

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

June 27, 2005

Mr. Allan Sebanc
10 Stacey Ct.
Hillsborough, CA 94010

Dear Mr. Sebanc:

Subject: Fuel Leak Site Case Closure, Dublin Retail Center, 7900 Dublin Blvd., Dublin, CA 94568; Case No. RO0002446.

This letter confirms the completion of a site investigation and remedial action for the five (5) underground storage tanks, (4- 6000 gallon and 1- unknown volume), 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 underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release 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,

Mee Ling Tung
Director
Alameda County Environmental Health

ALAMEDA COUNTY
HEALTH CARE SERVICES

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DAVID J. KEARS, Agency Director



BC

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Dear Mr. Sebanc:

Subject: Fuel Leak Site Case Closure, Dublin Retail Center, 7900 Dublin Blvd.,
Dublin, CA 94568; Case No. RO0002446.

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:

- Up to 1.9 parts per million (ppm) Total Petroleum Hydrocarbons as diesel (TPHd) remain in soil at this site.
- Up to 440 parts per billion (ppb) Total Petroleum Hydrocarbons as gas (TPHg), 1000 ppb TPHd, 21 ppb toluene, 6.9 ppb ethyl benzene, 48 ppb xylenes and 160 ppb methyl tertiary butyl ether (MTBE) remain in groundwater at this site.

If you have any questions, please call Barney Chan at (510) 567-6765. Thank you.

Sincerely,

Donna L. Drogos, P.E.
LOP Program Manager

Enclosures:

1. Case Closure Letter
2. Case Closure Summary

cc: Ms. Cherie McCaulou
Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Toru Okamoto (w/enc)
State Water Resources Control Board
Underground Storage Tank Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Mr. Matthew Katen (w/enc)
Zone 7 Water Agency
5997 Parkside Drive
Pleasanton, CA 94588-5127

B. Chan, (w/orig enc), D. Drogos (w/enc), R. Garcia LaGrille(w/enc)

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

I. AGENCY INFORMATION

Date: April 25, 2005

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6719
Responsible Staff Person: Robert W. Schultz	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Dublin Retail Center		
Site Facility Address: 7900 Dublin Blvd., Dublin, CA		
RB Case No.:	Local Case No.: --	LOP Case No.: RO0002446
URF Filing Date: 2/25/03	SWEEPS No.: ---	APN: 941-1500-017-06

Responsible Parties	Addresses	Phone Numbers
Allan Sebanc	10 Stacey Ct., Hillsborough, CA	415-391-9220

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	6,000	gasoline	removed	8/12/1983
2	6,000	gasoline	removed	8/12/1983
3	6,000	gasoline	removed	8/12/1983
4	6,000	gasoline	removed	8/12/1983
5	unknown	waste oil	removed	8/12/1983
Piping			removed	8/12/1983

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: unknown, UST removal records not submitted	
Site characterization complete? Yes	Date Approved By Oversight Agency: ----

Monitoring wells installed? No	Number: 0	Proper screened interval? NA
Highest GW Depth Below Ground Surface: 20 ft (per boring logs)	Lowest Depth: 27 ft	Flow Direction: east-southeast (based on monitoring well data from upgradient site RO-206)
Most Sensitive Current Use: Potential drinking water source.		

<p>Summary of Production Wells in Vicinity: No water supply wells were identified within 1/4-mile of the subject site. One water supply well was identified within 1/2-mile of the site. This well is located approximately 1/2 mile upgradient of the site and is consequently not considered a potential receptor.</p>	
Are drinking water wells affected? No	Aquifer Name: Livermore Valley
Is surface water affected? No	Nearest SW Name: Dublin Creek, 1,200 feet SSE
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	4 USTs	Offsite Disposal. Unknown destination.	8/12/1983
Piping	not reported	Offsite Disposal. Unknown destination.	8/12/1983
Free Product	none encountered	---	---
Soil	none reported	unknown	unknown
Groundwater	none reported	unknown	unknown

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
 (Please see Attachments 1 through 5 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	<1.0	<1.0	440	440
TPH (Diesel)	1.9	1.9	1,000	1,000
Oil & Grease	--*	--	--	--
Benzene	<0.005	<0.005	<0.5	<0.5
Toluene	<0.005	<0.005	21	21
Ethylbenzene	<0.005	<0.005	6.9	6.9
Xylenes	<0.005	<0.005	48	48
Heavy Metals	--*	--	--	--
MTBE	<5.0 ¹	<5.0 ¹	160 ^{2,3}	160 ^{2,3}
Other (8240/8270)	--*	--	--	--

¹ = soil: <5.0 ppm TAME, <5.0 ppm ETBE, <5.0 ppm DIPE, <25 ppm TBA, <5.0 ppm EDB, and <5.0 ppm 1,2-DCA
² = groundwater: <1.0 ppb TAME, <1.0 ppb ETBE, <1.0 ppb DIPE, 13 ppb TBA³, <1.0 ppb EDB, and <1.0 ppb 1,2-DCA
³ = detected concentration believed to be the result of source at upgradient Chevron site (LOP Case No. RO-206).
 * = no sampling performed at waste oil UST

Site History and Description of Corrective Actions:

The site consists of one building with four units and parking areas. Current use of the site is for retail businesses (Sleep Train, Jenny Craig, Luggage Store, Starbuck's). Improvements were completed in 1985. Past use of the site included an ARCO service station from approximately 1975 through 1983. Below listed is the chronology of environmental investigation related events which took place at this facility:

- 1983 - 1985 – The former service station and UST system was removed. A 1984 geotechnical report states that 14 ft of fill material was imported to the site. No records regarding UST removal procedures were submitted.
- July through September 1998 – A Phase I Environmental Site Assessment identified historical use of the site and an upgradient, offsite service station as recognized environmental conditions in connection with the subject site. On September 2, 1998 Three soil samples (5, 10 and 15 ft bgs) were collected from a boring adjacent to one of the two former fuel dispenser locations. No TPHd, TPHg, BTEX or MTBE were detected in any of the soil samples. A second boring was drilled to groundwater (27 ft bgs) approximately 100 ft downgradient. The analytical laboratory reported 1000 ug/l TPHd, 440 ug/l TPHg, 160 ug/l MTBE, 21 ug/l toluene and 0.69 ug/l xylenes in the groundwater sample. No benzene or ethylbenzene were detected in the sample.
- February 2003 –Six additional borings (GP-1 through GP-6) were drilled at the site to collect soil and groundwater samples. Two soil samples and one groundwater sample were analyzed from each boring. Boring GP-1 was drilled through the former UST pit, boring GP-2 was drilled adjacent to the former fuel piping run from the USTs to the dispensers, and boring GP-3 was drilled in the location of the second dispenser, which had not previously been sampled. Up to 1.9 mg/kg TPHd was detected in soil. No other fuel constituents, including oxygenates and lead scavengers, were detected in soil. Up to 1,200 ug/l TPHd, 6.9 ug/l ethylbenzene, 48 ug/l xylenes, 77 ug/l MTBE, and 13 ug/l TBA were detected in groundwater.

As described below, Augeas Corporation states that the detected MTBE and TBA concentrations appear to be the result of offsite migration of dissolved contaminant from the upgradient service station (Fuel leak case No. RO-206). Corrective action is being performed at that site by Chevron.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes No
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes No
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 risk to human health based upon current land use and conditions.
Site Management Requirements: None
Should corrective action be reviewed if land use changes? No
List Enforcement Actions Taken: None
List Enforcement Actions Rescinded: None

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

The USTs were removed between 1983 and 1985; however, no records were submitted to ACEH regarding removal and disposal of the UST system or soil surrounding former USTs. A geotechnical report was submitted which indicated that 14 ft of fill material was imported to the site. No significant residual petroleum hydrocarbons were detected in soil during the investigations conducted in 1998 and 2003. No water supply wells, surface water or other receptors were identified within 1/2-mile downgradient of the site. The residual soil and groundwater hydrocarbon concentrations are below the applicable environmental screening levels (ESLs) published by the State Regional Water Quality Control Board or applicable risk screening thresholds for all existing onsite exposure pathways. Current groundwater petroleum hydrocarbon concentrations are below the California Primary Maximum Contaminant Levels (MCLs) for drinking water. Groundwater concentrations are anticipated to achieve water quality objectives within a reasonable time frame because petroleum hydrocarbons tend to stabilize close to the source and biodegradation is an important factor in the stabilization, and because at this site the lighter end hydrocarbons are no longer present, suggesting that a certain degree of biodegradation has already occurred. All detected groundwater concentrations are below MCLs for drinking water except MTBE. MTBE was detected in site groundwater at concentrations up to 160 ug/L; however a fuel release site exists approximately 400 ft upgradient (west) of the site. MTBE is a chemical of concern at the upgradient site (ACEH Case No. RO0000206), where corrective action is ongoing, and Augeas Corporation states that the detected concentrations appear to be the result of offsite migration from the upgradient site.

Boring B-2 was advanced to 30 ft bgs in 1998 while borings GP-1 through GP-6 were advanced to 24 to 25 ft bgs in 2003. Groundwater was encountered at 27 ft bgs in 1998 in boring B-2, and at 20 ft in 2003 in borings GP-1 through GP-6. Of note, clayey sands were encountered between approximately 22 and 28 ft bgs in boring B-2. Since borings GP-1 through GP-6 did not encounter the water-bearing clayey sands found in boring B-2, direct comparison of the relative contaminant concentrations between the 1998 and 2003 onsite boring series may not be appropriate.

Analytical results for onsite groundwater indicate that TPHd was higher in shallower onsite groundwater sampled in 2003 than in the deeper onsite groundwater sampled in 1998. The opposite trend appears for MTBE. MTBE concentrations were higher in deeper onsite groundwater sampled in 1998 than in the more shallow onsite groundwater sampled in 2003. The onsite occurrence of higher MTBE concentrations in the deeper boring as compared to the results for the more shallow onsite borings would be consistent with an offsite release affecting the higher hydraulic conductivity soils encountered onsite between 22 and 28 ft bgs.

Based on Chevron's groundwater monitoring data, the saturated zone between 20 to 35 ft bgs, including the higher hydraulic conductivity zone beneath 26 ft bgs, is understood to have been contaminated by MTBE at that upgradient site. Chevron wells MW-3 and MW-9, which are upgradient of the subject site were reported to contain MTBE.

Delta Environmental Consultants provided the following description of site geology for the upgradient Chevron site:

"Based on the boring logs from wells and soil borings drilled at the site to date, the material underlying the site is described as a silt to silty clay extending from the surface to a depth of approximately 7 ft bgs, underlain by sequences of sandy clay, clay and silty sand to an approximate depth of 26 ft bgs, which is underlain by sandy gravel to approximately 29 ft bgs. Beneath the sandy gravel lens are sequences of clayey sand to sandy clay with silt to the total depth explored of 51.5 ft bgs."

Based on Delta's description, higher hydraulic conductivity may be anticipated below 26 ft bgs at the upgradient site. The findings in onsite boring B-2 fit this same pattern. Based on ACEH's review, 1) additional data is necessary to fully understand the distribution of the MTBE plume; 2) the upgradient Chevron site is a potential source of the detected

MTBE, and 3) the former onsite USTs are the likely source of the onsite TPHd; however, it is less likely that the onsite USTs were the source of the detected MTBE.

The former gasoline UST locations were not fully accessible due to the 1983 through 1985 redevelopment of the site, including construction of the current retail facilities. One soil boring was drilled through the believed location of the former gasoline tank pit. The former waste oil UST area was not accessible so no sampling was performed for typical waste oil compounds including oil and grease, semi-volatile organic compounds, or heavy (LUFT) metals.

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 environment based upon the information available in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Robert W. Schultz	Title: Hazardous Materials Specialist
Signature: <i>Robert W. Schultz</i>	Date: 5/11/05
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature: <i>Donna L. Drogos</i>	Date: 5/11/05

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

Engineering Geologist

Regional Board Staff Name: <i>Cherie McCaulon</i>	Title: Associate Water Resources Control Engineer
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB: 5/12/05
Signature: <i>Cherie McCaulon</i>	Date: 5/12/05

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: -- no wells at site --	Date of Well Decommissioning Report:	
All Monitoring Wells Decommissioned: Yes No	Number Decommissioned:	Number Retained:
Reason Wells Retained:		
Additional requirements for submittal of groundwater data from retained wells:		
ACEH Concurrence - Signature:	Date:	

Attachments:

1. Site Vicinity Map
2. Site Plan
3. Site Plan - Upgradient Site
4. Soil Analytical Data
5. Groundwater Analytical Data
6. Boring Logs

RE: 7900 Dublin Retail Center

Post-It* Fax Note	7871	Date: 5/12/05	# of pages: 1
To: <i>Bob Schultz</i>	From: <i>Cherie McCaulon</i>		
Co./Dept: <i>ACEH</i>	Co: <i>RW@CB</i>		
Phone #	Phone # <i>510-622-2342</i>		
Fax # <i>510-237-9335</i>	Fax # <i>510-622-2464</i>		

This document and the related CASE CLOSURE LETTE

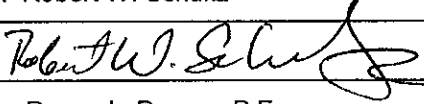
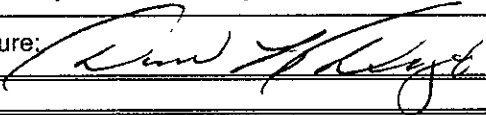
MTBE, and 3) the former onsite USTs are the likely source of the onsite TPHd; however, it is less likely that the onsite USTs were the source of the detected MTBE.

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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 environment based upon the information available in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA


Prepared by: Robert W. Schultz	Title: Hazardous Materials Specialist
Signature: 	Date: 5/11/05
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature: 	Date: 5/11/05

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VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name:	Title: Associate Water Resources Control Engineer
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature:	Date:

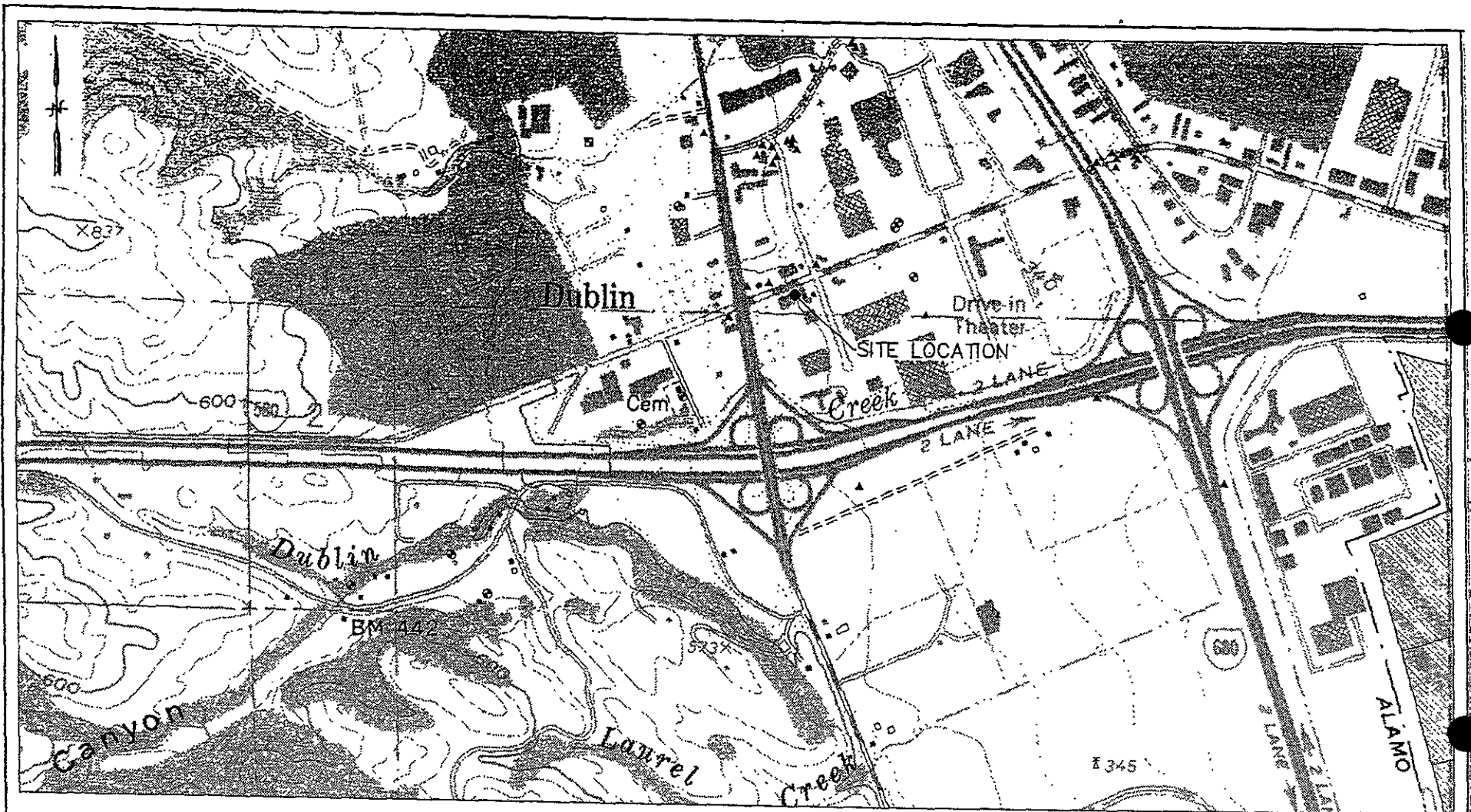
VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: -- no wells at site --	Date of Well Decommissioning Report: NA
All Monitoring Wells Decommissioned: Yes No NA	Number Decommissioned: ϕ Number Retained: ϕ
Reason Wells Retained: NA	
Additional requirements for submittal of groundwater data from retained wells: NA	
ACEH Concurrence - Signature: 	Date: 06/08/05

Attachments:

1. Site Vicinity Map
2. Site Plan
3. Site Plan – Upgradient Site
4. Soil Analytical Data
5. Groundwater Analytical Data
6. Boring Logs

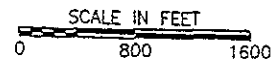
This document and the related CASE CLOSURE LETTER shall be retained by the lead agency as part of the official site file.



Attachment 1

LEGEND:

- ▲ MONITORING WELL LOCATION
- ⊙ UNKNOWN WELL LOCATION
- ⊠ WATER SUPPLY WELL LOCATION



AUGSAS
CORPORATION
HALF MOON BAY

VICINITY MAP

DUBLIN RETAIL CENTER
7900-7916 DUBLIN BLVD
DUBLIN, CALIFORNIA

2-19-02

FIGURE 1

28

DUBLIN AVENUE

DRIVEWAY

FORMER SERVICE ISLAND (TYP)

FORMER PRODUCT PIPING

FORMER UST PIT

GP-3

GP-2

B-1

GP-4

B-2

GP-5

REGIONAL STREET

DRIVEWAY

DRIVEWAY

EXISTING BUILDING

FORMER SUMP
7916 SLEEP TRAIN

FORMER HYDRAULIC HOIST (TYP)

FORMER 550 GAL WASTE OIL UST

7912 JENNY CRAIG

7908 LUGGAGE STORE

7904 STARBUCK'S COFFEE SHOP

SIDEWALK

GP-6

EXISTING BUILDING

LEGEND:

B-1



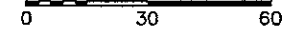
SOIL BORING LOCATION



PROPOSED GEOPROBE LOCATION



SCALE IN FEET



AUGEAS

CORPORATION
HALF MOON BAY

SITE AND GEOPROBE
LOCATION PLAN

DUBLIN RETAIL CENTER
7900-7916 DUBLIN BLVD
DUBLIN, CALIFORNIA

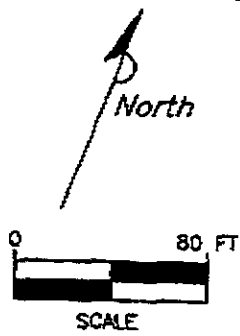
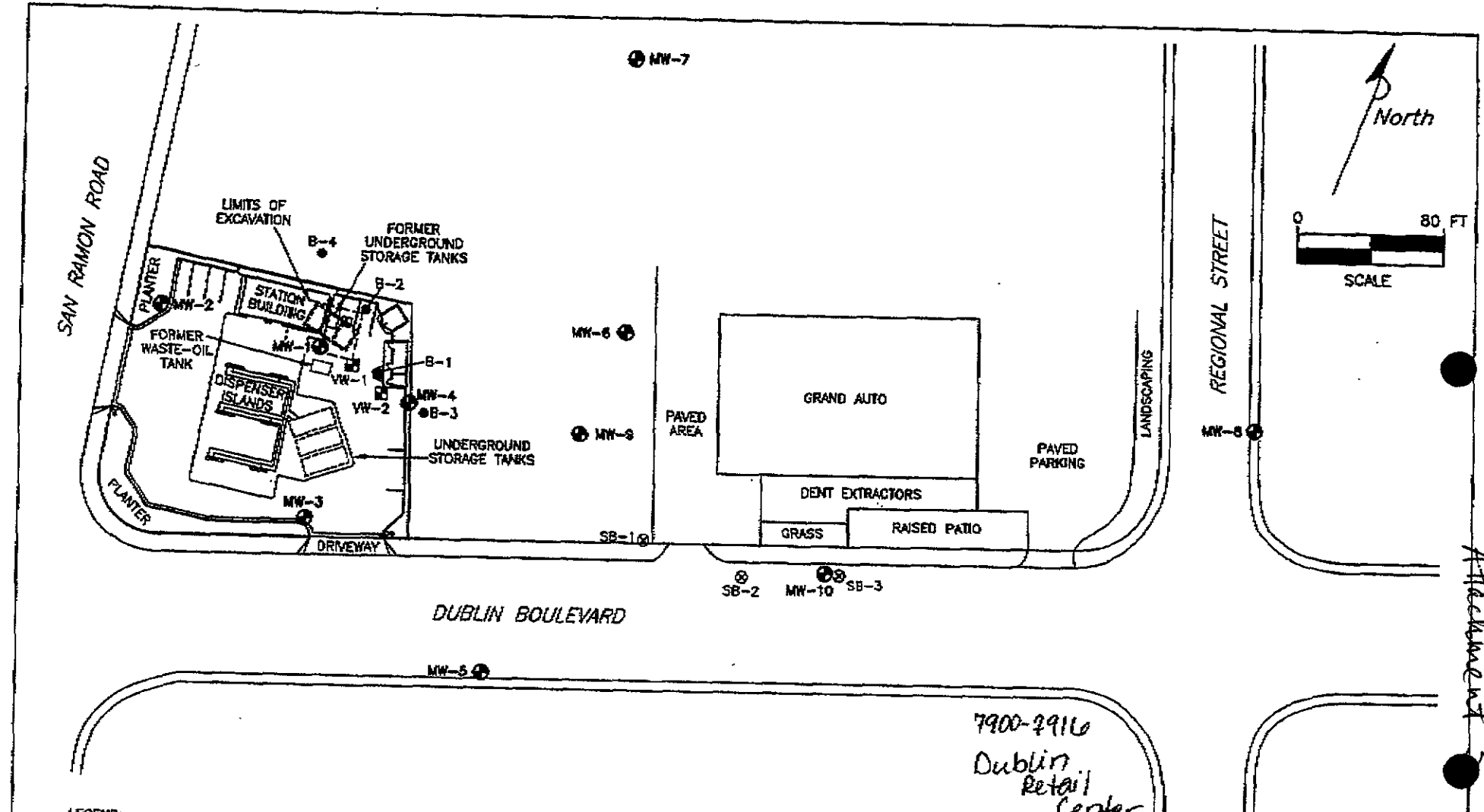
3-17-03

FIGURE 2

26030318.10340189 \\non-atorm\client.drawing\AUG\AS\7900 DUBLIN\03170301_7900.dwg

REFERENCE:
REPRODUCED FROM ARCO
SERVICE STATION BLUEPRINT
DATED: 9-4-69

Attachment 2




- LEGEND:
- B-4 SOIL BORING
 - ⊕ MW-10 GROUND WATER MONITORING WELL LOCATION
 - ⊞ YW-2 VADOSE MONITORING WELL LOCATION
 - ⊙ SB-3 GEOPROBE WATER SAMPLING LOCATION

7900-7916
Dublin
Retail
Center

Source: Figure Modified From Drawings Provided
By Groundwater Technology And Sierra Environmental.

FIGURE 2
SITE VICINITY MAP
CHEVRON SERVICE STATION NO. 9-5542
7007 SAN RAMON ROAD
DUBLIN, CA.

PROJECT NO. DG95-542	DRAWN BY M.L. 7/28/00
FILE NO. DG95542C	PREPARED BY JWS
REVISION NO. 1	REVIEWED BY <i>[Signature]</i>



Delta
Environmental
Consultants, Inc.

Table 1
Historical Soil Analytical Results
 Dublin Retail Center
 7900-7916 Dublin Boulevard, Dublin, California

Sample ID	Sample depth (ft)	Date Collected	Total Petroleum Hydrocarbons as (mg/kg)		Aromatic Volatile Organic Compounds (mg/kg)				Oxygenated Compounds (mg/kg)								
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	tert-Butanol	eth-anol	meth-anol	1,2-DCA	EDB
AB-1A**	5	8/31/98	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005*	--	--	--	--	--	--	--	--
AB-1B**	10	8/31/98	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005*	--	--	--	--	--	--	--	--
AB-1C**	15	8/31/98	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005*	--	--	--	--	--	--	--	--
GP-1@4'	4	2/21/03	<1.0	1.6 g	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-1@16'	16	2/21/03	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-2@8'	8	2/21/03	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-2@20'	20	2/21/03	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-3@12'	12	2/21/03	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-3@20'	20	2/21/03	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-4@4'	4	2/21/03	<1.0	1.2 g	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-4@16'	16	2/21/03	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-5@8'	8	2/21/03	<1.0	1.9 g	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-5@20'	20	2/21/03	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-6@10'	10	2/21/03	<1.0	1.0 g	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
GP-6@20'	20	2/21/03	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<5.0	<5.0	<5.0	<5.0	<25	<2500	<250	<5.0	<5.0
Analytical Method			8015M		8020				8260M								

Notes:

-- = not applicable

(mg/kg) = milligrams per kilograms

MTBE = methyl tertiary butyl ether

DIPE = Di-isopropyl Ether

ETBE = Ethyl tert-Butyl Ether

TAME - tert-Amyl Methyl Ether

1,2-DCA = 1, 2-Dichloroethane

EDB = Ethylene dibromide

g = oil range compounds are significant

* = analyzed with EPA 8020

** = soil samples collected from boring B-1

Attachment 4

Table 2
Historical Groundwater Analytical Results
 Dublin Retail Center
 7900-7916 Dublin Boulevard, Dublin, California

Sample ID	Date Collected	Total Petroleum Hydrocarbons as ($\mu\text{g/L}$)		Aromatic Volatile Organic Compounds ($\mu\text{g/L}$)				Oxygenated Compounds ($\mu\text{g/L}$)									
		Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA	eth-anol	meth-anol	1,2-DCA	EDB	
GW-1*	9/2/98	440 b,f	1,000 g,b	<0.5	21	<0.5	0.69	160*	--	--	--	--	--	--	--	--	
GP-1-W	2/21/03	<50 i	76 i,g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<50	<500	<0.5	<0.5
GP-2-W	2/21/03	<50 i	190 i,b,g	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	<5.0	<50	<500	<0.5	<0.5
GP-3-W	2/21/03	<50	62 b	<0.5	<0.5	<0.5	<0.5	77	<1.0	<1.0	<1.0	<10	<100	<1000	<1.0	<1.0	
GP-4-W	2/21/03	<50 i	1,200 c/m,i	<0.5	<0.5	<0.5	<0.5	74	<1.0	<1.0	<1.0	13	<100	<1000	<1.0	<1.0	
GP-5-W	2/21/03	120 a,I	450 g	<0.5	<0.5	6.9	48	<0.5	<0.5	<0.5	<0.5	<5.0	<50	<500	<0.5	<0.5	
GP-6-W	2/21/03	<50 i	70 i,g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<50	<500	<0.5	<0.5	
Analytical Method		8015M		8020				8260M									

Notes:

-- = not applicable

NS = Not Sampled

FPP = Free Phase Product

($\mu\text{g/L}$) = micrograms per liter

MTBE = methyl tertiary butyl ether

DIPE = Di-isopropyl Ether

ETBE = Ethyl tert-Butyl Ether

TAME - tert-Amyl Methyl Ether

1,2-DCA = 1, 2-Dichloroethane

EDB = Ethylene dibromide

TBA = tert-butyl alcohol

f = one to a few isolated peaks present

g = oil range compounds are significant

c = aged diesel? Is significant

b = diesel range compounds are significant;
no recognizable pattern

m = fuel oil

GW-1* = "grab" groundwater sample
collected from boring B-2

Attachment 5

Project: 7900-7916 Dublin Boulevard, Dublin, CA		Boring I.D.: B-1	Page: 1 of 1
Drilling Agency: N/A		Date Started: 8/31/98	Date Finished: 8/31/98
Drilling Equipment: Hand Auger	Logged By: JC	Completion Depth: ~15'	Hammer: N/A
Drilling Method: Hand Auger	Samples: 3	Initial Water Depth: N/A	Sampler: brass

WELL DETAILS: N/A

Depth (feet)	Lithologic Description/Remarks	PID/(PPM)	Soil Class'n	Depth (feet)	Blows/ft.	Sample Interval		Well Construction
						Sample Number		
1	3.0 to 4.0 inches of asphalt at ground surface Base rock to approximately 1.0 feet bgs			1				
2								
3								
4								
5	Clayey silt (ML); light to medium brown; slightly damp; low plasticity; no product odor; 0-10% fine sand, 70-80% silt, 20-30% clay	14	ML	5			B-1@5'	
6								
7								
8								
10	Silty clay (CL); medium brown; damp to moist; low to medium plasticity; no product odor; 0-10% fine sand, 25-35% silt, 65-75% clay	23	CL	10			B-1@10'	
11								
12								
13								
15	Same as above; 6 0" to 1.0' fine to medium sand stringer occurs at approximately 13.5' bgs	30	CL	15			B-1@15'	
16								
17	Total depth = 15 feet bgs			17				
18								
19								
20								
21								
22								
23								
24								
25								

Project: 7900-7916 Dublin Boulevard, Dublin, CA		Boring I.D.: B-2	Page: 1 of 2
Drilling Agency: N/A		Date Started: 9/2/98	Date Finished: 9/2/98
Drilling Equipment: Geoprobe	Logged By: JC	Completion Depth: ~30'	Hammer: N/A
Drilling Method: direct push	Samples: 1 (water)	Initial Water Depth: ~27'	Sampler: hydropunch

WELL DETAILS: N/A

Depth (feet)	Lithologic Description/Remarks	PID/(PPM)	Soil Class'n	Depth (feet)	Blows/ft.	Sample Interval	Well Construction
						Sample Number	
1	3.0 to 4.0 inches of asphalt at ground surface			1			
2	Base rock to approximately 1.0 feet bgs			2			
3				3			
4				4			
5	Clayey silt (ML); light to medium brown; slightly damp; low plasticity; no product odor; 0-10% fine sand, 70-80% silt, 20-30% clay	11	ML	5			
6				6			
7				7			
8				8			
9				9			
10	Same as above	19	ML	10			
11				11			
12				12			
13	6.0" to 1.0' fine to medium grained sand (SC) stringer occurs at approximately 13.0' bgs			13			
14				14			
15	Silty clay (CL); medium brown; damp to moist; low to medium plasticity; no product odor; 0-10% fine sand, 25-35% silt, 65-75% clay;	22	CL	15			
16				16			
17				17			
18				18			
19				19			
20	Same as above; moist to very moist	20	CL	20			
21				21			
22				22			
23				23			
24				24			
25	Clayey sand (SC); light to medium brown; very moist; no product odor; 65-75% fine to medium sand, 5-15% silt, 20-30% clay;	27	SC	25			

Project: 7900-7916 Dublin Boulevard, Dublin, CA		Boring I.D.: 6-2	Page: 2 of 2
Drilling Agency: N/A		Date Started: 9/2/98	Date Finished: 9/2/98
Drilling Equipment: Geoprobe	Logged By: JC	Completion Depth: ~30'	Hammer: N/A
Drilling Method: direct push	Samples: 1 (water)	Initial Water Depth: ~27'	Sampler: hydropunch

WELL DETAILS: N/A

Depth (feet)	Lithologic Description/Remarks	PID/(PPM)	Soil Class'n	Depth (feet)	Blows/ft.	Sample Interval		Well Construction	
						Sample Number			
26	Clayey sand (SC); light to medium brown; very moist; no product odor; 65-75% fine to medium sand, 5-15% silt, 20-30% clay;	27	SC	26					
27				27					
28				28					
29				29					
30	Clayey silt (ML); light to medium brown; saturated; low plasticity; no product odor; 0-10% fine sand, 70-80% silt, 20-30% clay	34	ML	30					
31				31					
32	Total depth = 30 feet bgs			32					
33				33					
34				34					
35				35					
36				36					
37				37					
38				38					
39				39					
40				40					
41				41					
42				42					
43				43					
44				44					
45				45					
46				46					
47				47					
48				48					
49				49					
50				50					

Project: 7900 Dublin Ave., Dublin, CA		Boring I.D.: GP-1	Page: 1 of 1
Drilling Agency: ECA	Drilling Method: Geoprobe	Date Started: 2/21/03	Date Finished: 2/21/03
Logged By: JM	Samples: 6	Completion Depth: 24'	Initial Water Depth: 19.85'

Depth (feet)	Lithologic Description/Remarks	PID/(PPM)	Soil Class'n	Depth (feet)	Blows/ft.	Sample Interval	Well Construction
						Sample Number	
2	Asphalt - 2-3" of asphalt at surface SW - Gravelly sand, light to medium brown, damp, FeO3, NPO, 20-30% fine to coarse gravel, 65-75% fine to coarse sand, 5-10% silt		SW	2			
4	CL - Silty clay, medium brown, damp to moist, medium plasticity, FeO3, NPO, 0-10% fine sand, 25-35% silt, 65-75% clay		CL	4		GP-1@4'	
6	SW - Gravelly sand, same as at 3" bgs CL - Silty clay, same as at 1.5' bgs		SW CL	6			
8	SW - Gravelly sand, same as at 5' bgs CL - Silty clay w/ some gravel, light to medium brown, moist, low to medium plasticity, FeO3, NPO, 5-15% fine gravel, 0-10% fine to coarse sand, 15-25% silt, 60-70% clay		SW CL	8		GP-1@8'	
10				10			
12	CH - Clay w/ some silt, light to medium brown, moist, medium to high plasticity, NPO, 0-10% fine sand, 5-15% silt, 80-90% clay		CH	12		GP-1@12'	
14	SW - Gravelly sand, same as at 7'bgs, moist CH - Clay w/ some silt, same as at 9.5'bgs		SW CH	14			
16				16		GP-1@16'	
18	SW - Gravelly sand, same as at 13'bgs		SW	18			
20	CL - Silty clay w/some gravel, same as at 7.5'bgs, very moist		CL	20	▽	GP-1@20'	
22	SW - Gravelly sand, same as at 17'bgs, very moist CL - Silty clay, same as at 6'bgs, saturated		SW CL	22			
24	CH - Clay, medium brown, saturated, high plasticity, NPO, 5-15% silt, 85-95% clay		CH	24		GP-1@24'	
24	Total depth = 24 feet bgs			24			
26				26			
28				28			
30				30			

Project: 7900 Dublin Ave., Dublin, CA Boring I.D.: GP-2 Page: 1 of 1

Drilling Agency: ECA Drilling Method: Geoprobe Date Started: 2/21/03 Date Finished: 2/21/03

Logged By: JM Samples: 6 Completion Depth: 24' Initial Water Depth: 19.85'

Depth (feet)	Lithologic Description/Remarks	PID/(PPM)	Soil Class'n	Depth (feet)	Blows/ft.	Sample Interval	Well Construction
						Sample Number	
2	Asphalt - 2-3" of asphalt at surface SW - Gravelly sand, light to medium brown, damp, FeO3, NPO, 20-30% fine to coarse gravel, 65-75% fine to coarse sand, 5-10% silt		sw	2			
4	CL - Silty clay w/ some gravel, light to medium brown, damp, low to medium plasticity, FeO3, NPO, 5-15% fine gravel, 0-10% fine to coarse sand, 15-25% silt, 60-70% clay		CL	4		GP-2@4'	
6	SW - Gravelly sand, same as at 3"bgs		sw	6			
8	CL - Silty clay w/ some gravel, same as at 1.5' bgs, moist		CL	8		GP-2@8'	
10	SW - Gravelly sand, same as at 5.5'bgs, damp to moist CL - Silty clay w/ some gravel, same as at 6'		sw CL	10			
12	CH - Clay w/ some silt, light to medium brown, moist, medium to high plasticity, NPO, 0-10% fine sand, 5-15% silt, 80-90% clay		CH	12		GP-2@12'	
14	CL - Silty clay, medium brown, moist, medium plasticity, FeO3, NPO, 0-10% fine sand, 25-35% silt, 65-75% clay		CL	14		GP-2@16'	
16	SW - Gravelly sand, same as at 8.5'bgs, moist		sw	16			
18				18			
20	CL - Silty clay, same as at 13'bgs, very moist, grey mottling		CL	20	▽	GP-2@20'	
22				22			
24	CH - Clay, medium brown, saturated, high plasticity, NPO, 5-15% silt, 85-95% clay		CH	24		GP-2@24'	
24	Total depth = 24 feet bgs			24			
26				26			
28				28			
30				30			

Project: 7900 Dublin Ave., Dublin, CA		Boring I.D.: GP-3	Page: 1 of 1
Drilling Agency: ECA	Drilling Method: Geoprobe	Date Started: 2/21/03	Date Finished: 2/21/03
Logged By: JM	Samples: 6	Completion Depth: 24'	Initial Water Depth: 19.72'

Depth (feet)	Lithologic Description/Remarks	PID/(PPM)	Soil Class'n	Depth (feet)	Blows/ft.	Sample Interval	Well Construction
						Sample Number	
2	Asphalt - 2-3" of asphalt at surface SW - Gravelly sand, light to medium brown, damp, FeO ₃ , NPO, 20-30% fine to coarse gravel, 65-75% fine to coarse sand, 5-10% silt		SW	2			
4	ML - Clayey silt, medium to dark brown, damp, low plasticity, FeO ₃ , NPO, 5-15% fine sand, 20-30% silt, 65-75% clay		ML	4		GP-3@4'	
6				6			
8	ML - Clayey silt, same as above, w/ some gravel		ML	8		GP-3@8'	
10	SW - Gravelly sand, same as at 3"bgs ML - Clayey silt, same as at 2'bgs		SW ML	10			
12	CL - Silty clay, light to medium brown, moist, medium plasticity, FeO ₃ , NPO, 0-10% fine sand, 25-35% silt, 65-75% clay		CL	12		GP-3@12'	
14				14			
16	CH - Clay w/ some silt, light to medium brown, moist, medium to high plasticity, NPO, 0-10% fine sand, 5-15% silt, 80-90% clay		CH	16		GP-3@16'	
18	SW - Gravelly sand, same as at 8.5'bgs, moist		SW	18			
20	CL - Silty clay w/ some gravel, medium grey, very moist, low to medium plasticity, FeO ₃ , NPO, 5-15% fine gravel, 0-10% fine to coarse sand, 15-25% silt, 60-70% clay		CL	20	▼	GP-3@20'	
22				22			
24	CH - Clay, medium brown, grey mottling, saturated, medium plasticity, NPO, 5-15% silt, 85-95% clay		CH	24		GP-3@24'	
24	Total depth = 24 feet bgs			24			
26				26			
28				28			
30				30			

Drilling Agency: ECA

Drilling Method: Geoprobe

Date Started: 2/21/03

Date Finished: 2/21/03

Logged By: JM

Samples: 6

Completion Depth: 24'

Initial Water Depth: 19.85'

Depth (feet)	Lithologic Description/Remarks	PID/(PPM)	Soil Class'n	Depth (feet)	Blows/ft.	Sample Interval	Well Construction
						Sample Number	
	Asphalt - 2-3" of asphalt at surface						
2	SW - Gravelly sand, light to medium brown, damp, FeO ₃ , NPO, 20-30% fine to coarse gravel, 65-75% fine to coarse sand, 5-10% silt		SW	2			
4	ML - Clayey silt, medium to dark brown, damp, low plasticity, FeO ₃ , NPO, 5-15% fine sand, 20-30% silt, 65-75% clay		ML	4		GP-4@4'	
6				6			
8	ML - Clayey silt, same as above, moist		ML	8		GP-4@8'	
10				10			
12	CL - Silty clay, light to medium brown, moist, low to medium plasticity, FeO ₃ , NPO, 0-10% fine sand, 25-35% silt, 65-75% clay		CL	12		GP-4@12'	
14				14			
16	CH - Clay, w/ some silt, light to medium brown, moist, medium to high plasticity, NPO, 0-10% fine sand, 5-15% silt, 80-90% clay		CH	16		GP-4@16'	
18	CL - Silty clay, same as at 9' bgs, moist to very moist		CL	18			
20	SW - Gravelly sand, same as at 3' bgs, moist to very moist		SW	20		GP-4@20'	
22	ML - Clayey silt, same as at 2' bgs, w/some gravel, very moist		ML	20	▼		
24	CL - Silty clay, same as at 16' bgs, grey mottling, saturated		CL	22		GP-4@24'	
24	Total depth = 24 feet bgs			24			
26				26			
28				28			
30				30			

Drilling Agency: ECA

Drilling Method: Geoprobe

Date Started: 2/21/03

Date Finished: 2/21/03

Logged By: JM

Samples: 6

Completion Depth: 24'

Initial Water Depth: 19.85'

Depth (feet)	Lithologic Description/Remarks	PID/(PPM)	Soil Class'n	Depth (feet)	Blows/ft.	Sample Interval	Well Construction
						Sample Number	
2	Asphalt - 2-3" of asphalt at surface SW - Gravelly sand, light to medium brown, damp, FeO ₃ , NPO, 20-30% fine to coarse gravel, 65-75% fine to coarse sand, 5-10% silt		SW	2			
4	ML - Clayey silt, medium to dark brown, damp, low plasticity, FeO ₃ , NPO, 5-15% fine sand, 20-30% silt, 65-75% clay CL - Silty clay w/ some gravel, light to medium brown, damp to moist, low to medium plasticity, FeO ₃ , NPO, 5-15% fine gravel, 0-10% fine to coarse sand, 15-25% silt, 60-70% clay		ML CL	4		GP-5@4'	
6	SW - Gravelly sand, same as at 3"bgs		SW	6			
8	CL - Silty clay w/ some gravel, same as at 4'bgs		CL	8		GP-5@8'	
10				10			
12	CL - Silty clay w/ some gravel, same as above, moist, NPO		CL	12		GP-5@12'	
14				14			
16	CH - Clay w/ some silt, light to medium brown, moist, medium to high plasticity, carbonized wood, NPO, 0-10% fine sand, 5-15% silt, 80-90% clay		CH	16		GP-5@16'	
18	CL - Silty clay w/ some gravel, light to medium brown, moist to very moist, low to medium plasticity, FeO ₃ , NPO, 5-15% fine gravel, 0-10% fine to coarse sand, 15-25% silt, 60-70% clay		CL	18			
20	ML - Clayey silt, same as at 1.5'bgs, w/ some gravel, very moist		ML	20	▽	GP-5@20'	
22	CL - Silty clay w/ some gravel, same as at 16.5'bgs, saturated		CL	22			
24	Total depth = 24 feet bgs			24		GP-5@24'	
26				26			
28				28			
30				30			

Project: 7900 Dublin Ave., Dublin, CA		Boring I.D.: GP-6	Page: 1 of 1
Drilling Agency: ECA	Drilling Method: Geoprobe	Date Started: 2/21/03	Date Finished: 2/21/03
Logged By: JM	Samples: 5	Completion Depth: 25'	Initial Water Depth: 19.85'

Depth (feet)	Lithologic Description/Remarks	PID/(PPM)	Soil Class'n	Depth (feet)	Blows/ft.	Sample Interval	Well Construction
						Sample Number	
2	Concrete - 3-4" of concrete at surface			2			
4	CL - Silty clay w/ some gravel, light to medium brown, moist, low to medium plasticity, Fe03, NPO, 5-15% fine gravel, 0-10% fine to coarse sand, 15-25% silt, 60-70% clay		CL	4		GP-6@5'	
6				6			
8				8			
10	CL - Silty clay, same as above		CL	10		GP-6@10'	
12				12			
14	CH - Clay w/ some silt, light to medium brown, moist, medium to high plasticity, NPO, 0-10% fine sand, 5-15% silt, 80-90% clay		CH	14		GP-6@15'	
16				16			
18				18			
20	CH - Clay w/ some silt, same as above, very moist		CH	20	☒	GP-6@20'	
22	CL - Silty clay, medium brown, damp to moist, medium plasticity, Fe03, NPO, 0-10% fine sand, 25-35% silt, 65-75% clay		CL	22			
24				24			
	Total depth = 25 feet bgs					GP-6@25'	
26				26			
28				28			
30				30			