CITY OF EMERYVILLE
INCORPORATED 1896
1333 PARK AVENUE
EMERYVILLE, CALIFORNIA 94608-35 17

TEL: (510) 596-4300 FAX: (510) 658-8095

April 30, 2010

Mr. Mark Detterman
Alameda County Department of Environmental Health Services
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: City of Emeryville Fire Station No. 2
ACEH RO 0000061

Dear Mark:

Enclosed please find our consultant's report for the above referenced property. The report presents activities undertaken to address the need for current data; this work will compliment and update the historic information in the ACEH file.

The most substantive historic work was completed following tank removal in the mid-1990s. The conclusion of that period of activity was a request for closure by the City consultant at that time. No further activity appears to have taken place following that request.

The results of recent testing show that levels of fuel-related compounds remain in the area previously explored, though at concentrations well below those historically measured. Following your review we can discuss next steps. Given the competing priorities, this file is not a critical priority for the City presently; we can wait for your schedule to clear to discuss.

If you have any near term questions or concerns don't hesitate to give a call.

Thanks for all your help.

Sincerely,

Markus Niebanck
Brownfield Project Coordinator

KLEINFELDER
Bright People. Right Solutions.

1970 Broadway, Suite 710
Oakland, CA
94612

p| 510.628.9000
f | 510.628.9009

kleinfelder.com

April 27, 2010
Project Number: 110550

Mr. Markus Niebanck
City of Emeryville
Economic Development and Housing Department
1333 Park Avenue
Emeryville, California, 94608-3517

Subject: Fire Station No. 2 Groundwater Well Redevelopment and Sample Analytical Results, 6303 Hollis Street Emeryville, California

Dear Mr. Niebanck:

Kleinfelder is pleased to present this letter report presenting the results of sampling and analysis conducted by Kleinfelder following well redevelopment activities. Kleinfelder collected a groundwater sample for chemical analysis from the single groundwater monitoring well (MW-1) at Fire Station No. 2, located at Hollis Street Emeryville, California (the site). Plate 1 shows a Site Vicinity Map and Plate 2 a Site Map. This well sampling was performed at the request of the City of Emeryville and in general accordance with the proposal for Geotechnical Engineering Services submitted to the City of Emeryville on February 24, 2010. The following is a summary of the field activities associated with the collection and analyses of the groundwater sample from MW-1.

BACKGROUND

Kleinfelder understands that two single-walled underground storage tanks (USTs), consisting of one 1,000-gallon diesel UST and one 1,000-gallon unleaded gasoline UST, were removed from the site on October 12, 1995 (Plate 2). In September 1997, one two-inch diameter groundwater monitoring well was installed at the site. The well has a total depth of 20 feet and an approximately 15 foot screen interval, from 5 feet to 20 feet below top of casing.

This well was installed approximately fifteen feet away from the former gasoline UST, in the presumed (based on data from neighboring sites) hydraulic down gradient direction. Groundwater monitoring was performed quarterly between September 1997 and June 1998 by Woodward-Clyde Consultants. Concentrations of fuel hydrocarbons and the gasoline additive methyl tertiary butyl ether (MTBE) were detected above regulatory guidance levels (volatile organics and MTBE by EPA Method 8020). Results of analysis of samples collected during the final monitoring event in 1998 indicated the presence of

MTBE at a concentration of 1,000 µg/L. A Request for Closure was submitted by Woodward-Clyde on October 15, 1998.

FIELD WORK

On April 5, 2010, Kleinfelder retained Penecore Drilling services to redevelop and rehabilitate the existing well (MW-1). MW-1 has reportedly not been monitored for approximately 12 years. Prior to redevelopment activities, the depth to groundwater and the well's total depth were measured from the top of the casing, at 3.4 feet and 20 feet respectively. The water volume in the casing was estimated at 2.65 gallons. Well surging was performed by raising and lowering a two-inch polyurethane collar through the screened interval of the well for approximately 10 to 15 minute periods, and subsequently removing water from the well using a Grundfos submersible pump. The well was alternately surged and purged five times throughout a six hour period. Groundwater parameters including temperature, pH, dissolved oxygen (DO) concentration, electrical conductivity and turbidity were measured as groundwater was removed and recorded after the removal of each well volume

Originally, for well rehabilitation and development, the removal of a maximum of 10 casing volumes was planned; however, throughout the effort, the turbidity, measured in Nephelometric Turbidity Units (NTU), was reported as greater than 400 NTU, the highest turbidity measurement range of the Horiba U-10 multi-parameter water quality meter. Kleinfelder attempted to produce groundwater with less sediment by continuing the swabbing and pumping of water; however, after approximately 82 gallons of water (approximately 30 casing volumes) were removed, turbidity levels remained above the measuring range of the Horiba U-10, and therefore the well development and rehabilitation effort was concluded.

GROUNDWATER SAMPLE COLLECTION AND ANALYSES

On April 7, 2010, Kleinfelder returned to the site to collect a groundwater sample from the well. Depth to groundwater was measured at 3.41 feet from top of casing. Before sample collection, approximately nine and a half gallons (approximately three well volumes) of groundwater were removed. Groundwater parameters readings including temperature, pH, conductivity, and dissolved oxygen, were relatively constant for the last three gallons of water removed. The groundwater sample was contained in laboratory supplied containers, labeled, and stored in a chilled cooler with ice pending delivery to the laboratory for chemical analyses. The sample was delivered to ESC Lab Sciences in Mount Juliet, Tennessee, following chain-of-custody protocols. ESC is a NELAP accredited laboratory with California accreditation number 01157CA. The laboratory was requested to analyze the sample using Environmental Protection Agency (EPA) methods for the following constituents:

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- Volatile Organic Compounds (VOCs) and Oxygenates[1] using EPA Method 8260B;
- Total Petroleum Hydrocarbons as gasoline (TPH-g) using EPA Method 8015;
- Total Petroleum Hydrocarbons as diesel range (TPH-d) using EPA Method 3511[2]/8015;
- Methanol and ethanol using EPA Method 8015; and
- Lead using EPA Method using EPA Method 6010.

The analytical results, presented in Table 1, indicate the presence of the following fuel-associated analytes:

- Benzene reported at 98 micrograms per liter (µg/L);
- Toluene at 25 µg/L;
- Ethylbenzene at 80 µg/L;
- Xylenes at 80 µg/L;
- t-Amyl Alcohol at 290 µg/L;
- MTBE at 69 µg/L;
- TPH-g at 2,300 µg/L;
- Methanol at 130 µg/L;
- TPH-diesel range organics at two carbon ranges:
  - C-10 to C-22: 380 µg/L;
  - C-22 to C-32: 150 µg/L;
  - C-32 to C-40: 39 µg/L; and
- Lead at 2.2 µg/L.

According to ESC, the original TPH-d extraction was compromised due to an error during the initial extraction caused by an equipment failure (bad cap on the extracted vial). Consequently, an additional extraction for the TPH-d analysis was conducted one day past the sample extraction holding time for this analysis.

LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee or warranty,

---

[1] VOCs and Oxygenate analyses included Benzene, toluene, ethylbenzene, xylenes (BTEX), 1,1-dibromoethane (EDB) 1,2-dichloroethane (EDC), di-ispropyl ether, ethanol, ethyl-tert-butyl ether, methyl tert-butyl ether, t-amyl alcohol, tert-butyl alcohol, and tert-amyl methyl ether

[2] EPA Method 3015 is the silica gel cleanup procedure that removes non-petroleum hydrocarbons

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express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

This report may be used only by the City of Emeryville and only for the purposes stated for this specific engagement within a reasonable time from its issuance, but in no event later than two (2) years from the date of the report.

The work performed was based on project information provided by the City of Emeryville. If the City of Emeryville does not retain Kleinfelder to review any plans and specifications, including any revisions or modifications to the plans and specifications, Kleinfelder assumes no responsibility for the suitability of our recommendations. In addition, if there are any changes in the field to the plans and specifications, the City of Emeryville must obtain written approval from Kleinfelder's engineer that such changes do not affect our recommendations. Failure to do so will vitiate Kleinfelder's recommendations.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more-detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that the City of Emeryville has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or generator, or person who arranges for disposal, transport, storage or treatment of hazardous materials within the meaning of any governmental statute, regulation or order. The City of Emeryville is solely responsible for directing notification of all governmental agencies, and the public at large, of the existence, release, treatment or disposal of any hazardous materials observed at the project site, either before or during performance of Kleinfelder's services. The City of Emeryville is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

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CLOSING

If you have any questions about this report, please contact the undersigned at 510-628-9000.

Sincerely,

KLEINFELDER WEST, INC.

Álvaro Domínguez, R.E.A. I
Project Environmental Scientist

Sarah Kalika, PG, R.E.A. I
Project Geologist

Enclosures:

Table 1: April 7, 2010 Groundwater Analytical Results City of Emeryville Fire Station No. 2
Plate 1: Site Vicinity Map
Plate 2: Site Map
Appendix A: Laboratory Analytical Results and Chain of Custody Form
Appendix B: Development and Purge Logs

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TABLES

Table 1

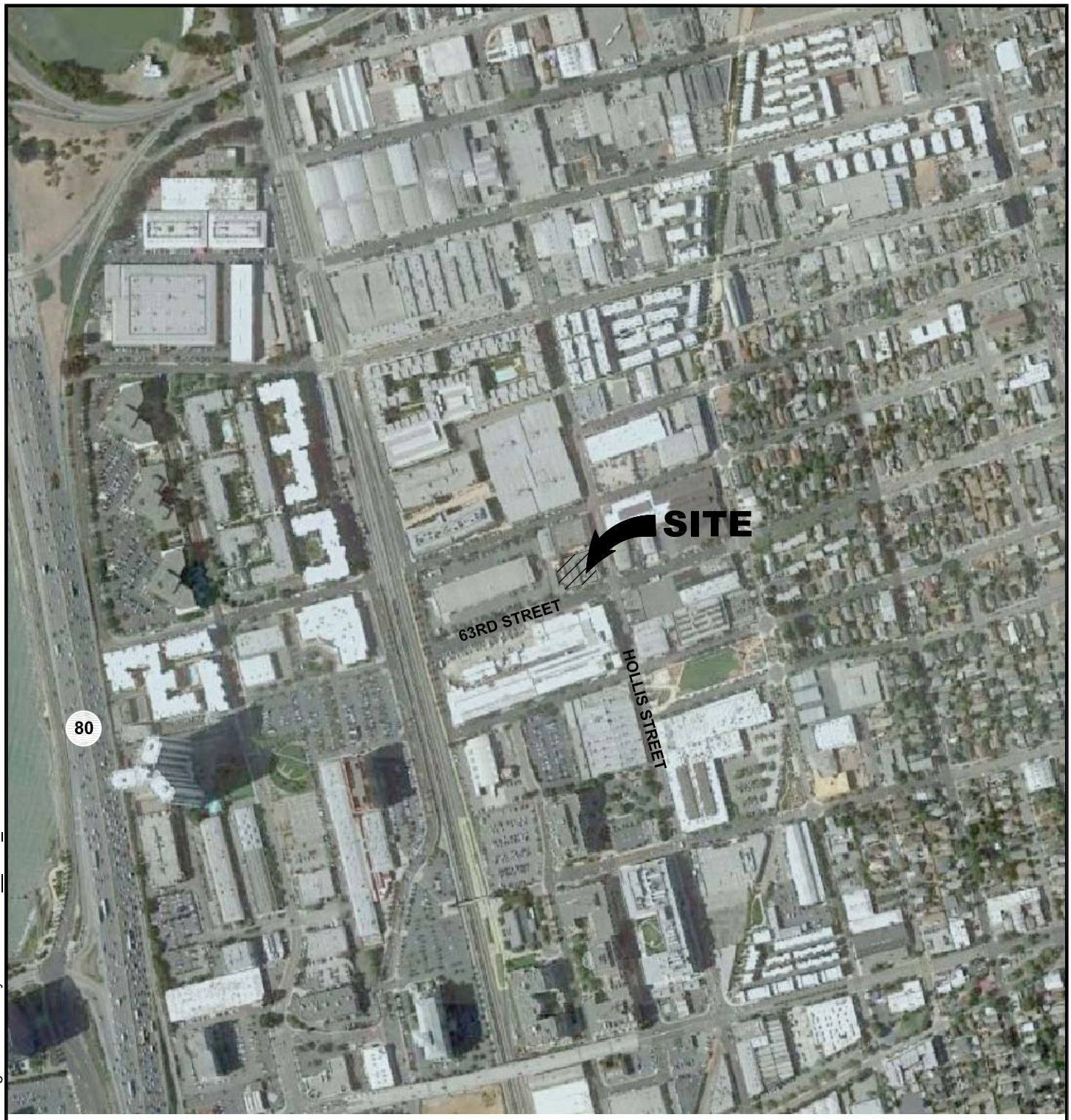
Groundwater Analytical Results
City of Emeryville Fire Station No. 2
6303 Hollis Street, City of Emeryville, California

EPA Method	Analyte	MW-1 (April 7, 2010)	ESL DWR	ESL Non DWR
8260B	Benzene (µg/L)	**98**	1	46
	Toluene (µg/L)	25	40	130
	Ethylbenzene (µg/L)	**80**	30	43
	Xylenes (µg/L)	**90**	20	100
	t-Amyl Alcohol (µg/L)	290	NE	NE
	MTBE (µg/L)	**69**	5.0	1,800
8015M	TPH-g (µg/L)	**2,300**	100	210
	Methanol (µg/L)	**130**	100	210
3511/8015	TPH-d range C-10 to C-22 (µg/L)	**380***	100	210
	TPH-d range C-22 to C-32 (µg/L)	150*	100	210
	TPH-d range C-32 to C-40 (µg/L)	39*	100	210
6010B	Lead (µg/L)	2.2	2.5	2.5

Acronyms and Notes

DWR	Drinking Water Resource
EPA	Environmental Protection Agency
ESL	Environmental Screening Levels- SFRWQCB- May 2008
B	San Francisco Regional Water Quality Control Board
µg/L	micrograms per Liter
MTBE	Methyl tert Butyl Ether
TPH-d	Total Petroleum Hydrocarbons as diesel (C-10 to C-40 range)
TPH-g	Total Petroleum Hydrocarbons as gasoline
2,300	Exceeds ESL
NE	not established
380*	Diesel extraction performed one day out of holding time

PLATES



N

500 250 0 500

APPROXIMATE SCALE (feet)

REFERENCE:
Google Earth 2010.

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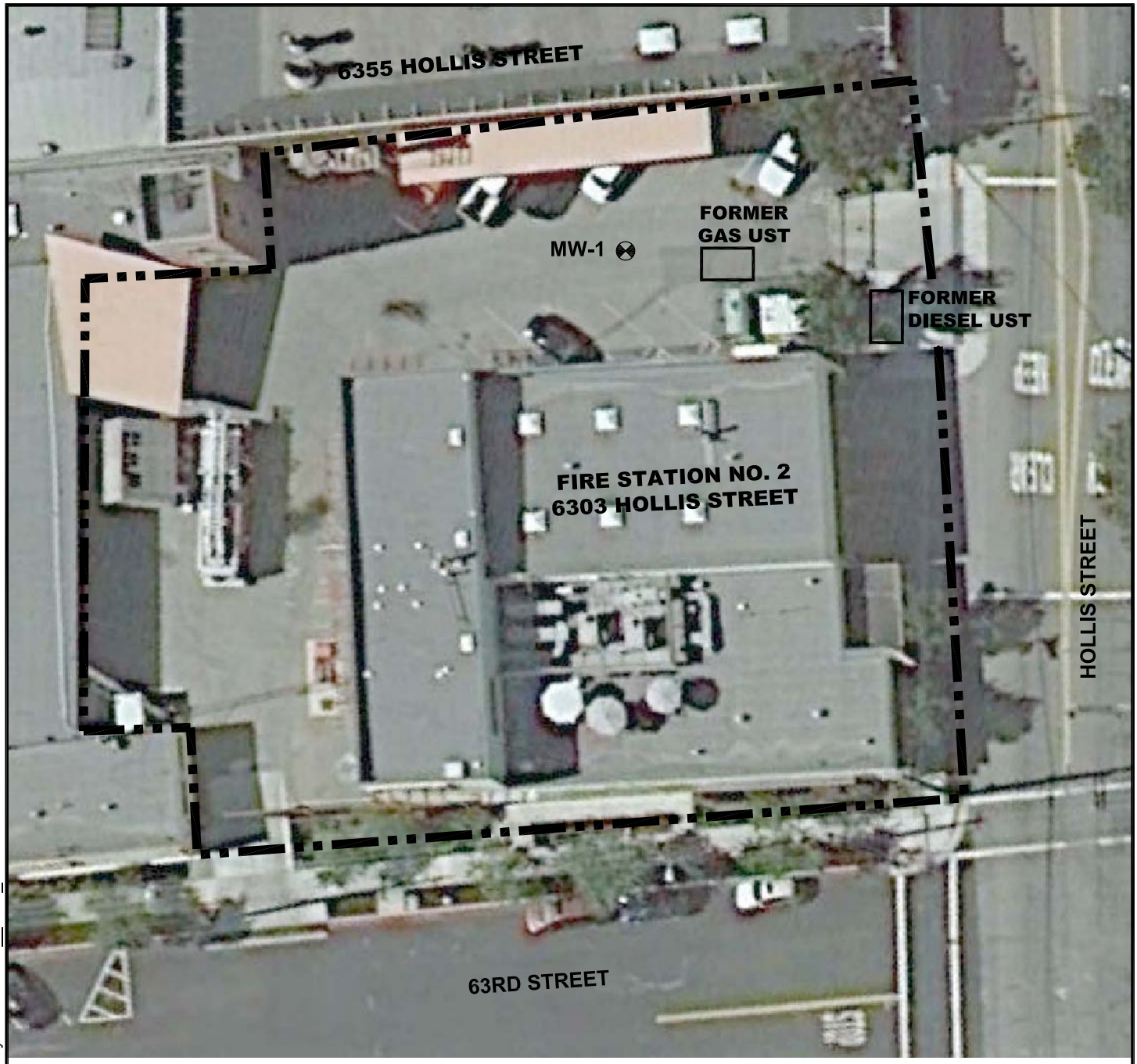
PROJECT NO.	110550
DRAWN:	APR 2010
DRAWN BY:	AG
CHECKED BY:	AD
FILE NAME:	VIC-PLAN-SitePlan.dwg

SITE VICINITY MAP

CITY OF EMERYVILLE FIRE STATION NO. 2
6303 HOLLIS STREET
EMERYVILLE, CALIFORNIA

PLATE
1

ATTACHED IMAGES: Images: 6303 Hollis st.jpg Images: 6303 VIC-MAP.jpg Images: VICIN-MAP 6303 HOLLIS.jpg
ATTACHED XREFS:
OAKLAND, CA CAD FILE: C:\Documents and Settings\AGekas\My Documents__OAK_AutoCADD-GRAPHICS\110550-6303\ LAYOUT: SITE VICINITY



30 15 0 30

APPROXIMATE SCALE (feet)

N

LEGEND

PROPERTY LINE

EXISTING MONITORING WELL

UST UNDERGROUND STORAGE TANK

NOTE: Locations are approximate.

REFERENCE:
Google Earth 2010.
Woodward Clyde Consultants, October 15 1998.

ATTACHED IMAGES: Images: 6303 Hollis st.jpg Images: 6303 VIC-MAP.jpg Images: VICIN-MAP 6303 HOLLIS.jpg
ATTACHED XREFS:
OAKLAND, CA CAD FILE: C:\Documents and Settings\AGekas\My Documents__OAK_AutoCADD-GRAPHICS\110550-6303\ LAYOUT: SITE PLAN

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PROJECT NO.	110550
DRAWN:	APR 2010
DRAWN BY:	AG
CHECKED BY:	AD
FILE NAME:	VIC-PLAN-SitePlan.dwg

SITE PLAN

CITY OF EMERYVILLE FIRE STATION NO. 2
6303 HOLLIS STREET
EMERYVILLE, CALIFORNIA

PLATE
2

APPENDIX A

LABORATORY ANALYTICAL RESULTS AND CHAIN OF CUSTODY FORM

ESC
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Fax (615) 758-5859
Tax I.D 62-0814289
Est. 1970

Quality Control Summary
SDG: L453083

For: Kleinfelder - Oakland, CA
Project: Single Well Project
April 16, 2010

Sample Receiving and Handling

All sample aliquots were received at the correct temperature, in the proper containers, and with the appropriate preservatives. All method specified holding times were met.

Methane,Ethane,Ethene by Method 8015M

Laboratory Control Sample

Sample L453083-01 was analyzed in analytical batch WG472739. The laboratory control sample associated with this sample was within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG472739, matrix spike/matrix spike duplicate analysis was performed on sample L453083-01. The spike recoveries and relative percent differences were within laboratory control limits.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Trace Metals by Method 6010B

Laboratory Control Sample

Sample L453083-01 was analyzed in analytical batch WG472114. The laboratory control sample associated with this sample was within the laboratory control limits for all compounds.

Sample Duplicate Analysis

For analytical batch WG472114 sample duplicate analysis was performed on sample L453143-01. The relative percent differences were within the method limits.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG472114 matrix spike/matrix spike duplicate analysis was performed on sample L453143-01. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

Blank Analysis

The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Method 8015D/GRO

Laboratory Control Sample

Sample L453083-01 was analyzed in analytical batch WG472720. The laboratory control sample associated with this sample was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate

For analytical batch WG472720 matrix spike/matrix spike duplicate analysis was performed on sample L452860-07. The matrix spike recoveries and relative percent differences were within laboratory control limits for all target analytes.

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Est. 1970

Quality Control Summary
SDG: L453083

For: Kleinfelder - Oakland, CA
Project: Single Well Project
April 16, 2010

Blank Analysis
The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Volatile Organic Compounds by Method 8260B
Laboratory Control Sample
Samples L453083-01 and 02 were analyzed in analytical batch WG472498. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Samples L453083-01 and 02 were analyzed in analytical batch WG473269. The laboratory control sample associated with these samples was within the laboratory control limits for all compounds.

Matrix Spike/Matrix Spike Duplicate
For analytical batch WG472498 matrix spike/matrix spike duplicate analysis was performed on sample L453083-01. The matrix spike recoveries were below laboratory control limits for Benzene and Ethylbenzene. The spike recoveries for the remaining target compounds were within limits. The relative percent difference was within laboratory limits for all compounds.

Precision for batch WG473269 was evaluated using the LCS / LCSD. The RPDs were within method limits.

Blank Analysis
The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Diesel Range Organics by Method 8015
Laboratory Control Sample
Sample L453083-01 was analyzed in analytical batch WG473180. The laboratory control sample associated with this sample was within the laboratory control limits.

Matrix Spike/Matrix Spike Duplicate
Precision for batch WG473180 was evaluated using the LCS / LCSD. The RPDs were within method limits.

Blank Analysis
The method blank, the initial, and all continuing calibration blanks contained no analytes at concentrations above the method reporting limit.

Nancy F. Winters
ESC Representative
ESC Lab Sciences

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Est. 1970

Alvaro Dominguez
Kleinfelder - Oakland, CA
1970 Broadway - Suite 710
Oakland, CA 94612

Report Summary

Friday April 16, 2010

Report Number: L453083
Samples Received: 04/08/10
Client Project: 110550

Description: Single Well Project

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Jarred Willis , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002,NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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Alvaro Dominguez
Kleinfelder - Oakland, CA
1970 Broadway - Suite 710
Oakland, CA 94612

Case Narrative

Friday April 16, 2010

Report Number: L453083
Samples Received: 04/08/10
Client Project: 110550

Description: Single Well Project

Other Comments

The DROCAERLVI analysis for L453083-01 (MW1) is being reported out of hold. The initial in-hold extraction may have been compromised in the lab on 4/15 by a bad cap on the extracted vial. So, the sample was re-extracted one day out of hold, and the results are being reported from that run.

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REPORT OF ANALYSIS

Alvaro Dominguez
Kleinfelder - Oakland, CA
1970 Broadway - Suite 710
Oakland, CA 94612

April 16, 2010

ESC Sample # : L453083-01

Date Received : April 08, 2010
Description : Single Well Project

Site ID : FIRESTATION 2

Sample ID : MW1

Project # : 110550

Collected By : Alvaro
Collection Date : 04/07/10 00:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Lead	2.2	1.8	5.0	ug/l	J	6010B	04/11/10	1
TPH (GC/FID) Low Fraction	2300	40.	100	ug/l		8015D/G	04/13/10	1
Surrogate Recovery-%								
a,a,a-Trifluorotoluene(FID)	96.7			% Rec.		8015D/G	04/13/10	1
Methanol	130	7.0	20.	ug/l		8015M	04/13/10	1
Ethanol	U	18.	100	ug/l		8015M	04/13/10	1
Volatiles - Oxygenates								
Benzene	98.	0.29	1.0	ug/l	J6	8260B	04/15/10	1
Toluene	25.	0.27	5.0	ug/l		8260B	04/15/10	1
Ethylbenzene	80.	0.22	1.0	ug/l	J6	8260B	04/15/10	1
Total Xylenes	90.	0.86	3.0	ug/l		8260B	04/15/10	1
1,2-Dichloroethane	U	0.27	1.0	ug/l		8260B	04/15/10	1
1,2-Dibromoethane	U	0.48	1.0	ug/l		8260B	04/15/10	1
Di-isopropyl ether	U	0.25	1.0	ug/l		8260B	04/15/10	1
Ethanol	U	230	500	ug/l		8260B	04/15/10	5
Ethyl tert-butyl ether	U	0.50	5.0	ug/l		8260B	04/15/10	5
Methyl tert-butyl ether	69.	0.19	1.0	ug/l		8260B	04/15/10	1
t-Amyl Alcohol	290	59.	250	ug/l		8260B	04/15/10	5
tert-Butyl alcohol	U	59.	250	ug/l		8260B	04/15/10	5
tert-Amyl Methyl Ether	U	0.50	5.0	ug/l		8260B	04/15/10	5
Surrogate Recovery								
Toluene-d8	107.			% Rec.		8260B	04/15/10	1
Dibromofluoromethane	105.			% Rec.		8260B	04/15/10	1
a,a,a-Trifluorotoluene	105.			% Rec.		8260B	04/15/10	1
4-Bromofluorobenzene	106.			% Rec.		8260B	04/15/10	1
Diesel Range Organics California								
C10-C22 Hydrocarbons	380	33.	100	ug/l	Q	3511/80	04/15/10	1
C22-C32 Hydrocarbons	150	33.	100	ug/l	Q	3511/80	04/15/10	1
C32-C40 Hydrocarbons	39.	33.	100	ug/l	JQ	3511/80	04/15/10	1
Surrogate Recovery								
o-Terphenyl	107.			% Rec.		3511/80	04/15/10	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 04/16/10 08:57 Printed: 04/16/10 09:31

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REPORT OF ANALYSIS

Alvaro Dominguez
Kleinfelder - Oakland, CA
1970 Broadway - Suite 710
Oakland, CA 94612

April 16, 2010

ESC Sample # : L453083-02

Date Received : April 08, 2010
Description : Single Well Project

Site ID : FIRESTATION 2

Sample ID : BLANK

Project # : 110550

Collected By : Alvaro
Collection Date : 04/07/10 00:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatiles - Oxygenates								
Benzene	U	0.29	1.0	ug/l		8260B	04/15/10	1
Toluene	U	0.27	5.0	ug/l		8260B	04/15/10	1
Ethylbenzene	U	0.22	1.0	ug/l		8260B	04/15/10	1
Total Xylenes	U	0.86	3.0	ug/l		8260B	04/15/10	1
1,2-Dichloroethane	U	0.27	1.0	ug/l		8260B	04/15/10	1
1,2-Dibromoethane	U	0.48	1.0	ug/l		8260B	04/15/10	1
Di-isopropyl ether	U	0.25	1.0	ug/l		8260B	04/15/10	1
Ethanol	U	46.	100	ug/l		8260B	04/15/10	1
Ethyl tert-butyl ether	U	0.10	1.0	ug/l		8260B	04/15/10	1
Methyl tert-butyl ether	U	0.19	1.0	ug/l		8260B	04/15/10	1
t-Amyl Alcohol	U	12.	50.	ug/l		8260B	04/15/10	1
tert-Butyl alcohol	U	12.	50.	ug/l		8260B	04/15/10	1
tert-Amyl Methyl Ether	U	0.10	1.0	ug/l		8260B	04/15/10	1
Surrogate Recovery								
Toluene-d8	106.			% Rec.		8260B	04/15/10	1
Dibromofluoromethane	109.			% Rec.		8260B	04/15/10	1
a,a,a-Trifluorotoluene	106.			% Rec.		8260B	04/15/10	1
4-Bromofluorobenzene	109.			% Rec.		8260B	04/15/10	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL
MDL = Minimum Detection Limit = LOD = SQL(TRRP)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 04/16/10 08:57 Printed: 04/16/10 09:31

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L453083-01	WG473180	SAMP	C10-C22 Hydrocarbons	R1187049	Q
	WG473180	SAMP	C22-C32 Hydrocarbons	R1187049	Q
	WG473180	SAMP	C32-C40 Hydrocarbons	R1187049	JQ
	WG472498	SAMP	Benzene	R1185849	J6
	WG472498	SAMP	Ethylbenzene	R1185849	J6
	WG472114	SAMP	Lead	R1179509	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
Q	(ESC) Sample held beyond the accepted holding time.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
04/16/10 at 09:31:50

TSR Signing Reports: 358
RX - Priority Rush

Log all samples for QC2MODCN. Log all samples for EDD - Geotracker EDF. All samples get MDL/RDL reporting.

Sample: L453083-01 Account: KLEINOCA Received: 04/08/10 09:00 Due Date: 04/16/10 00:00 RPT Date: 04/16/10 08:57

Sample: L453083-02 Account: KLEINOCA Received: 04/08/10 09:00 Due Date: 04/16/10 00:00 RPT Date: 04/16/10 08:57

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Methane,Ethane,Ethene by Method 8015M		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472739**
Analysis Date:	4/13/2010 9:32:00 AM	Analyst:	0
Instrument ID:	AIRMS3	Extraction Date:	4/13/2010
Sample Numbers:	L453083-01		

Method Blank

Analyte	CAS	PQL	Qualifiers
Ethanol		<0.100	
Methanol		<0.0200	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Ethanol	0.500	0.574	115	70 - 130	
Methanol	0.500	0.582	116	70 - 130	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Ethanol	0.500	0.572	114	70 - 130	
Methanol	0.500	0.594	119	70 - 130	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Methane,Ethane,Ethene by Method 8015M		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472739**
Analysis Date:	4/13/2010 9:32:00 AM	Analyst:	0
Instrument ID:	AIRMS3	Extraction Date:	4/13/2010
Sample Numbers:	L453083-01		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
Ethanol	0.500	0.574	115	0.572	114	70-130		0.2	20	
Methanol	0.500	0.582	116	0.594	119	70-130		2.1	20	

Matrix Spike/Matrix Spike Duplicate

L453083-01

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Ethanol	0.500	0.0000	0.527	105	0.516	103	70-130		2.1	20	
Methanol	0.500	0.130	0.634	101	0.604	94.8	70-130		4.8	20	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Trace Metals by Method 6010B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472114**
Analysis Date:	4/11/2010	Analyst:	
Instrument ID:	ICP4	Extraction Date:	4/8/2010
Sample Numbers:	L453083-01		

Method Blank

Analyte	CAS	PQL	Qualifiers
Lead	7439-92-1	<0.00500	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Lead	1.13	1.15	102	85 - 115	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Trace Metals by Method 6010B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472114**
Analysis Date:	4/11/2010	Analyst:	
Instrument ID:	ICP4	Extraction Date:	4/8/2010
Sample Numbers:	L453083-01		

Sample Duplicate
L453143-01

Name	Sample Results	Duplic Results	%RPD	Limit	Qualifiers
Lead	0.00880	0.0081	8.3	20	

Matrix Spike/Matrix Spike Duplicate
L453143-01

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Lead	1.13	0.00810	1.17	103	1.19	105	75-125		1.7	20	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Method 8015D/GRO		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472720**
Analysis Date:	4/13/2010	Analyst:	293
Instrument ID:	VOCGC7		
Sample Numbers:	L453083-01		

Method Blank

Analyte	CAS	PQL	Qualifiers
TPH (GC/FID) Low Fraction	8006-61-9	<0.100	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
TPH (GC/FID) Low Fraction	5.50	5.46	99.2	70 - 124	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
TPH (GC/FID) Low Fraction	5.50	5.50	100	70 - 124	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Method 8015D/GRO		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472720**
Analysis Date:	4/13/2010	Analyst:	293
Instrument ID:	VOCGC7		
Sample Numbers:	L453083-01		

Surrogate Summary

Laboratory Sample ID	a,a,a-Trifluorotoluene - FID ppb	a,a,a-Trifluorotoluene - FID % Rec	a,a,a-Trifluorotoluene - PID ppb	a,a,a-Trifluorotoluene - PID % Rec
LCS WG472720	208	104		
LCSD WG472720	209	104		
MS WG472720	210	105		
MSD WG472720	208	104		
Blank WG472720	194	97.1		
L453083-01	193	96.7		

a,a,a-Trifluorotoluene (FID)	200 ppb	Limits - 62 - 128
a,a,a-Trifluorotoluene (PID)	200 ppb	Limits - 0 - 0

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Method 8015D/GRO		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472720**
Analysis Date:	4/13/2010	Analyst:	293
Instrument ID:	VOCGC7		
Sample Numbers:	L453083-01		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
TPH (GC/FID) Low Fraction	5.50	5.46	99.2	5.50	100	70-124		0.9	20	

Matrix Spike/Matrix Spike Duplicate

L452860-07

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
TPH (GC/FID) Low Fraction	5.50	0.0000	5.31	96.6	5.62	102	55-109		5.6	20	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Method 8015D/GRO		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472720**
Analysis Date:	4/13/2010	Analyst:	293
Instrument ID:	VOCGC7		
Sample Numbers:	L453083-01		

Internal Standard Response and Retention Time Summary

FileID:0412_34.D Date:4/13/2010 Time:12:05 AM

	IS - FID		IS - PID	
	Response	RT	Response	RT
12 Hour Std	6332255	4.68		
Upper Limit	12664510	5.18		
Lower Limit	3166127.5	4.18		

Sample ID	Response	RT	Response	RT
Blank WG472720	5594442	4.68		
LCS WG472720	6599860	4.68		
LCSD WG472720	6558082	4.68		
MS WG472720	6572218	4.68		
MSD WG472720	6385505	4.68		

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Method 8015D/GRO		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472720**
Analysis Date:	4/13/2010	Analyst:	293
Instrument ID:	VOCGC7		
Sample Numbers:	L453083-01		

Internal Standard Response and Retention Time Summary

FileID:0412_52.D Date:4/13/2010 Time:8:17 AM

	IS - FID		IS - PID	
	Response	RT	Response	RT
12 Hour Std	6805051	4.68		
Upper Limit	13610102	5.18		
Lower Limit	3402525.5	4.18		

Sample ID	Response	RT	Response	RT
L453083-01	4781367	4.68		

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472498**
Analysis Date:	4/14/2010	Analyst:	498
Instrument ID:	VOCMS20		
Sample Numbers:	L453083-01, -02		

Method Blank

Analyte	CAS	PQL	Qualifiers
Methyl tert-butyl ether	1634-04-4	<0.0010	
Di-isopropyl ether	108-20-3	<0.0010	
Benzene	71-43-2	<0.0010	
1,2-Dichloroethane	107-06-2	<0.0010	
Toluene	108-88-3	<0.0050	
1,2-Dibromoethane	106-93-4	<0.0010	
Ethylbenzene	100-41-4	<0.0010	
m&p-Xylene	1330-20-7	<0.0030	
o-Xylene	1330-20-7	<0.0030	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG473269**
Analysis Date:	4/15/2010	Analyst:	126
Instrument ID:	VOCMS21		
Sample Numbers:	L453083-01, -02		

Method Blank

Analyte	CAS	PQL	Qualifiers
Ethanol	64-17-5	<0.100	
tert-Butyl alcohol	75-65-0	<0.0500	
Ethyl tert-butyl ether	637-92-3	<0.0010	
t-Amyl Alcohol	75-85-4	<0.0500	
tert-Amyl Methyl Ether	994-05-8	<0.0010	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472498**
Analysis Date:	4/14/2010	Analyst:	498
Instrument ID:	VOCMS20		
Sample Numbers:	L453083-01, -02		

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Methyl tert-butyl ether	0.0250	0.0264	106	51 - 142	
Di-isopropyl ether	0.0250	0.0266	107	63 - 139	
Benzene	0.0250	0.0238	95.1	67 - 126	
1,2-Dichloroethane	0.0250	0.0239	95.8	63 - 137	
Toluene	0.0250	0.0226	90.4	72 - 122	
1,2-Dibromoethane	0.0250	0.0231	92.5	75 - 126	
Ethylbenzene	0.0250	0.0245	98.0	76 - 129	
m&p-Xylene	0.0500	0.0489	97.8	74 - 128	
o-Xylene	0.0250	0.0257	103	78 - 128	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472498**
Analysis Date:	4/14/2010	Analyst:	498
Instrument ID:	VOCMS20		
Sample Numbers:	L453083-01, -02		

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Methyl tert-butyl ether	0.0250	0.0238	95.3	51 - 142	
Di-isopropyl ether	0.0250	0.0250	99.9	63 - 139	
Benzene	0.0250	0.0239	95.6	67 - 126	
1,2-Dichloroethane	0.0250	0.0234	93.8	63 - 137	
Toluene	0.0250	0.0238	95.0	72 - 122	
1,2-Dibromoethane	0.0250	0.0240	96.1	75 - 126	
Ethylbenzene	0.0250	0.0246	98.3	76 - 129	
m&p-Xylene	0.0500	0.0496	99.2	74 - 128	
o-Xylene	0.0250	0.0246	98.4	78 - 128	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG473269**
Analysis Date:	4/15/2010	Analyst:	126
Instrument ID:	VOCMS21		
Sample Numbers:	L453083-01, -02		

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Methyl tert-butyl ether	0.0250	0.0268	107	51 - 142	
Di-isopropyl ether	0.0250	0.0301	120	63 - 139	
Benzene	0.0250	0.0259	104	67 - 126	
Toluene	0.0250	0.0236	94.6	72 - 122	
Ethylbenzene	0.0250	0.0273	109	76 - 129	
m&p-Xylene	0.0500	0.0541	108	74 - 128	
o-Xylene	0.0250	0.0277	111	78 - 128	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG473269**
Analysis Date:	4/15/2010	Analyst:	126
Instrument ID:	VOCMS21		
Sample Numbers:	L453083-01, -02		

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
Methyl tert-butyl ether	0.0250	0.0250	100	51 - 142	
Di-isopropyl ether	0.0250	0.0287	115	63 - 139	
Benzene	0.0250	0.0254	101	67 - 126	
Toluene	0.0250	0.0231	92.3	72 - 122	
Ethylbenzene	0.0250	0.0268	107	76 - 129	
m&p-Xylene	0.0500	0.0527	105	74 - 128	
o-Xylene	0.0250	0.0270	108	78 - 128	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472498**
Analysis Date:	4/14/2010	Analyst:	498
Instrument ID:	VOCMS20		
Sample Numbers:	L453083-01, -02		

Surrogate Summary

Laboratory	Dibromofluoromethane		Toluene-d8		4-Bromofluorobenzene		**Alternate Surrogate** a,a,a-Trifluorotoluene	
Sample ID	ppb	% Rec	ppb	% Rec	ppb	% Rec	ppb	% Rec
LCS WG472498	44.0	110	42.6	107	40.4	101	44.8	112
LCSD WG472498	40.9	102	43.1	108	39.9	99.8	42.9	107
MS WG472498	42.9	107	42.2	106	41.6	104	43.1	108
MSD WG472498	41.8	105	43.6	109	41.8	104	41.5	104
Blank WG472498	41.9	105	42.6	107	43.8	110	42.6	107
L453083-02	43.6	109	42.4	106	43.7	109	42.3	106
L453083-01	42.0	105	42.9	107	42.2	106	42.1	105

Dibromofluoromethane	40 ppb	79 - 125
Toluene - d8	40 ppb	87 - 114
4-Bromofluorobenzene	40 ppb	75 - 128
Alternate Surrogate		
a,a,a-Trifluorotoluene	40 ppb	84 - 114

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG473269**
Analysis Date:	4/15/2010	Analyst:	126
Instrument ID:	VOCMS21		
Sample Numbers:	L453083-01, -02		

Surrogate Summary

Laboratory	Dibromofluoromethane		Toluene-d8		4-Bromofluorobenzene		**Alternate Surrogate** a,a,a-Trifluorotoluene	
Sample ID	ppb	% Rec	ppb	% Rec	ppb	% Rec	ppb	% Rec
Blank WG473269	36.6	91.5	39.6	98.9	38.6	96.6	40.7	102
L453083-02	36.2	90.4	40.0	100	38.9	97.3	41.2	103
L453083-01	36.3	90.8	39.5	98.7	39.8	99.5	41.3	103
LCS WG473269	36.5	91.3	39.1	97.7	38.4	96.1	41.1	103
LCSD WG473269	36.3	90.6	39.0	97.6	37.5	93.8	40.9	102

Dibromofluoromethane	40 ppb	79 - 125
Toluene - d8	40 ppb	87 - 114
4-Bromofluorobenzene	40 ppb	75 - 128
Alternate Surrogate		
a,a,a-Trifluorotoluene	40 ppb	84 - 114

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Est. 1970

Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472498**
Analysis Date:	4/14/2010	Analyst:	498
Instrument ID:	VOCMS20		
Sample Numbers:	L453083-01, -02		

Matrix Spike/Matrix Spike Duplicate

L453083-01

Analyte	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qualifier	% RPD	Control Limits	RPD Qual
Methyl tert-butyl ether	0.0250	0.0690	0.0788	39.3	0.0846	62.5	24-167		7.1	22	
Di-isopropyl ether	0.0250	0.0000	0.0175	70.2	0.0207	82.9	39-160		17	21	
Benzene	0.0250	0.0977	0.0892	-34.0	0.102	16.7	16-158	J6	13	21	
1,2-Dichloroethane	0.0250	0.0000	0.0125	49.9	0.0151	60.4	29-167		19	21	
Toluene	0.0250	0.0250	0.0312	24.7	0.0376	50.4	22-152		19	22	
1,2-Dibromoethane	0.0250	0.0000	0.0150	60.1	0.0183	73.2	41-149		20	21	
Ethylbenzene	0.0250	0.0796	0.0803	3.1	0.0932	54.7	29-150	J6	15	24	
m&p-Xylene	0.0500	0.0735	0.0922	37.4	0.107	66.5	24-151		15	23	
o-Xylene	0.0250	0.0171	0.0323	61.1	0.0370	79.6	32-151		13	23	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472498**
Analysis Date:	4/14/2010	Analyst:	498
Instrument ID:	VOCMS20		
Sample Numbers:	L453083-01, -02		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
Methyl tert-butyl ether	0.0250	0.0264	106	0.0238	95.3	51-142		10	20	
Di-isopropyl ether	0.0250	0.0266	107	0.0250	99.9	63-139		6.5	20	
Benzene	0.0250	0.0238	95.1	0.0239	95.6	67-126		0.6	20	
1,2-Dichloroethane	0.0250	0.0239	95.8	0.0234	93.8	63-137		2.1	20	
Toluene	0.0250	0.0226	90.4	0.0238	95.0	72-122		5.0	20	
1,2-Dibromoethane	0.0250	0.0231	92.5	0.0240	96.1	75-126		3.8	20	
Ethylbenzene	0.0250	0.0245	98.0	0.0246	98.3	76-129		0.3	20	
m&p-Xylene	0.0500	0.0489	97.8	0.0496	99.2	74-128		1.4	20	
o-Xylene	0.0250	0.0257	103	0.0246	98.4	78-128		4.2	20	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test: Volatile Organic Compounds by Method 8260B
Project No: 110550 Matrix: Water - mg/L
Project: Single Well Project EPA ID: TN00003
Collection Date: 4/7/2010 **Analytic Batch: WG473269**
Analysis Date: 4/15/2010 Analyst: 126
Instrument ID: VOCMS21
Sample Numbers: L453083-01, -02

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
Methyl tert-butyl ether	0.0250	0.0268	107	0.0250	100	51-142		6.8	20	
Di-isopropyl ether	0.0250	0.0301	120	0.0287	115	63-139		4.7	20	
Benzene	0.0250	0.0259	104	0.0254	101	67-126		2.2	20	
Toluene	0.0250	0.0236	94.6	0.0231	92.3	72-122		2.4	20	
Ethylbenzene	0.0250	0.0273	109	0.0268	107	76-129		1.6	20	
m&p-Xylene	0.0500	0.0541	108	0.0527	105	74-128		2.5	20	
o-Xylene	0.0250	0.0277	111	0.0270	108	78-128		2.6	20	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG472498**
Analysis Date:	4/14/2010	Analyst:	498
Instrument ID:	VOCMS20		
Sample Numbers:	L453083-01, -02		

Internal Standard Response and Retention Time Summary

FileID:0414_31.D Date:4/14/2010 Time:8:19 PM

	IS1		IS2		IS3		IS4	
	Response	RT	Response	RT	Response	RT	Response	RT
12 Hour Std	1577474	6.49	2385656	6.96	388434	8.5	1295884	11.25
Upper Limit	3154948	6.99	4771312	7.46	776868	9	2591768	11.75
Lower Limit	788737	5.99	1192828	6.46	194217	8	647942	10.75
Sample ID	Response	RT	Response	RT	Response	RT	Response	RT
Blank WG472498	1406970	6.5	2154770	6.96	326486	8.5	1157210	11.25
L453083-01	1535434	6.5	2338872	6.96	355761	8.5	1227625	11.25
L453083-02	1388392	6.5	2161750	6.96	326926	8.5	1190014	11.25
LCS WG472498	1356349	6.49	2029686	6.96	319345	8.5	1105056	11.25
LCSD WG472498	1530921	6.5	2293526	6.96	362046	8.5	1172108	11.25
MS WG472498	1740439	6.49	2606569	6.96	403350	8.5	1449663	11.25
MSD WG472498	1567590	6.5	2382757	6.96	375469	8.5	1272152	11.25

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Volatile Organic Compounds by Method 8260B		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG473269**
Analysis Date:	4/15/2010	Analyst:	126
Instrument ID:	VOCMS21		
Sample Numbers:	L453083-01, -02		

Internal Standard Response and Retention Time Summary

FileID:0415_02.D Date:4/15/2010 Time:2:42 PM

	IS1		IS2		IS3		IS4	
	Response	RT	Response	RT	Response	RT	Response	RT
12 Hour Std	1310607	6.05	2179261	6.54	320092	8.16	1062626	11
Upper Limit	2621214	6.55	4358522	7.04	640184	8.66	2125252	11.5
Lower Limit	655303.5	5.55	1089630.5	6.04	160046	7.66	531313	10.5
Sample ID	Response	RT	Response	RT	Response	RT	Response	RT
Blank WG473269	1047172	6.05	1779773	6.55	255073	8.17	875161	11
L453083-01	1085197	6.05	1822811	6.55	257443	8.17	880096	11
L453083-02	1047971	6.05	1752932	6.54	251601	8.17	856552	11
LCS WG473269	1270861	6.05	2087444	6.54	305207	8.17	1023231	11
LCSD WG473269	1232958	6.05	2033326	6.54	297538	8.17	993565	11

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Diesel Range Organics by Method 8015		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG473180**
Analysis Date:	4/15/2010	Analyst:	267
Instrument ID:	SVGC21	Extraction Date:	4/15/2010
Sample Numbers:	L453083-01		

Method Blank

Analyte	CAS	PQL	Qualifiers
C10-C22 Hydrocarbons		<0.10	
C22-C32 Hydrocarbons		<0.10	
C32-C40 Hydrocarbons		<0.10	

Laboratory Control Sample (LCS)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
C10-C22 Hydrocarbons	0.75	0.73	96.7	50 - 150	
C22-C32 Hydrocarbons	0.75	0.65	86.8	50 - 150	

Laboratory Control Sample Duplicate (LCSD)

Analyte	True Value	Found	Recovery %	Control Limits	Qualifiers
C10-C22 Hydrocarbons	0.75	0.73	97.5	50 - 150	
C22-C32 Hydrocarbons	0.75	0.65	86.9	50 - 150	

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Diesel Range Organics by Method 8015		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG473180**
Analysis Date:	4/15/2010	Analyst:	267
Instrument ID:	SVGC21	Extraction Date:	4/15/2010
Sample Numbers:	L453083-01		

Surrogate Summary

Laboratory Sample ID	o-terphenylD ppm	% Rec
Blank WG473180	0.0159	79.4
LCS WG473180	0.0154	77.0
LCSD WG473180	0.0155	77.5
L453083-01	0.0215	107

o-terphenyl Limits - 50 - 150

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Quality Control Summary
SDG: L453083
Kleinfelder - Oakland, CA

Test:	Diesel Range Organics by Method 8015		
Project No:	110550	Matrix:	Water - mg/L
Project:	Single Well Project	EPA ID:	TN00003
Collection Date:	4/7/2010	**Analytic Batch:**	**WG473180**
Analysis Date:	4/15/2010	Analyst:	267
Instrument ID:	SVGC21	Extraction Date:	4/15/2010
Sample Numbers:	L453083-01		

Laboratory Control Sample/ Laboratory Control Sample Duplicate

Analyte	Spike	LCS	% Rec	LCSD	% Rec	Control Limits	Qualifier	% RPD	Control Limits	Qualifier
C10-C22 Hydrocarbons	0.75	0.73	96.7	0.73	97.5	50-150		0.8	20	
C22-C32 Hydrocarbons	0.75	0.65	86.8	0.65	86.9	50-150		0.1	20	

Kleinfelder - Oakland, CA

1970 Broadway - Suite 710
Oakland,CA 94612

Billing information:

Accounts Payable
1970 Broadway - Suite 710

Oakland,CA 94612

Chain of Custody
Page ___ of ___

D060

ESC
L·A·B S·C·I·E·N·C·E·S
12065 Lebanon Road
Mt. Juliet, TN 37122

Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

Report to: Álvaro Domínguez

Email: ADominguez@kleinfelder.cor

Project Description: Single Well Project

City/State Collected: Emeryville

Phone: (510) 628-9000
FAX: (510) 628-9009

Client Project #: 110550

Lab Project #: KLEINOCA-SINGLEWELL

Collected by (print): ALVARO

Site/Facility ID#: Firestation #2

P.O.#:

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? __No X Yes
FAX? __No __Yes

Analysis/Container/Preservative

Acctnum: KLEINOCA (lab use only)
Template/Prelogin: T63451/ P314082
Cooler #: 3-10
Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	DROCAERLVI 40mlAmb-HCl	GRO 40mlAmb HCl	Methanol / Ethanol 40mlClr-HCl	Total Lead by 6010 500mlHDPE-HNO3	V8260OXY 40mlAmb-HCl			Remarks/Contaminant	Sample # (lab only)
MW1		GW				11	X	X	X	X	X				L453083-01
Blank						1					X				-02

*Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other________

pH ____________ Temp ____________

Flow ____________ Other ____________

Remarks: Dropped off @ FedEx Hub in Emeryville, CA -

434198046069

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ ____	Condition: (lab use only)
A. Domínguez					OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6°C / Bottles Received: 12	COC Seal Intact: ✓ Y ___ N ___ NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) C. [illegible]	Date: 4.8.10 / Time: 0900	pH Checked: <2 / NCF:

4.8.10 0900

APPENDIX B

DEVELOPMENT AND PURGE LOGS

KLEINFELDER	PROJECT NO: 110550

Purge Characterization

SITE NAME: Fire Station # 2	LOCATION: 6303 Hollis Street, Emeryville, CA
WELL I.D.: MW-1	DATE PURGED: 5-Apr-10
PURGED/SAMPLED BY: Alvaro	DATE / TIME SAMPLED:
DEPTH TO BOTTOM (feet): 20.05'	DEPTH TO WATER: 3.41'
WATER COLUMN HEIGHT (feet): 16.64'	CALCULATED PURGE (gallons): (est 27 gallons.
CASING VOLUME (gallons): 2.65	ACTUAL PURGE (gallons):

Development: x Quarterly:_____ Biannual:____ Other:_____

Sample Type: Groundwater:___X___ Surface Water:_____ Other:_____

Casing Diameter:	2" X	3"_____	4"_____	5"_____	6"_____	8"_____
Casing Volume	0.16	0.38	(0.66)	(1.02)	(1.50)	(2.60)

water column times 0.16 = gallons in water column in a 2" well

FIELD MEASUREMENTS

TIME	Volume Purged (gallons)	TEMP (degrees C)	pH	CONDUCTIVITY (umhos/cm)	DO (mg/L)	TURBIDITY (NTU)
903	15	13.4	4.13	s/cm	9.72	32.9
942	0	15.2	6.08	.003	9.72	-5.0
947	2.5	15.8	6.37	0.263	9.54	-5.0
10.4K	4.0	18.1	6.76	0.327		-5.0
1024	15.0	18.1	6.79	0.537	9.40	6.36
1240	70	19.6	7.04	0.619	8.69	off/12+
1300	82	19.2	7.04	0.752	8.77	off chart

TDS

0.17

SAMPLE INFORMATION

SAMPLE #:
QUANTITY: (See COC)
VOLUME:
TYPE:
PRESERVATION:

ANALYSIS:
LAB:

PURGING EQUIPMENT	SAMPLING EQUIPMENT
____ Centrifugal Pump	____ Centrifugal Pump
__X_ Submersible Pump	_X__ Submersible Pump
____ Peristaltic Pump	____ Peristaltic Pump
____ Purge Pump	____ Purge Pump
____ Bailer (Teflon)	____ Bailer (Teflon)
____ Bailer (PVC or disposable)	____ Bailer (PVC or disposable)
____ Bailer (stainless steel)	____ Bailer (stainless steel)
____ Other: _____	____ Other: _____

Comments:

KLEINFELDER

SHEET 1 OF 1

PROJECT Emeryville Fire Station No. 2 PROJECT NO. 110550.14

SUBJECT Purge Water Parameters BY Alvaro Dominguez DATE 4-7-10

REVIEWED BY _____ DATE _____

Depth to Water ___ 3.41 feet.

Total Depth ___ 19.82 feet.

Water Column (19.82 - 3.41) - 0.16 gallon/feet = 2.63 g.

Time	Volume (gallons)	pH	DO	T (C°)	ORP	µmS/cm²
11 55	0	6.70	5.40	18.20	-	0.930
12 03	1.0	6.68	4.50	17.44	265	0.786
12 06	2.5	6.67	3.37	17.31	252.8	0.797
12 12	4.0	6.66	3.00	17.32	227.1	0.822
12 15	5.0	6.65	2.70	17.40	203.4	0.833
12 19	6.5	6.68	2.47	17.52	173.0	0.853
12 25	7.5	6.65	2.20	17.49	149	0.859
12 29	8.5	6.65	2.23	17.44	136.6	0.855
12 33	9.5	6.65	2.30	17.44	125.3	0.859

DO = Dissolved Oxygen

C° = Degrees Celcius

ORP = Oxydation Reduction Potential

µmS/cm² = Conductivity - microsiemens per centimeter square.

Alvaro Dominguez