Groundwater	55-gallons	Disposal, Refinery Services Patterson, CA	7/8/1988

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	6.1 (#1, 6/24/88)	6.1 (#1, 6/24/88)	6,200 (1A, 6/24/88)	<50 (10/01/2008)
TPH (Diesel)	3.2 (#1, 6/24/88)	3.2 (#1, 6/24/88)	5,500 (1A, 6/24/88)	<50 (10/01/2008)
TPH (Motor Oil)	<30 (#1, 6/24/88)	<30 (#1, 6/24/88)	NA	NA
Benzene	<0.05 (#1, 6/24/88)	<0.05 (#1, 6/24/88)	11 (1A, 6/24/88)	<0.50 (10/01/2008)
Toluene	<0.1 (#1, 6/24/88)	<0.1 (#1, 6/24/88)	30 (1A, 6/24/88)	0.63 (10/01/2008)
Ethylbenzene	<0.1 (#1, 6/24/88)	<0.1 (#1, 6/24/88)	7.6 (1A, 6/24/88)	<0.50 (10/01/2008)
Xylenes	0.40 (#1, 6/24/88)	0.40 (#1, 6/24/88)	540 (1A, 6/24/88)	<1.0 (10/01/2008)
MTBE	NA[4]	NA[3]	NA[2]	<0.50[1] (10/01/2008)
Lead	NA	NA	NA	NA
1,1-DCA	NA	NA	NA	NA
1,1-DCE	NA	NA	NA	NA

[1] Other VOCs analyzed (groundwater µg/L after cleanup): <0.50 µg/L MtBE, NA TBA, NA DIPE, NA ETBE, NA TAME, NA EDB, NA 1.2-DCA
[2] Other VOCs not analyzed (groundwater ppb before cleanup): MtBE, TBA, DIPE, ETBE, TAME, EDB, 1.2-DCA, EtOH
[3] Other VOCs (Soil mg/kg after cleanup): NA TBA, NA DIPE, NA ETBE, NA TAME, NA EDB, NA 1.2-DCA
[4] Other VOCs not analyzed (Soil mg/kg before cleanup): MtBE, TBA, DIPE, ETBE, TAME, EDB, 1.2-DCA, EtOH
NA - Not Analyzed

Site History and Description of Corrective Actions:

The Varni Property site is located at 2691 Castro Valley Boulevard, on the south side of the street, in Castro Valley (**Figure 1**). Land use in the immediate vicinity of the site is mixed commercial and residential. The approximately ½-acre Site is occupied by an approximately 3,500 square foot, single story office building and paved parking lot. A concrete-lined creek channel extends through the Site on the west (**Figure 2**).

During construction of the above-mentioned building, a UST was discovered. Ensco Environmental Services, Inc. (EESI) removed one 1,000 gallon diesel UST from the site on June 24, 1988 (**Figure 3**). A Tank Closure Report was not submitted and was apparently not prepared. According to the County Inspector's notes, it appeared that the tank held waste oil, and exhibited corrosion along its seams and that groundwater appeared contaminated. However, soil sample analytical results from the tank removal detected diesel range petroleum hydrocarbons at 3.2 mg/kg and gasoline range petroleum hydrocarbons at 6.1 mg/kg while BTEX constituents were below the laboratory detection limit. A groundwater sample was also collected from the excavation. Groundwater sample analytical results detected TPH-g, TPH-d, and benzene at concentrations of 6,200 µg/L, 5,500 µg/L, and 11 µg/L, respectively. Soil and groundwater sample analytical results are summarized on **Table 1**.

Several requests were made to the RP to determine the extent of contamination. However, the RP stated that a building exists above the UST and that a subsurface investigation is not feasible. After a meeting held with the RP and their consultant, Cornerstone Earth Group (CEG), two exploratory borings for the collection of groundwater samples to determine the extent of groundwater impact were installed on October 1, 2008. In addition, a soil vapor sample, crawl space sample, and an ambient air sample were also collected at the site. Groundwater sample analytical results detected toluene at a concentration of 0.63 µg/L, while TPH-g and BTEX were not detected above the laboratory detection limit. Soil vapor sampling analytical results detected TPH-g, and benzene at concentrations of 190,000 µg/m^3 and <81 µg/m^3, respectively. Crawl space sample analytical results detected TPH-g and benzene at <200 µg/m^3 and 2.0 µg/m^3, respectively. The ambient air sample, collected outside of the building detected TPH-g and benzene at 370 µg/m^3 and

5.4 µg/m^3, respectively. The analytical results are summarized on **Tables 2, 3 and 4** and sampling locations are illustrated on **Figure 4**.

Since concentrations of TPH-g and benzene were detected in soil vapor and crawl space samples, two additional sampling events to evaluate seasonal variations were performed. A comparison of all three crawl space sampling events revealed that the most elevated concentration of TPH-g and benzene were detected at 100 µg/m^3 and 1.4 µg/m^3, respectively, in sample location CS-1 located between the former UST and the ambient air sample (see **Figure 5**). However, these results are below the Shallow Soil Gas Screening Levels (screening levels based on soil gas data collected below a building or the ground surface) presented in the Regional Water Quality Control Board's (RWQCB) May 2008 Environmental Screening Levels (ESLs) of 1,000 µg/m^3 for TPH-g and 84 µg/m^3 for benzene in a residential land use risk scenario. Furthermore, the ambient air sampling results appear typical of background air quality in the Bay Area where the closest air monitoring station in San Leandro detected benzene at concentrations up to 1.28 µg/m^3. Being that the site is situated at the intersection of Castro Valley Boulevard and Lake Chabot Road, it is likely that the contamination detected can be attributed to idle vehicle traffic at the intersection. Therefore, based on the crawl space analytical results, vapor intrusion from the subsurface related to the former UST to indoor air does not appear to be a likely completed exposure pathway.

Geology & Hydrogeology:

The site is located within the East Bay Plain in Alameda County, at an elevation of approximately 163 feet on the western side of the gently sloped valley of Castro Valley. The San Leandro Hills are located approximately 1 mile to the north, and a ridge is located 2000 feet west of the site, with an isolated hill approximately 100 feet tall present less than 1000 feet to the south-southwest. Lake Chabot is located approximately 2 miles to the northwest. San Lorenzo Creek is located approximately 1 mile to the southwest, south, and southeast of the site, and a small south-flowing concrete lined creek is present immediately west of the site.

Based on review of regional geologic maps from U. S. Geological Survey Professional Paper 943, "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning," by E. J. Helley and K. R. Lajoie, 1979, the subject site is underlain by Late Pleistocene Alluvium (Qpa), which is described as weakly consolidated slightly weathered poorly sorted irregularly interbedded clay, silt, sand, and gravel. These alluvial fan and fluvial deposits overly bedrock consisting of Cretaceous marine sedimentary rocks which make up the San Leandro Hills to the north and east (Geologic Map of California, San Francisco Sheet, State of California Division of Mines and Geology, 1980).

In U. S. Geological Survey Miscellaneous Field Studies MF-2342, "Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California," by R. W. Graymer, 2000, this Cretaceous bedrock is classified mainly as Knoxville Formation of the Great Valley Sequence. The ridge located to the west of the site consists of northwest-trending fault-bounded blocks of this material associated with the Hayward Fault, the main trace of which passes approximately 1 mile west of the site. The eastern edge of this fault zone is located approximately 400 feet to the west of the site along the course of the small tributary creek, and the east side of Castro Valley is bounded by a thrust fault 1.5 miles east of the site (Graymer, 2000).

According to CEG, the subsurface materials encountered in the two onsite borings consisted of sandy clay from the surface to a depth of approximately 5 feet. Silty clay soil with fractured shale/claystone fragments (residual bedrock) was encountered below a depth of approximately 5 feet. The bedrock became less weathered with depth. A clayey sand layer was observed at a depth of approximately 15 to 16 feet in boring GW-1. Ground water was encountered within the clayey sand layer.

Summary of Analytical Results:

On October 1, 2008, two exploratory borings for the collection of groundwater samples to determine the extent of groundwater impact were installed. In addition, a soil vapor sample, crawl space sample, and an ambient air sample were also collected at the site. Groundwater sample analytical results detected toluene at a concentration of 0.63 µg/L, while TPH-g and BTEX were not detected above the laboratory detection limit. Soil vapor sampling analytical results detected TPH-g, and benzene at concentrations of 190,000 µg/m^3 and <81 µg/m^3, respectively. Crawl space sample analytical results detected TPH-g and benzene at <200 µg/m^3 and 2.0 µg/m^3, respectively. The ambient air sample, collected outside of the building detected TPH-g and benzene at 370 µg/m^3 and 5.4 µg/m^3, respectively. Subsequently, crawl space sampling was initiated at the site. Of all three crawl space sampling events, the most elevated concentration of TPH-g and benzene were detected at 100 µg/m^3 and 1.4 µg/m^3, respectively, in sample location CS-1 located between the former UST and the ambient air sample. These results are below the Shallow Soil Gas Screening Levels (screening levels based on soil gas data collected below a building or the ground surface) of 1,000 µg/m^3 for TPH-g and 84 µg/m^3 for benzene in a residential land use risk scenario presented in the RWQCB May 2008 ESLs.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a significant risk to human health based upon current land use and conditions.		
Site Management Requirements: Case closure for this fuel leak site is granted for the current commercial land use only. If a change in land use to any residential or other conservative land use scenario is proposed at this site, Alameda County Environmental Health (AECH) must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans. Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party (or current property owner/developer) prior to and during excavation and construction activities.		
Should corrective action be reviewed if land use changes? Yes.		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 0
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

V. ADDITIONAL COMMENTS, DATA, ETC.

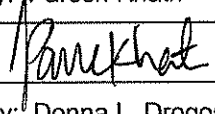
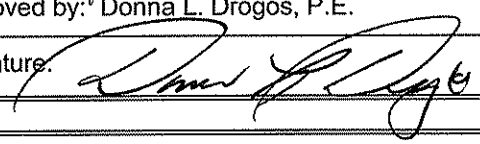
Considerations and/or Variances:

None

Conclusion:

Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environmental under the current commercial land use based upon the information available in our files to date. No further investigation or cleanup for the fuel leak case is necessary unless a change in land use to any residential or other conservative land use scenario occurs at the site. ACEH staff recommend case closure for the site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Paresh Khatri	Title: Hazardous Materials Specialist
Signature: 	Date: January 7, 2010
Approved by: Donna L. Drogos, P.E.	Title: Chief
Signature: 	Date: 01/08/10

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature: Cherie McCaulou	Date: 3/2/10

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH:	Date of Well Decommissioning Report:	
All Monitoring Wells Decommissioned: No N/A	Number Decommissioned: N/A	Number Retained: N/A
Reason Wells Retained: N/A		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: [signature]		Date: 3/11/2010

Attachments:

1. Analytical Tables 1 through 5
2. Site Figures 1 through 5
3. Boring Logs (2 pp)
4. Well Survey (3 pp)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.

Table 1: Soil and Groundwater Analytical Results from UST Removal

Sample ID	TPH-d	TPH-g	TPH-mo	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
Soil (mg/kg) June 24, 1988								
#1	3.2	6.1	<30	<0.05	<0.10	<0.10	<0.10	--
Groundwater (µg/L) June 24, 1988								
1A	5,500	6,200	--	11	30	7.6	540	--

Table 2. Laboratory Analytical Results of Ground Water Grab Samples

(Concentrations in parts per billion)

Sample ID	Date	TPHg	TPHd	Benzene	Toluene	Ethyl benzene	Xylene	MTBE
GW-1	10/1/2008	<50	<50	<0.50	0.63	<0.50	<1.0	<0.50
GW-2	10/1/2008	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50
ESL[a]		100	100	1.0	40	30	20	5

a. Environmental Screening Level, California Regional Water Quality Control Board, SF Bay Region, May 2008
< Indicates that constituent was not detected above the laboratory detection limit

Table 3. Laboratory Analytical Results of Soil Vapor Sample SV-1

(Concentrations in parts per $\mu g/m^3$)

Sample ID	Date	TPHg	Benzene	Toluene	Ethyl benzene	Total Xylene	2-propanol[b]
SV-1	10/1/2008	190,000	<81	28,000	520	1,980	<250
Commercial ESL[a]		29,000	280	180,000	3,300	58,000	NA

a. Environmental Screening Level, California Regional Water Quality Control Board, SF Bay Region, May 2008
b. 2-Prypanol was used as the leak-check compound
< Indicates that constituent was not detected above the laboratory detection limit
NA Not applicable

Table 4. Laboratory Analytical Results of Crawl Space and Ambient Air Samples

(Concentrations in parts per $\mu g/m^3$)

Sample ID	Date	TPHg	Benzene	Toluene	Ethyl benzene	Total Xylene
Crawl Space	10/13/2008	<200	2.0	7.2	1.4	5.6
Ambient	10/13/2008	370	5.4	19	3.9	19.9
Commercial ESL[a]		14	0.14	88	1.6	29

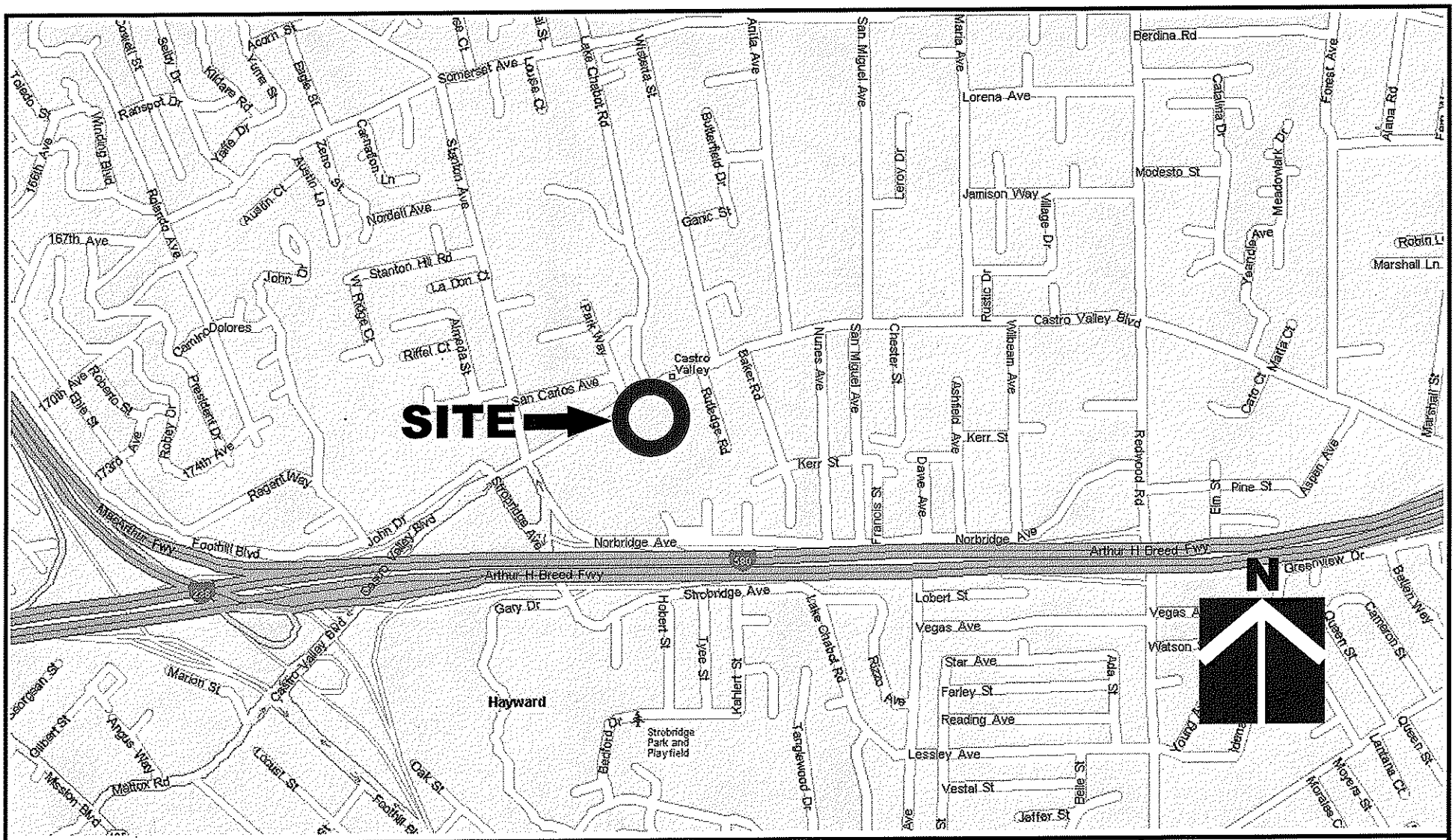
a. Environmental Screening Level, California Regional Water Quality Control Board, SF Bay Region, May 2008
< Indicates that constituent was not detected above the laboratory detection limit

Table 5. Laboratory Analytical Results of Crawlspace and Ambient Air Samples

(Concentrations in µg/m^3)

Sample ID	Date	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes
Crawlspace	10/13/2008	<200	2.0	7.2	1.4	5.6
CS-1 (crawlspace)	4/17/2009	<26	1.4	3.0	0.46	1.8
CS-1 (crawlspace)	**7/22/2009**	**100**	**0.48**	**2.1**	**0.23**	**1.08**
CS-2 (crawlspace)	4/17/2009	<14	0.91	2.8	0.44	1.94
CS-2 (crawlspace)	**7/22/2009**	**53**	**0.48**	**2.0**	**0.24**	**0.96**
Ambient (outdoor)	10/13/2008	370	5.4	19	3.9	19.9
Ambient (outdoor)	4/17/2009	<14	1.0	2.8	0.50	2.22
Ambient (outdoor)	**7/22/2009**	**<12**	**0.55**	**2.1**	**0.24**	**0.96**
Residential ESL[a]		10	0.084	63	0.98	21
Commercial ESL[a]		14	0.14	88	1.6	29

a. Environmental Screening Level, California Regional Water Quality Control Board, SF Bay Region, May 2008
< Indicates that constituent was not detected above the laboratory detection limit
Bold Indicates results from current sampling event



CORNERSTONE EARTH GROUP

Vicinity Map

2691 Castro Valley Boulevard
Castro Valley, CA

Project Number	267-1-1
Figure Number	Figure 1
Date	September 2008
Drawn By	FLL

Varni Property 2691 Castro Valley Blvd., Castro Valley

June 3, 2008

FIGURE 2

FIGURE 3

NO SCALE
NO EXISTING STRUCTURES ON SITE

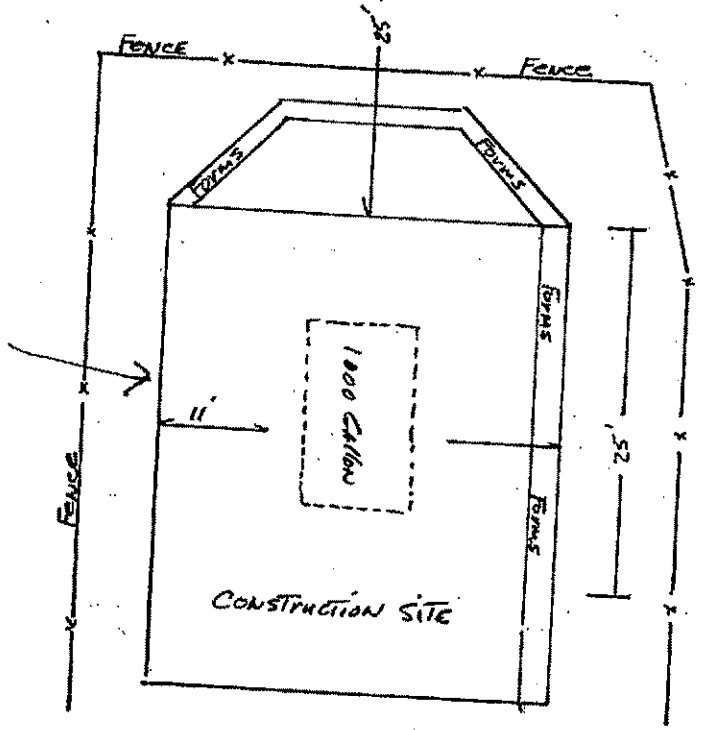
CV Autohaus
GW 7.35', 8.11' bgs
(5/91 - 11/93) LOD

LAKE CHABOT ROAD

Lake Chabot Shell
2.99 - 8.93' bgs
(2/90 - 2/95)

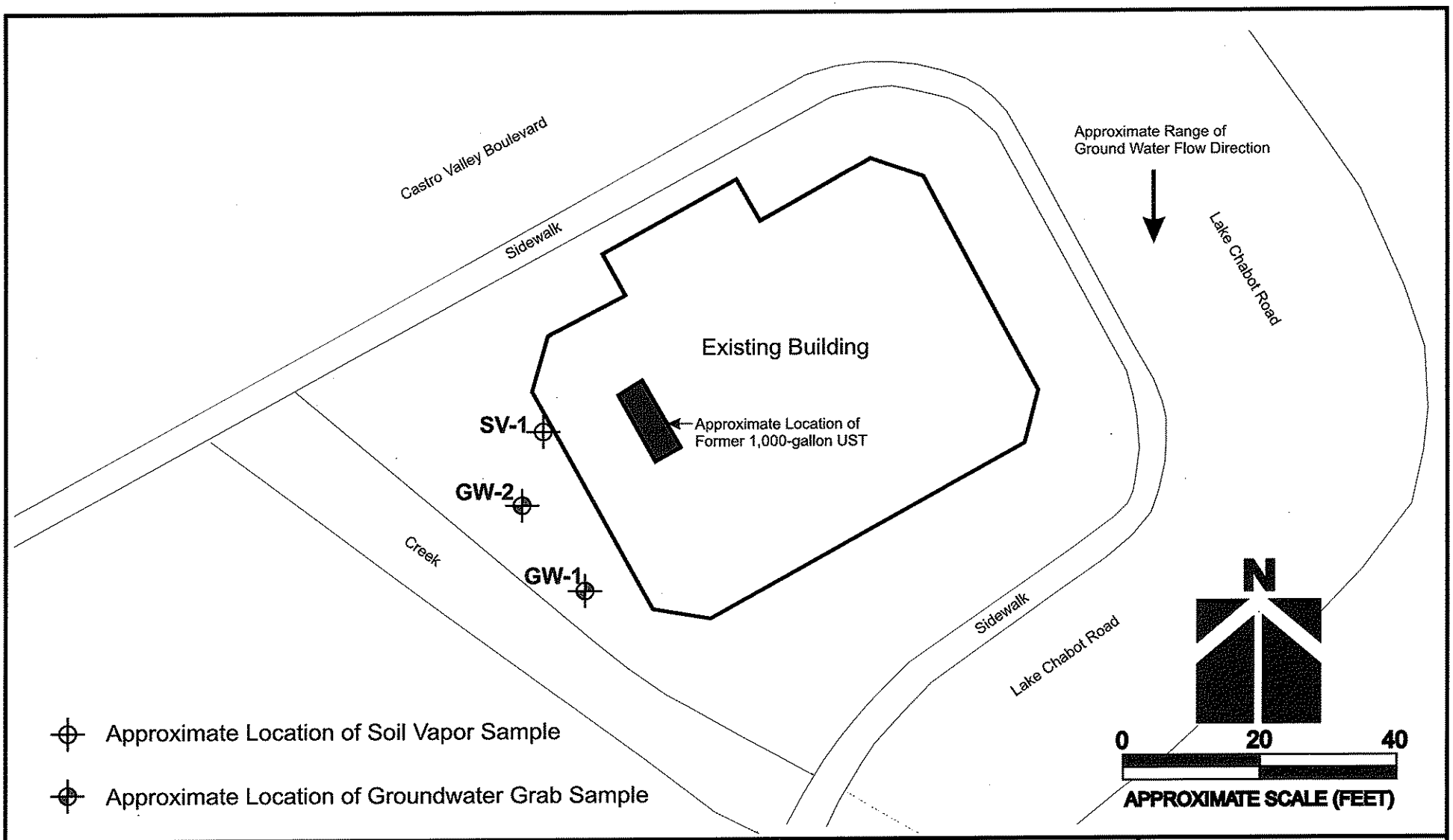
CASTRO VALLEY BLVD

Bob's Big Boy Restaurant



Site history? Look @ Sanborn maps.

DEAD END

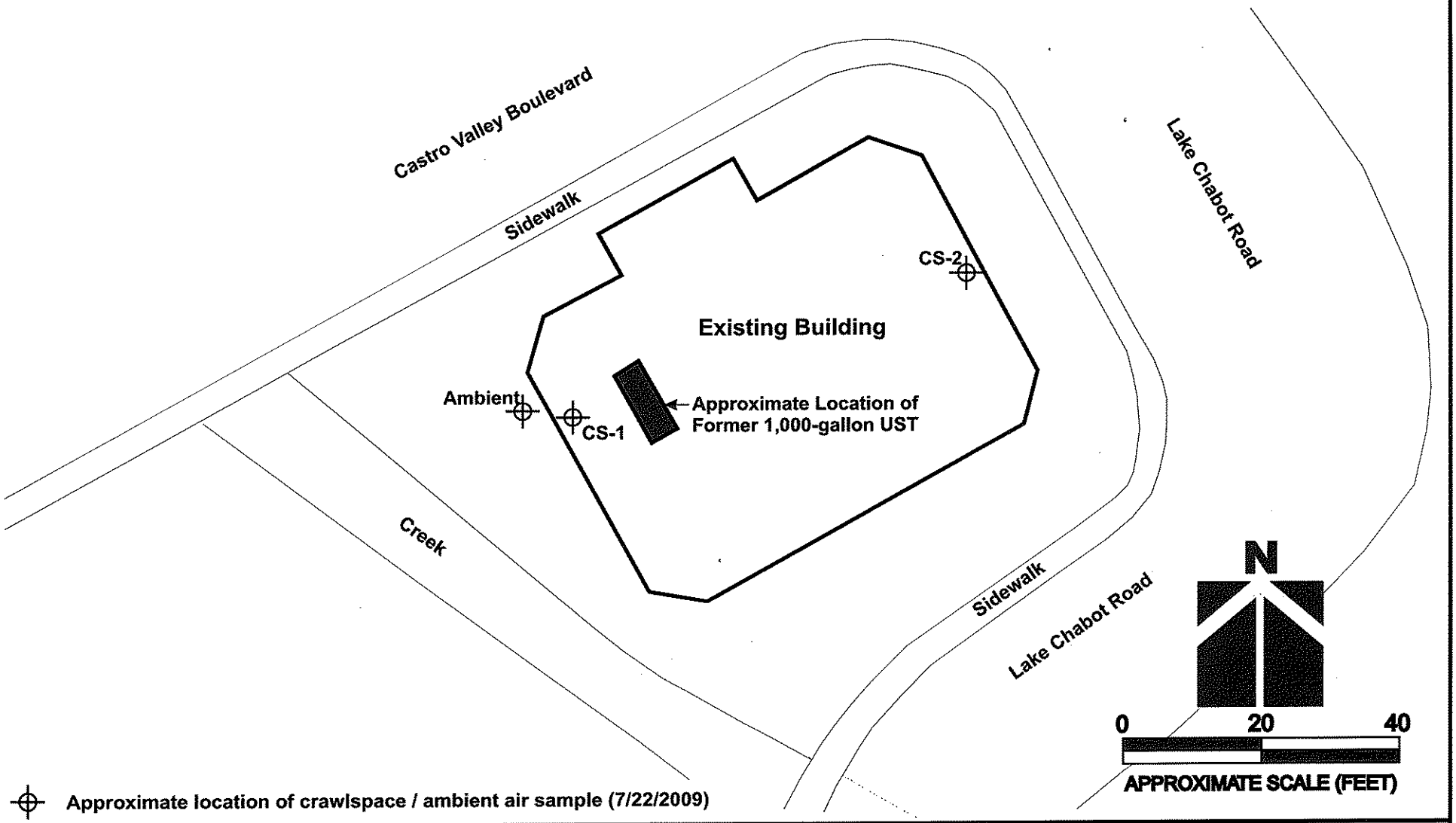


CORNERSTONE EARTH GROUP

Site Plan

2691 Castro Valley Boulevard
Castro Valley, CA

Project Number	267-1-1
Figure Number	Figure 4
Date	September 2008
Drawn By	FLL



CORNERSTONE EARTH GROUP

Site Plan

2691 Castro Valley Boulevard
Castro Valley, CA

Project Number	267-1-2
Figure Number	Figure 5
Date	August 2009
Drawn By	FLL

BORING NUMBER GW-1

CORNERSTONE EARTH GROUP

PROJECT NAME 2691 Castro Valley Boulevard
PROJECT NUMBER 267-1-1
PROJECT LOCATION Castro Valley, CA
DATE STARTED 10/1/08 DATE COMPLETED 10/1/08
GROUND ELEVATION _____ BORING DEPTH 18 ft.
DRILLING CONTRACTOR _____
LATITUDE _____ LONGITUDE _____
DRILLING METHOD Geoprobe GH42
GROUND WATER LEVELS:
LOGGED BY JLF
▽ AT TIME OF DRILLING 15 ft.
NOTES _____
▼ AT END OF DRILLING 15 ft.

This log is a part of a report by Cornerstone Earth Group, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	Sampling Method	Percent Recovery (%)	OVM Reading (ppm)	Submitted for Laboratory Analysis	Well Construction Details
	0		**Sandy Lean Clay (CL)** moist, brown to dark brown, some fine gravel						Hand Augered to 5 feet
	5		**Clay with Claystone (CL)** **dry with fractured shale / claystone**			100 100			
	10		**Claystone / Shale** strong, dark gray, moist, heavilty fractured, 6" to 8" layers of clay and sand			100 100	<.5 <.5		
	15		**Sandy Lean Clay (CL)** stiff, moist, dark gray, fine sand, some fine gravel			100	1.0		
			Clayey Sand (SC) very loose, wet, dark brown						
			Sandy Lean Clay (CL) stiff, moist, dark gray, fine sand, some shale fragments						
	20		Bottom of Boring at 18.0 feet.						
	25								
	30								
	35								

BORING NUMBER GW-2

CORNERSTONE EARTH GROUP

PROJECT NAME 2691 Castro Valley Boulevard
PROJECT NUMBER 267-1-1
PROJECT LOCATION Castro Valley, CA
DATE STARTED 10/1/08 DATE COMPLETED 10/1/08
GROUND ELEVATION _____ BORING DEPTH 19 ft.
DRILLING CONTRACTOR _____
LATITUDE _____ LONGITUDE _____
DRILLING METHOD Geoprobe GH42
GROUND WATER LEVELS:
LOGGED BY JLF
AT TIME OF DRILLING 15 ft.
NOTES _____
AT END OF DRILLING 15 ft.

This log is a part of a report by Cornerstone Earth Group, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (ft)	DEPTH (ft)	SYMBOL	DESCRIPTION	N-Value (uncorrected) blows per foot	Sampling Method	Percent Recovery (%)	OVM Reading (ppm)	Submitted for Laboratory Analysis	Well Construction Details
	0		**Sandy Lean Clay (CL)** stiff, moist, brown to dark brown, some charcoal and Mn staining						Hand Augered to 5 feet
	5		**Clay with Claystone (CL)** stiff, dry, heavily fractured			100	10-15		
						100	.5-1.5		
	10		**Claystone / Shale** strong, dark gray, heavilty fractured, intermixed layers of clay and sand			100	<1		
			Clayey Sand with Claystone (SC) loose, moist, light brown used hammer punch to 19' (no samples taken)			100	.5-5		
	15								
			Bottom of Boring at 19.0 feet.						
	20								
	25								
	30								
	35								

CORNERSTONE GE LOG DEC192007 - CORNERSTONE.GDT - 11/4/08 10:56 - P:\DRAFTING\GINT FILES\267-1-1 CASTRO VALLEY WELLS.GPJ

SECTION II

AGENCY RESEARCH

Following, are individual summaries of each agency that was contacted by CEW, including copies of pertinent documents and information found at these agencies.

A. RWQCB & ALAMEDA COUNTY FLOOD CONTROL DISTRICT

Existing and Potential Beneficial Uses of Water

The site is located approximately 1/2 mile from San Lorenzo Creek. Existing beneficial uses of San Lorenzo Creek include municipal and domestic supply, groundwater recharge, freshwater replenishment, contact and non-contact water recreation, warm and cold fresh water habitat, wildlife habitat, fish migration and fish spawning. San Lorenzo Creek flows into San Francisco Bay approximately 2 miles west of Castro Valley Boulevard. Existing beneficial uses of Lower San Francisco Bay include industrial service supply, navigation, contact and non-contact water recreation, commercial and sport fishing, wildlife habitat, preservation of rare and endangered species, fish migration, shellfish harvesting, and estuarine habitat. The Lower Bay also has potential beneficial uses for fish spawning. The Lower Bay also provides water to Hayward marsh, beneficial uses of which include contact and non-contact water recreation, wildlife habitat, estuarine habitat and fish spawning (RWQCB, 1986).

Well Survey

The site lies within the East Bay Plain area of Alameda County and is underlain by deposits mapped as Quaternary Older Alluvium in Hickenbottom and Muir (1988). Bedrock has not been encountered at the site, but was encountered at approximately 15

feet below ground surface at a nearby site (see below). The Hayward Fault Zone, which trends northwest-southeast, passes within approximately 1 mile of the site to the west.

Records reviewed at the Alameda County Flood Control District indicate the presence of 10 active wells within approximately 1/4 mile of the site. Seven of these wells are monitoring wells, one is used for irrigation, one is used for industrial purposes. Usage for the last well was not specified. Well logs for the irrigation and industrial wells (State Wells 3S2W4J1 and 3S2W4K1, were examined. Well 3S2W4J1 was constructed in 1953 to a depth of 51 feet. The perforated interval is 31-51 feet. Initial depth to water was not specified. Well 3S2W4K1 was also constructed in 1953. Total depth of the well is 150 feet and groundwater was first encountered at 102 feet. Perforations are at 100-110 feet and 132-140 feet (Table 1, Drawing 1). Well hydrograph data for these wells are not maintained by the Alameda County Flood Control District.

Two wells located 1 to 1-1/2 miles west-southwest of the site, within the Hayward Fault Zone, are monitored twice a year by the Alameda County Flood Control District. Well 3S2W8L3 was constructed in 1942 to a depth of 211 feet. Reference elevation for this well is 50 feet above MSL. Records do not indicate perforated intervals. Water from this well is used for irrigation. Well 3S2W8R5 was constructed at an unknown date to a depth of 85 feet. Reference elevation for this well is 64 feet above MSL. Records do not indicate perforated intervals. Well hydrographs for wells 3S2W8L3 and 3S2W8L5 indicate a seasonal fluctuation of up to 10 feet.

Given the depths to which these two wells are completed, it is likely that the groundwater levels observed are for a deeper aquifer than the aquifer at the Shell site. The large fluctuations observed probably do not reflect the magnitude of seasonal fluctuations to be expected at the Shell site, where groundwater has been encountered at approximately 12.5 feet below ground surface. Water from middle to deep level aquifers within the Quaternary Older Alluvium is often used for irrigation during the summer months, which may accentuate seasonally fluctuations, as observed in 3S2W8L3 and 3S2W8R5.

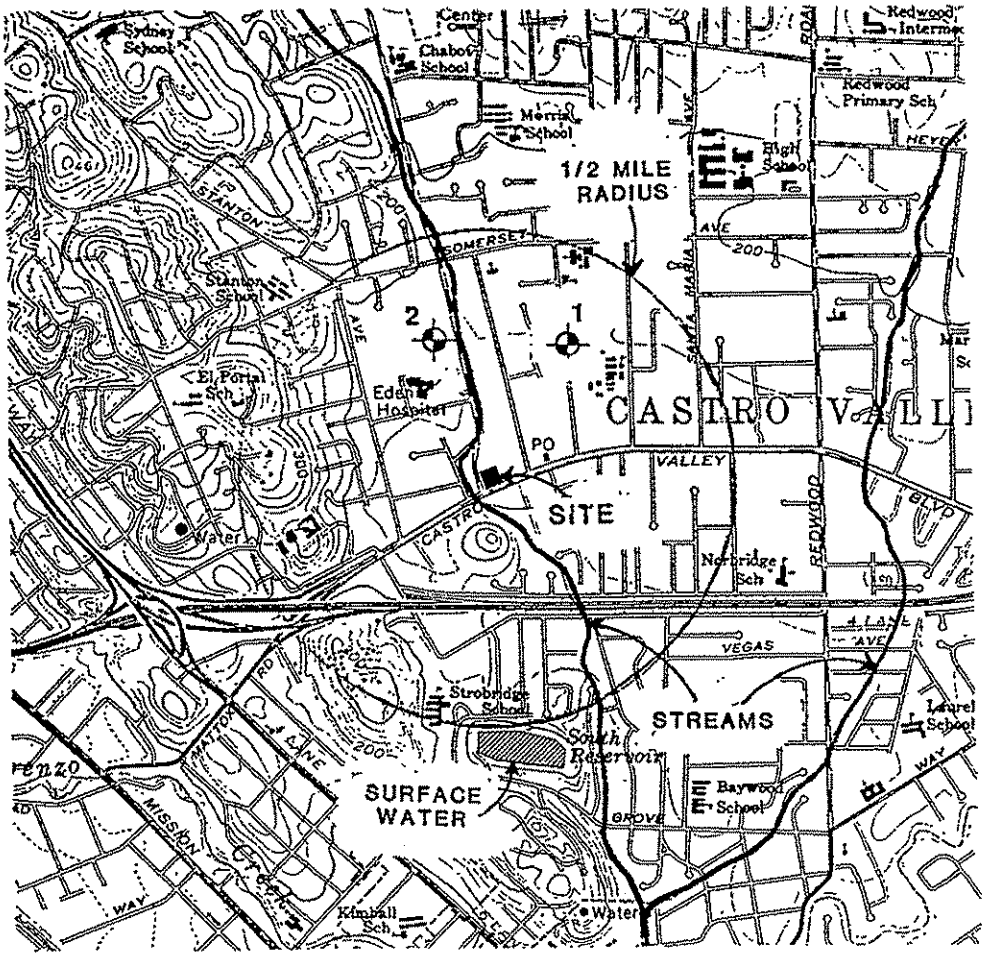
TABLE 1. PRODUCTION WELL' STATISTICS

Shell Oil Company
2724 Castro Valley Boulevard
Castro Valley, California

Reference Number	State Well Number	Usage	Total Depth (feet)	Depth to Water (feet)	Screened Interval (feet)	Monitored on ACFCWCD[2]
1	3S2W4J1	Irrigation	51	—	31 - 51	No
2	3S2W4K1	Industrial	150	110	110 - 110, 132 - 140	No

NOTES:

— Indicates information that was unavailable
1 Source: Alameda County Flood Control and Water Conservation District and Hickenbottom and Muir (1988)
2 Alameda County Flood Control and Water Conservation District (ACFCWCD) maintains a network of approximately 50 wells. This columns indicates whether a well is included in the network.



LEGEND

1 WELL LOCATION

0 2000 4000

SCALE IN FEET

Source: USGS Topographic Map of the Hayward Quadrangle, 1959 (Photorevised 1980)

SITE LOCATION MAP

SHELL OIL COMPANY
2724 Castro Valley Boulevard
Castro Valley, California

Converse Environmental West

Scale	AS SHOWN
Project No.	88-44-382-20
Prepared by	KGC
Date	05/31/90
Checked by	ABC
Drawing No.	1
Approved by	DWC