March 18, 1996 ICES 2146

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

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

Dear Juliet:

Enclosed please find a copy of the report documenting the second 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,

Peng Leong
Principal Engineer

Enclosure

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

ICES
Innovative & Creative Environmental Solutions

Tel (510) 652-3222
Fax (510) 652-3555

P. O. Box 11582
Berkeley CA
94712-2582

GROUNDWATER MONITORING - FEBRUARY 1996

FORMER GOODMAN PROPERTY
ALAMEDA, CALIFORNIA

MARCH 18, 1996

ICES 2146

Prepared for:

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

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GROUNDWATER MONITORING - FEBRUARY 1996

Former Goodman Property
Alameda, California

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

March 18, 1996 ICES 2146

GROUNDWATER MONITORING - FEBRUARY 1996
FORMER GOODMAN PROPERTY
ALAMEDA, CALIFORNIA

1.0 INTRODUCTION

At the request of Mr. Jerry Sherman, Innovative and Creative Environmental Solutions (ICES) performed the second 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 round of groundwater monitoring was conducted on April 26, 1993. Laboratory analytical results of the groundwater samples are as follows:

- Total petroleum hydrocarbons (TPH) as gasoline (TPHg) concentrations ranged from less than 0.050 mg/l (not detected) to 2.200 mg/l;
- Benzene concentrations ranged from less than 0.0005 mg/l (not detected) to 0.0035 mg/l;

- Toluene concentrations ranged from less than 0.0005 mg/l (not detected) to 0.0046 mg/l;
- Ethylbenzene concentrations ranged from less than 0.0005 mg/l (not detected) to 0.008 mg/l;
- Total xylenes concentrations ranged from less than 0.0005 mg/l (not detected) to 0.028 mg/l; and
- TPH as diesel (TPHd) concentrations were less than 0.050 mg/l (not detected);
- Total oil and grease (TOG) concentrations were less than 0.5 mg/l (not detected).

3.0 GROUNDWATER SAMPLING

Groundwater samples were collected from the three monitoring wells on February 9, 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 and 1-liter amber-colored glass bottles. 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 18.78 feet (MW-3) to 19.55 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

- TPHg using EPA Method 5030/GCFID, and
- 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:

o TPHg concentrations ranged from less than 0.05 mg/l (not detected) to 0.099 mg/l.

o Benzene concentrations ranged from less than 0.0005 mg/l (not detected) to 0.0013 mg/l.

- Toluene concentrations were less than 0.0005 mg/l (not detected).
- Ethylbenzene concentrations ranged from less than 0.0005 mg/l (not detected) to 0.005 mg/l.
- Total xylenes concentrations ranged from less than 0.0005 mg/l (not detected) to 0.00068 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, benzene, ethylbenzene, and total xylenes were detected in well MW-3; toluene was not detected. The TPHg and BTEX concentrations in the groundwater sample collected from well MW-3 were significantly lower than the results of the previous round of samples.

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
FEBRUARY 1996
Goodman Property
Alameda, California

(concentrations expressed in mg/L)

Analyte	MW-1	MW-2	MW-3	ppb
Gasoline	ND<0.050	ND<0.050	0.099 →	99
Benzene	ND<0.0005	ND<0.0005	0.0013	1.3
Toluene	ND<0.0005	ND<0.0005	ND<0.0005	
Ethylbenzene	ND<0.0005	ND<0.0005	0.005	5
Xylenes	ND<0.0005	ND<0.0005	0.00068	0.68

ND Not Detected

Note: Monitoring well numbering sequence was flipped for wells MW-1 and MW-3 in the laboratory certificates - Well MW-1 should have been MW-3 and vice-versa.

TABLE 2

GROUNDWATER ELEVATIONS
FEBRUARY 1996
Goodman Property
Alameda, California

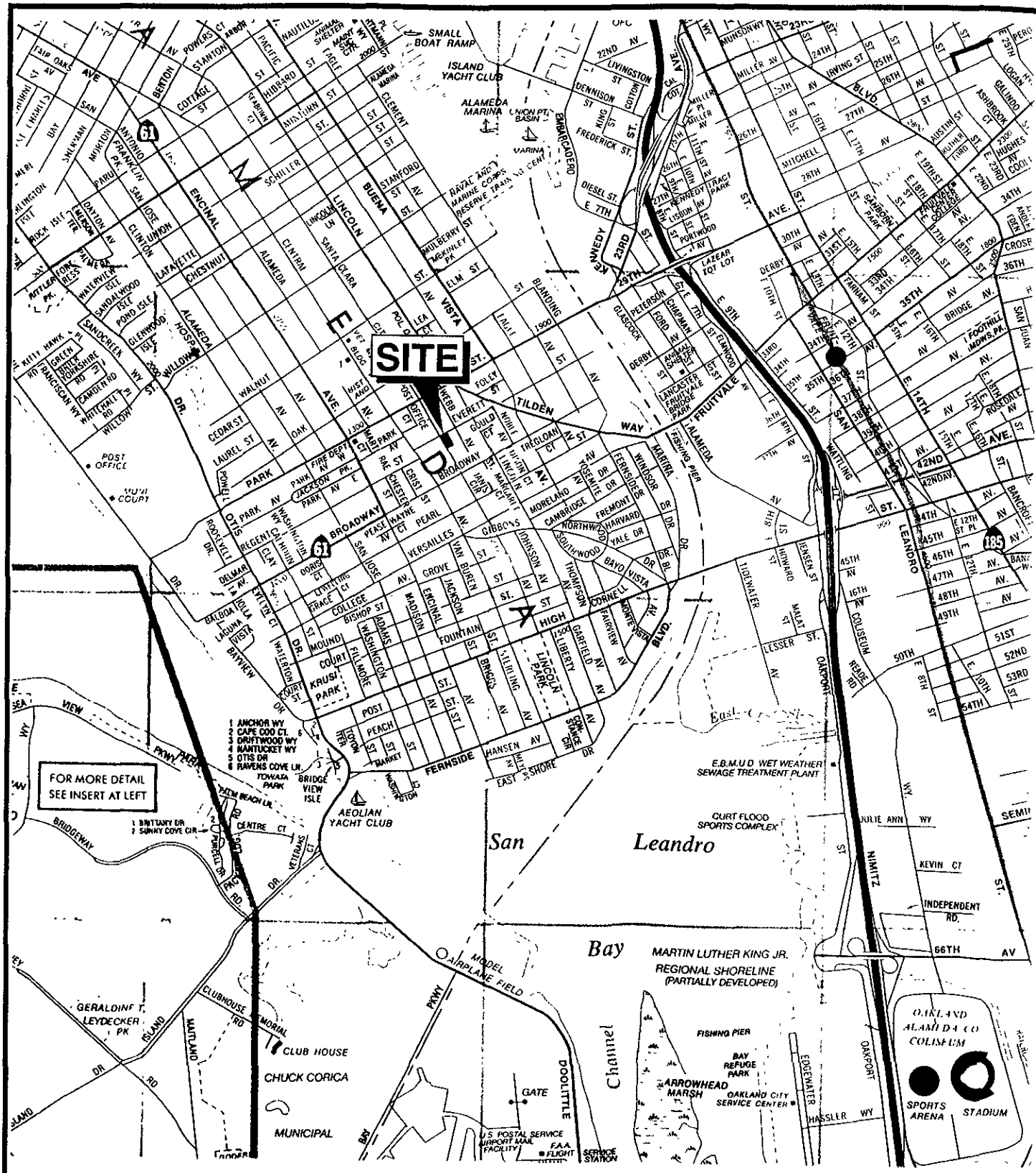
WELL	TOP OF CASING ELEVATION	DEPTH TO GROUNDWATER	GROUNDWATER ELEVATION
MW-1	24.46	5.33	19.13
MW-2	24.38	4.83	19.55
MW-3	25.00	6.22	18.78

Measured June 5 to 25, 1995.

TABLE 3

SAMPLING DATA
FEBRUARY 1996
Goodman Property
Alameda, California

WELL	TEMPERATURE (°C)	pH (S.U.)	CONDUCTIVITY (µmhos/cm)
MW-1	18.1	6.22	487
MW-2	18.5	5.97	499
MW-3	17.7	5.66	749



MAP SOURCE : CSAA

Scale: 1" : ± 2000'	Febuary 1996

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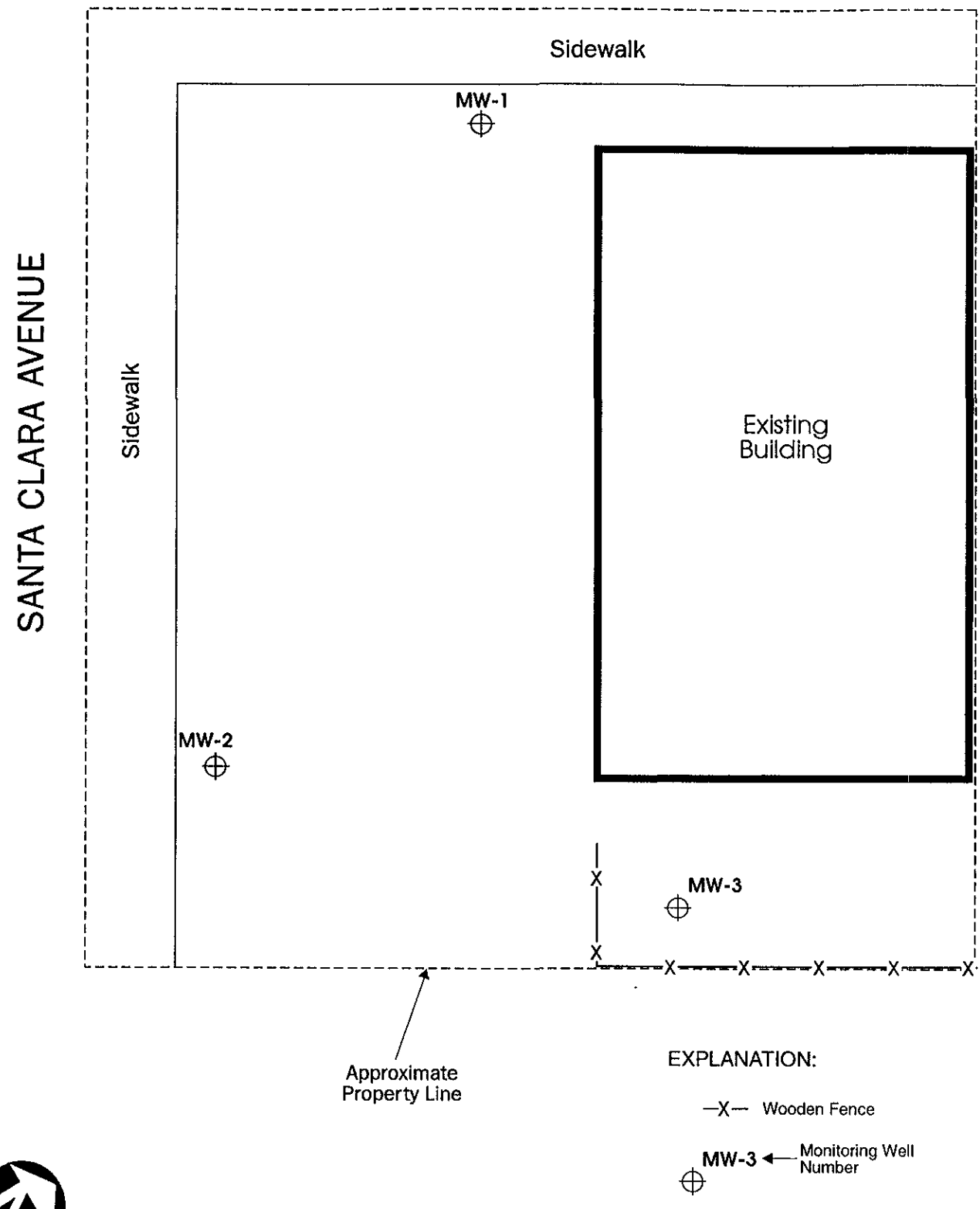
SITE LOCATION

Former Goodman Property

Figure 1

Project 2146



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

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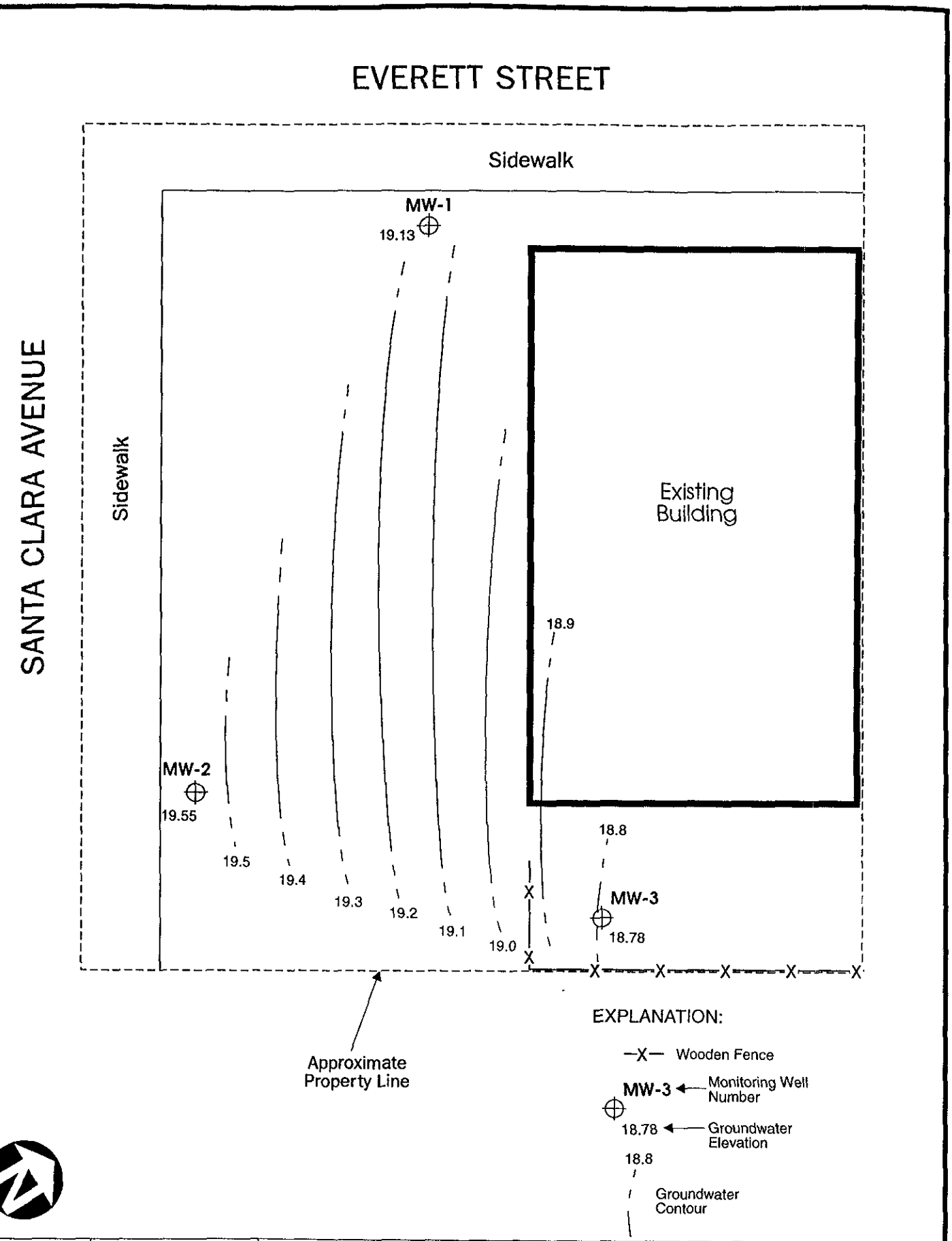
gp2ml



Not-to-Scale	February 1996	GROUNDWATER ELEVATIONS Former Goodman Property	Figure 3 Project 2146

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gp3ml

APPENDIX A

LABORATORY CERTIFICATES

CHROMALAB, INC.

Environmental Services (SDB)

February 16, 1996 *Submission #:* 9602560

ICES

Atten: Peng Leong

Project: Not provided *Project#:* 2146
Received: February 9, 1996

re: 3 samples for Gasoline and BTEX compounds analysis.

Method: EPA 5030/8015M/8020

Matrix: WATER
Sampled: February 9, 1996 *Run#:* 663 *Analyzed:* February 15, 1996

Spl# CLIENT SPL ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
79085 MW-1	99	1.3	N.D.	5.0	0.68
79086 MW-2	N.D.	N.D.	N.D.	N.D.	N.D.
79087 MW-3	N.D.	N.D.	N.D.	N.D.	N.D.
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 (%)	87.0	107	109	114	112

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

560/79085-79087

SUBM #: 9602560 REP:
CLIENT: ICES
DUE: 02/16/96
REF #:26398

26398

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

Chain of Custody

DATE 2/9/96 PAGE 1 OF 1

PROJ. MGR
COMPANY ICES
ADDRESS P. O. Box 11582
Berkeley CA 94712
SAMPLERS (SIGNATURE)
(PHONE NO.) (510) 652-3222
(FAX NO.) (510) 652-3555

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel, TEPH (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)		LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CONTAINERS
MW-1	2/9/96		WATER			X																		2
MW-2	↓		↓			X																		2
MW-3	↓		↓			X																		2

PROJECT INFORMATION

PROJECT NAME
PROJECT NUMBER ICES 2146
P.O. #

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	6
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

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

SPECIAL INSTRUCTIONS/COMMENTS.

RELINQUISHED BY 1
(SIGNATURE) (TIME) 1638
(PRINTED NAME) (DATE) 2/9/96
(COMPANY)

RECEIVED BY 1
(SIGNATURE) (TIME) 1638
PEDRO SAIS 2/9/96
(PRINTED NAME) (DATE)
CHROMALAB INC
(COMPANY)

RELINQUISHED BY 2.
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RECEIVED BY 2
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RELINQUISHED BY 3
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RECEIVED BY (LABORATORY) 3
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(LAB)