

WORKPLAN
FOR
OVEREXCAVATION OF CONTAMINATED
SOIL AND INSTALLATION OF A
GROUNDWATER MONITORING WELLS

FOUNTAIN CLEANERS,
2008 ENCINAL AVENUE
ALAMEDA, CA 94501

MAR 1998

Prepared For:
MR. MICHAEL YUE
21995 MISSION BOULEVARD
HAYWARD, CA 94541

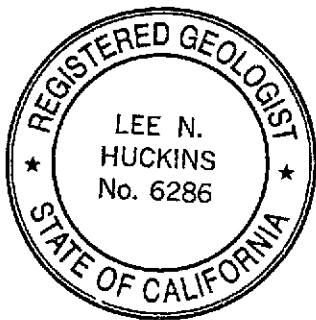
Submitted By:
TANK PROTECT ENGINEERING
Of Northern California, Inc.
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Project Number 388

March 18, 1998

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Registered Geologist



Expiration Date 5/30/99

Jeff J. Farhoomand

Jeff J. Farhoomand, M.S.
Principal Engineer

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This report has been prepared by the staff of Tank Protect Engineering of Northern California, Inc. under direction of an Engineer and/or Geologist whose seal(s) and/or signature(s) appear hereon.

The findings, recommendations, specifications or professional opinions are presented, within the limits prescribed by the client, after being prepared in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied.

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1.0 INTRODUCTION

The subject site is located at 2008 Encinal Avenue in the City of Alameda in Alameda County, California (see Figure 1). The site was the location of a former dry cleaner, Fountain Cleaners. The site's contact person is Mr. Michael Yue; telephone number (510) 582-3469.

This workplan proposes to investigate and remediate the horizontal and vertical extent of contaminated vadose zone soil by excavation; disposal of excavated soil to an appropriate landfill; and install 2 groundwater monitoring wells to determine groundwater flow direction and quality.

2.0 SITE HISTORY

On July 11, 1989 Environmental Bio-Systems (EBS) removed or filled in-place 7 underground storage tanks containing diesel, fuel oil, gasoline, stoddard solvent, and various known or unknown solvents. Soil sampling was conducted to characterize the tank excavation. All soil samples contained detectable petroleum hydrocarbons. Details are described in EBS July 14 1989 report to the Zaccor Corporation.

On June 9, 1994 Blymyer Engineers, Inc. installed one groundwater monitoring well to a depth of 20 feet to the south of the former tank excavation. Soil samples detected total petroleum hydrocarbons as diesel (TPHD), as gasoline (TPHG), oil and grease (O&G), benzene, toluene, ethylbenzene and xylenes (BTEX). Groundwater samples detected TPHD, TPHG, BTEX chemicals, and chlorinated hydrocarbons (CHC). Details can be found in BEI's August 15, 1994 "Report on Monitoring Well Installation, Fountain Cleaners, 2006 Encinal Avenue, Alameda, CA."

Since October 9, 1996 Tank Protect Engineering of Northern California Inc. (TPE) has conducted quarterly groundwater monitoring of monitoring well MW-1. TPE has sampled the well for TPHD, TPHG, methyl t-butyl ether (M), BTEX chemicals, O&G, and CHC's. Chemical results has detected TPHD, TPHG, some or all MBTEX chemicals, and O&G. Details concerning groundwater monitoring well sampling are discussed in TPE's THIRD QUARTER REPORT, 1997, FOUNTAIN CLEANERS, 2008 ENCINAL AVENUE, ALAMEDA, CA 94501 (see Table 1).

Because the latest groundwater samples collected during the last quarterly monitoring event detected TPHD and O&G at concentrations up to 3,900 parts per billion (ppb) and 4,100 ppb, respectively, the Alameda County Health Care Services Agency (ACHCSA) has required a soil and groundwater investigation (SWI) in a February 19, 1998 letter to Mr. Yue (see Appendix A). Mr. Yue has contracted with TPE to propose a SWI by excavation of contaminated soil from the former tank excavation to investigate and remediate vadose zone soil contamination and to install 2 groundwater monitoring wells to investigate groundwater contamination and groundwater quality.

After completing soil excavation, TPE proposes to aerate and dispose of the soil to a Class III landfill. TPE will backfill and close the excavation with imported fill material.

3.0 PROPOSED SOIL AND GROUNDWATER INVESTIGATION

TPE proposes the following scope of work:

- . Conduct a subsurface utility survey, if appropriate, to minimize the potential of encountering unexpected utilities while conducting soil excavation and to assist in selecting a location for installing 2 groundwater monitoring wells.
- . Contact appropriate agencies prior to beginning excavation activities.
- . Excavate contaminated soil from the former tank excavation to the depth of groundwater, the maximum physical limitations of the site and equipment used, the apparent limit of contamination, or whichever occurs first, in areas delineated by past soil sampling results.
- . After excavating contaminated soil in the above task, collect verification soil samples from the floor and/or sidewalls of the excavation for chemical analysis for TPHD, TPHG, MBTEX, and O&G. *Allocated funds*
- . Aerate and characterize the stockpiled soil for disposal to a Class III landfill.
- . Dispose of the stockpiled soil at a Class III landfill.

- . Backfill the excavation with clean imported fill material.
- . Obtain a permit for the installation of two groundwater monitoring wells and notify appropriate agencies prior to conducting field activities.
- . Drill 2 soil borings to further investigate the horizontal and vertical extent of vadose zone soil contamination and for conversion into two groundwater monitoring wells.
- . Collect soil samples from the boring at approximately 5-foot depth intervals, changes in lithology, and occurrence of apparent contamination for construction of a boring log and for selection for chemical analysis.
- . Analyze selected vadose zone soil samples from the boring for TPHD, TPHG, MBTEX, and O&G.
 ↳ MTBE and BTEX
- . Convert each boring into a groundwater monitoring well.
- . Develop, purge, and sample groundwater from all monitoring wells for chemical analysis.
- . Analyze 3 groundwater samples for TPHD, TPHG, MBTEX, O&G and CHC's and 1 trip blank sample for TPHG and BTEX.
- . Prepare a Preliminary Site Assessment Report (PSAR).

Details of the proposed scope of work are presented below.

3.1 Prefield Activities

Prior to beginning excavation activities, TPE will notify the Bay Area Air Quality Management District (BAAQMD) and will contract with subsurface locators, if appropriate, and conduct an Underground Service Alert location request to minimize the potential for encountering any buried utilities or underground objects.

3.2 Excavation of Contaminated Soil

TPE proposes to conduct horizontal and vertical excavation of contaminated vadose zone soil to: (1) the apparent limit of contamination, (2) within the maximum physical limitations of the site and equipment used, and (3) the depth of groundwater, whichever occurs first. Excavation will not be conducted to the extent of endangering buildings, sidewalk areas, utilities, or any other structures or objects. The excavations will consist of digging potholes in the area of the former tank excavation where high concentrations of TPHD, TPHG, and MBTEX chemicals were detected (see Figure 3).

The extent of excavation will be based on the presence of apparent soil contamination as evidenced by visible hydrocarbon stains and odors, and by field screening (head-space analysis) of excavated soil samples for volatile organic compounds using a Gastech, Inc. Trace-Tehtor hydrocarbon vapor tester (HVT).

Excavated contaminated soil will be stockpiled on site on top of and covered with plastic sheeting. Maintenance of the plastic cover is the responsibility of the client when TPE is not on site.

3.2.1 Verification Soil Sampling

When the horizontal and vertical extent of contaminated vadose zone soil has been reached, based on the above parameters, verification soil samples will be collected for chemical analysis. As a minimum, soil samples will be collected at about 15-foot intervals both horizontally and vertically or to a depth of about 1 foot above the groundwater surface if groundwater is present at a depth of less than 15 feet. Additional soil samples may be collected where contaminated soil may be suspected and in permeable materials that may act as conduits for contaminant transport. Additional excavation may be recommended if all contaminated soil has not been removed, based on results of chemical analyses.

Soil samples will be collected from the floor and/or sidewalls of the excavation by removing about 1 foot of soil to expose a fresh surface and driving a 2-inch diameter by 6-inch long brass tube into the newly exposed surface with a slide-hammer corer. The samples may also be collected by excavating soil with the bucket of a backhoe, quickly removing at least 3 inches of soil to expose a fresh surface, and driving a brass tube with a slide-hammer corer into the soil in the bucket.

After collecting each sample, the brass tube ends will be covered with Teflon sheeting and capped with plastic end-caps. Each tube will be labeled to show site name, project number, date and time sampled, sample name and depth, and sampler name; sealed in a quart-size plastic bag; and placed in an iced-cooler for transport to California Department of Health Services (DHS) certified laboratory accompanied by chain-of-custody documentation (see Appendix B for TPE's protocol relative to sample handling procedures).

3.2.1.1 Chemical Analyses

All verification soil samples are proposed to be analyzed for TPHD and TPHG, MBTEX, and O&G by United States Environmental Protection Agency (EPA) Methods 8015M, 8020, and 5520 B&F, respectively.

3.3 Excavation Closure

After soil excavation is completed, TPE will backfill and close the excavation with imported aggregate base material. The aggregate base material will be placed in the excavation in 2-foot to 3-foot compacted lifts to ground surface.

3.4 Aeration and Disposal of Contaminated Stockpiled Soil

TPE will aerate soil stockpiled as a result of tank removal and excavation activities prior to characterization for disposal to a Class III landfill. Aeration will be accomplished by turning the soil with the bucket of a backhoe to volatilize TPHG and BTEX compounds. The soil will be aerated by moving the soil with the backhoe between 2 treatment areas and shaking the soil from the bucket while in an elevated position.

3.4.1 Characterization of Remediated Stockpiled Soil

The soil will be sampled and characterized according to landfill specifications and analyzed at a DHS certified laboratory.

3.5 Predrilling Activities

3.5.1 Permits

Before commencing drilling activities, TPE will obtain a well installation permit from the Alameda County Flood Control and Water Conservation District, Water Resources Management Zone 7 and visit the site to select the proposed soil boring location.

3.5.2 Rationale for Monitoring Well Locations

ACHCSA requested the installation of two additional wells for the determination of groundwater gradient and quality at the subject site. TPE assumes that the site is under tidal influence by its location on Alameda and the San Francisco Bay. Monitoring well MW-2 was selected to investigate soil and groundwater contamination in the vicinity of the former underground gasoline storage tank to the north of the former tank excavation. The location of monitoring well MW-3 was selected on its relationship to the former fuel oil tank and to establish a groundwater flow direction (see Figure 3).

The proposed soil boring/monitoring wells will be located within 10 feet of the former underground tank locations according to recommendations in the CRWQCB's "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", dated August 10, 1990. It is assumed that one well will be in a downgradient direction.

3.6 Soil Boring and Sampling Procedures

The vertical and horizontal limits of soil contamination, if any, will be further investigated while drilling the soil boring for construction of the groundwater monitoring wells.

The exploratory boring for the monitoring well will be drilled by a State of California licensed water well driller (C-57 Water Well Driller contractor's license) using 8-inch diameter, hollow-stem, auger drilling equipment. The augers will be steam-cleaned before drilling the boring to minimize the potential of introducing off-site contamination

to the boring. Representative soil samples will be collected for chemical analyses in the vadose zone at approximately 5-foot depth intervals below the ground surface, changes in lithology, and the occurrence of apparent contamination by advancing a California split-spoon sampler, equipped with 2-inch diameter by 6-inch long brass tubes, into the undisturbed soil beyond the tip of the augers. The sampling equipment will be cleaned before each sampling event by washing with a Alconox® solution and rinsing in distilled or tap water.

All vadose zone soil samples will be field-screened for presence of hydrocarbon contamination as evidenced by stains, odors, and head-space analysis using a HVT. Samples having apparent contamination will be selected for chemical analysis, handled as discussed above in section 3.2.1 Verification Soil Sampling and transported to a DHS certified laboratory accompanied by chain-of-custody documentation.

A detailed boring log will be prepared from auger return material and split-spoon samples. The soil will be logged according to the Unified Soil Classification System under the direction of a California Registered Geologist.

Drill cuttings will be stored on site, contained in plastic or 55-gallon steel drums. Drums will be labeled to show contents, date stored, suspected contaminant, expected date of removal, company name, contact, and telephone number. Disposal of the cuttings is the responsibility of the client. After the cuttings are characterized by chemical analysis, TPE will provide recommendations to the client and, upon their request, assist them in remediation, or disposal of the cuttings, or both in an appropriate manner as an additional work item.

See Appendices C and D for TPE's protocols relative to hollow-stem auger drilling and soil sampling procedures and waste handling and decontamination procedures.

3.6.1 Chemical Analyses

Soil samples collected from the soil boring for chemical analysis are proposed to be analyzed for TPHD and TPHG, MBTEX, and O&G by EPA Methods 8015M, 8020, and 5520 B&F, respectively.

3.7 Groundwater Investigation

The following discussion proposes groundwater monitoring well construction, development, and sampling procedures; and chemical analyses. Appendices E, F, and G document TPE's protocols relative to groundwater monitoring well construction, development, and sampling procedures.

3.7.1 Groundwater Monitoring Well Installation

Based on an estimated depth of 7 feet to groundwater, exploratory boring are proposed to be drilled to a depth of about 20 feet. The borings will be converted into a monitoring well by installing 2-inch diameter, flush-threaded, schedule 40, polyvinyl chloride (PVC) casing and 0.010-inch machine-slotted screen. The exact depth of the borings and screen lengths will be determined by the geologic profile and occurrence of groundwater. The screens are proposed to extend about 2-feet above and about 10-feet below the water table surface. The length of screen below the water table surface may be less than 10 feet if an aquiclude/aquitard is encountered. A sand pack of #2/12 filter sand will be placed in the annular space from the bottom of the boring to a maximum of 2 feet above the top of the screened interval. Approximately 2 feet of bentonite will be placed above the sand pack followed by a sand/cement slurry or concrete surface seal. A traffic rated, bolt-locked, vault box will be set in concrete to protect each well. A locking well cap with lock will be installed on the well casing.

3.7.2 Groundwater Monitoring Well Development

The monitoring wells will be developed a minimum of 48 hours after well construction is completed. Before development, depth to water will be measured from the top-of-casing (TOC) to the nearest 0.01 foot using an electronic Solinst water level meter. A minimum of 3 repetitive measurements will be made for each level determination to ensure accuracy. The well will be checked for floating product using a dedicated polyethylene bailer. If floating product is present, the thickness of product in the bailer will be measured and recorded to the nearest .05 inch.

The wells will be developed by using a 1.7-inch, positive displacement, PVC hand pump or by bailing until the well is free of sand, silt, and turbidity or no further improvement is apparent.

Development water will be stored on site in 55-gallon steel drums labeled to show contents, date filled, suspected contaminant, company name, contact, and telephone number. Disposal of the drummed water is the responsibility of the client. After the water is characterized by chemical analysis, TPE will provide recommendations to the client and, upon their request, assist them in remediation or disposal of the fluids, or both in an appropriate manner as an additional work item.

3.7.3 Groundwater Monitoring Well Sampling

After a minimum of 48 hours after well development, depth to stabilized water will be measured and recorded as discussed above under section 3.7.2 Groundwater Monitoring Well Development and the wells will be sampled.

Prior to sampling, the wells will be purged a minimum of 3 wetted well volumes with a dedicated polyethylene bailer. Temperature, pH, and electrical conductivity will be monitored and purging will continue until they are stabilized. After purging is completed, turbidity will be measured and the water sample will be collected in sterilized glass vials having Teflon-lined screw caps, immediately sealed in the vials, and labeled to include: date, time, sample location, project number, and sampler name. The sample will be immediately stored in an iced-cooler for transport to a DHS certified laboratory accompanied by chain-of-custody documentation. See Appendices D and H for waste handling and decontamination procedures, and quality assurance and quality control procedures (QA/QC).

Purge water will be stored on site in 55-gallon drums labeled to show contents, date filled, suspected contaminant, company name, contact, and telephone number. After the drummed water has been characterized by chemical analysis, TPE will provide recommendations to the client and, upon their request, assist them in remediation or disposal of the fluids, or both in an appropriate manner as an additional work item.

3.7.3.1 Chemical Analyses

Water samples will be analyzed for TPHD and TPHG, MBTEX, O&G, and CHC by EPA Methods 8015M, 8020, 5520 B&F, and 8010, respectively.

3.8 Preliminary Site Assessment Report

The information collected, analytical results, and TPE's conclusions and recommendations will be summarized in a report. The report will describe the work performed and include: copies of all permits required to conduct the proposed scope of work; an area map; a detailed site plan showing limits of excavation, locations of verification soil samples and installed monitoring wells; graphic boring logs; graphic monitoring well construction details; certified analytical reports and chain-of-custodies; tables summarizing analytical data; and other documentation to support the conclusions.

Conclusions regarding the extent and type(s) of contamination will be presented within the context of this workplan. Recommendations for feasible remedial alternatives and/or supplemental sampling and analyses will be included.

4.0 SITE SAFETY PLAN

A Site Safety Plan for conducting work under this workplan is included in Appendix I.

5.0 TIME SCHEDULE

The projected time schedule for implementation of the activities described in this workplan is presented below. The schedule reflects a relatively problem-free program. However, delays in the workplan review, permitting, or laboratory analyses could lengthen the project schedule. Access difficulties, adverse weather, and regulator review could also delay the proposed time schedule. TPE will make every effort to adhere to the project schedule.

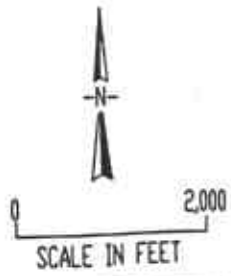
Week 1: Client Submits Workplan for Regulator Approval.

- Week 2: Regulator Approval Received.
- Week 3: Subcontracting, Conduct Underground Utility Survey (if Appropriate), Conduct Soil Excavation, Collect Verification Soil Samples From Excavation, Backfill Excavation; Aerate Stockpiled Soil; Collect Stockpile Soil Samples, and Conduct Chemical Analyses.
- Week 5: Receive Chemical Analyses.
- Week 6: Dispose of Stockpiled Soil at a Class III Landfill.
- Week 8: Install a Groundwater Monitoring Wells and Submit Soil and Groundwater Samples for Chemical Analyses.
- Week 10: Receive Chemical Analyses, Interpret Data and Write a PSAR.
- Week 12: Submit PSAR to Client.



LEGEND

REFERENCE: USGS 7.5 MINUTE
 SERIES QUADRANGLE MAP
 OAKLAND EAST AND WEST, CALIFORNIA
 PHOTOREVISED 1980

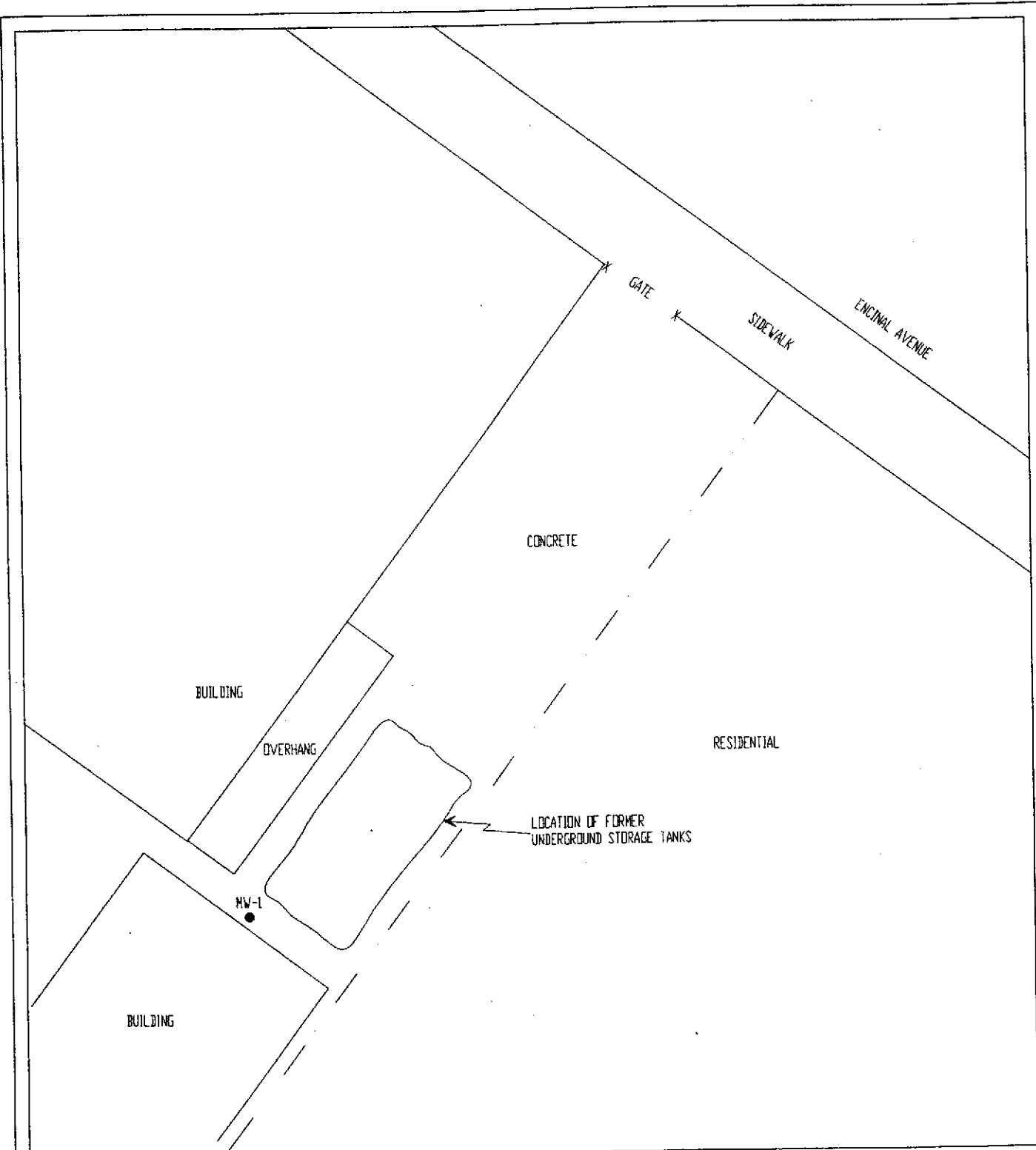


TANK PROTECT ENGINEERING

SITE VICINITY MAP

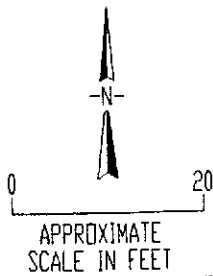
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 2008 ENCINAL AVENUE
 ALAMEDA, CA 94501

DATE	3/3/98
FIGURE	1
FILE #	388-N
DRAWN BY	VK
CHECKED BY	LNH



LEGEND

MW-1 NAME AND LOCATION OF GROUNDWATER MONITORING WELL

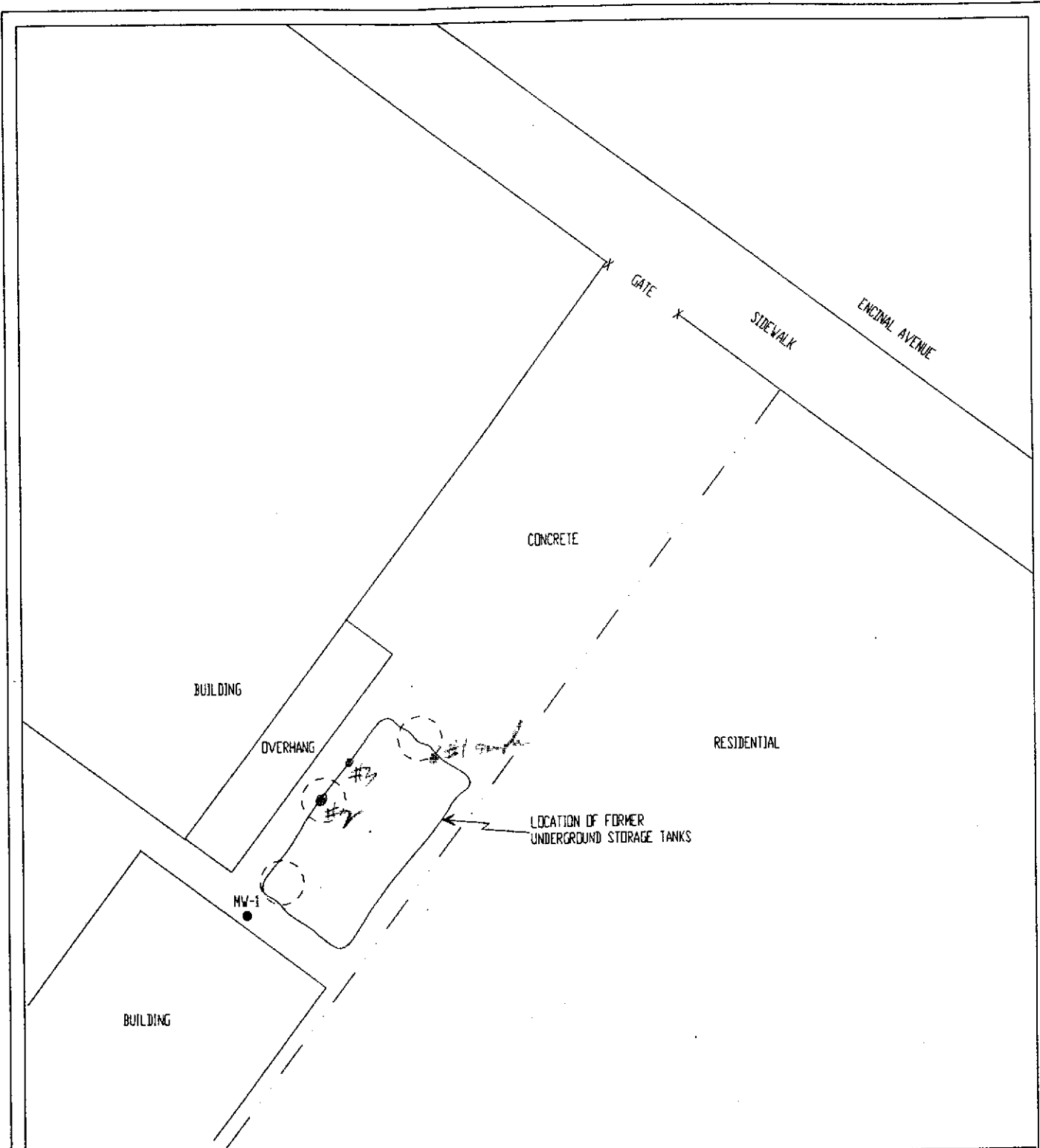


TANK PROTECT ENGINEERING

SITE PLAN

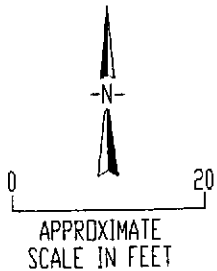
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ALAMEDA, CA 94501

DATE	3/3/98
FIGURE	2
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LEGEND

- MW-1 NAME AND LOCATION OF GROUNDWATER MONITORING WELL
- (Dashed Circle) AREAS OF PROPOSED EXCAVATION

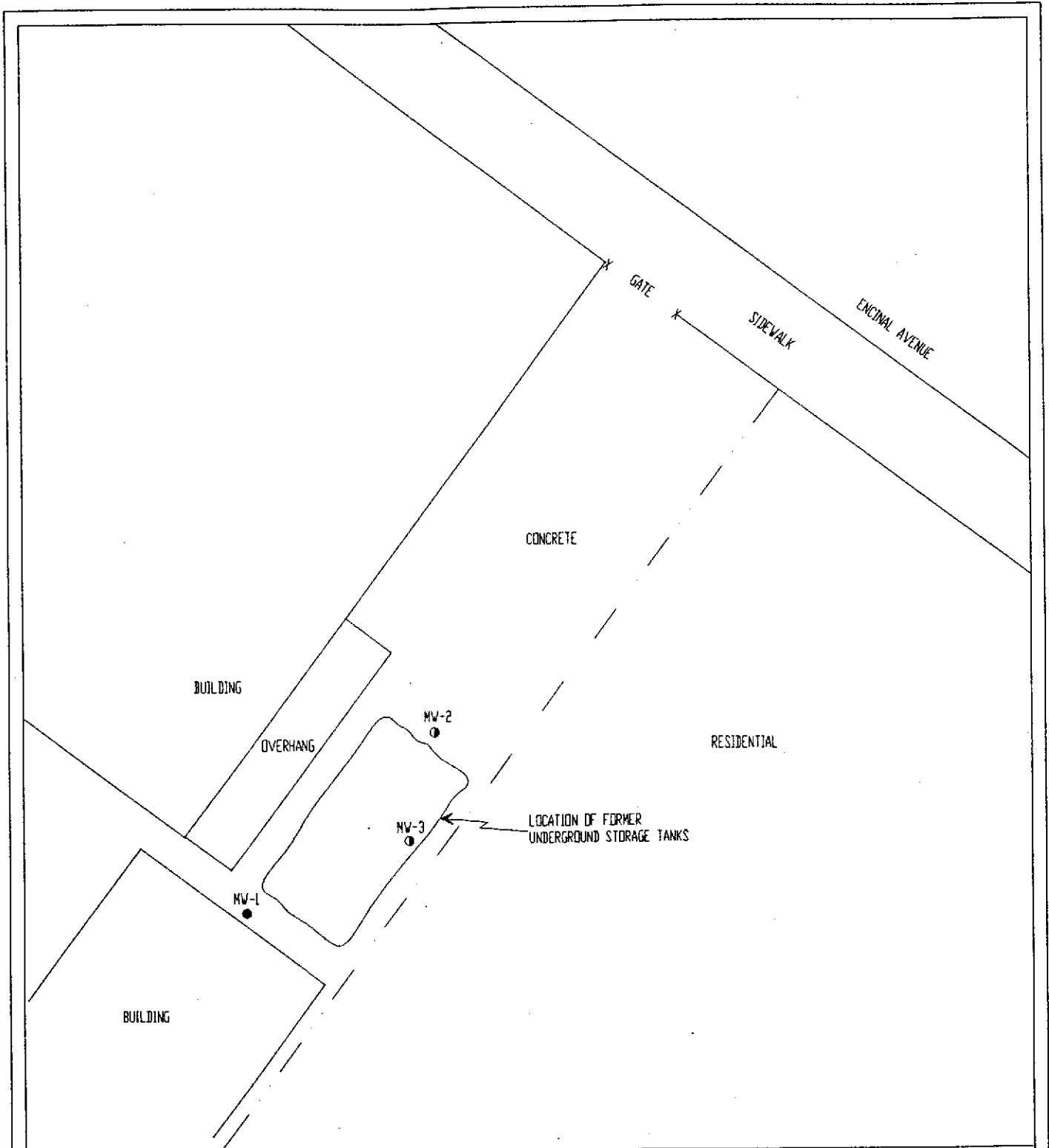


TANK PROTECT ENGINEERING

SITE PLAN:
PROPOSED EXCAVATION AREAS

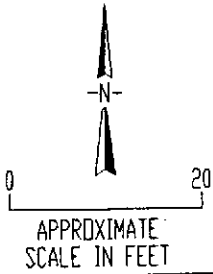
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ALAMEDA, CA 94501

DATE	3/18/98
FIGURE	3
FILE #	388-2N
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CHECKED BY	LNH



LEGEND

- MW-1 ● NAME AND LOCATION OF GROUNDWATER MONITORING WELL
- MW-2 ○ NAME AND LOCATION OF PROPOSED GROUNDWATER MONITORING WELL



TANK PROTECT ENGINEERING

SITE PLAN:
PROPOSED MONITORING WELL LOCATION MAP

FOUNTAIN CLEANERS
2008 ENCINAL AVENUE
ALAMEDA, CA 94501

DATE	3/18/98
FIGURE	4
FILE #	388-4N
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TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
(ppb¹)

Sample ID Name	Date	TPHD	TPHG	Methyl t-Butyl Ether	Benzene	Toluene	Ethyl-benzene	Xylenes	Oil & Grease
MW-1	10/09/96 ²	<50	22,000	120	610	54	670	2,400	<5,000
	01/10/97 ²	530	3,800	<5.0	<0.5	<0.5	53	88	<5,000
	05/02/97 ²	<50	5,500	<5.0	<0.5	<0.5	54	110	<5,000
	08/19/97	3,900	<50	<5.0	<0.5	<0.5	<0.5	<0.5	4,100
MW-2 ³	10/09/96	NA ⁴	<50	<5.0	<0.5	<0.5	<0.5	<0.5	NA
	01/10/97	NA	<50	<5.0	<0.5	<0.5	<0.5	<0.5	NA
	05/02/97	NA	<50	<5.0	<0.5	<0.5	<0.5	<0.5	NA
	08/19/97	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5	<5,000

- 1 PARTS PER BILLION
2 ALSO ANALYZED FOR CHLORINATED HYDROCARBONS BY EPA METHOD 8010; ALL RESULTS WERE NONDETECTABLE.
3 TRIP BLANK
4 NOT ANALYZED

APPENDIX A

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY, LETTER DATED
FEBRUARY 19, 1998

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES

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

Certified Mailer# P 143 588 421

February 19, 1998

Mr. Michael Yue
21995 Mission Blvd.
Hayward, CA 94541
STID 1662

RE: Fountain Cleaners, 2008 Encinal Ave., Alameda, CA., 94501

Dear Mr. Yue:

I have reviewed the Third Quarter monitoring report for the one monitoring well at the above site. The water sample collected on August 19, 1997 contained 3,900 ppb of TPH(d) and 4,100 ppb Oil & Grease. TPH(d) concentration increased, and oil and grease was detected for the first time during this round of groundwater sampling. **Based on the results of soil and ground water investigations to date, and pursuant to Article 11, Title 23, California Code of Regulations, you are required to further investigate the extent of soil and ground water contamination at the site. Per Article 5, Title 23, California Code of Regulations, you are required to continue quarterly ground water monitoring and the submittal of quarterly ground water monitoring reports to this office.** Future ground water samples shall be analyzed for TPH(d), TPH(g), BTEX, Oil & Grease, and chlorinated volatile organic compounds.

Please submit your soil and groundwater investigation workplan to this office within 45 days of the receipt of this letter. At a minimum, two additional ground water monitoring wells should be installed on-site to determine gradient direction, in addition to water quality.

If you have any questions, please contact me at (510) 567-6774.

Sincerely,



Larry Seto
Sr. Hazardous Materials Specialist

cc: Lee Huckins, Tank Protect Engineering
Files

APPENDIX B

SAMPLE HANDLING PROCEDURES

APPENDIX B

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.
- . Water samples will be cooled with crushed ice. In the Alameda County Water District, water samples will be buried in the crushed ice with a thermometer, and the laboratory will be requested to record thermometer temperature at the time of receipt.
- . 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 capping 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 will be identified with labels; all sample bottles will 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 location, station number, date, time, sampler's name, designation of the sample as a grab or composite, notation of the type of sample (e.g., groundwater, soil boring, etc.), preservatives used, onsite measurement data and other observations or remarks.

APPENDIX C

HOLLOW-STEM AUGER DRILLING AND SOIL SAMPLING PROCEDURES

APPENDIX C

HOLLOW-STEM AUGER DRILLING AND SOIL SAMPLING PROCEDURES

Undisturbed soil samples will be recovered from soil without introducing liquids into the borings. At a minimum, soil samples as core will be taken at 5-foot depth intervals, changes in lithology and when encountering apparent soil contamination to termination depth, or through the aquifer zone of interest for lithologic logging.

Borings will be drilled with a hollow-stem auger and sampled with a California or modified California-type split-spoon sampler. Soil samples will be of sufficient volume to perform the analyses which may be required, including replicate analyses.

Soil from all borings will be described in detail using the Unified Soil Classification System and will be logged under the direction of a geologist, civil engineer or engineering geologist who is registered or certified by the State of California and is experienced in the use of the Unified Soil Classification System.

All wet zones above the free water zone will be noted and accurately logged.

Soil samples will be collected in clean brass or stainless steel sampling tubes in the split-spoon. Sediment traps will be used when unconsolidated sands and gravels fall from the sampler during retrieval. The brass tubes will be cut apart using a clean knife. The ends of the tubes will be covered with Teflon sheets or aluminum foil beneath plastic end caps and sealed with electrical or duct tape and properly labeled. In lieu of electrical or duct tape, the tubes may be individually sealed in plastic bags. The samples will be stored in an iced-cooler at a temperature of 4 degrees Celsius. In the Alameda County Water District, the samples will be stored in an iced-cooler containing dry ice.

Drill cuttings will be stored on site in 55-gallon drums or covered with plastic sheeting. Analytical results will be submitted immediately to the site owner for determination of appropriate disposal procedures. The soil borings not completed as wells will be backfilled with a cement grout.

APPENDIX D

WASTE HANDLING AND DECONTAMINATION PROCEDURES

APPENDIX D

WASTE HANDLING AND DECONTAMINATION PROCEDURES

Decontamination: Any drilling, sampling or field measurement equipment that comes into contact with soil or groundwater will be properly decontaminated prior to its use at the site and after each incident of contact with the soil or groundwater being investigated. Proper decontamination is essential to obtain samples that are representative of environmental conditions and to accurately characterize the extent of soil and groundwater contamination. Hollow-stem auger flights and the drill bit will be steam-cleaned between the drilling of each well.

All sample equipment, including the split-spoon sampler and brass tubes, will be cleaned by washing with trisodium phosphate oralconox detergent, followed by rinsing with tap water. Where required by specific regulatory guidelines, a nonphosphate detergent will be used.

Waste Handling: Waste materials generated during site characterization activities will be handled and stored as hazardous waste and will be stored on site in appropriately labeled containers. Waste materials anticipated include excavated soil, drill cuttings, development and purge water, water generated during aquifer testing, water generated during decontamination and used personnel protection equipment such as gloves and Tyvek. The site owner will be responsible for providing the storage containers and will be responsible for the disposal of the waste materials. Drill cuttings from individual borings will be stored separately in drums or covered by plastic sheeting, and the appropriate disposal procedure will be determined by the site owner or TPE following receipt of the soil sample analytical results. Drums will be labeled to show material stored, known or suggested contaminant, date stored, expected removal date, company name, contact and telephone number.

APPENDIX E

GROUNDWATER MONITORING WELL CONSTRUCTION PROCEDURES

APPENDIX E

GROUNDWATER MONITORING WELL CONSTRUCTION PROCEDURES

BOREHOLE DESIGN

Casing Diameter: The minimum diameter of well casings will be 2 inches (nominal).

Borehole Diameter: The diameter of the borehole will be a minimum of 4 inches and a maximum of 12 inches greater than the diameter of the well casing. The minimum annular space will be 2.5 inches as measured from the outside diameter of the casing to the drill hole wall.

Shallow (Unconfined Zone) Wells: When unconfined groundwater is encountered, the borehole will be advanced through the aquifer to an underlying clay layer or aquitard or to a maximum depth of 15 feet into the saturated zone, or the maximum depths required by regulatory guidelines. The screened interval will begin a minimum of 5 feet above the saturated zone or above the anticipated seasonal high level of groundwater. The screen will extend the full thickness of the aquifer or no more than 15 feet (or 20 feet if required by regulatory guidelines) into the saturated zone, whichever is reached first. The well screen will not extend into the aquitard, nor will the screened interval exceed 20 feet in length (or 30 feet if required by regulatory guidelines).

Deep (Confined Zone) Wells: Any monitoring well to be screened below the upper aquifer will be installed as a double-cased well. A steel conductor casing will be placed through the upper water-bearing zone to prevent aquifer cross-contamination.

The conductor casing will be installed in the following manner: a large diameter borehole (typically 18 inches) will be drilled until it is determined that the first competent aquitard has been reached; a low carbon steel conductor casing will be placed in the borehole to the depth drilled and centralizers will be used to center the casing in the borehole. The annular space between the conductor casing and the

formation will be cement-grouted from bottom to top by the tremie pipe method. The grout will be allowed to set for a minimum of 72 hours.

Drilling will continue inside the conductor casing, with a drill bit of smaller diameter than the conductor casing. If additional known aquifers are to be fully penetrated, the procedure will be repeated with successively smaller diameter conductor casings.

The bottom of the well screen in a confined aquifer will be determined by presence or lack of a clay layer or aquitard as described above. The screened interval in a confined zone will extend across the entire saturated zone of the aquifer or up to a length of 20 feet, whichever is less. The screened zone and filter pack will not cross-connect to another aquifer.

CONSTRUCTION MATERIALS

Casing and Screen Materials: Well casing and screen will be constructed of clean materials that have the least potential for affecting the quality of the sample. The most suitable material for a particular installation will depend upon the parameters to be monitored. Acceptable materials include PVC, stainless steel or low carbon steel.

Casing Joints: Joints will be connected by flush threaded couplers. Organic bonding compounds and solvents will not be used on joints.

Well Screen Slots: Well screen will be factory slotted. The size of the slots will be selected to allow sufficient groundwater flow to the well for sampling, minimize the passage of formation materials into the well and ensure sufficient structural integrity to prevent the collapse of the intake structure.

Casing Bottom Plug: The bottom of the well casing will be permanently plugged, either by flush threaded screw-on or friction cap. Friction caps will be secured with stainless steel set screws. No organic solvents or cements will be applied.

Filter Pack Material: Filter envelope materials will be durable, water worn, and washed clean of silt, dirt and foreign matter. Sand size particles will be screened silica sand.

Particles will be well rounded and graded to an appropriate size for retention of aquifer materials.

Bentonite Seal Material: Bentonite will be pure and free of additives that may affect groundwater quality. Bentonite will be hydrated with potable or tap water.

Grout Seal Material: Neat cement grout or sand-cement grout will consist of a proper mixture of Type 1/11 Portland cement, hydrated with potable or tap water. Up to 3% bentonite may be added to the mixture to control shrinkage.

CONSTRUCTION PROCEDURES

Decontamination: All downhole tools, well casings, casing fittings, screens, and all other components that are installed in the well will be thoroughly cleaned immediately before starting each well installation. When available, each component will be cleaned with a high temperature, high pressure washer for a minimum of 5 minutes. When a washer is not available, components will be cleaned with water and detergent, rinsed in potable or tap water, then rinsed in distilled water.

Soil and water sampling equipment and material used to construct the wells will not donate to, capture, mask or alter the chemical composition of the soil and groundwater.

Drilling Methods: Acceptable drilling methods include solid and hollow-stem auger, percussion, direct circulation mud and air rotary and reverse rotary. The best alternative is that which minimizes the introduction of foreign materials or fluids. If drilling fluid is employed, drilling fluid additives will be limited to inorganic and non-hazardous compounds. Compressed air introduced into the borehole will be adequately filtered to remove oil and particulates.

Casing Installation: The casing will be set under tension, when necessary, to ensure straightness. Centralizers will be used where necessary to prevent curvature or stress to the casing.

Sand Pack Installation: The sand pack will be installed so as to avoid bridging and the creation of void spaces. The tremie pipe method will be used where installation conditions or local regulations require. Drilling mud, when used, will be thinned prior to pack placement. The sand pack will cover the entire screened interval and rise a minimum of 2 feet above the highest perforation.

Bentonite Seal Placement: A bentonite seal will be placed above the sand pack by a method that prevents bridging. Bentonite pellets can be placed by free fall if proper sinking through annular water can be assured. Bentonite slurry will be placed by the tremie pipe method from the bottom upward. The bentonite seal will not be less than 1 to 3-feet in thickness, depending on regulatory guidelines. In the Alameda County Water District, the bentonite seal will be less than 1 foot in thickness.

Grout Seal Placement: The cement grout mixture will be hydrated with potable or tap water and thoroughly mixed prior to placement. If substantial groundwater exists in the bore hole, the grout will be placed by the tremie pipe method from the bottom upward. In a dry borehole, the grout may be surface poured to a depth of 30 feet. Below a depth of 30 feet, grout will be placed by tremie pipe. Grout will be placed in 1 continuous lift and will extend to the surface or to the well vault if the well head is completed below grade. A minimum of 5 feet of grout seal will be installed, unless impractical due to the shallow nature of the well.

Surface Completion: The well head will be protected from fluid entry, accidental damage, unauthorized access and vandalism. A watertight, locking cap will be installed on the well casing. Access to the casing will be controlled by a keyed lock.

Well heads completed below grade will be completed in a concrete and/or steel vault, installed to drain surface runoff away from the vault.

Well Identification: Each well will be labeled to show well number, depth, hole and casing diameter and screened interval.

APPENDIX F

GROUNDWATER MONITORING WELL DEVELOPMENT PROCEDURES

APPENDIX F

GROUNDWATER MONITORING WELL DEVELOPMENT PROCEDURES

INTRODUCTION

Newly installed groundwater monitoring wells will be developed to restore natural hydraulic conductivity of the formation, remove sediments from well casing and filter pack, stabilize the filter pack and aquifer material and promote turbidity-free groundwater samples.

Wells may be developed by bailing, hand pumping, mechanical pumping, air lift pumping, surging, swabbing or an effective combination of methods. Wells will be developed until the water is free of sand and silt and minimum turbidity has stabilized.

In some cases where low permeability formations are involved or the drilling mud used fails to respond to cleanup, initial development pumping may immediately dewater the well casing and thereby inhibit development. When this occurs, clean, potable grade water may be introduced into the well, followed by surging of the introduced waters with a surge block. This operation will be followed by pumping or bailing. The procedure may be repeated as required to establish full development.

METHODOLOGY

Seal Stabilization: Cement and bentonite annular seals will set and cure not less than 24 to 72 hours (according to local regulatory guidelines) prior to well development.

Decontamination: All well development tools and equipment will be thoroughly cleaned immediately before starting each well installation. When available, each component will be cleaned with a high temperature, high pressure washer for a minimum of 5 minutes. When a washer is not available, components will be cleaned with potable or tap water, then rinsed with distilled water.

Development equipment will not donate to, capture, mask or alter the chemical composition of the soil and groundwater.

Introduction of Water: Initial development of wells in low permeability formations may dewater the casing and filter pack. When this occurs, clean, potable or tap water will be introduced into the well to enhance development.

Bailing: Development will begin by bailing to remove heavy sediments from the well casing. Care will be taken not to damage the well bottom cap during lowering of the bailer.

Surging: Care will be exercised when using a surge block to avoid damaging the well screen and casing. When surging wells screened in coarse (sandy/gravelly) aquifers, the rate of surge block lifting will be slow and constant. When surging wells screened in fine (silty) aquifers, more vigorous lifting may be required. Between surging episodes, wells will be bailed to remove accumulated sediments.

Pumping: Development pumping rates will be less than the recharge rate of the well in order to avoid dewatering.

Discharged Water Containment and Disposal: All water and sediment generated by well development will be collected in labeled 55-gallon steel drums. Development water will be temporarily contained on site, pending sampling and laboratory analysis. No hazardous development water will be released to the environment. Disposal of development water will be the responsibility of the client

APPENDIX G

GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

APPENDIX G

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 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% or more of its initial water level.

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 probe or 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 will be handled and preserved according to the latest United States Environmental Protection Agency 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 will be documented in writing on TPE development logs.

APPENDIX H

QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

APPENDIX H

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 quality assurance and quality control (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 blanks, field blanks and duplicate samples.

Trip blanks are a check for cross-contamination during sample collection, shipment, and laboratory analysis. They are water samples that remain with the collected samples during transportation and are analyzed along with the field samples to check for residual contamination. Analytically confirmed organic-free water will be used for organic parameters and deionized water for metal parameters. Blanks will be prepared by the laboratory supplying the sample containers. The blanks will 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 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 due to air exposure can vary considerably from site to site.

The laboratory will not be informed about the presence of trip and field blanks, and false identifying numbers will be put on the labels. Full documentation of these collection and decoy procedures 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 tests 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 the United States Environmental Protection Agency-certified standards), duplicates, replicates and sample spikes. Internal QC also requires adherence to written methods, procedural documentation and the observance of good laboratory practices.

SITE SAFETY PLAN
TANK PROTECT ENGINEERING OF NORTHERN CALIFORNIA, INC.

Site: **Fountain Cleaners**
2008 Encinal Avenue
Alameda, CA 94501

Project Number: **388**

Original Site Safety Plan: Yes (X) No ()

Revision Number

Plan Prepared by **Lee N. Huckins**

Date **03/18/98**

Plan Approved by **Louis Travis III**

Date **03/18/98**

Please respond to each item as completely as possible. Where an item is not applicable, please mark "N/A".

1. KEY PERSONNEL AND RESPONSIBILITIES

Project Manager	Lee Huckins & Louis Travis	(510) 429-8088
Site Safety Manager	Lee Huckins & Louis Travis	(510) 429-8088
Alternate Site Safety Manager	N/A	
Field Team Members		

Agency Reps: [Please specify by one of the following symbols: Federal: (F), State: (S), Local: (L), Contractor(s): (C)]

(L) Alameda County Health Care Services Agency (510) 567-6700

2. JOB HAZARD ANALYSIS

2.1 OVERALL HAZARD EVALUATION

Hazard Level: High () Moderate () Low (X) Unknown ()

Hazard Type: Liquid (X) Solid () Sludge () Vapor/Gas (X)

Known or suspected hazardous materials present on site

Benzene, Toluene, Ethyl-Benzene, Xylenes (BTEX)

Characteristics of hazardous materials included above (complete for each chemical presents):

MATERIAL #1

Corrosive ()	Ignitable (X)	Toxic (X)	Reactive ()
Volatile (X)	Radioactive ()	Biological Agent ()	
Exposure Routes:	Inhalation (X)	Ingestion (X)	Contact (X)

MATERIAL #2

Corrosive ()	Ignitable ()	Toxic ()	Reactive ()
Volatile ()	Radioactive ()	Biological Agent ()	
Exposure Routes:	Inhalation ()	Ingestion ()	Contact ()

MATERIAL #3

Corrosive ()	Ignitable ()	Toxic ()	Reactive ()
Volatile ()	Radioactive ()	Biological Agent ()	
Exposure Routes:	Inhalation ()	Ingestion ()	Contact ()

MATERIAL #4

Corrosive ()	Ignitable ()	Toxic ()	Reactive ()
Volatile ()	Radioactive ()	Biological Agent ()	
Exposure Routes:	Inhalation ()	Ingestion ()	Contact ()

2.2 JOB-SPECIFIC HAZARDS

For each labor category specify the possible hazards based on information available (i.e., Task-driller, Hazards-trauma from drill rig accidents, etc.) For each hazard, indicate steps to be taken to minimize the hazard.

Backhoe/Excavator Operator-Trauma from equipment accidents, wear hard hat, gloves, steel-toed boots.

Driller/Helper/Geologist-Trauma from drilling rig accidents-wear hard hat, gloves, steel-toed boots.

The following additional hazards are expected on site (i.e., snake infested area, extreme heat, etc.):

Temporary open excavation/boreholes.

Measures to minimize the effects of the additional hazards are:

Protect with barricades, caution tape, or traffic cones when unattended.

3. MONITORING PLAN

3.1 (a) Air Monitoring Plan

Action levels for implementation of air monitoring. Action levels should be based on published data available on contaminants of concern. Action levels should be set by persons experienced in industrial hygiene.

Level (i.e.,.5 ppm)	Action Taken (i.e., commence perimeter monitoring)
5 ppm	Cease work and commence perimeter monitoring until contamination disperses.

(b) Air Monitoring Equipment

Outline the specific equipment to be used, calibration method, frequency of monitoring, locations to be monitored, and analysis of samples (if applicable).

Gastech, Inc. Trace-Tehtor, hexane calibration. Monitor at excavation or borehole during each sampling event if vapors detected.

If air monitoring is not to be implemented for this site, explain why:

N/A

3.2 Personnel Monitoring

(Include hierarchy of responsibilities decision making on the site)

Site safety manager to make decision.

3.3 Sampling Monitoring

- (a) Techniques used for sampling: Sample air at borehole with Gastech, Inc., Trace-Tehtor.**
- (b) Equipment used for sampling: Gastech, Inc., Trace-Tehtor.**
- (c) Maintenance and calibration of equipment: Calibrate to hexane prior to operation.**

4. PERSONAL PROTECTIVE EQUIPMENT (PPE)

Equipment used by employees for the site tasks and operations being conducted. Be specific (i.e., hard hat, impact resistance goggles, other protective glove, etc.).

Hard hat, protective gloves (when necessary), steel-toed boots

5. SITE CONTROL AND SECURITY MEASURES

The following general work zone security guidelines should be implemented:

- Work zone shall be barricaded and caution tape used.
- Boreholes shall be protected when drilling and sampling activities are not actually taking place.
- Excavations shall be protected when unattended. Visitors will not be allowed to enter the work zone unless they have attended a project safety briefing.

6. DECONTAMINATION PROCEDURE

List the procedures and specific steps to be taken to decontaminate equipment and PPE.

Wash equipment with trisodium phosphate solution and rinse with clean tap water.

7. TRAINING REQUIREMENTS

Prior to mobilization at the job site, employees will attend a safety briefing. The briefing will include the nature of the wastes and the site, donning personal protection equipment, decontamination procedures and emergency procedures.

8. MEDICAL SURVEILLANCE REQUIREMENTS

If any task requires a very high personnel protection level (OSHA Level A or B), personnel shall provide assurances that they have received a physical examination and they are fit to do the task. Also personnel will be instructed to look for any symptom of heat stress, heat stroke, heat exhaustion or any

other unusual symptom. If there is any report of that kind it will be immediately followed through, and appropriate action will be taken.

9. STANDARD OPERATION PROCEDURES

Tank Protect Engineering of Northern California, Inc. (TPE) is responsible for the safety of all TPE employees on site. Each contractor shall provide all the equipment necessary to meet safe operation practices and procedures for their personnel on site and be responsible for the safety of their workers.

A "Three Warning" system is utilized to enforce compliance with Health and Safety procedures practices which will be implemented at the site for worker safety:

- * Eating, drinking, chewing gum or tobacco, and smoking will be allowed only in designated areas.
- * Wash facilities will be utilized by workers in the work areas before eating, drinking, or use of the toilet facilities.
- * Containers will be labeled identifying them as waste, debris or contaminated clothing.
- * All excavation/drilling work will comply with regulatory agency requirements.
- * All site personnel will be required to wear hard hats and advised to take adequate measures for self protection.
- * Any other action which is determined to be unsafe by the site safety officer.

10. CONFINED SPACE ENTRY PROCEDURES

No one is allowed to enter any confined space operation without proper safety measures. Specifically in case of an excavated tank pit no one should enter at any time.

11. EMERGENCY RESPONSE PLAN

Fire extinguisher(s) will be on site prior to excavation. Relevant phone numbers:

Person	Title	Phone No.
<u>Lee Huckins & Louis Travis</u>	Project Manager	(510) 429-8088
_____	Fire	911 or _____
_____	Police	911 or _____
_____	Ambulance	911 or _____
_____	Poison Control Center	(800) 523-2222
<u>Fountain Cleaners</u>	Site Phone	(510) 582-3469
_____	Nearest off-site no.	_____
<u>Alameda hospital</u>	Medical Advisor	(510) 522-3700
<u>Michael Yue</u>	Client Contact	(510) 582-3469
U.S EPA - ERT _____		(201) 321-6660
Chemtrec _____		(800) 424-9300
Centers for Disease Control _____	Day	(404) 329-3311
	Night	(404) 329-2888
National Response Center _____		(800) 424-8802
Superfund/RCRA Hotline _____		(800) 424-8802
TSCA Hotline _____		(800) 424-9065
National Pesticide Information Services _____		(800) 845-7633
Bureau of Alcohol, Tobacco, and Firearms _____		(800) 424-9555

HEALTH AND SAFETY COMPLIANCE STATEMENT

We, _____, have received and read a copy of the project Health and Safety Plan.

I understand that I am required to have read the aforementioned document and have received proper training under the occupational Safety and Health Act (29 CFR, Part 1910.120) prior to conducting site activities at the site.

Signature

Date

Signature

Date

Hospital: Alameda Hospital
2070 Clinton Avenue
Oakland, CA
Gen. Info. (510) 522-3700

Directions From Site:

From site take Encinal Avenue Drive East on Encinal to Willow Street
Turn right onto Willow Street. Turn right on Clinton look for the
hospital on the right hand side.

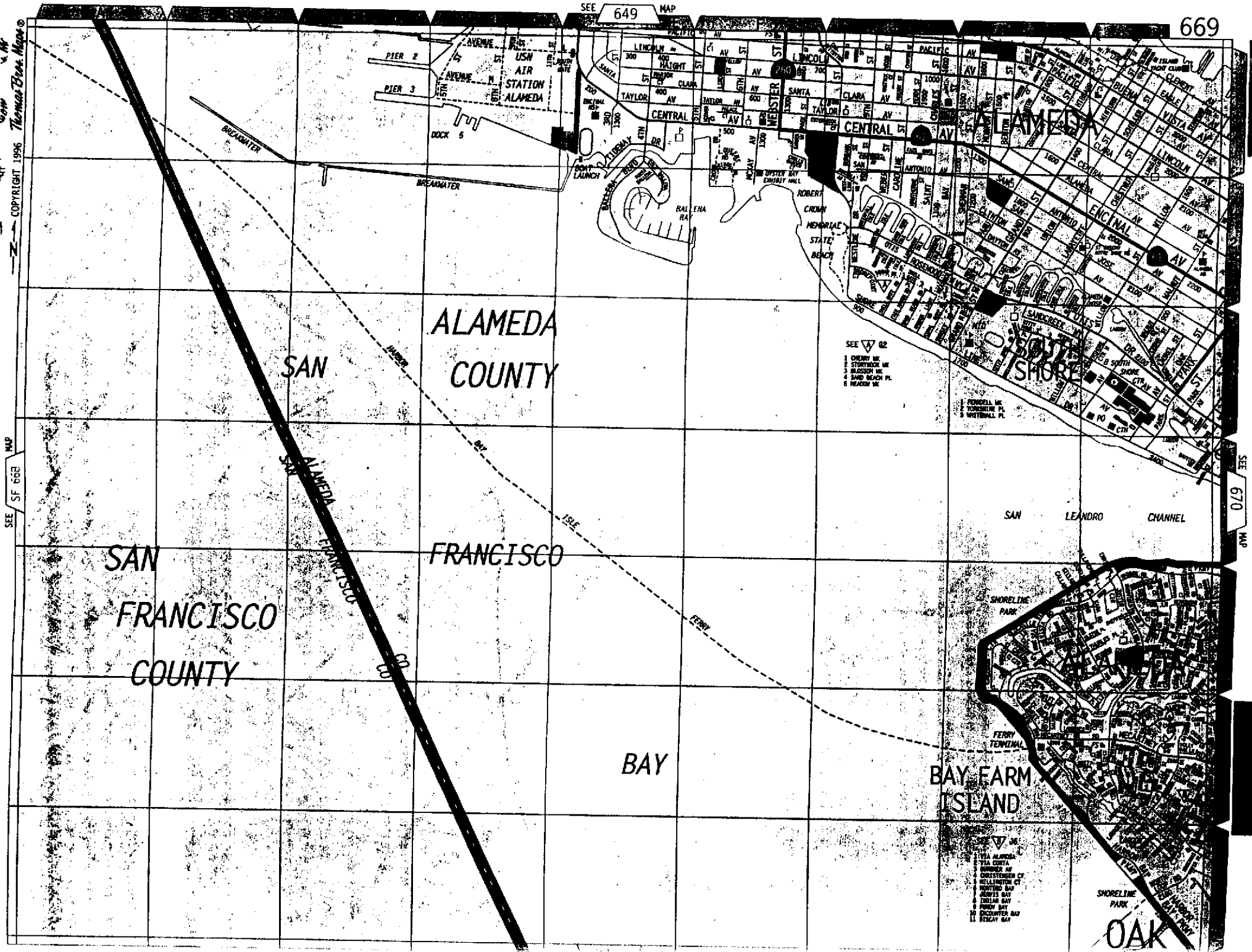
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SEE SF 668 MAP

SEE 649 MAP

669

SEE 670 MAP



ALAMEDA COUNTY

SAN FRANCISCO COUNTY

BAY

BAY FARM ISLAND

OAK

- SEE 62
- 1 CHERRY ME
 - 2 STONYBROOK ME
 - 3 BLOSSOM ME
 - 4 SAND BEACH PL
 - 5 HICKORY ME

- FENDELL ME
TONGUELINE PL
WATFALL PL

- SEE 66
- 1 VIA ALMOND
 - 2 VIA CORTA
 - 3 BURNING W
 - 4 CHRISTENSEN CT
 - 5 HELLINGTON CT
 - 6 HUTTON BAY
 - 7 JAMES BAY
 - 8 THIRAB BAY
 - 9 PINEY BAY
 - 10 ENCOUNTER BAY
 - 11 STACY BAY

SHORELINE PARK

SHORELINE PARK

FERRY TERMINAL

SAN LEANDRO CHANNEL

BREAKWATER

BREAKWATER

POINT LAUNCH

LIBRARY CITY

RAIL YARD

ROBERT CROMB

MEMORIAL STATE BEACH

PIER 2

PIER 3

AVENUE H STATION ALAMEDA

US AIR STATION

CENTRAL ST

TAYLOR AV

CLARA AV

WEBSTER ST

SANTA CLARA AV

CLARA AV

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