July 17, 1996 ICES 2146

ICES
Innovative & Creative
Environmental Solutions

Ms. Juliet Shin
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Groundwater Monitoring - July 1996
Former Goodman Property
Alameda, California

Dear Juliet:

Enclosed please find a copy of the report documenting the third round of sampling for the three monitoring wells at the former Goodman Property located at 2501 Santa Clara Avenue in Alameda, California.

If you have any questions please do not hesitate to contact me at (510) 652-3222.

Sincerely,

Gary Wong
Project Engineer

Reng Leong
Principal Engineer

Enclosure

cc: Jerry Sherman, Jerry's Tire and Auto Center

GROUNDWATER MONITORING - JULY 1996

FORMER GOODMAN PROPERTY
ALAMEDA, CALIFORNIA

JULY 17, 1996

ICES 2146

Prepared for:

Jerry's Tire and Auto Center
2501 Santa Clara Avenue
Alameda, California

Innovative & Creative Environmental Solutions

P. O. Box 11582 Berkeley CA 94712-2582
... (510) 652-3222 ...

GROUNDWATER MONITORING - JULY 1996

Former Goodman Property
Alameda, California

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GROUNDWATER MONITORING - JULY 1996
FORMER GOODMAN PROPERTY
ALAMEDA, CALIFORNIA

1.0 INTRODUCTION

At the request of Mr. Jerry Sherman, Innovative and Creative Environmental Solutions (ICES) performed the third round of groundwater sampling for the three monitoring wells at the former Goodman Property located at 2501 Santa Clara Avenue in Alameda, California ("the Site; Figure 1").

The groundwater sampling activities were performed to monitor the groundwater quality underlying the Site.

2.0 BACKGROUND

An automobile repair facility presently occupies the Site. The Site formerly housed four underground storage tanks (USTs). The USTs were removed and disposed offsite by Aqua Science Engineers, Inc. (ASE) of San Ramon on August 13, 1992.

Three monitoring wells were initially installed at the Site. In the overexcavation process, one monitoring well (MW-2) was destroyed and replaced by a new well following completion of the excavation activities. The interim remedial activities and well installation activities are documented in ASE's report entitled "Final Report of Environmental Activities detailing 'Source Removal and Assessment Operations'" dated June 8, 1993.

The first and second rounds of groundwater monitoring was conducted on April 26, 1993 and February 9, 1996, respectively. Laboratory analytical results of the groundwater samplings are tabulated in Appendix B.

3.0 GROUNDWATER SAMPLING

Groundwater samples were collected from the three monitoring wells on July 8, 1996. The approximate monitoring well locations are shown in Figure 2. Depth-to-groundwater was measured using

an electric water level meter prior to groundwater sampling activities. Groundwater sampling involved bailing approximately four well casing volumes of water out of the wells prior to sampling. Parameters such as water clarity, pH, temperature, specific conductance and volume extracted were measured during purging. The wells were bailed near-continuously until all stagnant water was removed.

One groundwater sample was collected manually (hand-bailed) from each well using a Teflon bailer. The sample was transferred into 40-ml VOA vials with Teflon septa. The samples were stored in a chilled cooler containing crushed ice to maintain the sample at 4°C for delivery to the laboratory. Strict chain-of-custody protocols were followed in all phases of sample handling.

All equipment used during this investigation which might come into contact with contaminated materials were thoroughly cleaned before and after each use. This was accomplished by washing with Alconox (a laboratory-grade detergent) and/or cleaning with high-pressure hot water (steam cleaning).

4.0 GROUNDWATER ELEVATION AND FLOW

The elevation of the groundwater surface (potentiometric surface) was measured for each monitoring well to evaluate the direction of groundwater flow at the Site. Groundwater level measurements were recorded using an electronic water-level probe attached to an engineer's measuring tape graduated to 0.01-foot intervals.

Measurements were recorded from the top of the groundwater surface to the top of the well casing. The elevation of the top of each well casing was determined by data provided in the ASE's final report. The difference between the top of the well casing elevation and the depth to the top of the groundwater surface is a measurement of the potentiometric surface of the groundwater table.

Measured groundwater levels at the Site ranged from 17.78 feet (MW-3) to 18.60 feet (MW-2) above mean sea level. Mapping and analysis of the groundwater elevation data suggest that the local groundwater gradient flows in a northeasterly direction toward the San Francisco Bay. The top of well casing elevations, depth-to-groundwater, and the computed elevation of the groundwater surface is listed in Table 2. Figure 3 shows the water-level data collected and the interpreted contour lines.

5.0 LABORATORY ANALYSES

The groundwater samples were analyzed by Chromalab, Inc. of Pleasanton, California, a state-certified laboratory. The groundwater samples collected from the three monitoring wells were analyzed for

- Total petroleum hydrocarbons as gasoline (TPHg) using EPA Method 5030/GCFID, and
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) using EPA Method 8020.

The samples were analyzed on a normal 5-day turnaround basis.

5.1 Laboratory Analytical Results

The laboratory analytical results are summarized in Table 1. The monitoring well and groundwater data is presented in Table 3. Laboratory certificates are included in Appendix A. The results are as follows:

Analysis of groundwater samples indicated that:

- TPHg concentrations ranged from less than 0.05 mg/l (not detected) to 0.140 mg/l.
- Benzene concentrations ranged from less than 0.0005 mg/l (not detected) to 0.0026 mg/l.
- Toluene concentrations ranged from less than 0.0005 mg/l (not detected) to 0.00078 mg/l.
- Ethylbenzene concentrations ranged from less than 0.0005 mg/l (not detected) to 0.0022 mg/l.
- Total xylenes concentrations ranged from less than 0.0005 mg/l (not detected) to 0.0042 mg/l.

6.0 DISCUSSION

Laboratory analytical results indicated that there were non-detectable concentrations of TPHg and BTEX in the groundwater samples collected from wells MW-1 and MW-2 at the Site. The non-detectable TPHg and BTEX concentrations for wells MW-1 and MW-2 were consistent with the results of the previous monitoring event.

Low concentrations of TPHg and BTEX were detected in well MW-3. The results for well MW-3 are generally consistent with the results of the previous groundwater monitoring event.

The next round of groundwater samples will be collected in September 1996.

7.0 EXCLUSIONS

ICES assumes no responsibility or liability for the reliance hereon or use hereof of information contained in this report by anyone other than the party to whom it is addressed.

TABLE 1

LABORATORY ANALYTICAL RESULTS FOR
TOTAL PETROLEUM HYDROCARBONS
DETECTED IN GROUNDWATER
JULY 1996

Goodman Property
Alameda, California

(concentrations expressed in mg/L)

Analyte	MW-1	MW-2	MW-3
Gasoline	ND<0.050	ND<0.050	0.140
Benzene	ND<0.0005	ND<0.0005	0.0026
Toluene	ND<0.0005	ND<0.0005	0.00078
Ethylbenzene	ND<0.0005	ND<0.0005	0.0022
Xylenes	ND<0.0005	ND<0.0005	0.0042

ND Not Detected

TABLE 2

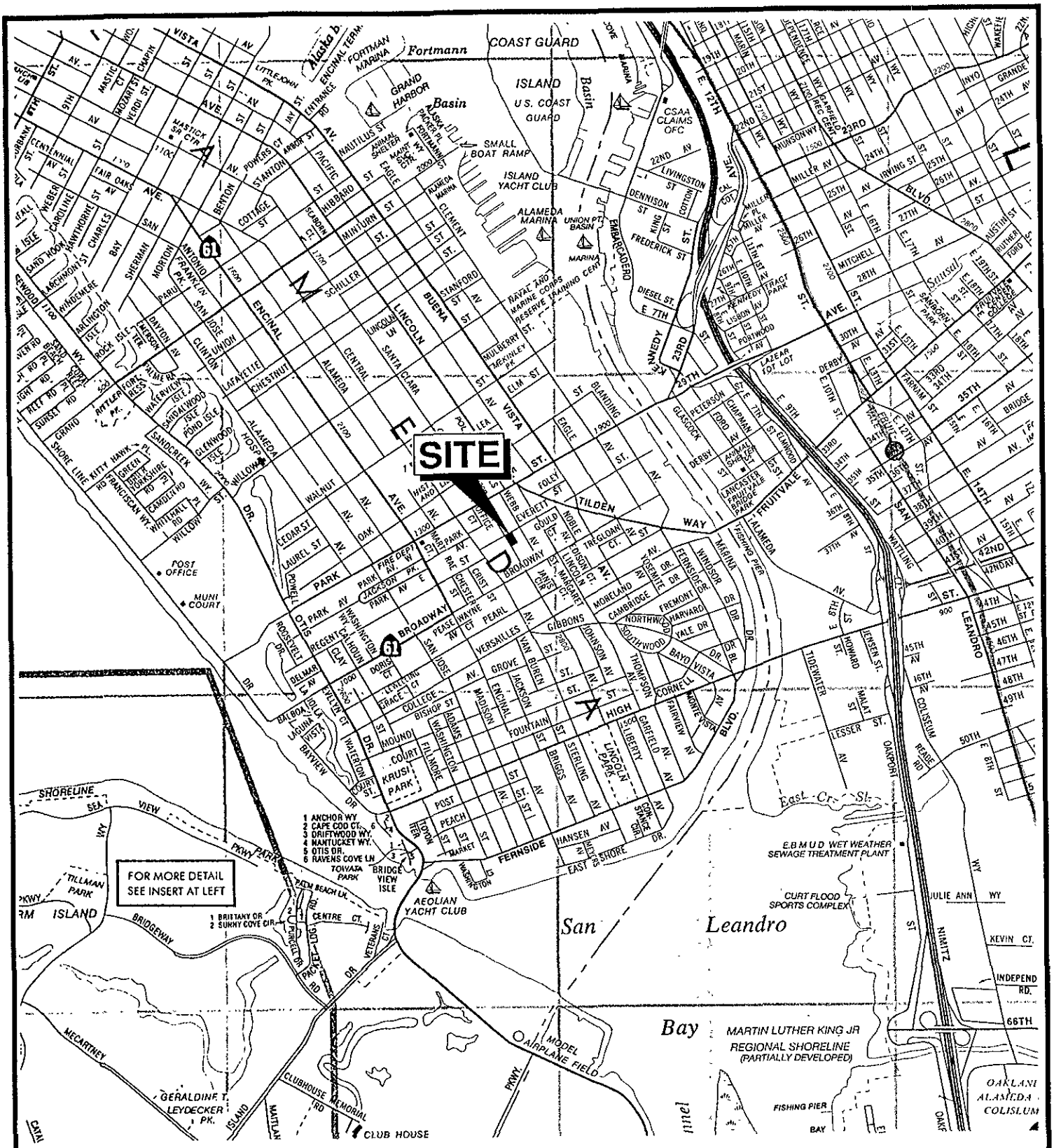
GROUNDWATER ELEVATIONS
JULY 1996
Goodman Property
Alameda, California

WELL	TOP OF CASING ELEVATION	DEPTH TO GROUNDWATER	GROUNDWATER ELEVATION
MW-1	24.46	6.18	18.28
MW-2	24.38	5.78	18.60
MW-3	25.00	7.22	17.78

TABLE 3

SAMPLING DATA
JULY 1996
Goodman Property
Alameda, California

WELL	TEMPERATURE (°C)	pH (S.U.)	CONDUCTIVITY (µmhos/cm)
MW-1	21.1	6.00	530
MW-2	21.4	5.97	418
MW-3	19.9	6.13	629



Scale: 1" : ± 2000'	July 1996

SITE LOCATION

Former Goodman Property

Figure 1

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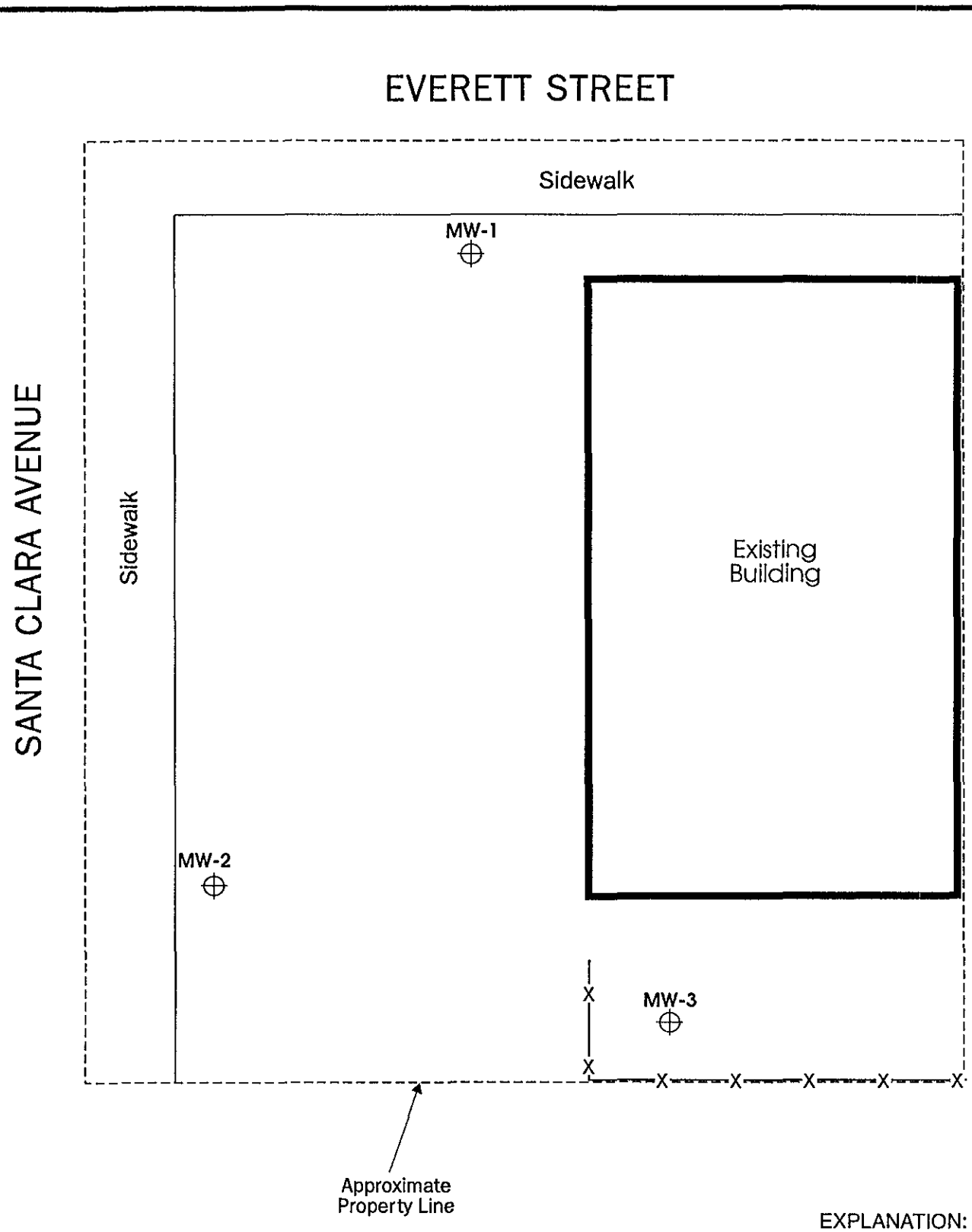

Not-to-Scale	July 1996	MONITORING WELL LOCATIONS Former Goodman Property	Figure 2 Project 2146

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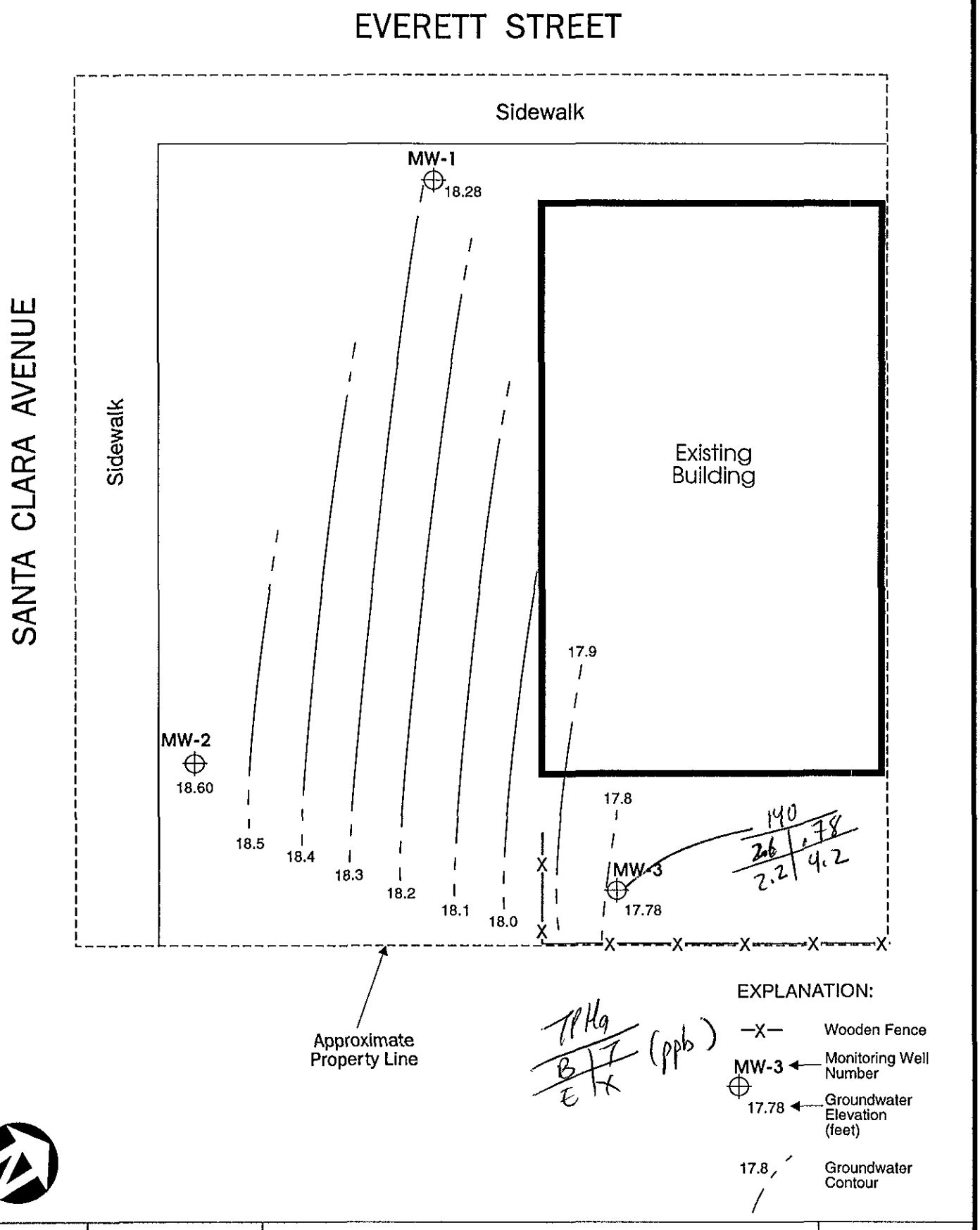
QP2-1



Not-to-Scale	July 1996

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GROUNDWATER ELEVATIONS

Former Goodman Property

Figure 3

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gp3-1

APPENDIX A

LABORATORY CERTIFICATE

CHROMALAB, INC.

Environmental Services (SDB)

July 15, 1996 *Submission #:* 9607584

ICES

Atten: Peng Leong

Project: Not provided *Project#:* ICES 2146
Received: July 8, 1996

re: 3 samples for Gasoline and BTEX compounds analysis.
Method: *EPA 5030/8015M/8020*

Matrix: WATER
Sampled: July 8, 1996 *Run#:* 2092 *Analyzed:* July 10, 1996

Spl# CLIENT SPL ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
91195 MW-1	N.D.	N.D.	N.D.	N.D.	N.D.
91196 MW-2	N.D.	N.D.	N.D.	N.D.	N.D.
91197 MW-3	140	2.6	0.78	2.2	4.2
Reporting Limits	50	0.50	0.50	0.50	0.50
Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	104	115	109	112	105

June Zhao
Chemist

Marianne Alexander
Gas/BTEX Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

APPENDIX B

SUMMARY
GROUNDWATER MONITORING RESULTS

SUMMARY

LABORATORY ANALYTICAL RESULTS FOR
TOTAL PETROLEUM HYDROCARBONS
DETECTED IN GROUNDWATER
Goodman Property
Alameda, California

(concentrations expressed in mg/L)

Analyte	Apr '93	Feb '96	Jul '96
MW-1			
Gasoline	ND<0.050	ND<0.050	ND<0.050
Benzene	ND<0.0005	ND<0.0005	ND<0.0005
Toluene	ND<0.0005	ND<0.0005	ND<0.0005
Ethylbenzene	ND<0.0005	ND<0.0005	ND<0.0005
Xylenes	ND<0.0005	ND<0.0005	ND<0.0005
MW-2			
Gasoline	ND<0.050	ND<0.050	ND<0.050
Benzene	ND<0.0005	ND<0.0005	ND<0.0005
Toluene	ND<0.0005	ND<0.0005	ND<0.0005
Ethylbenzene	ND<0.0005	ND<0.0005	ND<0.0005
Xylenes	ND<0.0005	ND<0.0005	ND<0.0005
MW-3			
Gasoline	2.20	0.099	0.140
Benzene	0.0035	0.0013	0.0026
Toluene	0.0046	ND<0.0005	0.00078
Ethylbenzene	0.0080	0.005	0.0022
Xylenes	0.0028	0.00068	0.0042

ND Not Detected