Next QMR - prepare w/ silica gel prior to TPHd - TPHmo. analysis.

QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

MLK PROPERTY
4629 Martin Luther King Jr. Way
Oakland, California

August 25, 1999

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

2380 Salvio Street, Suite 202
Concord, CA 94520
Phone (925) 363-1999
Fax. (925) 363-1998
e-mail aars@ccnet.com

ADVANCED ASSESMENT AND REMEDIATION SERVICES (AARS)

3800 VISTA OAKS DRIVE, SUITE 201
MARTINEZ, CALIFORNIA 94553
TEL: (925) 370-8295 FAX: (925) 370-2335
e-mail: aars@ccnet.com

August 25, 1999

Ms. Eva Chu
Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: **Quarterly Groundwater Monitoring and Sampling Report for 4629 Martin Luther King Jr. Way, Oakland, California**

Dear Ms. Chu:

The enclosed report presents the results and findings of the July 1999, quarterly groundwater monitoring and sampling for the above-referenced facility.

Should you have any questions regarding the report please contact Tridib Guha at (925) 363-1999.

Sincerely,

Advanced Assessment and Remediation Services

Tridib K. Guha, R.G., R.E.A.
Principal

cc: Ms. Lynn Nightingale, San Francisco, CA

MLKQ2 RP1

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

For

MLK Property
4629 Martin Luther King Jr. Way
Oakland, California

1.0 INTRODUCTION

This report presents the results and findings of the July 1999 quarterly groundwater monitoring and sampling performed at 4629 Martin Luther King Jr. Way, Oakland, California. In this monitoring event additional analyses was conducted to confirm specific hydrocarbon constituents. This report is intended to fulfill quarterly self-monitoring requirements and to establish a groundwater monitoring history for the site. A site vicinity map is shown in Figure 1.

2.0 GROUNDWATER MONITORING WELLS

This section presents the water level monitoring, field observations, sampling and analysis procedures, as well as the analytical results. The location of the monitoring wells is presented in Figure 2. The work and related field sampling activities were conducted in accordance with the guidelines and requirements of the Alameda County Environmental Health Department (ACEHD) and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

2.1 Groundwater Level Monitoring and Surveying

Groundwater levels in each well were measured to the nearest 0.01 foot from the top of the PVC casing, using an electronic sounder. A groundwater surface elevation map, based on interpretation of groundwater level measurements taken on July 23, 1999, and survey data is presented in Figure 3. The survey data and water level measurements are presented in Table 1.

2.2 Field Observations

The purged water from monitoring wells, MW-1, MW-2 and MW-3, were clear initially and with continual purging the water turned turbid. The purged water from monitoring well MW-4 was turbid initially and with continual purging the water turned grayish muddy.

However, water samples collected at the time of sampling were clear. No floating product was observed in the groundwater samples from the monitoring wells. However sheen was observed in groundwater samples from monitoring well MW-3 and MW-4. Also, strong petroleum odor was noticed in the groundwater samples from MW-1, MW-3 and MW-4.

2.3 Sampling and Analysis Procedures

Groundwater samples were collected on July 23, 1999, following water level measurements. Samples were analyzed by Priority Environmental Labs of Milpitas, California which is certified by the California Department of Health Services (DHS) to perform the specified analyses.

Before purging, water levels were measured in all wells with an electronic sounder tape. Purging preceded sampling in order to ensure collection of non-stagnant water. A minimum of three casing volumes were removed before sampling the wells MW-1, MW-2, MW-3 and MW-4. The purged water was monitored for temperature, pH, conductivity and dissolved oxygen during purging to verify complete purging of standing water in the well casing. Stabilization of these parameters (no more than 10 percent fluctuation at least two successive measurements) was considered indicative of adequate purging. A minimum of four measurements were taken during the purging. The wells were sampled after 94 percent recovery or greater. The groundwater monitoring well purge/sampling worksheets are presented Appendix A.

To prevent potential cross-contamination, all measuring, purging and sampling equipment was washed in an Alconox detergent solution, rinsed with tap water, and rinsed finally with distilled water between wells.

The sampling procedure for each monitoring well involved extracting well water with a clean clear PVC bailer on a clean nylon cord. Groundwater collected for analysis of Total Petroleum Hydrocarbon as gasoline (TPHg) and Benzene, Toluene, Ethylbenzene and total Xylenes (BTEX), Methyl Tertiary Butyl Ether (MTBE) was decanted into two 40-milliliter volatile organic analysis vials with Teflon-lined septa. Groundwater collected for analysis of Oxygenated Volatile Organic Compounds was decanted into two 40-milliliter volatile organic analysis vials with Teflon-lined septa. Groundwater collected for analysis of Total Petroleum Hydrocarbon as diesel (TPHd) and Total Petroleum Hydrocarbon as motor oil (TPHmo) was decanted into one 1-liter amber glass bottles. Samples to be analyzed for TPHg/BTEX/MTBE were preserved using hydrochloric acid to a pH of 2.0. All samples were labeled and placed in a cooler containing blue ice, along with the chain-of-custody document (Appendix B). Samples transported to the laboratory were analyzed within the specified holding time.

Groundwater produced during purging and sampling was contained in 55-gallon steel drums. The drummed water was labelled with the source (i.e. well number) and date.

2.4 Analytical Methods

Samples were analyzed for TPHg by Modified EPA SW-846 Methods 602/8015 modified, for TPHd-TPHmo by EPA Methods 3510/8015 modified, and for BTEX/MTBE by EPA SW-846 Methods 5030/8020. Samples were also analyzed for TPHg/BTEX/MTBE and Oxygenated Volatile Organic Compounds by using method EPA 8260.

A summary of the analytical results of groundwater samples from the monitoring wells is presented in Table 2. The certified analytical reports for these sampling events are included in Appendix B.

3.0 INTERPRETATION OF RESULTS

The results of water level measurements and groundwater sampling are discussed in the following sections.

3.1 Groundwater Elevations and Gradients

A relative groundwater elevation contours for July 23, 1999, is presented in Figure 3. The flow direction, based on groundwater level data, was toward the southwest with an average hydraulic gradient of 0.025 foot per foot for this monitoring period. The average depth to stabilized groundwater in these wells was approximately 21 feet below ground surface.

3.2 Analytical Results

The analytical results for groundwater samples from four monitoring wells (MW-1 through MW-4) are presented in Table 2, which also includes the groundwater sampling results from the previous site investigation. Groundwater samples from three monitoring wells MW-1, MW-3 and MW-4 were found to contain TPHg ranging 270 to 2900 parts per billion (ppb). TPHd were detected in groundwater samples of MW-3 and MW-4 at a concentrations of 240 and 1600 ppb respectively. TPHmo was detected in sample MW-3, at 1800 ppb and in MW-4 at 5900 ppb. BTEX/MTBE were not detected in groundwater samples from all four monitoring wells. This was confirmed by analytical results of EPA 8260. Also, oxygenated volatile organic compounds were not detected in groundwater samples from all four monitoring wells. Based on the analyses of the groundwater samples from all four wells the laboratory reported (see Appendix B) the followings:

1. Groundwater sample from MW-2 is clean.
2. Gasoline results were quantified: MW-1 at 270, MW-3 at 1600 and MW-4 at 2900 ppb as those of weathered gasoline.
3. Volatile aromatic hydrocarbons were evaporated.

Figure 4 shows the distribution of dissolved-phase petroleum hydrocarbons at the site.

4.0 SELF-MONITORING PROGRAM SCHEDULE AND RECOMMENDATIONS

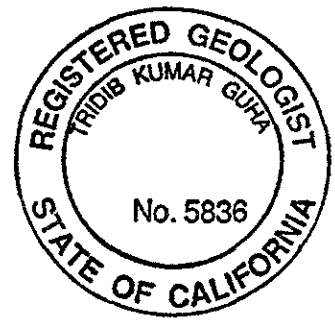
The next monitoring event scheduled for the site is October, 1999. In the next sampling event groundwater samples will be analyzed by using EPA Method 8015/8020. The report for the next monitoring event will contain tabulated data for all monitoring events for the site.

5.0 CERTIFICATION

The information provided in this report is based on the groundwater sampling activities conducted at the site. All data presented in this report is believed to be factual and accurate, unless proven otherwise. Any conclusions or recommendations provided within are based on our expertise and experience conducting work for a similar nature.

Advanced Assessment and Remediation Services

Tridib K. Guha, R.G. 5836



TABLES

TABLE 1: SURVEY AND WATER LEVEL MONITORING DATA
MLK Property
4629 Martin Luther King Jr. Way
Oakland, California

Well No.	Date of Measurement	Top of Casing Elevation (Feet - Relative)	Depth to Groundwater (Feet)	Product Thickness (Feet)	Groundwater Elevation (Feet - Relative)
MW-1	12-18-98	101.15	19.49	0.00	81.66
	4-23-99	101.15	18.64	0.00	82.51
	7-23-99	101.15	21.99	0.00	79.16
MW-2	12-18-98	101.29	20.59	0.00	80.70
	4-23-99	101.29	19.36	0.00	81.93
	7-23-99	101.29	22.54	0.00	78.75
MW-3	12-18-98	100.95	20.80	0.00	80.15
	4-23-99	100.95	20.03	0.00	80.92
	7-23-99	100.95	22.69	0.00	78.26
MW-4	12-18-98	100.90	18.93	0.00	81.97
	4-23-99	100.90	18.22	0.00	82.68
	7-23-99	100.90	21.55	0.00	79.35

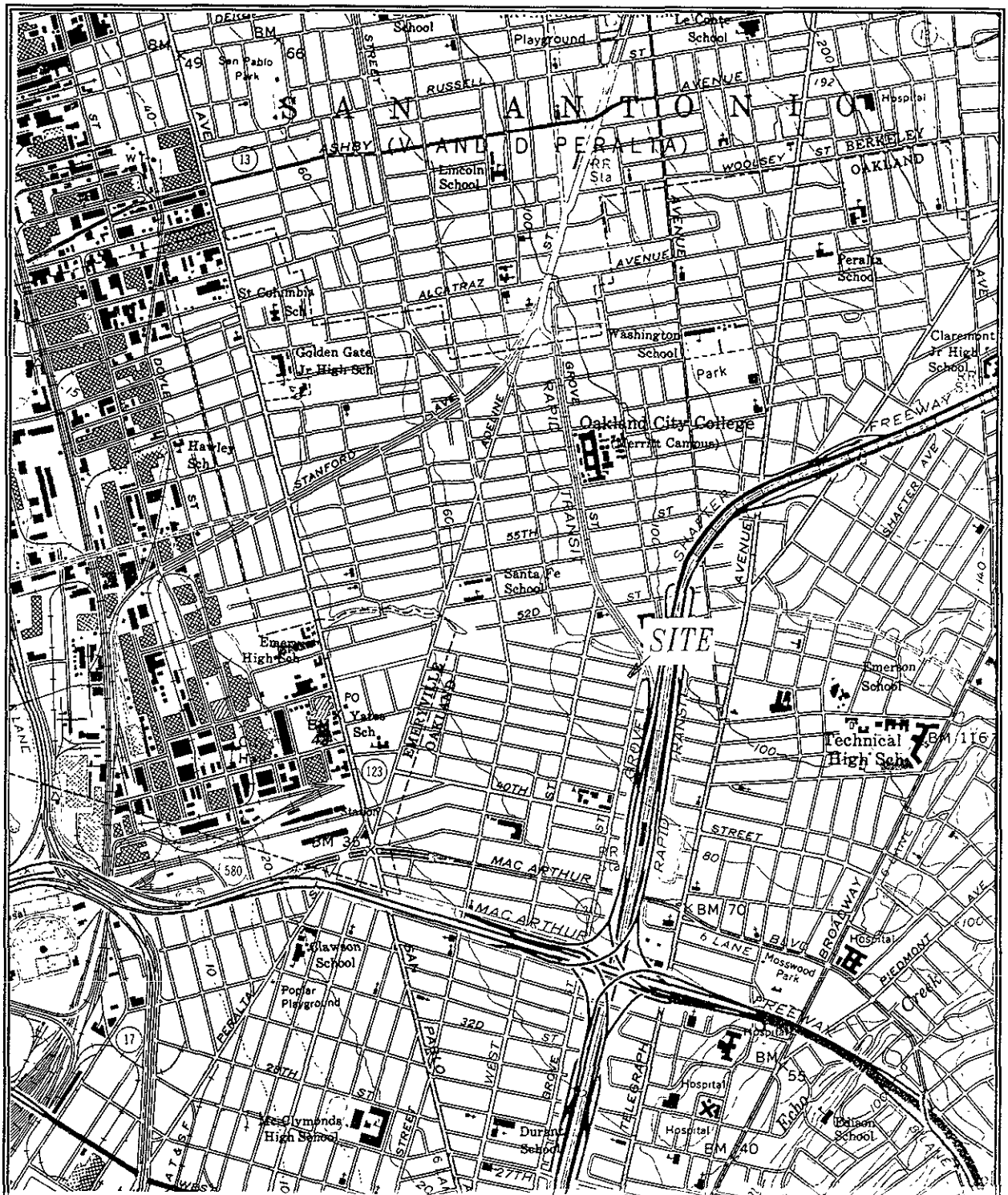
Note: A bench mark, with an assumed elevation of 100.00 feet (Above Mean Sea Level), was established on top of the south curb at the 47th Street entrance to the center of the building; all well elevations are relative to this.

TABLE 2: SUMMARY OF ANALYTICAL RESULTS OF GROUNDWATER SAMPLING
MLK PROPERTY, 4629 Martin Luther King Jr. Way, Oakland, California

Sample ID	Date of Sampling	TPHg (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TPHd µg/L	TPHmo µg/L
MW1-GW	11/15/95	220	NA	2.3	ND	ND	0.68	20,000	NA
	12/17/98	480	ND	12	1.9	ND	2.9	590	ND
	4/23/99	390	ND	6.2	1.6	ND	2.0	670	360
	7/23/99	260/270*	ND/ND*	ND/ND*	ND/ND*	ND/ND*	0.6/ND*	ND	ND
MW2-GW	12/18/98	ND	ND	ND	ND	ND	ND	730	ND
	4/23/99	55	ND	ND	ND	ND	ND	240	ND
	7/23/99	ND/ND*	ND/ND*	ND/ND*	ND/ND*	ND/ND*	ND/ND*	ND	ND
MW3-GW	12/17/98	840	ND	3.6	1.1	1.0	2.2	720	ND
	4/23/99	1,800	8.23	54	4.7	1.7	5.8	980	ND
	7/23/99	1,800/1,600*	ND/ND*	ND/ND*	ND/ND*	0.7/ND*	1.8/ND*	240	1,800
MW4-GW	12/17/98	4,000	ND	11	3.7	10	2.9	4,300	ND
	4/23/99	5,100	24	160	11	31	10	2,900	ND
	7/23/99	3,100/2,900*	ND/ND	ND/ND	ND	1.2/ND*	3.8/ND*	1,600	5,900
RL	7/24-8/2/99	50	5	0.5	0.5	0.5	0.5	50	500

Notes
ND- Not Detected RL- Reporting Limit NA- Not Analyzed
* Confirmed (also quantified) by EPA Method 8260 for oxygenated volatile organic compounds(OVOCs); all other OVOCs were nondetect above the detection limit
µg/L- Microgram per liter (parts per billion)
TPHg- Total petroleum hydrocarbon as gasoline (EPA method modified 8015)
TPHd-TPHmo Total petroleum hydrocarbon as diesel/motor oil (EPA method modified 8015)
MTBE- Methyl Tertiary Butyl Ether (EPA method 8020)
Benzene, toluene, ethylbenzene, and total xylenes (EPA method 8020)

FIGURES



Source: U.S.G.S. Map Oakland West Quadrangle, California
7.5 Minute Series (Topographic)
Photographed 1959
Photorevised 1980

FIGURE 1: SITE VICINITY MAP
4629 Martin Luther King Jr. Way
Oakland, California

Advanced Assessment and Remediation Services
2380 Salvio Street, Suite 202
Concord, California 94520

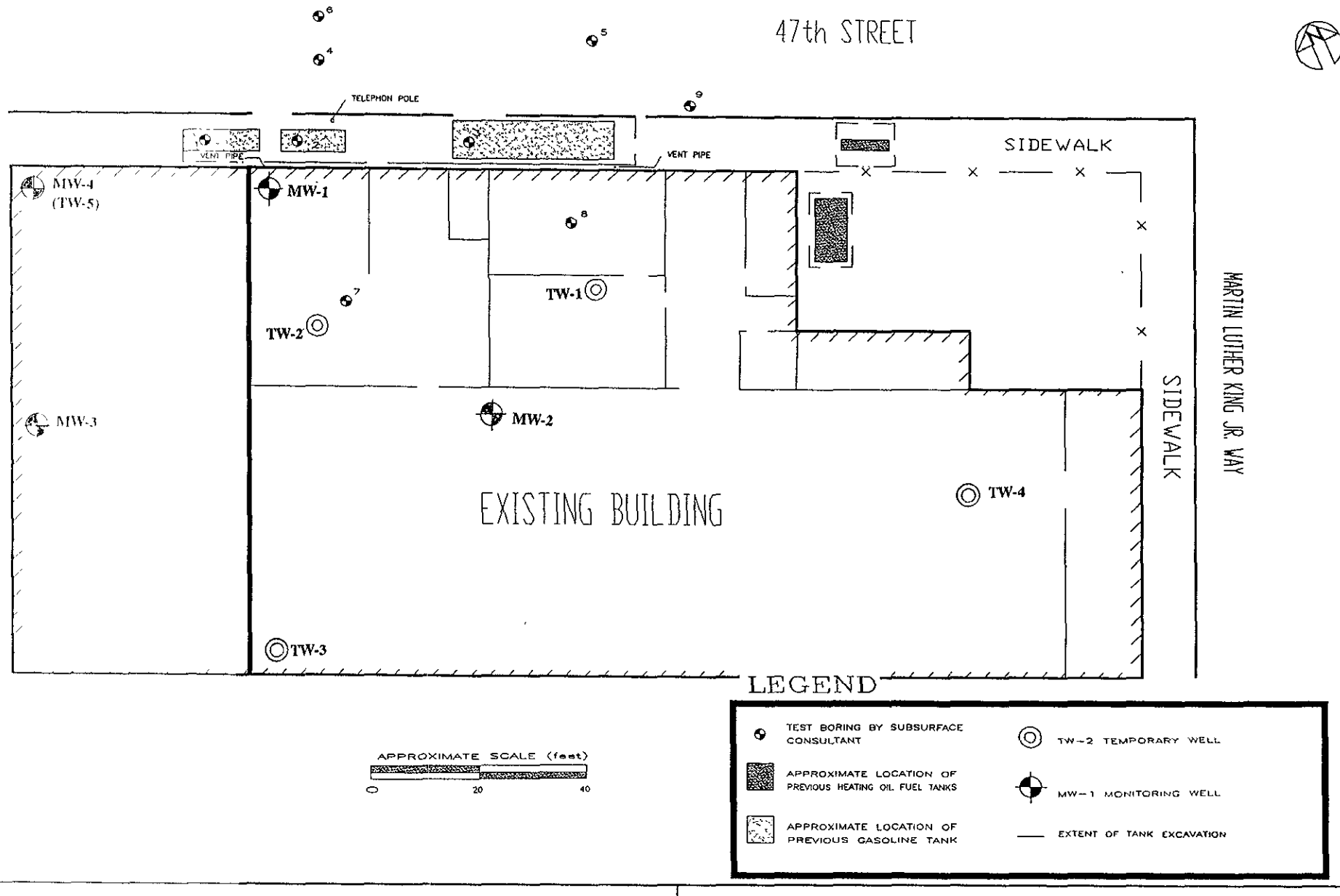
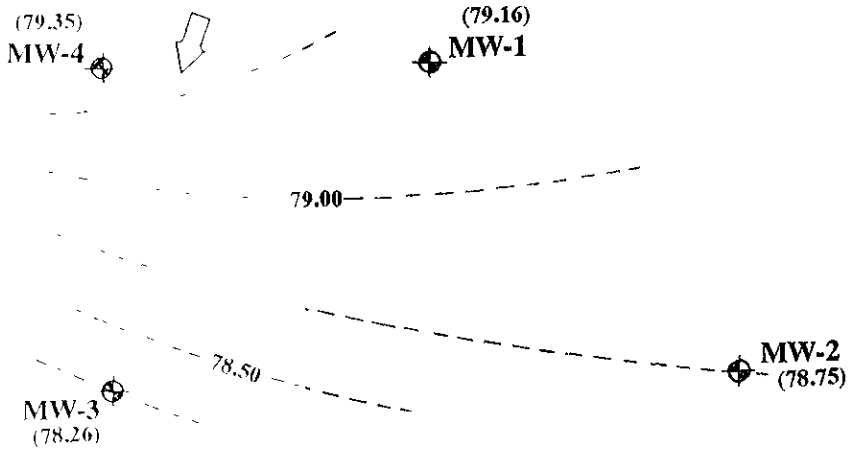


FIGURE 2: SITE PLAN
MLK PROPERTY
4629 Martin Luther King Jr. Way
Oakland, California

ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, California 94520



LEGEND

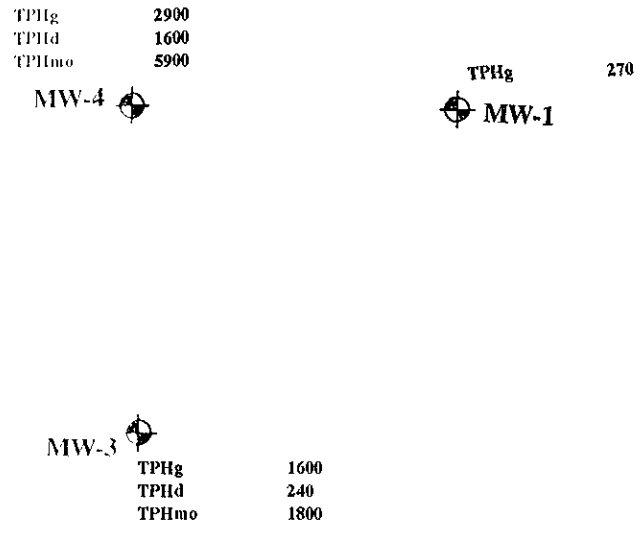
MW-1	MONITORING WELL
(78.75)	RELATIVE GROUNDWATER ELEVATION
-79.00-	GROUNDWATER ELEVATION CONTOUR
	GENERAL DIRECTION OF GROUNDWATER FLOW

NOTE:
1. WATER LEVELS IN MONITORING WELLS MEASURED ON JULY 23, 1999
2. CONTOUR INTERVAL = 0.25 FOOT
3. HYDRAULIC GRADIENT = 0.025 FOOT/FOOT

Scale:
Approximately 1 **inch = 30 feet**

FIGURE 3: GROUNDWATER SURFACE ELEVATIONS (7/23/99)
MLK PROPERTY
4629 Martin Luther King Jr. Way
Oakland, California

ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, California 94520



SCALE

Approx. 1 inch = 30 feet

LEGEND

MW-1 MONITORING WELL

TPHg	TOTAL PETROLEUM HYDROCARBON AS GASOLINE
MTBE	METHYL TERTIARY BUTYL ETHER
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	XYLENES
TPHd	TOTAL PETROLEUM HYDROCARBON AS DIESEL
TPHmo	TOTAL PETROLEUM HYDROCARBON AS MOTOR OIL

NOTE:
1. ALL CONCENTRATIONS ARE IN MICROGRAMS PER LITER (PARTS PER BILLION)
2. HYDROCARBON CONSTITUENTS WHICH WERE NOT DETECTED ARE NOT LISTED

FIGURE 4: DISTRIBUTION OF DISSOLVED-PHASE HYDROCARBONS
MLK PROPERTY
4629 Martin Luther King Jr. Way
Oakland, California

ADVANCED ASSESSMENT AND REMEDIATION SERVICES
2380 Salvio Street, Suite 202
Concord, California 94520

APPENDIX A

Monitoring Well Purge/Sample Worksheet

GROUNDWATER MONITORING WELL PURGE/SAMPLING WORKSHEET

PROJECT NAME: MLK Property PROJECT NUMBER: 99006

SITE ADDRESS: 4629 Martin Luther King Jr. Way, Oakland, CA

WELL NUMBER: MW-1 WELL CASING DIA.: 2" DATE: 7-23-99

Stagnant Volume Calculation

Total Well Depth (ft) - Initial Depth to Water = Water Column Height (ft) - Time: 8:45
30 21.99 8.01

Water column Height (ft) x Gallons/Linear Foot = Stagnant Volume (Gallons)
8.01 0.17 1.36

(Gallons/Linear Foot: 2" dia. = 0.17; 4" dia. = 0.66; 6" dia. = 1.5)

Groundwater Inspection

Floating Product (ft. or in.): NONE Sheen/Iridescence: YES Odor: YES

Time	Volume Purged (gal)	Dissolved Oxygen (ppm)	Temperature (degrees F)	pH	Conductivity µS	Color/Turbidity/Other
9:06	0	7.0	63.4	6.75	925	CLEAR
9:10	1.5	7.3	63.5	6.90	889	CLEAR
9:20	3	7.2	63.3	7.00	963	TURBID
9:30	5	7.2	63.3	7.00	960	TURBID

Purged Water Containment Purge Method Used:

5 gals stored in 1 55 gal (drums); Any previous drums? 1 Capacity 55

Groundwater Sampling Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 25.67 (I) Initially: 21.99 (S) Before sampling: 22.17 Time: 11:58

(P-S)/P-I) x 100 = 100 % Total Recovery: 95%

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1; 40 ml VOA: 4; 500 ml polypropylene: ____

REMARKS:

SAMPLER: TRIDIB GUHA SIGNATURE: [signature]

(Print)

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

GROUNDWATER MONITORING WELL PURGE/SAMPLING WORKSHEET

PROJECT NAME: MLK Property PROJECT NUMBER: 99006

SITE ADDRESS: 4629 Martin Luther King Jr. Way, Oakland, CA

WELL NUMBER: MW-2 WELL CASING DIA.: 2" DATE: 7-23-99

Stagnant Volume Calculation

Total Well Depth (ft)	- Initial Depth to Water	= Water Column Height (ft)	- Time:
30	22.54	7.46	8:48

Water column Height (ft) x	Gallons/Linear Foot	= Stagnant Volume (Gallons)
7.46	0.17	1.27

(Gallons/Linear Foot: 2" dia. = 0.17; 4" dia. = 0.66; 6" dia. = 1.5)

Groundwater Inspection

Floating Product (ft. or in.): NONE Sheen/Iridescence: NONE Odor: NONE

Time	Volume Purged (gal)	Dissolved Oxygen (ppm)	Temperature (degrees F)	pH	Conductivity µS	Color/Turbidity/Other
9:35	0	7.9	62.6	6.96	907	CLEAR
9:45	1.5	7.8	62.5	6.95	835	TURBID
9:55	3	7.8	62.6	6.96	834	TURBID
10:05	5	7.8	62.5	6.96	836	SILTY

Purged Water Containment Purge Method Used:

5 gals stored in 1 55 gal (drums); Any previous drums? 1 Capacity 55

Groundwater Sampling Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 25.43 (I) Initially: 22.54 (S) Before sampling: 22.71 Time: 12:14

(P-S)/P-I) x 100 = 100 % Total Recovery: 9.1

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1 ; 40 ml VOA: 4 ; 500 ml polypropylene:

REMARKS:

SAMPLER: TRIDIB GUHA SIGNATURE:

(Print)

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

GROUNDWATER MONITORING WELL PURGE/SAMPLING WORKSHEET

PROJECT NAME: MLK Property PROJECT NUMBER: 99006

SITE ADDRESS: 4629 Martin Luther King Jr. Way, Oakland, CA

WELL NUMBER: MW-3 WELL CASING DIA.: 2" DATE: 7-23-99

Stagnant Volume Calculation

Total Well Depth (ft) - Initial Depth to Water = Water Column Height (ft) - Time: 8:52

30 22.69 7.31

Water column Height (ft) x Gallons/Linear Foot = Stagnant Volume (Gallons)

7.31 0.17 1.24

(Gallons/Linear Foot: 2" dia. = 0.17; 4" dia. = 0.66; 6" dia. = 1.5)

Groundwater Inspection

Floating Product (ft. or in.): BUBBLES, NOT MEASURABLES Sheen/Iridescence: YES Odor: YES

Time	Volume Purged (gal)	Dissolved Oxygen (ppm)	Temperature (degrees F)	pH	Conductivity µS	Color/Turbidity/Other
10:10	0	7.2	62.5	6.90	1076	CLEAR
10:20	1.5	7.3	62.6	6.84	1534	TURBID
10:30	3	7.2	62.6	6.80	1589	MUDDY
10:40	5	7.2	62.8	6.79	1610	"

Purged Water Containment Purge Method Used:

5 gals stored in 1 55 gal (drums); Any previous drums? 1 Capacity 55

Groundwater Sampling Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 25.63 (I) Initially: 22.69 (S) Before sampling: 22.79 Time: 12:29

(P-S)/P-I) x 100 = 100 % Total Recovery: 96 % Sampled Time:

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1 ; 40 ml VOA: 4 ; 500 ml polypropylene:

REMARKS:

SAMPLER: TRISH GAUNT SIGNATURE:

(Print)

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

GROUNDWATER MONITORING WELL PURGE/SAMPLING WORKSHEET

PROJECT NAME: MLK Property PROJECT NUMBER: 99006

SITE ADDRESS: 4629 Martin Luther King Jr. Way, Oakland, CA

WELL NUMBER: MW-4 WELL CASING DIA.: 2" DATE: 7-23-99

Stagnant Volume Calculation

Total Well Depth (ft)	-	Initial Depth to Water	=	Water Column Height (ft)	-	Time: 8:54
30		21.55		8.45		

Water column Height (ft)	x	Gallons/Linear Foot	=	Stagnant Volume (Gallons)
8.45		0.17		1.43

(Gallons/Linear Foot: 2" dia. = 0.17; 4" dia. = 0.66; 6" dia. = 1.5)

Groundwater Inspection

Floating Product (ft. or in.): VERY SMALL FLOATING BUBBLES Sheen/Iridescence: YES Odor: VERY STRONG GASOLINE ODOR

Time	Volume Purged (gal)	Dissolved Oxygen (ppm)	Temperature (degrees F)	pH	Conductivity µS	Color/Turbidity/Other
10:45	0	6.8	62.8	7.05	794	TURBID
10:55	1.5	6.9	62.7	7.00	890	GRAY TURBID
11:05	3	6.9	62.7	7.03	921	GRAY MUDDY
11:15	5	6.9	62.7	7.03	919	GRAY MUDDY

Purged Water Containment Purge Method Used:

5 gals stored in 1 55 gal (drums); Any previous drums? 1 Capacity 55

Groundwater Sampling Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 25.08 (I) Initially: 21.55 (S) Before sampling: 21.72 Time: 12:44

(P-S),P-I) x 100 = 100 % Total Recovery: 95.1

SAMPLE TIME 12:45

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1; 40 ml VOA: 4, 500 ml polypropylene _____

REMARKS:

SAMPLER: TAIDIB GUHA (Print) SIGNATURE:

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

APPENDIX B

Certified Analytical Reports and Chain-of-Custody Documents

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

August 05, 1999

To Whom It May Concern

We, Priority Environmental Labs, have analyzed four water samples from project name MLK Property (Project Number: 990806) taken by Mr. Tridib Guha, Owner of Advanced Assessment & Remediation Services (AARS) on July 23, 1999.

We have found that MW-2 GW is a clean sample. However, samples MW-1 GW, MW-3 GW, and MW-4 GW are contaminated at various degrees of petroleum hydrocarbons & the gasoline results were quantified as those of weathered gasoline with most of volatile aromatic hydrocarbons such as benzene, toluene, etc. were evaporated.

Sincerely Yours

1764 Houret Court Milpitas, CA. 95035 Tel 408-946-9636 Fax 408-946-9663

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

July 27, 1999 PEL # 9907024

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

Attn: Tridib Guha

Re: Four water samples for Diesel and Motor Oil analyses.

Project name: MLK Properties
Project number: 99006

Date sampled: July 23, 1999
Date extracted: July 24-26, 1999

Date submitted: July 23, 1999
Date analyzed: July 24-26, 1999

RESULTS:

SAMPLE I.D.	Diesel (ug/L)	Motor Oil (mg/L)
MW-1GW	N.D.	N.D.
MW-2GW	N.D.	N.D.
MW-3GW	240	1.8
MW-4GW	1600	5.9
Blank	N.D.	N.D.
Spiked Recovery	86.6%	---
Detection limit	50	0.5
Method of Analysis	3510/ 8015	3510/ 8015

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel 408-946-9636 Fax 408-946-9503

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 02, 1999 PEL # 9907024

ADVANCED ASSESSMENT & REMEDIATION SERVICES

Attn: Tridib Guha

Project name: MLK Property
Project number: 99006

Sample I.D.: MW - 1 GW

Date Sampled: Jul 23, 1999 Date Submitted: Jul 23, 1999
Date Analyzed: Jul 29- Aug 02, 1999

Method of Analysis: EPA mod. 8015 & 602

Detection limit: 0.5 ug/L (50.0 ug/L for Gasoline).

COMPOUND NAME	CONCENTRATION (ug/L)	SPIKE RECOVERY (%)
Gasoline	260	91.6
MTBE	N.D.	----
Benzene	N.D.	81.6
Toluene	N.D.	93.5
Chlorobenzene	N.D.	-----
Ethyl Benzene	N.D.	88.7
Total Xylenes	0.6	102.4
1,4 - Dichlorobenzene	N.D.	-----
1,3 - Dichlorobenzene	N.D.	-----
1,2 - Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director

[illegible] CA. 95035 Tel. 408-946-9636 Fax. 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

July 30, 1999 PEL # 9907024

ADVANCED ASSESSMENT & REMEDIATION SERVICES

Attn: Tridib Guha

Project name: MLK Property
Project number: 99006

Sample I.D.: MW - 2 GW

Date Sampled: Jul 23, 1999 Date Submitted: Jul 23, 1999
Date Analyzed: Jul 29-30, 1999

Method of Analysis: EPA mod.8015 & 602

Detection limit: 0.5 ug/L (50.0 ug/L for Gasoline).

COMPOUND NAME	CONCENTRATION (ug/L)	SPIKE RECOVERY (%)
Gasoline	N.D.	91.6
MTBE	N.D.	-----
Benzene	N.D.	81.6
Toluene	N.D.	93.5
Chlorobenzene	N.D.	-----
Ethyl Benzene	N.D.	88.7
Total Xylenes	N.D.	102.4
1,4 - Dichlorobenzene	N.D.	-----
1,3 - Dichlorobenzene	N.D.	-----
1,2 - Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director

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PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

August 02, 1999 PEL # 9907024

ADVANCED ASSESSMENT & REMEDIATION SERVICES

Attn: Tridib Guha

Project name: MLK Property
Project number: 99006

Sample I.D.: MW - 3 GW

Date Sampled: Jul 23, 1999 Date Submitted: Jul 23, 1999
Date Analyzed: Jul 29 - Aug 02, 1999

Method of Analysis: EPA mod. 8015 & 602

Detection limit: 0.5 ug/L (50.0 ug/L for Gasoline).

COMPOUND NAME	CONCENTRATION (ug/L)	SPIKE RECOVERY (%)
Gasoline	1800	91.6
MTBE	N.D.	-----
Benzene	N.D.	81.6
Toluene	N.D.	93.5
Chlorobenzene	N.D.	-----
Ethyl Benzene	0.7	88.7
Total Xylenes	1.8	102.4
1,4 - Dichlorobenzene	N.D.	-----
1,3 - Dichlorobenzene	N.D.	-----
1,2 - Dichlorobenzene	N.D.	-----

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PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 02, 1999 PEL # 9907024

ADVANCED ASSESSMENT & REMEDIATION SERVICES

Attn: Tridib Guha

Project name: MLK Property
Project number: 99006

Sample I.D.: MW - 4 GW

Date Sampled: Jul 23, 1999 Date Submitted: Jul 23, 1999
Date Analyzed: Jul 29 - Aug 02, 1999

Method of Analysis: EPA mod. 8015 & 602

Detection limit: 0.5 ug/L (50.0 ug/L for Gasoline).

COMPOUND NAME	CONCENTRATION (ug/L)	SPIKE RECOVERY (%)
Gasoline	3100	91.6
MTBE	N.D.	-----
Benzene	N.D.	81.6
Toluene	N.D.	93.5
Chlorobenzene	N.D.	-----
Ethyl Benzene	1.2	88.7
Total Xylenes	3.8	102.4
1,4 - Dichlorobenzene	N.D.	-----
1,3 - Dichlorobenzene	N.D.	-----
1,2 - Dichlorobenzene	N.D.	-----

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PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

August 03, 1999

PEL # 9907024

ADVANCED ASSESSMENT & REMEDIATION SERVICES Attn: Tridib Guha

Project name: Mlk property Project number: 99006

Sample I.D.: MW -1 GW

Date Sampled: Jul 23, 1999 Date Submitted: Jul 23, 1999
Date Analyzed: July 23 - August 03, 1999

Method of Analysis: EPA 8260 Detection limit: 5.0 ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Gasoline	270	-------
Benzene	N.D.	71-43-2
Bromobenzene	N.D.	108-86-1
Bromochloromethane	N.D.	74-97-5
Bromodichloromethane	N.D.	75-27-4
Bromoform	N.D.	75-25-2
Bromomethane	N.D.	74-83-9
n-Butylbenzene	N.D.	104-51-8
sec-Butylbenzene	N.D.	135-98-8
tert-Butylbenzene	N.D.	98-06-6
Carbon tetrachloride	N.D.	56-23-5
Chlorobenzene	N.D.	108-90-7
Chloroethane	N.D.	75-00-3
Chloroform	N.D.	67-66-3
Chloromethane	N.D.	74-87-3
2-Chlorotoluene	N.D.	95-49-8
4-Chlorotoluene	N.D.	106-43-4
Dibromochloromethane	N.D.	124-38-1
1,2-Dibromo-3-chloropropane	N.D.	96-12-8
1,2-Dibromomethane (EDB)	N.D.	106-93-4
Dibromoethane	N.D.	74-95-3
1,2-Dichlorobenzene	N.D.	95-50-1
1,3-Dichlorobenzene	N.D.	541-73-1
1,4-Dichlorobenzene	N.D.	106-46-7
Dichlorodifluoromethane	N.D.	75-71-8
1,1-Dichloroethane	N.D.	75-34-3
1,2-Dichloroethane (EDC)	N.D.	107-06-2
1,1-Dichloroethene	N.D.	75-35-4
cis-1,2-Dichloroethene	N.D.	156-69-4
trans-1,2-Dichloroethene	N.D.	156-60-5
1,2-Dichloropropane	N.D.	78-87-5
1,3-Dichloropropane	N.D.	142-28-9
2,2-Dichloropropane	N.D.	594-20-7
1,1-Dichloropropene	N.D.	563-58-6

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PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

PEL # 9907024

SAMPLE I.D. MW - 1 GW

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Ethylbenzene	N.D.	100-41-1
Hexachlorobutadiene	N.D.	87-68-3
MTBE	N.D.	-------
Isopropyltoluene	N.D.	98-82-8
p-Isopropyltoluene	N.D.	99-87-6
Methylene chloride	N.D.	75-09-2
Naphthalene	N.D.	91-20-3
n-Propylbenzene	N.D.	103-65-1
Styrene	N.D.	100-42-5
1,1,1,2-Tetrachloroethane	N.D.	630-20-6
1,1,2,2-Tetrachloroethane	N.D.	79-34-5
Tetrachloroethene	N.D.	127-18-4
Toluene	N.D.	108-88-3
1,2.3-Trichlorobenzene	N.D.	87-61-6
1,2,4-Trichlorobenzene	N.D.	120-82-1
1,1,1-Trichloroethane	N.D.	71-55-6
1,1,2-Trichloroethane	N.D.	79-00-5
Trichloroethene	N.D.	79-01-6
Trichlorofluoromethane	N.D.	75-69-4
1,2,3-Trichloropropane	N.D.	96-18-4
1,2,4-Trimethylbenzene	N.D.	95-63-6
1,3,5-Trimethylbenzene	N.D.	108-67-8
Vinyl chloride	N.D.	75-01-4
o-Xylene	N.D.	95-47-6
m-Xylene	N.D.	108-38-3
p-Xylene	N.D.	106-42-3

David Duong
Laboratory Director

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PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

July 30, 1999

PEL # 9907024
Page 01 of 02

ADVANCED ASSESSMENT & REMEDIATION SERVICES Attn: Tridib Guha

Project name: Mlk property Project number: 99006

Sample I.D.: MW - 2 GW

Date Sampled: Jul 23, 1999 Date Submitted: Jul 23, 1999
Date Analyzed: July 23-28, 1999

Method of Analysis: EPA 8260 Detection limit: 5.0 ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Gasoline	N.D.	-------
Benzene	N.D.	71-43-2
Bromobenzene	N.D.	108-86-1
Bromochloromethane	N.D.	74-97-5
Bromodichloromethane	N.D.	75-27-4
Bromoform	N.D.	75-25-2
Bromomethane	N.D.	74-83-9
n-Butylbenzene	N.D.	104-51-8
sec-Butylbenzene	N.D.	135-98-8
tert-Butylbenzene	N.D.	98-06-6
Carbon tetrachloride	N.D.	56-23-5
Chlorobenzene	N.D.	108-90-7
Chloroethane	N.D.	75-00-3
Chloroform	N.D.	67-66-3
Chloromethane	N.D.	74-87-3
2-Chlorotoluene	N.D.	95-49-8
4-Chlorotoluene	N.D.	106-43-4
Dibromochloromethane	N.D.	124-38-1
1,2-Dibromo-3-chloropropane	N.D.	96-12-8
1,2-Dibromomethane (EDB)	N.D.	106-93-4
Dibromoethane	N.D.	74-95-3
1,2-Dichlorobenzene	N.D.	95-50-1
1,3-Dichlorobenzene	N.D.	541-73-1
1,4-Dichlorobenzene	N.D.	106-46-7
Dichlorodifluoromethane	N.D.	75-71-8
1,1-Dichloroethane	N.D.	75-34-3
1,2-Dichloroethane (EDC)	N.D.	107-06-2
1,1-Dichloroethene	N.D.	75-35-4
cis-1,2-Dichloroethene	N.D.	156-69-4
trans-1,2-Dichloroethene	N.D.	156-60-5
1,2-Dichloropropane	N.D.	78-87-5
1,3-Dichloropropane	N.D.	142-28-9
2,2-Dichloropropane	N.D.	594-20-7
1,1-Dichloropropene	N.D.	563-58-6

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PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

PEL # 9907024

SAMPLE I.D. MW - 2 GW

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Ethylbenzene	N.D.	100-41-1
Hexachlorobutadiene	N.D.	87-68-3
MTBE	N.D.	-------
Isopropyltoluene	N.D.	98-82-8
p-Isopropyltoluene	N.D.	99-87-6
Methylene chloride	N.D.	75-09-2
Naphthalene	N.D.	91-20-3
n-Propylbenzene	N.D.	103-65-1
Styrene	N.D.	100-42-5
1,1,1,2-Tetrachloroethane	N.D.	630-20-6
1,1,2,2-Tetrachloroethane	N.D.	79-34-5
Tetrachloroethene	N.D.	127-18-4
Toluene	N.D.	108-88-3
1,2.3-Trichlorobenzene	N.D.	87-61-6
1,2,4-Trichlorobenzene	N.D.	120-82-1
1,1,1-Trichloroethane	N.D.	71-55-6
1,1,2-Trichloroethane	N.D.	79-00-5
Trichloroethene	N.D.	79-01-6
Trichlorofluoromethane	N.D.	75-69-4
1,2,3-Trichloropropane	N.D.	96-18-4
1,2,4-Trimethylbenzene	N.D.	95-63-6
1,3,5-Trimethylbenzene	N.D.	108-67-8
Vinyl chloride	N.D.	75-01-4
o-Xylene	N.D.	95-47-6
m-Xylene	N.D.	108-38-3
p-Xylene	N.D.	106-42-3

David Duong
Laboratory Director

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PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 03, 1999

PEL # 9907024
Page 01 of 02

ADVANCED ASSESSMENT & REMEDIATION SERVICES Attn: Tridib Guha

Project name: Mlk property Project number: 99006

Sample I.D.: MW - 3 GW

Date Sampled: Jul 23, 1999 Date Submitted: Jul 23, 1999
Date Analyzed: July 23 - Aug 03, 1999

Method of Analysis: EPA 8260 Detection limit: 5.0 ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Gasoline	1600	-------
Benzene	N.D.	71-43-2
Bromobenzene	N.D.	108-86-1
Bromochloromethane	N.D.	74-97-5
Bromodichloromethane	N.D.	75-27-4
Bromoform	N.D.	75-25-2
Bromomethane	N.D.	74-83-9
n-Butylbenzene	N.D.	104-51-8
sec-Butylbenzene	N.D.	135-98-8
tert-Butylbenzene	N.D.	98-06-6
Carbon tetrachloride	N.D.	56-23-5
Chlorobenzene	N.D.	108-90-7
Chloroethane	N.D.	75-00-3
Chloroform	N.D.	67-66-3
Chloromethane	N.D.	74-87-3
2-Chlorotoluene	N.D.	95-49-8
4-Chlorotoluene	N.D.	106-43-4
Dibromochloromethane	N.D.	124-38-1
1,2-Dibromo-3-chloropropane	N.D.	96-12-8
1,2-Dibromomethane (EDB)	N.D.	106-93-4
Dibromoethane	N.D.	74-95-3
1,2-Dichlorobenzene	N.D.	95-50-1
1,3-Dichlorobenzene	N.D.	541-73-1
1,4-Dichlorobenzene	N.D.	106-46-7
Dichlorodifluoromethane	N.D.	75-71-8
1,1-Dichloroethane	N.D.	75-34-3
1,2-Dichloroethane (EDC)	N.D.	107-06-2
1,1-Dichloroethene	N.D.	75-35-4
cis-1,2-Dichloroethene	N.D.	156-69-4
trans-1,2-Dichloroethene	N.D.	156-60-5
1,2-Dichloropropane	N.D.	78-87-5
1,3-Dichloropropane	N.D.	142-28-9
2,2-Dichloropropane	N.D.	594-20-7
1,1-Dichloropropene	N.D.	563-58-6

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PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

PEL # 9907024

SAMPLE I.D. MW - 3 GW

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Ethylbenzene	N.D.	100-41-1
Hexachlorobutadiene	N.D.	87-68-3
MTBE	N.D.	-------
Isopropyltoluene	N.D.	98-82-8
p-Isopropyltoluene	N.D.	99-87-6
Methylene chloride	N.D.	75-09-2
Naphthalene	N.D.	91-20-3
n-Propylbenzene	N.D.	103-65-1
Styrene	N.D.	100-42-5
1,1,1,2-Tetrachloroethane	N.D.	630-20-6
1,1,2,2-Tetrachloroethane	N.D.	79-34-5
Tetrachloroethene	N.D.	127-18-4
Toluene	N.D.	108-88-3
1,2.3-Trichlorobenzene	N.D.	87-61-6
1,2,4-Trichlorobenzene	N.D.	120-82-1
1,1,1-Trichloroethane	N.D.	71-55-6
1,1,2-Trichloroethane	N.D.	79-00-5
Trichloroethene	N.D.	79-01-6
Trichlorofluoromethane	N.D.	75-69-4
1,2,3-Trichloropropane	N.D.	96-18-4
1,2,4-Trimethylbenzene	N.D.	95-63-6
1,3,5-Trimethylbenzene	N.D.	108-67-8
Vinyl chloride	N.D.	75-01-4
o-Xylene	N.D.	95-47-6
m-Xylene	N.D.	108-38-3
p-Xylene	N.D.	106-42-3

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Laboratory Director

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PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

August 03, 1999

PEL # 9907024

ADVANCED ASSESSMENT & REMEDIATION SERVICES Attn: Tridib Guha

Project name: Mlk property Project number: 99006

Sample I.D.: MW - 4 GW

Date Sampled: Jul 23, 1999 Date Submitted: Jul 23, 1999
Date Analyzed: July 23 - Aug 03, 1999

Method of Analysis: EPA 8260 Detection limit: 5.0 ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Gasoline	2900	-------
Benzene	N.D.	71-43-2
Bromobenzene	N.D.	108-86-1
Bromochloromethane	N.D.	74-97-5
Bromodichloromethane	N.D.	75-27-4
Bromoform	N.D.	75-25-2
Bromomethane	N.D.	74-83-9
n-Butylbenzene	N.D.	104-51-8
sec-Butylbenzene	N.D.	135-98-8
tert-Butylbenzene	N.D.	98-06-6
Carbon tetrachloride	N.D.	56-23-5
Chlorobenzene	N.D.	108-90-7
Chloroethane	N.D.	75-00-3
Chloroform	N.D.	67-66-3
Chloromethane	N.D.	74-87-3
2-Chlorotoluene	N.D.	95-49-8
4-Chlorotoluene	N.D.	106-43-4
Dibromochloromethane	N.D.	124-38-1
1,2-Dibromo-3-chloropropane	N.D.	96-12-8
1,2-Dibromomethane (EDB)	N.D.	106-93-4
Dibromoethane	N.D.	74-95-3
1,2-Dichlorobenzene	N.D.	95-50-1
1,3-Dichlorobenzene	N.D.	541-73-1
1,4-Dichlorobenzene	N.D.	106-46-7
Dichlorodifluoromethane	N.D.	75-71-8
1,1-Dichloroethane	N.D.	75-34-3
1,2-Dichloroethane (EDC)	N.D.	107-06-2
1,1-Dichloroethene	N.D.	75-35-4
cis-1,2-Dichloroethene	N.D.	156-69-4
trans-1,2-Dichloroethene	N.D.	156-60-5
1,2-Dichloropropane	N.D.	78-87-5
1,3-Dichloropropane	N.D.	142-28-9
2,2-Dichloropropane	N.D.	594-20-7
1,1-Dichloropropene	N.D.	563-58-6

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PRIORITY ENVIRONMENTAL LABS
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PEL # 9907024

SAMPLE I.D. MW - 4 GW

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Ethylbenzene	N.D.	100-41-1
Hexachlorobutadiene	N.D.	87-68-3
MTBE	N.D.	-------
Isopropyltoluene	N.D.	98-82-8
p-Isopropyltoluene	N.D.	99-87-6
Methylene chloride	N.D.	75-09-2
Naphthalene	N.D.	91-20-3
n-Propylbenzene	N.D.	103-65-1
Styrene	N.D.	100-42-5
1,1,1,2-Tetrachloroethane	N.D.	630-20-6
1,1,2,2-Tetrachloroethane	N.D.	79-34-5
Tetrachloroethene	N.D.	127-18-4
Toluene	N.D.	108-88-3
1,2.3-Trichlorobenzene	N.D.	87-61-6
1,2,4-Trichlorobenzene	N.D.	120-82-1
1,1,1-Trichloroethane	N.D.	71-55-6
1,1,2-Trichloroethane	N.D.	79-00-5
Trichloroethene	N.D.	79-01-6
Trichlorofluoromethane	N.D.	75-69-4
1,2,3-Trichloropropane	N.D.	96-18-4
1,2,4-Trimethylbenzene	N.D.	95-63-6
1,3,5-Trimethylbenzene	N.D.	108-67-8
Vinyl chloride	N.D.	75-01-4
o-Xylene	N.D.	95-47-6
m-Xylene	N.D.	108-38-3
p-Xylene	N.D.	106-42-3

David Duong
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PRIORITY ENVIRONMENTAL LABS

Chain of Custody

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DATE: 7/23/99 PAGE: 1 OF: 1

PROJECT MGR: Tridib Guha,
COMPANY: Advanced Assessment and Remediation Services (AARS)
ADDRESS: 2380 Salvio Street, Suite 202 Concord, CA 94520-2137
PHONE: (925) 363-1999 FAX (925) 363-1998
SIGNATURE: [signature]

ANALYSIS REPORT

SAMPLE ID	DATE	TIME	MATRIX	TPH–Gasoline (EPA 5030,8015)	TPH–Gasoline(5030,8015) w/BTEX(EPA 602,8020)	TPH–Diesel – Motor Oil (EPA 3510/3550,8015)	PURGEABLE AROMATICS BTEX (EPA 602,8020)	TOTAL OIL & GREASE (EPA 5520 C,D&F)	PESTICIDES/PCB (EPA 608,8080)	TOTAL RECOVERABL HYDROCARBONS (EPA 418.1)	CHLORINATED HYDROCARBONS (EPA 601,8010)	TPH gas/BTEX/MTBE (EPA 8260)	NUMBER OF CONTAINERS
MW-1GW	7/23/99	12:00	WATER			X						X	4 VOAs 1 AMBER
MW 2GW	↓	12:15	↓			X						X	4 VOAs 1 AMBER
MW 3GW	↓	12:30	↓			X						X	4 VOAs 1 AMBER
MW 4GW	7/23/99	12:45	WATER			X						X	4 VOAs 1 AMBER

PEL # 9907024

INV # 28854

PROJECT INFORMATION
PROJECT NAME: MCK Property
PROJECT NUMBER: [illegible]

SAMPLE RECEIPT
TOTAL # OF CONTAINERS: 20
REC'D. GOOD COND./COLD: YES

INSTRUCTIONS & COMMENTS: PLEASE HOLD SAMPLES. Additional analyses MAY BE WARRANTED

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
[signature]	DAVID DUONG		
SIGNATURE: TRIDIB GUHA	SIGNATURE: [signature]	SIGNATURE:	SIGNATURE:
Date: 7/23/99 Time: 16:30	Date: 07/23/99 Time: 16:30	Date: Time:	Date: Time:
COMPANY: AARS	COMPANY: PEL	COMPANY:	COMPANY:

TABLE 3