



**ADVANCED ASSESSMENT AND
REMEDATION SERVICES (AARS)**

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February 25, 2000

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 February 2000, the final 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

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**QUARTERLY GROUNDWATER
MONITORING AND SAMPLING REPORT
for
MLK Property
4629 Martin Luther King Jr. Way
Oakland, California**

1.0 INTRODUCTION

The property is sold and new owners are making renovations. On January 14, 2000, Ms. Eva Chu of Alameda County Environmental Health Department (ACEHD), Ms. Lynn Nightingale, former property owner and Tridib Guha, consultant conducted a site visit to see if further work was needed for a possible site closure. It was discussed that there may be an off-site plume which may have migrated to the site. Ms. Chu will search ACEHD file and coordinate with Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) about the adjacent property, parking lot (former gas station). On January 27, 2000, Ms. Chu instructed the consultant to complete the final round of groundwater monitoring and sampling to determine, the fate of monitoring wells abandonment.

This report presents the results and findings of the February 2000, the final quarterly groundwater monitoring and sampling performed at 4629 Martin Luther King Jr. Way, Oakland, California. 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 ACEHD and the 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 February 7, 2000, 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 through MW-4, were clear initially and with continual purging the water turned turbid. 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 three monitoring well (MW-1, MW-3 and MW-4) groundwater samples. Also, strong petroleum odor was noticed in the groundwater samples from the three wells (MW-1, MW-3 and MW-4).

2.3 Sampling and Analysis Procedures

Groundwater samples were collected on February 7, 2000, 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 four 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 considered complete when these parameters had stabilized. The wells were sampled after 97 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 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 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 5030/8015 modified, for TPHd-TPHmo by EPA Methods 3510/8015 modified, and for BTEX/MTBE by EPA SW-846 Methods 5030/602.

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 February 7, 2000, is presented in Figure 3. The flow direction, based on groundwater level data, was toward the southwest with an average hydraulic gradient of 0.02 foot per foot for this monitoring period. The average depth to stabilized groundwater in these wells was approximately 16.50 feet below ground surface (shallowest since 1995).

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 and sampling. Groundwater sample from MW-2 was clean. Groundwater samples from three monitoring wells MW-1, MW-3 and MW-4 were found to contain TPHg ranging 89 to 2100 parts per billion (ppb); TPHd concentrations ranging from 76 to 920 ppb and TPHmo concentrations ranging from 900 to 3800 ppb. Benzene was detected in groundwater samples from MW-3 and MW-4, at a concentrations of 2.6 and 3.4 ppb respectively. Toluene, ethylbenzene, and xylenes concentrations ranging from 1.6 to 29 ppb were measured in groundwater samples from MW-1, MW-3 and MW-4. MTBE was not detected in any groundwater samples from all four wells. Previous sampling and analytical results using EPA Method 8260 confirmed the absence of BTEX compound in groundwater samples from all four monitoring wells. Figure 4 shows the distribution of dissolved-phase petroleum hydrocarbons at the site.

4.0 RECOMMENDATIONS

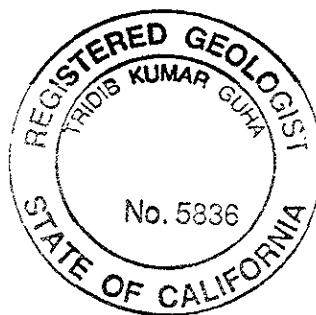
The analytical results of MW-2 groundwater samples were below detection limit for hydrocarbon compounds. The groundwater sampling and analytical results for the site since November 1995 to February 2000, is showing progressively decreasing trend of hydrocarbon compound in the groundwater. In addition, the absence of BTEX/MTBE compounds in the groundwater which was confirmed by EPA Method 8260. Therefore, the monitoring wells should be considered for abandonment.

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
	10-19-99	101.15	21.65	0.00	79.50
	02-07-00	101.15	16.66	0.00	84.49
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
	10-19-99	101.29	22.14	0.00	79.15
	02-07-00	101.29	17.17	0.00	84.12
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
	10-19-99	100.95	22.30	0.00	78.65
	02-07-00	100.95	16.98	0.00	83.97
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
	10-19-99	100.90	21.14	0.00	79.76
	02-07-00	100.90	15.83	0.00	85.07

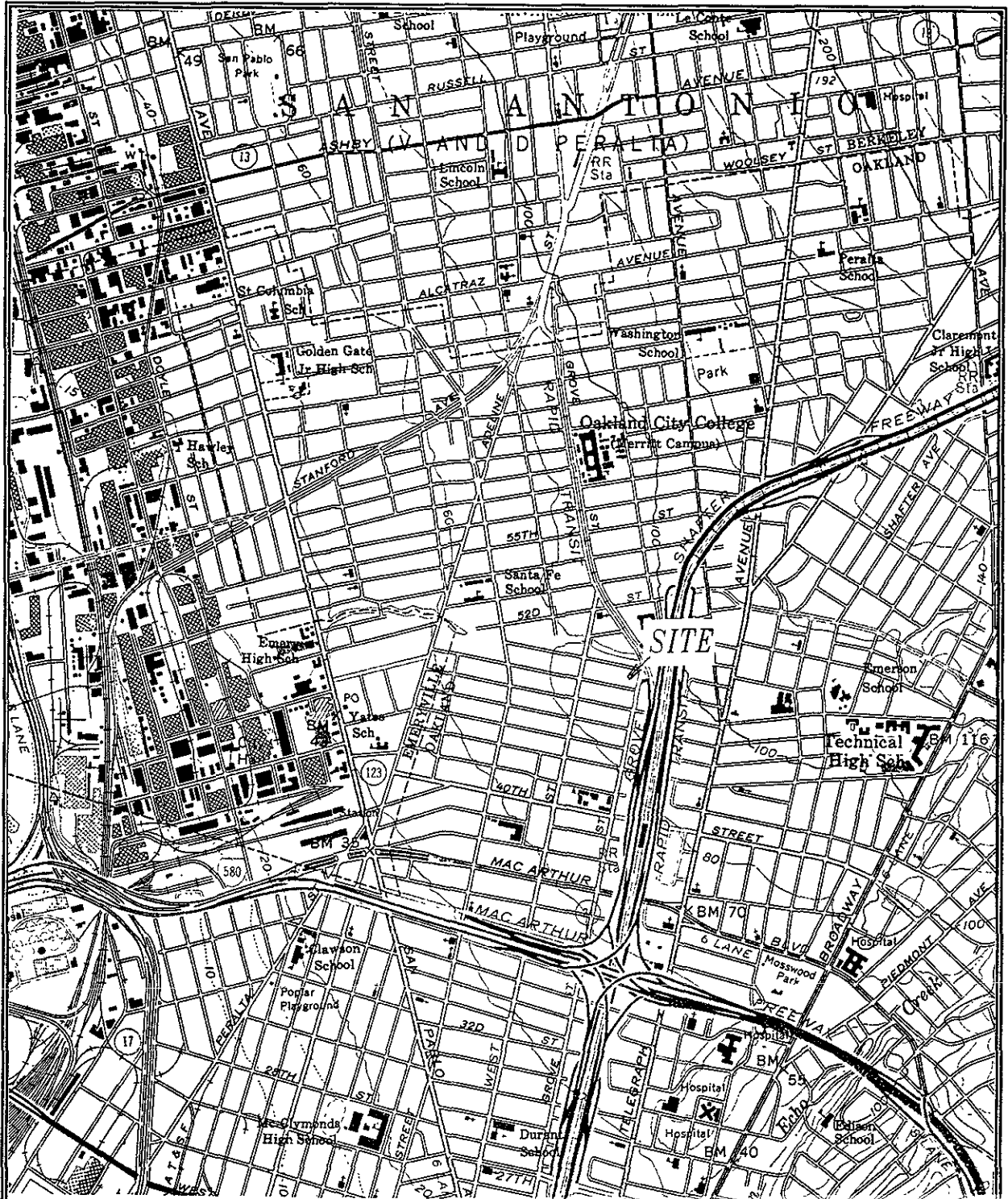
Note: A bench mark, with an assumed elevation of 100.00 feet (Above Mean Sea Level), was established on top of the south curb at the 47th Street entrance to the center of the building, all well elevations are relative to this

**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
	04/23/99	390	ND	6.2	1.6	ND	2.0	670	360
	07/23/99	260/270*	ND/ND*	ND/ND*	ND/ND*	ND/ND*	0.6/ND*	ND	ND
	10/19/99	92	ND	ND	ND	0.7	2.2	56	600
	02/07/00	89	ND	ND	ND	0.9	2.8	76	900
MW2-GW	12/18/98	ND	ND	ND	ND	ND	ND	730	ND
	04/23/99	55	ND	ND	ND	ND	ND	240	ND
	07/23/99	ND/ND*	ND/ND*	ND/ND*	ND/ND*	ND/ND*	ND/ND*	ND	ND
	10/19/99	ND	ND	ND	ND	ND	ND	ND	ND
	02/07/00	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
	04/23/99	1,800	8.23	54	4.7	1.7	5.8	980	ND
	07/23/99	1,800/1,600*	ND/ND*	ND/ND*	ND/ND*	0.7/ND*	1.8/ND*	240	1,800
	10/19/99	1,100	ND	2.8	1.9	6.1	18	190	1,400
	02/07/00	910	ND	2.6	1.4	5.5	14	180	1,400
MW4-GW	12/17/98	4,000	ND	11	3.7	10	2.9	4,300	ND
	04/23/99	5,100	24	160	11	31	10	2,900	ND
	07/23/99	3,100/2,900*	ND/ND*	ND/ND*	ND/ND*	1.2/ND*	3.8/ND*	1,600	5,900
	10/19/99	2,300	ND	3.9	2.6	11	31	890	4,200
	02/07/00	2,100	ND	3.4	2.2	8.9	29	920	3,800
RI.	02/10-15/00	50	0.5	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 602)
 Benzene, toluene, ethylbenzene, and total xylenes (EPA method 602)

FIGURES



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

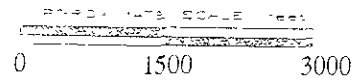


FIGURE 1: SITE VICINITY MAP
 4629 Martin Luther King Jr. Way
 Oakland, California

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

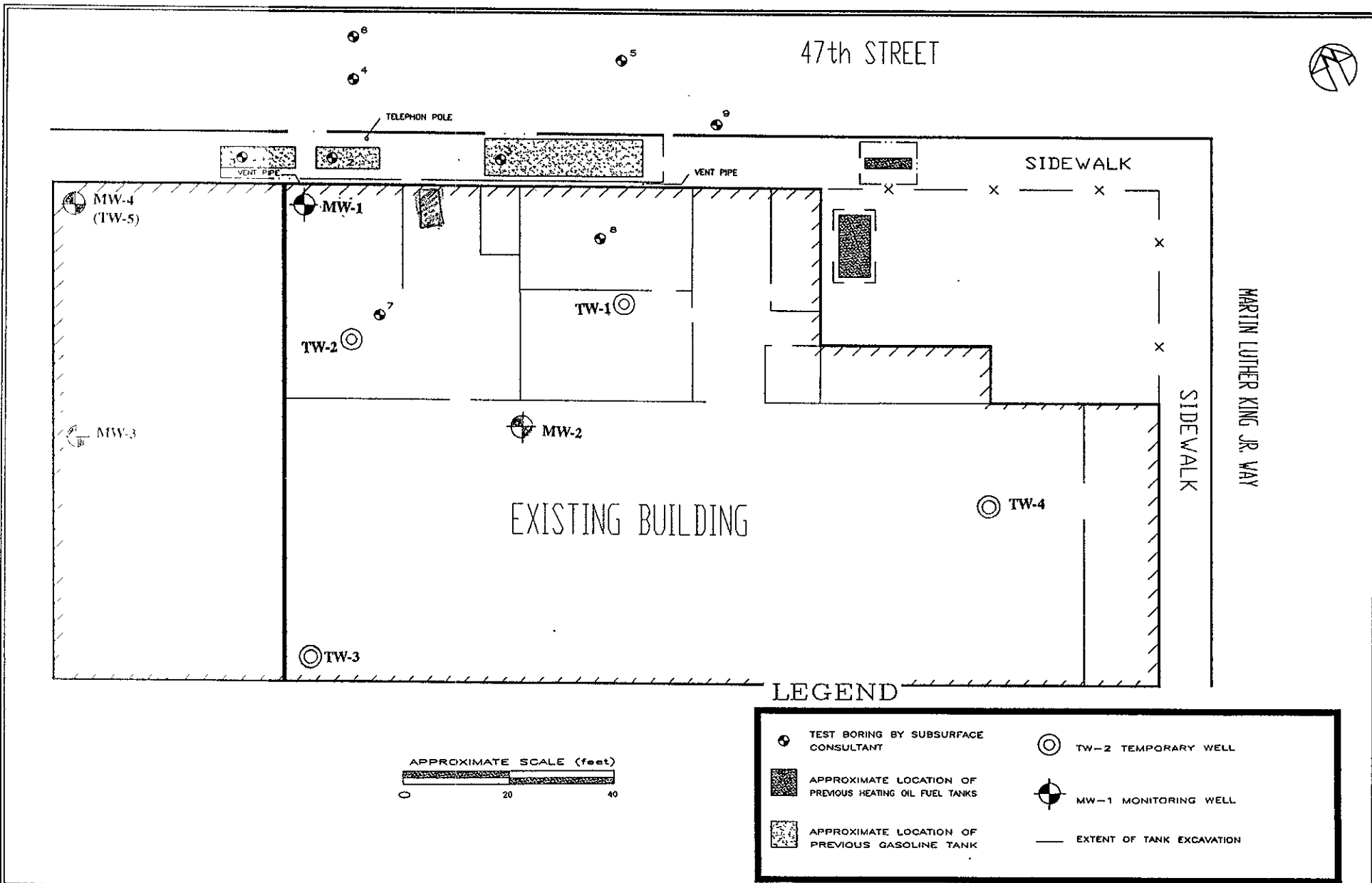
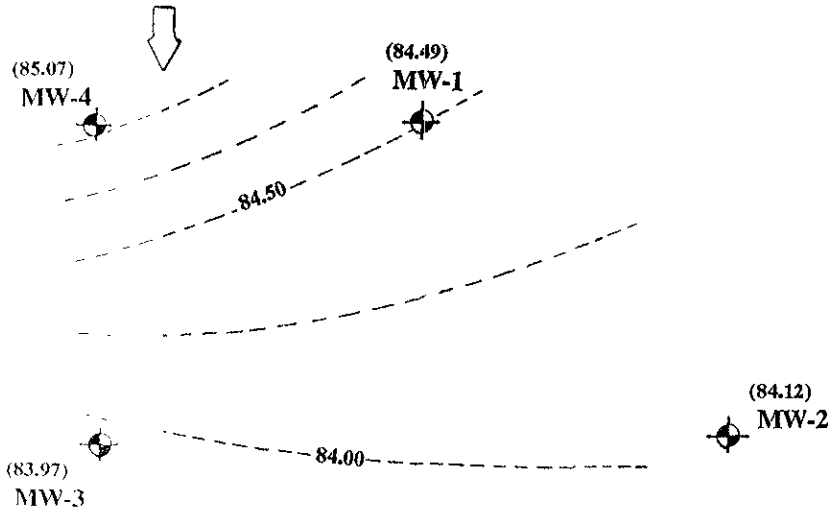


FIGURE 2: SITE PLAN



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
- (84.12) RELATIVE GROUNDWATER ELEVATION
- 84.00- GROUNDWATER ELEVATION CONTOUR
-  GENERAL DIRECTION OF GROUNDWATER FLOW

NOTE:

1. WATER LEVELS IN MONITORING WELLS MEASURED ON FEBRUARY 7, 2000
2. CONTOUR INTERVAL = 0.25 FOOT
3. HYDRAULIC GRADIENT = 0.02 FOOT/FOOT


Scale:
Approximately 1 inch = 30 feet

FIGURE 3: GROUNDWATER SURFACE ELEVATIONS (02/07/00)
 MLK PROPERTY
 4629 Martin Luther King Jr. Way
 Oakland, California


ADVANCED ASSESSMENT AND REMEDIATION SERVICES
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 Concord, California 94520




TPHg	2100
B	3.4
T	2.2
E	8.9
X	29
TPHd	920
TPHmo	3800

MW-4 

TPHg	89
E	0.9
X	2.8
TPHd	76
TPHmo	900

MW-1 

TPHg	910
W	2.6
I	1.4
E	5.5
X	14
TPHd	180
TPHmo	1400

MW-3 

MW-2 

LEGEND

 MW-1 MONITORING WELL

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

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

SCALE

Approx. 1 inch = 30 feet

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: 98017

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

WELL NUMBER: MW-1 WELL CASING DIA.: 2" DATE: 2-7-00

Stagnant Volume Calculation

Total Well Depth (ft) - Initial Depth to Water = Water Column Height (ft) - Time: 7:52
 30 16.66 13.34

Water column Height (ft) x Gallons/Linear Foot = Stagnant Volume (Gallons)
 13.34 0.17 2.3

(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 μ S	Color/Turbidity/Other
8:35	0	6.5	61.6	7.25	502	CLEAR
8:45	2	6.4	61.4	7.22	586	TURBID GRAYISH BROWN
8:55	5	6.4	61.8	7.17	606	VERY TURBID " "
9:05	7	6.3	61.7	7.15	615	" " " "

Purged Water Containment

Purge Method Used:

7 gals stored in 1 55 gal (drums); Any previous drums? 2 Capacity 55

Groundwater Sampling

Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 20.18 (I) Initially: 16.66 (S) Before sampling: 16.76 Time: 11:13

(P-S)/(P-I) x 100 = 100 % Total Recovery: 97%

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1; 40 ml VOA: 2; 500 ml polypropylene: —

REMARKS:

SAMPLE TIME: 11:15

SAMPLER: TRIDIB GWAH

(Print)

SIGNATURE: *[Signature]*

GROUNDWATER MONITORING WELL PURGE/SAMPLING WORKSHEET

PROJECT NAME: MLK Property PROJECT NUMBER: 98017

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

WELL NUMBER: MW-2 WELL CASING DIA.: 2" DATE: 2-7-00

Stagnant Volume Calculation

Total Well Depth (ft) - Initial Depth to Water = Water Column Height (ft) - Time: 7:50
 30 17.17 12.83

Water column Height (ft) x Gallons/Linear Foot = Stagnant Volume (Gallons)
 12.83 0.17 2.2

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

Groundwater Inspection

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

Time	Volume Purged (gal)	Dissolved Oxygen (ppm)	Temperature (degrees F)	pH	Conductivity μ S	Color/Turbidity/Other
8:00	0	7.2	61.7	7.15	742	CLEAR
8:10	2	7.1	61.5	7.12	777	SLIGHTLY TURBID GRAYISH
8:20	5	7.3	61.4	7.10	767	" "
8:30	7	7.2	61.4	7.11	762	" "

Purged Water Containment

Purge Method Used:

7 gals stored in 1 55 gal (drums); Any previous drums? 2 Capacity 55

Groundwater Sampling

Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 20.01 (I) Initially: 17.17 (S) Before sampling: 17.23 Time: 10:55

(P-S)/P-I x 100 = 100 % Total Recovery: 98%

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1; 40 ml VOA: 2; 500 ml polypropylene: -

REMARKS:

SAMPLE TIME 11:00

SAMPLER: TRIDIB GUYHA

(Print)

SIGNATURE: 

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

GROUNDWATER MONITORING WELL PURGE/SAMPLING WORKSHEET

PROJECT NAME: MLK Property PROJECT NUMBER: 98017

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

WELL NUMBER: MW-3 WELL CASING DIA.: 2" DATE: 2-7-00

Stagnant Volume Calculation

Total Well Depth (ft) - Initial Depth to Water = Water Column Height (ft) - Time: 7:54
 30 16.98 13.02

Water column Height (ft) x Gallons/Linear Foot = Stagnant Volume (Gallons)
 13.02 0.17 2.2

(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 μ S	Color/Turbidity/Other
9:10	0	7.2	61.9	7.17	467	CLEAR
9:20	2	7.1	61.6	7.10	506	SLIGHTLY TURBID GRAY
9:30	5	7.1	61.8	7.10	509	TURBID GRAY
9:40	8	7.2	61.7	7.09	510	" "

Purged Water Containment

Purge Method Used:

8 gals stored in 1 55 gal (drums); Any previous drums? 2 Capacity 55

Groundwater Sampling

Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 19.87 (I) Initially: 16.98 (S) Before sampling: 17.02 Time: 11:28

(P-S)/P-I x 100 = 100 % Total Recovery: 99.1

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1; 40 ml VOA: 2; 500 ml polypropylene: -

REMARKS:

SAMPLE TIME 11:30

SAMPLER: TRIDIB GUNA

SIGNATURE: *[Signature]*

(Print)

ADVANCED ASSESSMENT AND REMEDIATION SERVICES

GROUNDWATER MONITORING WELL PURGE/SAMPLING WORKSHEET

PROJECT NAME: MLK Property PROJECT NUMBER: 98017

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

WELL NUMBER: MW-4 WELL CASING DIA: 2" DATE: 2-7-00

Stagnant Volume Calculation

Total Well Depth (ft) - Initial Depth to Water = Water Column Height (ft) - Time: 7:55
 30 - 15.83 = 14.17

Water column Height (ft) x Gallons/Linear Foot = Stagnant Volume (Gallons)
 14.17 x 0.17 = 2.4

(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 μ S	Color/Turbidity/Other
9:50	0	6.5	61.7	6.94	936	CLEAR
10:00	2	6.5	61.5	7.04	1029	SLIGHTLY TURBID GRAYISH
10:10	5	6.4	61.8	7.04	1088	" " " VERY STRONG GAS ODOR
10:20	8	6.4	61.9	7.05	1118	" " "

Purged Water Containment

Purge Method Used:

8 gals stored in 1 55 gal (drums); Any previous drums? 2 Capacity 55

Groundwater Sampling

Water Level Recovery (Depth to groundwater in feet)

(P) After purging: 19.34 (I) Initially: 15.83 (S) Before sampling: 15.88 Time: 11:42

(P-S)/(P-I) x 100 = 100 % Total Recovery: 98%

Sample Containers (How many? Preservatives?)

1 liter amber glass: 1; 40 ml VOA: 2; 500 ml polypropylene: -

REMARKS:

SAMPLE TIME: 11:45

SAMPLER: TRIDIB GUAH

(Print)

SIGNATURE: *[Signature]*

APPENDIX B

Certified Analytical Reports and Chain-of-Custody Documents



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

February 15, 2000

PEL # 0002007

ADVANCED ASSESSMENT and REMEDIATION SERVICES

Attn: Tridib Guha

Re: Four water samples for Gasoline/BTEX with MTBE and TEPH analyses.

Project name: MLK Property

Project number: 99006

Date sampled: Feb 07, 2000

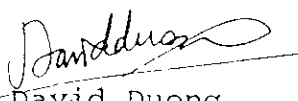
Date submitted: Feb 08, 2000

Date extracted: Feb 10-15, 2000

Date analyzed: Feb 10-15, 2000

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)	MTBE (ug/L)	Motor Oil (mg/L)
MW-1 GW	89	76	N.D.	N.D.	0.9	2.8	N.D.	0.9
MW-2 GW	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-3 GW	910	180	2.6	1.4	5.5	14	N.D.	1.4
MW-4 GW	2100	920	3.4	2.2	8.9	29	N.D.	3.8
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	81.6%	88.3%	92.8%	90.7%	89.9%	102.6%	---	---
Detection limit	50	50	0.5	0.5	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	3510 / 8015	602	602	602	602	602	3510 / 8015


 David Duong
 Laboratory Director

