



Union Bank

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October 26, 1995

Ms. Susan L. Hugo  
Senior Hazardous Materials Specialist  
Alameda Health Care Services  
UST Local Oversight Program  
1131 Harbor Bay Parkway  
Alameda, CA 95402-6577

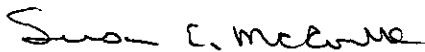
RE: Third Quarter Monitoring Report Deadline  
Watson Trust Property  
1461 Park Avenue  
Emeryville, CA

Dear Ms. Hugo:

As indicated to you by telephone, Union Bank has been experiencing some difficulty with our environmental consultant, Blakely Environmental. I have not received any communication from them for some time. Blakely Environmental was to provide a copy of the quarterly report to me by October 13, 1995. I did not receive a report and I tried repeatedly to reach them by telephone, but was unable to. On October 25 I was able to locate David Blakely who has gone to work for another company. David indicated that Blakely Environmental is no longer in business. David also indicated that even though the monitoring wells at the Watson site were sampled in late September, and the laboratory analyses conducted, David will not be providing a report. Union Bank has therefore terminated Blakely's services.

Therefore, I verbally requested a three week extension in which to provide you with the third quarter sampling report. You indicated that this was acceptable. Union Bank will provide you with a report by November 14th.

Please contact me with any questions at 818-810-6594.

  
Susan E. McCormack  
Vice President

cc: Stephen Breskin

EMV  
ENVIRONMENTAL  
PH 3:11  
95 NOV 9 - 10N 95

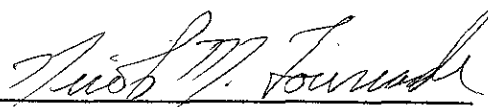
13 November 1995

**THIRD QUARTER 1995  
GROUNDWATER MONITORING REPORT  
WATSON TRUST PROPERTY  
1461 PARK AVENUE  
EMERYVILLE, CALIFORNIA**

Prepared for:

Union Bank  
17800 Castleton Avenue, Suite 586  
City of Industry, California 91748

by:



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**NICOLE M. FOURCADE**  
Assistant Staff Geologist



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**ALEX J. GALLEGO, R.G. 6349**  
Project Manager

Applied Geosciences Inc.  
1641 North First Street, Suite 235  
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(408) 452-0262

Project No. A953399



*Environmental Consultants*

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13 November 1995  
A953399

Alameda County Health Care Services Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, California 94502-6577

Attention: Ms. Susan L Hugo, Senior Hazardous Materials Specialist


SUBJECT: THIRD QUARTER 1995, GROUNDWATER MONITORING REPORT,  
WATSON TRUST PROPERTY, 1461 PARK AVENUE, EMERYVILLE,  
CALIFORNIA

Dear Ms. Hugo:

Applied Geosciences Inc. is pleased to submit this report summarizing the third quarter of 1995 groundwater monitoring activities conducted at the Watson Trust Property, located at 1461 Park Avenue, Emeryville, California (site, Figure 1). The work was conducted under contract with Union Bank on behalf of the property Trustees in general accordance with the Union Bank Letter Authorization (LOA) dated 3 November 1995, and pursuant to the Professional Environmental Services Agreement between Union Bank and Applied Geosciences Inc dated 28 October 1992.

If you have any questions regarding this report, please feel free to contact me at your convenience at (408) 452-0262.

Very truly yours,  
APPLIED GEOSCIENCES INC.

  
ALEX J. GALLEGO, R.G. 6349  
Project Manager

enclosure

Other Offices:

29B Technology Drive ■ Suite 100 ■ Irvine, CA 92718 ■ TEL: 714/453-8545 ■ FAX: 714/453-0510  
San Diego Area: 5375 Mira Sorrento Place ■ Suite 150 ■ San Diego, CA 92121 ■ TEL: 619/558-0600 ■ FAX: 619/558-7180



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**THIRD QUARTER 1995  
GROUNDWATER MONITORING REPORT  
WATSON TRUST PROPERTY  
1461 PARK AVENUE  
EMERYVILLE, CALIFORNIA**

**1.0 INTRODUCTION**

Applied Geosciences Inc. is pleased to submit this report summarizing the third quarter of 1995 groundwater monitoring activities conducted at the Watson Trust Property, located at 1461 Park Avenue, Emeryville, California (site, Figure 1). The work was conducted on 3 November 1995 by Applied Geosciences Inc. personnel. The work was conducted, at your request and authorization, to interpret the groundwater flow direction and to assess the concentrations of total petroleum hydrocarbons as gasoline (TPHg); and benzene, toluene, ethylbenzene, and xylenes (BTEX) in the groundwater related to a historic release of petroleum hydrocarbons located at the site.

It is the understanding of Applied Geosciences Inc. that Union Bank has been required to conduct quarterly groundwater monitoring by the Alameda County Health Care Services Agency, Department of Environmental Health, UST Local Oversight Program (ACHCSA). The proposed quarterly groundwater monitoring would consist of two groundwater monitoring events, with the next event to be conducted in mid-December 1995.

In March 1990, two underground storage tanks (USTs) were removed from the site. A 3,000-gallon gasoline UST was reported to be found in good condition. A 500-gallon UST, thought to contain either diesel or gasoline, was reported to have showed evidence of leakage. The tanks were excavated, and soil samples and groundwater samples were collected. The soil was reported to contain elevated concentrations of TPHg and BTEX, but not TPH as diesel (TPHd). The groundwater was reported to contain elevated concentrations of TPHg and BTEX. In September 1990, three groundwater monitoring wells were installed. Groundwater sampling was conducted by Blakely Environmental Inc. in May 1995 and July 1995.

**2.0 OBJECTIVE**

The objective of the work summarized in this report is to interpret the groundwater flow direction and to assess the concentrations of TPHg and BTEX in the groundwater at the site.

### 3.0 GROUNDWATER MONITORING

Applied Geosciences conducted the third quarter 1995 groundwater monitoring event at the site on 3 November 1995. Groundwater monitoring included the measurement of groundwater levels, observations related to the presence/absence of floating product and/or a petroleum hydrocarbon odor, purging of groundwater monitoring wells, measurements of the dissolved oxygen content of the extracted groundwater, and the collection and analysis of groundwater samples from the three on-site monitoring wells. Due to a malfunction of the dissolved oxygen meter, these measurements were not collected. The dissolved oxygen meter is currently undergoing repairs, and these measurements will be collected at the earliest possible date and reported in the next quarterly monitoring report. The well locations are presented in Figure 2.

To assess the piezometric conditions at the site, the groundwater levels in each of the monitoring wells were measured within an approximate 15-minute period on 3 November 1995, prior to the initiation of groundwater sampling. Groundwater levels were measured using an MMC Interface Meter, which would allow the measurement of separate-phase petroleum hydrocarbons, if present in the wells. The November 1995 and historic groundwater piezometric elevations are presented in Table 1. The November 1995 groundwater levels data indicated a southwesterly groundwater flow direction. The groundwater elevation data suggests a hydraulic gradient of approximately 0.007 foot per foot. Piezometric groundwater levels as measured on 3 November 1995, an interpretation of groundwater elevation contours, and the interpreted groundwater flow direction are presented in Figure 3. A summary of the field procedures used to monitor and sample groundwater are presented in Appendix A. Groundwater sampling was conducted with procedures developed by Applied Geosciences that are in general accordance with Regional Water Quality Control Board (RWQCB) and ACHCSA guidelines. Conditions encountered were recorded on groundwater collection logs, which are presented in Appendix B.

### 4.0 LABORATORY ANALYSIS

Groundwater samples collected during the third quarter 1995 were transported to American Environmental Network (AEN), of Pleasant Hill, California, a State-certified hazardous waste laboratory, for analysis using chain-of-custody procedures. The three groundwater water samples were analyzed for TPHg in general accordance with Environmental Protection Agency (EPA) Method 8015 (modified); and for BTEX in general accordance with EPA Method 8020. A summary of the laboratory results is presented in Table 2. The laboratory analytical results and the chain-of-custody form are presented in Appendix C.

### 5.0 DISCUSSION

Depths to water were measured on 3 November 1995. Groundwater elevations were reported to range from approximately 93.79 feet to 95.29 feet with respect to an arbitrary datum. Groundwater levels have decreased an average of 0.72 feet from the previous monitoring event (July 1995) which was performed by Blakely Environmental Inc. Groundwater elevations, using the 3 November 1995 data, suggest a southwesterly groundwater flow direction on-site. The

hydraulic gradient in the vicinity of the three wells is estimated to be 0.007 foot per foot. There was no evidence of floating product in the three on-site wells.

TPHg was reported above the laboratory reporting limit in the groundwater sample collected from MW-1. However, the concentrations of TPHg have decreased from 4400  $\mu\text{g/L}$  to 300  $\mu\text{g/L}$ . TPHg was not reported above the laboratory reporting limit in the groundwater samples collected from MW-2 or MW-3 during this sampling round. TPHg was not reported in MW-3 in the previous round performed by Blakely Environmental Inc.

BTEX was reported above the laboratory reporting limit in the groundwater sample collected from MW-1. However, the concentrations of BTEX in MW-1 have decreased significantly. The concentrations of benzene in MW-2 and MW-3 have increased from the previous sampling round. The concentration of toluene in MW-2 has decreased significantly since the previous sampling round in MW-2, and was not reported above the laboratory reporting limits in MW-3 for the second time. Ethylbenzene and xylenes were not reported above the laboratory report in limits in MW-2 or MW-3 for the second time.

Concentrations of TPHg and BTEX were reported to have decreased significantly or continued to not be reported above the laboratory reporting limit in MW-1 through MW-3, except for a slight increase in benzene in MW-2 and MW-3.

## 6.0 CONCLUSIONS

Based on the information presented in this report, current regulatory guidelines, and the judgment of Applied Geosciences, the following conclusions are presented:

- Concentrations of TPHg and BTEX were reported to have decreased significantly or continued to not be reported above the laboratory reporting limit in MW-1 through MW-3, except for a slight increase in benzene in MW-2 and MW-3.

## 7.0 RECOMMENDATION

Based on the data and conclusions presented in this report, and the judgment of Applied Geosciences, the following recommendation is presented for your consideration:

- Conduct the next quarterly groundwater monitoring, in mid-December 1995, as required by the Alameda County Health Care Services Agency, Department of Environmental Health, UST Local Oversight Program. At that time, the historical groundwater analytical data will be reviewed and recommendations for future work, if warranted, will be made.

The judgements, conclusions, and recommendations described in this report pertain to the conditions judged to be present or applicable at the time the work was performed. The future conditions may differ from those described herein and this report is not intended for use in future evaluations of the site unless an update is conducted by a consultant familiar with environmental assessments and/or subsurface investigations. Use of this report is provided to Union Bank, solely for their exclusive use and shall be subject to the terms and conditions in the applicable contract between Union Bank, and Applied Geosciences. Any third party use of this report shall also be subject to the terms and conditions governing the work in the contract between Union Bank, and Applied Geosciences. Any unauthorized release or misuse of this report shall be without risk or liability to Applied Geosciences.

Certain information contained in this report may have been rightfully provided to Applied Geosciences by third parties or other outside sources. Applied Geosciences does not make any warranties or representations, whether expressed or implied, regarding the accuracy of such information, and shall not be held accountable or responsible in the event that any such inaccuracies are present.



## 8.0 REFERENCES

Blakely Environmental Inc., 1995, 1995 Second Quarterly Groundwater Monitoring Report for the Watson Trust Property, 1461 Park Avenue, Emeryville, California, dated 21 July 1995.

**TABLE 1**  
**1461 PARK AVENUE, EMERYVILLE, CALIFORNIA**  
**HISTORICAL GROUNDWATER ELEVATION DATA**

Well I.D.	T.O.C. Elevation	Date	DTW	Elevation
MW-1	99.56	05 MAY 95	4.47	95.09
		05 JULY 95	3.83	95.73
		03 NOV. 95	4.41	95.15
MW-2	99.83	05 MAY 95	4.52	95.31
		05 JULY 95	3.88	95.95
		03 NOV. 95	4.54	95.29
MW-3	98.67	05 MAY 95	4.43	94.24
		05 JULY 95	3.95	94.72
		03 NOV. 95	4.88	93.79

Notes:

T.O.C. = Top of Casing

Top of Casing elevations for three wells are reported in Blakely Environmental Inc.,  
dated 21 July 1995.

DTW = Depth to groundwater measured from the top of the 2-inch casing.

All elevations reported are in feet.

Data for 5 July 1995 obtained from Blakely Environmental Inc., dated 21 July 1995.

**TABLE 2**  
**1461 PARK AVENUE, EMERYVILLE, CALIFORNIA**  
**GROUNDWATER ANALYTICAL RESULTS**

WELL NUMBER	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	DISSOLVED OXYGEN
MW1	05 MAY 95	600	540	28	8	180	-
	05 JULY 95	4400	700	14	5	130	2.98
	03 NOV. 95	300	150	2	1	19	NA
MW2	05 MAY 95	-500	-0.6	-1	-1	-3	-
	05 JULY 95	1600	-0.6	26	-1	-3	3.2
	03 NOV. 95	-50	5	0.6	-0.5	-2	NA
MW3	05 MAY 95	-500	7.4	-1	-1	-3	-
	05 JULY 95	-500	5.6	-1	-1	-3	6.1
	03 NOV. 95	-50	7.6	-0.5	-0.5	-2	NA

Notes:

Results are reported in micrograms per liter, except for dissolved oxygen which is reported in the average parts per million.

TPHg = Total Petroleum Hydrocarbons as gasoline analyzed by modified EPA Method 8015 following sample purge and trap by EPA Method 5030.

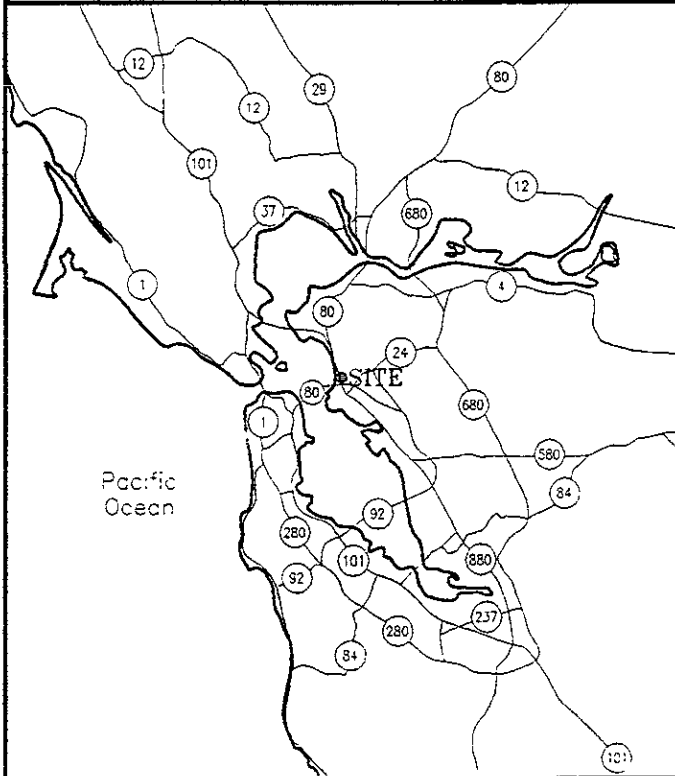
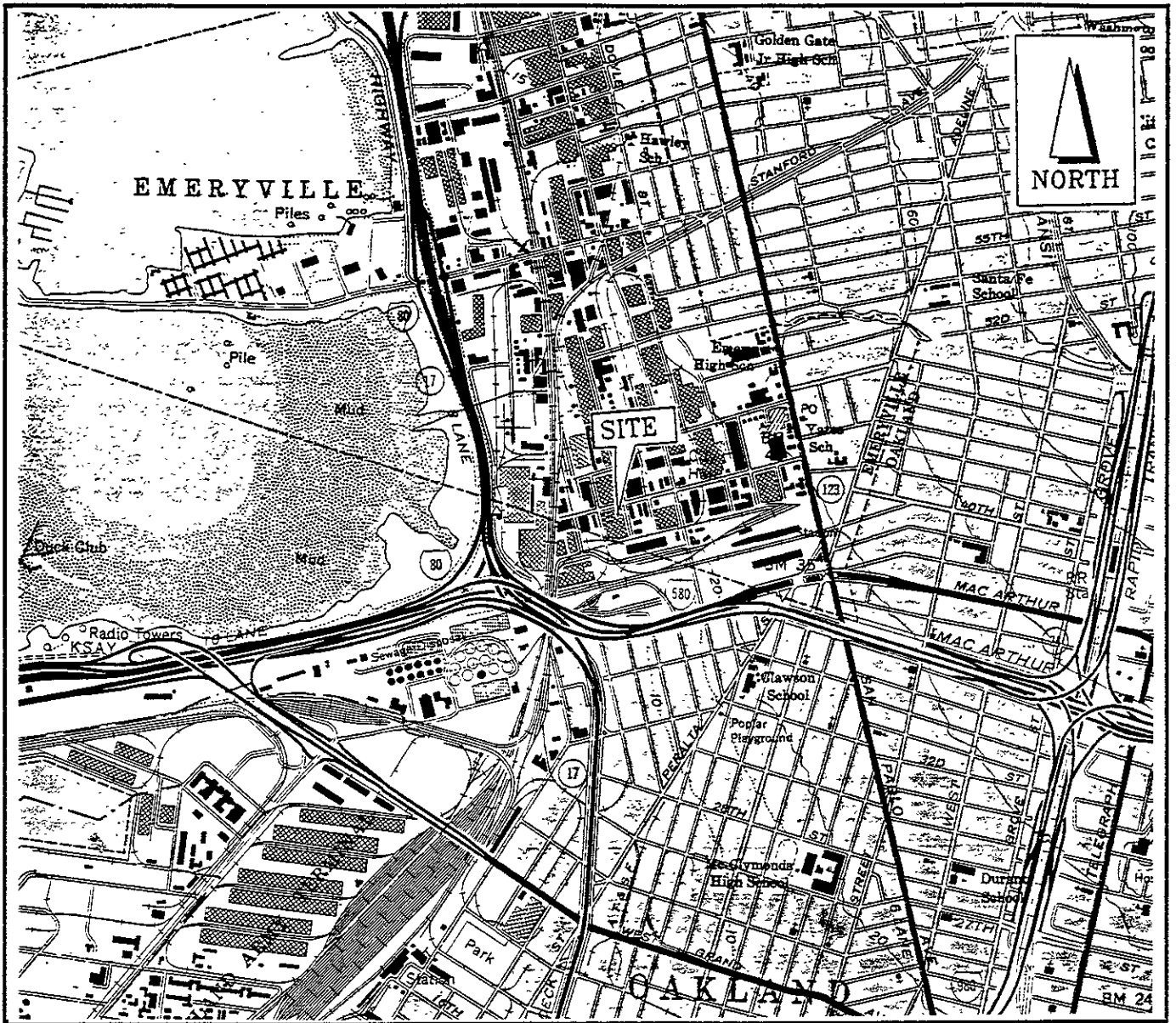
Benzene, Toluene, Ethylbenzene, and Xylenes analyzed by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.

Negative values (-) represent reporting limits above which concentrations were not reported.

(--) = Analysis not performed.

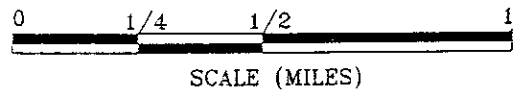
Results for 5 July 1995 and 5 May 1995 obtained from Blakely Environmental Inc., dated 21 July 1995.

NA = Not applicable



Notes:

- 1) All locations and dimensions are approximate.
- 2) Base map from USGS Oakland West (1959), 7.5 Minute Topographic Series, photorevised in 1980.



APPLIED GEOSCIENCES INC.

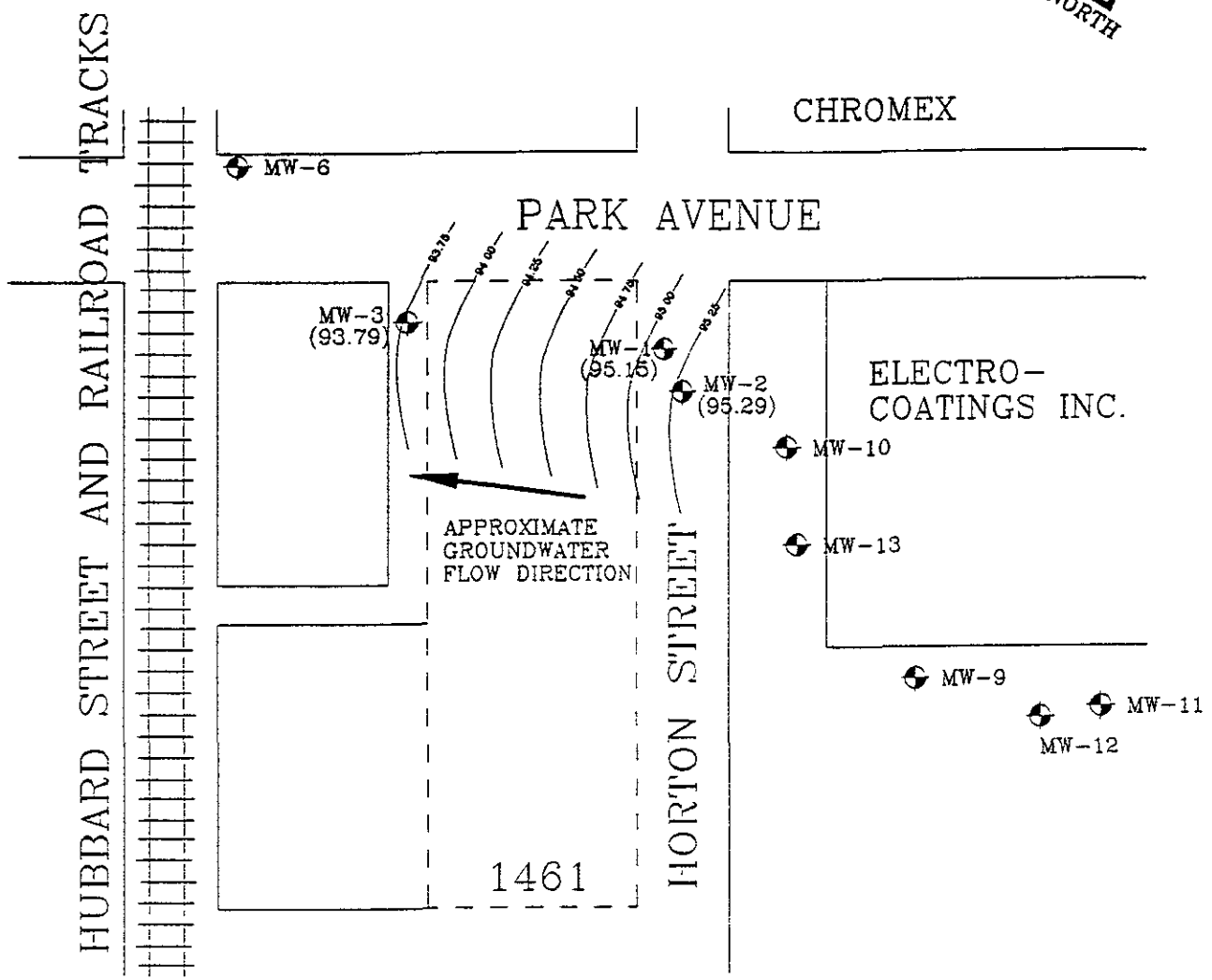
Environmental Consultants



SITE LOCATION MAP  
 WATSON TRUST  
 1461 PARK AVENUE  
 EMERYVILLE, CALIFORNIA

PROJECT NO. A953399

FIGURE 1



HYDRAULIC GRADIENT OF APPROXIMATELY 0.007 FOOT PER FOOT

EXPLANATION:

- (93.79)  
MW-3  
 DESIGNATION AND LOCATION OF MONITORING WELLS.
- APPROXIMATE GROUNDWATER ELEVATION CONTOURS
- - - SITE BOUNDARY



NOTES:

- 1) ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
- 2) SITE PLAN BASED ON OBSERVATIONS MADE DURING SITE RECONNAISSANCE AND FIGURES PREPARED BY BLAKELY ENVIRONMENTAL INC., DATED JULY 1995.

APPLIED GEOSCIENCES INC. Environmental Consultants		
GROUNDWATER PIEZOMETRIC CONTOUR MAP WATSON TRUST 1461 PARK AVENUE EMERYVILLE, CALIFORNIA 3 NOVEMBER 1995		
PROJECT NO. A953399	FIGURE 2	

**APPENDIX A**  
**SUMMARY OF FIELD PROCEDURES**

## SUMMARY OF FIELD PROCEDURES

The procedures that were used to conduct groundwater monitoring are as follows:

### Groundwater Monitoring

- Measurements of depth to groundwater were made from the top of casings of all wells within as short a time span as feasible, and prior to the initiation of other monitoring activities. The top of the casings were observed to have been notched, which usually indicates the northern most portion of the casing. Groundwater levels were measured using a MMC Interface Meter and the notch was used as the reference point. The depth to groundwater, along with the depth of the well, was used to determine the amount of water to purge.
- Prior to the initiation of purging, dedicated translucent Voss disposable bailers were used to allow for the observation of a sheen or floating product. If no sheen or floating product were observed, the bailers were then used to complete the purging process and the subsequent collection of groundwater samples.
- Each well was purged a minimum of approximately five casing volumes of water, to the extent feasible. Water temperature, pH, specific conductivity, and dissolved oxygen content of extracted groundwater were measured.
- Following the purging of a minimum of approximately five casing volumes of water, or recovery to 80% of the original groundwater level if the well was purged dry, groundwater samples were collected from each of the monitoring wells.
- Sampling information was recorded on Groundwater Collection Forms. Work was performed under at the direction of a State-Registered Geologist from Applied Geosciences Inc.
- The water samples collected were placed into laboratory-provided containers, labeled, and stored on ice in an insulated chest pending delivery to the laboratory for analysis.
- Chain-of-custody procedures were used to document sample handling and transport from the time of sample collection to delivery within 48 hours of sampling to a State-certified hazardous waste laboratory for analysis.
- Purge water recovered from the monitoring wells was stored on-site in a labeled 55-gallon drum. Disposal of the purgewater in accordance with current regulatory guidelines, based on the laboratory results, will be conducted.

**APPENDIX B**  
**GROUNDWATER COLLECTION LOGS**



# GROUNDWATER COLLECTION LOG

WELL NO. MW1-1W

PROJECT NAME Watson Trust  
 PROJECT NUMBER A953399  
 DATE 11/3/95  
 PAGE 1

SAMPLE NUMBER MW1  
 DEPTH TO BOTTOM 19.35  
 DEPTH TO WATER 9.41  
 SAMPLE METHOD dip bailer  
 PURGE METHOD hand bail

TIME	CUMULATIVE VOLUME OF WATER PURGED	pH	ELECTRICAL CONDUCTIVITY	TEMP. °C	COMMENTS
1017	0				Begin purge
1032	5	6.76	2.07	70.5	
1037	10	6.22	2.12	69.8	
1041	12	6.92	2.13	69.5	End Purge
1055					Sample taken
					Water is bright yellow. No odor. No sheen

DO ppm  
 -19.0  
 -19.7  
 -20.5

TOTAL NUMBER OF SAMPLES COLLECTED 3  
 VOA VILE(S)  
 1 LITER BOTTLE(S)  
 OTHER

LABORATORY: AEN  
 DATE SHIPPED: 11/3/95 SHIPPED VIA: courier  
 SAMPLED BY: HP

ESTIMATED VOLUME TO PURGE =  $3.14 \times (5 \text{ casing volume}) \times (7.5 \text{ gallons/cubic-foot}) \times (\text{height of water [feet]}) \times (\text{radius of well [feet]})^2$   
 ESTIMATED VOLUME TO PURGE =  $3.14 \times 5.0 \times 7.5 \times [14.94] \times [0.83]^2 = 12.1$



# GROUNDWATER COLLECTION LOG

WELL NO. MW2-1W

PROJECT NAME: Watson Trust  
 PROJECT NUMBER: A953319  
 DATE: 11/3/95  
 PAGE: 1

SAMPLE NUMBER: MW2  
 DEPTH TO BOTTOM: 19.55  
 DEPTH TO WATER: 21.54  
 SAMPLE METHOD: dip loader  
 PURGE METHOD: hand bail

TIME	CUMULATIVE VOLUME OF WATER PURGED	pH	ELECTRICAL CONDUCTIVITY	TEMP. °C	COMMENTS
0935	0				Empty bore
0947	5	6.79	2.36	64.3	
0953	10	6.77	2.50	66.9	
0958	12.2	6.76	2.55	67.2	END PURGE
1000					Sample taken
					water is bright yellow
					1 lb odor - 110 liter

DO  
-17.6  
-20.1  
-19.9

TOTAL NUMBER OF SAMPLES COLLECTED

5

VOA VILE(S)  
 1 LITER BOTTLE(S)  
 OTHER

LABORATORY: AEN

DATE SHIPPED: 11/3/95

SHIPPED VIA: courier

SAMPLED BY: AT

ESTIMATED VOLUME TO PURGE =  $3.14 \times (5 \text{ casing volume}) \times (7.5 \text{ gallons/cubic-foot}) \times (\text{height of water [feet]}) \times (\text{radius of well [feet]})^2$

ESTIMATED VOLUME TO PURGE =  $3.14 \times 5.0 \times 7.5 \times [1.50]^2 \times [0.85]^2 = 12.5$



# GROUNDWATER COLLECTION LOG

WELL NO. MW3-1W

PROJECT NAME: Watson Trust  
 PROJECT NUMBER: A953399  
 DATE: 11/3/95  
 PAGE: 1

SAMPLE NUMBER: MW3  
 DEPTH TO BOTTOM: 19.5  
 DEPTH TO WATER: 4.88  
 SAMPLE METHOD: disp bouler  
 PURGE METHOD: hand bail

TIME	CUMULATIVE VOLUME OF WATER PURGED	pH	ELECTRICAL CONDUCTIVITY	TEMP. °C	COMMENTS
0858	0				Begin Purge
0903	5	6.88	2.40	69.2	
0910	10	6.85	2.34	64.3	
0915	12.0	6.88	2.25	64.3	End Purge
0920					Sample taken
					Water is clear yellow. Slightly turbid in sample

120 ppm  
 -13.5  
 -13.8  
 -14.4

TOTAL NUMBER OF SAMPLES COLLECTED: 3  
 VOA VILE(S):  
 1 LITER BOTTLE(S):  
 OTHER:  
 LABORATORY: AEN  
 DATE SHIPPED: 11/3/95 SHIPPED VIA: courier  
 SAMPLED BY: ME

ESTIMATED VOLUME TO PURGE =  $3.14 \times (5 \text{ casing volume}) \times (7.5 \text{ gallons/cubic-foot}) \times (\text{height of water [feet]}) \times (\text{radius of well [feet]})^2$   
 ESTIMATED VOLUME TO PURGE =  $3.14 \times 5.0 \times 7.5 \times [1.083]^2 \times 1^2 = 11.8$



**APPENDIX C**  
**LABORATORY ANALYTICAL RESULTS**  
**AND**  
**CHAIN-OF-CUSTODY FORM**

RECEIVED NOV 10 1995

# American Environmental Network

## Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

APPLIED GEOSCIENCES INC.  
1641 N. FIRST ST. #235  
SAN JOSE, CA 95112

REPORT DATE: 11/09/95

DATE(S) SAMPLED: 11/03/95

DATE RECEIVED: 11/03/95

ATTN: NICOLE FOURCADE  
CLIENT PROJ. ID: A953399  
CLIENT PROJ. NAME: WATSON TRUST

AEN WORK ORDER: 9511051

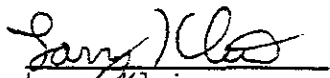
### PROJECT SUMMARY:

On November 3, 1995, this laboratory received 4 water sample(s).

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

  
Larry Klein  
Laboratory Director

## APPLIED GEOSCIENCES INC.

SAMPLE ID: MW1-1W  
AEN LAB NO: 9511051-01  
AEN WORK ORDER: 9511051  
CLIENT PROJ. ID: A953399

DATE SAMPLED: 11/03/95  
DATE RECEIVED: 11/03/95  
REPORT DATE: 11/09/95

---

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	150 *	0.5	ug/L	11/06/95
Toluene	108-88-3	2 *	0.5	ug/L	11/06/95
Ethylbenzene	100-41-4	1 *	0.5	ug/L	11/06/95
Xylenes, Total	1330-20-7	19 *	2	ug/L	11/06/95
Purgeable HCs as Gasoline	5030/GCFID	0.3 *	0.05	mg/L	11/06/95

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ND = Not detected at or above the reporting limit  
\* = Value at or above reporting limit

## APPLIED GEOSCIENCES INC.

SAMPLE ID: MW2-1W  
AEN LAB NO: 9511051-02  
AEN WORK ORDER: 9511051  
CLIENT PROJ. ID: A953399

DATE SAMPLED: 11/03/95  
DATE RECEIVED: 11/03/95  
REPORT DATE: 11/09/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	5 *	0.5	ug/L	11/06/95
Toluene	108-88-3	0.6 *	0.5	ug/L	11/06/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/06/95
Xylenes, Total	1330-20-7	ND	2	ug/L	11/06/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	11/06/95

ND = Not detected at or above the reporting limit  
\* = Value at or above reporting limit

## APPLIED GEOSCIENCES INC.

SAMPLE ID: MW3-1W  
AEN LAB NO: 9511051-03  
AEN WORK ORDER: 9511051  
CLIENT PROJ. ID: A953399

DATE SAMPLED: 11/03/95  
DATE RECEIVED: 11/03/95  
REPORT DATE: 11/09/95

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ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	7.6 *	0.5	ug/L	11/06/95
Toluene	108-88-3	ND	0.5	ug/L	11/06/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/06/95
Xylenes, Total	1330-20-7	ND	2	ug/L	11/06/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	11/06/95

---

ND = Not detected at or above the reporting limit

\* = Value at or above reporting limit



## APPLIED GEOSCIENCES INC.

SAMPLE ID: TB1-1W  
AEN LAB NO: 9511051-04  
AEN WORK ORDER: 9511051  
CLIENT PROJ. ID: A953399

DATE SAMPLED: 11/03/95  
DATE RECEIVED: 11/03/95  
REPORT DATE: 11/09/95

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ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	11/06/95
Toluene	108-88-3	ND	0.5	ug/L	11/06/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	11/06/95
Xylenes, Total	1330-20-7	ND	2	ug/L	11/06/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	11/06/95

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ND = Not detected at or above the reporting limit  
\* = Value at or above reporting limit

AEN (CALIFORNIA)  
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9511051

CLIENT PROJECT ID: A953399

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

## QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9511051  
 INSTRUMENT: F  
 MATRIX: WATER

## Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
11/06/95	MW1-1W	01	105
11/06/95	MW2-1W	02	101
11/06/95	MW3-1W	03	98
11/06/95	TB1-1W	04	100
QC Limits:			92-109

DATE ANALYZED: 10/31/95  
 SAMPLE SPIKED: 9510345-01  
 INSTRUMENT: F

## Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	19.9	92	2	85-109	17
Toluene	57.6	98	5	87-111	16
Hydrocarbons as Gasoline	500	106	<1	66-117	19

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

\*\*\* END OF REPORT \*\*\*

9511051  
JUL 30 20

APPLIED GEOSCIENCES INC.

CHAIN-OF-CUSTODY RECORD

Project Number		Project Name				No. of	Type of	Preservative	Type of Analysis										Condition of Samples	Initial
Send Report Attention of:		Analytical Laboratory:							Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs		
Sample Number	Date	Time	Matrix	Location	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs	Cntnrs				
MW1-1W	11/3/95	1045	H <sub>2</sub> O	MW1	3	Hand Vorn	11/1	X												
MW2-1W		1000		MW2				X												
MW3-1W		0920		MW3				X												
TB1-1W		0820		TB1				X												
Relinquished by:		Date/Time		Received by:		Date/Time		Remarks: Samples: Nicste Furcode Specify 845/8220 on report <u>3 Day Rush.</u>												
Relinquished by:		Date/Time		Received by:		Date/Time														
Relinquished by:		Date/Time		Received by:		Date/Time														

D1A C  
D2A C  
D3A C  
D4AB

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