

STID 3817 V
R0218
OCT 15 2001



October 9, 2001

Mr. Amir K. Gholami, REHS
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Revised 10/18/01
(Signature)

Subject: Former Minami Nursery
Site Located at 600 Shirley Avenue, Hayward, California
STID 3817

Dear Mr. Gholami:

As you requested in your letter of September 7, 2001, enclosed for your review is SOMA's report entitled "Work Plan to Conduct Soil and Groundwater Investigation" at the subject site.

Thank you for your time in reviewing this report. If you have any questions or comments, please call me at (925) 244-6600.

Sincerely,

(Signature)

Mansour Sepehr, Ph.D., P.E.
Principal Hydrogeologist

Enclosure

cc: Ms. Janet Minami w/enclosure
Mr. Jay Woidtke w/enclosure



CERTIFICATION

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Ms. Janet Minami, the property owner at 600 Shirley Avenue, San Lorenzo, California to comply with the Alameda County Environmental Health Care Agency's request dated September 7, 2001.



Mansour Sepehr, Ph.D., P.E.
Principal Hydrogeologist



**WORKPLAN TO CONDUCT
SOIL AND GROUNDWATER INVESTIGATION AT THE
FORMER MINAMI NURSERY LOCATED
600 SHIRLEY AVENUE, HAYWARD, CA**

October 9, 2001

Project 2560

Prepared for

**Ms. Janet Minami
998 A Street
Hayward, California 94541**

Prepared By

**SOMA Environmental Engineering, Inc.
2680 Bishop Drive, Suite 203
San Ramon, California 94583**

TABLE OF CONTENTS

CERTIFICATION.....	II
TABLE OF CONTENTS	III
LIST OF FIGURES.....	IV
1.0 INTRODUCTION.....	1
1.1 PREVIOUS ACTIVITIES	1
2.0 SCOPE OF WORK.....	4
2.1 PERMIT ACQUISITION AND PREPARATION OF SITE HEALTH AND SAFETY PLAN	4
2.2 INSTALLATION OF HYDROPUNCHES AND COLLECTING GRAB GROUNDWATER SAMPLES.....	5
2.3 LABORATORY ANALYSIS.....	5
2.4 REPORT PREPARATION	6
3.0 REFERENCES	7

LIST OF FIGURES

- Figure-1 Site Map and Location of Groundwater Monitoring Wells
Figure-2 Location of Proposed Hydropunches

1.0 INTRODUCTION

This workplan has been prepared by SOMA Environmental Engineering, Inc., (SOMA) on behalf of Ms. Janet Minami, the property owner. The former Minami Nursery site is located at 600 Shirley Avenue in San Lorenzo, California, (the "Site"). Currently, the Site is a vacant lot that was originally a portion of the Minami Nursery property, which was largely developed as a residential subdivision, as shown on the Site map, see Figure-1. The Site is relatively flat and is surrounded by residential properties that are located to the north, south, and east of the Site. This workplan has been prepared based on the Alameda County Health Care Services Agency (ACHCS)'s request dated September 7, 2001.

In 1989, one 1000-gallon single-walled gasoline underground storage tank (UST), one 2,000-gallon fuel oil UST and another one 1,000-gallon UST for storing fuel oil were excavated and removed from the Site. During the USTs excavation and removal elevated levels of fuel-impacted soils and groundwater were encountered.

The latest groundwater monitoring report was dated May 1998. Therefore, the current environmental conditions of the Site are not known. This report proposes certain field investigation to evaluate the current status of soil and groundwater conditions beneath the Site, as requested by the ACHCS.

1.1 Previous Activities

Following the USTs removal in 1989, soil and groundwater samples were collected to evaluate the extent of soil and groundwater contamination. During USTs removal activities over 1,250 cubic yards of fuel-impacted soils were excavated and stockpiled at the Site. Between January and March 1990 approximately 1,820 cubic yards of clean fill material was imported to the Site and used to fill the tank excavation pit.

In October 1993, Engineering Science Inc. (ESI) prepared a workplan to install three groundwater monitoring wells and further characterize the existing stockpiled soils at the Site. The ESI workplan was approved by the ACHCS in October 1993, but it was not implemented.

In February 1996, Fuller Excavation and Demolition, Inc. (FE&DI) visited the Site to examine and estimate the amount of stockpiled soil at the Site. Field measurements suggested that as much as 2,500 cubic yards of soil was actually stockpiled at the Site. The source of additional soils was unknown, but FE&DI theorized that the excess soil may have been generated during the residential development of the main portion of the Minami Nursery property and discarded at the Site. The results of laboratory analyses on soil samples collected from the stockpiled soils showed that predominantly oil and grease were present in stockpiled soils at concentrations of up to 100 mg/kg. The results of laboratory analyses did indicate the presence of benzene, toluene, ethylbenzene and xylenes (BTEX) in stockpiled soils.

In May 1996, FE&DI installed three 2-inch diameter groundwater monitoring wells (MW-1, MW-2, and MW-3) at the Site. The location of the groundwater monitoring wells had been selected by ESI in their 1993 approved workplan. Presumably, MW-1 was installed within the USTs excavation pit while MW-2 and MW-3 were placed in a downgradient area to evaluate the extent of groundwater contamination beneath the Site. During the well installation activity, groundwater was encountered at 15 ½ feet below ground surface (bgs) and rose slightly to a depth of approximately 14 feet bgs. The first groundwater monitoring event was conducted on June 4, 1996. No evidence of floating product was observed in the wells, however, a noticeable hydrocarbon odor was noted in MW-1. The result of the groundwater monitoring event indicated that groundwater beneath the Site is flowing toward the west-northwest with an average gradient of 0.005 ft/ft (FE&DI, June 1996)

The results of laboratory analyses on soil samples collected during installation of the groundwater monitoring wells did not indicate the presence of petroleum hydrocarbons in surface or subsurface soils. However, the results of laboratory analyses on groundwater samples collected from MW-1 indicated detectable concentrations of total oil and grease (TOG) up to 1,800 µg/l, total petroleum hydrocarbon as gasoline (TPH-g) up to 4,100 µg/l, BTEX up to 36 µg/l and non-detectable concentration of total petroleum hydrocarbons as diesel (TPH-d) and tertiary butyl ether (MtBE). No petroleum hydrocarbons and its constituents were detected in MW-2 and MW-3 located downgradient from MW-1.

Following well installation, monthly groundwater monitoring events were conducted from July, 1996 through October 1996 by FE&DI. In August 1997, an additional groundwater monitoring event was conducted by Geomatik Environmental and Geological Services. However, due to vandalism no groundwater sample was collected from MW-1 during this monitoring event. The results of laboratory analyses indicated the presence of TOG in MW-2 at 1,300 µg/l.

The results of laboratory analyses on composite soil samples collected from the stockpiled soils indicated the presence of low levels of TOG (up to 570 mg/kg) and TPH-d (up to 53 mg/kg). However, no BTEX or MtBE were detected in stockpiled soils.

The latest groundwater monitoring event was conducted by Horizon Environmental on behalf of FE&DI on April 18, 1998. During this period no water samples were collected from MW-1 and MW-3 because both wells had been vandalized with obstructions present in each well casing. The results of the laboratory analysis from the groundwater sample collected from MW-2. showed no TOG (at detection limit of 5000 µg/l), TPH-d and TPH-g (at detection limit of 50 µg/l) and no BTEX (at detection limit of 0.5 µg/l).

2.0 SCOPE OF WORK

The ACHCS on its letter dated September 7, 2001, requested a workplan to conduct a subsurface investigation that will include collection and testing of groundwater samples beneath the Site. Based on the ACHCS 's request, the scope of work will include installation of hydropunches and collecting grab groundwater samples to evaluate the current status of groundwater contamination beneath the Site. SOMA proposes to perform the following tasks:

- Task 1: Permit Acquisition and Preparation of Site Health and Safety Plan**
- Task 2: Drilling Hydropunches and Collecting Grab Groundwater Samples**
- Task 3: Laboratory Analysis**
- Task 4: Report Preparation**

The following is a brief description of the above tasks.

2.1 Permit Acquisition and Preparation of Site Health and Safety Plan

For drilling and the installation of groundwater monitoring wells, necessary permits will be obtained from the Alameda County Public Works Agency, Water Resources Section.

Prior to the commencement of field activity, a site-specific health and safety plan will be prepared by SOMA. The health and safety plan (HASP), is designed to address safety provisions during field activities. It provides procedures to protect the field crew from physical and chemical hazards resulting from drilling, well installation, and groundwater monitoring and sampling. The HASP establishes personnel responsibilities, general safe work practices and field procedures.

personal protective equipment standards, decontamination procedures, and emergency action plans.

2.2 Installation of Hydropunches and Collecting Grab Groundwater Samples

SOMA proposes to drill six hydropunches around existing/vandalized groundwater monitoring wells especially around MW-1, in order to evaluate the existing groundwater quality condition beneath the Site. The borings will advance to a total depth of 30 feet bgs. The location of the proposed hydropunches is shown on Figure-2. SOMA will use a truck mounted direct penetration technology (DPT) drill, model Geoprobe 5400, to drill the hydropunches. This method is fast for the collection of grab groundwater samples and does not generate soil cuttings, which require disposal. Based on our previous experience working in this area, the soil borings may not yield groundwater on the day of drilling. Therefore, temporary casings may be required until the following day, in order for groundwater to accumulate. At least one soil sample will be collected at capillary fringe at interface between vadose zone and groundwater.

Prior to drilling each hydropunch, all of the drilling equipment (auger, pin, drilling head) will be thoroughly steam-cleaned to minimize the possibility of cross-contamination and/or vertical migration of possible contaminants.

Disposable bailers (3/4 inch diameter) will be used to collect grab groundwater samples. Grab groundwater samples for each hydropunch will be transferred into two 40 ml VOA vials and be kept in an ice chest and transported to Curtis and Tompkins immediately after completion of the Site work. After sampling is completed, all borings will be sealed with neat cement grout.

2.3 Laboratory Analysis

The soil and groundwater samples will be analyzed for BTEX, MTBE and total petroleum hydrocarbons as gasoline (TPH-g) using EPA Methods 8020 and 8015

Modified followed by 8260 for confirmation of presence of MTBE. The groundwater samples will be analyzed for lead using EPA analysis Method 6010. The soil samples will also be analyzed for total organic carbon content and bulk density. The data will be used in chemical fate and transport modeling, if warranted.

2.4 Report Preparation

A technical report will be prepared to document soil and groundwater conditions and the extent of on-site petroleum chemical contamination. The technical report will include figures and tables and a detailed description of field investigation procedures and results of soil and groundwater evaluation, as well as our recommendation for additional site characterization to address the extent of groundwater contamination, if warranted.

3.0 REFERENCES

Horizon Environmental Inc. May 12, 1998 "Soil and Groundwater Sampling Report, Second Quarter 1998".

Geomatik Environmental and Geological Services, August 31, 1997 "Letter Report Documenting Groundwater Sampling at Former Minami Nursery Site Located at the End of Penny Lane in San Lorenzo, California"

Alameda County Health Care Services, September 7, 2001 a Letter in Connection with Request for Conducting Subsurface Investigation.

FIGURES

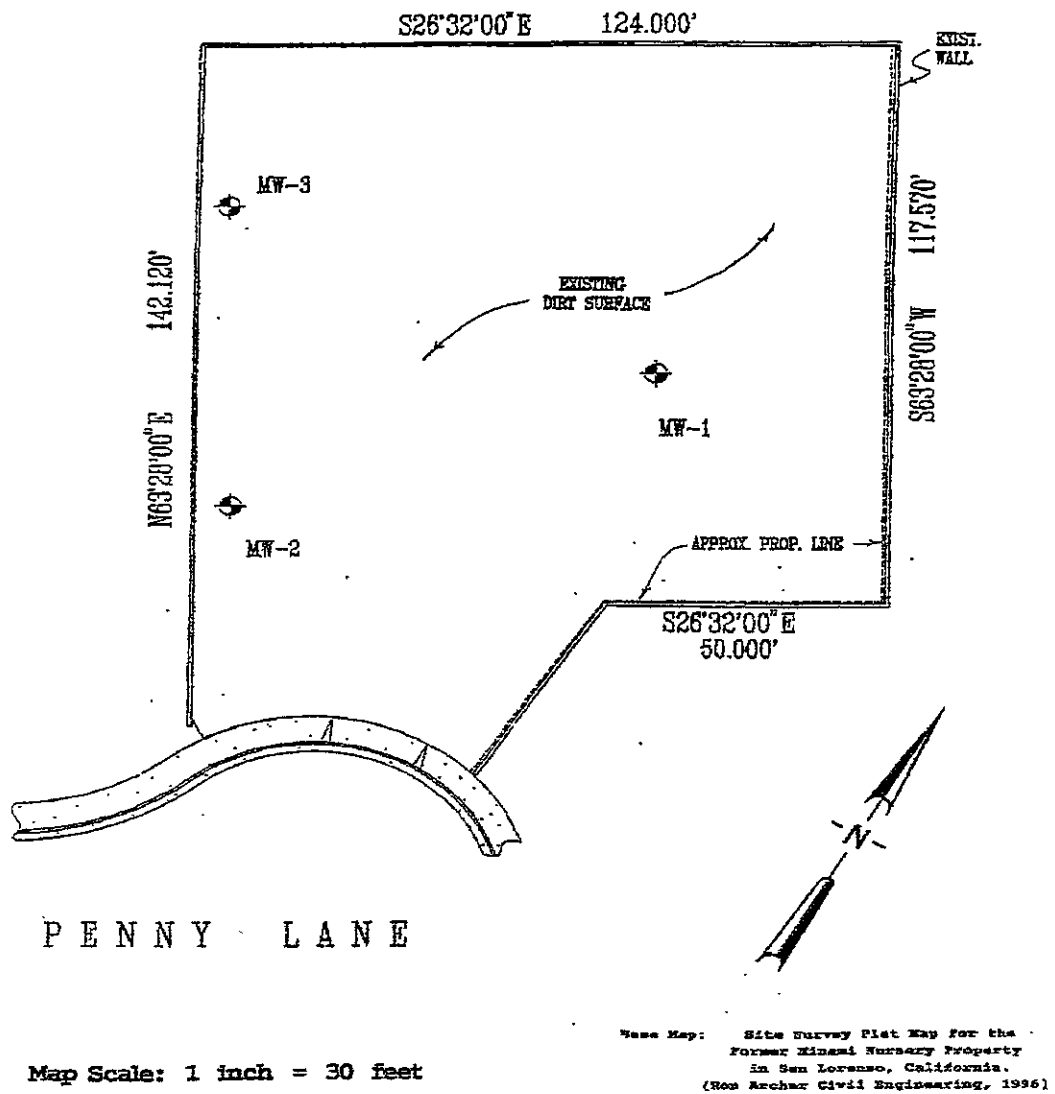
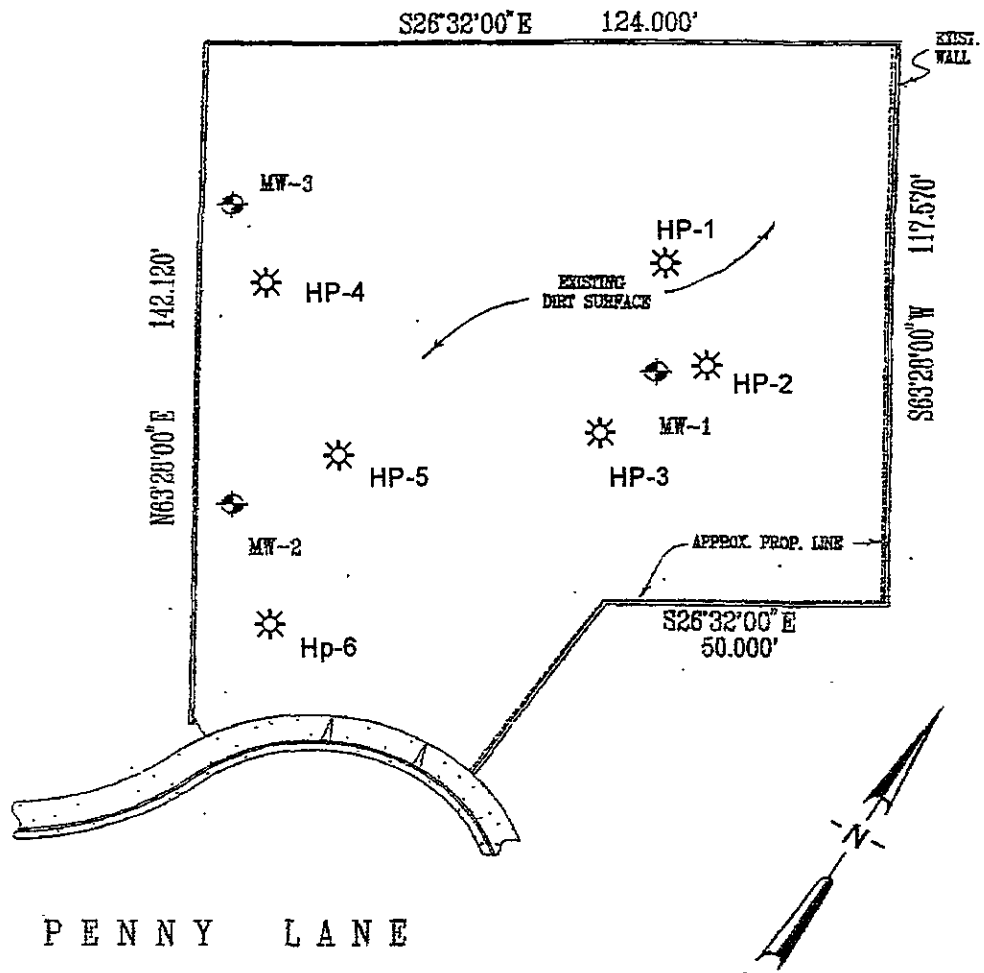


Figure-1: Site Map and Location of Groundwater Monitoring Wells



Map Scale: 1 inch = 30 feet

Note Map: Site Survey Plat Map for the
 Former Kinami Nursery Property
 in San Lorenzo, California.
 (Ron Archer Civil Engineering, 1996)

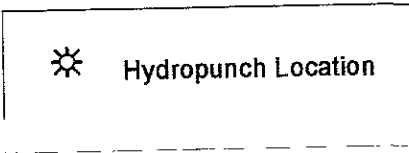


Figure-2: Location of Proposed Hydropunches