From: David Allen <dallen@aquascienceengineers.com>
Subject: **FW: Red Top Cover Letter**
Date: April 18, 2012 12:29:37 PM PDT
To: Tom Curran <tfcurran@sbcglobal.net>
1 Attachment, 32.7 KB

Please sign the attached letter, scan and send back to me. We need this to upload the final report to the local regulatory agency. Thank you.

David Allen
Vice President
Aqua Science Engineers, Inc.
55 Oak Court, Suite 220, Danville, CA 94526
925.820.9391 (office)
925.837.4853 (fax)
925.819.0963 (mobile)
dallen@aquascienceengineers.com

Thomas Curran
57 Arbor Drive
Piedmont, CA 94610

Mark Detterman
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

SUBJECT: RO0000339
Former Red Top Electric
4377 Adeline Street
Emeryville, CA 94608

Dear Mr. Detterman:

Attached please find a copy of the Soil and Groundwater Assessment for the above referenced site. I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Further, I request case closure for this site.

Sincerely,

Thomas Curran

Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

March 11, 2012

SOIL AND GROUNDWATER ASSESSMENT REPORT
ASE JOB NO. 4414

at
Former Red Top Electric
4377 Adeline Street
Emeryville, California

Prepared by:
AQUA SCIENCE ENGINEERS, INC.
55 Oak Court, Suite 220
Danville, CA 94526
(925) 820-9391

Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

1.0 INTRODUCTION

This report presents the methods and findings of Aqua Science Engineers, Inc. (ASE)'s soil and groundwater assessment at the former Red Top Electric facility located at 4377 Adeline Street in Emeryville, California (Figures 1 and 2). The site assessment activities were initiated by Mr. Thomas Curran, the responsible party, in response to the letter from the Alameda County Health Care Services Agency (ACHCSA) dated July 22, 2011.

2.0 SITE HISTORY

In November 1991, one 1,000-gallon gasoline underground storage tank (UST) was removed from the sidewalk in front of the site. Up to 230 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPH-G), 0.0083 ppm toluene, 2.5 ppm ethylbenzene, and 18 ppm total xylenes were detected in soil samples. No groundwater was encountered in the excavation. ASE is unaware of any other environmental activities conducted since the UST removal.

3.0 SCOPE OF WORK (SOW)

The purpose of this assessment was to determine whether contaminated soil or groundwater is present beneath the former UST that could be related to a release from the UST. The specific proposed scope of work is as follows:

1) Obtain a drilling permit from the Alameda County Public Works Agency and an encroachment permit from the City of Emeryville.

2) Notify Underground Service Alert (USA) of the drilling and have drilling locations cleared of subsurface utility lines by a private subsurface utility line locating company.

3) Drill two soil borings at the site to a depth of approximately 20-feet below ground surface (bgs) using a Geoprobe and collect soil and groundwater samples for analysis.

4) Analyze at least one soil and one groundwater sample from each boring at a CAL-EPA certified analytical laboratory for total petroleum hydrocarbons as diesel (TPH-D) by modified EPA Method 8015, and TPH-G, benzene, toluene, ethylbenzene, and total xylenes (collectively known as BTEX), fuel oxygenates and lead scavengers by EPA Method 8260B.

5) Backfill each boring with neat cement.

6) Prepare a report presenting the methods and findings of this assessment.

Details of the assessment are presented below.

4.0 DRILL SOIL BORINGS AND COLLECT SAMPLES

4.1 Workplan and Permit Preparation

ASE prepared a workplan for this project dated November 14, 2011, which was subsequently conditionally approved by the ACHCSA on January 12, 2012.

Prior to drilling, ASE obtained a drilling permit from the Alameda County Public Works Agency and an encroachment permit from the City of Emeryville. Copies of these permits are presented in Appendix A.

ASE also notified Underground Service Alert (USA) to have public underground utility lines marked in the site vicinity. A private underground utility line locating service, Subtronic Corporation of Concord, California, was also contracted to clear each boring location of underground utility lines.

4.2 Drilling and Soil Sample Collection

On February 24, 2012, V&W Drilling of Stockton, California drilled soil borings BH-A and BH-B through cutouts in the sidewalk using a Geoprobe hydraulic sampling rig. ASE senior geologist Robert E. Kitay, P.G. directed the drilling.

Undisturbed soil samples were collected continuously as drilling progressed for lithologic and hydrogeologic description and for possible chemical analysis. The samples were collected by driving a sampler lined with acetate tubes using hydraulic direct push methods. Selective soil samples were immediately cut, sealed with Teflon tape and plastic end caps, labeled and chilled in an ice chest with wet ice for transport to Kiff Analytical, LLC of Davis, California (ELAP certification #08263CA) under chain of custody documentation.

Soil from the remaining tubes was described by the site geologist using the Unified Soil Classification System (USCS) and was screened for volatile compounds using a photoionization detector (PID). The soil was screened by emptying soil from one of the sample tubes into a plastic bag. The bag was then sealed and placed in the sun for approximately 10 minutes. After the VOCs were allowed to volatilize, the PID measured the vapor in the bag through a small hole punched in the bag. PID readings are used as a screening tool only, since the procedures are not as rigorous as those used in the laboratory. The PID readings are shown on the boring logs presented in Appendix B.

4.3 Groundwater Sample Collection

A temporary PVC well casing was driven into place in each boring for the collection of groundwater samples. Groundwater samples were removed from the borings with new, unused polyethylene bailers. The groundwater samples were contained in 40-ml volatile organic analysis (VOA) vials, preserved with hydrochloric acid, and sealed without headspace. The samples were then labeled and chilled in an ice chest with wet ice for transport to Kiff Analytical under chain of custody documentation.

4.4 Decontamination and Borehole Backfilling

Drilling equipment was cleaned with an Alconox solution between sampling intervals and between borings to prevent potential cross-contamination. Following collection of the soil and groundwater samples, each boring was backfilled with neat cement to the ground surface.

4.5 Subsurface Lithology and Hydrogeology

Sediments encountered during drilling generally consisted of silty sand from beneath the concrete surface to approximately 3-feet below bgs, clayey silt from 3-feet bgs to approximately 7-feet bgs, silty sand from 7-feet bgs to 14.5-feet bgs, silty sand or gravelly sand from 14.5-feet bgs to 17.5-feet bgs, and silty clay from 17.5-feet bgs to the total depth explored of 20-feet bgs. Groundwater was encountered at approximately 12-feet bgs. Boring logs are presented as Appendix B.

5.0 ANALYTICAL RESULTS FOR SOIL

Soil samples collected from 7.5-feet bgs (depth at bottom of former UST) and 11.5-feet bgs (capillary zone) in each boring were analyzed by Kiff Analytical, LLC of Davis, California (ELAP certification #08263CA) for TPH-D by modified EPA Method 8015 (with silica gel cleanup), and TPH-G, BTEX, five oxygenates, and lead scavengers by EPA Method 8260B. The analytical results are tabulated in Table One, and the certified analytical report and chain of custody record are included in Appendix C.

The only hydrocarbons detected were 6.2 parts per million (ppm), 1.9 ppm, and 1.0 ppm TPH-D in soil samples collected from 7.5-feet bgs in BH-A, 11.5 ppm in boring BH-A, and 11.5-feet bgs in boring BH-B, respectively. These results were compared to Environmental Screening Levels (ESLs) for commercial and industrial soil in areas where groundwater is a current or potential source of drinking water. These ESLs were presented in Table A of 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. None of these concentrations exceeded ESLs. No TPH-G, BTEX, oxygenates or lead scavengers were detected in any of the samples.

6.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by Kiff Analytical, LLC of Davis, California (ELAP certification #08263CA) for TPH-D by modified EPA Method 8015 (with silica gel cleanup), and TPH-G, BTEX, five oxygenates, and lead scavengers by EPA Method 8260B. The analytical results are tabulated in Table Two, and the certified analytical report and chain of custody record are included in Appendix C.

The only hydrocarbons detected were 340 parts per billion (ppb) TPH-D in the groundwater sample collected from BH-A, and 83 ppb TPH-D in the groundwater sample collected from boring BH-B. These results were compared to ESLs for sites where groundwater is a current or

potential source of drinking water. These ESLs are presented in Table A of the "Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater" document prepared by the RWQCB dated May 2008. The TPH-D concentrations of 340 ppb in the groundwater sample collected from boring BH-A exceeded the drinking water ESL of 100 ppb. The TPH-D concentration of 83 ppb in boring BH-B was below the ESL. No TPH-G, BTEX, oxygenates or lead scavengers were detected in either sample.

7.0 CONCLUSIONS

None of the soil samples contained hydrocarbons at concentrations exceeding ESLs for drinking water.

The only groundwater sample to contain a hydrocarbon concentration above ESLs was the TPH-D concentration of 340 ppb in the groundwater sample collected from BH-A. No TPH-G, BTEX, oxygenates, or lead scavengers were detected in either groundwater sample.

8.0 RECOMMENDATIONS

ASE recommends that the ACHCSA issue a "No Further Action" letter for this case for the following reasons:

- Although the TPH-D concentration of 340 ppb in the groundwater sample collected from BH-A exceeded the ESL for drinking water, this is still considered a relatively low hydrocarbon concentration and should not present a threat to human health or the environment unless directly ingested. There are no domestic or industrial wells are located or are planned at the property.

- It is believed that the UST was gasoline, rather than diesel. No gasoline, BTEX, oxygenates or lead scavengers were detected. It is possible that the diesel could be related to other off-site sources, as there are numerous nearby sites with extractable range hydrocarbons contamination (Diesel, paint thinner, Stoddard solvent, etc) listed on the Geotracker database.

- Since no volatile compounds were detected, there should be no threat for vapor intrusion from soil or groundwater to indoor air.

9.0 REPORT LIMITATIONS

The results of this assessment represent conditions at the time of the soil and groundwater sampling, at the specific locations at which the samples were collected, and for the specific parameters analyzed by the laboratory.

This report does not fully characterize the site for contamination resulting from unknown sources or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CAL-EPA certified laboratory. The

independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

Aqua Science Engineers appreciates the opportunity provide environmental consulting services for this project. Should you have any questions or comments, please feel free to call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

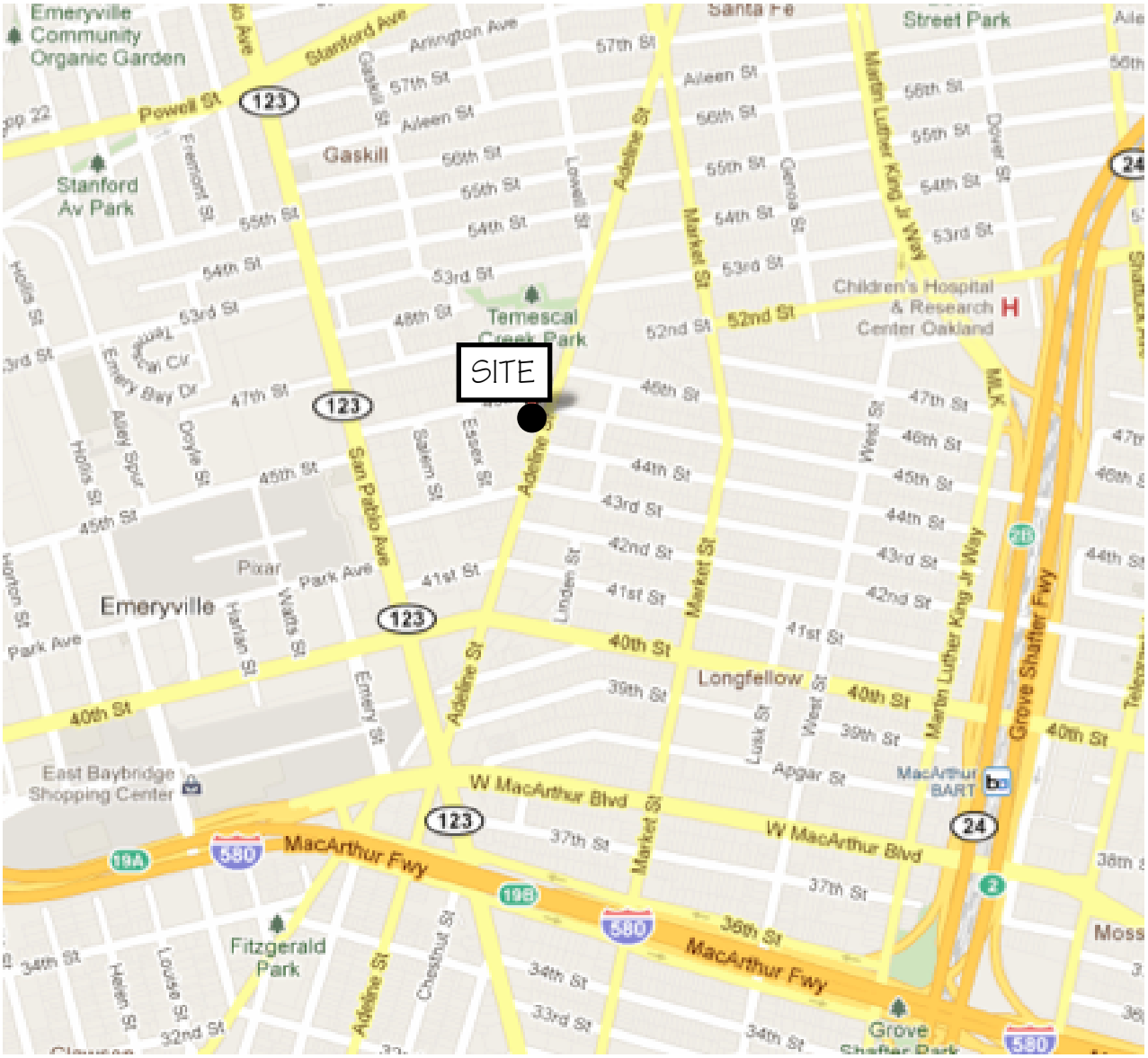
Robert E. Kitay, P.G., R.E.A.
Senior Geologist

Attachments: Figures 1 and 2
Tables One and Two
Appendices A through C

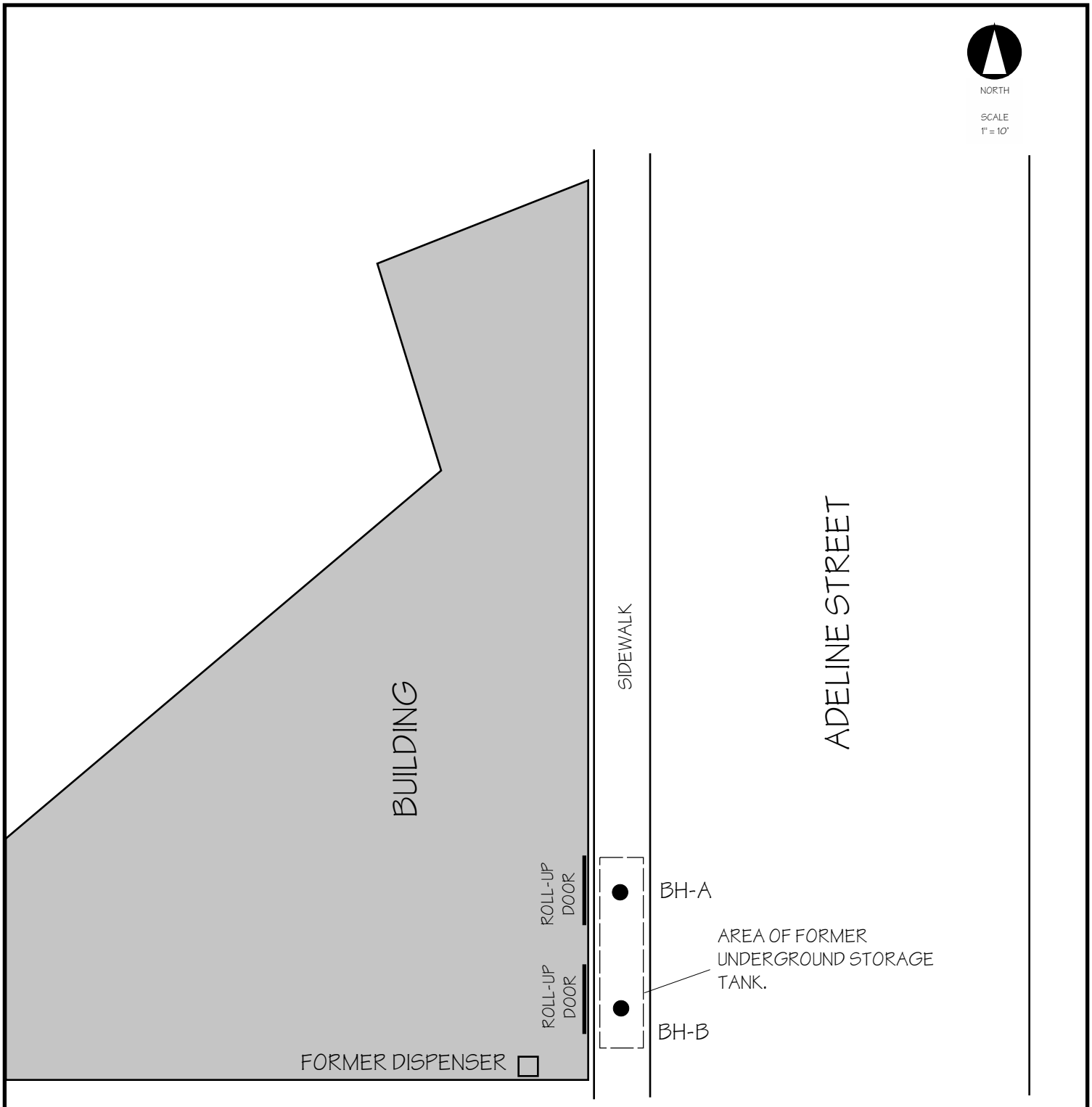
Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

FIGURES

NORTH



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



SOIL BORING LOCATION MAP

Former Red Top Electric Site
4377 Adeline Street
Emeryville, California

AQUA SCIENCE ENGINEERS, INC. | Figure 2

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TABLES

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

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APPENDIX A

Permits

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 02/14/2012 By jamesy

Permit Numbers: W2012-0124
Permits Valid from 02/24/2012 to 02/24/2012

Application Id: 1328918649600 **City of Project Site:** Emeryville
Site Location: 4377 Adeline Street
Project Start Date: 02/24/2012 **Completion Date:** 02/24/2012
Assigned Inspector: Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

Applicant: Aqua Science Engineers - Robert Kitay **Phone:** 925-820-9391
55 Oak Court, Suite 220, Danville, CA 94526
Property Owner: Thomas Curran **Phone:** --
57 Arbor Drive, Piedmont, CA 94610
Client: ** same as Property Owner **

	Total Due:	$265.00
Receipt Number: WR2012-0052	**Total Amount Paid:**	$265.00
Payer Name : Aqua Science Engineers	Paid By: VISA	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 2 Boreholes
Driller: V&W Drilling - Lic #: 720904 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2012-0124	02/14/2012	05/24/2012	2	2.50 in.	25.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact Steve Miller for an inspection time at (510) 670-5517 or email to stevem@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or

waterways or be allowed to move off the property where work is being completed.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

7. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

City of Emeryville • Department of Public Works
Encroachment Permit

Permit No 12 02191 Date 2-24-12
Application Fee.....$ 163
Long Term Permit Fee, Beyond 30 days $ _____
"No Parking Signs" Qty____ Total.....$ _____
Permit Inspection Deposit (2 hr. min.).....$ 202
Cost Recovery Estimate.....$ _____
Arborist Recovery Estimate.....$ _____
Required Security Deposit:
☐ $1,000 cash.....$ 1000
☐ $10,000 Bond, Bond # _____
☐ 100% Perf. Bond,
Bond Value: _____ Bond # _____
Total Payment Required.....$ 1365 -
Received: _____ Date _____
Receipt # _____
Failure to obtain approval of a Final Inspection of the work covered by this Encroachment Permit within one (1) year of the estimated completion date shall result in the loss of the security deposit which shall be retained by the City of Emeryville.

APPLICANT Agua Science Engineers
CONTACT PERSON Robert Kitay
ADDRESS 55 Oak Ct, Suite 220, Danville, CA 94526
PHONE (925) 820-9391
FAX (925) 837-4853

OWNER/DEVELOPER OF FACILITIES
Thomas Curran
ADDRESS 57 Arbor Dr, Piedmont, CA 94610
PHONE (510) 301-0661
FAX _____

CONTRACTOR PERFORMING WORK
Agua Science Engineers
CONTACT PERSON Robert Kitay
ADDRESS 55 Oak Ct, Ste 220, Danville, CA 94526
PHONE (925) 820-9391 FAX (925) 837-4853
LICENSE NO. 487000 CLASS C-57

☒ Yes ☐ No CURRENT CITY BUSINESS LICENSE ON FILE
☐ Yes ☐ No PROVIDE PROOF OF INSURANCE
EST. START DATE 2-27-12 EST. COMPLETION DATE 3-2-12 EST. COST IN CITY R/W 3,000 -

LOCATION OF WORK 4377 Adeline Street (sidewalk)
CHECK ALL THAT APPLY
☐ Traffic Control ☐ Survey ☐ Sidewalk Detour ☐ Dumpster ☐ Temporary No Parking ☐ Private Facilities on Public Right of Way ☐ Construction ☐ Sidewalk ☐ Driveway Approach ☐ Curb & Gutter ☐ Pedestrian Ramp ☐ Water Service ☐ Gas Service ☐ Electric Service ☐ Roof Drain ☐ Utility Maintenance ☐ Fence ☐ Excavation ☐ Obstruction ☐ Access Road ☐ Monitoring Well ☐ Sewer Lateral ☐ Storm Drain ☐ Crane ☐ Block Party
FULLY DESCRIBE PROPOSED WORK WITHIN CITY RIGHT-OF-WAY (additional space on reverse if needed):
Attach 3 complete sets of plans 8 ½ X 11, if applicable.

Drill 2 temporary soil borings to groundwater. Collect soil and water samples. Backfill borings with neat cement. Patch surface with concrete.

I hereby agree to protect and indemnify the City of Emeryville and hold it harmless in every way from all claim or suits for injury or damage to persons or property as set forth in the Standard Provisions. I agree not to begin construction until all materials to be used are on hand; to perform all work in accordance with the plans submitted (if any), the Standard Provisions to Encroachment Permit, and all applicable Special Conditions of Approval, and to pay all inspection and engineering costs in addition to those paid at the time of issuance of this permit. I further agree to complete the work to the satisfaction of the City Engineer and if for any reason the City of Emeryville is required to complete this work, I will pay all costs for such work.
Applicant Signature Robert C. Kitay Date 2-14-12
After final inspection is approved, please contact the Public Works Department at 510-596-4330 to determine final cost, and for final payment or reimbursement of deposit.

FOR CITY USE ONLY ○*Temporary Permit* #_____*days* ○*Long Term Permit*

The following documents are attached and incorporated into this permit and have been given to the applicant:

□ Standard Provisions to Encroachment Permit □ Special Conditions of Approval

□ City Standard Details (List Details) □ Handout, Urban Runoff BMP's

_____

□Other_____

Remarks_____

□ 48 HOUR NOTICE PRIOR TO START OF WORK,

□ PROVIDE CONSTRUCTION SCHEDULE 5 DAYS PRIOR TO START OF WORK

□ AS-BUILT PLANS REQUIRED

□ PLEASE CALL FOR INSPECTION AT 510-596-4333 Dennis 455.7286

□ PLEASE NOTIFY POLICE (510-596-3700) AND FIRE (510-596-3750) 24 HOURS IN ADVANCE.

This permit is void unless the work is completed before March 15, 2012

This permit is to be strictly construed and no other work than is specifically mentioned is hereby authorized.

APPROVED MM Mufti TITLE Sr Civ. Eng DATE 2/23/12

FINAL INSPECTION APPROVED_____ TITLE_____ DATE_____

Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
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APPENDIX B

Boring Logs

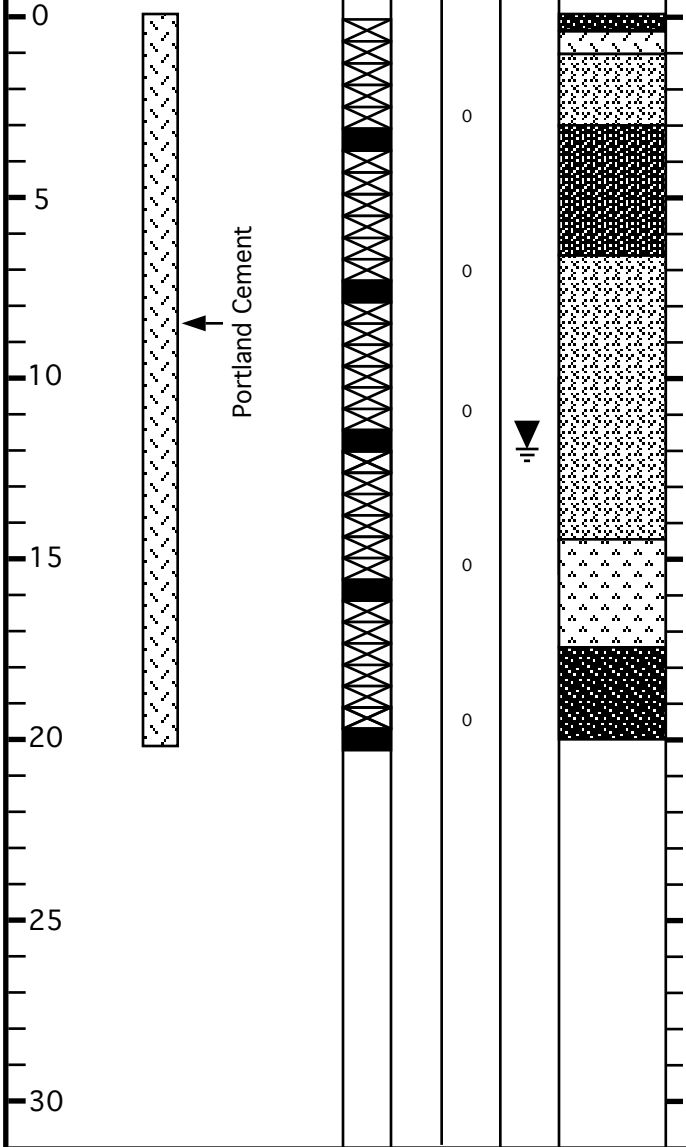
SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS

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.

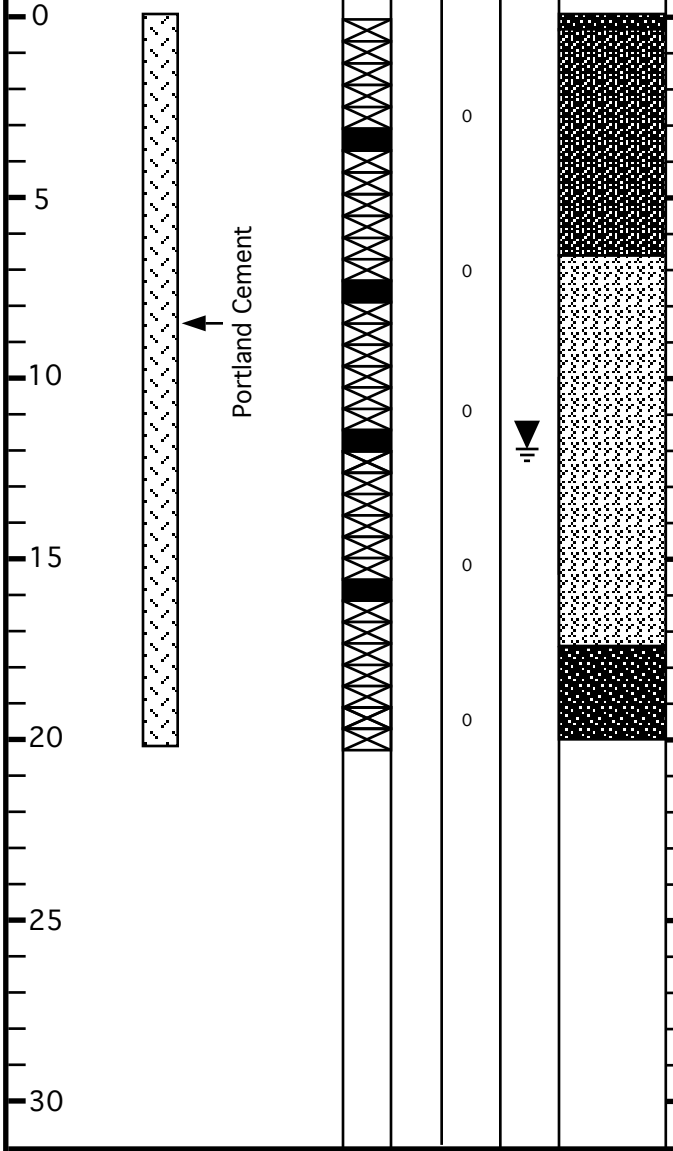
SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS

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
	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.

0 — Concrete

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

5

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

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

wet at 12'

15 — @ 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

20 — End of boring at 20'

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

25

30

AQUA SCIENCE ENGINEERS, INC.

Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

APPENDIX C

Certified Analytical Report
and
Chain of Custody Documentation

KIFF Analytical LLC

Report Number : 80459
Date : 03/02/2012

Laboratory Results

Robert Kitay
Aqua Science Engineers, Inc.
55 Oak Court, Suite 220
Danville, CA 94526

Subject : 4 Soil Samples and 2 Water Samples
Project Name : Former Red Top Electric
Project Number :

Dear Mr. Kitay,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC and TNI 2009 standards. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the National Environmental Laboratory Accreditation Program (NELAP), lab # 08263CA. If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Troy G. Turpen

Troy Turpen

KIFF Analytical LLC

Report Number : 80459
Date : 03/02/2012

Subject : 4 Soil Samples and 2 Water Samples
Project Name : Former Red Top Electric
Project Number :

Case Narrative

All soil samples were reported on a total weight (wet weight) basis.

Matrix Spike/Matrix Spike Duplicate results associated with samples BH-A 7.5', BH-A 11.5', BH-B 7.5', and BH-B 11.5' for the analyte TPH as Diesel (Silica Gel) were affected by the analyte concentrations already present in the un-spiked sample.

Matrix Spike/Matrix Spike Duplicate results associated with samples BH-A Water and BH-B Water for the analyte Tert-Butanol were affected by the analyte concentrations already present in the un-spiked sample.

KIFF Analytical LLC

Report Number : 80459
Date : 03/02/2012

Project Name : **Former Red Top Electric**
Project Number :

Sample : **BH-A 7.5'** Matrix : Soil Lab Number : 80459-02
Sample Date :02/24/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
Diisopropyl ether (DIPE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
Ethyl-t-butyl ether (ETBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
Tert-amyl methyl ether (TAME)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	02/28/12 05:20
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
1,2-Dibromoethane	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:20
1,2-Dichloroethane-d4 (Surr)	107		% Recovery	EPA 8260B	02/28/12 05:20
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	02/28/12 05:20
TPH as Diesel (Silica Gel)	**6.2**	1.0	mg/Kg	M EPA 8015	02/29/12 20:02
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	90.7		% Recovery	M EPA 8015	02/29/12 20:02

KIFF Analytical LLC

Report Number : 80459
Date : 03/02/2012

Project Name : **Former Red Top Electric**
Project Number :

Sample : **BH-A 11.5'** Matrix : Soil Lab Number : 80459-03
Sample Date :02/24/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
Diisopropyl ether (DIPE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
Ethyl-t-butyl ether (ETBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
Tert-amyl methyl ether (TAME)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	02/28/12 05:55
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
1,2-Dibromoethane	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 05:55
1,2-Dichloroethane-d4 (Surr)	105		% Recovery	EPA 8260B	02/28/12 05:55
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	02/28/12 05:55
TPH as Diesel (Silica Gel)	**1.9**	1.0	mg/Kg	M EPA 8015	02/29/12 17:18
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	125		% Recovery	M EPA 8015	02/29/12 17:18

KIFF Analytical LLC

Report Number : 80459
Date : 03/02/2012

Project Name : **Former Red Top Electric**
Project Number :

Sample : **BH-B 7.5'** Matrix : Soil Lab Number : 80459-07
Sample Date :02/24/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
Diisopropyl ether (DIPE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
Ethyl-t-butyl ether (ETBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
Tert-amyl methyl ether (TAME)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	02/28/12 02:37
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
1,2-Dibromoethane	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 02:37
1,2-Dichloroethane-d4 (Surr)	105		% Recovery	EPA 8260B	02/28/12 02:37
Toluene - d8 (Surr)	98.0		% Recovery	EPA 8260B	02/28/12 02:37
TPH as Diesel (Silica Gel)	< 1.0	1.0	mg/Kg	M EPA 8015	03/01/12 08:51
Octacosane (Silica Gel Surr)	104		% Recovery	M EPA 8015	03/01/12 08:51

KIFF Analytical LLC

Report Number : 80459
Date : 03/02/2012

Project Name : **Former Red Top Electric**
Project Number :

Sample : **BH-B 11.5'** Matrix : Soil Lab Number : 80459-08
Sample Date :02/24/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
Diisopropyl ether (DIPE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
Ethyl-t-butyl ether (ETBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
Tert-amyl methyl ether (TAME)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	02/28/12 03:14
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
1,2-Dibromoethane	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/28/12 03:14
1,2-Dichloroethane-d4 (Surr)	105		% Recovery	EPA 8260B	02/28/12 03:14
Toluene - d8 (Surr)	97.1		% Recovery	EPA 8260B	02/28/12 03:14
TPH as Diesel (Silica Gel)	**1.0**	1.0	mg/Kg	M EPA 8015	02/29/12 16:24
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
Octacosane (Silica Gel Surr)	118		% Recovery	M EPA 8015	02/29/12 16:24

KIFF Analytical LLC

Report Number : 80459
Date : 03/02/2012

Project Name : **Former Red Top Electric**
Project Number :

Sample : **BH-A Water** Matrix : Water Lab Number : 80459-10
Sample Date :02/24/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 01:25
Toluene	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 01:25
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 01:25
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 01:25
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 01:25
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 01:25
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 01:25
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 01:25
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	02/28/12 01:25
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	02/28/12 01:25
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 01:25
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 01:25
1,2-Dichloroethane-d4 (Surr)	98.8		% Recovery	EPA 8260B	02/28/12 01:25
Toluene - d8 (Surr)	96.6		% Recovery	EPA 8260B	02/28/12 01:25
TPH as Diesel (Silica Gel)	**340**	50	ug/L	M EPA 8015	03/01/12 09:21
Octacosane (Silica Gel Surr)	124		% Recovery	M EPA 8015	03/01/12 09:21

KIFF Analytical LLC

Report Number : 80459
Date : 03/02/2012

Project Name : **Former Red Top Electric**
Project Number :

Sample : **BH-B Water** Matrix : Water Lab Number : 80459-11
Sample Date :02/24/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 04:28
Toluene	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 04:28
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 04:28
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 04:28
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 04:28
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 04:28
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 04:28
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 04:28
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	02/28/12 04:28
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	02/28/12 04:28
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 04:28
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	02/28/12 04:28
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	02/28/12 04:28
Toluene - d8 (Surr)	97.4		% Recovery	EPA 8260B	02/28/12 04:28
TPH as Diesel (Silica Gel)	**83**	50	ug/L	M EPA 8015	03/01/12 08:46
(Note: Discrete peaks in Diesel range, atypical for Diesel Fuel.)					
Octacosane (Silica Gel Surr)	123		% Recovery	M EPA 8015	03/01/12 08:46

Report Number : 80459

Date : 03/02/2012

QC Report : Method Blank Data

Project Name : **Former Red Top Electric**

Project Number :

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	< 1.0	1.0	mg/Kg	M EPA 8015	02/29/2012
Octacosane (Silica Gel Surr)	95.8		%	M EPA 8015	02/29/2012
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	02/29/2012
Octacosane (Silica Gel Surr)	96.8		%	M EPA 8015	02/29/2012
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
Diisopropyl ether (DIPE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
Ethyl-t-butyl ether (ETBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
Tert-amyl methyl ether (TAME)	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	02/27/2012
1,2-Dibromoethane	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
1,2-Dichloroethane	< 0.0050	0.0050	mg/Kg	EPA 8260B	02/27/2012
1,2-Dichloroethane-d4 (Surr)	106		%	EPA 8260B	02/27/2012
Toluene - d8 (Surr)	102		%	EPA 8260B	02/27/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	02/27/2012
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	02/27/2012
Toluene	< 0.50	0.50	ug/L	EPA 8260B	02/27/2012
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	02/27/2012
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	02/27/2012
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	02/27/2012
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	02/27/2012
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	02/27/2012
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	02/27/2012
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	02/27/2012
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	02/27/2012
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	02/27/2012
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	02/27/2012
Toluene - d8 (Surr)	99.1		%	EPA 8260B	02/27/2012

Report Number : 80459

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 03/02/2012

Project Name : **Former Red Top Electric**

Project Number :

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
TPH-D (Si Gel)														
	80357-01	120	19.5	19.5	172	173	mg/Kg	M EPA 8015	2/29/12	**252**	**256**	1.82	60-140	25
TPH-D (Si Gel)														
	BLANK	<50	1000	1000	815	792	ug/L	M EPA 8015	2/29/12	81.5	79.2	2.89	70-130	25
1,2-Dibromoethane														
	80419-03	<0.0050	0.0393	0.0400	0.0376	0.0354	mg/Kg	EPA 8260B	2/28/12	95.7	88.4	7.88	67.2-121	25
1,2-Dichloroethane														
	80419-03	<0.0050	0.0391	0.0398	0.0413	0.0403	mg/Kg	EPA 8260B	2/28/12	106	101	4.48	64.0-124	25
Benzene														
	80419-03	<0.0050	0.0391	0.0398	0.0317	0.0322	mg/Kg	EPA 8260B	2/28/12	81.2	80.8	0.514	67.9-120	25
Diisopropyl ether														
	80419-03	<0.0050	0.0386	0.0394	0.0316	0.0320	mg/Kg	EPA 8260B	2/28/12	81.9	81.4	0.629	65.2-122	25
Ethyl-tert-butyl ether														
	80419-03	<0.0050	0.0391	0.0399	0.0354	0.0354	mg/Kg	EPA 8260B	2/28/12	90.7	88.8	2.06	64.6-122	25
Ethylbenzene														
	80419-03	<0.0050	0.0391	0.0398	0.0369	0.0374	mg/Kg	EPA 8260B	2/28/12	94.4	93.8	0.644	65.5-127	25
Methyl-t-butyl ether														
	80419-03	<0.0050	0.0395	0.0402	0.0372	0.0359	mg/Kg	EPA 8260B	2/28/12	94.1	89.2	5.38	57.0-122	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 80459

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 03/02/2012

Project Name : **Former Red Top Electric**

Project Number :

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
P + M Xylene														
	80419-03	<0.0050	0.0391	0.0398	0.0340	0.0345	mg/Kg	EPA 8260B	2/28/12	87.1	86.5	0.735	62.5-124	25
Tert-Butanol														
	80419-03	<0.0050	0.196	0.200	0.165	0.174	mg/Kg	EPA 8260B	2/28/12	84.1	86.7	3.07	64.3-122	25
Tert-amyl-methyl ether														
	80419-03	<0.0050	0.0385	0.0393	0.0378	0.0375	mg/Kg	EPA 8260B	2/28/12	98.2	95.5	2.80	64.9-122	25
Toluene														
	80419-03	<0.0050	0.0391	0.0398	0.0333	0.0336	mg/Kg	EPA 8260B	2/28/12	85.3	84.4	0.960	65.7-120	25
1,2-Dibromoethane														
	80454-01	<0.50	40.1	40.1	37.6	37.3	ug/L	EPA 8260B	2/27/12	93.6	93.0	0.699	80-120	25
1,2-Dichloroethane														
	80454-01	<0.50	39.9	39.9	37.4	37.3	ug/L	EPA 8260B	2/27/12	93.7	93.6	0.142	75.7-122	25
Benzene														
	80454-01	<0.50	39.9	39.9	36.9	37.5	ug/L	EPA 8260B	2/27/12	92.4	94.0	1.69	80-120	25
Diisopropyl ether														
	80454-01	<0.50	39.5	39.5	36.6	37.6	ug/L	EPA 8260B	2/27/12	92.8	95.2	2.50	80-120	25
Ethyl-tert-butyl ether														
	80454-01	<0.50	39.9	39.9	36.3	37.5	ug/L	EPA 8260B	2/27/12	90.9	93.9	3.18	76.5-120	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **Former Red Top Electric**

Project Number :

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Ethylbenzene														
	80454-01	<0.50	39.9	39.9	38.4	39.0	ug/L	EPA 8260B	2/27/12	96.2	97.8	1.69	80-120	25
Methyl-t-butyl ether														
	80454-01	<0.50	40.3	40.3	34.9	35.5	ug/L	EPA 8260B	2/27/12	86.5	88.0	1.66	69.7-121	25
P + M Xylene														
	80454-01	<0.50	39.9	39.9	38.0	38.4	ug/L	EPA 8260B	2/27/12	95.2	96.1	0.902	76.8-120	25
Tert-Butanol														
	80454-01	2100	201	201	2240	2270	ug/L	EPA 8260B	2/27/12	**71.8**	83.8	15.4	80-120	25
Tert-amyl-methyl ether														
	80454-01	<0.50	39.4	39.4	36.0	37.3	ug/L	EPA 8260B	2/27/12	91.3	94.7	3.63	78.9-120	25
Toluene														
	80454-01	<0.50	39.9	39.9	37.3	38.1	ug/L	EPA 8260B	2/27/12	93.5	95.5	2.03	80-120	25

KIFF ANALYTICAL, LLC
2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Laboratory Control Sample (LCS)

Date : 03/02/2012

Project Name : **Former Red Top Electric**

Project Number :

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
TPH-D (Si Gel)	20.0	mg/Kg	M EPA 8015	3/1/12	107	70-130
1,2-Dibromoethane	0.0397	mg/Kg	EPA 8260B	2/27/12	97.5	67.2-121
1,2-Dichloroethane	0.0395	mg/Kg	EPA 8260B	2/27/12	110	64.0-124
Benzene	0.0395	mg/Kg	EPA 8260B	2/27/12	83.9	67.9-120
Diisopropyl ether	0.0391	mg/Kg	EPA 8260B	2/27/12	85.7	65.2-122
Ethyl-tert-butyl ether	0.0396	mg/Kg	EPA 8260B	2/27/12	93.9	64.6-122
Ethylbenzene	0.0395	mg/Kg	EPA 8260B	2/27/12	97.3	65.5-127
Methyl-t-butyl ether	0.0399	mg/Kg	EPA 8260B	2/27/12	97.4	57.0-122
P + M Xylene	0.0395	mg/Kg	EPA 8260B	2/27/12	90.5	62.5-124
Tert-Butanol	0.199	mg/Kg	EPA 8260B	2/27/12	88.6	64.3-122
Tert-amyl-methyl ether	0.0390	mg/Kg	EPA 8260B	2/27/12	102	64.9-122
Toluene	0.0395	mg/Kg	EPA 8260B	2/27/12	86.9	65.7-120
1,2-Dibromoethane	40.2	ug/L	EPA 8260B	2/27/12	92.8	80-120
1,2-Dichloroethane	40.0	ug/L	EPA 8260B	2/27/12	92.8	75.7-122
Benzene	40.0	ug/L	EPA 8260B	2/27/12	92.4	80-120
Diisopropyl ether	39.5	ug/L	EPA 8260B	2/27/12	93.5	80-120
Ethyl-tert-butyl ether	40.0	ug/L	EPA 8260B	2/27/12	91.1	76.5-120
Ethylbenzene	40.0	ug/L	EPA 8260B	2/27/12	97.2	80-120
Methyl-t-butyl ether	40.4	ug/L	EPA 8260B	2/27/12	85.9	69.7-121
P + M Xylene	40.0	ug/L	EPA 8260B	2/27/12	95.2	76.8-120

KIFF ANALYTICAL, LLC

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QC Report : Laboratory Control Sample (LCS)

Project Name : **Former Red Top Electric**

Project Number :

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Tert-Butanol	201	ug/L	EPA 8260B	2/27/12	92.8	80-120
Tert-amyl-methyl ether	39.4	ug/L	EPA 8260B	2/27/12	92.1	78.9-120
Toluene	40.0	ug/L	EPA 8260B	2/27/12	93.6	80-120

KIFF ANALYTICAL, LLC
2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

80459

Aqua Science Engineers, Inc.
55 Oak Court, Suite 220
Danville, CA 94526
(925) 820-9391
FAX (925) 837-4853

Chain of Custody

PAGE 1 of 1

SAMPLER (SIGNATURE) Robert E. Kitty

PROJECT NAME Former Red Top Electric JOB NO. _____

ADDRESS 4377 Adeline Street, Emeryville, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	QUANTITY	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-DIESEL w/ Silica cal cu (EPA 3510/8015)	TPH-DIESEL & MOTOR OIL (EPA 3510/8015)	CAM 17 METALS (EPA 6010+7000)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	Pb (TOTAL or DISSOLVED) (EPA 6010)	PESTICIDES (EPA 8081)	FUEL OXYGENATES (EPA 8260)	PURGEABLE HALOCARBONS (EPA 601/8010)	TPH-G/BTEX/5 OXYS / Pb (EPA METHOD 8260) Serv.	MULTI-RANGE HYDROCARBONS WITH SILICA GEL CLEANUP (EPA 8015)	VOLATILE ORGANICS (EPA 624/8240/8260)	LUFT METALS (5) (EPA 6010+7000)	COMPOSITE 4:1	EDF	HOLD	
BH-A 3.5'	2-24-12	920	S	1																X	01
BH-A 7.5'		930				X								X					X		02
BH-A 11.5'		945				X								X					X		03
BH-A 15.5'		951																		X X	04
BH-A 19.5'		1010																		X X	05
BH-B 3.5'		1050																		X	06
BH-B 7.5'		1058				X								X					X		07
BH-B 11.5'		1108				X								X					X		08
BH-B 15.5'		1120	↓	↓																X	09
BH-A Water		1018	W	5		X								X					X		10
BH-B Water		1150	W	5		X								X					X		11

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) (time)	(signature) (time)	(signature) (time)	(signature) 1318 (time)	
Robert E. Kitty 2-27-12			Timothy Boomer 022712	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	TURN AROUND TIME
Company-ASE, INC.	Company-	Company-	Company- Kiff Analytical LLC	STANDARD 24Hr 48Hr 72Hr
				OTHER:

Page 1 of 1

KIFF Analytical LLC

SAMPLE RECEIPT CHECKLIST

RECEIVER: TJB Initials

SRG#: 80459 Date: 022712

Project ID: Former Red Top Electric

Method of Receipt: ☒ Courier ☐ Over-the-counter ☐ Shipper

COC Inspection

Is COC present?	☒ Yes	☐ No		
Custody seals on shipping container?	☐ Intact	☐ Broken	☐ Not present	☒ N/A
Is COC Signed by Relinquisher? ☒ Yes ☐ No Dated?	☒ Yes	☐ No		
Is sampler name legibly indicated on COC?	☒ Yes	☐ No		
Is analysis or hold requested for all samples?	☒ Yes	☐ No		
Is the turnaround time indicated on COC?	☒ Yes	☐ No		
Is COC free of whiteout and uninitialed cross-outs?	☒ Yes	☐ No, Whiteout	☐ No, Cross-outs	

Sample Inspection

Coolant Present: ☒ Yes ☐ No (includes water)

Temperature °C 2.1 Therm. ID# IR-4 Initial TJB Date/Time 022712/1753 ☐ N/A

Are there custody seals on sample containers?	☐ Intact	☐ Broken	☒ Not present	
Do containers match COC? ☒ Yes ☐ No	☐ No, COC lists absent sample(s)	☐ No, Extra sample(s) present		
Are there samples matrices other than soil, water, air or carbon?	☐ Yes	☒ No		
Are any sample containers broken, leaking or damaged?	☐ Yes	☒ No		
Are preservatives indicated? ☒ Yes, on sample containers	☐ Yes, on COC	☐ Not indicated	☐ N/A	
Are preservatives correct for analyses requested?	☒ Yes	☐ No	☐ N/A	
Are samples within holding time for analyses requested?	☒ Yes	☐ No		
Are the correct sample containers used for the analyses requested?	☒ Yes	☐ No		
Is there sufficient sample to perform testing?	☒ Yes	☐ No		

Does any sample contain product, have strong odor or are otherwise suspected to be hot? ☐ Yes ☒ No

Receipt Details

Matrix WA	Container type VOA	# of containers received 10
Matrix SO	Container type sleeve	# of containers received 9
Matrix	Container type	# of containers received

Date and Time Sample Put into Temp Storage Date: 022712 Time: 1757

Quicklog

Are the Sample ID's indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If Sample ID's are listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A	
Is the Project ID indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If project ID is listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A	
Are the sample collection dates indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If collection dates are listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A	
Are the sample collection times indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If collection times are listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A	

COMMENTS: Sediment in all VOA vials. TJB 022712 1835