

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

September 15, 2008

Mr. Lawrence Morris
City of Emeryville
1333 Park Avenue
Emeryville, CA 94608

REMEDIAL ACTION COMPLETION CERTIFICATE

Subject: Subject: Fuel Leak Case, RO0000065, Global ID T0600100368, City of Emeryville, 1333 Park Avenue, Emeryville, CA 94608

Dear Mr. Morris:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code.

Please contact our office if you have any questions regarding this matter.

Sincerely,


Ariu Levi
Director

Alameda County Environmental Health

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY

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Subject: Subject: Fuel Leak Case, RO0000065, Global ID T0600100368, City of Emeryville, 1333 Park Avenue, Emeryville, CA 94608

Dear Mr. Morris:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Residual pollution remaining in soil beneath the site includes 190 milligrams per kilogram (mg/Kg) TPH as gasoline and 0.32 mg/Kg benzene.
- If site use changes, to residential or other more conservative use, ACEH needs to be notified and the case needs to be reevaluated.
- No EDB or EDC analysis has been performed.

If you have any questions, please call Barbara Jakub at (510) 639-1287. Thank you.

Sincerely,

Donna L. Drogos, P.E.
LOP and Toxics Program Manager

Enclosures:

1. Remedial Action Completion Certificate
2. Case Closure Summary

cc:

Ms. Cherie McCaulou (w/enc)
SF- Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Closure Unit (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Barbara Jakub (w/orig enc), D. Drogos (w/enc), R. Garcia (w/enc)

**CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM**

I. AGENCY INFORMATION

Date: August 27, 2008

| | |
|--------------------------------------------------|---------------------------------------|
| Agency Name: Alameda County Environmental Health | Address: 1131 Harbor Bay Parkway |
| City/State/Zip: Alameda, CA 94502-6577 | Phone: (510) 639-1287 |
| Responsible Staff Person: Barbara Jakub | Title: Hazardous Materials Specialist |

II. CASE INFORMATION

| | | |
|------------------------------------------------------------|-----------------------------------------------|-------------------------|
| Site Facility Name: City of Emeryville | | |
| Site Facility Address: 1333 Park Ave, Emeryville, Ca 94608 | | |
| RB Case No.: 01-0403 | Local Case No.: 3638 | LOP Case No.: RO0000065 |
| URF Filing Date: 01/16/92 | Global ID No.: T0600100368 | APN: 49-618-1 |
| Responsible Parties | Addresses | Phone Numbers |
| Lawrence Morris, City Of Emeryville | 1333 Park Avenue Emeryville, CA 94608-1809 | (510) 596-4356 |
| | | |

| Tank I.D. No | Size in Gallons | Contents | Closed In Place/Removed? | Date |
|--------------|-----------------|----------|--------------------------|----------|
| 1 | 2000 | Gasoline | Removed | 01/02/92 |
| | | | | |
| | | | | |
| Piping | | | Removed | 01/02/92 |

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

| | | |
|----------------------------------------------------------------------------------|-----------------------------------------|----------------------------------------|
| Cause and Type of Release: Unknown. Tank passed an integrity test before removal | | |
| Site characterization complete? Yes | Date Approved By Oversight Agency: ---- | |
| Monitoring wells installed? Yes | Number: 3 | Proper screened interval? Yes |
| Highest GW Depth Below Ground Surface: 4.8 | Lowest Depth: 7.04 | Flow Direction: West Northwest to West |
| Most Sensitive Current Use: Potential drinking water source. | | |

Summary of Production Wells in Vicinity: A well survey was not conducted. Considering the residual benzene concentration in soil is above the water table and the site is paved it is unlikely that water wells, deeper drinking water aquifers, surface water or other sensitive receptors are likely to be impacted. Also,, groundwater analytical results indicate that no TPHg, BTEX or MTBE has been detected in site wells in the last three sample events. There is no impact to groundwater therefore, the contaminant plume does not extend beyond the subject property and a well survey does not appear warranted.

| | |
|-------------------------------------------------------------|--------------------------------------------------------------|
| Are drinking water wells affected? No | Aquifer Name: East Bay Plain |
| Is surface water affected? No | Nearest SW Name: SF Bay 1,300 ft downgradient |
| Off-Site Beneficial Use Impacts (Addresses/Locations): None | |
| Reports on file? Yes | Where are reports filed? Alameda County Environmental Health |

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

| Material | Amount (Include Units) | Action (Treatment or Disposal w/Destination) | Date |
|--------------|------------------------|----------------------------------------------|------------|
| Tank | 1-2,000-gallon tank | Removed, no reported destination | 01/02/1992 |
| Piping | Not Reported | Removed, no reported destination | 01/02/1992 |
| Free Product | ---- | ---- | ---- |
| Soil | ~107 cubic yards | Removed, Redwood Landfill | 03/13/1992 |
| Groundwater | ---- | ---- | ---- |

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments for additional information on contaminant locations and concentrations)

| Contaminant | Soil (ppm) | | Water (ppb) | |
|-----------------|---------------------------------|---------------------------------|---------------------------|-------|
| | Before | After | Before | After |
| TPH (Gas) | 190 (VSD-N, 4', 02/03/1992) | 190 (VSD-N, 4', 02/03/1992) | 2,700 (WS, 01/02/1992) | <50 |
| TPH (Diesel) | ---- | ---- | ---- | ---- |
| TPH (Motor Oil) | ---- | ---- | ---- | ---- |
| TRPH | ---- | ---- | ---- | ---- |
| Benzene | 0.32 (VSD-N, 4', 02/03/1992) | 0.32 (VSD-N, 4', 02/03/1992) | 120 (WS, 01/02/1992) | <0.5 |
| Toluene | 5.2 (VSD-N, 4', 02/03/1992) | 5.2 (VSD-N, 4', 02/03/1992) | 570 (WS, 01/02/1992) | <0.5 |
| Ethylbenzene | 2.7 (VSD-N, 4', 02/03/1992) | 2.7 (VSD-N, 4', 02/03/1992) | 140 (WS, 01/02/1992) | <0.5 |
| Xylenes | 31 (VSD-N, 4', 02/03/1992) | 31 (VSD-N, 4', 02/03/1992) | 900 (WS, 01/02/1992) | <1.5 |
| MTBE | ---- | ---- | ---- | <5 |
| Lead | 3.9 (SNE, 7', 01/02/1992) | ND | ---- | <100 |

On January 2, 1992, one 2,000-gallon steel underground gasoline storage tank and associated dispenser and piping were removed. Contamination was evident and water and soil samples were taken and sent to the laboratory for testing. Tank pit soil samples detected up to 0.008 ppm toluene and up to 3.9 ppm total lead. A soil sample from beneath the dispenser island detected 180 ppm TPH-G, 0.46 ppm toluene, 1.4 ppm ethylbenzene, and 20 ppm xylenes. A water sample from the tank pit detected 2,700 ppb TPH-g, 120 ppb benzene, 570 ppb toluene, 140 ppb ethylbenzene, and 900 ppb xylenes.

On February 3, 1992, the area was overexcavated until field screening detected non-detectable levels of contamination. The tank pit was excavated to ~8ft bgs, and the dispenser island pit to ~6ft bgs. Sidewall soil samples were again taken. Sample VSD-N detected 190 ppm TPH-G, 0.32 ppm benzene, 5.2 ppm toluene, 2.7 ppm ethylbenzene, and 31 ppm xylenes, and sample VSD-E detected 0.81 ppm TPH-G.

On February 24 and February 27, 1992, the excavations were backfilled and sealed by covering with asphalt, respectively.

On March 10 and 11, 1992, three monitoring wells (MW-1 to MW-3) were installed at the site. No TPHg or benzene were detected in soil samples from the borings. Benzene was detected during the first groundwater monitoring event at a concentration of 1.1 µg/L. Subsequent monitoring events did not have detectable concentrations of any analyzed constituent.

On December 8, 1998, the three wells were sampled and tested for MTBE. None was detected (<5 ppb).

IV. CLOSURE

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|
| Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes | | |
| Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes | | |
| Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a significant risk to human health based upon current land use and conditions. | | |
| Site Management Requirements: Case closure for this site is granted for commercial land use. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified as required by Government Code Section 65850.2.2 and the case needs re-evaluated. | | |
| Should corrective action be reviewed if land use changes? Yes | | |
| Was a deed restriction or deed notification filed? No | | Date Recorded: -- |
| Monitoring Wells Decommissioned: Yes | Number Decommissioned: 3 | Number Retained: 0 |
| List Enforcement Actions Taken: None | | |
| List Enforcement Actions Rescinded: None | | |

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

Currently, residual soil contamination of TPH-g and benzene at concentrations of 190 mg/kg and 0.32 mg/kg, respectively, was left in place near the former dispenser in an unsaturated zone. The residual contamination does not appear to pose a significant risk to the current commercial use of the site or to groundwater resources in the area. However, if a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified and the case needs to be reevaluated. Also, no EDB or EDC analysis has been performed.

Conclusion:

Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment under the current land uses

(City of Emeryville City Hall) based upon the information available in our files to date. Residual soil contamination in the vicinity of the former USTs appears localized. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

| | |
|------------------------------------|---------------------------------------------------|
| Prepared by: Barbara Jakub | Title: Hazardous Materials Specialist |
| Signature: <i>Barbara Jakub</i> | Date: 8/27/08 |
| Approved by: Donna L. Drogos, P.E. | Title: Supervising Hazardous Materials Specialist |
| Signature: <i>Donna L. Drogos</i> | Date: 08/27/08 |

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

| | |
|--------------------------------------------------------------------------------------------|------------------------------|
| Regional Board Staff Name: Cherie McCaulou | Title: Engineering Geologist |
| RB Response: Concur, based solely upon information contained in this case closure summary. | Date Submitted to RB: |
| Signature: | Date: |

VIII. MONITORING WELL DECOMMISSIONING

| | | |
|--------------------------------------------------------------------------------------------|------------------------------------------------|--------------------|
| Date Requested by ACEH: ---- | Date of Well Decommissioning Report: 1/12/1999 | |
| All Monitoring Wells Decommissioned: Yes | Number Decommissioned: 3 | Number Retained: 0 |
| Reason Wells Retained: ---- | | |
| Additional requirements for submittal of groundwater data from retained wells: <i>None</i> | | |
| ACEH Concurrence - Signature: <i>Barbara J Jakub</i> | | Date: 9/15/08 |

Attachments:

1. Tables 1 & 2 (Comparison of residual contamination to applicable ESLs or approved Cleanup Goals).
2. Site Vicinity Map (Figure 1, pp A-1)
3. Tank Removal Site Plan (Figure 2, pp A-2)
4. Tank Overexcavation Sample Locations (Figure 3, pp A-3)
5. Well Location Map (Figure 4, pp A-4)
6. Geologic Cross-Section (Figure 5, pp A-5)
7. Groundwater Elevation (Table A-1, pp A-6)
8. Groundwater Elevation, Gradient and Flow Direction (Table A-2, pp A-7)
9. Groundwater Analytical Results (Table A-3, pp A-8)
10. MTBE Results (Table A-4, pp A-9)
11. Soil Analytical Results (Table A-5, pp A-10)
12. Boring Logs (A-10- A-16)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.

(City of Emeryville City Hall) based upon the information available in our files to date. Residual soil contamination in the vicinity of the former USTs appears localized. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

| | |
|------------------------------------|---------------------------------------------------|
| Prepared by: Barbara Jakub | Title: Hazardous Materials Specialist |
| Signature: <i>Barbara Jakub</i> | Date: 8/27/08 |
| Approved by: Donna L. Brogos, P.E. | Title: Supervising Hazardous Materials Specialist |
| Signature: <i>Donna L. Brogos</i> | Date: 08/27/08 |

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

| | |
|--------------------------------------------------------------------------------------------|-------------------------------|
| Regional Board Staff Name: Cherie McCaulou | Title: Engineering Geologist |
| RB Response: Concur, based solely upon information contained in this case closure summary. | Date Submitted to RB: 8/27/08 |
| Signature: <i>Cherie McCaulou</i> | Date: 9/12/08 |

VIII. MONITORING WELL DECOMMISSIONING

| | | |
|--------------------------------------------------------------------------------|------------------------------------------------|--------------------|
| Data Requested by ACEH: ---- | Date of Well Decommissioning Report: 1/12/1999 | |
| All Monitoring Wells Decommissioned: Yes | Number Decommissioned: 3 | Number Retained: 0 |
| Reason Wells Retained: --- | | |
| Additional requirements for submittal of groundwater data from retained wells: | | |
| ACEH Concurrence - Signature: | | Date: |

Attachments:

1. Tables 1 & 2 (Comparison of residual contamination to applicable ESLs or approved Cleanup Goal(s).
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This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.

Environmental Impacts in Soil

Site Name

Address, City, California

Table 1. Comparison of Maximum Residual Soil Concentrations at the Site to Relevant Cleanup Standards (mg/kg)

| | TPH-g (mg/kg) | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl Benzene (mg/kg) | Xylenes (mg/kg) | MtBE (mg/kg) |
|-------------------------------------------------------------------------|-----------------|--------------------|------------------|-----------------------|------------------|--------------------|
| Maximum Residual Soil Concentrations at Site in milligrams per kilogram | 190 | 0.32 ⁴ | 5.2 ⁴ | 2.7 ⁴ | 31 ⁴ | Not Analyzed |
| RWQCB, Region 2 ESLs ¹ | 83 ³ | 0.044 ³ | 2.9 ³ | 3.3 ³ | 2.3 ³ | 0.023 ³ |

¹ Environmental Screening Levels (ESLs); Shallow Soil Screening Level for residential land use where potentially impacted groundwater is current or potential drinking water resource. Shallow soils defined as soils situated <3 meters below the ground surface. Depth to water ranges between 4.9 ft and 21.25 ft bgs.

² Lowest ESL value based on direct exposure scenario. Depth to water ranges between 4.9 ft and 21.25 ft bgs.

³ Lowest ESL value based on groundwater protection (soil leaching). Depth to water ranges between 4.9 ft and 21.25 ft bgs.

⁴ Soil sample collected at 4 feet bgs. Depth to water ranges between 4.80 ft and 7.04 ft bgs.

Environmental Impacts in Groundwater

Site Name

Address, City, California

Table 2. Comparison of Maximum Residual Groundwater Concentrations at the Site to Relevant Cleanup Standards (µg/L)

| | TPH-g (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl Benzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | TBA (µg/L) |
|------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Maximum Residual Groundwater Concentrations at Site | <50 | <0.5 | <0.5 | <0.5 | <1.5 | <5 | Not Analyzed |
| RWQCB Region 2 ESLs ² | 100 ¹ 100 ³ 210 ⁴ -- ⁶ | 1.0 ¹ 170 ² 1.0 ³ 540 ⁴ -- ⁶ | 40 ¹ 40 ² 150 ³ 380,000 ⁴ -- ⁶ | 30 ¹ 30 ² 300 ³ 170,000 ⁴ -- ⁶ | 20 ¹ 20 ² 1,800 ³ 160,000 ⁴ -- ⁶ | 5 ¹ 5 ² 13 ³ 24,000 ⁴ | -- ¹ 50,000 ² -- ³ -- ⁴ |
| ASTM Tier 1 Standard Human Health RBSL (Benzene) | NA | 11,000 ⁵ 23.8 ⁶ | 32,800 | 77,500 | NA | NA | NA |

¹ Environmental Screening Levels (ESLs) for impacted subsurface groundwater less than 10 feet, where groundwater IS a current or potential drinking water resource

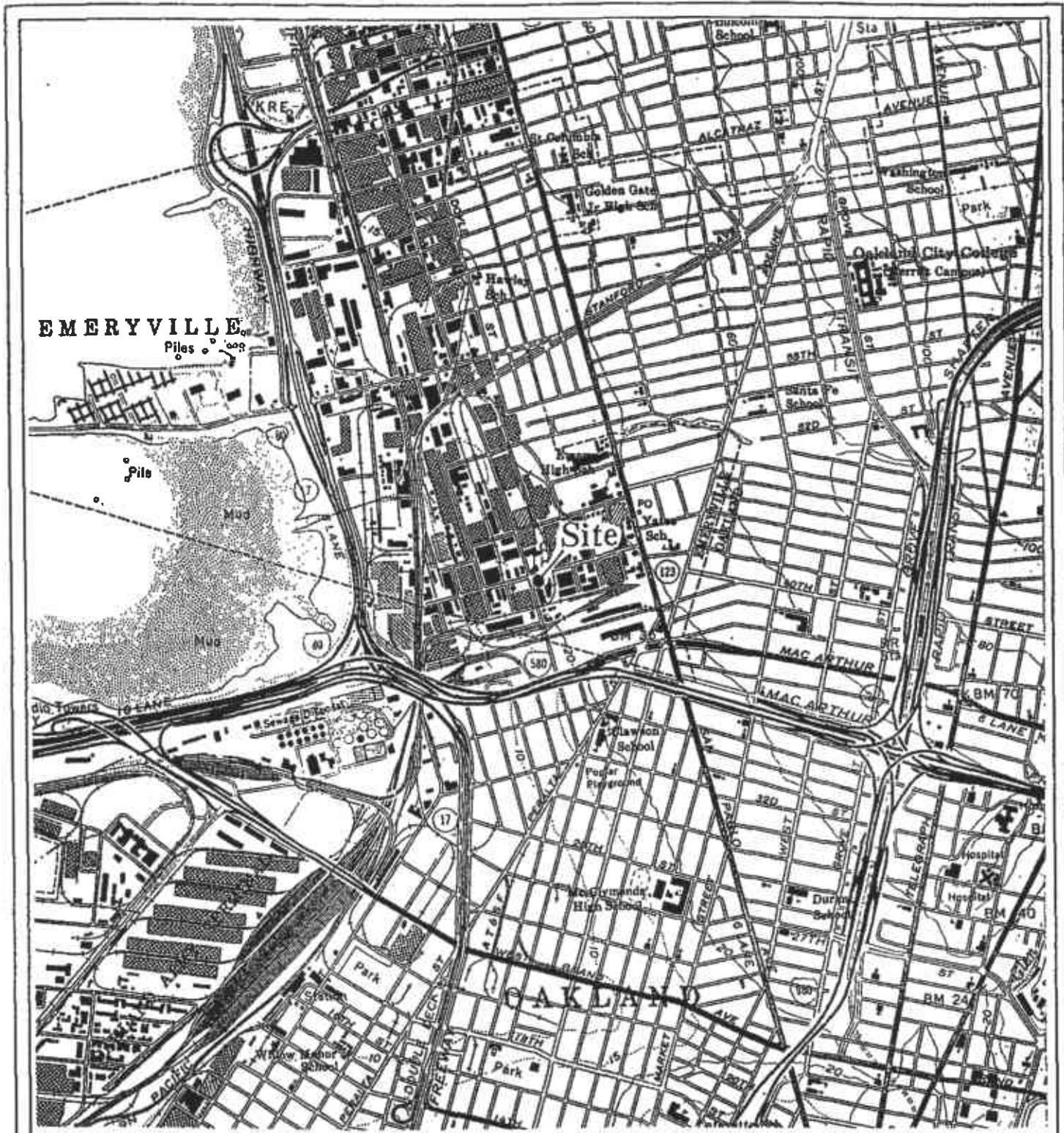
² Final Groundwater Screening Level, based on ceiling value (taste and odor threshold)

³ Groundwater Screening Level, based on drinking water toxicity

⁴ Groundwater Volatilization to indoor air (residential) Level,

⁵ Groundwater Vapor Intrusion from groundwater to buildings (residential, chronic hazard quotient = 1)

⁶ Final Groundwater Screening Level, based on Aquatic Habitat



LEGEND

REFERENCE: USGS 7.5 MINUTE
 SERIES QUADRANGLE MAP
 OAKLAND WEST, CALIFORNIA
 PHOTO REVISED 1980



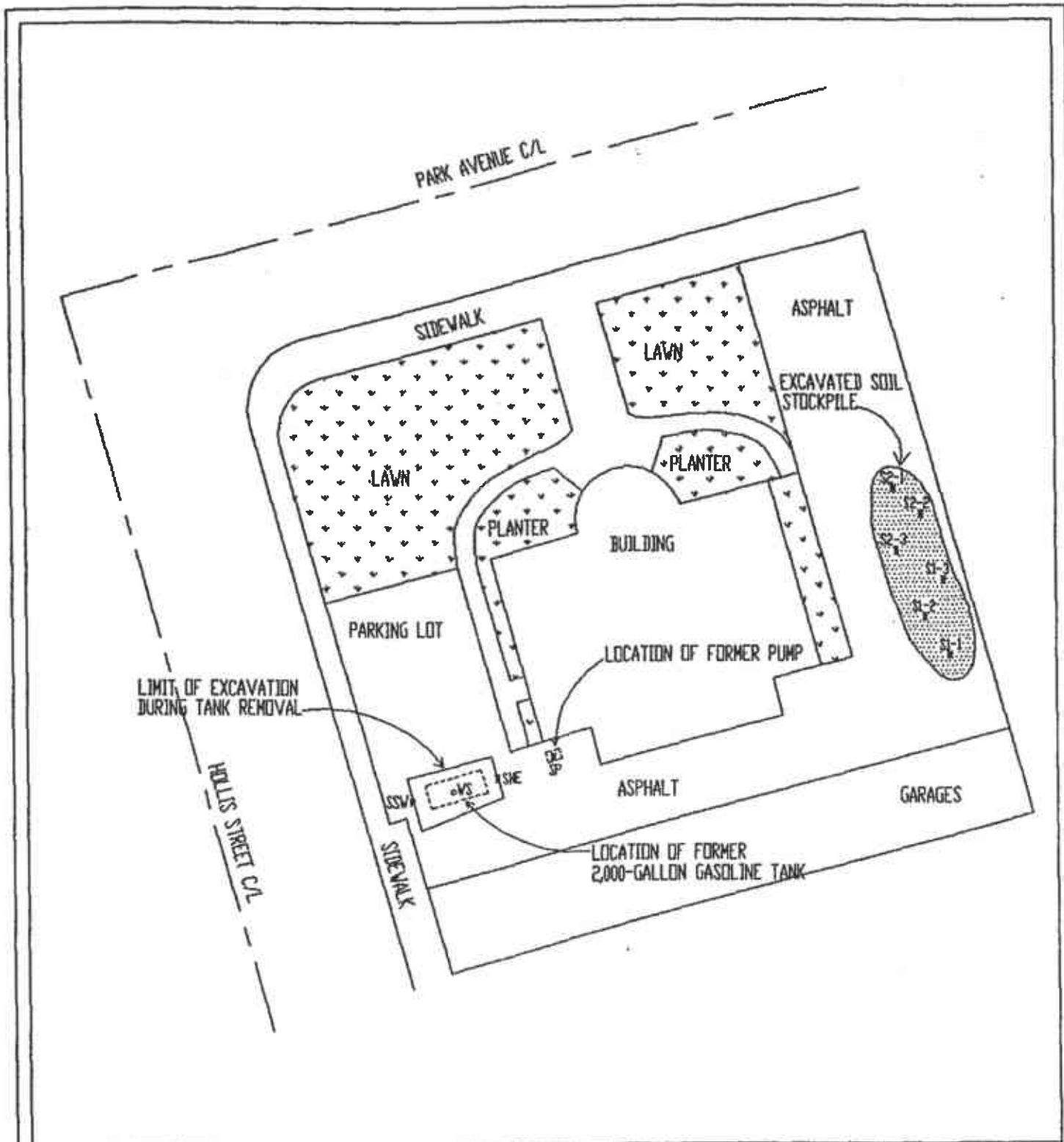
0 2,000
 SCALE IN FEET

Figure 1
 TANK PROTECT ENGINEERING

SITE VICINITY MAP

1333 PARK AVENUE
 EMERYVILLE, CA

| | |
|------------|---------|
| DATE | 1/14/98 |
| FIGURE | 1 |
| FILE # | 213A-3 |
| DRAWN BY | NAC |
| CHECKED BY | JVM |



LEGEND

- VS NAME AND LOCATION OF GRAB GROUNDWATER SAMPLE
- SNE NAME AND LOCATION OF SOIL SAMPLE



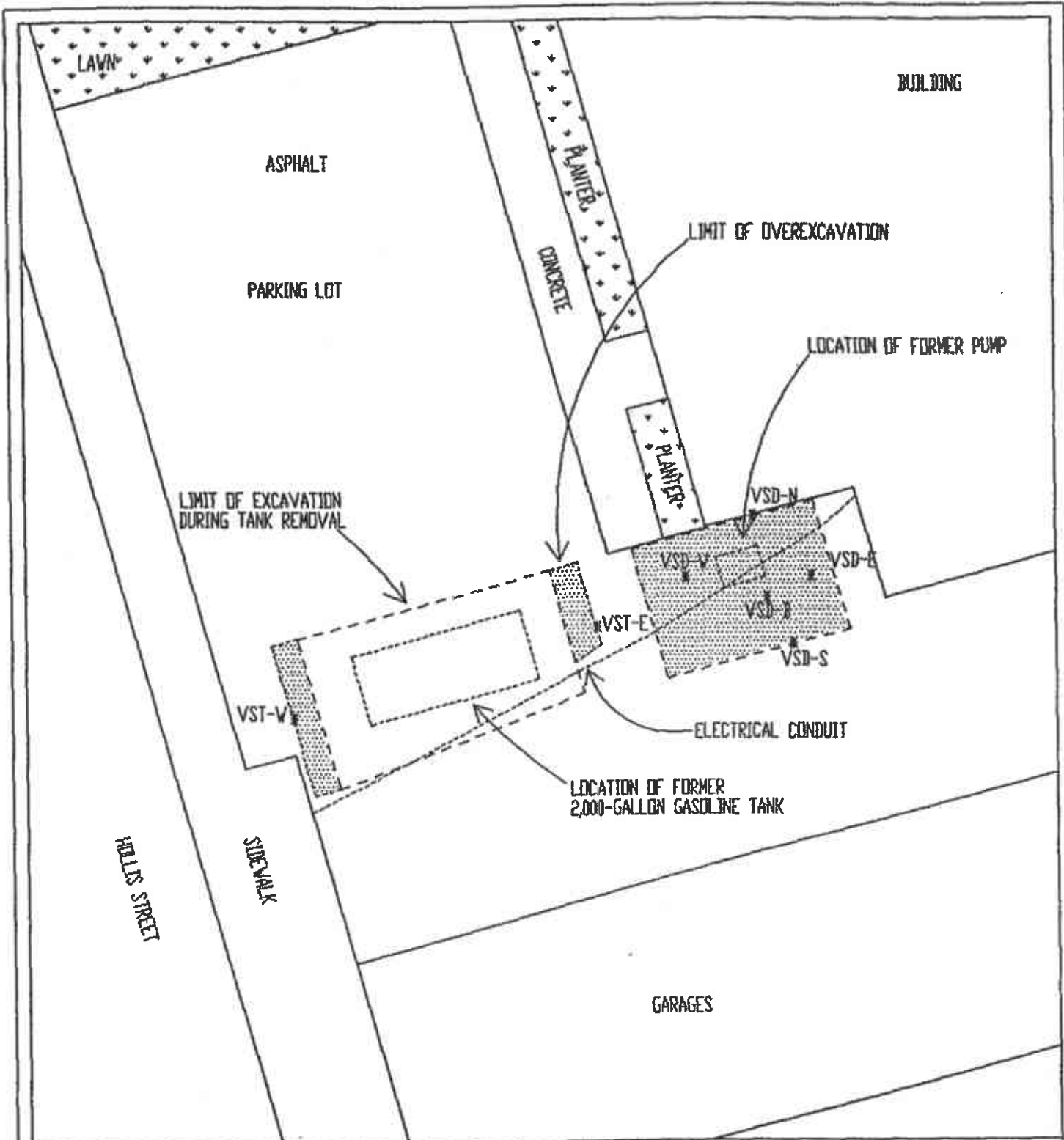
0 30
SCALE IN FEET

TANK PROTECT ENGINEERING

Figure 2
TANK REMOVAL SITE PLAN (1/2/92)

1333 PARK AVENUE
EMERYVILLE, CA 94608

| | |
|------------|---------|
| DATE | 3/12/92 |
| FIGURE | 2 |
| FILE # | 213A-16 |
| DRAWN BY | NAC |
| CHECKED BY | JVM |



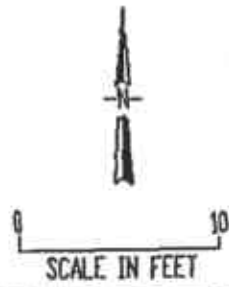
LEGEND

★ VST-W

NAME AND LOCATION OF VERIFICATION SOIL SAMPLE



AREA OF OVEREXCAVATION

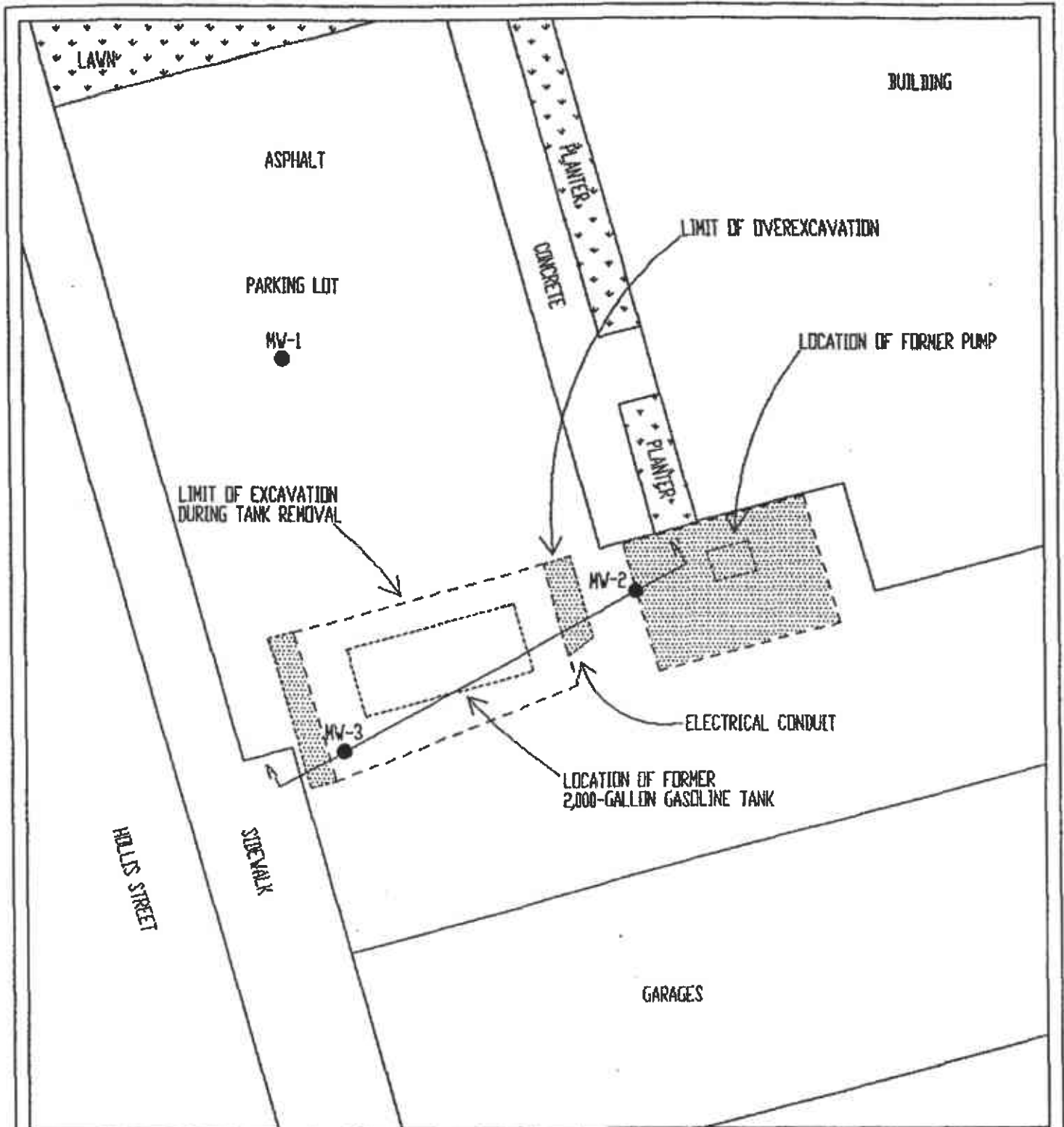


TANK PROTECT ENGINEERING

Figure 3
OVEREXCAVATION DETAIL (2/3/92)

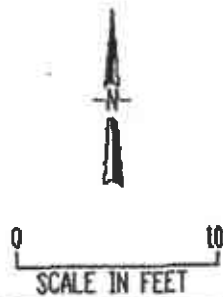
1333 PARK AVENUE
EMERYVILLE, CA 94608

| | |
|------------|--------|
| DATE | 2/3/92 |
| FIGURE | 3 |
| FILE # | 213A-M |
| DRAWN BY | NAC |
| CHECKED BY | JVM |



LEGEND

- MW-1 ● NAME AND LOCATION OF GROUNDWATER MONITORING WELL
- ↗ ↘ LOCATION OF GEOLOGIC CROSS SECTION
- ▨ AREA OF OVEREXCAVATION



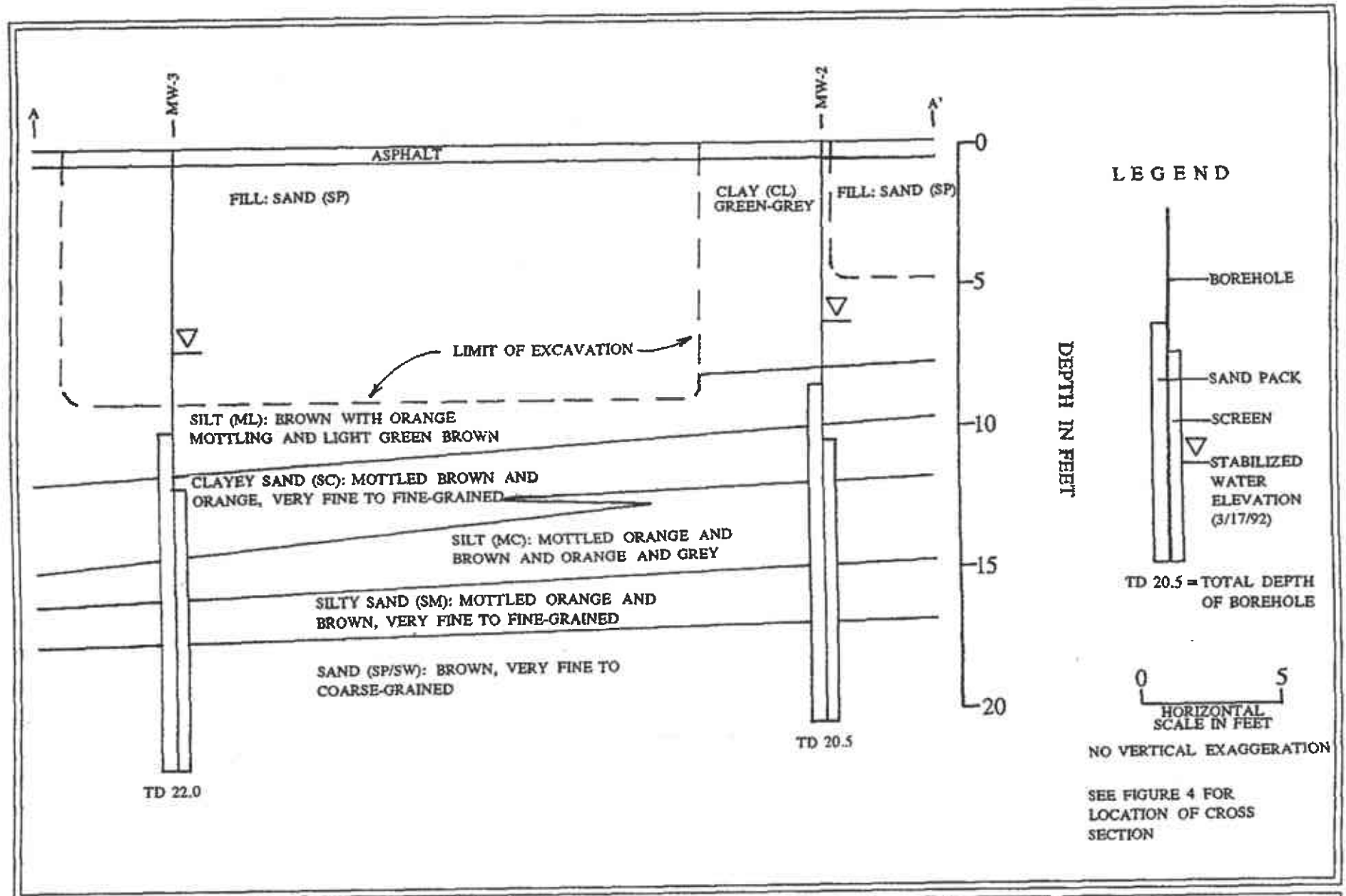
TANK PROTECT ENGINEERING

Figure 4
WELL INSTALLATION DETAIL (3/11/92)

1333 PARK AVENUE
EMERYVILLE, CA 94608

| | |
|------------|---------|
| DATE | 5/27/92 |
| FIGURE | 4 |
| FILE # | 213A-18 |
| DRAWN BY | NAC |
| CHECKED BY | JMH |

A-5



GEOLOGIC CROSS SECTION A-A'
1333 PARK AVENUE
EMERYVILLE, CALIFORNIA

FIGURE
5

TABLE 1
GROUNDWATER ELEVATION

| Well Name | Elevation TOC ¹ (feet MSL ²) | Date | Depth-To-Water From TOC | Groundwater Elevation (feet MSL) |
|-----------|--------------------------------------------------------|----------|----------------------------|-------------------------------------|
| MW-1 | 18.96 | 03/17/92 | 5.54 | 13.42 |
| | | 03/23/92 | 5.42 | 13.54 |
| | | 06/25/92 | 5.97 | 12.99 |
| | | 09/21/92 | 6.14 | 12.82 |
| | | 12/30/92 | 5.28 | 13.68 |
| MW-2 | 20.04 | 03/17/92 | 6.33 | 13.71 |
| | | 03/23/92 | 6.04 | 14.00 |
| | | 06/25/92 | 6.88 | 13.16 |
| | | 09/21/92 | 7.04 | 13.00 |
| | | 12/30/92 | 6.04 | 14.00 |
| MW-3 | 18.57 | 03/17/92 | 5.60 | 12.97 |
| | | 03/23/92 | 4.80 | 13.77 |
| | | 06/25/92 | 5.57 | 13.00 |
| | | 09/21/92 | 5.75 | 12.82 |
| | | 12/30/92 | 4.80 | 13.77 |

¹ TOC = TOP OF CASING

² MSL = MEAN SEA LEVEL

TABLE #2
GROUNDWATER ELEVATION, GRADIENT,
AND FLOW DIRECTION DATA

| Date | Average Groundwater Elevation (feet MSL ¹) | Change in Average Groundwater Elevation (feet) | Groundwater Gradient | Groundwater Flow Direction |
|----------|--------------------------------------------------------|------------------------------------------------|----------------------|----------------------------|
| 03/17/92 | 13.37 | --- | .032 | WSW |
| 03/23/92 | 13.77 | +.40 | .016 | WNW |
| 06/25/92 | 13.05 | -.72 | .0074 | W |
| 09/21/92 | 12.88 | -.17 | .0081 | W |
| 12/30/92 | 13.82 | +.94 | .0121 | WNW |

¹ MSL = MEAN SEA LEVEL

TABLE A-3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
(ppb¹)

| Well Name | Date | TPHG | Benzene | Toluene | Ethyl-Benzene | Xylenes | Organic Lead |
|-------------------|----------|-------|---------|---------|---------------|---------|-----------------|
| WS | 01/02/92 | 2,700 | 120 | 570 | 140 | 900 | NA ² |
| MW-1 | 03/23/92 | <64 | <0.50 | <0.50 | <0.50 | <1.5 | <100 |
| | 06/25/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| | 09/21/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| | 12/30/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| MW-2 | 03/23/92 | <50 | 1.1 | <0.50 | <0.50 | <1.5 | <100 |
| | 06/25/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| | 09/21/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| | 12/30/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| MW-3 | 03/23/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | <100 |
| | 06/25/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| | 09/21/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| | 12/30/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| MW-4 ³ | 03/23/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| | 06/25/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| | 09/21/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |
| | 12/30/92 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | NA |

¹ PARTS PER BILLION

² NA = NOT ANALYZED

³ TRIP BLANK

LABORATORY NUMBER: 137021
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 537.012
 LOCATION: EMERY TOWN HALL

DATE SAMPLED: 12/08/98
 DATE RECEIVED: 12/08/98
 DATE ANALYZED: 12/10/98
 DATE REVISED: 12/15/98
 BATCH NO: 45142

EPA 8260

Table A-4

| LAB ID | CLIENT ID | MTBE (ug/L) | REPORTING LIMIT (ug/L) | SURROGATE RECOVERIES | | |
|--------------|-----------|----------------|------------------------------|-------------------------|------|-----|
| | | | | 1 | 2 | 3 |
| 137021-001 | MW-1 | ND | 5.0 | 94% | 100% | 96% |
| 137021-002 | MW-2 | ND | 5.0 | 93% | 97% | 96% |
| 137021-003 | MW-3 | ND | 5.0 | 94% | 99% | 97% |
| METHOD BLANK | N/A | ND | 5.0 | 94% | 101% | 97% |

1= 1,2-Dichloroethane-d4
 2=Toluene-d8
 3=Bromofluorobenzene

Limits
 85-121
 92-110
 84-115

ND = Not detected at or above reporting limit.

TABLE A5
SUMMARY OF SOIL ANALYTICAL RESULTS
(ppm)

| Sample ID Name | Date | Depth (feet) | TPHG | Benzene | Toluene | Ethyl-Benzene | Xylenes | Total Lead | Organic Lead |
|----------------|----------|--------------|-------|---------|---------|---------------|---------|-----------------|--------------|
| S1-1, 2, 3 | 01/02/92 | 02.0-03.5 | 410 | 6.1 | 91 | 18 | 120 | NA ¹ | NA |
| S2-1, 2, 3 | 01/02/92 | 01.0-03.5 | 130 | 1.4 | 8.7 | 4.4 | 28 | NA | NA |
| SNE | 01/02/92 | 07.0-07.5 | <.5 | <.005 | .0056 | <.005 | <.015 | 3.9 | <.5 |
| SP | 01/02/92 | 02.0-02.5 | 180 | <.088 | .46 | 1.4 | 20 | NA | NA |
| SSW | 01/02/92 | 07.0-07.5 | <.5 | <.005 | .008 | <.005 | <.015 | NA | NA |
| VST-E | 02/03/92 | 05.5 | <.500 | <.005 | <.005 | <.005 | <.015 | NA | <2.5 |
| VST-W | 02/03/92 | 05.5 | <.500 | <.005 | <.005 | <.005 | <.015 | NA | <2.5 |
| VSD-N | 02/03/92 | 04.0 | 190 | .320 | 5.2 | 2.7 | 31 | NA | <2.5 |
| VSD-S | 02/03/92 | 05.5 | <.500 | <.005 | <.005 | <.005 | <.015 | NA | <2.5 |
| VSD-E | 02/03/92 | 04.5 | .810 | <.005 | <.005 | <.005 | <.015 | NA | <2.5 |
| VSD-W | 02/03/92 | 04.5 | <.500 | <.005 | <.005 | <.005 | <.015 | NA | <2.5 |
| VSD-B | 02/03/92 | 06.5 | <.500 | <.005 | <.005 | <.005 | <.015 | NA | <2.5 |
| MW-1 | 03/10/92 | 10.0-10.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA | NA |
| MW-2 | 03/10/92 | 05.0-05.5 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA | NA |
| MW-2 | 03/11/92 | 10.5-11.0 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA | NA |
| MW-3 | 03/10/92 | 11.5-12.0 | <1.0 | <.005 | <.005 | <.005 | <.005 | NA | NA |
| SP1-1, 2, 3, 4 | 03/10/92 | 01.5-02.0 | <1 | <.005 | <.005 | <.005 | <.005 | NA | NA |

Stacks filed

A-10

¹ NA = NOT ANALYZED

LOG OF EXPLORATORY BORING

PROJECT NUMBER 213

BORING NO. MW-1

PROJECT NAME 1333 Park Avenue, Emeryville, CA

PAGE

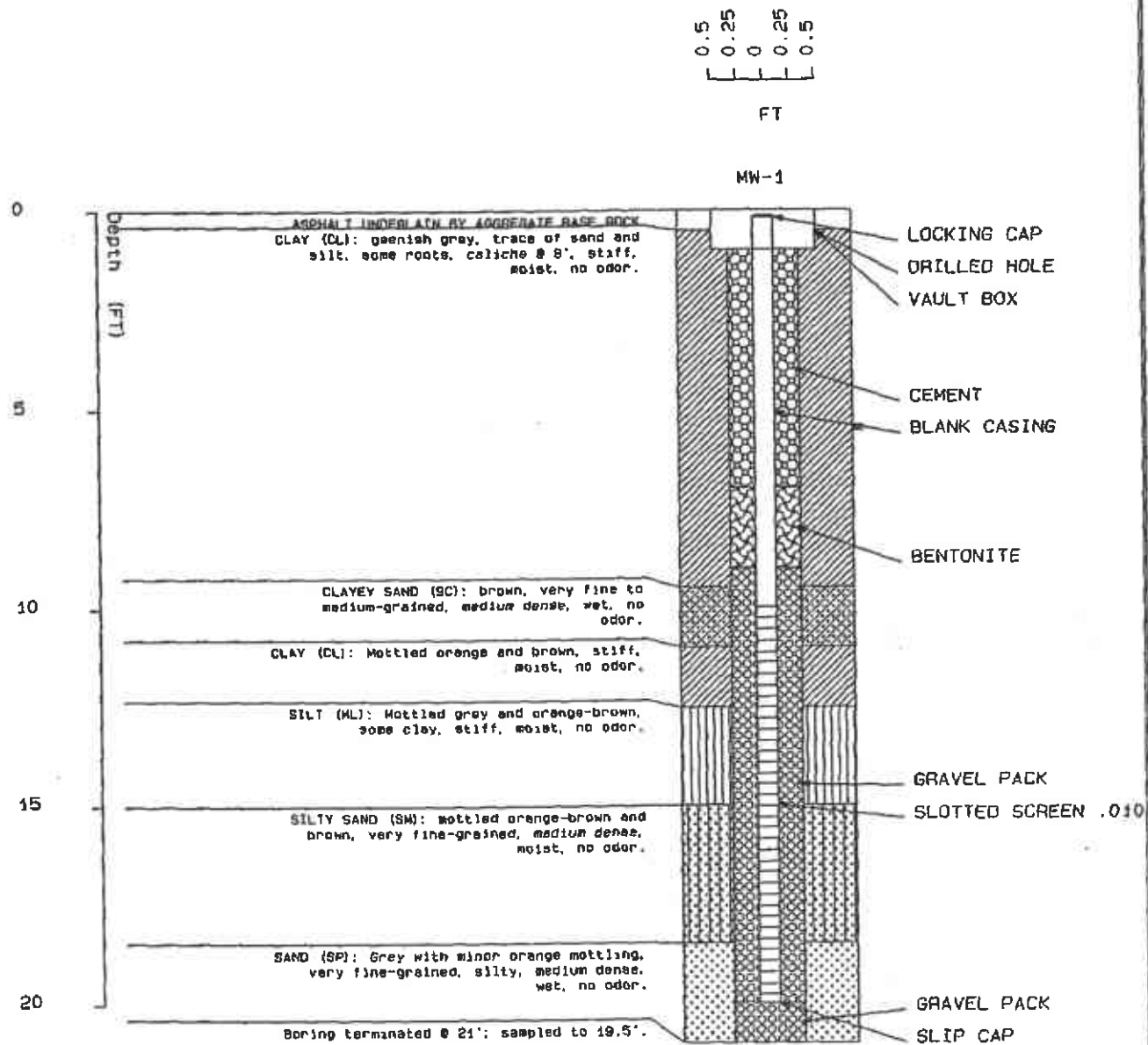
BY L. A. Flora

DATE 3/10/92

SURFACE ELEV. 19 FT

| RECOVERY (FT/FT) | OVA (PPM) | PENETRA- TION (BLOWS/FT) | GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO- GRAPHIC COLUMN | DESCRIPTION |
|---------------------|--------------|--------------------------------|---------------------------|-----------------|---------|-----------------------------|----------------------------------------------------------------------------------------------------|
| | | | | 1 | | | ASPHALT UNDERLAIN BY AGGREGATE BASE ROCK |
| | | | | 2 | | | CLAY (CL): greenish grey, trace of sand and silt, some roots, caliche @ 8', stiff, moist, no odor. |
| | | | | 3 | | | |
| | | | | 4 | | | |
| 1.0/1.5 | | 9 | | 5 | | | |
| | | | | 6 | | | CLAYEY SAND (SC): brown, very fine to medium-grained, medium dense, wet, no odor. |
| 1.5/1.5 | 7 | 14 | | 7 | | | |
| | | | | 8 | | | CLAY (CL): Mottled orange and brown, stiff, moist, no odor. |
| 1.5/1.5 | | 15 | | 9 | | | |
| | | | | 10 | | | SILT (ML): Mottled grey and orange-brown, some clay, stiff, moist, no odor. |
| 1.5/1.5 | 22 | 14 | | 11 | | | |
| | | | | 12 | | | SILTY SAND (SM): mottled orange-brown and brown, very fine-grained, medium dense, moist, no odor. |
| 1.5/1.5 | | 15 | | 13 | | | |
| | | | | 14 | | | SAND (SP): Grey with minor orange mottling, very fine-grained, silty, medium dense, wet, no odor. |
| 1.5/1.5 | | 10 | | 15 | | | |
| | | | | 16 | | | Boring terminated @ 21'; sampled to 19.5'. |
| 1.5/1.5 | | 13 | | 17 | | | |
| | | | | 18 | | | |
| 1.0/1.5 | | 20 | | 19 | | | |
| | | | | 20 | | | |
| 1.5/1.5 | | 20 | | 21 | | | |
| | | | | 22 | | | |

REMARKS: Boring drilled with continuous-flight, hollow-stem, 8-inch O.D. augers. Samples collected in a 2.0-inch I.D. California Sampler or 1.5-inch I.D. SPT Sampler.



LEGEND

Static Water Level



SP



SM



SC



ML



CL



ASPHALT

WELL ID : MW-1

1333 PARK AVENUE, EMERYVILLE, CA 94608

TANK PROTECT ENGINEERING

Figure :

LOG OF EXPLORATORY BORING

PROJECT NUMBER 213

BORING NO. MW-2

PROJECT NAME 1333 Park Avenue, Emeryville, CA

PAGE

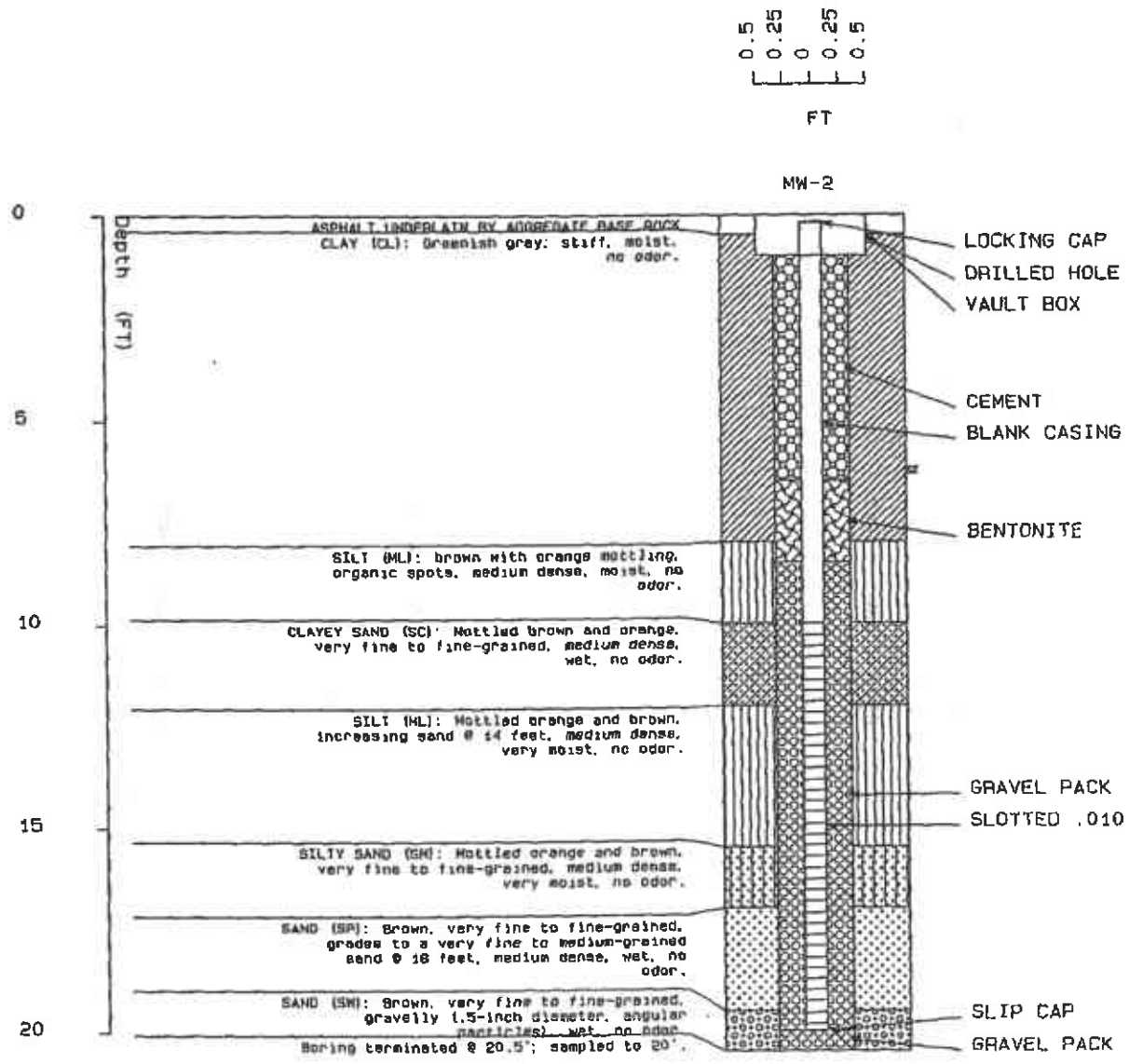
BY L. A. Flora

DATE 3/10/92

SURFACE ELEV. 20 FT

| RECOVERY (FT/FT) | OVA (PPH) | PENETRA- TION (BLOWS/FT) | GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO- GRAPHIC COLUMN | DESCRIPTION |
|---------------------|--------------|--------------------------------|---------------------------|-----------------|---------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| | | | | 1 | | | ASPHALT UNDERLAIN BY AGGREGATE BASE ROCK |
| | | | | 2 | | | CLAY (CL): Greenish grey, stiff, moist, no odor. |
| | | | | 3 | | | |
| | | | | 4 | | | |
| 1.6/1.5 | 3 | 15 | | 5 | | | |
| | | | | 6 | | | SILT (ML): brown with orange mottling, organic spots, medium dense, moist, no odor. |
| | | | | 7 | | | |
| | | | | 8 | | | SILT (ML): brown with orange mottling, organic spots, medium dense, moist, no odor. |
| | | | | 9 | | | |
| 1.0/1.5 | | 20 | | 10 | | | CLAYEY SAND (SC): Mottled brown and orange, very fine to fine-grained, medium dense, wet, no odor. |
| 1.5/1.5 | 4 | 13 | | 11 | | | |
| | | | | 12 | | | SILT (ML): Mottled orange and brown, increasing sand @ 14 feet, medium dense, very moist, no odor. |
| 1.0/1.5 | | 10 | | 13 | | | |
| | | | | 14 | | | SILTY SAND (SM): Mottled orange and brown, very fine to fine-grained, medium dense, very moist, no odor. |
| 1.5/1.5 | | 15 | | 15 | | | |
| | | | | 16 | | | SAND (SP): Brown, very fine to fine-grained, grades to a very fine to medium-grained sand @ 18 feet, medium dense, wet, no odor. |
| 1.5/1.5 | | 14 | | 17 | | | |
| | | | | 18 | | | SAND (SW): Brown, very fine to fine-grained, gravelly (.5-inch diameter, angular particles), wet, no odor. |
| 1.0/1.5 | | 20 | | 19 | | | |
| | | | | 20 | | | Boring terminated @ 20.5'; sampled to 20'. |
| | | | | 21 | | | |
| | | | | 22 | | | |

REMARKS: Boring drilled with continuous-flight, hollow-stem, 8-inch O. D. augers. Samples collected in a 2.0-inch I. D. California Sampler or 1.5-inch SPT Sampler.



LEGEND

- SW
- SH
- ML
- ASPHALT
- Static Water Level
- SC
- CL

WELL ID : MW-2

1333 PARK AVENUE, EMERYVILLE, CA 94608

TANK PROTECT ENGINEERING

Figure :

LOG OF EXPLORATORY BORING

PROJECT NUMBER 213

BORING NO. MW-3

PROJECT NAME 1333 Park Avenue, Emeryville, CA

PAGE

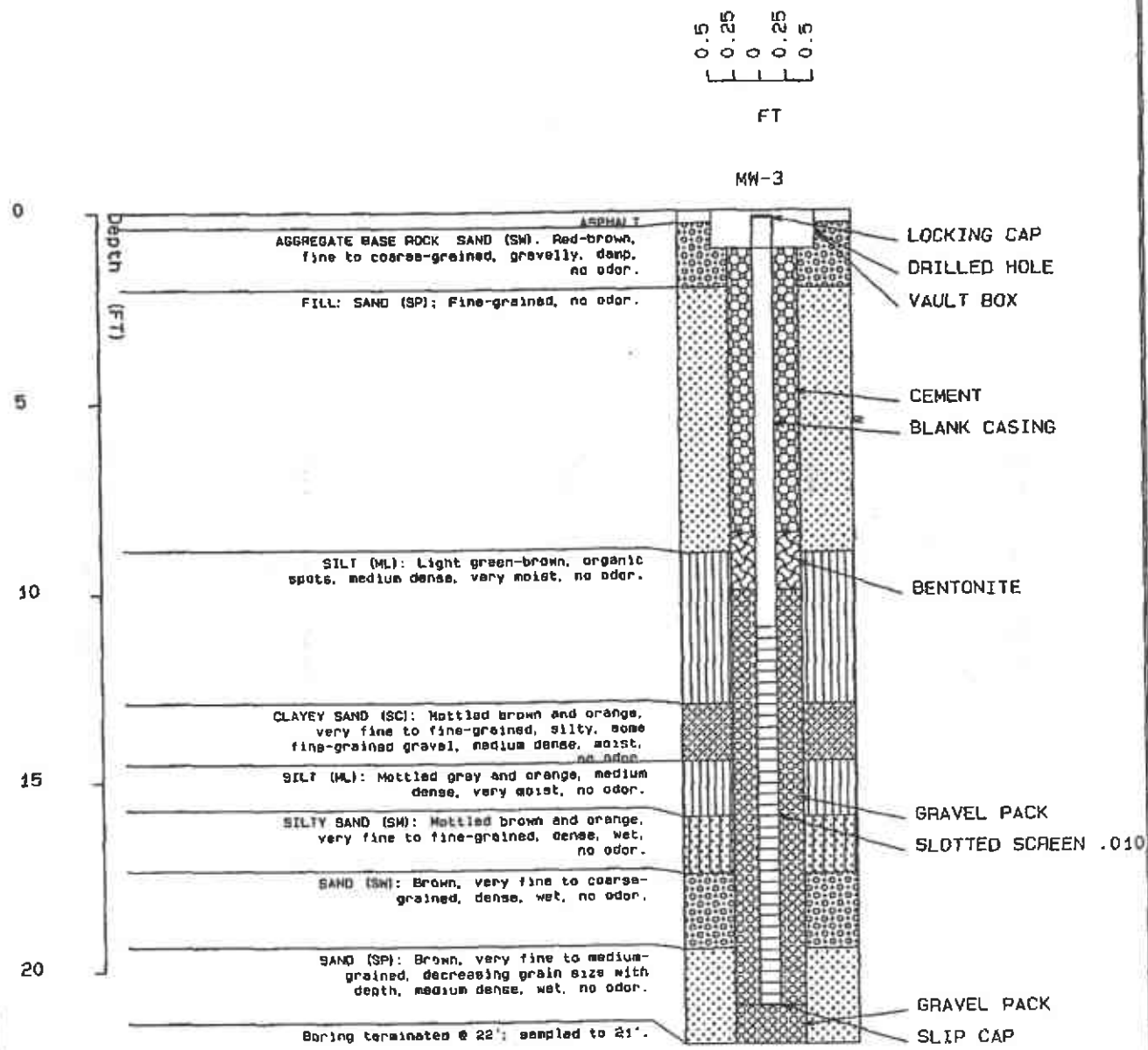
BY L. A. Flora

DATE 3/10/92

SURFACE ELEV. 19 FT

| RECOVERY (FT/FT) | OVA (PPM) | PENETRA- TION (BLOWS/FT) | GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO- GRAPHIC COLUMN | DESCRIPTION |
|---------------------|--------------|--------------------------------|---------------------------|-----------------|---------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| | | | | 1 | | [Asphalt pattern] | ASPHALT |
| | | | | 2 | | [Aggregate Base Rock pattern] | AGGREGATE BASE ROCK: SAND (SW): Red-brown, fine to coarse-grained, gravelly, damp, no odor. |
| | | | | 3 | | [Fill pattern] | FILL: SAND (SP): Fine-grained, no odor. |
| | | | | 4 | | | |
| | | | | 5 | | | |
| | | | | 6 | | | |
| | | | | 7 | | | |
| | | | | 8 | | | |
| | | | | 9 | | | |
| 1.5/1.5 | 10 | 20 | | 10 | | [Silt pattern] | SILT (ML): Light green-brown, organic spots, medium dense, very moist, no odor. |
| 1.5/1.5 | | 17 | | 11 | | | |
| 1.5/1.5 | | 20 | | 12 | | | |
| 1.5/1.5 | | 20 | | 13 | | [Clayey Sand pattern] | CLAYEY SAND (SC): Mottled brown and orange, very fine to fine-grained, silty, some fine-grained gravel, medium dense, moist, no odor. |
| 1.5/1.5 | | 12 | | 14 | | | |
| 1.0/1.0 | | 23 | | 15 | | [Silt pattern] | SILT (ML): Mottled grey and orange, medium dense, very moist, no odor. |
| 1.0/1.0 | | 23 | | 16 | | | |
| 1.0/1.5 | | 37 | | 17 | | [Silty Sand pattern] | SILTY SAND (SM): Mottled brown and orange, very fine to fine-grained, dense, wet, no odor. |
| 1.0/1.5 | | 37 | | 18 | | | |
| 1.0/1.5 | | 44 | | 19 | | [Sand (SW) pattern] | SAND (SW): Brown, very fine to coarse-grained, dense, wet, no odor. |
| 1.0/1.5 | | 44 | | 20 | | [Sand (SP) pattern] | SAND (SP): Brown, very fine to medium-grained, decreasing grain size with depth, medium dense, wet, no odor. |
| 1.0/1.5 | | 26 | | 21 | | [Sand (SP) pattern] | |
| | | | | 22 | | | Boring terminated @ 22'; sampled to 21'. |

REMARKS: Boring drilled with continuous-flight, hollow-stem, 8-inch O. D. eugers. Samples collected in a 2.0-inch I. D. California Sampler or 1.5-inch SPT Sampler.



LEGEND SZ Static Water Level

| | | | | | |
|----|----|----|----|----|---------|
| SM | SP | SM | SC | ML | ASPHALT |
|----|----|----|----|----|---------|

WELL ID : MW-3

1333 PARK AVENUE, EMERYVILLE, CA 94608

TANK PROTECT ENGINEERING

Figure :