



PLANTS  
UNLIMITED INC.  
THE INSIDE/OUT SHOP

C27 LICENSE #393699

ALCO  
HAZMAT

94 APR 29 PM 1:43

April 20, 1994

Juliet Shin  
Alameda County Health Care Services  
Division of Hazardous Materials  
Department of Environmental Health  
80 Swan Way, Rm 200  
Oakland Ca. 94621

Dear Juliet Shin,

Please find our quarterly report of our wells for the previous quarter. Included are our responses to your questions in your letter dated 02-28-94. This information was already submitted to Pam Evans of your office, but if you need any other copies, feel free to contact me at (510) 276-2384. In this way we can achieve closure after this next quarter. All of your help is greatly appreciated.

Sincerely,

John R. Goldstein  
Vice President



**TANK PROTECT ENGINEERING**

2821 Whipple Road  
Union City, CA 94587-1233  
(510) 429-8088 • (800) 523-8088  
FAX (510) 429-8089

ALCO  
HAZMAT  
94 APR 29 PM 1:43

April 15, 1994

Mr. John Goldstein  
Plants Unlimited, Inc.  
16450 Kent Avenue  
San Lorenzo, CA 94580

Re: Report of Gradient Determination and Groundwater Sampling for First Quarter, 1994, Plants Unlimited, Inc., 16450 Kent Avenue, San Lorenzo, CA 94580

Dear Mr. Goldstein:

Tank Protect Engineering of Northern California, Inc. (TPE) is pleased to submit this quarterly letter report of environmental services conducted at the subject site. Previous work conducted at the site is summarized and work conducted during the subject quarter is presented in detail.

**BACKGROUND**

TPE understands the following work has been conducted by others:

- July 1990 - Two underground fuel storage tanks, one 280-gallon steel gasoline tank and one 1,500-gallon steel diesel/fuel oil tank, were excavated and removed from the site. Because a small hole was observed in the gasoline tank and analyses of soil samples collected beneath the tank detected total petroleum hydrocarbons as gasoline (TPHG), the Alameda County Health Care Services Agency (ACHCSA) required a groundwater investigation.

- . November 11, 1992 - EVAX Technologies, Inc. (EVAX) installed groundwater monitoring wells MW-1 through MW-3.
- . December 1, 1992 - EVAX sampled wells MW-1 through MW-3 for chemical analyses for TPHG and benzene, toluene, ethylbenzene, and xylenes (BTEX) and determined groundwater gradient.
- . January 20, 1993 - EVAX drilled offset borings to each of the 3 wells and collected a soil sample from each boring for chemical analyses for TPHG and BTEX.

Work conducted by TPE during the fourth quarter, 1993:

- . December 30, 1993 - Measured depth to stabilized groundwater in each well; calculated direction and gradient of groundwater flow; sampled each well; and analyzed all groundwater samples, including a trip blank sample, for TPHG and BTEX.

WORK CONDUCTED BY TPE DURING THE FIRST QUARTER, 1994:

- . February 1, 1994 - Submitted to Mr. Goldstein a Report of Gradient Determination and Groundwater Sampling for Fourth Quarter, 1993, Plants Unlimited, Inc., 16450 Kent Avenue, San Lorenzo, CA 94580 documenting work conducted by TPE and results of gradient determination and groundwater chemical analyses.
- . January 25, 1994 - Measured depth to stabilized groundwater in each well for construction of a groundwater gradient map.
- . February 25, 1994 - Measured depth to stabilized groundwater in each well for construction of a groundwater gradient map.

- March 30, 1994 - Measured depth to stabilized groundwater in each well for construction of a groundwater gradient map; sampled each well; and analyzed all groundwater samples, including a trip blank sample, for TPHG and BTEX.

Details of the work performed during the subject quarter are presented below.

### Groundwater Gradient

On January 25, February 25, and March 30, 1994, TPE measured depth to stabilized groundwater in wells MW-1, MW-2, and MW-3 from their top-of-casings (TOCs) to the nearest 0.01 foot using an electronic Solinst water level meter. A minimum of 3 repetitive measurements were made for each level determination to ensure accuracy. Depth-to-groundwater was subtracted from the TOC elevation, as determined by EVAX, to calculate the elevation of the stabilized water level for each well (see attached Table 1).

Attached Figures 1 through 3 are groundwater gradient maps constructed from the data collected on the above dates. Groundwater flow directions were northwesterly with gradients ranging from about .0035 feet per foot to .0048 feet per foot. Attached Table 2 presents cumulative information for average groundwater elevations, changes in average groundwater elevations, groundwater flow directions, and groundwater gradients for the site.

Table 2 suggests that average groundwater elevation beneath the site may have been rising from December 30, 1993 through February 25, 1994. The average groundwater elevation on March 30, 1994 suggests that groundwater elevation may have dropped since February 25, 1994.

Based on the above groundwater flow directions, wells MW-1 and MW-2 are downgradient and crossgradient of the former tank complex and well MW-3 is upgradient and crossgradient.

## Groundwater Sampling and Analytical Results

On March 30, 1994, groundwater samples were collected from each of the 3 wells for chemical analysis. Before sampling, each well was checked for floating product using a dedicated, disposable, polyethylene bailer. No odor was noted in any of the wells. Each well was purged a minimum of 3 wetted well volumes with a dedicated polyethylene bailer and until the temperature, conductivity, and pH of the water in the well had stabilized. Water samples were collected in laboratory provided, sterilized, 40-milliliter glass vials and/or 1-liter bottles having Teflon-lined screw caps; measured for turbidity; and labeled with project name, date, time collected, sample number, and sampler name. The water appeared clear, with well MW-3 having a turbidity of 20.6 NTUs. The samples were immediately stored in an iced-cooler for transport to California State Department of Health Services (DHS) certified Trace Analysis Laboratory, Inc., located in Hayward, California accompanied by chain-of-custody documentation.

All groundwater samples, and a trip blank sample, were analyzed for TPHG and BTEX by the DHS Method and Modified United States Environmental Protection Agency (EPA) Method 8020, respectively.

All analytical results were nondetectable.

Analytical results are summarized in attached Table 3 and documented in an attached certified analytical report and a chain-of-custody.

Purge water is stored on site in 55-gallon drums labeled to show material stored, known or suspected contaminant, date filled, expected removal date, company name, contact person, and telephone number.

See attached protocols for TPE's sample handling, groundwater monitoring well sampling, and quality assurance and quality control procedures.

## RECOMMENDATIONS

In a February 28, 1994 letter to Mr. Goldstein (attached), the ACHCSA has required a minimum of 2 additional groundwater monitoring events and continued gradient determinations since reviewing TPE's Fourth Quarter Report, 1993. Based on this recommendation, the absence of detectable concentrations of TPHG and BTEX during the subject sampling event, and the consistency of monthly gradient determinations, TPE recommends quarterly groundwater sampling and monthly gradient determinations of the 3 groundwater monitoring wells for an additional quarter. TPE recommends that all groundwater samples continue to be analyzed for TPHG and BTEX.

If TPHG and BTEX are nondetectable for the second quarter, 1994, TPE will recommend that Mr. Goldstein request site closure from the ACHCSA.

## REQUEST FOR ADDITIONAL INFORMATION - ACHCSA FEBRUARY 28, 1994 LETTER

In a February 28, 1994 letter to Mr. John Goldstein (attached), the ACHCSA has requested clarification of several issues. The following summarizes the issues and Mr. Goldstein's responses:

### Issue

- (1) On January 20, 1993, borings were drilled adjacent to the 3 groundwater monitoring wells and 1 soil sample was collected from each of these borings. Do these samples represent the required soil samples from wells MW-1 through MW-3? Additionally, provide a figure showing the locations of the borings.

**Response:** EVAX drilled a boring within 5 feet of each monitoring well on January 20, 1993 (all monitoring wells installed November 11, 1992) to collect and analyze a soil sample from immediately above groundwater. Mr. Goldstein believes these borings were drilled to collect soil samples required from wells MW-1 through MW-3. No figure was provided by

EVAX to show locations of the borings; however, a map was provided showing locations of the monitoring wells and EVAX stated the borings were within 5 feet of the wells. See EVAX's February 17, 1993 REPORT OF WELL INSTALLATION AT 16450 KENT AVENUE, SAN LORENZO, ALAMEDA COUNTY, CALIFORNIA (Report) for monitoring well installation and soil boring documentation.

Issue

- (2) Submit documentation showing that wells MW-1 through MW-3 were surveyed relative to Mean Sea Level (MSL).

Response: A footnote in Table 2 of EVAX's February 17, 1993 Report states that the top of well casings were surveyed in feet above MSL. However, page 5 of the subject report states that the purpose of the survey was to establish the "relative elevations" of the tops of the well casings. The wellhead elevations presented in Table 2 for wells MW-1, MW-2, and MW-3 are 100.0 feet, 100.4 feet, and 99.6 feet, respectively. The term "relative elevations" and the reported wellhead elevations indicate a site specific datum was established, namely, the wellhead for well MW-1, instead of MSL.

Issue

- (3) Give dimensions of the gasoline tank excavation before and after overexcavation. Give depth of soil samples collected before and after overexcavation. Report volume of soil overexcavated. Document volume of soil disposed of at Zanker Road in San Jose.

Response: Excavation of the gasoline tank, its overexcavation, and soil sampling during both events were conducted by Scott Company. Scott Company provided Mr. Goldstein with figures (attached figures labeled SLOG # 1674 and SLOG # 1775) showing excavation limits at time of tank removal and locations of soil samples collected during tank removal and overexcavation activities. The figures were not drawn to scale and the

depths of the soil samples were not recorded; therefore, dimensions of the excavation, at the time of tank removal and after overexcavation, and depths at which the soil samples were collected were not recorded. Mr. Goldstein has informed TPE that about 1 foot of soil was removed from the excavation sidewalls and the remainder was removed from the floor during overexcavation of contaminated soil; a total of about 1 cubic yard (cyd) of soil was overexcavated. The overexcavated soil was added to the tank removal soil (about 10 cyds), aerated, and reused as backfill to close the excavation. The above figures suggest all soil samples were collected from the floor of the excavation during both sampling events.

Soil disposed at Zanker Road Disposal in San Jose (about 6 cyds, see attached receipt) was excavated for removal of the diesel/fuel oil tank. The diesel/fuel tank excavation was backfilled and closed with imported aggregate base material.

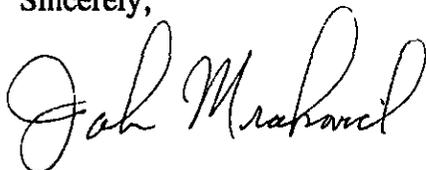
An additional copy of this report has been included for your delivery to:

Alameda County Health Care Services Agency  
Division of Hazardous Materials  
Department of Environmental Health  
80 Swan Way  
Oakland, California, 94621

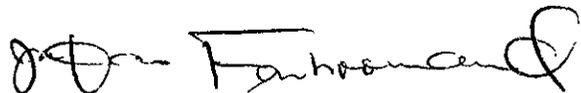
TPE recommends that this quarterly report be submitted with a cover letter from Plants Unlimited, Inc.

If you have any questions, please call TPE at (510) 429-8088.

Sincerely,



John Mrakovich, Ph.D.  
Registered Geologist



Jeff Farhoomand, M.S.  
Civil Engineer

TABLE 1  
GROUNDWATER ELEVATION<sup>1</sup>

| Well Name | Date     | Elevation (TOC <sup>2</sup> )<br>(Feet) | Depth-to-Water<br>From TOC | Groundwater<br>Elevation (Feet) |
|-----------|----------|---|----------------------------|---------------------------------|
| MW-1      | 12/30/93 | 100.0                                   | 12.86                      | 87.14                           |
|           | 01/25/94 |   | 12.83                      | 87.17                           |
|           | 02/25/94 |   | 11.15                      | 88.65                           |
|           | 03/30/94 |   | 11.32                      | 88.68                           |
| MW-2      | 12/30/93 | 100.4                                   | 13.22                      | 87.18                           |
|           | 01/25/94 |   | 13.08                      | 87.32                           |
|           | 02/25/94 |   | 11.43                      | 88.97                           |
|           | 03/30/94 |   | 11.63                      | 88.77                           |
| MW-3      | 12/30/93 | 99.6                                    | 12.26                      | 87.34                           |
|           | 01/25/94 |   | 12.17                      | 87.43                           |
|           | 02/25/94 |   | 10.44                      | 89.16                           |
|           | 03/30/94 |   | 10.67                      | 88.93                           |

<sup>1</sup> EVAX TECHNOLOGIES, INC. HAS REPORTED THAT UNITED CIVIL & STRUCTURAL ENGINEERS CO. OF CAMPBELL, CALIFORNIA SURVEYED TOC RELATIVE TO MEAN SEA LEVEL (MSL). HOWEVER, AN EXAMINATION OF THE HAYWARD, CALIFORNIA 7.5 MINUTE SERIES QUADRANGLE MAP INDICATES TOPOGRAPHIC ELEVATION AT THE SITE IS ABOUT 45 FEET MSL. THEREFORE, TPE CONCLUDES THE ELEVATION IS BASED ON AN ARBITRARY SITE DATUM OF 100 FEET FOR TOC OF WELL MW-1.

<sup>2</sup> TOP-OF-CASING

TABLE 2  
GROUNDWATER GRADIENT, FLOW DIRECTION,  
AND ELEVATION DATA

| Date                  | Average Groundwater Elevation (Feet) | Change in Average Groundwater Elevation | Groundwater Flow Gradient | Groundwater Direction |
|-----------------------|--------------------------------------|---|---------------------------|-----------------------|
| 12/01/92 <sup>1</sup> | 84.32                                | -                                       | .0025                     | NW                    |
| 12/30/93              | 87.22                                | +2.90                                   | .0024                     | NW                    |
| 01/25/94              | 87.31                                | +.09                                    | .0051                     | NW                    |
| 02/25/94              | 88.99                                | +1.68                                   | .0048                     | NW                    |
| 03/30/94              | 88.79                                | -0.20                                   | .0035                     | NW                    |

<sup>1</sup> DATA FOR THIS DATE OBTAINED FROM EVAX FEBRUARY 17, 1993 REPORT.

TABLE 3  
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS  
(ppb<sup>1</sup>)

| Sample ID Name    | Date                  | TPHG | Benzene | Toluene | Ethyl-Benzene | Xylenes |
|-------------------|-----------------------|------|---------|---------|---------------|---------|
| MW-1              | 12/01/92 <sup>2</sup> | <50  | <0.50   | <0.50   | <0.50         | <0.50   |
|                   | 12/30/93              | <50  | <0.50   | <0.50   | <0.50         | <1.5    |
|                   | 03/30/94              | <50  | <0.50   | <0.50   | <0.50         | <1.5    |
| MW-2              | 12/01/92 <sup>2</sup> | <50  | <0.50   | <0.50   | <0.50         | <0.50   |
|                   | 12/30/93              | <50  | <0.50   | <0.50   | <0.50         | <1.5    |
|                   | 03/30/94              | <50  | <0.50   | <0.50   | <0.50         | <1.5    |
| MW-3              | 12/01/92 <sup>2</sup> | <50  | <0.50   | <0.50   | <0.50         | <0.50   |
|                   | 12/30/93              | <50  | <0.50   | <0.50   | <0.50         | <1.5    |
|                   | 03/30/94              | <50  | <0.50   | <0.50   | <0.50         | <1.5    |
| MW-4 <sup>3</sup> | 12/30/93              | <50  | <0.50   | <0.50   | <0.50         | <1.5    |
|                   | 03/30/94              | <50  | <0.50   | <0.50   | <0.50         | <1.5    |

<sup>1</sup> PARTS PER BILLION

<sup>2</sup> DATA FOR THIS DATE OBTAINED FROM EVAX FEBRUARY 17, 1993 REPORT.

<sup>3</sup> TRIP BLANK

**Trace Analysis Laboratory, Inc.**

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (510) 783-6960

Facsimile (510) 783-1512



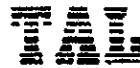
LOG NUMBER: 4249  
 DATE SAMPLED: 03/30/94  
 DATE RECEIVED: 03/30/94  
 DATE ANALYZED: 04/12/94  
 DATE REPORTED: 04/15/94

CUSTOMER: Tank Protect Engineering  
 REQUESTER: Jeff Farhoomand  
 PROJECT: No. 297-033094, Plants Unlimited, 16450 Kent Avenue

Sample Type: Water

| Method and<br>Constituent:                    | Units | MW-1               |                    | MW-2               |                    | MW-3               |                    |
|---|-------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|   |       | Concen-<br>tration | Reporting<br>Limit | Concen-<br>tration | Reporting<br>Limit | Concen-<br>tration | Reporting<br>Limit |
| DHS Method:                                   |       |                    |                    |                    |                    |                    |                    |
| Total Petroleum Hydro-<br>carbons as Gasoline | ug/l  | ND                 | 50                 | ND                 | 50                 | ND                 | 50                 |
| Modified EPA Method 8020 for:                 |       |                    |                    |                    |                    |                    |                    |
| Benzene                                       | ug/l  | ND                 | 0.50               | ND                 | 0.50               | ND                 | 0.50               |
| Toluene                                       | ug/l  | ND                 | 0.50               | ND                 | 0.50               | ND                 | 0.50               |
| Ethylbenzene                                  | ug/l  | ND                 | 0.50               | ND                 | 0.50               | ND                 | 0.50               |
| Xylenes                                       | ug/l  | ND                 | 1.5                | ND                 | 1.5                | ND                 | 1.5                |

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 4249  
DATE SAMPLED: 03/30/94  
DATE RECEIVED: 03/30/94  
DATE ANALYZED: 04/12/94  
DATE REPORTED: 04/15/94  
PAGE: Two

Sample Type: Water

| Method and Constituent:                  | Units | MW-4          |                 | Method Blank  |                 |
|--|-------|---------------|-----------------|---------------|-----------------|
|  |       | Concentration | Reporting Limit | Concentration | Reporting Limit |
| DHS Method:                              |       |               |                 |               |                 |
| Total Petroleum Hydrocarbons as Gasoline | ug/l  | ND            | 50              | ND            | 50              |
| Modified EPA Method 8020 for:            |       |               |                 |               |                 |
| Benzene                                  | ug/l  | ND            | 0.50            | ND            | 0.50            |
| Toluene                                  | ug/l  | ND            | 0.50            | ND            | 0.50            |
| Ethylbenzene                             | ug/l  | ND            | 0.50            | ND            | 0.50            |
| Xylenes                                  | ug/l  | ND            | 1.5             | ND            | 1.5             |

QC Summary:

% Recovery: 98  
% RPD: 11

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis  
Quality Assurance/Quality Control Manager



**TANK PROTECT ENGINEERING**

2821 WHIPPLE ROAD  
 UNION CITY, CA 94587  
 (415) 429-8089  
 (800) 523-8089  
 FAX (415) 429-8089

**4249**

LAB: TAL

TURNAROUND: 15 days

P.O. #: 512

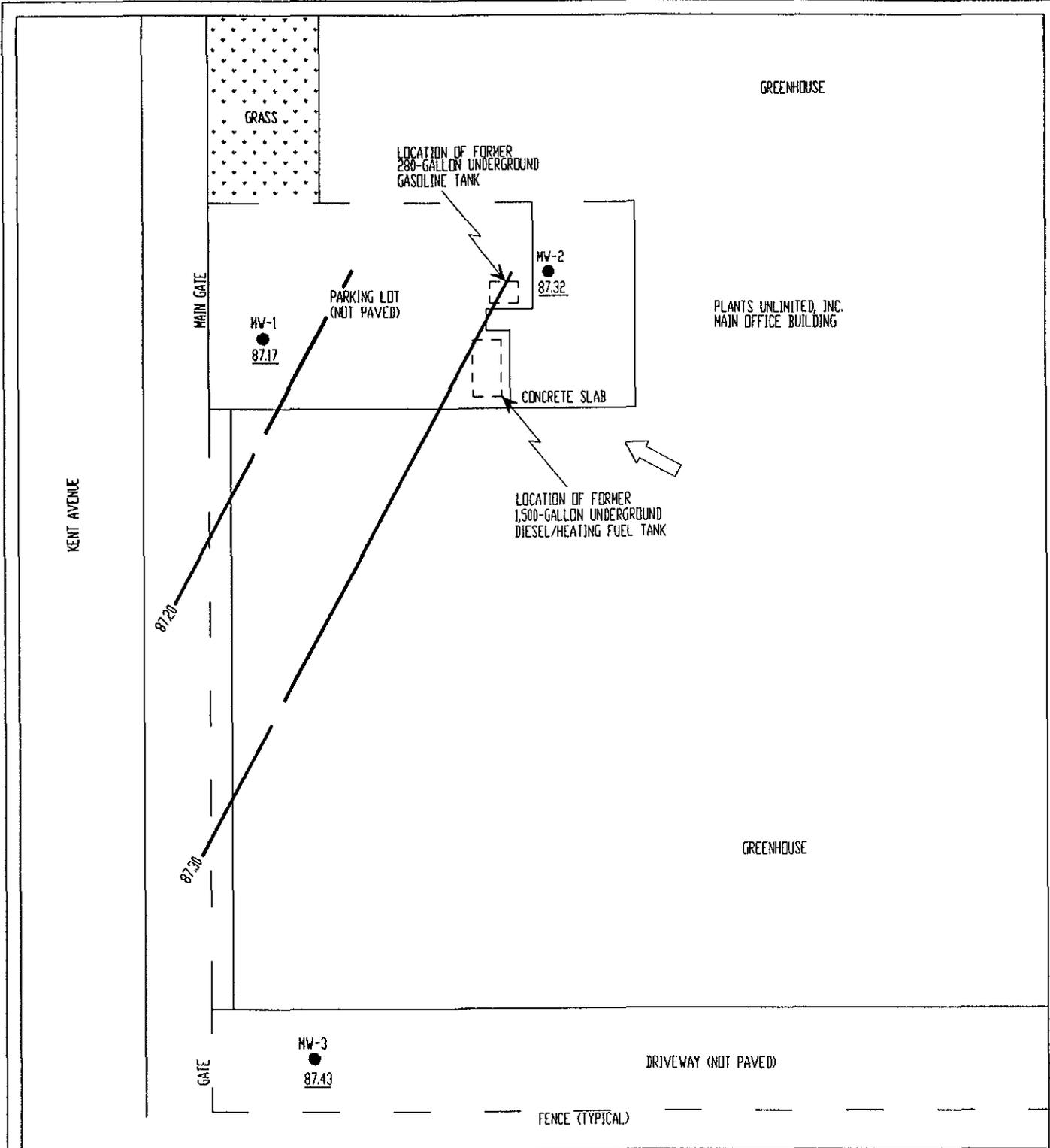
PAGE 1 OF 1

**CHAIN OF CUSTODY**

| PROJECT NO.   |      | SITE NAME & ADDRESS                   |      |       |                   | (1)<br>TYPE OF CONTAINER | ANALYTES REQUESTED                      |             |                               |              |                  |                           |  | REMARKS |  |  |  |
|---|------|---------------------------------------|------|-------|-------------------|--------------------------|---|-------------|-------------------------------|--------------|------------------|---------------------------|--|---------|--|--|--|
| 297038094   |      | Plants Unlimited<br>16450 Kent Avenue |      |       |                   |                          | TOTAL LIGHT HC                          | AROMATIC HC | TOTAL HEAVY HC                | OIL & GREASE | VOC SEMI (624's) | OTHER                     |  |         |  |  |  |
| SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER                            |      |                                       |      |       |                   |                          |   |             |                               |              |                  |                           |  |         |  |  |  |
| Lee Huckins<br>2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088 |      |                                       |      |       |                   |                          |   |             |                               |              |                  |                           |  |         |  |  |  |
| ID NO.  | DATE | TIME                                  | SOIL | WATER | SAMPLING LOCATION |                          |   |             |                               |              |                  |                           |  |         |  |  |  |
| mw-1  | 3/30 | 020                                   | x    |       |                   | L40ml                    | x                                       | x           |                               |              |                  |                           |  |         |  |  |  |
| mw-2  | 3/30 | 1055                                  | +    |       |                   | Z-40ml                   | x                                       | x           |                               |              |                  |                           |  |         |  |  |  |
| mw-3  | 3/30 | 0415                                  | x    |       |                   | Z-40ml                   | x                                       | x           |                               |              |                  |                           |  |         |  |  |  |
| mw-4  | 3/30 | 1100                                  | +    |       |                   | Z40ml                    | x                                       | x           |                               |              |                  |                           |  |         |  |  |  |
| Relinquished by : (Signature)   |      |                                       |      |       |                   | Date / Time              | Received by : (Signature)               |             | Relinquished by : (Signature) |              | Date / Time      | Received by : (Signature) |  |         |  |  |  |
| Lee Huckins   |      |                                       |      |       |                   | 3/30/94 9:00             | [Signature]                             |             | [Signature]                   |              | 3/30/94 1:37     |                           |  |         |  |  |  |
| Relinquished by : (Signature)   |      |                                       |      |       |                   | Date / Time              | Received by : (Signature)               |             | Relinquished by : (Signature) |              | Date / Time      | Received by : (Signature) |  |         |  |  |  |
| Relinquished by : (Signature)   |      |                                       |      |       |                   | Date / Time              | Received for Laboratory by: (Signature) |             | Date / Time                   | Remarks      |                  |                           |  |         |  |  |  |
|   |      |                                       |      |       |                   |                          | Scott J. Ferraro                        |             | 3/30/94 11:37 pm              |              |                  |                           |  |         |  |  |  |

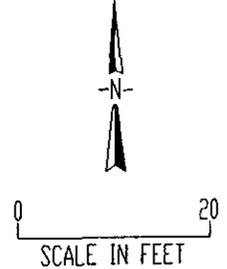
p/w, water, 2 vials each, white, Reg TAT

DATE: \_\_\_\_\_



LEGEND

- MW-1 ● NAME AND LOCATION OF GROUNDWATER MONITORING WELL
- 87.17 POTENTIOMETRIC ELEVATION (FEET)
- 87.30 POTENTIOMETRIC CONTOUR
- ↙ GROUNDWATER FLOW DIRECTION

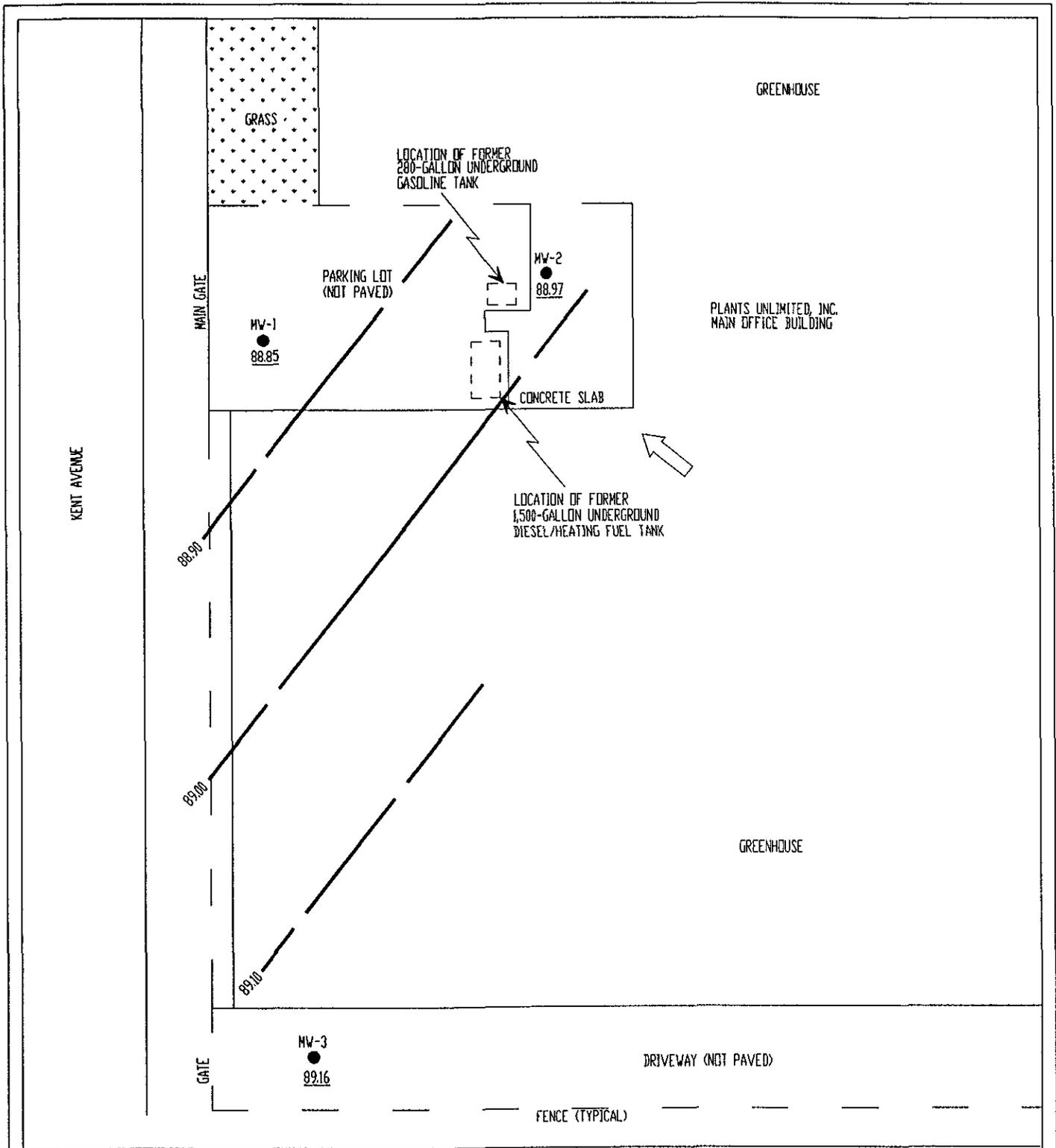


TANK PROTECT ENGINEERING

GROUNDWATER GRADIENT MAP (1/25/94)

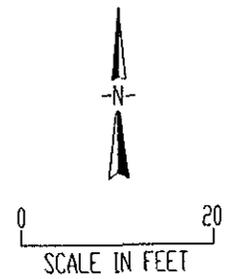
PLANTS UNLIMITED, INC.  
 16450 KENT AVENUE  
 SAN LORENZO, CA 94580

|            |        |
|------------|--------|
| DATE       | 4/8/94 |
| FIGURE     | 1      |
| FILE #     | 297-2  |
| DRAWN BY   | AK     |
| CHECKED BY | JVM    |



LEGEND

- MW-1 ● NAME AND LOCATION OF GROUNDWATER MONITORING WELL
- 88.85 POTENTIOMETRIC ELEVATION (FEET)
- 89.00 POTENTIOMETRIC CONTOUR
- ← GROUNDWATER FLOW DIRECTION

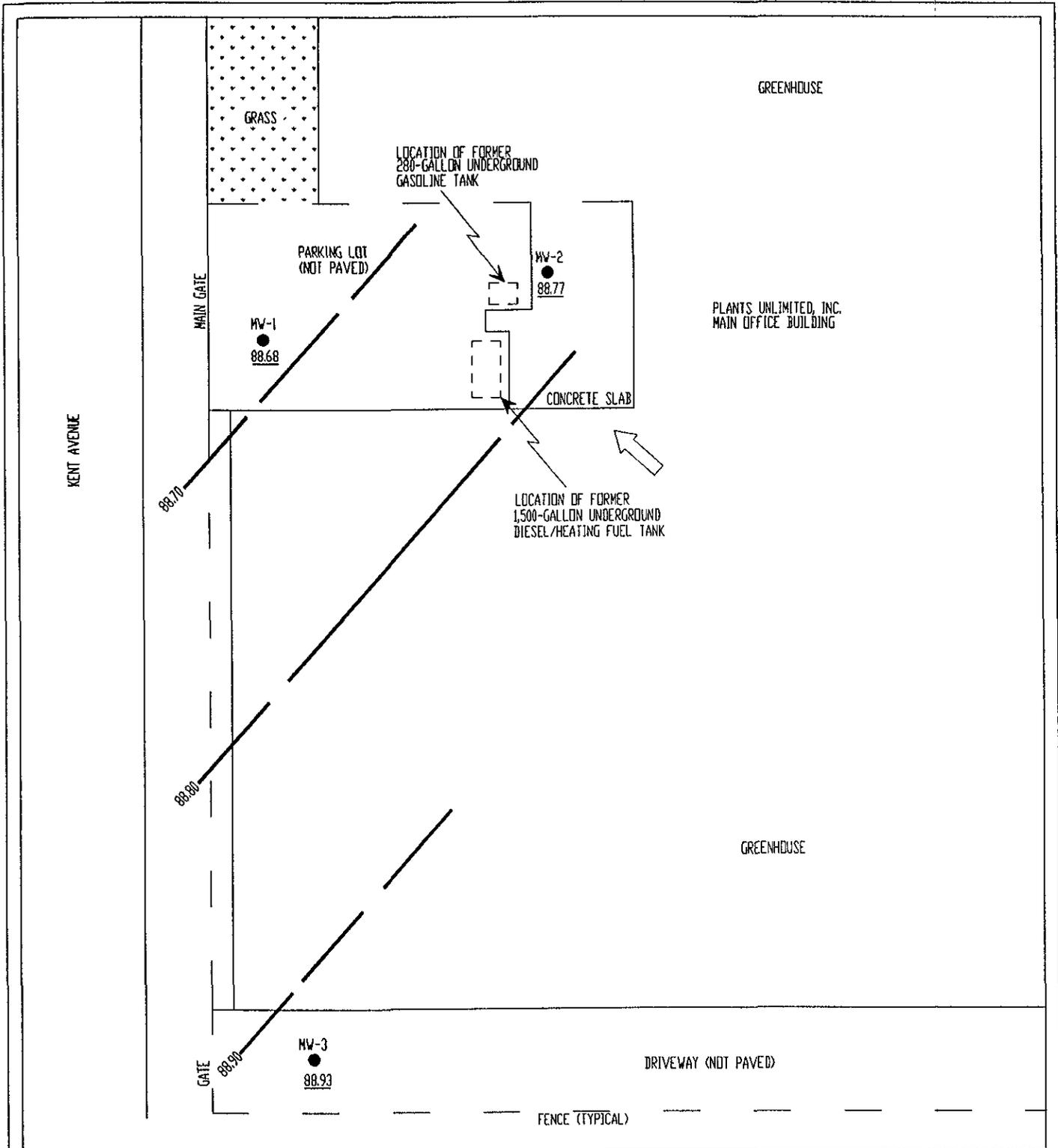


TANK PROTECT ENGINEERING

GROUNDWATER GRADIENT MAP (2/25/94)

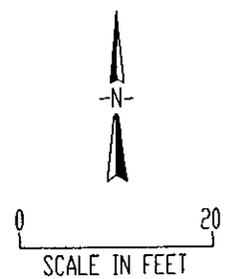
PLANTS UNLIMITED, INC.  
 16450 KENT AVENUE  
 SAN LORENZO, CA 94580

|            |        |
|------------|--------|
| DATE       | 4/8/94 |
| FIGURE     | 2      |
| FILE #     | 297-3  |
| DRAWN BY   | AK     |
| CHECKED BY | JVM    |



LEGEND

- MW-1 ● NAME AND LOCATION OF GROUNDWATER MONITORING WELL
- 88.68 POTENTIOMETRIC ELEVATION (FEET)
- 88.70 POTENTIOMETRIC CONTOUR
- ↗ GROUNDWATER FLOW DIRECTION



TANK PROTECT ENGINEERING

GROUNDWATER GRADIENT MAP (3/30/94)

PLANTS UNLIMITED, INC.  
 16450 KENT AVENUE  
 SAN LORENZO, CA 94580

|            |        |
|------------|--------|
| DATE       | 4/8/94 |
| FIGURE     | 3      |
| FILE #     | 297-4  |
| DRAWN BY   | AK     |
| CHECKED BY | JVM    |

## SAMPLE HANDLING PROCEDURES

Soil and groundwater samples will be packaged carefully to avoid breakage or contamination, and will be delivered to the laboratory in an iced-cooler. The following sample packaging requirements will be followed.

- Sample bottle/sleeve lids will not be mixed. All sample lids will stay with the original containers and have custody seals affixed to them.
- Samples will be secured in coolers to maintain custody, control temperature, and prevent breakage during transportation to the laboratory.
- A chain-of-custody form will be completed for all samples and accompany the sample cooler to the laboratory.
- Ice, blue ice, or dry ice (dry ice will be used for preserving soil samples collected for the Alameda County Water District) will be used to cool samples during transport to the laboratory.
- Each sample will be identified by affixing a pressure sensitive, gummed label, or standardized tag on the container(s). This label will contain the site identification, sample identification number, date and time of sample collection, and the collector's initials.
- Soil samples collected in brass tubes will be preserved by covering the ends with Teflon tape and capped with plastic end-caps. The tubes will be labeled, sealed in quart size bags, and placed in an iced-cooler for transport to the laboratory.

All groundwater sample containers will be precleaned and will be obtained from a State Department of Health Services certified analytical laboratory.

Sample Control/Chain-of-Custody: All field personnel will refer to this workplan to verify the methods to be employed during sample collection. All sample gathering activities will be recorded in the site file; all sample transfers will be documented in the chain-of-custody; samples are to be identified with labels and all sample bottles are to be custody-sealed. All information is to be recorded in waterproof ink. All TPE field personnel are personally responsible for sample collection and the care and custody of collected samples until the samples are transferred or properly dispatched.

The custody record will be completed by the field technician or professional who has been designated by the TPE project manager as being responsible for sample shipment to the appropriate laboratory. The custody record will include, among other things, the following information: site identification, name of person collecting the samples, date and time samples were collected, type of sampling conducted (composite/grab), location of sampling station, number and type of containers used, and signature of the TPE person relinquishing samples to a non-TPE person with the date and time of transfer noted. The relinquishing individual will also put all the specific shipping data on the custody record.

Records will be maintained by a designated TPE field employee for each sample, site identification, sampling locations, station numbers, dates, times, sampler's name, designation of the samples as a grab or composite, notation of the type of sample (e.g. groundwater, soil boring, etc.), preservatives used, on-site measurement data, and other observations or remarks.

## GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

Groundwater monitoring wells will not be sampled until at least 24 to 72 hours (according to local regulatory guidelines) after well development. Groundwater samples will be obtained using either a bladder pump, clear Teflon bailer, or dedicated polyethylene bailer. Prior to collecting samples, the sampling equipment will be thoroughly decontaminated to prevent introduction of contaminants into the well and to avoid cross-contamination. Monitoring wells will be sampled after 3 to 10 wetted casing volumes of groundwater have been evacuated and pH, electrical conductivity, and temperature have stabilized as measured with a Hydac Digital Tester. If the well is emptied before 3 to 10 well volumes are removed, the sample will be taken when the water level in the well recovers to 80% of its initial water level or more.

When a water sample is collected, turbidity of the water will be measured and recorded with a digital turbidimeter. Degree of turbidity will be measured and recorded in nephelometric turbidity units (NTU).

TPE will also measure the thickness of any floating product in the monitoring wells using an interface or probe clear Teflon or polyethylene bailer. The floating product will be measured after well development but prior to the collection of groundwater samples. If floating product is present in the well, TPE will recommend to the client that product removal be commenced immediately and reported to the appropriate regulatory agency.

Unless specifically waived or changed by the local, prevailing regulatory agency, water samples shall be handled and preserved according to the latest EPA methods as described in the Federal Register (Volume 44, No. 233, Page 69544, Table II) for the type of analysis to be performed.

Development and/or purge water will be stored on site in labeled containers. The disposal of the containers and development and/or purge water is the responsibility of the client.

**MEASUREMENTS**

**Purged Water Parameter:** During purging, discharged water will be measured for the following parameters.

| <u>Parameter</u>           | <u>Units of Measurement</u> |
|----------------------------|-----------------------------|
| pH                         | None                        |
| Electrical Conductivity    | Micromhos                   |
| Temperature                | Degrees F or C              |
| Depth to Water             | Feet/Hundredths             |
| Volume of Water Discharged | Gallons                     |
| Turbidity                  | NTU                         |

**Documentation:** All parameter measurements shall be documented in writing on TPE development logs.

## QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The overall objectives of the field sampling program include generation of reliable data that will support development of a remedial action plan. Sample quality will be checked by the use of proper sampling, handling, and testing methods. Additional sample quality control methods may include the use of background samples, equipment rinsate samples, and trip and field blanks. Chain-of-custody forms, use of a qualified laboratory, acceptable detection limits, and proper sample preservation and holding times also provide assurance of accurate analytical data.

TPE will follow a QA/QC program in the field to ensure that all samples collected and field measurements taken are representative of actual field and environmental conditions and that data obtained are accurate and reproducible. These activities and laboratory QA/QC procedures are described below.

Field Samples: Additional samples may be taken in the field to evaluate both sampling and analytical methods. Three basic categories of QA/QC samples that may be collected are trip samples, field blanks, and duplicate samples.

Trip blanks are a check for cross-contamination during sample collection, shipment, and in the laboratory. Analytically confirmed organic-free water shall be used for organic parameters and deionized water for metal parameters. Blanks will be prepared by the laboratory supplying the sample containers. The blank shall be numbered, packaged, and sealed in the same manner as the other samples. One trip blank will be used for each sample set of less than 20 samples. At least 5% blanks will be used for sets greater than 20 samples. The trip blank is a water sample that remains with the collected samples during transportation and is analyzed along with the field samples to check for residual contamination. The trip blank is not to be opened by either the sample collectors or the handlers.

The field blank is a water sample that is taken into the field and is opened and exposed at the sampling point to detect contamination from air exposure. The water

sample is poured into appropriate containers to simulate actual sampling conditions. Contamination for air exposure can vary considerably from site to site.

The laboratory will not be informed about the presence of field and trip blanks and a false identifying number will be put on the label. Full documentation of these collection and decoy procedure will be made in the site log book.

Duplicate samples are identical sample pairs (collected in the same place and at the same time), placed in identical containers. For soils, adjacent sample liners will be analyzed. For the purpose of data reporting, one is arbitrarily designated the sample, and the other is designated as a duplicate sample. Both sets of results are reported to give an indication of the precision of sampling and analytical methods.

The laboratory's precision will be assessed without the laboratory's knowledge by labeling one of the duplicates with false identifying information. Data quality will be evaluated on the basis of the duplicate results.

Laboratory QA/QC: Execution of a strict QA/QC program is an essential ingredient in high-quality analytical results. By using accredited laboratory techniques and analytical procedures, estimates of the experimental values can be very close to the actual value of the environmental sample. The experimental value is monitored for its precision and accuracy by performing QC test designed to measure the amount of random and systematic errors and to signal when correction of these errors is needed.

The QA/QC program describes methods for performing QC tests. These methods involve analyzing method blanks, calibration standards, check standards (both independent and EPA-certified standards), duplicates, replicates, and sample spikes. Internal QC also requires adherence to written methods, procedural documentation, and record keeping, and the observance of good laboratory practices.

ALAMEDA COUNTY  
HEALTH CARE SERVICES  
AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH  
State Water Resources Control Board  
Division of Clean Water Programs  
UST Local Oversight Program  
80 Swan Way, Rm 200  
Oakland, CA 94621  
(510) 271-4530

February 28, 1994

Mr. John Goldstein  
Plants Unlimited  
16450 Kent Ave.  
San Lorenzo, CA 94580

STID 3761

Re: Investigations at 16450 Kent Ave., San Lorenzo, CA

Dear Mr. Goldstein,

This office has received and reviewed Tank Protect Engineering's quarterly report, dated February 1, 1994, for the above site. A minimum of two additional quarterly ground water monitoring events, and continued monthly water level measurements and corresponding gradient determinations are required.

Additionally, in Tank Protect's report, it states that borings were drilled adjacent to the three monitoring wells on January 20, 1993, and one soil sample was collected from each of these borings. Please clarify whether these boring samples were used to represent the required soil samples from Wells MW-1 through MW-3. Additionally, please submit a figure showing the locations of these borings.

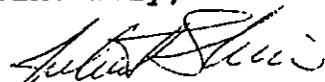
Having reviewed Evax's well installation report again, it was noted that no well survey information was submitted with that report. According to Evax's report, the wells were surveyed to Mean Sea Level (MSL). Please submit the documentation showing that the wells were surveyed to MSL with the next quarterly report.

Lastly, our case files do not contain details on the extent of overexcavation that took place (please give tank pit dimensions of the initial and final excavation), on the depths of the initial and confirmatory soil samples, and the amount of excavated soil resulting from the overexcavation. It is the understanding of this office that approximately 6 cubic yards of soil was generated from the initial tank removal/excavation, and hauled off to Zanker Road in San Jose. Please confirm whether or not this is the case, and address the above issues in the next quarterly report.

Mr. John Goldstein  
Re: 16450 Kent Ave.  
February 28, 1994  
Page 2 of 2

If you have any questions or comments, please contact me at (510)  
271-4530.

Sincerely,

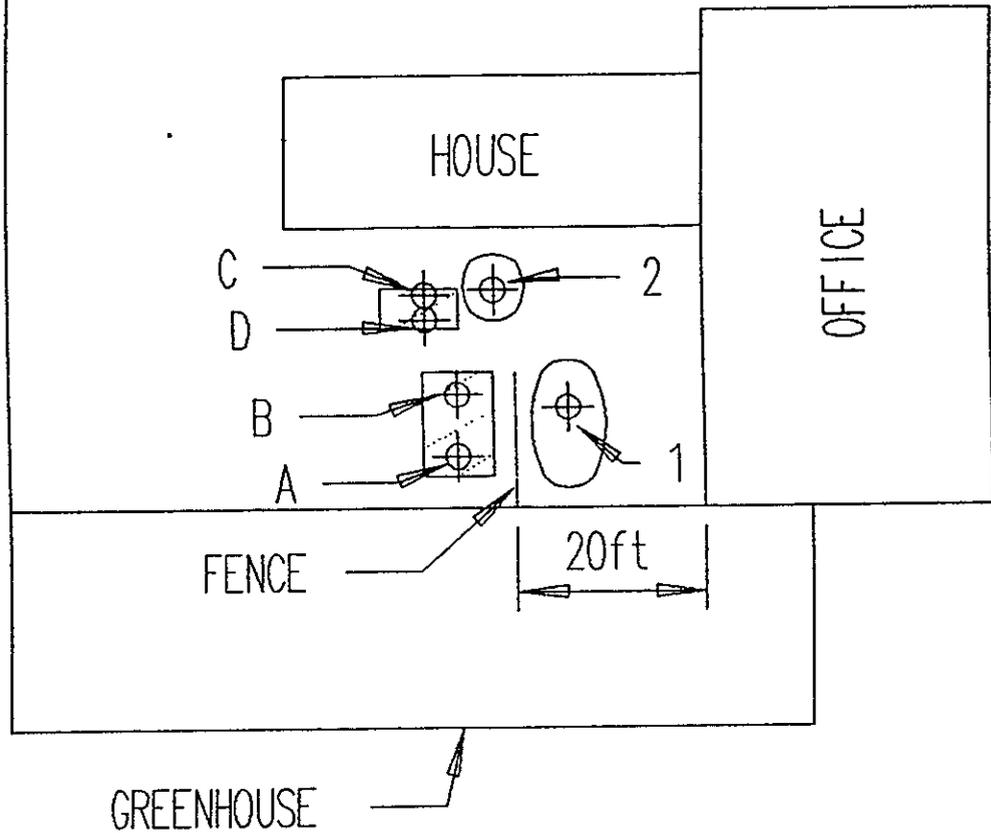


Juliet Shin  
Hazardous Materials Specialist

cc: John Mrakovich  
Tank Protect Engineering  
2821 Whipple Road  
Union City, CA 94587-1233

Edgar Howell-File(JS)

KENT AVENUE

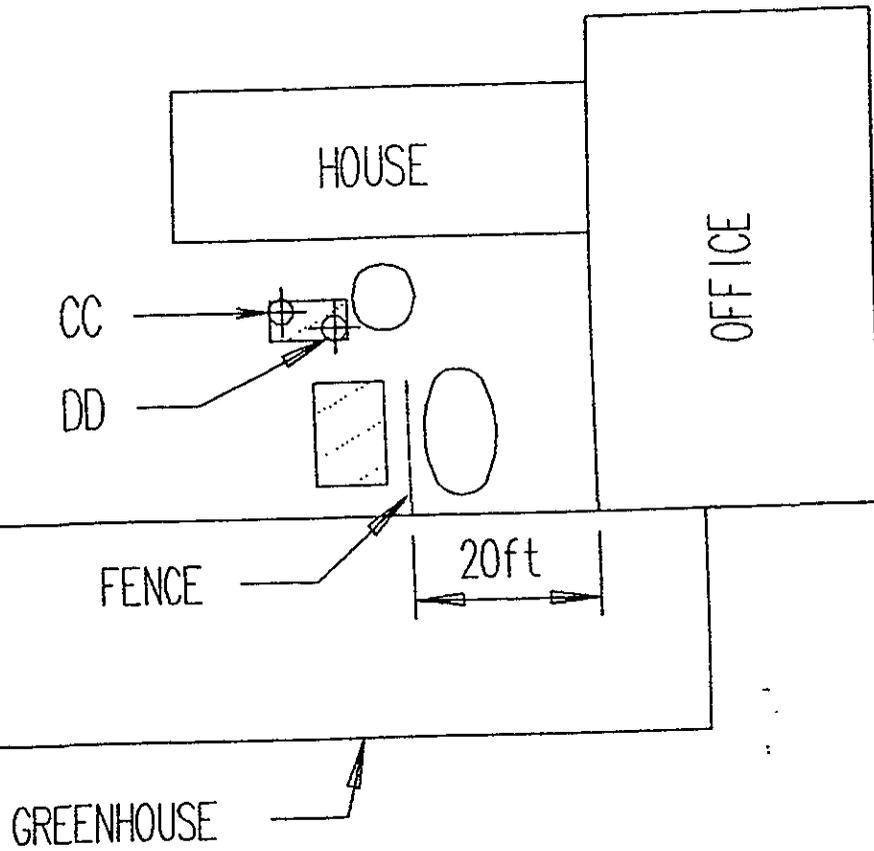


PLANTS UNLIMITED  
16450 KENT AVENUE  
SAN LORENZO, CALIFORNIA

SLOG #: 1674  
DATE: 7/31/1990

W. E. S. T.  
1046 Olive Drive #3, Davis, CA 95616  
(916)753-9500 Drawn By:

KENT AVENUE



PLANTS UNLIMITED (SCOTT CO.)  
16450 KENT AVENUE  
SAN LORENZO, CALIFORNIA

SLOG #: 1775  
DATE: 9/5/1990

W. E. S. T.  
1046 Olive Drive #3, Davis, CA 95616  
(916)753-9500 Drawn By:



**ZANKER ROAD DISPOSAL AND RECYCLING CENTER**  
 705 LOS ESTEROS ROAD, SAN JOSE, CA 95134  
 (408) 263-2383

October 8, 1990

11:27 a.m.

Tag# 262365

*Auth 164*  
~~3rd Credit Material~~  
*Aug*

CHECK RECEIPT - Number 10696

Special Waste 2      5      30.00      =      180.00

AUTHORIZED SIGNATURE

*J. Manuel Armenta*

TRUCKING COMPANY

180.00

TERMS: All bills are due and payable by the 10th of the month following date of service. All delinquent accounts are subject to a 1½% Monthly Late Charge or 18% Per Annum or maximum lawful amount.

*MICHAEL  
GROSS*

*Letter name &  
ADDRESS*

*20,000  
200 YDS  
PLANT MATERIAL*

*FAX  
408 263-2393*