



March 13, 2002

MAR 15 2002

Mr. Scott Seery
Alameda County Environmental Health Department
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

RE: Workplans for Soil and Ground Water
Sampling at the Sunol Maintenance Yard and
Pump Station
WA Job #268-1573

Dear Scott:

Enclosed are workplans for soil and ground water sampling at the Sunol Maintenance Yard and Pump Station as we discussed earlier this year. Please contact me at 510-450-6124 should you or have any questions or comments. In my absence, please contact Jerry McHugh at 510-450-6145.

Sincerely,
Weiss Associates

Melissa Tumbleson, P.E.
Project Manager

Enclosures: Workplan for Soil and Ground Water Sampling Sunol Maintenance Yard
Workplan for Soil and Ground Water Sampling Sunol Pump Station

cc: Randall Smith, San Francisco Public Utilities Commission

MJT:mjt

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Weiss Associates *Environmental Science and Engineering Services*

5801 Christie Avenue, Suite 600, Emeryville, CA 94608

Phone: 510-450-6000

MAR 15 2002

**WORKPLAN FOR SOIL AND GROUND WATER
SAMPLING**

for

**Sunol Maintenance Yard
Sunol, California**

prepared for

San Francisco Public Utilities Commission
3801 Third Street, Suite 600
San Francisco, California 94124

March 13, 2002

WORKPLAN FOR SOIL AND GROUND WATER SAMPLING

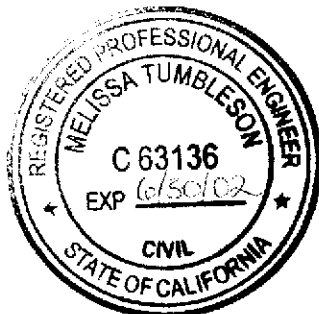
for

Sunol Maintenance Yard Sunol, California

prepared by

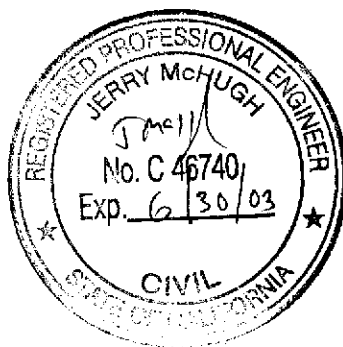
Weiss Associates
5801 Christie Avenue, Suite 600
Emeryville, CA 94608

Weiss Job # 268-1573-4



Melissa Tumbleson, P.E.
Civil Engineer No. C63136
Project Manager

Weiss Associates' work for the San Francisco Public Utilities Commission, was conducted under my supervision. To the best of my knowledge, the data contained herein are true and accurate and satisfy the scope of work prescribed by the client for this project. The data, findings, recommendations, specifications or professional opinions were prepared solely for the use of the San Francisco Public Utilities Commission in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied, and are not responsible for the interpretation by others of the contents herein.



Jerry McHugh, P.E.
Civil Engineer No. C46740
Principal

Date

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1. INTRODUCTION

1.1 Objective

Weiss Associates (Weiss) was contracted by the San Francisco Public Utilities Commission (SFPUC) to conduct soil and ground water sampling at the Sunol Maintenance Yard. The objectives of the sampling activities presented in this workplan are to fill in data gaps for the purpose of requesting site closure from the Alameda County Environmental Health Department (ACEHD).

1.2 Site Background

The Site is located in Sunol, California (Figure 1). Approximately 60 cubic yards of soil contaminated with waste oil was excavated from the Site in November 1989. According to information from the ACEHD wastes were improperly disposed of at the Site resulting in the waste oil contamination. Three underground storage tanks were removed from the Site in May 1990. Three ground water monitoring wells were installed in 1991 and quarterly monitoring was conducted through 1993.

Although petroleum hydrocarbons were not detected in the ground water samples from the three monitoring wells, additional ground water sampling was requested farther downgradient of the existing monitoring wells since the ACEHD did not feel the wells had been positioned sufficiently downgradient of the past contamination. Additionally, contaminated soil was discovered under the Maintenance Yard storage shed during a past sampling event. The sampling activities presented in this workplan include hydropunch borings downgradient of the existing monitoring wells and in the area of the storage shed (Figure 2).

2. SAMPLING DETAILS

2.1 Soil Sampling Procedures

Four hydropunch borings to a depth of approximately 20 ft bgs (or until ground water is encountered), are planned for the area around the Maintenance Yard as shown in Figure 2. MY-1 will be installed through the floor of the storage shed due to the contaminated soil that was detected there during a past sampling event.

Soil samples from each boring will be collected every five feet and at the estimated soil/ground water interface. Three soil samples will be analyzed from each of the hydropunch borings. The interface sample and two additional samples with either the highest photo-ionization detector (PID) reading, or the most obvious contamination based on visual inspection (i.e., soil staining), will be analyzed. Remaining soil samples will be held by the analytical laboratory. Samples will be transported to the selected laboratory in iced coolers under a signed Chain of Custody.

The minimal soil cuttings generated from the direct-push drilling will be stored on-site in 5-gallon buckets, approximately one bucket per boring, until receipt of analytical results, at which time the soil cuttings will be properly disposed of by SFPUC.

Table 1 summarizes planned sample collection activities.

2.2 Ground Water Sampling Procedures

A ground water sample will be collected from existing monitoring well MW-1 in the area of the Maintenance Yard. MW-1 is shown on Figure 2. This well was selected based on its downgradient location relative to the area of concern. Ground water samples will also be collected from the four hydropunch borings shown in Figure 2 at first encountered ground water. Samples will be transported to the selected laboratory in iced coolers under a signed Chain of Custody.

Purged ground water generated from sampling activities will be stored on-site in a 5-gallon bucket until receipt of analytical results, at which time the purged ground water will be properly disposed of by SFPUC.

Table 1 summarizes planned sample collection activities.

Table 1. Sample Collection Summary, Maintenance Yard, Sunol, California

Sample Location	# Soil Samples	# Ground Water Samples	# Trip Blanks/Rinsate Samples	Analyze for:
Existing Ground Water Well	NA	1	NA (trip blank included below, using a disposable bailer)	TPH-D, BTEX, MTBE, O&G, HVOCs
New Soil Borings (4)	3 per boring	1 per boring	2 (1 trip blank, 1 rinsate sample if not using disposable equipment)	TPH-D, BTEX, MTBE, O&G, HVOCs
TOTAL	12	5	2	

NA – not applicable

2.3 Quality Control Samples

A trip blank sample will be included in one of the coolers transporting the sample containers. Equipment rinsate samples will be collected on a daily basis as necessary if sample collection equipment is being reused between sample points. A summary of quality control sample collection to be performed during this investigation is included in Table 2.

Table 2. Field Quality Control Samples

Sampling Activity	Frequency of Occurrence
Trip Blank	Daily
Equipment Rinsate	Daily (as necessary)

2.4 Sample Identification

The identification numbers for the samples collected for this project will be represented by the following:

1. WW-W: 2 character designation of the sampling site followed by boring number (e.g., MY-2 for the second boring at the Maintenance Yard)
2. XX: 1-2 character designation for the sample matrix (e.g., GW-ground water, S-soil)
3. YY: 1-2 character designation of the sample depth (for soil samples only)

For example, the identification number for the soil sample collected at 10 ft bgs from the second boring would be MY-2-S-10.

2.5 Decontamination Procedures

Disposable sampling equipment will be utilized as much as possible to avoid the need for decontamination. Non-disposable sampling equipment will be decontaminated between borings by cleaning with non-phosphate laboratory detergent and rinsing with water.

2.6 Laboratory Analysis Procedures

Weiss will procure the services of STL San Francisco (STL) for laboratory analysis of soil and ground water samples. STL is a state-certified lab located at 1220 Quarry Road in Pleasanton, California. Their certification number is I-2496. Analytical laboratory procedures will include calibration of instruments, analysis of samples, preventative maintenance, corrective action, data reduction, validation and reporting. Analytical methods will be conducted in accordance with *EPA SW-846 Manual for Test Methods for Evaluating Solid Waste Final Update II*, September 1994.

Based on suspected contaminants, soil and ground water samples will be analyzed for the following:

- TPH-D;
- Benzene, toluene, ethyl benzene and xylenes (BTEX);
- Methyl tertiary-butyl ether (MTBE);
- Oil and Grease (O&G); and,
- Halogenated volatile organic compounds (HVOCs).

2.7 Testing Methods

Table 3 provides additional details on the testing to be performed.

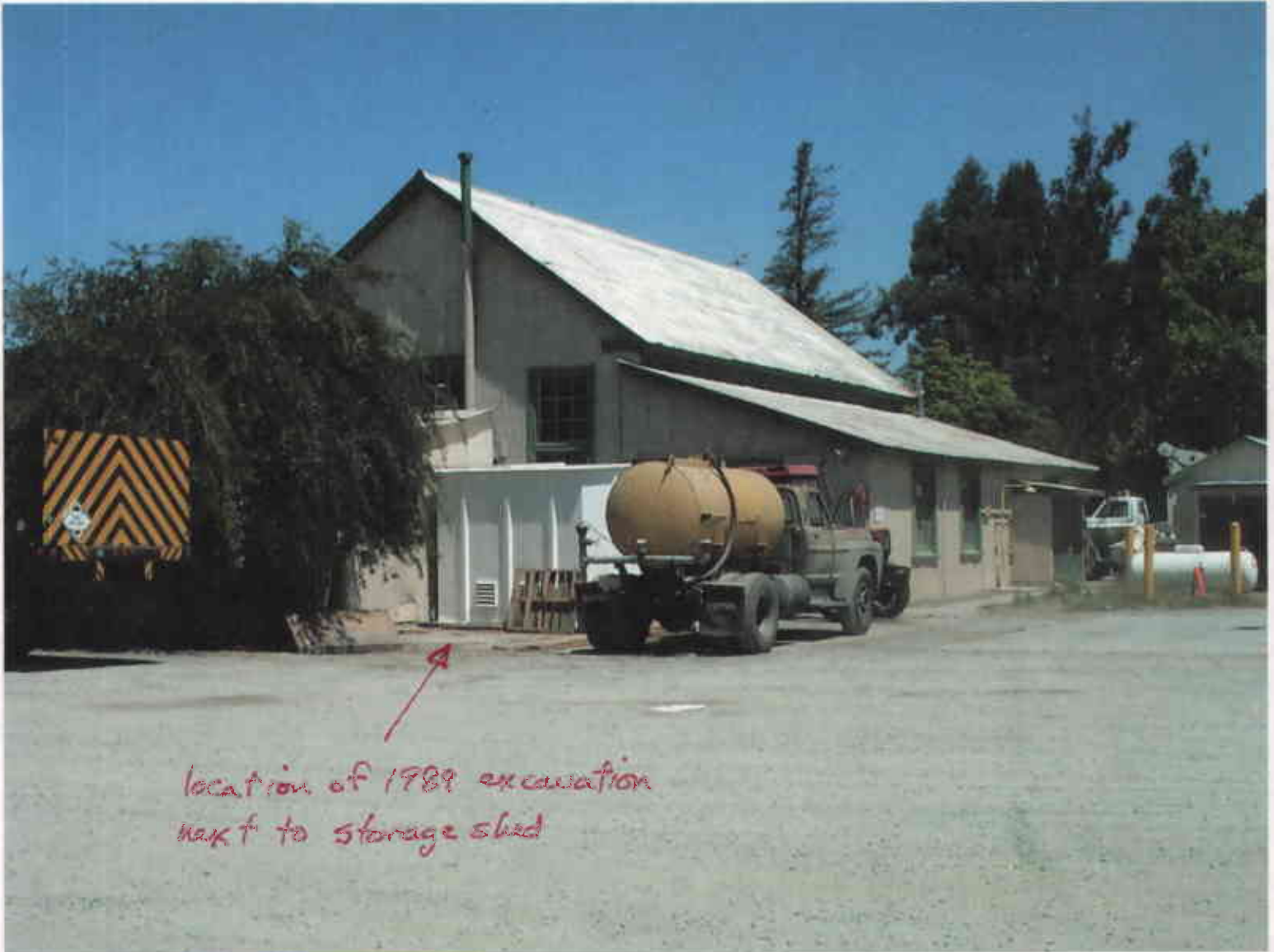
Table 3. Testing Methods

Analyte	Analysis	Soil Practical Quantitation Limit (mg/kg)	Ground Water Practical Quantitation Limit (mg/L)
TPH-D	EPA 8015 modified	1.0	0.05
BTEX	EPA 8020	0.005	0.0005
MTBE	EPA 8020 or 8260	0.005	0.005
O&G	EPA 1664A	50	1
HVOCs	EPA 5030B/5035/8021B	5 to 50 µg/kg	0.5 to 2 µg/L

2.8 Reporting

Upon receipt of laboratory results, Weiss will prepare a report detailing the results of the sampling activities.

S-29-01



location of 1989 excavation
next to storage shed

SFWD Maintenance Yard, 505 Paloma Wy, Sano 1

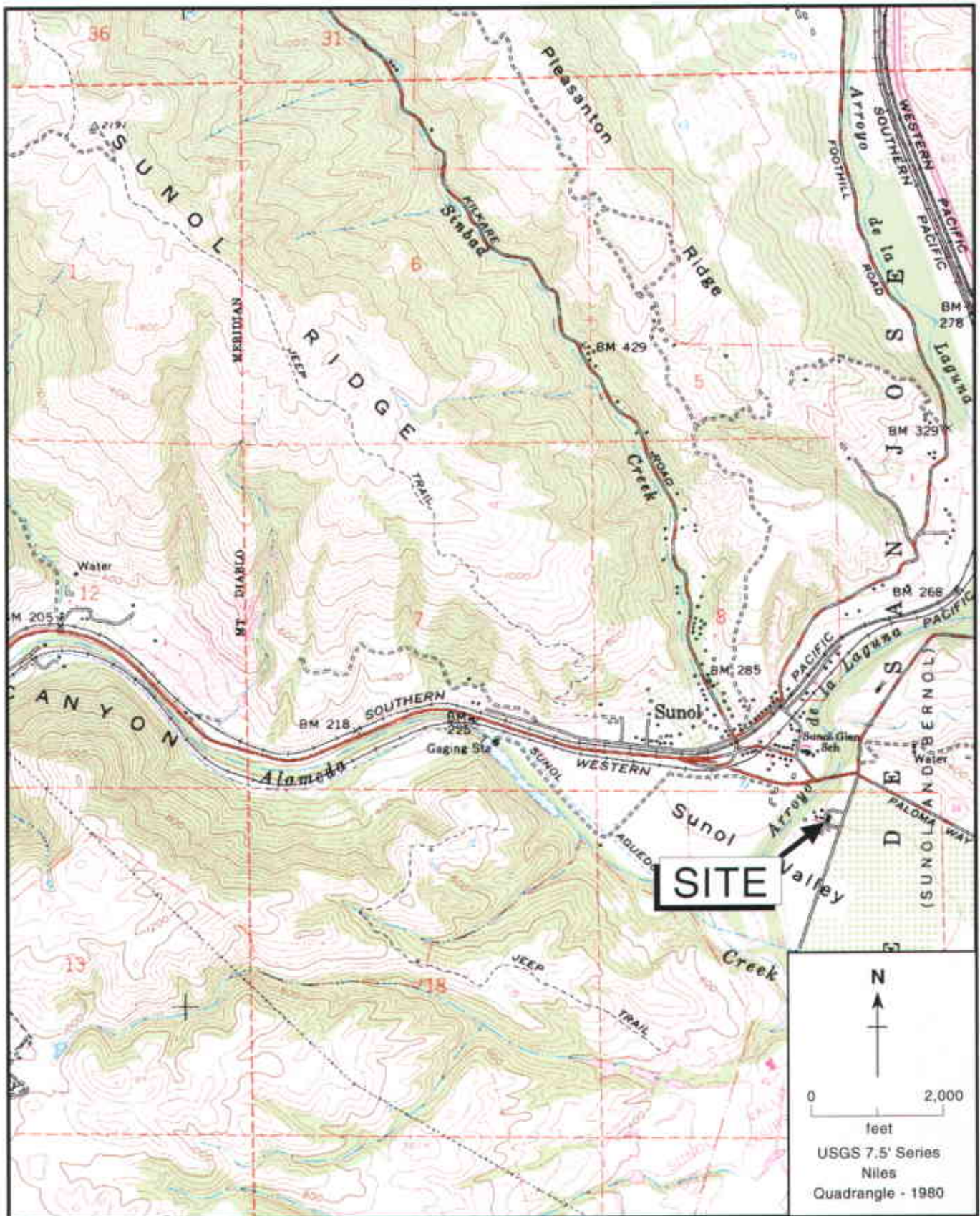


Figure 1. Site Vicinity Map, Sunol Maintenance Yard

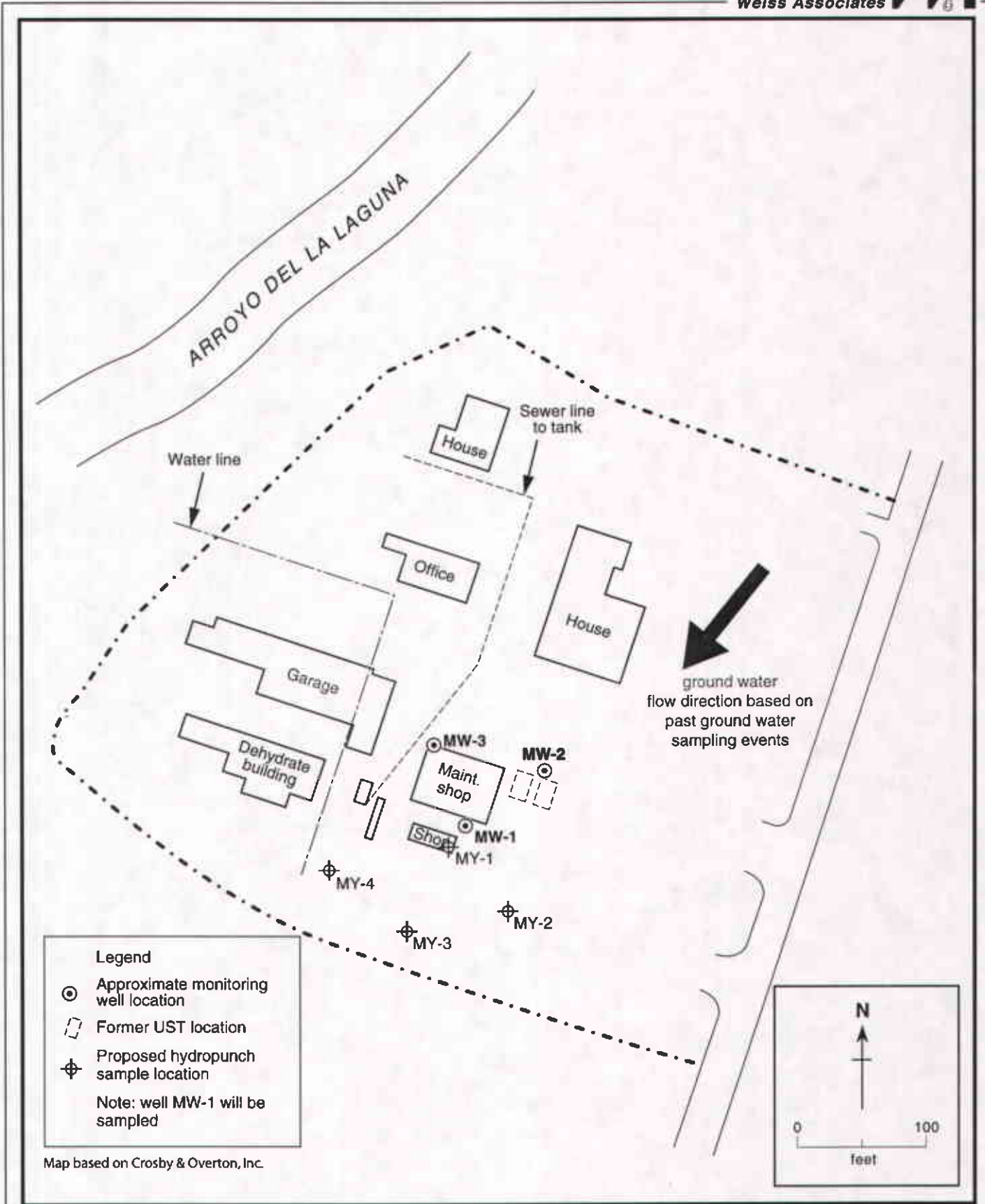


Figure 2. Site Plan, Sunol Maintenance Yard