aqua science engineers inc.

December 17, 1999

REPORT
of
ADDITIONAL SOIL AND GROUNDWATER ASSESSMENT
AND
QUARTERLY GROUNDWATER SAMPLING
ASE JOB NO. 3540
at
Oakland Truck Stop
8255 San Leandro Street
Oakland, California

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

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1.0 INTRODUCTION

This report presents the methods and findings of Aqua Science Engineers, Inc. (ASE)'s soil and groundwater assessment at the Oakland Truck Stop located at 8255 San Leandro Street in Oakland, California (Figure 1). The proposed site assessment activities were initiated by Mr. Nissan Saidian, owner of the property, to meet the requirements of the Alameda County Health Care Services Agency (ACHCSA) outlined in their letter dated October 4, 1999 (Appendix A).

2.0 SCOPE OF WORK (SOW)

Based on the requirements of the ACHCSA outlined in their letter dated October 4, 1999, ASE's SOW was as follows:

1) Prepare a workplan and health and safety plan for the site.

2) Obtain a drilling permit from the Alameda County Public Works Agency (ACPWA).

3) Drill two (2) soil borings at the site.

4) Analyze one soil sample collected from each soil boring at a CAL-EPA certified environmental laboratory for total petroleum hydrocarbons as gasoline (TPH-G) by modified EPA Method 5030/8015M, total petroleum hydrocarbons as diesel (TPH-D) and motor oil (TPH-MO) by modified EPA Method 3510/8015M, benzene, toluene, ethylbenzene and total xylenes (collectively known as BTEX) by EPA Method 8020 and methyl tertiary butyl ether (MTBE) by EPA Method 8020.

5) Install 2-inch diameter groundwater monitoring wells in each boring described in task 3.

6) Develop each new monitoring well using surge block agitation and pump and/or bailer evacuation.

7) Collect groundwater samples from each of the six site monitoring wells for analyses.

8) Analyze the groundwater samples at a CAL-EPA certified analytical laboratory for TPH-G, TPH-D, TPH-MO, BTEX and MTBE. In addition, the groundwater sample collected from monitoring well MW-4 will

also be analyzed for dissolved lead by EPA Method 6010, and MTBE will be confirmed in the groundwater sample collected from monitoring well MW-3 by EPA Method 8260.

9) Survey the top of casing elevation of each well relative to the existing site wells, and determine the groundwater flow direction and gradient beneath the site.

10) Prepare a report detailing the methods and findings of this assessment.

Details of this assessment follow.

3.0 DRILLING SOIL BORINGS AND COLLECTING SAMPLES

3.1 Drilling and Collection of Soil Samples

Prior to drilling, ASE obtained an Alameda County Public Works Agency (ACPWA) drilling permit (Appendix B). ASE also notified Underground Service Alert (USA) to have underground public utilities in the vicinity of the site marked prior to drilling.

On December 1, 1999, Gregg Drilling of Martinez, California drilled soil borings MW-5 and MW-6 at the site using a Mobile B-61 drill rig equipped with 8-inch diameter hollow-stem augers (Figure 2). Groundwater monitoring wells MW-5 and MW-6 were subsequently constructed in these borings. The drilling was directed by ASE senior geologist Robert E. Kitay, R.G.

Undisturbed soil samples were collected at 5-foot intervals as drilling progressed for lithologic and hydrogeologic description and for possible chemical analyses. The samples were collected by driving a split-barrel drive sampler lined with 2-inch diameter brass tubes ahead of the auger tip with successive blows from a 140-lb. hammer dropped 30-inches. One tube from each sampling interval was immediately trimmed, sealed with Teflon tape, plastic end caps and duct tape, labeled, sealed in a plastic bag and stored on ice for transport to Chromalab, Inc. of Pleasanton, California (ELAP #1094) under chain of custody. Soil from the remaining tubes was described by an ASE geologist using the Unified Soil Classification System and was screened for volatile compounds with an Organic Vapor Meter (OVM). The soil was screened by emptying soil from one of the sample tubes into a plastic bag. The bag was then sealed and placed in the sun for approximately 10 minutes. After the

hydrocarbons were allowed to volatilize, the OVM measured the vapor in the bag through a small hole punched in the bag. OVM readings are used as a screening tool only, since the procedures are not as rigorous as those used in the laboratory.

Drilling equipment was steam-cleaned prior to use, and sampling equipment was washed with a TSP solution between sampling intervals to prevent cross-contamination. Steam cleaning rinsate and drill cuttings were contained in sealed and labeled 55-gallon steel drums and left on-site for temporary storage until off-site disposal can be arranged.

3.2 Site Specific Geology

Sediments encountered during drilling generally consisted of silty clay from beneath the asphalt/concrete surface to 12-feet below ground surface (bgs) and sandy silt from 12-feet bgs to the total depth explored of 15-feet bgs. Groundwater was encountered at approximately 6-feet bgs. The boring logs and well construction details are included as Appendix C.

4.0 ANALYTICAL RESULTS FOR SOIL

The soil samples collected from 6.0-feet bgs (the capillary zone) in each boring were analyzed by Chromalab, Inc. for TPH-G by modified EPA Method 5030/8015, TPH-D and TPH-MO by modified EPA Method 3510/8015 and BTEX and MTBE by EPA Method 8020. The analytical results are tabulated in Table One, and a copy of the certified analytical report and chain of custody form are included in Appendix D.

The soil sample collected from 6.0-feet bgs in boring MW-5 contained 17 parts per million (ppm) TPH-D. No TPH-G, TPH-MO, BTEX or MTBE were detected in this soil sample. The soil sample collected from 6.0-feet bgs in boring MW-6 contained 2.0 ppm TPH-G, 0.013 ppm total xylenes and 0.025 ppm MTBE. No TPH-D, TPH-MO, benzene, toluene or ethyl benzene were detected in this soil sample.

5.0 MONITORING WELL CONSTRUCTION, DEVELOPMENT AND SAMPLING

5.1 Monitoring Well Construction

Groundwater monitoring wells MW-5 and MW-6 were constructed in borings MW-5 and MW-6, respectively. The wells were constructed with

2-inch diameter, 0.020-inch slotted, flush-threaded, schedule 40 PVC well screen and blank casing. The wells are screened between 4-feet bgs and 14-feet bgs to monitor the first water bearing zone encountered. Lonestar #2/12 Monterey sand occupies the annular space between the borehole and the casing from the bottom of the boring to approximately 1-foot above the well screen. A 0.5-foot thick hydrated bentonite layer separates the sand from the overlying cement surface seal. The wellhead is secured with a locking wellplug beneath an at-grade, traffic-rated vault.

5.2 Monitoring Well Development

On December 3, 1999, ASE associated geologist Ian Reed developed monitoring wells MW-5 and MW-6 using multiple episodes of surge-block agitation and bailer and pump evacuation. Over ten well casing volumes of water were removed from each well during development, and evacuation continued until the water was relatively clear. Well development purge water was contained in sealed and labeled 55-gallon steel drums and left on-site for temporary storage until off-site disposal can be arranged. No free-floating hydrocarbons or sheen were present on the surface of groundwater during well development. However, hydrocarbon odors were present in the purge water from both of these wells.

5.3 Monitoring Well Sampling

On December 6, 1999, ASE associated geologist Ian Reed collected groundwater samples from monitoring wells MW-2, MW-3, MW-4, MW-5 and MW-6 for analysis. Monitoring well MW-1 contained 0.12-feet of free-floating hydrocarbons, and therefore, was not sampled. No free-floating hydrocarbons or sheen were present on the surface of groundwater in any other monitoring well. However, hydrocarbon odors were present in water purged from monitoring wells MW-3 and MW-6.

Prior to sampling, each well was purged of four well casing volumes of groundwater. The pH, temperature and conductivity of the purge water were monitored during evacuation, and samples were not collected until these parameters stabilized. Samples were collected from each well using dedicated polyethylene bailers. The groundwater samples to be analyzed for volatile compounds (TPH-G, BTEX and MTBE) were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials, preserved with hydrochloric acid, and capped without headspace. The samples to be analyzed for TPH-D, TPH-MO and lead were contained in 1-liter amber glass containers. All of the samples were labeled and chilled with ice for

transport to Chromalab, Inc. of Pleasanton, California under chain of custody. The laboratory was instructed to filter and preserve the sample to be analyzed for dissolved lead immediately upon receipt. Well sampling purge water was contained in sealed and labeled 55-gallon steel drums and left on-site for temporary storage until off-site disposal can be arranged. See Appendix E for a copy of the Field Logs.

6.0 GROUNDWATER ELEVATIONS

On December 6, 1999, ASE surveyed the top of casing elevation of monitoring wells MW-5 and MW-6 relative to the existing site monitoring wells. Depths to groundwater were measured in each site well prior to sampling on December 6, 1999 with an electric water level sounder. Top of casing elevations, depth to groundwater measurements and groundwater elevations are presented in Table Two, and groundwater elevation (potentiometric surface) contours are plotted on Figure 2.

On December 6, 1999, groundwater appeared to flow to the southwest beneath the site at a gradient of between approximately 0.017 and 0.067-feet/foot. This groundwater flow direction differs slightly from previous groundwater sampling events which showed a groundwater flow to the west. The current groundwater flow is more consistent with the distribution of hydrocarbons in the groundwater beneath the site.

7.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by Chromalab for TPH-G by modified EPA Method 5030/8015, TPH-D and TPH-MO by modified EPA Method 3510/8015, and BTEX and MTBE by EPA Method 8020. The analytical results are tabulated in Tables Three and Four, and copies of the certified analytical report and chain of custody form are included in Appendix F.

High hydrocarbon concentrations, including 40,000 parts per billion (ppb) TPH-G, 16,000 ppb benzene, 1,800 ppb ethyl benzene and 4,000 ppb MTBE, were detected in groundwater samples collected from monitoring well MW-3. These benzene, ethyl benzene and MTBE concentrations exceeded the California Department of Health Services (DHS) maximum contaminant levels (MCLs) for drinking water. Groundwater samples collected from monitoring well MW-6 contained 13,000 ppb TPH-G, although the BTEX and MTBE concentrations were relatively moderate for TPH-G concentrations this high. Only the benzene concentration in groundwater samples collected from this well exceeded

DHS MCLs for drinking water. Much lower hydrocarbon concentrations were detected in groundwater samples collected from the remaining wells, with only benzene concentrations in monitoring well MW-2 and MTBE concentrations in monitoring wells MW-4 and MW-5 exceeding DHS MCLs for drinking water.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The soil sample collected from 6.0-feet bgs in boring MW-5 contained 17 ppm TPH-D. No TPH-G, TPH-MO, BTEX or MTBE were detected in this soil sample. The soil sample collected from 6.0-feet bgs in boring MW-6 contained 2.0 ppm TPH-G, 0.013 ppm total xylenes and 0.025 ppm MTBE. No TPH-D, TPH-MO, benzene, toluene or ethyl benzene were detected in this soil sample. None of the concentrations detected in either of these borings exceeded United States Environmental Protection Agency (USEPA) preliminary remediation goals (PRGs) for residential soil.

Free-floating hydrocarbons are still present on the groundwater surface of monitoring well MW-1, although the thickness has decreased from last quarter. High hydrocarbon concentrations, including benzene, ethyl benzene and MTBE concentrations exceeding California Department of Health Services (DHS) maximum contaminant levels (MCLs) for drinking water, were detected in groundwater samples collected from monitoring well MW-2. Benzene concentrations in groundwater samples collected from monitoring wells MW-2 and MW-6 exceeded DHS MCLs for drinking water. The MTBE concentration in groundwater samples collected from monitoring wells MW-3, MW-4 and MW-5 also exceeded DHS MCLs for drinking water. MTBE was confirmed in monitoring well MW-3 by EPA Method 8260. Most of these concentrations are similar to previous results with no significant increases or decreases in hydrocarbon concentrations. No dissolved lead was detected in groundwater samples collected from monitoring well MW-4 this quarter.

On December 6, 1999, groundwater appeared to flow to the southwest beneath the site at a gradient of between approximately 0.017 and 0.067-feet/foot. This groundwater flow direction differs slightly from previous groundwater sampling events which showed a groundwater flow to the west. The current groundwater flow is more consistent with the distribution of hydrocarbons in the groundwater beneath the site.

The downgradient extent of hydrocarbons south of monitoring well MW-3 has still not been defined. Another groundwater monitoring well will likely be required to further define the downgradient extent of

contamination. A limited access drill rig will be required for any further drilling south of monitoring well MW-3 due to overhead electrical lines.

ASE recommends continued quarterly groundwater monitoring at the site with no change in analyses for the next sampling period.

9.0 REPORT LIMITATIONS

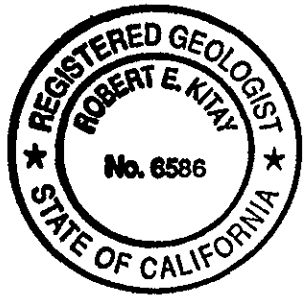
The results of this assessment represent conditions at the time of the soil and groundwater sampling, at the specific locations where the samples were collected, and for the specific parameters analyzed by the laboratory.

It does not fully characterize the site for contamination resulting from unknown sources, or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CAL-EPA certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

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

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

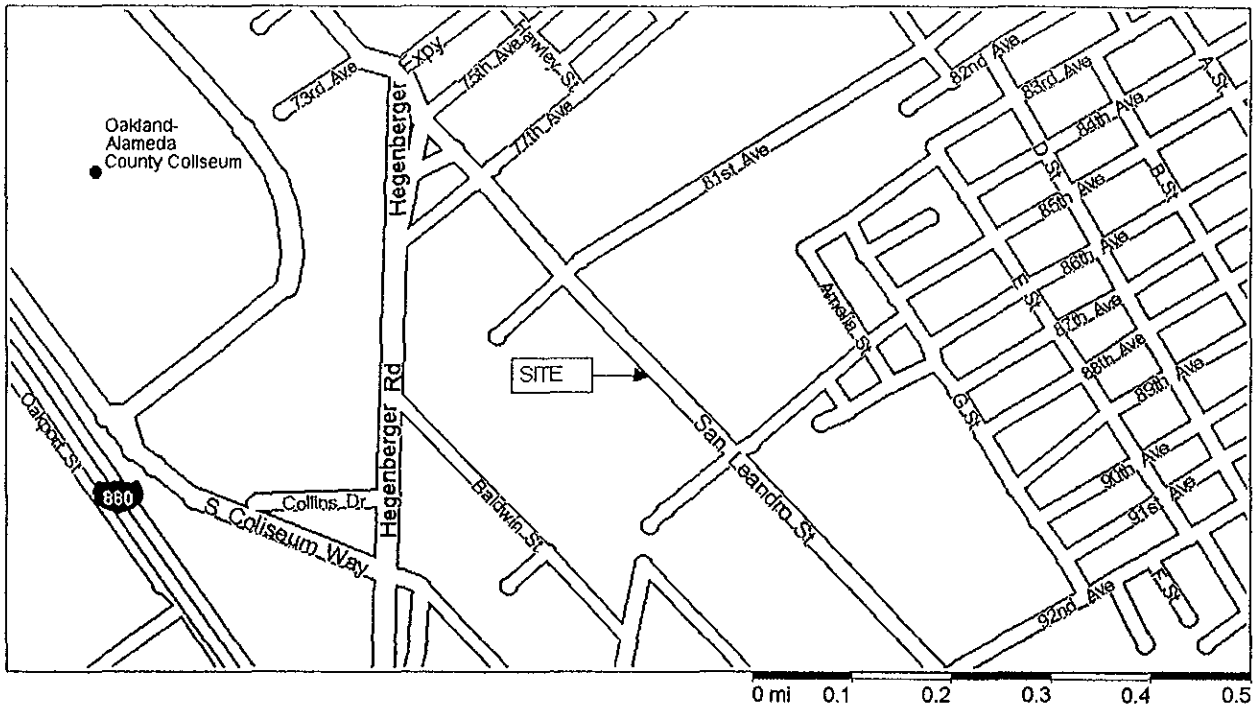


Robert E. Kitay, R.G., R.E.A.
Senior Geologist

Attachments: Figures 1 through 2
Appendices A through E

FIGURES

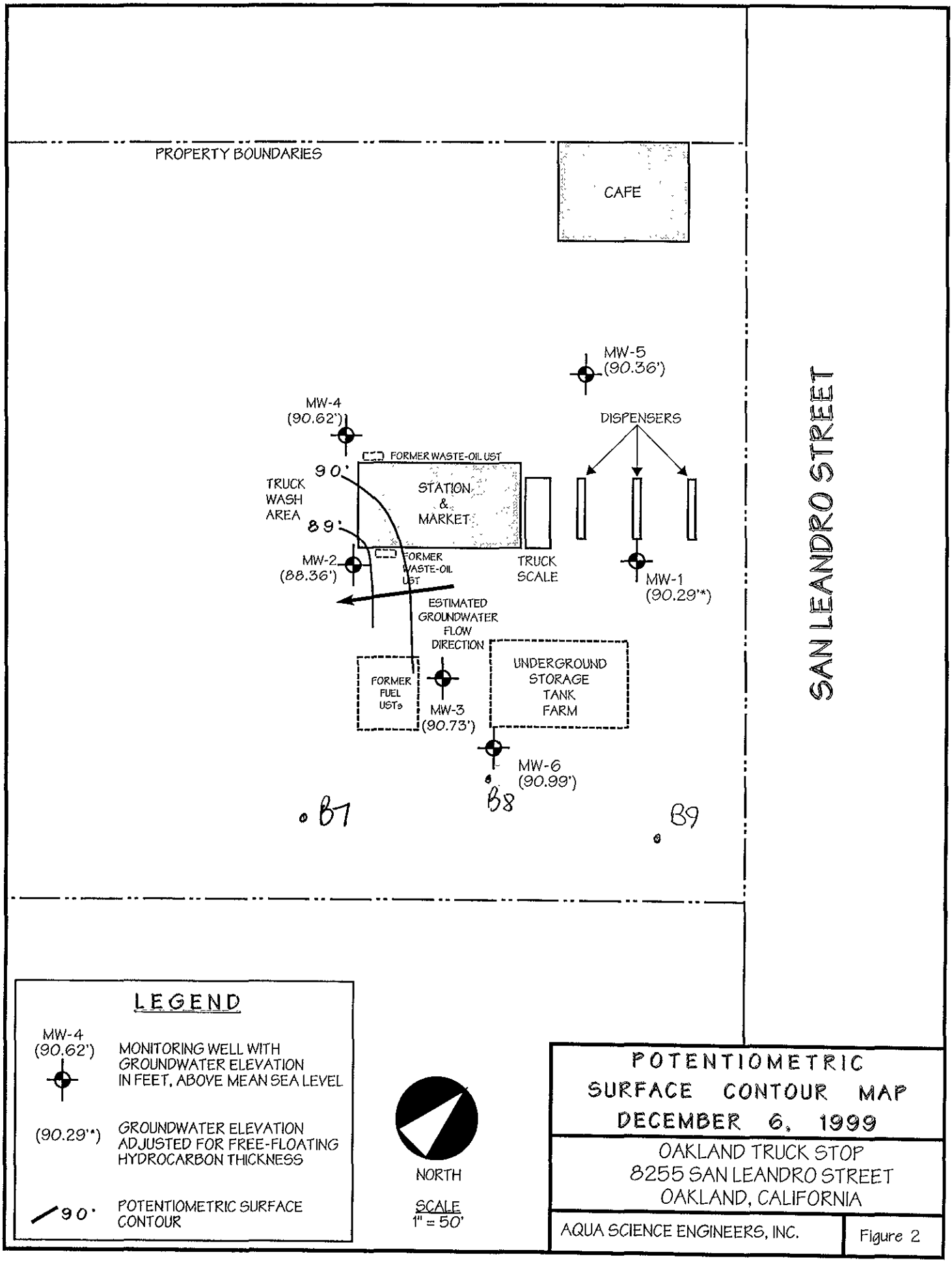
NORTH



LOCATION MAP

OAKLAND TRUCK STOP
8255 SAN LEANDRO STREET
OAKLAND, CALIFORNIA

AQUA SCIENCE ENGINEERS, INC. | Figure 1


PROPERTY BOUNDARIES
CAFE
SAN LEANDRO STREET
MW-5
(90.36')
MW-4
(90.62')
DISPENSERS
FORMER WASTE-OIL UST
90'
TRUCK
WASH
AREA
STATION
&
MARKET
89'
MW-2
(88.36')
FORMER
WASTE-OIL
UST
TRUCK
SCALE
MW-1
(90.29'*)
ESTIMATED
GROUNDWATER
FLOW
DIRECTION
FORMER
FUEL
USTs
MW-3
(90.73')
UNDERGROUND
STORAGE
TANK
FARM
MW-6
(90.99')
B7
B8
B9
LEGEND
MW-4
(90.62')
MONITORING WELL WITH
GROUNDWATER ELEVATION
IN FEET, ABOVE MEAN SEA LEVEL
(90.29'*)
GROUNDWATER ELEVATION
ADJUSTED FOR FREE-FLOATING
HYDROCARBON THICKNESS
90'
POTENTIOMETRIC SURFACE
CONTOUR
NORTH
SCALE
1" = 50'
POTENTIOMETRIC
SURFACE CONTOUR MAP
DECEMBER 6, 1999
OAKLAND TRUCK STOP
8255 SAN LEANDRO STREET
OAKLAND, CALIFORNIA
AQUA SCIENCE ENGINEERS, INC.
Figure 2

TABLES

TABLE ONE
Summary of Analysis of **SOIL** Samples
Petroleum Hydrocarbons
All results are in **parts per million**

Boring	TPH Gasoline	TPH Diesel	TPH Motor Oil	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
MW-5 6.0'	< 1.0	**17***	< 50	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
MW-6 6.0'	**2.0****	< 1.0	< 50	< 0.0050	< 0.0050	< 0.0050	**0.013**	**0.025**
PRG	NE	NE	NE	0.62	520	230	210	NE

Notes:

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

Detectable concentrations are in **bold**.

PRG is the United States Environmental Protection Agency preliminary remediation goal for residential soil.

NE = No PRG is established.

* = Non-typical diesel pattern.
** = Non-typical gasoline pattern.

TABLE TWO

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	> 1.00	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*
MW-2				
8-16-99	96.82	6.30	--	90.52
12-6-99		8.46	--	88.36
MW-3				
8-16-99	96.43	5.85	--	90.58
12-6-99		5.70	--	90.73
MW-4				
8-16-99	96.60	6.12	--	90.48
12-6-99		5.98	--	90.62
MW-5				
12-6-99	96.30	5.94	--	90.36
MW-6				
12-6-99	96.79	5.80	--	90.99

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 THREE

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

Boring	TPH Gasoline	TPH Diesel	TPH Motor Oil	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
MW-1								
8-16-99	Not Sampled Due to Free-Floating Hydrocarbons							
12-6-99	Not Sampled Due to Free-Floating Hydrocarbons							
MW-2								
8-16-99	**2,200**	**970***	< 500	**3.8**	< 2.0	**3.0**	< 4.0	< 20
12-6-99	**1,900**	**400***	< 500	**16**	< 0.5	**1.5**	< 0.5	**5.2**
MW-3								
8-16-99	**56,000**	**10,000****	< 500	**17,000**	**2,600**	**2,600**	**1,200**	**6,100**
12-6-99	**40,000**	**9,100***	< 500	**16,000**	**140**	**1,800**	**100**	**2,200/ 4,000#**
MW-4								
8-16-99	**61*****	**1,100***	< 500	< 0.5	< 0.5	< 0.5	< 1.0	**86**
12-6-99	**130*****	**220***	< 500	< 1.0	< 1.0	< 1.0	< 1.0	**130**
MW-5								
12-6-99	**450*****	**2,000***	< 500	< 1.0	< 1.0	< 1.0	< 1.0	**21**
MW-6								
12-6-99	**13,000**	< 50	< 500	**180**	**21**	**11**	**24**	< 100
DHS MCL	NE	NE	NE	1.0	150	700	1,750	13

Notes:

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

Detectable 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.

* = 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 FOUR

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

Boring	Isoproyl-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**
12-6-99	---	---	---	---	---	---	< 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

APPENDIX A

ACHCSA Letter

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

October 4, 1999
StID # 559

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

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

Re: Oakland Truck Stop, 8255 San Leandro St., Oakland CA 94621

Dear Mr. Saidian:

Our office has received and reviewed the September 22, 1999 Quarterly Groundwater Monitoring Report for the above site as prepared by Aqua Science Engineers Inc. (ASE). As you are aware, groundwater sampling and analysis was performed on wells MW-2, MW-3 and MW-4. Free product, encountered in MW-1, was bailed on several occasions in an attempt to remove the product. Based upon the sampling results and those of the prior soil and groundwater investigation, ASE has made a number of recommendations. Our office has the following comments to the ASE recommendations:

- ASE recommends the removal of free product from MW-1 every two weeks until no further free product is observed for a one- month period. This is acceptable. You should be aware that the initial free product removals were approved by our office prior to being done.
- Additional subsurface investigation is recommended in the area south of boring B-8. Our office agrees with this in addition to requesting additional investigation north of MW-1 and the dispensers. It appears that two additional monitoring wells would be required.
- ASE recommends and our office approves running only lead in the water sample from MW-4.
- ASE recommends running BTEX and MTBE by EPA Method 8020 as a cost savings measure. Prior to doing this, you must confirm the presence of MTBE in that well exhibiting the highest concentration via EPA Method 8020 ie MW-3.
- ASE recommends and our office concurs continuing quarterly monitoring at this site.

Please provide a work plan for this additional investigation along with your next groundwater monitoring report.

You may contact me at (510) 567-6765 if you have any questions

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files
Mr. R. Kitay, ASE, 208 W. El Pintado, Danville, CA 94526
Mon8255SLSt

APPENDIX B

Drilling Permit

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Oakland Truck Stop
8255 San Leandro Street
Oakland, CA

California Coordinates Source ____ ft. Accuracy ± ____ ft.
CCN ____ CCE ____
APN ____

CLIENT
Name Nissan Saidian
Address 5733 Medallion Ct Phone ____
City Castro Valley, CA Zip 94552

APPLICANT
Name Aqua Science Engineers Fax (925) 837-4853
Attn: Robert Ritzy Phone (925) 820-9391
Address 208 East El Pintado
City Danville, CA Zip 94526

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring	☒	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other ____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☒
Cable	☐	Other	☐		

DRILLER'S LICENSE NO C-57 485165

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 4 in. Depth 25 ft.
Surface Seal Depth 4 ft. Number 2

GEOTECHNICAL PROJECTS
Number of Borings ____ Maximum
Hole Diameter ____ in. Depth ____ ft.

ESTIMATED STARTING DATE 11-30-99
ESTIMATED COMPLETION DATE 11-30-99

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Robert C. Ritzy DATE 11-29-99

FOR OFFICE USE
PERMIT NUMBER 99WR681
WELL NUMBER ____
APN ____

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
(1.) A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
(2.) Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

(C.) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC
Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
See attached.

G. SPECIAL CONDITIONS

APPROVED Stanley R. Cadel DATE 11-29-99

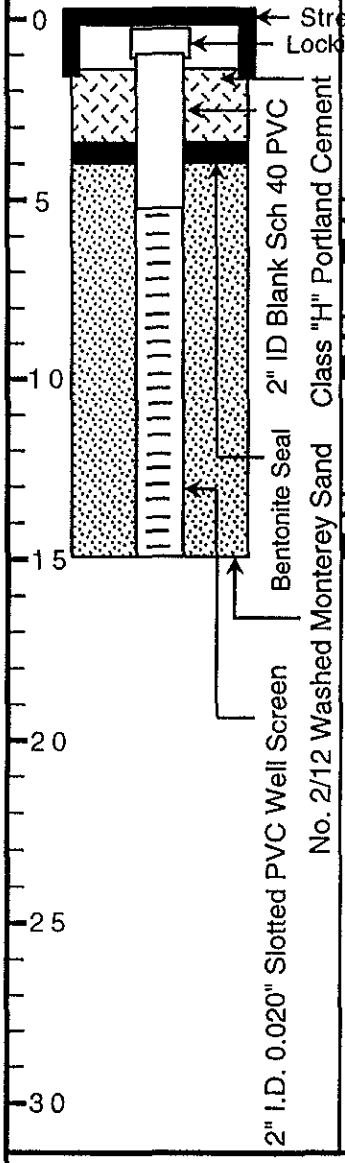
APPENDIX C

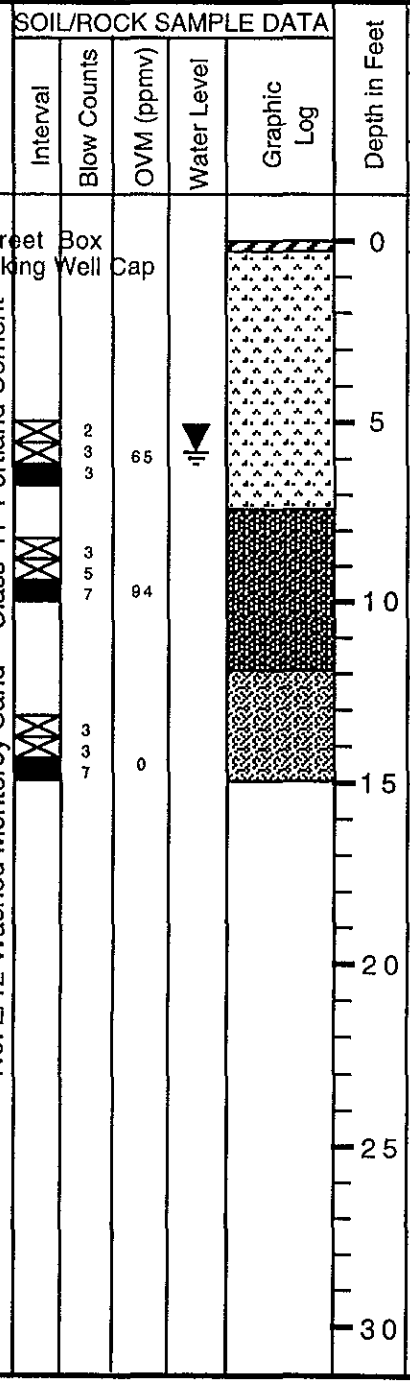
Boring Logs and Well Construction Details

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		Well MW-5
Project Name: Oakland Truck Stop	Project Location: 8225 San Leandro Street, Oakland, CA	Page 1 of 1
Driller: Gregg Drilling	Type of Rig: Hollow-Stem Auger	Size of Drill: 8.0" Diameter
Logged By: Robert E. Kitay, R.G.	Date Drilled: December 1, 1999	Checked By: Robert E. Kitay, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 5.8'	Total Depth of Well Completed: 15'
Static Depth of Water in Boring: 5.94'	Well Screen Type and Diameter: 2" Diameter PVC Casing
Total Depth of Boring: 15'	Well Screen Slot Size: 0.020"
	Type and Size of Soil Sampler: 2.0" I.D. Split-Barrel Sampler





DESCRIPTION OF LITHOLOGY

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

Concrete

Gravelly SAND (SW); olive brown; medium dense; damp; 50% fine to course sand; 30% subangular to subrounded gravel to 2" diameter; 20% silt; non-plastic; medium estimated K; moderate plasticity; no odor
slight hydrocarbon odor at 5'
wet at 5.8'

Silty CLAY (CH); black; medium stiff; wet; 70% clay; 30% silt; high plasticity; very low estimated K; slight hydrocarbon odor

Silty SAND/Sandy SILT (SP/ML); brown; medium dense/stiff; wet; 40-60% fine sand; 40-60% silt; non-plastic; low estimated K; no odor

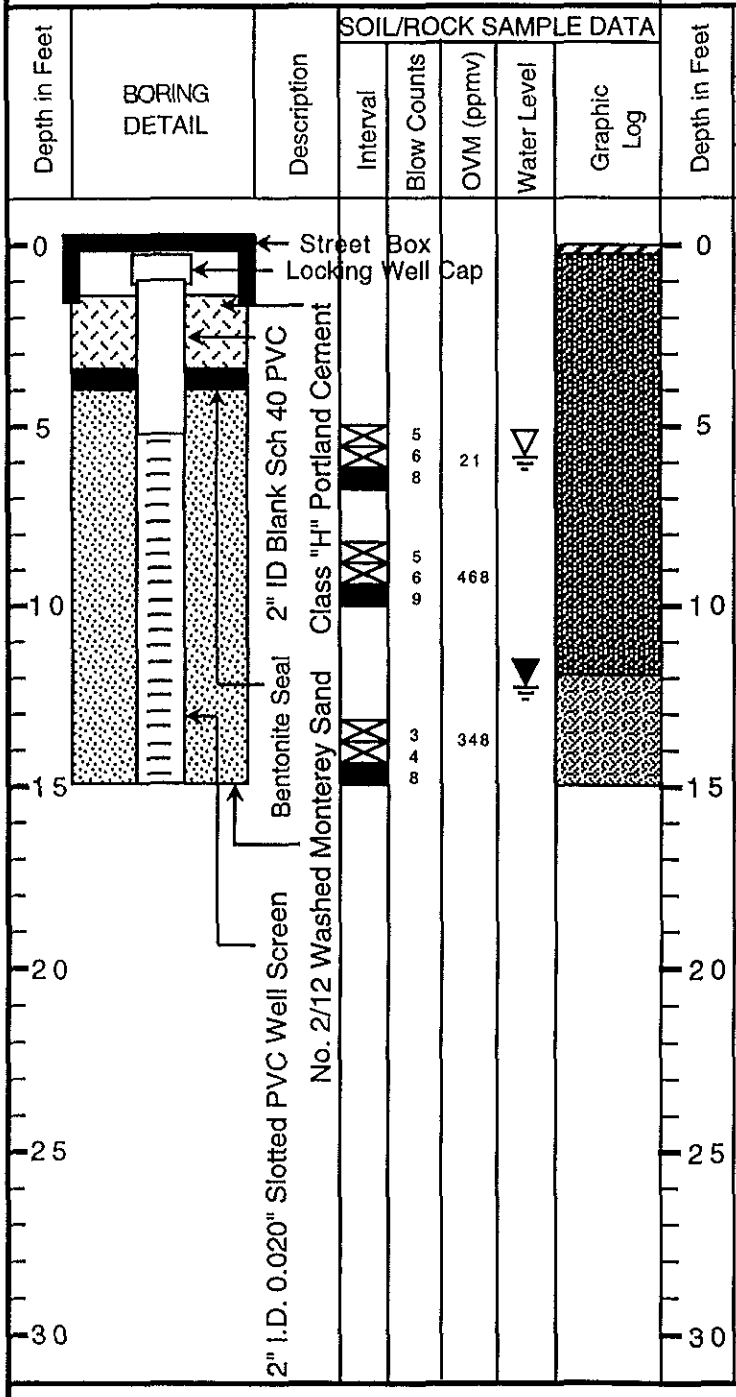
Bottom of boring at 15'

AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL COMPLETION DETAILS		Well MW-6
Project Name: Oakland Truck Stop	Project Location: 8225 San Leandro Street, Oakland, CA	Page 1 of 1
Driller: Gregg Drilling	Type of Rig: Hollow-Stem Auger	Size of Drill: 8.0" Diameter
Logged By: Robert E. Kitay, R.G.	Date Drilled: December 1, 1999	Checked By: Robert E. Kitay, R.G.

WATER AND WELL DATA

Depth of Water First Encountered: 12.3'	Total Depth of Well Completed: 15'
Static Depth of Water in Boring: 5.80'	Well Screen Type and Diameter: 2" Diameter PVC Casing
Total Depth of Boring: 15'	Well Screen Slot Size: 0.020"
	Type and Size of Soil Sampler: 2.0" I.D. Split-Barrel Sampler



Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	Asphaltic Concrete
	Silty CLAY (CH); black; medium stiff; damp; 80% clay; 20% silt; high plasticity; very low estimated K; no odor
5	slight hydrocarbon odor at 4'
10	moderate hydrocarbon odor at 9'
	Sandy SILT (ML); olive brown; medium stiff; wet; 60% silt; 40% fine sand; non-plastic; low estimated K; strong hydrocarbon odor
15	Bottom of boring at 15'
20	
25	
30	

AQUA SCIENCE ENGINEERS, INC.

APPENDIX D

Analytical Report and Chain of Custody Form
For Soil Samples

Aqua Science Engineers, Inc.
208 West El Pintado Road
Danville, CA 94526

Attn.: Mr. Robert Kitay

Project: 3540
Oakland Truck Stop

Dear Mr. Kitay,

Attached is our report for your samples received on Thursday December 2, 1999
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after January 1, 2000 unless you have requested otherwise. We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919

Sincerely,

Vincent Vancil

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-12-0037

Gas/BTEX and MTBE

Aqua Science Engineers, Inc.

208 West El Pintado Road
Danville, CA 94526

Attn: Robert Kitay

Phone: (925) 820-9310 Fax: (925) 837-4853

Project #: 3540

Project: Oakland Truck Stop

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-5 6.0`	Soil	12/01/1999 10:30	1
MW-6 6.0`	Soil	12/01/1999 13:10	2

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-12-0037

To: **Aqua Science Engineers, Inc.**

Attn.: Robert Kitay

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**MW-5 6.0`**	Lab Sample ID:	**1999-12-0037-001**
Project:	3540 Oakland Truck Stop	Received:	12/02/1999 16:33
		Extracted:	12/06/1999 12:03
Sampled:	12/01/1999 10:30	QC-Batch:	1999/12/06-01.04
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	12/06/1999 12:03	
Benzene	ND	0.0050	mg/Kg	1.00	12/06/1999 12:03	
Toluene	ND	0.0050	mg/Kg	1.00	12/06/1999 12:03	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	12/06/1999 12:03	
Xylene(s)	ND	0.0050	mg/Kg	1.00	12/06/1999 12:03	
MTBE	ND	0.0050	mg/Kg	1.00	12/06/1999 12:03	
Surrogate(s)						
Trifluorotoluene	61.0	53-125	%	1.00	12/06/1999 12:03	
4-Bromofluorobenzene-FID	59.1	58-124	%	1.00	12/06/1999 12:03	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-12-0037

To: **Aqua Science Engineers, Inc.**

Attn.: Robert Kitay

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**MW-6 6.0`**	Lab Sample ID:	**1999-12-0037-002**
Project:	3540 Oakland Truck Stop	Received:	12/02/1999 16:33
		Extracted:	12/04/1999 19:12
Sampled:	12/01/1999 13:10	QC-Batch:	1999/12/04-01.01
Matrix:	Soil		

Sample/Analysis Flag: *S* (See Legend & Note section)

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	2.0	1.0	mg/Kg	1.00	12/04/1999 19:12	g
Benzene	ND	0.0050	mg/Kg	1.00	12/04/1999 19:12	
Toluene	ND	0.0050	mg/Kg	1.00	12/04/1999 19:12	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	12/04/1999 19:12	
Xylene(s)	0.013	0.0050	mg/Kg	1.00	12/04/1999 19:12	
MTBE	0.025	0.0050	mg/Kg	1.00	12/04/1999 19:12	
Surrogate(s)						
4-Bromofluorobenzene	67.1	58-124	%	1.00	12/04/1999 19:12	
Trifluorotoluene-FID	131.9	53-125	%	1.00	12/04/1999 19:12	sh

1220 Quarry Lane * Pleasanton, CA 94566-4756
Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

To: **Aqua Science Engineers, Inc.**

Attn.: Robert Kitay

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Method Blank	**Soil**	**QC Batch # 1999/12/04-01.01**
MB: 1999/12/04-01.01-001		Date Extracted: 12/04/1999 06:30

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	12/04/1999 06:30	
Benzene	ND	0.0050	mg/Kg	12/04/1999 06:30	
Toluene	ND	0.0050	mg/Kg	12/04/1999 06:30	
Ethyl benzene	ND	0.0050	mg/Kg	12/04/1999 06:30	
Xylene(s)	ND	0.0050	mg/Kg	12/04/1999 06:30	
MTBE	ND	0.0050	mg/Kg	12/04/1999 06:30	
Surrogate(s)					
Trifluorotoluene	107.0	53-125	%	12/04/1999 06:30	
4-Bromofluorobenzene-FID	73.8	58-124	%	12/04/1999 06:30	

To: **Aqua Science Engineers, Inc.**

Attn.: Robert Kitay

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Method Blank | **Soil** | **QC Batch # 1999/12/06-01.04**

MB: 1999/12/06-01.04-001

Date Extracted: 12/06/1999 05:56

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	12/06/1999 05:56	
Benzene	ND	0.0050	mg/Kg	12/06/1999 05:56	
Toluene	ND	0.0050	mg/Kg	12/06/1999 05:56	
Ethyl benzene	ND	0.0050	mg/Kg	12/06/1999 05:56	
Xylene(s)	ND	0.0050	mg/Kg	12/06/1999 05:56	
MTBE	ND	0.0050	mg/Kg	12/06/1999 05:56	
Surrogate(s)					
Trifluorotoluene	68.2	53-125	%	12/06/1999 05:56	
4-Bromofluorobenzene-FID	79.0	58-124	%	12/06/1999 05:56	

To: **Aqua Science Engineers, Inc.**

Test Method: 8020
8015M

Attn: Robert Kitay

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD) **Soil** **QC Batch # 1999/12/04-01.01**

LCS: 1999/12/04-01.01-002 Extracted: 12/04/1999 06:58 Analyzed: 12/04/1999 06:58

LCSD: 1999/12/04-01.01-003 Extracted: 12/04/1999 07:26 Analyzed: 12/04/1999 07:26

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	0.500	0.398	0.500	0.500	100.0	79.6	22.7	75-125	35		
Benzene	0.110	0.113	0.1000	0.1000	110.0	113.0	2.7	77-123	35		
Toluene	0.113	0.116	0.1000	0.1000	113.0	116.0	2.6	78-122	35		
Ethyl benzene	0.113	0.115	0.1000	0.1000	113.0	115.0	1.8	70-130	35		
Xylene(s)	0.338	0.349	0.300	0.300	112.7	116.3	3.1	75-125	35		
Surrogate(s)											
Trifluorotoluene	548	553	500	500	109.6	110.6		53-125			
4-Bromofluorobenzene-FI	383	308	500	500	76.6	61.6		58-124			

To: **Aqua Science Engineers, Inc.**

Attn: Robert Kitay

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD) **Soil** **QC Batch # 1999/12/06-01.04**

LCS: 1999/12/06-01.04-002 Extracted: 12/06/1999 06:24 Analyzed: 12/06/1999 06:24

LCSD: 1999/12/06-01.04-003 Extracted: 12/06/1999 06:52 Analyzed: 12/06/1999 06:52

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	0.505	0.479	0.500	0.500	101.0	95.8	5.3	75-125	35		
Benzene	0.0900	0.0895	0.1000	0.1000	90.0	89.5	0.6	77-123	35		
Toluene	0.0912	0.0902	0.1000	0.1000	91.2	90.2	1.1	78-122	35		
Ethyl benzene	0.0918	0.0914	0.1000	0.1000	91.8	91.4	0.4	70-130	35		
Xylene(s)	0.267	0.268	0.300	0.300	89.0	89.3	0.3	75-125	35		
Surrogate(s)											
Trifluorotoluene	347	347	500	500	69.4	69.4		53-125			
4-Bromofluorobenzene-FI	424	403	500	500	84.8	80.6		58-124			

To: **Aqua Science Engineers, Inc.**

Attn:Robert Kitay

Test Method: 8015M
8020

Prep Method: 5030

Legend & Notes

Gas/BTEX and MTBE

Analyte Flags

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

sh

Surrogate recoveries were higher than QC limits due to matrix interference.

Total Extractable Petroleum Hydrocarbons (TEPH)

Aqua Science Engineers, Inc.

208 West El Pintado Road
Danville, CA 94526

Attn: Robert Kitay

Phone: (925) 820-9310 Fax: (925) 837-4853

Project #: 3540

Project: Oakland Truck Stop

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-5 6.0`	Soil	12/01/1999 10:30	1
MW-6 6.0`	Soil	12/01/1999 13:10	2

To: **Aqua Science Engineers, Inc.**
Attn.: Robert Kitay

Test Method: 8015M
Prep Method: 3550/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**MW-5 6.0`**	Lab Sample ID:	**1999-12-0037-001**
Project:	3540 Oakland Truck Stop	Received:	12/02/1999 16:33
		Extracted:	12/07/1999 08:00
Sampled:	12/01/1999 10:30	QC-Batch:	1999/12/07-01.10
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	17	1.0	mg/Kg	1.00	12/08/1999 19:26	ndp
Motor Oil	ND	50	mg/Kg	1.00	12/08/1999 19:26	
Surrogate(s)						
o-Terphenyl	91.3	60-130	%	1.00	12/08/1999 19:26	

To: **Aqua Science Engineers, Inc.**
Attn.: Robert Kitay

Test Method: 8015M
Prep Method: 3550/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**MW-6 6.0`**	Lab Sample ID:	**1999-12-0037-002**
Project:	3540 Oakland Truck Stop	Received:	12/02/1999 16:33
		Extracted:	12/07/1999 08:00
Sampled:	12/01/1999 13:10	QC-Batch:	1999/12/07-01.10
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	ND	1.0	mg/Kg	1.00	12/08/1999 18:49	
Motor Oil	ND	50	mg/Kg	1.00	12/08/1999 18:49	
Surrogate(s)						
o-Terphenyl	78.1	60-130	%	1.00	12/08/1999 18:49	

To: **Aqua Science Engineers, Inc.**
Attn.: Robert Kitay

Test Method: 8015M
Prep Method: 3550/8015M

Batch QC Report

Total Extractable Petroleum Hydrocarbons (TEPH)

Method Blank | **Soil** | **QC Batch # 1999/12/07-01.10**

MB: 1999/12/07-01.10-001

Date Extracted: 12/07/1999 08:00

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Diesel	ND	1	mg/Kg	12/08/1999 15:08	
Motor Oil	ND	50	mg/Kg	12/08/1999 15:08	
Surrogate(s)					
o-Terphenyl	93.5	60-130	%	12/08/1999 15:08	

To: **Aqua Science Engineers, Inc.**
Attn: Robert Kitay

Test Method: 8015M
Prep Method: 3550/8015M

Batch QC Report

Total Extractable Petroleum Hydrocarbons (TEPH)

Laboratory Control Spike (LCS/LCSD) **Soil** **QC Batch # 1999/12/07-01.10**

LCS: 1999/12/07-01.10-002 Extracted: 12/07/1999 08:00 Analyzed: 12/08/1999 06:24
LCSD: 1999/12/07-01.10-003 Extracted: 12/07/1999 08:00 Analyzed: 12/08/1999 07:01

Compound	Conc. [mg/Kg]		Exp.Conc. [mg/Kg]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Diesel	34.0	36.0	41.7	41.7	81.5	86.3	5.7	60-130	25		
Surrogate(s)											
o-Terphenyl	18.6	18.6	20.0	20.0	93.0	93.0		60-130			

To: **Aqua Science Engineers, Inc.**
Attn:Robert Kitay

Test Method: 8015M
Prep Method: 3550/8015M

Legend & Notes

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte Flags

ndp

Hydrocarbon reported does not match the pattern of our Diesel standard

99120037 49331

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

Chain of Custody

SAMPLER (SIGNATURE): [signature] (PHONE NO.) (925)820-9391

PROJECT NAME: Oakland Truck Stop JOB NO. 3540
ADDRESS: 8255 San Leandro Street, Oakland, CA DATE 12-1-99

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GAS / MTBE & BTEX (EPA 5030/8015-8020)	TPH-GASOLINE (EPA 5030/8015)	TPH-DIESEL + Motor oil (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)				COMPOSITE
MW-5 6.0'	12/1/99	10:30	Soil	1	X		X															
MW-6 6.0'	↓	13:10	↓	↓	X		X															
MW-6 9.5'	↓	13:20	↓	↓	HOLD as per Robert K. 12/2/99																	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
[signature] (signature) 13:11 (time)	[signature] (signature) 13:20 (time)	[signature] (signature) 14:00 (time)	[signature] (signature) 14:00 (time)	5 DAY T.A.T.
Robert E. Kitay (printed name) 12-2-99 (date)	R. Mouette (printed name) 12/2 (date)	P. Nouette (printed name) 12/2 (date)	GRISELDA (printed name) 12 02 (date)	
Company- ASE	Company- CHROMALAB	Company- C/L	Company- CL	

APPENDIX E

Well Sampling Field Logs

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Oakland Truck Stop
Job #: _____ Date of sampling: 12-6-99
Well Name: MW-1 Sampled by: ITR
Total depth of well (feet): _____ Well diameter (inches): 2"
Depth to water before sampling (feet): 6.93
Thickness of floating product if any: 0.12
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: _____

Free Product

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity

SAMPLES COLLECTED

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

2411 Old Crow Canyon Road #4, San Ramon, CA 94583 • 510-820-9391 • Fax 510-837-4853

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Oakland Truck
Job #: ______
Date of sampling: 12.6.99
Well Name: MW-2
Sampled by: 1325
Total depth of well (feet): 15.50
Well diameter (inches): 2"
Depth to water before sampling (feet): 8.46
Thickness of floating product if any: -
Depth of well casing in water (feet): 7.04
Number of gallons per well casing volume (gallons): 1.2
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 4.8
Equipment used to purge the well: dedicated bailer
Time Evacuation Began: 1330
Time Evacuation Finished: 1340
Approximate volume of groundwater purged: 5.0
Did the well go dry?: No
After how many gallons: -
Time samples were collected: 1345
Depth to water at time of sampling: 8.59
Percent recovery at time of sampling: 98%
Samples collected with: dedicated bailer
Sample color: clear gray
Odor: none
Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	72.1	[illegible]	[illegible]
2	71.0	[illegible]	[illegible]
3	71.0	[illegible]	[illegible]
4	72.5	[illegible]	[illegible]

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-2	3	40 ml VOA	✓	✓	
MW-2	2	1 liter Amber		✓	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Gas and Truck Stop
Job #: ______ Date of sampling: ______
Well Name: MW-3 Sampled by: JTR
Total depth of well (feet): 15.5 Well diameter (inches): 2"
Depth to water before sampling (feet): 5.70
Thickness of floating product if any: -
Depth of well casing in water (feet): 9.8
Number of gallons per well casing volume (gallons): 1.7
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 6.8
Equipment used to purge the well: dedicated bailer
Time Evacuation Began: 1240 Time Evacuation Finished: 1250
Approximate volume of groundwater purged: 7.0
Did the well go dry?: No After how many gallons: -
Time samples were collected: 1255
Depth to water at time of sampling: 5.74
Percent recovery at time of sampling: 99%
Samples collected with: dedicated bailer
Sample color: [illegible] Odor: HC odor
Description of sediment in sample: silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	77.7	5.3[illegible]	613
2	72.9	5.[illegible]	69[illegible]
3	7[illegible]	5.3[illegible]	71[illegible]
4	[illegible]	5.[illegible]	77[illegible]

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-3	4	40ml VOA	✓	✓	
MW-3	2	1-liter Amber		✓	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Oakland Truck Stop
Job #: _____ Date of sampling: 12-6-99
Well Name: MW-4 Sampled by: ITK
Total depth of well (feet): 15.0' Well diameter (inches): 2"
Depth to water before sampling (feet): 5.98
Thickness of floating product if any: _____
Depth of well casing in water (feet): 9.02
Number of gallons per well casing volume (gallons): 1.5
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 6
Equipment used to purge the well: dedicated bailer
Time Evacuation Began: 1400 Time Evacuation Finished: 1410
Approximate volume of groundwater purged: 6
Did the well go dry?: NO After how many gallons: _____
Time samples were collected: 1415
Depth to water at time of sampling: 5.99'
Percent recovery at time of sampling: 49 %
Samples collected with: dedicated bailer
Sample color: _____ Odor: _____
Description of sediment in sample: _____

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	72.3	7.61	561
2	71.9	7.08	611
3	72.0	7.12	608
4	71.9	7.91	714

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-4	3	40ml VOA	✓	✓	
MW-4	2	1 liter Amb.		✓	
MW-4	2	250ml plastic		✓	

2411 Old Crow Canyon Road #4, San Ramon, CA 94583 • 510-820-9391 • Fax 510-837-4853

MW-3 - 1 VOA
MW-4 - 2 plastic

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Oakland Truck Stop
Job #: _____ Date of sampling: 12-6-99
Well Name: MW-5 Sampled by: ITR
Total depth of well (feet): 13.7 Well diameter (inches): 2
Depth to water before sampling (feet): 5.94
Thickness of floating product if any: -
Depth of well casing in water (feet): 7.76
Number of gallons per well casing volume (gallons): 1.2
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 5.2
Equipment used to purge the well: [illegible]
Time Evacuation Began: 1125 Time Evacuation Finished: 1135
Approximate volume of groundwater purged: 5.7
Did the well go dry?: No After how many gallons: -
Time samples were collected: 1140
Depth to water at time of sampling: 5.92
Percent recovery at time of sampling: 99%
Samples collected with: Dedicated bailer
Sample color: Clear Odor: None
Description of sediment in sample: [illegible]

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
5			
4			

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
	3	40 ml VOA			
		1 liter Amber		✓	

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Project Name and Address: Oak [illegible]
Job #: _____ Date of sampling: _____
Well Name: MW-6 Sampled by: _____
Total depth of well (feet): 14.5' Well diameter (inches): 2
Depth to water before sampling (feet): 5.5'
Thickness of floating product if any: _____
Depth of well casing in water (feet): 5.2
Number of gallons per well casing volume (gallons): 1.4
Number of well casing volumes to be removed: 4
Req'd volume of groundwater to be purged before sampling (gallons): 5.6
Equipment used to purge the well: [illegible]
Time Evacuation Began: 1210 Time Evacuation Finished: 1220
Approximate volume of groundwater purged: [illegible]
Did the well go dry?: No After how many gallons: _____
Time samples were collected: 1225
Depth to water at time of sampling: 5.87
Percent recovery at time of sampling: [illegible]
Samples collected with: [illegible]
Sample color: [illegible] Odor: [illegible]
Description of sediment in sample: [illegible]

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	71	[illegible]	[illegible]
2	97	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	Iced?	Analysis
MW-6	3	40 ml VOA	✓	✓	[illegible]
MW-6	2	1-liter Amb.		✓	[illegible]

APPENDIX F

Analytical Report and Chain of Custody Form
For Groundwater Samples

Aqua Science Engineers, Inc.
208 West El Pintado Road
Danville, CA 94526

Attn.: Mr. Ian T. Reed

Project: Oakland Truck Stop (OTS)

Dear Mr. Reed,

Attached is our report for your samples received on Monday December 6, 1999
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after January 5, 2000 unless you have requested otherwise. We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919

Sincerely,

Vincent Vancil

MTBE - Volatile Organics by GC/MS

Aqua Science Engineers, Inc.

208 West El Pintado Road
Danville, CA 94526

Attn: Ian T. Reed

Phone: (925) 820-9391 Fax: (925) 837-4853

Project #:

Project: Oakland Truck Stop (OTS)

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-3	Water	12/06/1999 12:55	2

To: **Aqua Science Engineers, Inc.**
Attn.: Ian T. Reed

Test Method: 8260A
Prep Method: 5030

MTBE - Volatile Organics by GC/MS

Sample ID:	**MW-3**	Lab Sample ID:	**1999-12-0102-002**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/10/1999 13:46
Sampled:	12/06/1999 12:55	QC-Batch:	1999/12/10-01.06
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
MTBE	4000	500	ug/L	100.00	12/10/1999 13:46	
Surrogate(s)						
1,2-Dichloroethane-d4	104.9	76-114	%	1.00	12/10/1999 13:46	

To: **Aqua Science Engineers, Inc.**
Attn.: Ian T. Reed

Test Method: 8260A
Prep Method: 5030

Batch QC Report

MTBE - Volatile Organics by GC/MS

Method Blank | **Water** | **QC Batch # 1999/12/10-01.06**

MB: 1999/12/10-01.06-001 | Date Extracted: 12/10/1999 12:21

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Methyl tert-butyl ether (MTBE)	ND	5.0	ug/L	12/10/1999 12:21	
Surrogate(s)					
1,2-Dichloroethane-d4	105.6	76-114	%	12/10/1999 12:21	

To: **Aqua Science Engineers, Inc.**

Attn: Ian T. Reed

Test Method: 8260A

Prep Method: 5030

Batch QC Report

MTBE - Volatile Organics by GC/MS

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 1999/12/10-01.06**

LCS: 1999/12/10-01.06-002 Extracted: 12/10/1999 10:53 Analyzed: 12/10/1999 10:53

LCSD: 1999/12/10-01.06-003 Extracted: 12/10/1999 11:54 Analyzed: 12/10/1999 11:54

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Methyl tert-butyl ether	56.1	55.3	50.0	50.0	112.2	110.6	1.4	65-165	20		
Surrogate(s)											
1,2-Dichloroethane-d4	512	509	500	500	102.4	101.8		76-114			

Gas/BTEX and MTBE

Aqua Science Engineers, Inc.

208 West El Pintado Road
Danville, CA 94526

Attn: Ian T. Reed

Phone: (925) 820-9391 Fax: (925) 837-4853

Project #:

Project: Oakland Truck Stop (OTS)

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-2	Water	12/06/1999 13:45	1
MW-3	Water	12/06/1999 12:55	2
MW-4	Water	12/06/1999 14:15	3
MW-5	Water	12/06/1999 11:40	4
MW-6	Water	12/06/1999 12:25	5

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**MW-2**	Lab Sample ID:	**1999-12-0102-001**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/13/1999 12:47
Sampled:	12/06/1999 13:45	QC-Batch:	1999/12/13-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	1900	50	ug/L	1.00	12/13/1999 12:47	g
Benzene	16	0.50	ug/L	1.00	12/13/1999 12:47	
Toluene	ND	0.50	ug/L	1.00	12/13/1999 12:47	
Ethyl benzene	1.5	0.50	ug/L	1.00	12/13/1999 12:47	
Xylene(s)	ND	0.50	ug/L	1.00	12/13/1999 12:47	
MTBE	5.2	5.0	ug/L	1.00	12/13/1999 12:47	
Surrogate(s)						
4-Bromofluorobenzene	121.3	50-150	%	1.00	12/13/1999 12:47	
4-Bromofluorobenzene-FID	52.8	50-150	%	1.00	12/13/1999 12:47	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**MW-3**	Lab Sample ID:	**1999-12-0102-002**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/13/1999 09:53
Sampled:	12/06/1999 12:55	QC-Batch:	1999/12/13-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	40000	2500	ug/L	50.00	12/13/1999 09:53	
Benzene	16000	25	ug/L	50.00	12/13/1999 09:53	
Toluene	140	25	ug/L	50.00	12/13/1999 09:53	
Ethyl benzene	1800	25	ug/L	50.00	12/13/1999 09:53	
Xylene(s)	100	25	ug/L	50.00	12/13/1999 09:53	
MTBE	2200	250	ug/L	50.00	12/13/1999 09:53	
Surrogate(s)						
Trifluorotoluene	100.7	58-124	%	1.00	12/13/1999 09:53	
4-Bromofluorobenzene-FID	81.3	50-150	%	1.00	12/13/1999 09:53	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**MW-4**	Lab Sample ID:	**1999-12-0102-003**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/14/1999 08:51
Sampled:	12/06/1999 14:15	QC-Batch:	1999/12/14-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	130	100	ug/L	2.00	12/14/1999 08:51	g
Benzene	ND	1.0	ug/L	2.00	12/14/1999 08:51	
Toluene	ND	1.0	ug/L	2.00	12/14/1999 08:51	
Ethyl benzene	ND	1.0	ug/L	2.00	12/14/1999 08:51	
Xylene(s)	ND	1.0	ug/L	2.00	12/14/1999 08:51	
MTBE	130	10	ug/L	2.00	12/14/1999 08:51	
Surrogate(s)						
Trifluorotoluene	106.8	58-124	%	1.00	12/14/1999 08:51	
4-Bromofluorobenzene-FID	73.5	50-150	%	1.00	12/14/1999 08:51	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**MW-5**	Lab Sample ID:	**1999-12-0102-004**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/14/1999 09:19
Sampled:	12/06/1999 11:40	QC-Batch:	1999/12/14-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	450	100	ug/L	2.00	12/14/1999 09:19	g
Benzene	ND	1.0	ug/L	2.00	12/14/1999 09:19	
Toluene	ND	1.0	ug/L	2.00	12/14/1999 09:19	
Ethyl benzene	ND	1.0	ug/L	2.00	12/14/1999 09:19	
Xylene(s)	ND	1.0	ug/L	2.00	12/14/1999 09:19	
MTBE	21	10	ug/L	2.00	12/14/1999 09:19	
Surrogate(s)						
Trifluorotoluene	76.9	58-124	%	1.00	12/14/1999 09:19	
4-Bromofluorobenzene-FID	57.7	50-150	%	1.00	12/14/1999 09:19	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID:	**MW-6**	Lab Sample ID:	**1999-12-0102-005**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/13/1999 13:15
Sampled:	12/06/1999 12:25	QC-Batch:	1999/12/13-01.01
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	13000	1000	ug/L	20.00	12/13/1999 13:15	
Benzene	180	10	ug/L	20.00	12/13/1999 13:15	
Toluene	21	10	ug/L	20.00	12/13/1999 13:15	
Ethyl benzene	11	10	ug/L	20.00	12/13/1999 13:15	
Xylene(s)	24	10	ug/L	20.00	12/13/1999 13:15	
MTBE	ND	100	ug/L	20.00	12/13/1999 13:15	
Surrogate(s)						
Trifluorotoluene	92.6	58-124	%	1.00	12/13/1999 13:15	
4-Bromofluorobenzene-FID	74.4	50-150	%	1.00	12/13/1999 13:15	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Method Blank | **Water** | **QC Batch # 1999/12/13-01.01**

MB: 1999/12/13-01.01-001

Date Extracted: 12/13/1999 06:21

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	12/13/1999 06:21	
Benzene	ND	0.5	ug/L	12/13/1999 06:21	
Toluene	ND	0.5	ug/L	12/13/1999 06:21	
Ethyl benzene	ND	0.5	ug/L	12/13/1999 06:21	
Xylene(s)	ND	0.5	ug/L	12/13/1999 06:21	
MTBE	ND	5.0	ug/L	12/13/1999 06:21	
Surrogate(s)					
Trifluorotoluene	97.0	58-124	%	12/13/1999 06:21	
4-Bromofluorobenzene-FID	74.8	50-150	%	12/13/1999 06:21	

To: **Aqua Science Engineers, Inc.**

Attn.: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Method Blank | **Water** | **QC Batch # 1999/12/14-01.01**

MB: 1999/12/14-01.01-001

Date Extracted: 12/14/1999 05:25

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	12/14/1999 05:25	
Benzene	ND	0.5	ug/L	12/14/1999 05:25	
Toluene	ND	0.5	ug/L	12/14/1999 05:25	
Ethyl benzene	ND	0.5	ug/L	12/14/1999 05:25	
Xylene(s)	ND	0.5	ug/L	12/14/1999 05:25	
MTBE	ND	5.0	ug/L	12/14/1999 05:25	
Surrogate(s)					
Trifluorotoluene	103.8	58-124	%	12/14/1999 05:25	
4-Bromofluorobenzene-FID	79.4	50-150	%	12/14/1999 05:25	

To: **Aqua Science Engineers, Inc.**

Attn: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 1999/12/13-01.01**

LCS: 1999/12/13-01.01-002 Extracted: 12/13/1999 06:49 Analyzed: 12/13/1999 06:49

LCSD: 1999/12/13-01.01-003 Extracted: 12/13/1999 07:17 Analyzed: 12/13/1999 07:17

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	494	462	500	500	98.8	92.4	6.7	75-125	20		
Benzene	103	109	100.0	100.0	103.0	109.0	5.7	77-123	20		
Toluene	104	109	100.0	100.0	104.0	109.0	4.7	78-122	20		
Ethyl benzene	104	110	100.0	100.0	104.0	110.0	5.6	70-130	20		
Xylene(s)	316	331	300	300	105.3	110.3	4.6	75-125	20		
Surrogate(s)											
Trifluorotoluene	519	557	500	500	103.8	111.4		58-124			
4-Bromofluorobenzene-FI	425	392	500	500	85.0	78.4		50-150			

To: **Aqua Science Engineers, Inc.**

Attn: Ian T. Reed

Test Method: 8020
8015M

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 1999/12/14-01.01**

LCS: 1999/12/14-01.01-002 Extracted: 12/14/1999 05:53 Analyzed: 12/14/1999 05:53

LCSD: 1999/12/14-01.01-003 Extracted: 12/14/1999 06:21 Analyzed: 12/14/1999 06:21

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Gasoline	505	476	500	500	101.0	95.2	5.9	75-125	20		
Benzene	103	106	100.0	100.0	103.0	106.0	2.9	77-123	20		
Toluene	104	107	100.0	100.0	104.0	107.0	2.8	78-122	20		
Ethyl benzene	106	108	100.0	100.0	106.0	108.0	1.9	70-130	20		
Xylene(s)	318	326	300	300	106.0	108.7	2.5	75-125	20		
Surrogate(s)											
Trifluorotoluene	539	563	500	500	107.8	112.6		58-124			
4-Bromofluorobenzene-FI	450	405	500	500	90.0	81.0		50-150			

To: **Aqua Science Engineers, Inc.**

Attn:Ian T. Reed

Test Method: 8015M
8020

Prep Method: 5030

Legend & Notes

Gas/BTEX and MTBE

Analyte Flags

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

Soluble Metals

Aqua Science Engineers, Inc.

208 West El Pintado Road
Danville, CA 94526

Attn: Ian T. Reed

Phone: (925) 820-9391 Fax: (925) 837-4853

Project #:

Project: Oakland Truck Stop (OTS)

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-4	Water	12/06/1999 14:15	3

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-12-0102

To: **Aqua Science Engineers, Inc.**
Attn.: Ian T. Reed

Test Method: 6010B
Prep Method: 3005A

Soluble Metals

Sample ID:	**MW-4**	Lab Sample ID:	**1999-12-0102-003**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/07/1999 07:20
Sampled:	12/06/1999 14:15	QC-Batch:	1999/12/07-01.15
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	ND	0.0050	mg/L	1.00	12/07/1999 12:33	

To: **Aqua Science Engineers, Inc.**
Attn.: Ian T. Reed

Test Method: 6010B
Prep Method: 3005A

Batch QC Report
Soluble Metals

Method Blank | **Water** | **QC Batch # 1999/12/07-01.15**

MB: 1999/12/07-01.15-035 | Date Extracted: 12/07/1999 07:20

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Lead	ND	0.0050	mg/L	12/07/1999 11:59	

To: **Aqua Science Engineers, Inc.**

Attn: Ian T. Reed

Test Method: 6010B

Prep Method: 3005A

Batch QC Report

Soluble Metals

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 1999/12/07-01.15**

LCS: 1999/12/07-01.15-036 Extracted: 12/07/1999 07:20 Analyzed: 12/07/1999 12:03

LCSD: 1999/12/07-01.15-037 Extracted: 12/07/1999 07:20 Analyzed: 12/07/1999 12:07

Compound	Conc. [mg/L]		Exp.Conc. [mg/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Lead	0.478	0.482	0.500	0.500	95.6	96.4	0.8	80-120	20		

Total Extractable Petroleum Hydrocarbons (TEPH)

Aqua Science Engineers, Inc.

208 West El Pintado Road
Danville, CA 94526

Attn: Ian T. Reed

Phone: (925) 820-9391 Fax: (925) 837-4853

Project #:

Project: Oakland Truck Stop (OTS)

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-2	Water	12/06/1999 13:45	1
MW-3	Water	12/06/1999 12:55	2
MW-4	Water	12/06/1999 14:15	3
MW-5	Water	12/06/1999 11:40	4
MW-6	Water	12/06/1999 12:25	5

To: **Aqua Science Engineers, Inc.**
Attn.: Ian T. Reed

Test Method: 8015m
Prep Method: 3510/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**MW-2**	Lab Sample ID:	**1999-12-0102-001**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/09/1999 09:00
Sampled:	12/06/1999 13:45	QC-Batch:	1999/12/09-01.10
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	440	50	ug/L	1.00	12/10/1999 23:15	ed
Motor Oil	ND	500	ug/L	1.00	12/10/1999 23:15	
Surrogate(s)						
o-Terphenyl	96.0	60-130	%	1.00	12/10/1999 23:15	

To: **Aqua Science Engineers, Inc.**
Attn.: Ian T. Reed

Test Method: 8015m
Prep Method: 3510/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**MW-3**	Lab Sample ID:	**1999-12-0102-002**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/09/1999 09:00
Sampled:	12/06/1999 12:55	QC-Batch:	1999/12/09-01.10
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	9100	50	ug/L	1.00	12/10/1999 23:51	ndp
Motor Oil	ND	500	ug/L	1.00	12/10/1999 23:51	
Surrogate(s)						
o-Terphenyl	112.6	60-130	%	1.00	12/10/1999 23:51	

To: **Aqua Science Engineers, Inc.**
Attn.: Ian T. Reed

Test Method: 8015m
Prep Method: 3510/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**MW-4**	Lab Sample ID:	**1999-12-0102-003**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/09/1999 09:00
Sampled:	12/06/1999 14:15	QC-Batch:	1999/12/09-01.10
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	220	50	ug/L	1.00	12/10/1999 21:25	.ndp
Motor Oil	ND	500	ug/L	1.00	12/10/1999 21:25	
Surrogate(s)						
o-Terphenyl	94.1	60-130	%	1.00	12/10/1999 21:25	

To: **Aqua Science Engineers, Inc.**
Attn.: Ian T. Reed

Test Method: 8015m
Prep Method: 3510/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**MW-5**	Lab Sample ID:	**1999-12-0102-004**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/09/1999 09:00
Sampled:	12/06/1999 11:40	QC-Batch:	1999/12/09-01.10
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	2000	50	ug/L	1.00	12/10/1999 22:02	ndp
Motor Oil	ND	500	ug/L	1.00	12/10/1999 22:02	
Surrogate(s)						
o-Terphenyl	109.8	60-130	%	1.00	12/10/1999 22:02	

To: **Aqua Science Engineers, Inc.**
Attn.: Ian T. Reed

Test Method: 8015m
Prep Method: 3510/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**MW-6**	Lab Sample ID:	**1999-12-0102-005**
Project:	Oakland Truck Stop (OTS)	Received:	12/06/1999 15:05
		Extracted:	12/09/1999 09:00
Sampled:	12/06/1999 12:25	QC-Batch:	1999/12/09-01.10
Matrix:	Water		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	ND	50	ug/L	1.00	12/10/1999 22:38	
Motor Oil	ND	500	ug/L	1.00	12/10/1999 22:38	
Surrogate(s)						
o-Terphenyl	93.9	60-130	%	1.00	12/10/1999 22:38	

To: **Aqua Science Engineers, Inc.**
Attn.: Ian T. Reed

Test Method: 8015m
Prep Method: 3510/8015M

Batch QC Report

Total Extractable Petroleum Hydrocarbons (TEPH)

Method Blank | **Water** | **QC Batch # 1999/12/09-01.10**

MB: 1999/12/09-01.10-001 | Date Extracted: 12/09/1999 09:00

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Diesel	ND	50	ug/L	12/11/1999 14:33	
Motor Oil	ND	500	ug/L	12/11/1999 14:33	
Surrogate(s)					
o-Terphenyl	100.0	60-130	%	12/11/1999 14:33	

To: **Aqua Science Engineers, Inc.**

Attn: Ian T. Reed

Test Method: 8015m

Prep Method: 3510/8015M

Batch QC Report

Total Extractable Petroleum Hydrocarbons (TEPH)

Laboratory Control Spike (LCS/LCSD) **Water** **QC Batch # 1999/12/09-01.10**

LCS: 1999/12/09-01.10-002 Extracted: 12/09/1999 09:00 Analyzed: 12/10/1999 12:52

LCSD: 1999/12/09-01.10-003 Extracted: 12/09/1999 09:00 Analyzed: 12/10/1999 13:28

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recovery	RPD	LCS	LCSD
Diesel	1090	1090	1250	1250	87 2	87.2	0.0	60-130	25		
Surrogate(s)											
o-Terphenyl	18.8	19.1	20.0	20.0	94.0	95.5		60-130			

To: **Aqua Science Engineers, Inc.**
Attn:Ian T. Reed

Test Method: 8015m
Prep Method: 3510/8015M

Legend & Notes

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte Flags

ed

Hydrocarbon reported is in the early Diesel range, and does not match our Diesel standard

ndp

Hydrocarbon reported does not match the pattern of our Diesel standard

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

99-12-0102

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Fax (925) 484-1096

Reference #: 49398

Chain of Custody

DATE 12-6-99 PAGE 1 OF 1

PROJ. MGR Ian Reed
COMPANY Aqua Science Engineers
ADDRESS 208 W. El Pintado
Danville CA

SAMPLERS (SIGNATURE) (PHONE NO.) (FAX NO.)

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH-(EPA 8015.8020) ☒ Gas w/ BTEX & MTBE	PURGEABLE AROMATICS BTEX (EPA 8020)	TPH-Diesel (EPA 8015M)	TEPH (EPA 8015M) ☒ Diesel ☒ M.O. ☐ Other	PURGEABLE HALOCARBONS (HVOCs) (EPA 8010)	VOLATILE ORGANICS (VOCs) (EPA 8260)	SEMIVOLATILES (EPA 8270)	TOTAL OIL AND GREASE (SM 5520 B+F, E+F)	TPH-D (EPA 8015M)	☐ PESTICIDES (EPA 8080) ☐ PCB'S (EPA 8080)	PNA's by ☐ 8270 ☐ 8310	☐ Spec. Cond. ☐ TSS ☐ TDS	LUFT METALS: Cd, Cr, Pb, Ni, Zn	CAM 17 METALS (EPA 6010/7470/7471)	TOTAL LEAD	☐ W.E.T. (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24 hr hold time for H20)	Dissolved Lead	MTBE confirmation		NUMBER OF CONTAINERS
MW-2	12-6-99	1345	water	2 LT 3 VOAS	X			X																X	
MW-3		1255		2 LT 4 VOAS	X			X																X	
MW-4		1415		2 LT 3 VOAS	X			X															X		
MW-5		1140		2 LT 3 VOA	X			X															X		
MW-6		1225		2 LT 3 VOAS	X			X																X	

PROJECT INFORMATION

PROJECT NAME: Oakland Truck Stop (OTS)
PROJECT NUMBER
P.O. #

TAT: STANDARD 5-DAY | 24 | 48 | 72 | OTHER

SAMPLE RECEIPT

TOTAL NO OF CONTAINERS	28
HEAD SPACE	
TEMPERATURE	
CONFORMS TO RECORD	

SPECIAL INSTRUCTIONS/COMMENTS:
Report: ☐ Routine ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ Electronic Report

2

RELINQUISHED BY 1.	RELINQUISHED BY 2	RELINQUISHED BY 3
(SIGNATURE) Ian Reed 1505 (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) Ian T Reed 12-6-99 (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY) ASE	(COMPANY)	(COMPANY)
RECEIVED BY 1	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3**
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) 15:05 (TIME)
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) CRISE LEA 12/06/99 (DATE)
(COMPANY)	(COMPANY)	(LAB)