aqua science engineers inc.

R02514

January 26, 2005

QUARTERLY GROUNDWATER MONITORING REPORT
DECEMBER 2004 GROUNDWATER SAMPLING
ASE JOB NO. 3928

at
Kim Property
925-949 West Grand Avenue
Oakland, CA 94607

Prepared by:
AQUA SCIENCE ENGINEERS, INC.
208 W. El Pintado
Danville, CA 94526
(925) 820-9391

1.0 INTRODUCTION

Site Location (Site), See Figure 1
Kim Property
925-949 West Grand Avenue
Oakland, CA 94607

Responsible Party
Chong and Myung Kim
2601 Telegraph Avenue
Oakland, CA 94612

Environmental Consulting Firm
Aqua Science Engineers, Inc. (ASE)
208 W. El Pintado
Danville, CA 94526
Contact: Robert Kitay, Senior Geologist
(925) 820-9391

Agency Review
Alameda County Health
Care Services Agency (ACHCSA)
1131 Harbor Bay Pkwy
Suite 250
Alameda, CA 94502
Contact: Mr. Barney Chan
(510) 567-6700

California Regional Water
Quality Control Board (RWQCB)
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Contact: Ms. Betty Graham
(510) 622-2433

The following is a report detailing the results of the December 2004 quarterly groundwater sampling at the Kim Property. This sampling was conducted as required by the ACHCSA and RWQCB. ASE has prepared this report on behalf of Chong Kim, the responsible party. This report is intended to supplement the ASE report: "Report of Soil and Groundwater Assessment" dated September 30, 2004.

2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On December 15, 2004, ASE measured the depth to groundwater in all three site monitoring wells using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen, and a sheen was observed in the water purged from monitoring well MW-2. Groundwater elevation data is presented in Table One. A groundwater potentiometric surface map is presented as Figure 2. The groundwater flow direction below the site is generally to the west with a gradient of 0.006 feet/foot, which is consistent with data from the previous quarter.

3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS

On December 15, 2004, ASE collected groundwater samples from all three site monitoring wells. Prior to sampling, each well was purged of three well casing volumes of groundwater using disposable polyethylene bailers. Petroleum hydrocarbon odors were noted during the purging and sampling of monitoring well MW-2. The parameters pH, temperature, and conductivity were monitored during the well purging, and samples were not collected until these parameters stabilized. Groundwater samples were collected from each well using the same polyethylene bailers and were decanted from the bottom of the bailers using low-flow emptying devices into 40-ml volatile organic analysis (VOA) vials, pre-preserved with hydrochloric acid. The samples were capped without headspace, labeled, and placed in coolers with wet ice for transport to Kiff Analytical of Davis, California (ELAP #2236) under appropriate chain-of-custody documentation. Well sampling field logs are presented in Appendix A.

The well purge water was placed into a 55-gallon steel drum and labeled for temporary storage until proper disposal could be arranged.

The groundwater samples were analyzed by Kiff for total petroleum hydrocarbons as diesel (TPH-D) by EPA Method 3550/8015M. The samples were also analyzed for total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethylbenzene, and total xylenes (collectively known as BTEX), fuel oxygenates, and halogenated volatile organic compounds (HVOCs) by EPA Method 8260B. The analytical results for this and previous sampling events are presented in Table Two. The certified analytical report and chain-of-custody documentation are included as Appendix B.

4.0 CONCLUSIONS

The TPH-G and BTEX concentrations in monitoring well MW-2 increased significantly when compared to the results from the previous quarter. Additionally, the concentration of cis-1,2 dichloroethene (cis-1,2-DCE) increased slightly and vinyl chloride appeared at the laboratory method reporting limit, while the methyl tertiary butyl ether (MTBE) concentration decreased slightly. The TPH-D concentrations in monitoring wells MW-1 and MW-3 decreased slightly, and the laboratory noted that the hydrocarbons reported as diesel in monitoring well MW-3 did not exhibit a typical diesel chromatographic pattern. The remaining reported hydrocarbon concentrations were similar to those of the previous quarter.

The TPH-G, BTEX, MTBE, cis-1,2-DCE, and vinyl chloride concentrations detected in the groundwater sample collected from monitoring well MW-2 exceeded the Environmental Screening Levels (ESLs) 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 dated July 2003. The MTBE concentration in the groundwater sample collected from monitoring well MW-3 also exceeded the ESL.

5.0 RECOMMENDATIONS

ASE recommends continued groundwater monitoring on a quarterly basis. The next groundwater sampling is scheduled for March 2005.

Additionally, per the letter from the ACHCSA dated January 13, 2005, the extent of the petroleum hydrocarbon and HVOC impacted groundwater must be further defined and a utility conduit and preferential pathway study must be performed. Also, Phase I reports previously prepared for the site will be reviewed and additional soil and groundwater sampling will be recommended as needed. ASE will prepare a workplan to conduct the work during upcoming quarter.

6.0 REPORT LIMITATIONS

The results presented in this report represent the conditions at the time of the groundwater sampling, at the specific locations where the groundwater samples were collected, and for the specific parameters analyzed by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the former underground storage tanks

and associated plumbing at the site, 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-DHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

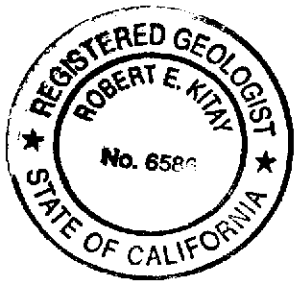
Aqua Science Engineers appreciates the opportunity to provide environmental consulting services for this project, and trust that this report meets your needs. Please feel free to call us at (925) 820-9391 if you have any questions or comments.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

Damian Hriciga
Project Geologist

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



Attachments: Figures 1 and 2
Tables One and Two
Appendices A and B

cc: Mr. Barney Chan, ACHCSA
Ms. Betty Graham, RWQCB
Don Kim, Compass Realty, 1714 Franklin Street, Suite 400, Oakland, CA 94612

TABLE ONE

Groundwater Elevation Data
Kim Property
925-949 West Grand Avenue, Oakland, CA

Well ID	Date of Measurement	Top of Casing Elevation (msl)	Depth to Water (feet)	Groundwater Elevation (msl)
MW-1	9/14/04	15.12	10.79	4.33
	12/15/04		**9.77**	**5.35**
MW-2	9/14/04	14.42	9.76	4.66
	12/15/04		**8.67**	**5.75**
MW-3	9/14/04	15.20	10.11	5.09
	12/15/04		**8.80**	**6.40**

Notes:

Recent data is in **BOLD.**

TABLE TWO

Summary of Analytical Results of GROUNDWATER Samples
Petroleum Hydrocarbons and Halogenated Volatile Organic Compounds (HVOCs)
By EPA Methods 8015 and 8260B
925-949 West Grand Avenue, Oakland, California
Results are in parts per billion (ppb)

Well/ Boring	Date Sampled	TPH Gasoline	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	1,2-DCA	cis-1,2-DCE	trans-1,2-DCE	TCE	Vinyl Chloride	Other VOCs
MW-1	9/14/04	< 50	150	< 0.5	< 0.5	< 0.5	< 0.5	0.89	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5 - < 20
	12/15/04	**< 50**	**65**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**0.74**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5 - < 20**
MW-2	9/14/04	6,100	< 1,000	56	2.6	87	190	15	< 1.5	1.5	< 1.5	< 1.5	< 1.5	< 1.5 - < 20
	12/15/04	**22,000**	**< 6,000**	**150**	**6.7**	**760**	**1900**	**11**	**< 1.5**	**7.2**	**< 1.5**	**< 1.5**	**1.5**	**< 1.5 - < 20**
MW-3	9/14/04	< 50	100	< 0.5	< 0.5	< 0.5	< 0.5	5.8	0.77	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5 - < 20
	12/15/04	**< 50**	**67**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**6.0**	**0.70**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5 - < 20**
SB-F	8/9/04	5,000	< 1,000	2.1	2.0	1.4	3.6	16	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1 - < 50
SB-G	8/9/04	1,200	4,900	< 0.5	< 0.5	< 0.5	0.72	32	0.95	60	5.8	6.2	4.6	< 0.5 - < 20
SB-H	8/9/04	< 50	390	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5 - < 20
ESL		100	100	1.0	40	30	13	5.0	0.5	6.0	10	5.0	0.5	VARIES

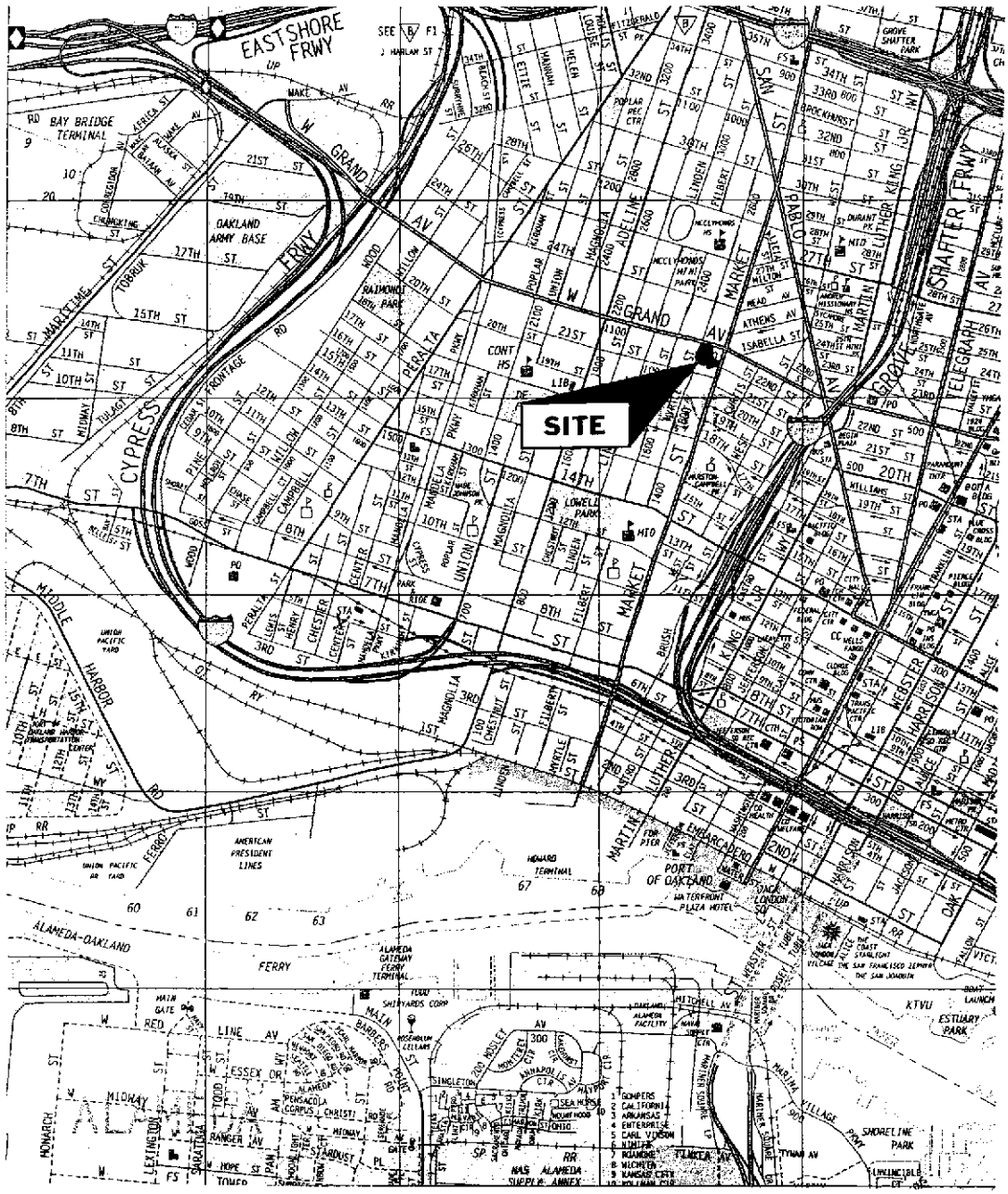
Notes:

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

Recent concentrations are in BOLD.

ESL = Environmental Screening Levels 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 July 2003.

TCE - trichloroethene
MTBE - methyl tertiary butyl ether
DCE - dichloroethene
DCA - dichloroethane
TPH - total petroleum hydrocarbons

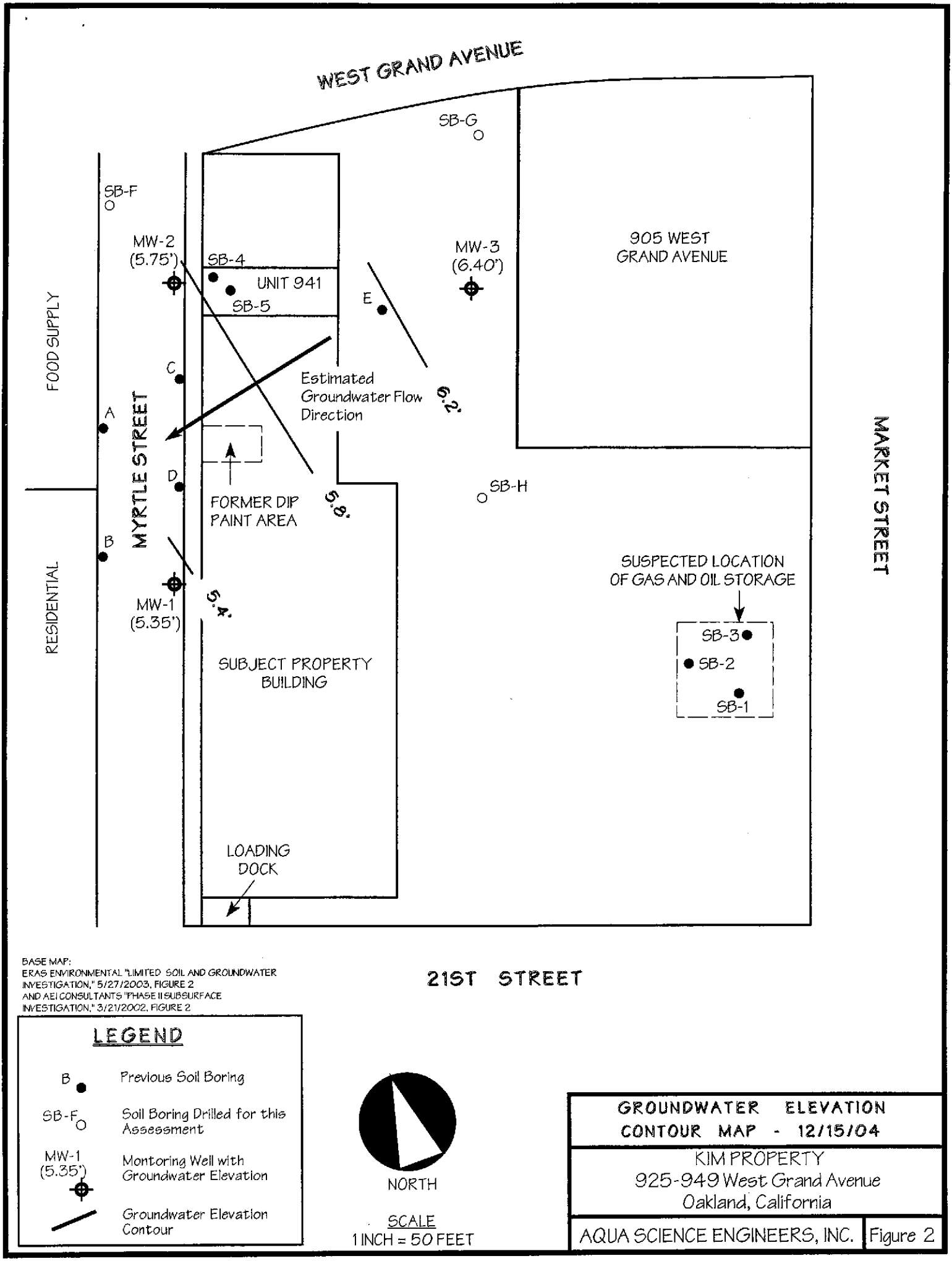


NORTH

SITE LOCATION MAP

KIM PROPERTY
925-949 West Grand Avenue
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 1



BASE MAP:
ERAS ENVIRONMENTAL "LIMITED SOIL AND GROUNDWATER INVESTIGATION," 5/27/2003, FIGURE 2
AND AEI CONSULTANTS "PHASE II SUBSURFACE INVESTIGATION," 3/21/2002, FIGURE 2

LEGEND

- B ● Previous Soil Boring
- SB-F ○ Soil Boring Drilled for this Assessment
- MW-1 (5.35') ⊕ Montoring Well with Groundwater Elevation
- Groundwater Elevation Contour

NORTH

SCALE
1 INCH = 50 FEET

GROUNDWATER ELEVATION CONTOUR MAP - 12/15/04

KIM PROPERTY
925-949 West Grand Avenue
Oakland, California

AQUA SCIENCE ENGINEERS, INC. | Figure 2

APPENDIX A

Well Sampling Field Logs

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WELL SAMPLING FIELD LOG

Project Name and Address: Kiln
Job #: _____
Well Name: MW-1 Date of sampling: 12/15/04
Total depth of well (feet): 20.0 Sampled by: RH
Depth to water before sampling (feet): 9.77 Well diameter (inches): 2
Thickness of floating product if any: —
Depth of well casing in water (feet): 10.23
Number of gallons per well casing volume (gallons): 1.6
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 4.9
Equipment used to purge the well: BAILER
Time Evacuation Began: 1100 Time Evacuation Finished: 1120
Approximate volume of groundwater purged: 5
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 1125
Depth to water at time of sampling: 11.96
Percent recovery at time of sampling: —
Samples collected with: BAILER
Sample color: TAN Odor: —
Description of sediment in sample: SILT

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
0	66.6	6.92	~~1094~~ 1120
1.6	64.9	7.20	1023
3.2	67.9	7.27	1014
4.9	~~67.9~~	7.30	1006

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-1	5	40 ml VOA	HCl	Y	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: KIM
Job #: _____
Well Name: MW-7 Date of sampling: 12/15/01
Total depth of well (feet): 14.0 Sampled by: DH
Depth to water before sampling (feet): 8.67 Well diameter (inches): 2
Thickness of floating product if any: — — SHEEN
Depth of well casing in water (feet): 5.71
Number of gallons per well casing volume (gallons): .8
Number of well casing volumes to be removed: 2
Req'd volume of groundwater to be purged before sampling (gallons): 2.5
Equipment used to purge the well: BAILER
Time Evacuation Began: 1130 Time Evacuation Finished: 1140
Approximate volume of groundwater purged: 2.5
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 1145
Depth to water at time of sampling: 8.70
Percent recovery at time of sampling: —
Samples collected with: BAILER
Sample color: BRN Odor: ST
Description of sediment in sample: SILT

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
0.8	67.6	6.82	1265
1.6	68.5	6.87	1178
2.5	69.4	6.80	1200
	69.6	6.95	12.02

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-7	5	40 ml VOA	HCl	Y	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Kim
Job #: _____
Well Name: MW-3 Date of sampling: 12/15/04
Total depth of well (feet): 20.6 Sampled by: DH
Depth to water before sampling (feet): 8.80 Well diameter (inches): 2
Thickness of floating product if any: —
Depth of well casing in water (feet): 11.20
Number of gallons per well casing volume (gallons): 1.8
Number of well casing volumes to be removed: 3
Req'd volume of groundwater to be purged before sampling (gallons): 5.4
Equipment used to purge the well: BAILER
Time Evacuation Began: 1200 Time Evacuation Finished: 1215
Approximate volume of groundwater purged: 5.4
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 1220
Depth to water at time of sampling: 8.85
Percent recovery at time of sampling: —
Samples collected with: BAILER
Sample color: — Odor: —
Description of sediment in sample: SILT

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
0	69.8	7.17	1161
1.8	70.2	7.18	1136
3.6	68.2	7.16	1129
5.4	70.2	7.17	1115

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-3	5	40mL VOA	HCl	Y	

CASING BROKEN

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

KIFF ANALYTICAL LLC

Report Number : 41623
Date : 1/3/2005

Damian Hriciga
Aqua Science Engineers, Inc.
208 West El Pintado Rd.
Danville, CA 94526

Subject : 3 Water Samples
Project Name : KIM
Project Number : 3928

Dear Mr. Hriciga,

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.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

KIFF ANALYTICAL LLC

Report Number : 41623
Date : 1/3/2005

Subject : 3 Water Samples
Project Name : KIM
Project Number : 3928

Case Narrative

The Method Reporting Limit for TPH as Diesel is increased due to interference from Gasoline-Range Hydrocarbons for sample MW-2.

Hydrocarbons reported as TPH as Diesel do not exhibit a typical Diesel chromatographic pattern for sample MW-3. The hydrocarbons are higher boiling than typical diesel fuel.

Approved By: Joel Kiff

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 41623

Date : 1/3/2005

Project Name : **KIM**

Project Number : **3928**

Sample : **MW-1** Matrix : Water Lab Number : 41623-01

Sample Date :12/15/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	**65**	50	ug/L	M EPA 8015	12/23/2004

Sample : **MW-2** Matrix : Water Lab Number : 41623-02

Sample Date :12/15/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	**< 6000**	6000	ug/L	M EPA 8015	12/23/2004

Sample : **MW-3** Matrix : Water Lab Number : 41623-03

Sample Date :12/15/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	**67**	50	ug/L	M EPA 8015	12/23/2004

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 41623

Date : 1/3/2005

Sample : **MW-1**

Project Name : **KIM**

Project Number : **3928** Lab Number : 41623-01 Date Analyzed : 12/23/2004

Matrix : Water Sample Date :12/15/2004 Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Benzene	< 0.50	0.50	ug/L
Toluene	< 0.50	0.50	ug/L
Ethylbenzene	< 0.50	0.50	ug/L
Total Xylenes	< 0.50	0.50	ug/L
Methyl-t-butyl ether (MTBE)	**0.74**	0.50	ug/L
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L
Tert-Butanol	< 5.0	5.0	ug/L
TPH as Gasoline	< 50	50	ug/L
Chloromethane	< 0.50	0.50	ug/L
Vinyl Chloride	< 0.50	0.50	ug/L
Bromomethane	< 20	20	ug/L
Chloroethane	< 0.50	0.50	ug/L
Trichlorofluoromethane	< 0.50	0.50	ug/L
1,1-Dichloroethene	< 0.50	0.50	ug/L
Methylene Chloride	< 5.0	5.0	ug/L
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L
1,1-Dichloroethane	< 0.50	0.50	ug/L
cis-1,2-Dichloroethene	< 0.50	0.50	ug/L
Chloroform	< 0.50	0.50	ug/L
1,1,1-Trichloroethane	< 0.50	0.50	ug/L
1,2-Dichloroethane	< 0.50	0.50	ug/L
Carbon Tetrachloride	< 0.50	0.50	ug/L
Trichloroethene	< 0.50	0.50	ug/L
1,2-Dichloropropane	< 0.50	0.50	ug/L
Bromodichloromethane	< 0.50	0.50	ug/L
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L
1,1,2-Trichloroethane	< 0.50	0.50	ug/L
Tetrachloroethene	< 0.50	0.50	ug/L
Dibromochloromethane	< 0.50	0.50	ug/L
Chlorobenzene	< 0.50	0.50	ug/L
Bromoform	< 0.50	0.50	ug/L
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L
1,3-Dichlorobenzene	< 0.50	0.50	ug/L
1,4-Dichlorobenzene	< 0.50	0.50	ug/L
1,2-Dichlorobenzene	< 0.50	0.50	ug/L
1,2-Dibromoethane	< 0.50	0.50	ug/L
Toluene - d8 (Surr)	96.9		% Recovery
4-Bromofluorobenzene (Surr)	88.8		% Recovery
Dibromofluoromethane (Surr)	103		% Recovery
1,2-Dichloroethane-d4 (Surr)	98.8		% Recovery

1) MRL = Method reporting limit
2) MRL raised due to interference

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 41623

Date : 1/3/2005

Sample : **MW-2**

Project Name : **KIM**

Project Number : **3928** Lab Number : 41623-02 Date Analyzed : 12/24/2004, 12/27/2004

Matrix : Water Sample Date : 12/15/2004 Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Benzene	**150**	1.5	ug/L
Toluene	**6.7**	1.5	ug/L
Ethylbenzene	**760**	1.5	ug/L
Total Xylenes	**1900**	5.0	ug/L
Methyl-t-butyl ether (MTBE)	**11**	1.5	ug/L
Diisopropyl ether (DIPE)	< 1.5	1.5	ug/L
Ethyl-t-butyl ether (ETBE)	< 1.5	1.5	ug/L
Tert-amyl methyl ether (TAME)	< 1.5	1.5	ug/L
Tert-Butanol	< 7.0	7.0	ug/L
TPH as Gasoline	**22000**	500	ug/L
Chloromethane	< 1.5	1.5	ug/L
Vinyl Chloride	**1.5**	1.5	ug/L
Bromomethane	< 20	20	ug/L
Chloroethane	< 1.5	1.5	ug/L
Trichlorofluoromethane	< 1.5	1.5	ug/L
1,1-Dichloroethene	< 1.5	1.5	ug/L
Methylene Chloride	< 5.0	5.0	ug/L
trans-1,2-Dichloroethene	< 1.5	1.5	ug/L
1,1-Dichloroethane	< 1.5	1.5	ug/L
cis-1,2-Dichloroethene	**7.2**	1.5	ug/L
Chloroform	< 1.5	1.5	ug/L
1,1,1-Trichloroethane	< 1.5	1.5	ug/L
1,2-Dichloroethane	< 1.5	1.5	ug/L
Carbon Tetrachloride	< 1.5	1.5	ug/L
Trichloroethene	< 1.5	1.5	ug/L
1,2-Dichloropropane	< 1.5	1.5 (2)	ug/L
Bromodichloromethane	< 1.5	1.5	ug/L
cis-1,3-Dichloropropene	< 1.5	1.5	ug/L
trans-1,3-Dichloropropene	< 1.5	1.5	ug/L
1,1,2-Trichloroethane	< 1.5	1.5 (2)	ug/L
Tetrachloroethene	< 1.5	1.5	ug/L
Dibromochloromethane	< 1.5	1.5	ug/L
Chlorobenzene	< 1.5	1.5	ug/L
Bromoform	< 1.5	1.5	ug/L
1,1,2,2-Tetrachloroethane	< 1.5	1.5	ug/L
1,3-Dichlorobenzene	< 1.5	1.5	ug/L

Parameter	Measured Value	MRL [1]	Units
1,4-Dichlorobenzene	< 1.5	1.5	ug/L
1,2-Dichlorobenzene	< 1.5	1.5	ug/L
1,2-Dibromoethane	< 1.5	1.5	ug/L
Toluene - d8 (Surr)	91.1		% Recovery
4-Bromofluorobenzene (Surr)	86.3		% Recovery
Dibromofluoromethane (Surr)	92.1		% Recovery
1,2-Dichloroethane-d4 (Surr)	90.8		% Recovery

1) MRL = Method reporting limit
2) MRL raised due to interference

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 41623
Date : 1/3/2005

Sample : **MW-3**
Project Name : **KIM**
Project Number : **3928** Lab Number : 41623-03 Date Analyzed : 12/24/2004
Matrix : Water Sample Date :12/15/2004 Analysis Method: EPA 8260B

Parameter	Measured Value	MRL [1]	Units
Benzene	< 0.50	0.50	ug/L
Toluene	< 0.50	0.50	ug/L
Ethylbenzene	< 0.50	0.50	ug/L
Total Xylenes	< 0.50	0.50	ug/L
Methyl-t-butyl ether (MTBE)	**6.0**	0.50	ug/L
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L
Tert-Butanol	< 5.0	5.0	ug/L
TPH as Gasoline	< 50	50	ug/L
Chloromethane	< 0.50	0.50	ug/L
Vinyl Chloride	< 0.50	0.50	ug/L
Bromomethane	< 20	20	ug/L
Chloroethane	< 0.50	0.50	ug/L
Trichlorofluoromethane	< 0.50	0.50	ug/L
1,1-Dichloroethene	< 0.50	0.50	ug/L
Methylene Chloride	< 5.0	5.0	ug/L
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L
1,1-Dichloroethane	< 0.50	0.50	ug/L
cis-1,2-Dichloroethene	< 0.50	0.50	ug/L
Chloroform	< 0.50	0.50	ug/L
1,1,1-Trichloroethane	< 0.50	0.50	ug/L
1,2-Dichloroethane	**0.70**	0.50	ug/L
Carbon Tetrachloride	< 0.50	0.50	ug/L
Trichloroethene	< 0.50	0.50	ug/L
1,2-Dichloropropane	< 0.50	0.50	ug/L
Bromodichloromethane	< 0.50	0.50	ug/L
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L
1,1,2-Trichloroethane	< 0.50	0.50	ug/L
Tetrachloroethene	< 0.50	0.50	ug/L
Dibromochloromethane	< 0.50	0.50	ug/L
Chlorobenzene	< 0.50	0.50	ug/L
Bromoform	< 0.50	0.50	ug/L
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L
1,3-Dichlorobenzene	< 0.50	0.50	ug/L
1,4-Dichlorobenzene	< 0.50	0.50	ug/L
1,2-Dichlorobenzene	< 0.50	0.50	ug/L
1,2-Dibromoethane	< 0.50	0.50	ug/L
Toluene - d8 (Surr)	96.2		% Recovery
4-Bromofluorobenzene (Surr)	86.0		% Recovery
Dibromofluoromethane (Surr)	99.0		% Recovery
1,2-Dichloroethane-d4 (Surr)	96.1		% Recovery

1) MRL = Method reporting limit
2) MRL raised due to interference

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 41623

Date : 1/3/2005

QC Report : Method Blank Data

Project Name : **KIM**

Project Number : **3928**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	12/22/2004
Benzene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	12/22/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/22/2004
Chloromethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Vinyl Chloride	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Bromomethane	< 20	20	ug/L	EPA 8260B	12/22/2004
Chloroethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Trichlorofluoromethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,1-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Methylene Chloride	< 5.0	5.0	ug/L	EPA 8260B	12/22/2004
trans-1,2-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,1-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
cis-1,2-Dichloroethene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Chloroform	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,1,1-Trichloroethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Carbon Tetrachloride	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Trichloroethene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,2-Dichloropropane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Bromodichloromethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
cis-1,3-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
trans-1,3-Dichloropropene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,1,2-Trichloroethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Tetrachloroethene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Dibromochloromethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Chlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Bromoform	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,1,2,2-Tetrachloroethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,3-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,4-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,2-Dichlorobenzene	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	12/22/2004
Toluene - d8 (Surr)	95.2		%	EPA 8260B	12/22/2004
4-Bromofluorobenzene (Surr)	86.9		%	EPA 8260B	12/22/2004
Dibromofluoromethane (Surr)	103		%	EPA 8260B	12/22/2004
1,2-Dichloroethane-d4 (Surr)	98.3		%	EPA 8260B	12/22/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	12/27/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	12/27/2004

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 41623

Date : 1/3/2005

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **KIM**

Project Number : **3928**

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 as Diesel	Blank	<50	1000	1000	909	870	ug/L	M EPA 8015	12/22/04	90.9	87.0	4.34	70-130	25
Benzene	41622-01	<0.50	39.8	39.8	34.8	32.2	ug/L	EPA 8260B	12/23/04	87.6	80.8	8.10	70-130	25
Toluene	41622-01	<0.50	39.8	39.8	36.0	33.2	ug/L	EPA 8260B	12/23/04	90.6	83.4	8.32	70-130	25
Tert-Butanol	41622-01	<5.0	199	199	212	185	ug/L	EPA 8260B	12/23/04	106	92.8	13.8	70-130	25
Methyl-t-Butyl Ether	41622-01	<0.50	39.8	39.8	40.6	36.4	ug/L	EPA 8260B	12/23/04	102	91.5	11.0	70-130	25
Benzene	41632-03	<0.50	38.2	39.3	36.8	35.9	ug/L	EPA 8260B	12/27/04	96.2	91.3	5.22	70-130	25
Toluene	41632-03	<0.50	38.2	39.3	36.0	35.3	ug/L	EPA 8260B	12/27/04	94.2	89.8	4.85	70-130	25
Tert-Butanol	41632-03	<5.0	191	196	186	200	ug/L	EPA 8260B	12/27/04	97.2	102	4.68	70-130	25
Methyl-t-Butyl Ether	41632-03	<0.50	38.2	39.3	39.0	38.7	ug/L	EPA 8260B	12/27/04	102	98.6	3.35	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 41623

QC Report : Laboratory Control Sample (LCS)

Date : 1/3/2005

Project Name : **KIM**

Project Number : **3928**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	12/22/04	79.3	70-130
Toluene	40.0	ug/L	EPA 8260B	12/22/04	81.7	70-130
Tert-Butanol	200	ug/L	EPA 8260B	12/22/04	99.6	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	12/22/04	95.1	70-130
Benzene	40.0	ug/L	EPA 8260B	12/27/04	92.8	70-130
Toluene	40.0	ug/L	EPA 8260B	12/27/04	89.8	70-130
Tert-Butanol	200	ug/L	EPA 8260B	12/27/04	95.9	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	12/27/04	100	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

4623

Aqua Science Engineers, Inc.
208 W. El Pintado Road
Danville, CA 94526
(925) 820-9391
FAX (925) 837-4853

Chain of Custody KIFF

PAGE 1 OF 1

SAMPLER (SIGNATURE) DAMIAN HRICIGA

PROJECT NAME KIM JOB NO. 3928

ADDRESS West Grand, Oakland

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
PLEASE SEND REPORT TO:
DHRICIGA@AQUASCIENCEENGINEERS.COM

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-DIESEL w/ Silica Gel (EPA 3510/8015)	TPH-DIESEL & MOTOR OIL (EPA 3510/8015)	PURGEABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240/8260)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	OIL & GREASE (EPA 5520) HYDROCARBON	LUFT METALS (5) (EPA 6010+7000)	CAM 17 METALS (EPA 6010+7000)	PCBs & PESTICIDES (EPA 608/8080)	ORGANOPHOSPHORUS PESTICIDES (EPA 8140 EPA 608/8080)	FUEL OXYGENATES (EPA 8260)	Pb (TOTAL or DISSOLVED) (EPA 6010)	TPH-G/BTEX/5 OXY'S (EPA 8260)	TPH-G/BTEX/ 5 Oxy's and HVOCs (EPA 8260)		
MW-1	12/5/04	1125	W	3	x													x		-01
MW-2	↓	1145	W	3	x													x		-02
MW-3	↓	1220	W	3	x													x		-03

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) 1700 (time)	(signature) (time)	(signature) (time)	(signature) 1215 (time)	
DAMIAN HRICIGA 12/5/04 (printed name) (date)	(printed name) (date)	(printed name) (date)	ROBERT C PREKLE 12/20/04 (printed name) (date)	TURN AROUND TIME: STANDARD 24Hr 48Hr 72Hr
Company- Aqua Science Engineers, Inc.	Company-	Company-	Company- KIFF ANALYTICAL	OTHER: