aqua science engineers inc.

April 16, 2001

559

QUARTERLY GROUNDWATER MONITORING REPORT
MARCH 2001 GROUNDWATER SAMPLING
ASE JOB NO. 3540

at
Oakland Truck Stop
8255 San Leandro Street
Oakland, California

Results w. similar to last qtr.
- Significant TAME also present w/ MTBE
- Screwy gradient
- fp still in MW-1

Prepared for:
Mr. Nissan Saidian
5733 Medallion Court
Castro Valley, CA 94522

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
Oakland Truck Stop
8255 San Leandro Street
Oakland, California

Responsible Party
Mr. Nissan Saidian
5733 Medallion Court
Castro Valley, CA 94522

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

Agency Review
Mr. Barney Chan
Alameda County Health Care Services Agency (ACHCSA)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Mr. Chuck Headlee
California Regional Water Quality Control Board (RWQCB)
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

The following is a report detailing the methods and findings of the March 2001 quarterly groundwater sampling at the above-referenced site. This sampling was conducted as required by the ACHCSA and RWQCB. ASE has prepared this report on behalf of Mr. Nissan Saidian, owner of the property.

2.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On March 6, 2001, ASE associate geologist Erik Paddleford measured the depth to water in each site groundwater monitoring well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen using an electronic product level meter and confirmed with a disposable bailer. Monitoring well MW-1 contained 0.40-feet of free-floating hydrocarbons. Lab analytical results indicated the free-floating hydrocarbons observed in the well was diesel. No free-floating hydrocarbons or sheen was observed in any of the remaining site monitoring wells. Groundwater elevation data is presented as Table One.

A groundwater potentiometric surface map for March 6, 2001 is presented as Figure 2. Groundwater beneath the site has flow components to the northeast, east, southeast, and northwest with a gradient of between approximately 0.0015 and 0.024-feet/foot. The primary flow direction is to the east. This groundwater flow direction is not consistent with previous calculations, which shows groundwater flow to the south or west.

3.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS

Prior to sampling, monitoring wells MW-2 through MW-6 were purged of four well casing volumes of groundwater using dedicated polyethylene bailers. Petroleum hydrocarbon odors were present during the purging and sampling of all site groundwater monitoring wells. The parameters pH, temperature and conductivity were monitored during the well purging. Samples were not collected until these parameters stabilized. Groundwater samples were collected from each well using dedicated polyethylene bailers. Since free-floating hydrocarbons were present in monitoring well MW-1, this well was not sampled.

All samples were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials, pre-preserved with hydrochloric acid, and sealed without headspace. The samples were then labeled and placed in coolers with wet ice for transport to Kiff Analytical, LLC of Davis, California under appropriate chain-of-custody documentation. Well sampling field logs are presented in Appendix A.

The well purge water was placed in 55-gallon steel drums, labeled, and left on-site for temporary storage.

The groundwater samples were analyzed for total petroleum hydrocarbons as diesel (TPH-D) and total petroleum hydrocarbons as motor oil (TPH-MO) by EPA Method 3550/8015M, and total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and oxygenates by EPA Method 8260. The analytical results are presented in Tables Two and Three. The certified analytical report and chain-of-custody documentation are included as Appendix B.

4.0 CONCLUSIONS

Monitoring well MW-1 contained 0.40-feet of free-floating diesel hydrocarbons. The groundwater samples collected from monitoring well MW-2 contained 1,500 parts per billion (ppb) TPH-G, 1,400 ppb TPH-D, 2.2 ppb benzene, 1.7 ppb ethyl-benzene, 22 ppb methyl-t-butyl ether (MTBE), 3.4 ppb diisopropyl ether (DIPE), and 83 ppb tert-butanol (TBA). The groundwater samples collected from monitoring well MW-3 contained 34,000 ppb TPH-G, 12,000 ppb TPH-D, 15,000 ppb benzene, 100 ppb toluene, 1,100 ppb ethyl-benzene, 130 ppb total xylenes, 4,000 ppb MTBE, and 2,100 ppb TBA. The groundwater samples collected from monitoring well MW-4 contained 670 ppb TPH-D, 110 ppb MTBE, and 9.9 ppb TBA. The groundwater samples collected from monitoring well MW-5 contained 510 ppb TPH-G, 2,900 ppb TPH-D, 140 ppb MTBE, 13 ppb DIPE, and 19 ppb TBA. The groundwater samples collected from monitoring well MW-6 contained 5,300 TPH-G, 6,700 ppb TPH-D, 220 ppb benzene, 13,000 ppb MTBE, 84 ppb TAME, and 2,100 ppb TBA.

The benzene detected in groundwater samples collected from monitoring wells MW-2, MW-3, and MW-6 exceeded the California Department of Health Services (DHS) maximum contaminant level (MCL) for drinking water. The ethyl benzene detected in groundwater samples collected from monitoring well MW-3 exceeded the DHS MCL for drinking water. The MTBE detected in groundwater samples collected from all five monitoring wells sampled exceeded the DHS MCL for drinking water. Overall, the sample results from this quarter were similar to previous sampling results.

5.0 RECOMMENDATIONS

ASE recommends that this site remain on a quarterly sampling schedule. The next sampling is scheduled for June 2001. In addition, ASE anticipates completing the work outlined in ASE's workplan dated February 6, 2001 during the next quarter. ASE will begin work once the costs are pre-approved by the Underground Storage Tank Clean-up Fund.

6.0 REPORT LIMITATIONS

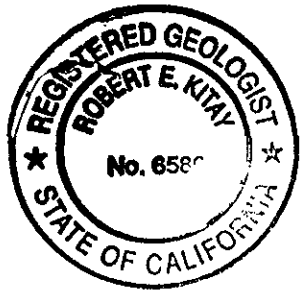
The results of this report represent the conditions at the time of the groundwater sampling, at the specific locations where the groundwater samples were collected, and for the specific parameters analyzed by the laboratory. It does not fully characterize the site for contamination resulting from sources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

Erik H. Paddleford
Associate Geologist



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

Attachments: Table One through Three
Figures 1 and 2
Appendices A and B

cc: Mr. Nissan Saidian
Mr. Barney Chan, ACHCSA
Mr. Chuck Headlee, RWQCB, San Francisco Bay Region

TABLES

TABLE ONE
Groundwater Elevation Data

Well I.D.	Top of Casing Elevation (msl)	Depth to Water Measurement (feet)	Free-Floating Hydrocarbon Thickness (feet)	Groundwater Elevation (msl)
MW-1				
8-16-99	97.12	Unknown	>1.0	Unknown
8-27-99		6.90	0.36	90.51*
9-10-99		6.85	0.18	90.41*
9-24-99		6.65	0.08	90.53*
10-08-99		6.87	0.28	90.47*
10-22-99		6.81	0.23	90.49*
11-02-99		6.94	0.31	90.43*
11-19-99		6.91	0.12	90.31*
12-06-99		6.93	0.12	90.29*
3-08-00		5.93	0.21	91.36*
6-14-00		6.57	0.72	90.41*
12-11-00		6.70	0.60	90.90*
3-6-01		**5.75**	**0.40**	**91.69***
MW-2				
8-16-99	96.82	6.30	--	90.52
12-06-99		8.46	--	88.36
3-08-00		9.12	--	87.70
6-14-00		8.34		88.48
12-11-00		5.94		90.88
3-6-01		**4.70**		**92.12**
MW-3				
8-16-99	96.43	5.85	--	90.58
12-06-99		5.70	--	90.73
3-08-00		5.32	--	91.11
6-14-00		6.95		89.48
12-11-00		6.22		90.21
3-6-01		**4.83**		**91.60**
MW-4				
8-16-99	96.60	6.12	--	90.48
12-06-99		5.98	--	90.62
3-08-00		4.32		92.28
6-14-00		5.58		91.02
12-11-00		5.70		90.90
3-6-01		**4.46**		**92.14**

TABLE ONE
Groundwater Elevation Data

Well I.D.	Top of Casing Elevation (msl)	Depth to Water Measurement (feet)	Free-Floating Hydrocarbon Thickness (feet)	Groundwater Elevation (msl)
MW-5				
12-06-99	96.30	5.94	--	90.36
3-08-00		4.06	--	92.24
6-14-00		5.25		91.05
12-11-00		5.45		90.85
3-6-01		**4.12**		**92.18**
MW-6				
12-06-99	96.79	5.80	--	90.99
3-08-00		4.10	--	92.69
6-14-00		5.64		91.15
12-11-00		5.72		91.07
3-6-01		**4.32**		**92.47**

Notes:
* = Groundwater elevation adjusted for the presence of free-floating hydrocarbons by the equation: Adjusted groundwater elevation = Top of casing elevation – depth to groundwater + (0.8 x free-floating hydrocarbon thickness))

TABLE TWO

Summary of Chemical Analysis of GROUNDWATER Samples
Petroleum Hydrocarbons
All results are in parts per billion

Well ID / DATE	TPH Gasoline	TPH Diesel	TPH Motor Oil	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA
MW-1												
8/16/1999	Not Sampled Due to Free-Floating Hydrocarbons											
12/6/1999	Not Sampled Due to Free-Floating Hydrocarbons											
3/8/2000	Not Sampled Due to Free-Floating Hydrocarbons											
6/14/2000	Not Sampled Due to Free-Floating Hydrocarbons											
12/11/2000	Not Sampled Due to Free-Floating Hydrocarbons											
3/6/2001	Not Sampled Due to Free-Floating Hydrocarbons											
MW-2												
8/16/1999	2,200	970*	< 500	3.8	< 2.0	3	< 4.0	< 20	NA	NA	NA	NA
12/6/1999	1,900	400*	< 500	16	< 0.5	1.5	< 0.5	5.2	NA	NA	NA	NA
3/8/2000	1,600*	530*	< 500	9.7	< 0.5	2.7	< 0.5	27	NA	NA	NA	NA
6/14/2000	2,000	75	< 100	2.8	< 0.5	3.4	< 0.5	16	3 4	< 0.5	< 0.5	64
12/11/2000	1,000	120	< 100	2.6	< 0.5	< 0.5	< 0.5	15	2.9	< 0.5	< 0.5	62
3/6/2001	**1,500**	**1,400**	NA	**2.2**	**< 0.5**	**1.7**	**< 0.5**	**22**	**3.4**	**< 0.5**	**< 0.5**	**83**
MW-3												
8/16/1999	56,000	10,000**	< 500	17,000	2,600	2,600	1,200	6,100	NA	NA	NA	NA
12/6/1999	40,000	9,100*	< 500	16,000	140	1,800	100	2,200/4,000#	NA	NA	NA	NA
3/8/2000	22,000	4,500*	< 500	11,000	72	1,100	130	3,400	NA	NA	NA	NA
6/14/2000	34,000	16,000	< 100	13,000	94	1,300	160	4,800	31	< 10	21	2,700
12/11/2000	24,000	14,000	< 100	13,000	88	780	120	4,300	< 50	< 50	< 50	2,300
3/6/2001	**34,000**	**12,000**	NA	**15,000**	**100**	**1,100**	**130**	**4,000**	**< 50**	**< 50**	**< 50**	**2,100**
MW-4												
8/16/1999	61***	1,100*	< 500	< 0.5	< 0.5	< 0.5	< 1 0	86	NA	NA	NA	NA
12/6/1999	130***	220*	< 500	< 1 0	< 1.0	< 1.0	< 1.0	130	NA	NA	NA	NA
3/8/2000	< 50	220*	< 500	< 0.5	< 0.5	< 0.5	< 0.5	130	NA	NA	NA	NA
6/14/2000	< 50	< 50	< 100	< 0.5	< 0.5	< 0.5	< 0.5	100	< 0 5	< 0.5	< 0 5	20
12/11/2000	< 50	< 50	< 100	< 0.5	< 0.5	< 0.5	< 0.5	110	< 0.5	< 0.5	< 0.5	16
3/6/2001	**< 50**	**670**	NA	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**110**	**< 0.5**	**< 0.5**	**< 0.5**	**9.9**
MW-5												
12/6/1999	450***	2,000*	< 500	< 1.0	< 1.0	< 1.0	< 1.0	21	NA	NA	NA	NA
3/8/2000	51***	530*	< 500	< 0.5	< 0.5	< 0.5	< 0.5	84	NA	NA	NA	NA
6/14/2000	380	1,400	< 100	< 0.5	< 0.5	< 0.5	< 0.5	160	12	< 0.5	< 0 5	22
12/11/2000	540	590	< 100	< 0.5	< 0.5	< 0.5	< 0 5	240	9.5	< 0.5	< 0.5	32
3/6/2001	**510**	**2,900**	NA	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**140**	**13**	**< 0.5**	**< 0.5**	**19**
MW-6												
12/6/1999	13,000	< 50	< 500	180	21	11	24	< 100	NA	NA	NA	NA
3/8/2000	< 10,000	4,600*	< 500	230	26	18	39	12,000	NA	NA	NA	NA
6/14/2000	8,400	12,000	< 100	190	12	9.5	22	15,000	< 5.0	< 5.0	70	3,300
12/11/2000	< 5,000	10,000	< 100	190	< 50	< 50	< 50	14,000	< 50	< 50	74	2,900
3/6/2001	**5,300**	**6,700**	NA	**220**	**< 50**	**< 50**	**< 50**	**13,000**	**< 50**	**< 50**	**84**	**2,100**
DHS MCL	NE	NE	NE	1	150	700	1,750	13	NE	NE	NE	NE

Notes:

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

Most recent concentrations are in bold.

DHS MCL is the California Department of Health Services maximum contaminant level for drinking water.

NE = DHS MCLs are not established.

NA = Sample not analyzed for this compound.

* = Non-typical diesel pattern, hydrocarbons in early diesel range.

** = Estimated concentration due to overlapping fuel patterns in the sample.

*** = Non-typical gasoline pattern.

= MTBE concentration by EPA Method 8260

TABLE THREE

Summary of Chemical Analysis of **GROUNDWATER** Samples
HVOCs, SVOCs, PCBs and LUFT 5 Metals
All results are in **parts per billion**

Boring	Isopropyl-benzene	Other VOCs	SVOCs	PCBs	Cd	Cr	Pb	Ni	Zn
MW-2									
8-16-99	**11**	ND	ND	ND	< 2.0	**9.0**	< 5.0	**19**	< 10
MW-4									
8-16-99	< 0.5	ND	ND	ND	**2.7**	**45**	**260**	**55**	**320**
12-06-99	---	---	---	---	---	---	<5	---	---
MCL	NE	Various	Various	0.5	5	50	15	100	5,000

Notes:
Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit or are indicated by ND if various detection limits are used for multiple compounds. Please see the original reports for detection limits for these compounds.

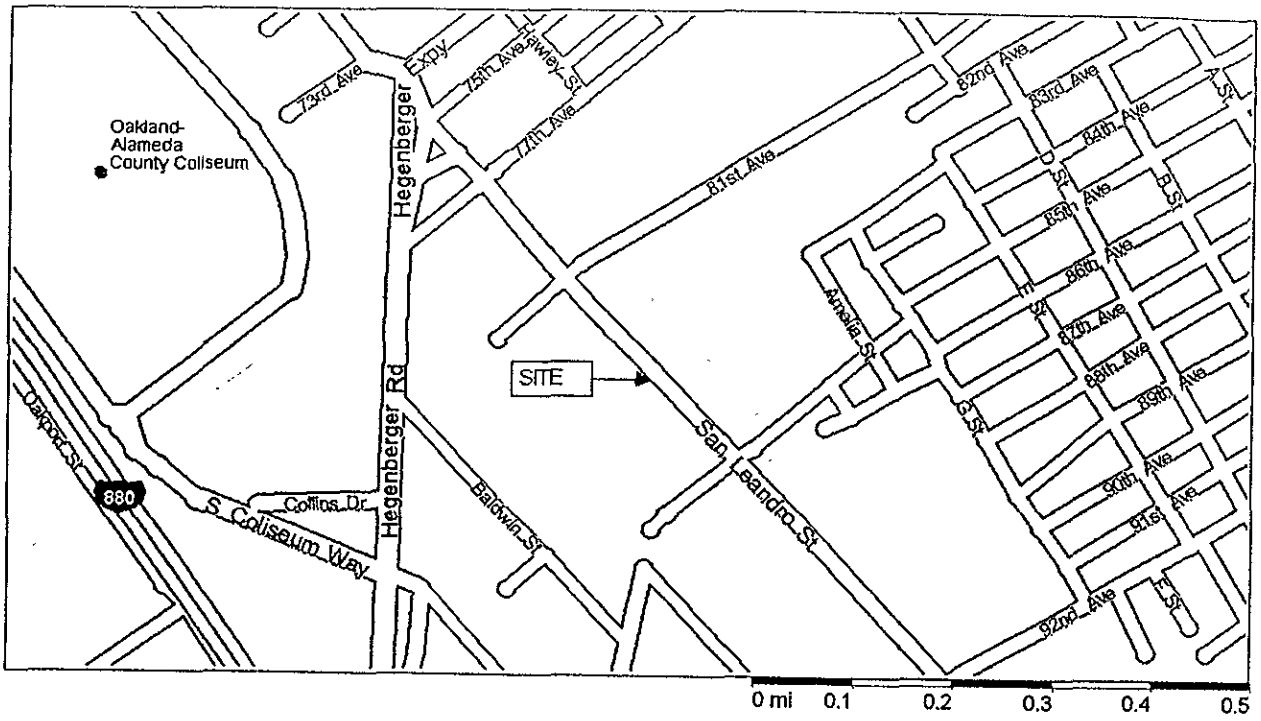
Detectable concentrations are in **bold**.

MCL is the California Department of Health Services maximum contaminant level for drinking water.

NE = Not established

FIGURES

NORTH



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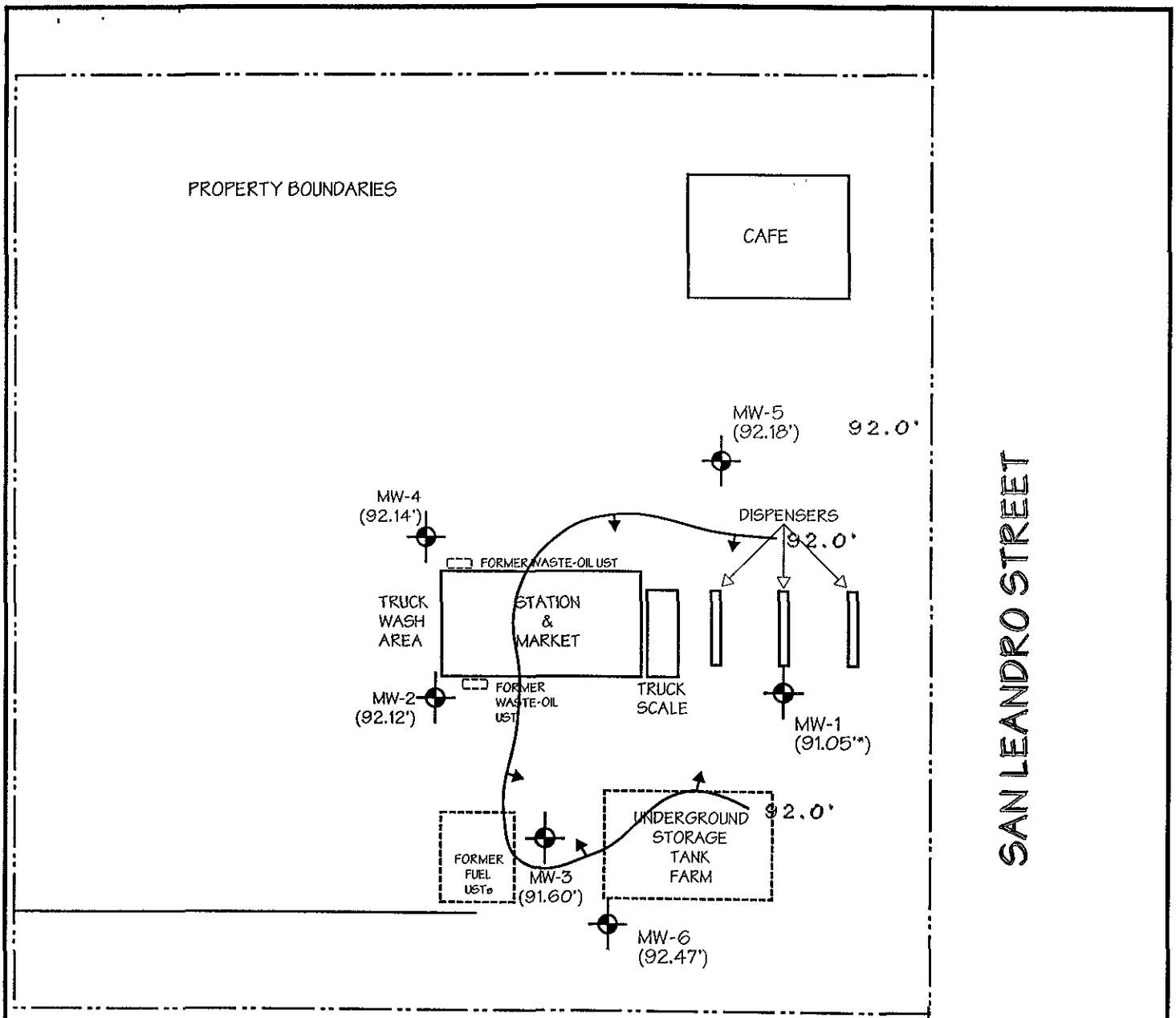
LOCATION MAP

OAKLAND TRUCK STOP
8255 SAN LEANDRO STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. | Figure 1



LEGEND

W-.	MONITORING WELL WITH GROUNDWATER ELEVATION IN FEET, ABOVE MEAN SEA LEVEL
(91.69'*)	GROUNDWATER ELEVATION ADJUSTED FOR FREE-FLOATING HYDROCARBON THICKNESS
92.0'	POTENTIOMETRIC SURFACE CONTOUR

NORTH

SCALE
1" = 50'

Typo 2001
12/30/04

POTENTIOMETRIC SURFACE CONTOUR MAP
MARCH 6, 2000

OAKLAND TRUCK STOP
8255 SAN LEANDRO STREET
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: Oakland Truck Stop
Job #: 3546
Date of sampling: 3-6-01
Well Name: mw-1
Sampled by: EP
Total depth of well (feet):
Well diameter (inches): 2"
Depth to water before sampling (feet): 5.75
Thickness of floating product if any: 0.40
Depth of well casing in water (feet):
Number of gallons per well casing volume (gallons):
Number of well casing volumes to be removed:
Req'd volume of groundwater to be purged before sampling (gallons):
Equipment used to purge the well:
Time Evacuation Began:
Time Evacuation Finished:
Approximate volume of groundwater purged:
Did the well go dry?:
After how many gallons:
Time samples were collected:
Depth to water at time of sampling:
Percent recovery at time of sampling:
Samples collected with:
Sample color:
Odor:
Description of sediment in sample:

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis

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WELL SAMPLING FIELD LOG

Project Name and Address: Oakland Truckshop
Job #: 3540 Date of sampling: 3-6-01
Well Name: MW-2 Sampled by: EP
Total depth of well (feet): 15.5 Well diameter (inches): 2
Depth to water before sampling (feet): 5.7 @ 4.70
Thickness of floating product if any: —
Depth of well casing in water (feet): 10.8
Number of gallons per well casing volume (gallons): 1.84
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 7.3
Equipment used to purge the well: bailer
Time Evacuation Began: 1140 Time Evacuation Finished: 1200
Approximate volume of groundwater purged: 7
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 1205
Depth to water at time of sampling: 10.65
Percent recovery at time of sampling: 44%
Samples collected with: bailer
Sample color: clear/gray Odor: none
Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	19.8	7.28	0
2	19.3	7.32	0
3	19.5	7.31	0
4	19.5	7.32	0

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-2	5	40 ml VOA	X	X	

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WELL SAMPLING FIELD LOG

Project Name and Address: Oakland Truck Stop
Job #: 3540 Date of sampling: 3-6-01
Well Name: MW-3 Sampled by: EP
Total depth of well (feet): 15.5 Well diameter (inches): 2"
Depth to water before sampling (feet): 4.83
Thickness of floating product if any: —
Depth of well casing in water (feet): 10.67
Number of gallons per well casing volume (gallons): 1.81
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 7.25
Equipment used to purge the well: bailer
Time Evacuation Began: 1040 Time Evacuation Finished: 1055
Approximate volume of groundwater purged: 7
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 1105
Depth to water at time of sampling:
Percent recovery at time of sampling:
Samples collected with: bailer
Sample color: gray/clear Odor: moderate HC odor - visible sheen
Description of sediment in sample: silt - fine sand

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	18.8	7.67	1
2	18.7	7.72	1
3	18.7	7.71	1
4	18.6	7.72	1

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-3	5	40 ml VOA	X	X	

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WELL SAMPLING FIELD LOG

Project Name and Address: Oakland Truck Stop
Job #: 3540 Date of sampling: 3-6-01
Well Name: MW-4 Sampled by: EP
Total depth of well (feet): 14.75 Well diameter (inches): 2
Depth to water before sampling (feet): 4.46
Thickness of floating product if any: —
Depth of well casing in water (feet): 10.29
Number of gallons per well casing volume (gallons): 1.75
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 7
Equipment used to purge the well: bailer
Time Evacuation Began: 1230 Time Evacuation Finished: 12:45
Approximate volume of groundwater purged: 7
Did the well go dry?: no After how many gallons: —
Time samples were collected: 1250
Depth to water at time of sampling: 4.82
Percent recovery at time of sampling: 93%
Samples collected with: bailer
Sample color: gray/brown Odor: none
Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	17.3	8.02	0
2	17.4	7.91	1
3	17.9	7.98	1
4	17.8	7.95	1

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW4	5	40 ml VOA	X	X	

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WELL SAMPLING FIELD LOG

Project Name and Address: Oakland Truck Stop
Job #: 3540 Date of sampling: 3-6-01
Well Name: MW-5 Sampled by: EP
Total depth of well (feet): 13.7 Well diameter (inches): 2
Depth to water before sampling (feet): 4.12
Thickness of floating product if any: —
Depth of well casing in water (feet): 9.58
Number of gallons per well casing volume (gallons): 1.63
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 6.51
Equipment used to purge the well: bailer
Time Evacuation Began: 1315 Time Evacuation Finished: 1330
Approximate volume of groundwater purged: 6.5
Did the well go dry?: NO After how many gallons: —
Time samples were collected: 1340
Depth to water at time of sampling: 4.32
Percent recovery at time of sampling: 95%
Samples collected with: bailer
Sample color: clear Odor: none
Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	18.6	7.64	0
2	18.4	7.59	0
3	18.1	7.57	0
4	18.2	7.61	0

SAMPLES COLLECTED

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

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WELL SAMPLING FIELD LOG

Project Name and Address: Oakland Truck Stop
Job #: 3540 Date of sampling: 3-6-01
Well Name: MW-6 Sampled by: EP
Total depth of well (feet): 14.0' Well diameter (inches): 2"
Depth to water before sampling (feet): 4.32
Thickness of floating product if any: —
Depth of well casing in water (feet): 9.68
Number of gallons per well casing volume (gallons): 1.64
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 6.5
Equipment used to purge the well: bailer
Time Evacuation Began: 1010 Time Evacuation Finished: 1020
Approximate volume of groundwater purged: 7
Did the well go dry?: No After how many gallons: —
Time samples were collected: 1030
Depth to water at time of sampling: —
Percent recovery at time of sampling: >90%
Samples collected with: bailer
Sample color: gray/clear Odor: moderate HC odor - visible sheen
Description of sediment in sample: silt - fine sand

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	17.6	7.84	3
2	17.6	7.81	3
3	17.6	7.81	3
4	17.6	7.82	3

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-6	5	40 ml VOA	x	x	

APPENDIX B

Certified Analytical Report
and
Chain of Custody Documentation

KIFF ANALYTICAL LLC

Report Number : 19478
Date : 3/15/01

Eric Paddleford
Aqua Science Engineers, Inc.
208 West El Pintado Rd.
Danville, CA 94526

Subject : 6 Water Samples
Project Name : Oakland Truck Stop (OTS)
Project Number : 3540

Dear Mr. Paddleford,

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

Joel Kiff

KIFF ANALYTICAL LLC

Report Number : 19478
Date : 03/16/2001

Subject : 6 Water Samples
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Case Narrative

Sample MW-1 was diluted in solvent and analyzed by Gas Chromatography with Flame Ionization Detection (FID). The chromatographic pattern suggests that the product is primarily Diesel Fuel.

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 916-297-4800

KIFF ANALYTICAL LLC

Report Number : 19478
Date : 3/15/01

Project Name : **Oakland Truck Stop (OTS)**
Project Number : **3540**

Sample : **MW-2** Matrix : Water Lab Number : 19478-01
Sample Date :3/6/01

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**2.2**	0.50	ug/L	EPA 8260B	3/13/01
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Ethylbenzene	**1.7**	0.50	ug/L	EPA 8260B	3/13/01
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Methyl-t-butyl ether (MTBE)	**22**	0.50	ug/L	EPA 8260B	3/13/01
Diisopropyl ether (DIPE)	**3.4**	0.50	ug/L	EPA 8260B	3/13/01
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Tert-Butanol	**83**	5.0	ug/L	EPA 8260B	3/13/01
TPH as Gasoline	**1500**	50	ug/L	EPA 8260B	3/13/01
TPH as Diesel	**1400**	50	ug/L	M EPA 8015	3/10/01
Toluene - d8 (Surr)	94.2		% Recovery	EPA 8260B	3/13/01
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	3/13/01

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Project Name : **Oakland Truck Stop (OTS)**
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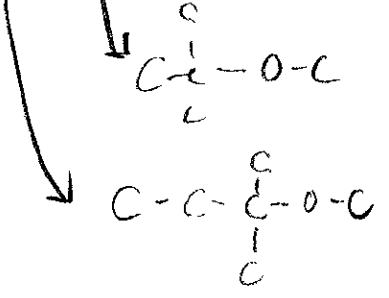
Sample : **MW-3** Matrix : Water Lab Number : 19478-02
Sample Date :3/6/01

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**15000**	50	ug/L	EPA 8260B	3/13/01
Toluene	**100**	50	ug/L	EPA 8260B	3/13/01
Ethylbenzene	**1100**	50	ug/L	EPA 8260B	3/13/01
Total Xylenes	**130**	50	ug/L	EPA 8260B	3/13/01
Methyl-t-butyl ether (MTBE)	**4000**	50	ug/L	EPA 8260B	3/13/01
Diisopropyl ether (DIPE)	**< 50**	50	ug/L	EPA 8260B	3/13/01
Ethyl-t-butyl ether (ETBE)	**< 50**	50	ug/L	EPA 8260B	3/13/01
Tert-amyl methyl ether (TAME)	**< 50**	50	ug/L	EPA 8260B	3/13/01
Tert-Butanol	**2100**	500	ug/L	EPA 8260B	3/13/01
TPH as Gasoline	**34000**	5000	ug/L	EPA 8260B	3/13/01
TPH as Diesel	**12000**	50	ug/L	M EPA 8015	3/10/01
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	3/13/01
4-Bromofluorobenzene (Surr)	97.6		% Recovery	EPA 8260B	3/13/01



GH
t-butyl alc

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Project Name : **Oakland Truck Stop (OTS)**
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Sample : **MW-4** Matrix : Water Lab Number : 19478-03
Sample Date :3/6/01

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Methyl-t-butyl ether (MTBE)	**110**	0.50	ug/L	EPA 8260B	3/13/01
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Tert-Butanol	**9.9**	5.0	ug/L	EPA 8260B	3/13/01
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	3/13/01
TPH as Diesel	**670**	50	ug/L	M EPA 8015	3/10/01
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	3/13/01
4-Bromofluorobenzene (Surr)	99.2		% Recovery	EPA 8260B	3/13/01

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Project Name : **Oakland Truck Stop (OTS)**
Project Number : **3540**

Sample : **MW-5** Matrix : Water Lab Number : 19478-04
Sample Date :3/6/01

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Methyl-t-butyl ether (MTBE)	**140**	0.50	ug/L	EPA 8260B	3/13/01
Diisopropyl ether (DIPE)	**13**	0.50	ug/L	EPA 8260B	3/13/01
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	3/13/01
Tert-Butanol	**19**	5.0	ug/L	EPA 8260B	3/13/01
TPH as Gasoline	**510**	50	ug/L	EPA 8260B	3/13/01
TPH as Diesel	**2900**	50	ug/L	M EPA 8015	3/10/01
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	3/13/01
4-Bromofluorobenzene (Surr)	97.7		% Recovery	EPA 8260B	3/13/01

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Project Name : **Oakland Truck Stop (OTS)**
Project Number : **3540**

Sample : **MW-6** Matrix : Water Lab Number : 19478-05
Sample Date :3/6/01

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**220**	20	ug/L	EPA 8260B	3/13/01
Toluene	**< 20**	20	ug/L	EPA 8260B	3/13/01
Ethylbenzene	**< 20**	20	ug/L	EPA 8260B	3/13/01
Total Xylenes	**< 20**	20	ug/L	EPA 8260B	3/13/01
Methyl-t-butyl ether (MTBE)	**13000**	20	ug/L	EPA 8260B	3/13/01
Diisopropyl ether (DIPE)	**< 20**	20	ug/L	EPA 8260B	3/13/01
Ethyl-t-butyl ether (ETBE)	**< 20**	20	ug/L	EPA 8260B	3/13/01
Tert-amyl methyl ether (TAME)	**84**	20	ug/L	EPA 8260B	3/13/01
Tert-Butanol	**2100**	200	ug/L	EPA 8260B	3/13/01
TPH as Gasoline	**5300**	2000	ug/L	EPA 8260B	3/13/01
TPH as Diesel	**6700**	50	ug/L	M EPA 8015	3/10/01
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	3/13/01
4-Bromofluorobenzene (Surr)	98.9		% Recovery	EPA 8260B	3/13/01

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

Chain of Custody

19478

PAGE 1 OF 1

SAMPLER (SIGNATURE) Erik Paddleford (PHONE NO.)

PROJECT NAME Oakland Truck Stop (OTS) JOB NO. 3540

ADDRESS 8255 San Leandro St. Oakland, CA DATE 3/6/01

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

5 DAY TAT

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-GASOLINE (EPA 5030/8015)	TPH-DIESEL (EPA 3510/8015)	PURGEABLE HALOCARBONS (EPA 601/8010)	PURGEABLE AROMATICS (EPA 602/8020)	VOLATILE ORGANICS (EPA 624/8240)	SEMI-VOLATILE ORGANICS (EPA 625/8270)	OIL & GREASE (EPA 5520)	LUFT METALS (5) (EPA 6010+7000)	CAM 17 METALS (EPA 6010+7000)	PCBs & PESTICIDES (EPA 608/8080)	ORGANOPHOSPHORUS PESTICIDES (EPA 8140) (EPA 608/8080)	ORGANOCHLORINE HERBICIDES (EPA 8150)	FUEL OXYGENATES (EPA 8260)	TPH-G/BTEX/5 OXY'S (EPA 8260)	Identify Product		COMPOSITE	
MW-2	3/6		W	5			X												X				01
MW-3	"		"	"			X												X				2
MW-4	"		"	"			X												X				3
MW-5	"		"	"			X												X				4
MW-6	↓		↓	↓			X												X				5
MW-1	3/6		product	1																X			6

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) (time) 9:47	(signature) (time)	(signature) (time)	Harold Brewer 945 (signature) (time)	MW-1 contains product please Identify product type
Erik Paddleford 3/7/01 (printed name) (date)	(printed name) (date)	(printed name) (date)	Harold Brewer 030701 (printed name) (date)	
Company- ASE	Company-	Company-	Company- Luft Analytical	