ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

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

November 7, 2012

Thomas and Mary Curran
57 Arbor Dr.
Piedmont, CA 94610
(sent via electronic mail to TFCurran@sbcglobal.net)

Subject: Closure Transmittal; Fuel Leak Case No. RO0000339 and Geotracker Global ID T0600101596, Red Top Electric, 4377 Adeline Street, Emeryville, CA 94608

Dear Thomas and Mary Curran:

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:

- Disposal destination of soil excavated during UST removal not reported, and is assumed to be redeposited in UST excavation.
- Disposal destination of the UST and any product piping is not reported.
- 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.
- This site is to be entered into the City of Emeryville Permit Tracking System due to the onsite residual contamination.

If you have any questions, please call Mark Detterman at (510) 567-6876. Thank you.

Sincerely,

Donna L. Drogos, P.E.
Division 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, (sent via electronic mail to CMacaulou@waterboards.ca.gov)

City of Emeryville, Economic Development & Housing Department, c/o Markus Niebanck, 1333 Park Avenue, Emeryville, CA 94608 (sent via electronic mail to MNiebanck@ci.emeryville.ca.us)

Donna Drogos, (sent via electronic mail to donna.drogos@acgov.org)
Mark Detterman (sent via electronic mail to mark.detterman@acgov.org)
Electronic File, GeoTracker

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
OFFICE OF THE DIRECTOR
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6777
FAX (510) 337-9135

REMEDIAL ACTION COMPLETION CERTIFICATION

November 7, 2012

Thomas and Mary Curran
57 Arbor Dr.
Piedmont, CA 94610
(sent via electronic mail to TFCurran@sbcglobal.net)

Subject: Case Closure for Fuel Leak Case No. RO0000339 and Geotracker Global ID T0600101596, Red Top Electric, 4377 Adeline Street, Emeryville, CA 94608

Dear Thomas and Mary Curran:

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 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(s) at the site is required.

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

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or
- Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

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

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

I. AGENCY INFORMATION

Date: July 26, 2012

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6876
Responsible Staff Person: Mark Detterman	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Red Top Electric, Inc.		
Site Facility Address: 4377 Adeline Street, Emeryville, CA 94608		
RB Case No.: 01-1725	Local Case No.: 4261	LOP Case No.: RO0000339
URF Filing Date: ---	Geotracker ID: T0600101596	APN: 49-1081-12

Responsible Parties	Addresses	Phone Numbers
Thomas F. & Mary F. Curran	Red Top Electric, Inc, 57 Arbor Drive Piedmont, CA 94610-1067	(510) 301-0661

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	1,000	Gasoline	Removed	11/6/1991
Piping			Not Reported	11/6/1991

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unknown; USTs Appeared intact upon removal; overfill was suspected.		
Site characterization complete? Yes	Date Approved By Oversight Agency: -----	
Monitoring wells installed? No	Number: 0	Proper screened interval? ---
Highest GW Depth Below Ground Surface: 12 feet bgs *	Lowest Depth: 12 feet bgs *	Flow Direction: Southwest **
Most Sensitive Current Use: Potential drinking water source.		

*Depth-to-water was never measured at the site. However, groundwater was encountered at approximately 12 fbgs during advancement of borings on February 24, 2012.

** The groundwater gradient of sites in the general vicinity has been reported to be directed to the southwest (Redevelopment Agency; 1056 46th Street, Emeryville, CA, SLT2O05359 and Flecto Company, 1000 45th Street, Oakland / Emeryville, CA; RO0001153).

Summary of Production Wells in Vicinity: Three cathodic protection wells are known to be within 2,200 of the subject site. One well is located 1,300 feet to the northeast, is thus upgradient and is therefore not anticipated to be a receptor. A second is 2,200 feet southeast, is thus cross gradient, and is therefore not anticipated to be a receptor. The third is reported to be within 100 feet to the southeast of the site at the approximate intersection of Adeline and 44th Street. This well is not anticipated to be a receptor as the vicinity gradient is reported to be to the southwest and, per DWR cathodic protection design standards, the annular seal extends to a minimum of 20 feet in depth.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: San Francisco Bay, located approximately 4,000 feet west.
Off-Site Beneficial Use Impacts (Addresses/Locations): None Identified.	
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	1,000-gallon	The tank was disposed of at an unknown location.	11/6/1991
Piping	Not Reported	Not Reported; Assumed Disposed with USTs.	11/6/1991
Free Product	----	-----	----
Soil	----	-----	----
Groundwater	----	-----	----

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments 1 through 6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	230	230	<50 *	< 50
TPH (Diesel)	6.2	6.2	340 *	340
TPH (Motor Oil)	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed
Oil and Grease	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed
Benzene	< 0.005	< 0.005	< 0.50 *	< 0.50
Toluene	0.0083	0.0083	< 0.50 *	< 0.50
Ethylbenzene	2.5	2.5	< 0.50 *	< 0.50
Xylenes	18.0	18.0	< 0.50 *	< 0.50
Heavy Metals (Cd, Cr, Pb, Ni, Zn)	Not Analyzed	Not Analyzed	Not Analyzed *	Not Analyzed
MTBE	<0.0050 [1]	<0.0050 [1]	<0.50 * [2]	<0.50 [2]
Other (8240/8270)	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed

* Groundwater was sampled once, during the February 24, 2012 investigation.

[1] MTBE, TAME, DIPE, ETBE, TBA, EDB, and 1,2-DCA all nondetectable at <0.0050 mg/kg.

[2] MTBE, TAME, DIPE, ETBE, EDB, and 1,2-DCA all nondetectable at < 0.50 ppb; TBA < 5.0 ppb.

Site History and Description of Corrective Actions:

The property is currently occupied by Intrepid Electron Systems, Inc and is surrounded by commercial and residential land use. It is reported that one fuel storage tank was installed at the site in 1980 and pumped dry in 1984 when abandoned. The supply and return lines were then filled with concrete and capped. Site lithology consists predominantly of silty sand to approximately 17.5 feet below ground surface (bgs); however, clayey silt can be present at a depth of 3 and 7 feet bgs. Gravelly sand was also encountered between 14.5 and 17.5 feet bgs in one bore. Silty clay is present below approximately 17.5 feet bgs.

On November 6, 1991, a 1,000-gallon gasoline underground storage tank (UST) was removed from the sidewalk in front of the property at 4377 Adeline Street. There were no observable holes in the tank and it appeared to be in good condition. Soil samples were collected from the excavation pit, piping trench, and soil stockpile. The soil sample from the southern end of the excavation pit contained 230 milligrams per kilogram (mg/kg) Total Petroleum Hydrocarbons as gasoline (TPHg), 2.5 mg/kg ethylbenzene, and 18.0 mg/kg xylenes. The only other sample that contained detectable concentrations of petroleum hydrocarbons was collected from the middle of the excavation pit and contained no detectable concentration of TPHg, 0.0083 mg/kg toluene, and 0.056 mg/kg xylenes. Overfill has been postulated by the removal company as the potential cause of the release.

On February 24, 2012, two soil borings (BH-A and BH-B) were advanced in the area of the former gasoline UST. Two soil samples at 7.5 feet bgs and 11.5 feet bgs, and one groundwater sample were collected from each boring. The soil samples contained TPH as diesel (TPHd) at concentrations up to 6.2 mg/kg. The greatest soil sample detection of TPHd came from the shallower soil sample, collected at 7.5 feet bgs in the northern boring. The groundwater samples also contained TPHd at concentrations up to 340 micrograms per liter (µg/l). Since there were no detectable concentrations of TPHg in groundwater, the results indicate the possibility that the UST may have

contained diesel. None of the contaminants detected in soil during the 1991 tank excavation were detected during this event.

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 risk to human health based upon current land use and conditions.		
Site Management Requirements: 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. This site is to be entered into the City of Emeryville Permit Tracking System due to the onsite residual contamination.		
Should corrective action be reviewed if land use changes? No		
Was a deed restriction or deed notification filed? No		Date Recorded: NA
Monitoring Wells Decommissioned: NA	Number Decommissioned: 0	Number Retained: 0
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: None		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

- Disposal destination of soil excavated during UST removal not reported, and is assumed to be redeposited in UST excavation.
- Disposal destination of the UST and any product piping is not reported.

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 for the fuel leak case is necessary. ACEH staff recommend closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Mark Detterman, P.G., C.E.G.	Title: Senior Hazardous Materials Specialist
Signature: Mark E.	Date: 7/27/12
Approved by: Donna L. Drogos, P.E.	Title: Division Chief
Signature:	Date: 07/27/12

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
Notification Date: 7/31/12	

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: NA	Date of Well Decommissioning Report: NA	
All Monitoring Wells Decommissioned: NA	Number Decommissioned: 0	Number Retained: 0
Reason Wells Retained: Not applicable		
Additional requirements for submittal of groundwater data from retained wells: Not applicable		
ACEH Concurrence - Signature: Mark E.		Date: 7/27/12

Attachments:

1. Site Vicinity Map (2 pp)
2. Site Plans (3 pp)
3. Soil Analytical Data (3 pp)
4. Groundwater Analytical Data (1 pp)
5. Boring Logs (2 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.

Detterman, Mark, Env. Health

From: MCcaulou, Cherie@Waterboards [Cherie.MCcaulou@waterboards.ca.gov]
Sent: Tuesday, July 31, 2012 9:58 AM
To: Detterman, Mark, Env. Health
Subject: RE: Case Closure Summary for Red Top Electric (RO339)

Mark – I received your notification and recommendation for case closure of Case No. RO339. We have no comments. Thank you.

From: Mark Env. Health Detterman [mailto:Mark.Detterman@acgov.org]
Sent: Tuesday, July 31, 2012 9:02 AM
To: MCcaulou, Cherie@Waterboards
Subject: Case Closure Summary for Red Top Electric (RO339)

Attached is a closure summary for RO0000339 Red Top Electric located at 4377 Adeline Street, Emeryville, CA to comply with the RWQCB's 30-day review period. If no comments from the RWQCB are received within the 30-day review period, ACEH will proceed with case closure.

Should you have questions or comments regarding the site, please let me know.
Best,

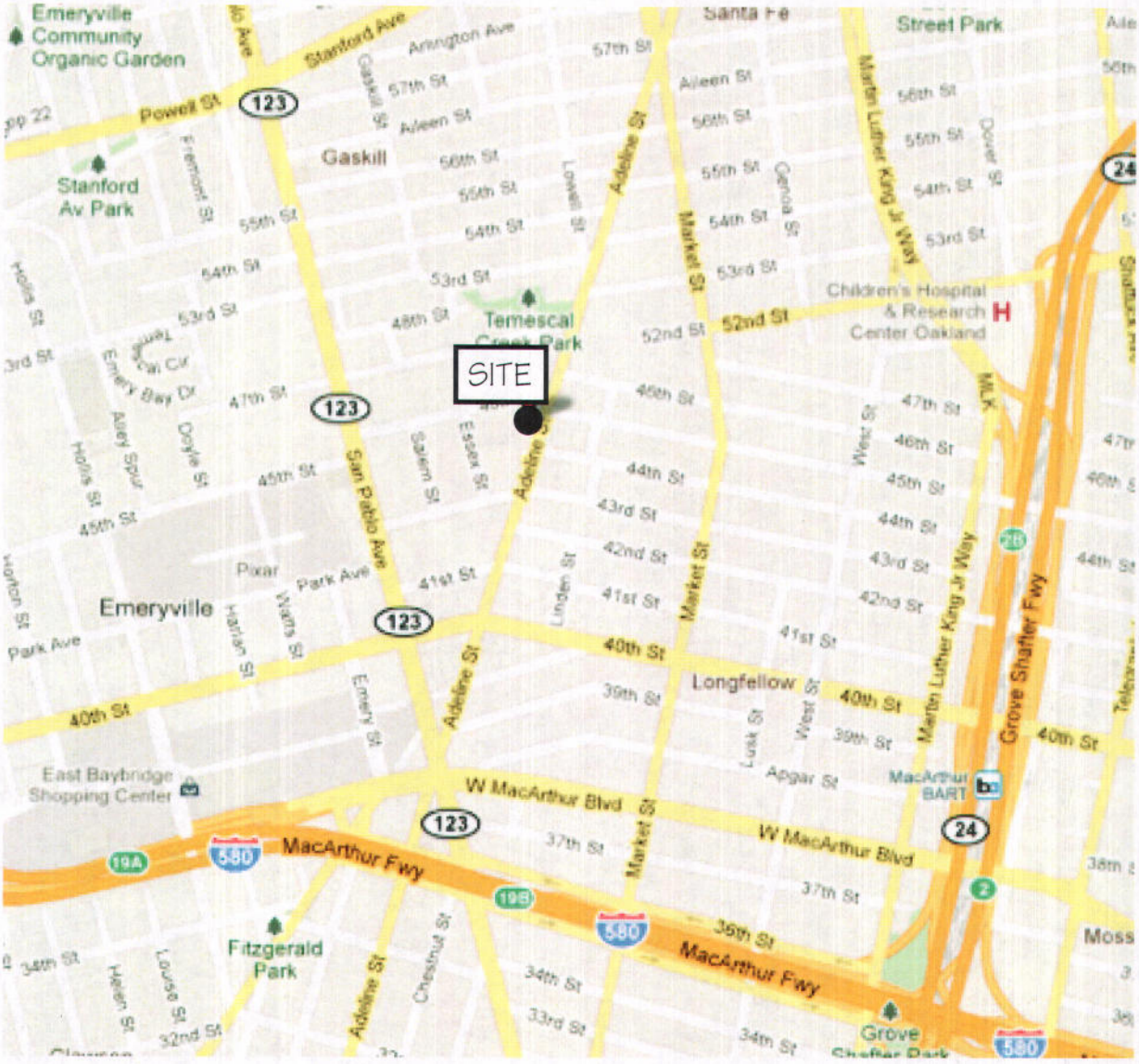
Mark Detterman
Senior Hazardous Materials Specialist, PG, CEG
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6876
Fax: 510.337.9335
Email: mark.detterman@acgov.org

PDF copies of case files can be downloaded at:

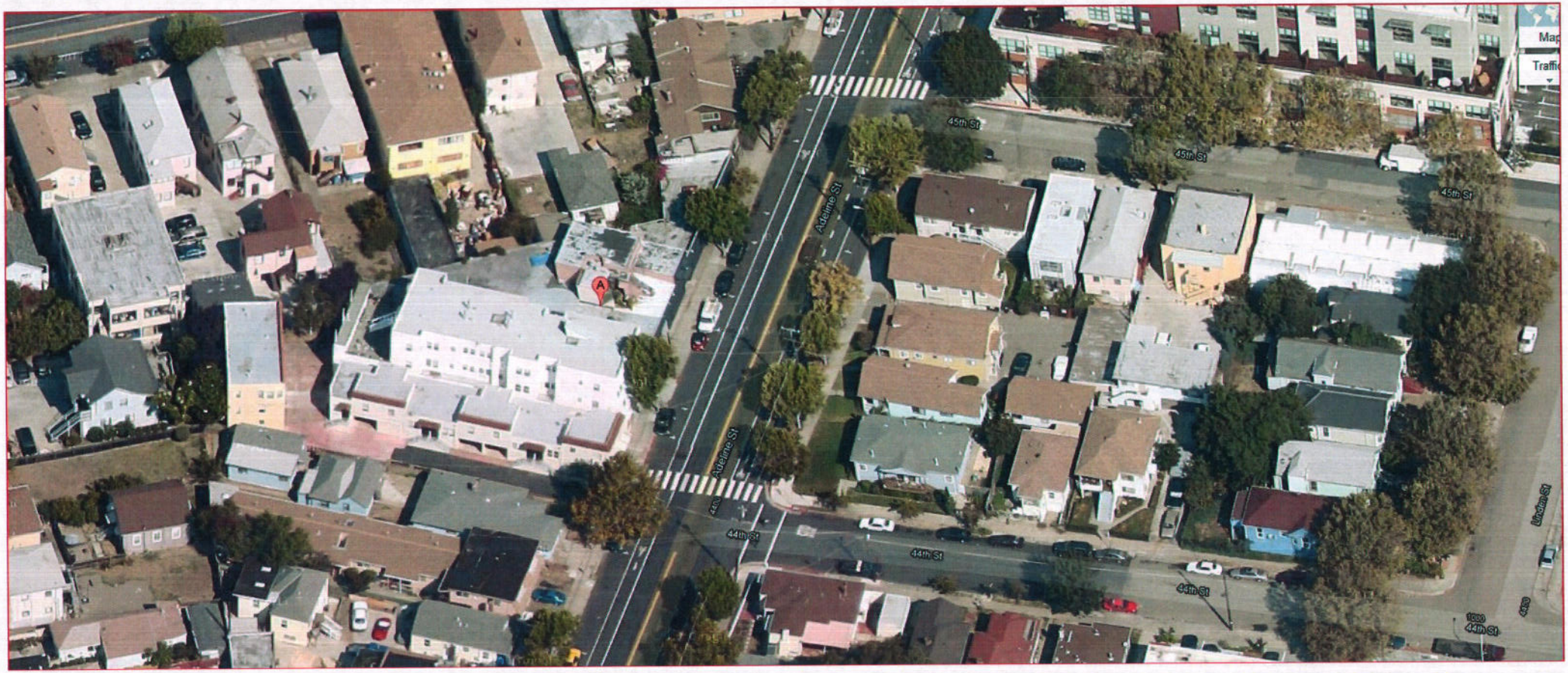
http://www.acgov.org/aceh/lop/ust.htm

ATTACHMENT 1

NORTH



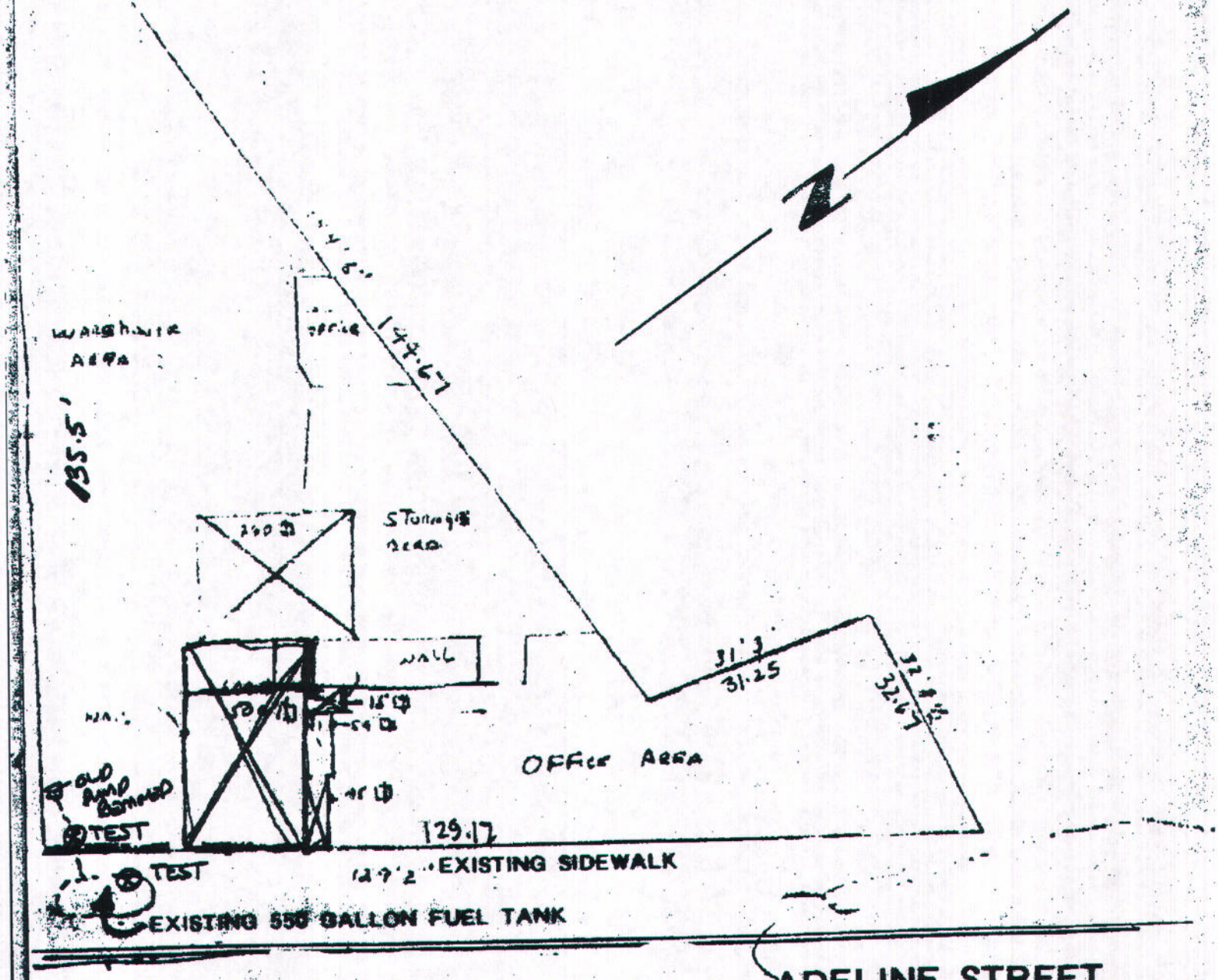
SITE LOCATION MAP	
Former Red Top Electric Site 4377 Adeline Street Emeryville, California	
AQUA SCIENCE ENGINEERS, INC.	Figure 1


45th St
45th St
45th St
Adeline St
Adeline St
44th St
44th St
44th St
Linden St
1000
44th St

4377 ADELINE STREET

RED TOP ELECTRIC

PLOT PLAN
4377 ADELINE STREET, EMERYVILLE, CA 94608

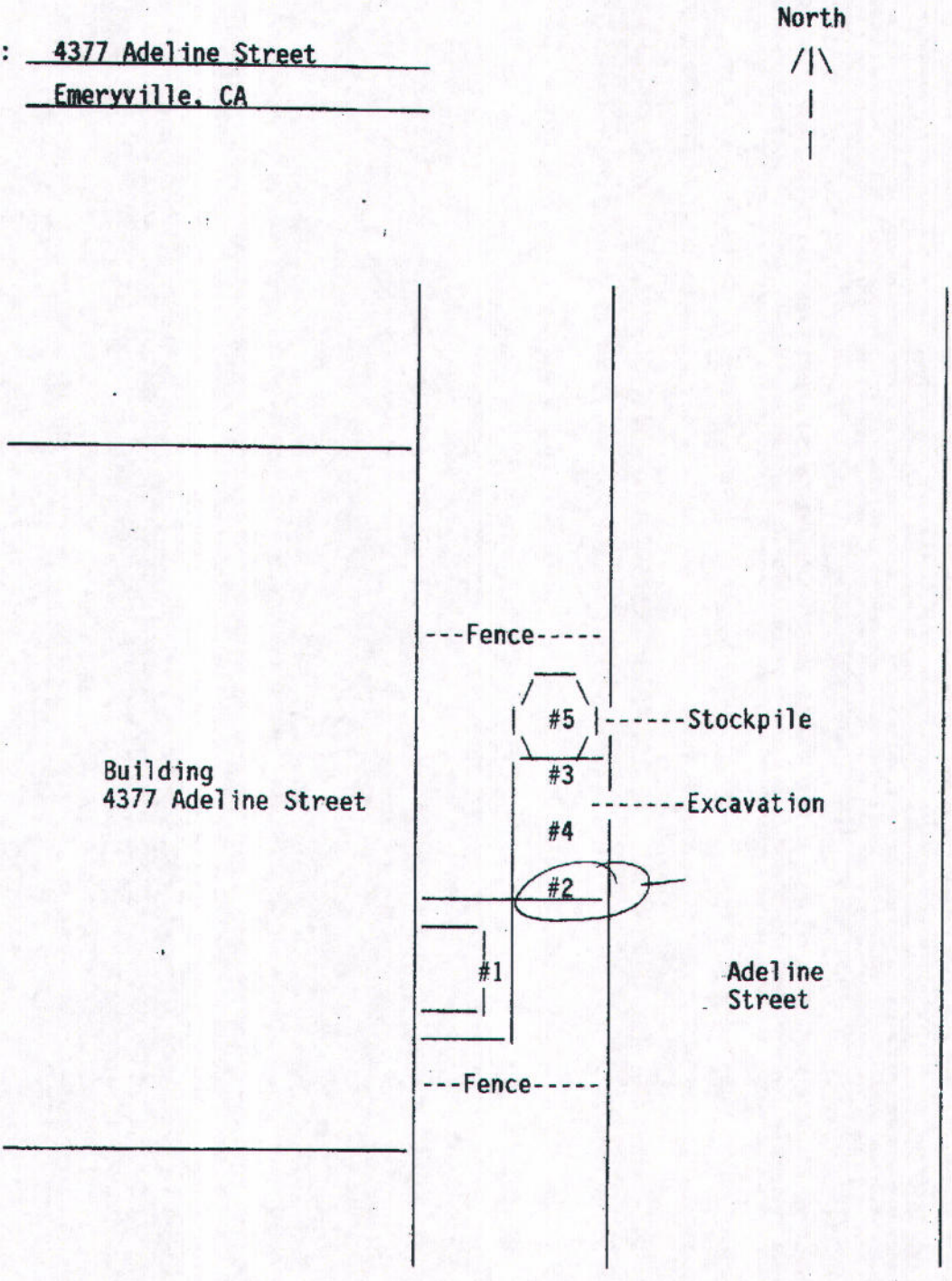


PLOT PLAN

ATTACHMENT 2

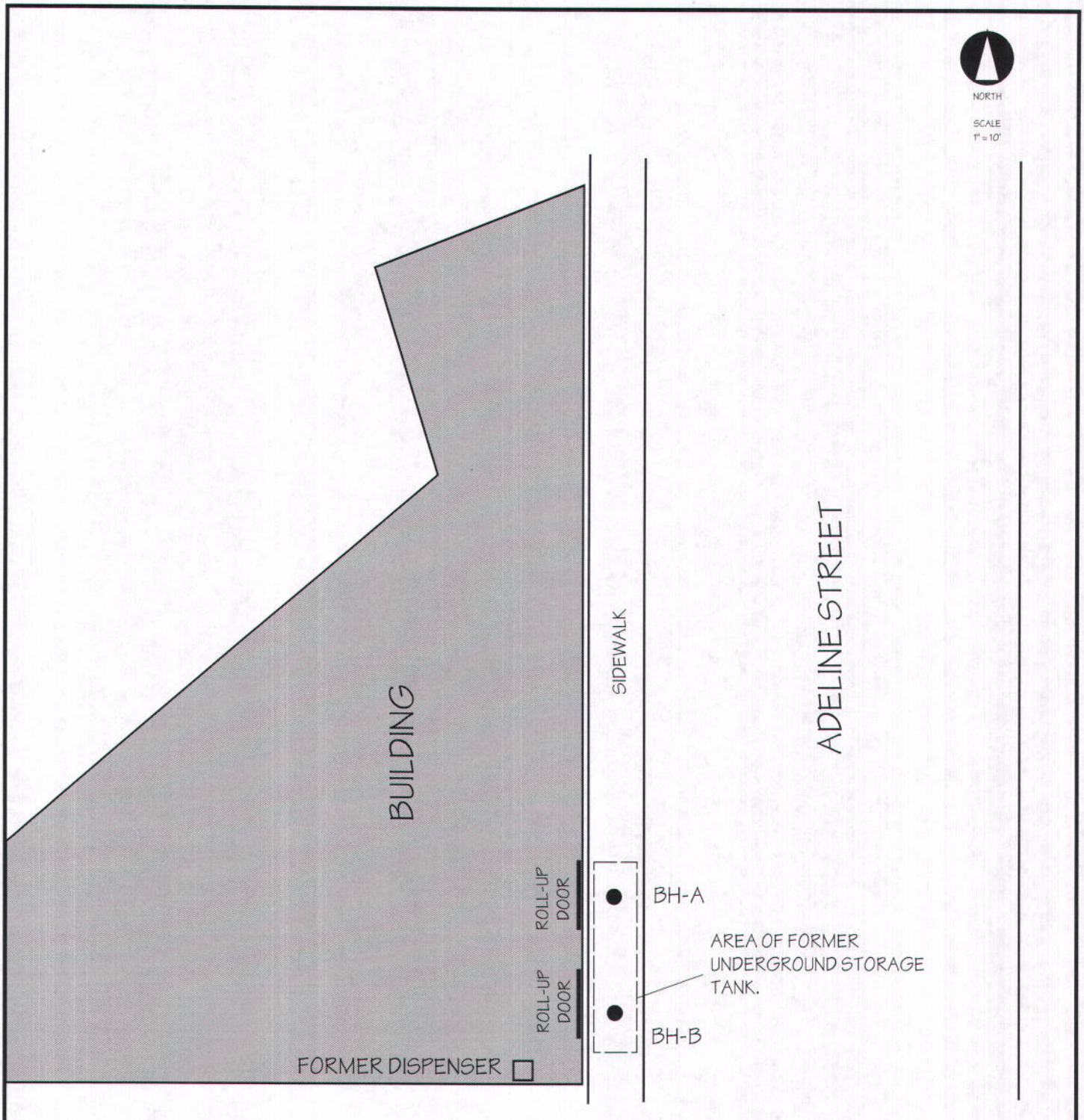
TAL Trace Analysis Laboratory, Inc.

Site
Address: 4377 Adeline Street
Emeryville, CA



Requester: Bruce Hammon
Customer: Dalzell Corporation
Address: P.O. Box 8284
Emeryville, CA 94662

Date Sampled: 11/06/91
Log #: 1487



SOIL BORING
LOCATION MAP

Former Red Top Electric Site
4377 Adeline Street
Emeryville, California

AQUA SCIENCE ENGINEERS, INC. | Figure 2

ATTACHMENT 3

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545
Telephone (510) 783-6960
Facsimile (510) 783-1512

TAL

LOG NUMBER: 1487
DATE SAMPLED: 11/06/91
DATE RECEIVED: 11/06/91
DATE EXTRACTED: 11/09/91
DATE ANALYZED: 11/12/91
DATE REPORTED: 11/13/91

CUSTOMER: Dalzell Corporation

REQUESTER: Bruce Hammon

PROJECT: 4377 Adeline Street, Emeryville, CA

Sample Type: Soil

Method and Constituent:	Units	1 Concentration	1 Reporting Limit	2 Concentration	2 Reporting Limit	3 Concentration	3 Reporting Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	ND	500	230,000	3,000	ND	500
EPA Method 8020 for:							
Benzene	ug/kg	ND	5.0	ND	260	ND	5.0
Toluene	ug/kg	ND	5.0	ND	220	ND	5.0
Ethylbenzene	ug/kg	ND	5.0	2,500	240	ND	5.0
Xylenes	ug/kg	ND	15	18,000	600	ND	15

Concentrations reported as ND were not detected at or above the reporting limit.

TAL Trace Analysis Laboratory, Inc.

LOG NUMBER: 1487
DATE SAMPLED: 11/06/91
DATE RECEIVED: 11/06/91
DATE EXTRACTED: 11/09/91
DATE ANALYZED: 11/12/91
DATE REPORTED: 11/13/91
PAGE: Two

Sample Type: Soil

Method and Constituent:	Units	4 Concentration	4 Reporting Limit	5 Concentration	5 Reporting Limit	Method Blank Concentration	Method Blank Reporting Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	ND	500 (lower the limit)	ND	500	ND	500
EPA Method 8020 for:							
Benzene	ug/kg	ND	5.0	ND	5.0	ND	5.0
Toluene	ug/kg	8.3	5.0	ND	5.0	ND	5.0
Ethylbenzene	ug/kg	ND	5.0	ND	5.0	ND	5.0
Xylenes	ug/kg	56	15	ND	15	ND	15

QC Summary:

% Recovery: 120
% RPD: 5.6

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis
Quality Assurance/Quality Control Manager

TABLE ONE

Summary of Analytical Results of SOIL Samples
Petroleum Hydrocarbons, Fuel Oxygenates and Lead Scavengers
Former Red Top Electric, 4377 Adeline Street, Emeryville, California
Results are in parts per million (ppm)

Well/ Boring	Sample Depth	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	DIPE	ETBE	TBA	EDB	1,2-DCA
BH-A	7.5	< 1.0	**6.2****	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
	11.5	< 1.0	**1.9****	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
BH-B	7.5	< 1.0	< 1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
	11.5	< 1.0	**1.0****	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
ESL		83	83	0.044	2.9	3.3	2.3	0.023	NE	NE	NE	0.075	0.00033	0.0045

Notes:

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations in **BOLD**

ESL = Environmental Screening Levels for deep soil at sites where groundwater is a current or potential source of drinking water as presented in the "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) dated May 2008.

DIPE - diisopropyl ether
MTBE - methyl tertiary butyl ether
ETBE - ethyl-t- butyl ether

TAME - tert-amyl methyl ether
TBA -tert butanol
EDB - ethylene dibromide or 1,2-dibromoethane

TPH - total petroleum hydrocarbons
DCA - dichloroethane

** = Hydrocarbons are higher-boiling than typical diesel fuel

TABLE TWO

Summary of Analytical Results of Groundwater Samples
Petroleum Hydrocarbons, Fuel Oxygenates and Lead Scavengers
Former Red Top Electric, 4377 Adeline Street, Emeryville, California
Results are in parts per billion (ppb)

Well/ Boring	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	TAME	DIPE	ETBE	TBA	EDB	1,2-DCA
BH-A	< 50	**340**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50
BH-B	< 50	**83****	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50
ESL	100	100	1	40	30	20	5	NE	NE	NE	12.000	0.05	0.5

Notes:

Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations in **BOLD**

ESL = Environmental Screening Levels for drinking water as presented in the "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" document prepared by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) dated May 2008.

DIPE - diisopropyl ether
MTBE - methyl tertiary butyl ether
ETBE - ethyl-t- butyl ether
TAME - tert-amyl methyl ether
TBA -tert butanol
EDB - ethylene dibromide or 1,2-dibromoethane
TPH - total petroleum hydrocarbons
DCA - dichloroethane

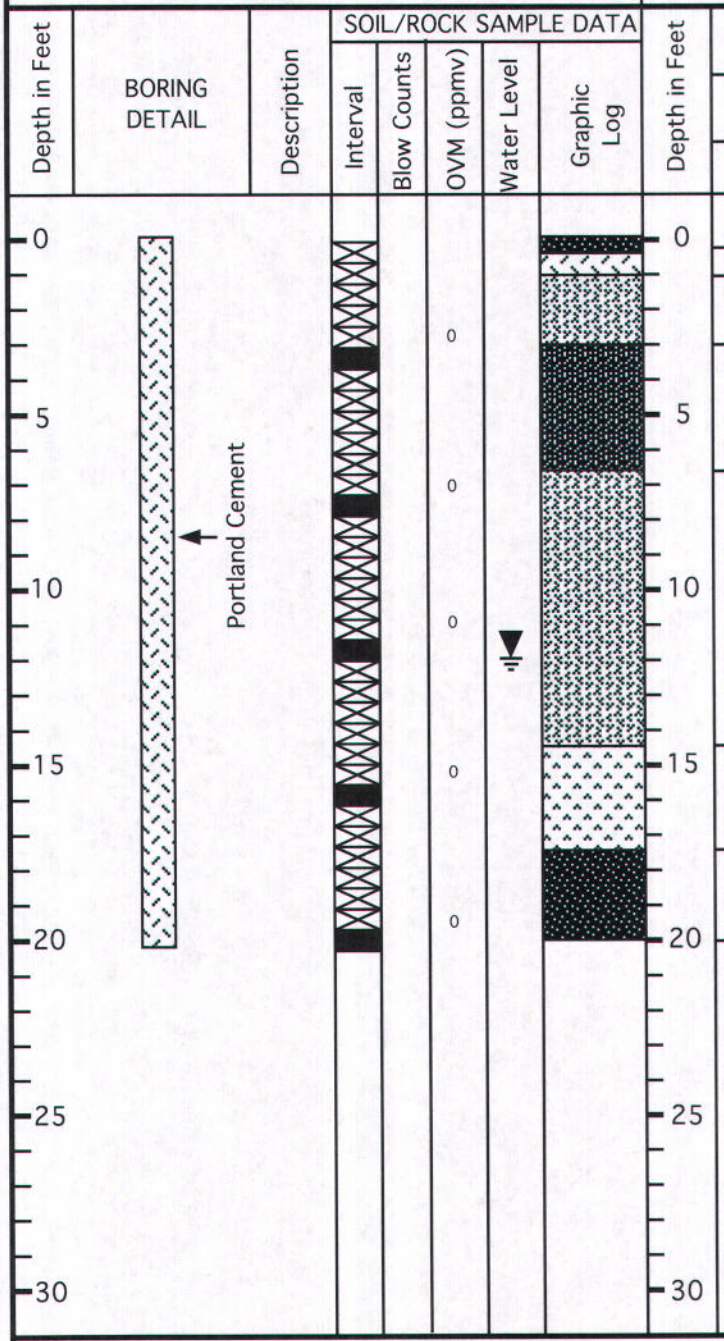
** = Discrete peaksin diesel range; a typical of diesel fuel

ATTACHMENT 4

ATTACHMENT 5

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		BORING: BH-A
Project Name: Red Top Electric	Project Location: 4377 Adeline Street, Emeryville, CA	Page 1 of 1
Driller: V&W Drilling	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Robert E. Kitay, P.G.	Date Drilled: February 24, 2012	Checked By: Robert E. Kitay, P.G.

WATER AND WELL DATA	
Depth of Water First Encountered: 12'	Total Depth of Well Completed: NA
	Well Screen Type and Diameter: NA
Static Depth of Water in Well: NA	Well Screen Slot Size: NA
Total Depth of Boring: 20'	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler

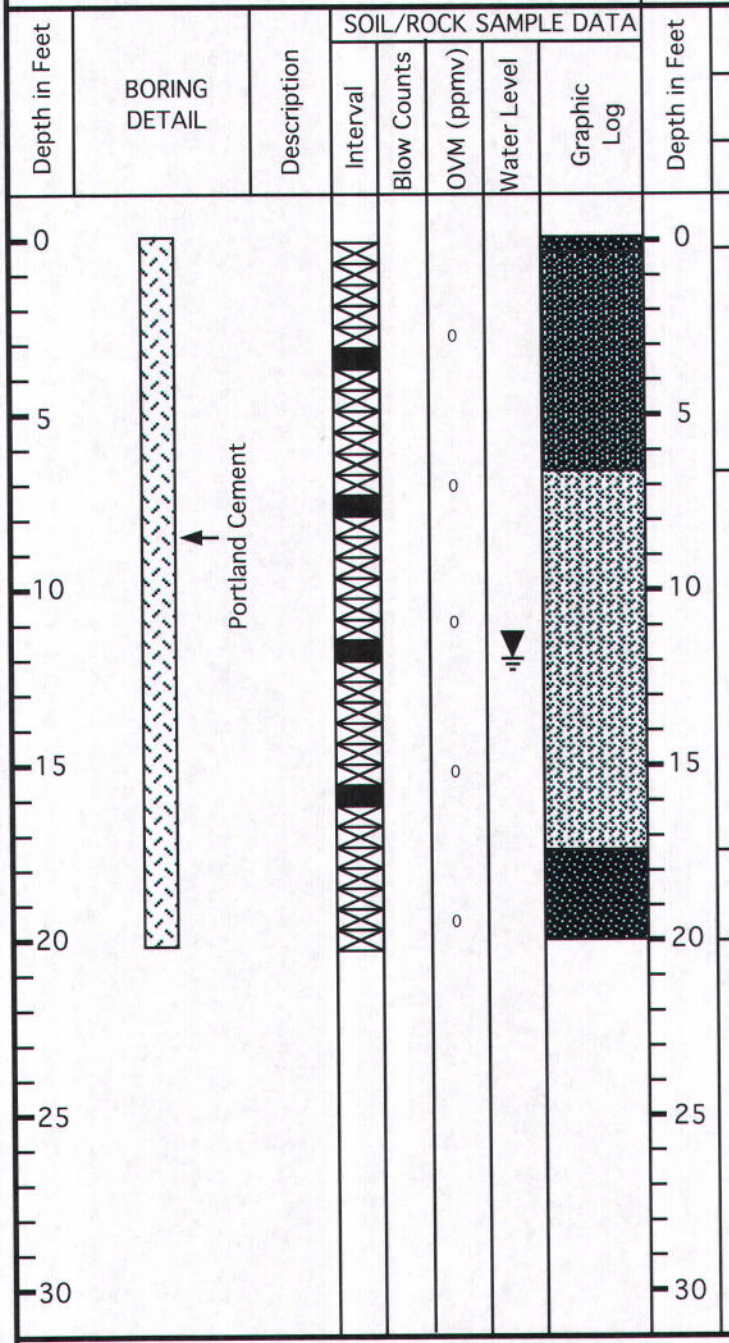


DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
Concrete
Gravel Baserock
Silty SAND (SM); yellow brown; soft; dry; 75% fine to medium sand; 25% silt; medium estimated K; no odor
Clayey SILT (ML); yellow brown; soft; dry; 90% silt; 10% clay; low plasticity; low estimated K; no odor
Silty SAND (SM); yellow brown; loose; dry; 85% fine to medium sand; 15% silt; non-plastic; medium estimated K; no odor wet at 12'
Gravelly SAND (SW); yellow brown; medium dense; wet; 50% fine to course sand; 40% subangular gravel to 1.5" diamter; 10% silt; high estimated K; no odor
Silty CLAY (CH); dark yellow brown; very stiff; dry; 90% clay; 10% silt; high plasticity; v. low estimated K; no odor
End of boring at 20'

AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		BORING: BH-B
Project Name: Red Top Electric	Project Location: 4377 Adeline Street, Emeryville, CA	Page 1 of 1
Driller: V&W Drilling	Type of Rig: Geoprobe	Size of Drill: 2.0" Diameter
Logged By: Robert E. Kitay, P.G.	Date Drilled: February 24, 2012	Checked By: Robert E. Kitay, P.G.

WATER AND WELL DATA	
Depth of Water First Encountered: 12'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 20'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 2.0" I.D. Macro Sampler



DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

Concrete

Clayey SILT (ML); yellow brown; stiff; dry; 70% silt; 30% clay; low plasticity; very low estimated K; no odor

Silty SAND (SM); yellow brown; loose; dry; 85% fine to medium sand; 15% silt; non-plastic; medium estimated K; no odor

@10'; 50% fine to medium sand; 35% silt; 10% gravel to 1" diameter; 5% clay; non-plastic; low estimated K

wet at 12'

@ 14'; 70% fine to medium sand; 20% silt; 10% gravel to 1" diameter; no odor

Silty CLAY (CH); dark yellow brown; very stiff; dry; 90% clay; 10% silt; high plasticity; v. low estimated K; no odor

End of boring at 20'

Note: Sample liner from 16-20' shattered and no bottom sample could be collected

AQUA SCIENCE ENGINEERS, INC.