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By dehloptoxic at 3:22 pm, Jul 14, 2006

July 14, 2006

Mr. Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

RE: Response to Comments
SLIC Case No. RO0002738

Dear Mr. Wickham:

Request for Information

The following reports were referenced in the "Phase II Environmental Investigation, Bridgeside Shopping Center, Alameda, California," prepared by Northgate and dated July 18, 2003.

- Phase I Environmental Site Assessment (E2C, April 10, 1995).
- Additional Soil Testing and Preliminary Investigation of Groundwater Quality, Alpha Beta #541, Alameda, California (Kaldveer, 1988).
- Letter Recommending that Soils be Excavated and Removed (Kaldveer, August 9, 1990).

All of the aforementioned reports including the Northgate report were prepared for previous owners. Regency recently provided a copy of the E2C report to URS. Several Kaldveer reports are included as an appendix to the 1995 E2C Phase I report. A copy of the E2C report and appendices is provided with this letter response.

Technical Comments

1. **Previous Site Data**
   Previous site data was used to estimate the extents of excavation required. The actual amount of soil removed and the extents of the excavation during the corrective action were dependent on the results of the confirmation samples collected.

2. **Other Potential Sources of Hydrocarbons**
   Additional background information on the "periodical dumping on the site" is not available. After review of the pre-1995 reports, URS finds no credible mention of onsite dumping. Furthermore, the reported "dumping" is hearsay from the 1980's. It is clear from review of the previous reports that an UST was removed in 1974. A

URS Corporation
1333 Broadway, Suite 800
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proposed addition to the onsite grocery store required geotechnical borings in which petroleum impacted soils were found. There is no evidence that dumping actually occurred on what was a developed shopping center and paved parking lot. URS believes that the investigations performed to date have been adequate to investigate the known onsite concerns. The buildings have been demolished and the pavement removed in the past year. No evidence that dumping occurred and impaired soils uncovered was observed by either URS or Regency personnel.

3. **Proposal Dated May 26, 2005**
A Work Plan was not submitted to ACEH for the corrective action. The proposal dated May 26, 2005 was sent to Regency Centers only. However, please find attached a letter to Ms. Donna Drogos at ACEH dated May 12, 2004 outlining our recommendations and request for site closure. ACEH did not respond to this letter from Regency. The removal action taken by Regency was conducted on a voluntary basis.

4. **Figure 4 in Corrective Action Report**
Figure 4 has been modified in response to your request and is enclosed with this letter. Please note that sampling locations from previous site investigations or site features could not be identified on the figure because the site landmarks had been demolished by the time that excavation commenced. However, the areas represented by Northgate borings GP-7, GP-8, GP-9, GP-10, GP-12, and GP-13 were within the limits of the excavation.

5. **Figure 5 in Corrective Action Report**
Figure 5 has been modified in response to your request and is enclosed with this letter. Please note that sampling locations from previous site investigations or site features could not be identified on the figure because the site landmarks had been demolished by the time that excavation commenced. However, the areas represented by Northgate borings GP-14, GP-16, and GP-17 were within the limits of the excavation. As with most drycleaners, it can be assumed that the boiler room and drycleaning machine were located near the back (NE side) of the former business. The excavation was rather large and would have included at least a portion of the former sewer line.

6. **Limits of Excavation**
The excavation sidewalls were vertical.

7. **UST Contents and Laboratory Analyses for Soil Samples in the UST Area**
According to the Northgate report, the UST was identified in the "Phase I Environmental Site Assessment, Bridgeside Shopping Center, 2500-2691 Blanding Avenue, Alameda, California," prepared on April 10, 1995 by E2C. Northgate

paraphrased E2C in stating that, "petroleum hydrocarbons were present in soil at the south corner of the existing grocery store, most likely related to an old underground diesel fuel storage tank that was reportedly removed from the site in 1974 during development of the existing shopping center." In addition, the Northgate report indicates that the subject site was listed as a fuel leak site by the Alameda County Health Services Agency. Consequently, the Northgate Phase II report focused on petroleum hydrocarbon compounds as gasoline and diesel, BTEX, and MTBE. Therefore, confirmation samples were analyzed for petroleum hydrocarbons as gasoline, diesel, and VOCs during the corrective action.

8. **Site Grading in Railroad Right-of-way**
   Surficial soils (to approximately 2.5 feet) within the triangular railroad right-of way were removed and are stockpiled onsite with other onsite soils. Regency plans to sample the stockpiles for possible offsite disposition. As you know, the California Waste Extraction Test (WET) is conducted by leaching the sample with a citric acid solution. Therefore, under typical rainfall, less lead would be leached into the groundwater than the amount leached by the WET. Furthermore, the sample (BH-3-B) with the lead concentration of 108 mg/kg was collected at 1.5 feet. Lead concentrations in the other two borings at depths greater than 1.5 feet were significantly less, 10.5 mg/kg and 34.4 mg/kg, indicating that the surficial lead had not leached down. During the investigation, refusal was met at less than 2 feet in Boring BH-3-B, thus it was not possible to sample at a greater depth at this location. The site will be completely paved once the development is complete.

9. **Site Plans**
   Figure 2 in the Corrective Action Report and Figure 2 in Appendix A of the Corrective Action Report have been modified in response to your request and are enclosed with this letter.

10. **Geotracker EDF Submittals**
    Because no case number was issued for the site until recently, electronic submittals to Geotracker were not performed for the site. Now that a case number has been issued, all analytical data and copies of reports post July 1, 2005 will be uploaded to Geotracker once the report is finalized.

Thank you for the time and consideration. If you have any questions or concerns regarding the enclosed material, please call me at (510) 874-3043.

Sincerely,
URS CORPORATION

Jung Hwan Jeff Paik
Environmental Engineer

Attachments

Figure 2, Corrective Action Report, URS, February 13, 2006
Figure 4, Corrective Action Report, URS, February 13, 2006
Figure 5, Corrective Action Report, URS, February 13, 2006
Figure 2, Appendix A, Corrective Action Report, URS, February 13, 2006
Letter to Ms. Donna Drogos, ACEH, URS, May 12, 2004
Phase 1 Environmental Site Assessment, E2C, April 10, 1995

CC: Mr. Scott Kyman, Regency Centers
Ms. Debra Stott, URS
Ms. Lois Autie, URS

Figure 2, Corrective Action Report, URS, February 13, 2006

Jul 07, 2006 – 3:06pm
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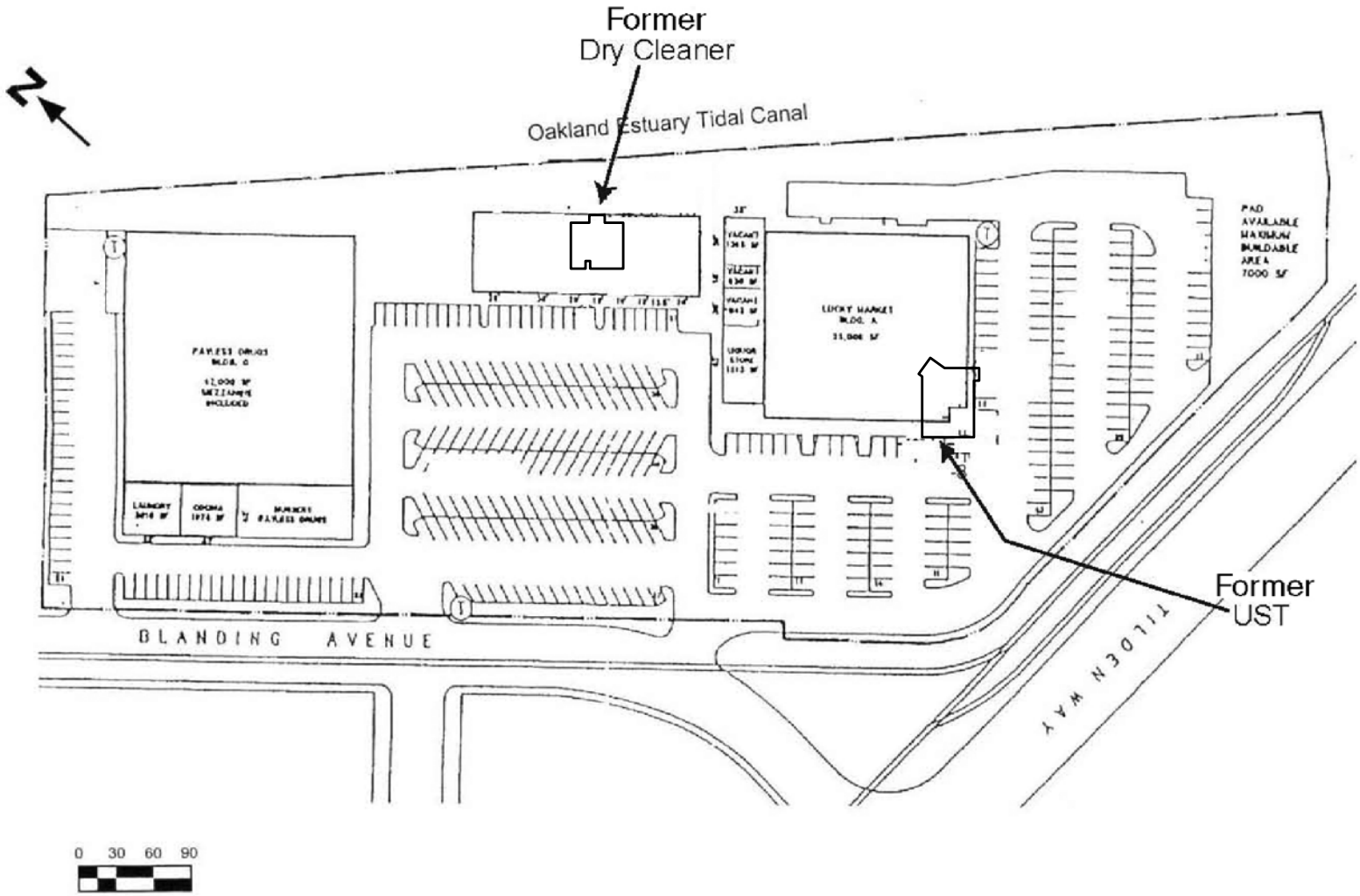
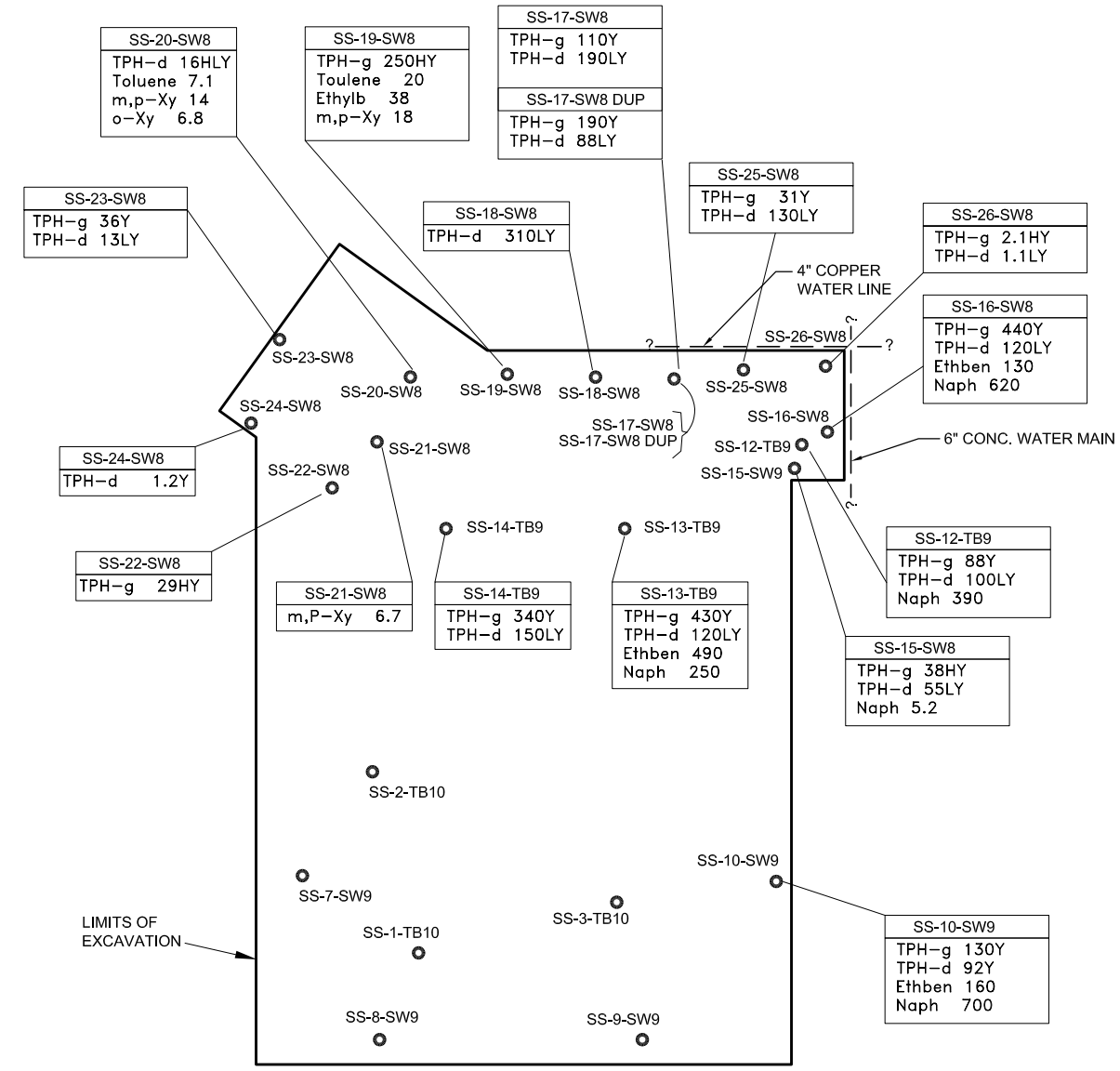


URS	Project No. 29403462 REGENCY ALAMEDA	**SITE PLAN**	FIGURE **2**

Figure 4, Corrective Action Report, URS, February 13, 2006



Legend:

SS-9-SW9 ○ SOIL SAMPLE LOCATION

SS-12-TB9
TPH-g 88Y
TPH-d 100LY
Naph 390

SAMPLE ID
RESULTS FOR TPH IN mg/kg
RESULTS FOR VOCS IN µg/kg

10' 0 10' 20'

SCALE: 1"= 10'

Notes:

ONLY DETECTED RESULTS FOR TPH-g, TPH-d, BTEX, AND NAPHTHALENE ARE SHOWN ON THIS FIGURE. REFER TO TABLES 1 AND 2 FOR COMPLETE RESULTS. EXCAVATION SIDEWALLS ARE VERTICAL.

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URS

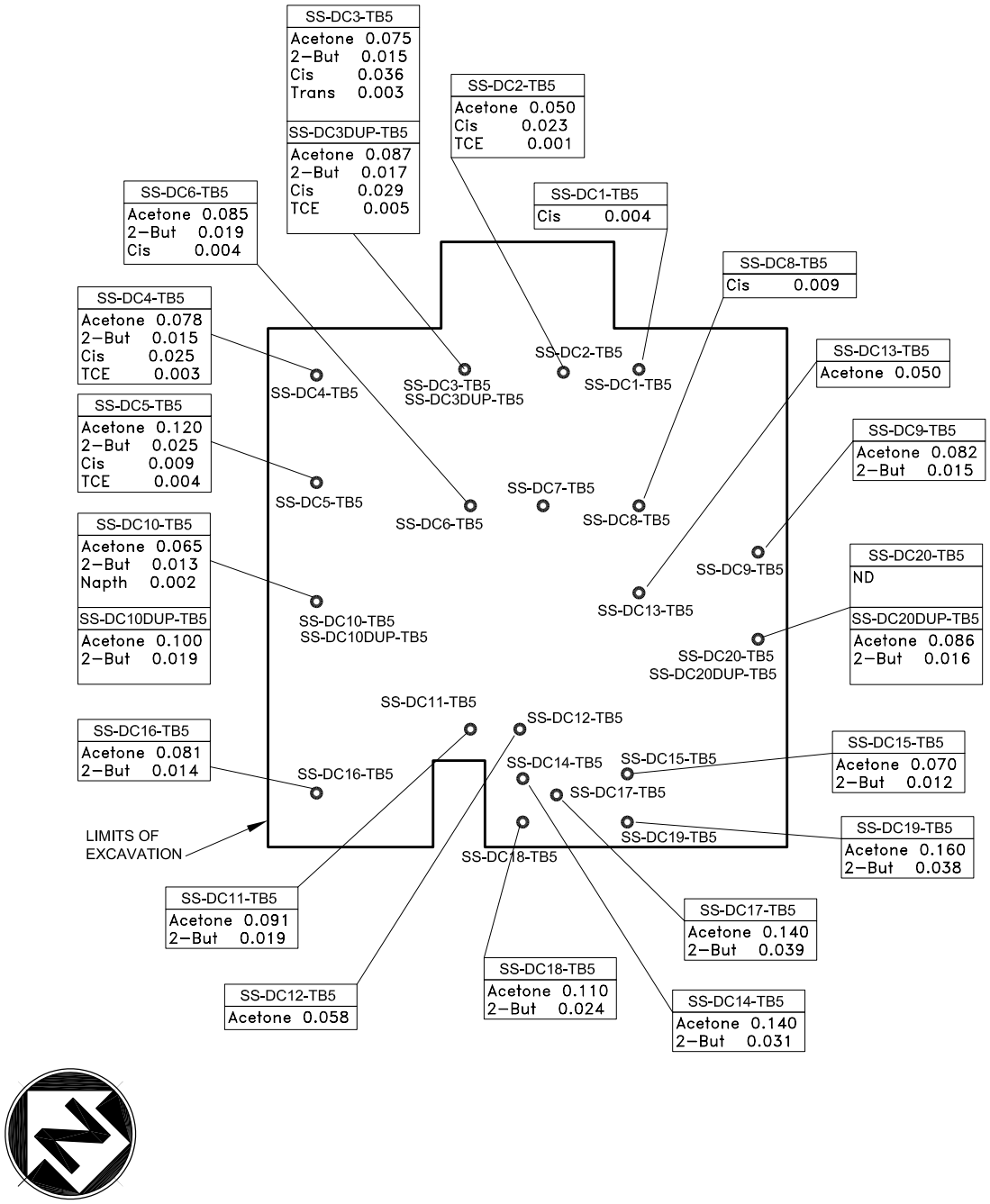
Project No. 29403462

REGENCY ALAMEDA

CONFIRMATION SOIL SAMPLES FORMER UNDERGROUND STORAGE TANK

FIGURE
4

Figure 5, Corrective Action Report, URS, February 13, 2006



Notes:

ONLY DETECTED RESULTS FOR VOCS ARE SHOWN ON THIS FIGURE. REFER TO TABLE 3 FOR COMPLETE RESULTS. EXCAVATION SIDEWALLS ARE VERTICAL.

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URS

Project No. 29403462

REGENCY ALAMEDA

CONFIRMATION SOIL SAMPLES FORMER DRY CLEANER AREA

FIGURE 5

Figure 2, Appendix A, Corrective Action Report, URS, February 13, 2006

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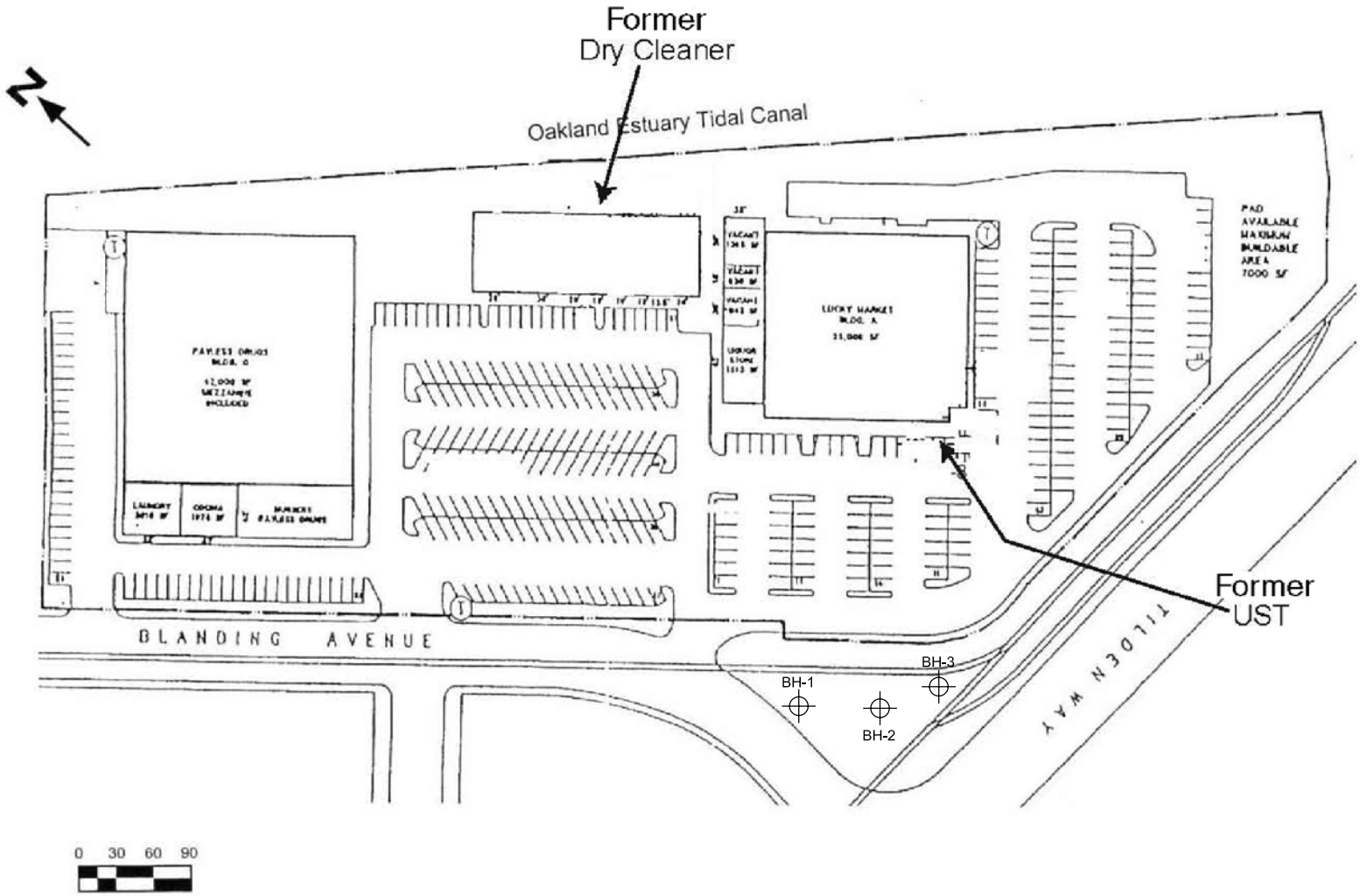

Legend:

BH-1 ⊕ BORING LOCATION

URS	Project No. 29403462 REGENCY ALAMEDA	**BORING LOCATIONS** **FORMER RAILROAD ROW INVESTIGATION** **ALAMEDA, CALIFORNIA**	FIGURE **2**

Letter to Ms. Donna Drogos, ACEH, URS, May 12, 2004

REGENCY CENTERS
555 South Flower Street, Suite 3500
Los Angeles, CA 90071
213-553-2241

May 12, 2004

Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Attention: Ms. Donna Drogos
Supervising Hazardous Materials Specialist

Subject: Request for Report Review and Site Closure Evaluation
Bridgeside Shopping Center
2523 – 2691 Blanding Avenue
Alameda, California
URS Project No. 29403030.00001

Introduction

This transmittal presents a summary of environmental investigations performed at the Bridgeside Shopping Center in Alameda, California (the "site"). The site consists of an approximate 8.5-acre parcel developed as a neighborhood shopping center. Regency Centers (Regency) and our environmental consultant URS Corporation (URS) are providing this summary and the attached environmental reports for ACEH's review and to solicit an opinion as to the completeness of the investigation to date and any further work necessary to obtain closure for the site. Regency understands that ACEH will coordinate with the Regional Water Quality Control Board in issuing an opinion on the project site status.

The approximately 8.5-acre parcel is developed as a neighborhood shopping center with three single-story buildings that range in size from about 12,300 to 49,980 square feet. Current and former businesses at the site include a grocery store, a drug store, a dry cleaner and laundry, a photo-processing shop, and other small shops. An underground fuel storage tank was reportedly removed from the site during construction of the shopping center in 1974. Regency Centers recently purchased the site. Some of the existing buildings will be demolished, and a new commercial development constructed at the site. Addresses at the site range from 2523 to 2691 Blanding Avenue.

Background

The existing shopping center, originally named the Ferndale Shopping Center, was constructed in 1974. Prior to that time, the site was reportedly occupied by a lumberyard and a concrete batch plant. The site is bordered on the north by a dry dock and boat repair yard and on the east by the Oakland Estuary Tidal Canal. An easement and rail line for the Southern Pacific Transportation Company borders the site on the south.

Northgate Environmental Management, Inc. (Northgate), performed a subsurface investigation of the site, a limited asbestos survey, and conducted portions of a Phase I Environmental Site Assessment. Northgate's findings are presented in the attached report entitled *Phase II Environmental Investigation, Bridgeside Shopping Center, Alameda, California,* dated July 18, 2003. In its review of environmental reports from 1987, 1990, and 1995 and its own investigation, Northgate found that:

- Petroleum hydrocarbons were present in the soil beneath the southeastern portion of the site near the south corner of the grocery store. The presence of petroleum hydrocarbons was attributed to a UST that had reportedly been removed during development of the shopping center in 1974. Previous consultants found total petroleum hydrocarbons in the soils at concentrations up to 1,246 parts per million (ppm). TPH was not detected in groundwater at that time in three monitoring wells that were installed in 1988.

- Because of the former UST, the site was and is listed on the Cortese list for a leaking UST; however the LUST listing is old and the site is not found on current LUST lists. The case is considered closed by the Alameda County Health Services Agency (ACHSA); however no closure letter has been identified.

- A drycleaner operated onsite from 1974 through 1993 or 1995. The drycleaner is listed as a small quantity generator of a hazardous material; however no violations are listed in regulatory agency databases that were reviewed.

- A former onsite film processing business is also listed as a small quantity generator of metallic sludge and inorganic solid waste, also with no violations reported.

Based on Northgate's review of regulatory agency files and prior environmental and geotechnical reports, three areas of potential environmental concern were identified:

- Sitewide Groundwater Quality
- Former Onsite Drycleaning Operations
- Former Onsite Fuel UST

Environmental Investigations

Northgate subsequently collected soil and groundwater samples from 17 direct push borings from depths of up to 16 feet below ground surface (bgs). Northgate also sampled three existing onsite monitoring wells. The results of this subsurface sampling found:

Sitewide Groundwater Impacts

- Groundwater levels ranging from 7 to 13 feet bgs.

- Groundwater samples were collected and analyzed for TPH using EPA 8015 and volatile organic compounds (VOCs) using EPA 8260B from three monitoring wells installed across the site in 1988. The only compound found in groundwater sampled from the three monitoring wells was a very low concentration of MTBE in groundwater from GP-2. Since the former onsite UST was removed in 1974, this constituent is unlikely to be from the onsite UST release.

- Based on these results, the investigation did not indicate the presence of a significant potential for the presence of undiscovered soil or groundwater contamination at the site.

Drycleaner

- Six borings were drilled in the vicinity of the drycleaner; two adjacent to the sewer line, one outside the back door, and three inside the building. Soil samples were collected at depths ranging from 1.5 to 11.5 feet bgs and analyzed for VOCs. Tetrachloroethene (PCE) was detected at a maximum concentration of 130 parts per billion (ppb), cis-1,2-Dichloroethene (1,2-DCE) at a maximum concentration of 7900 ppb, and trichloroethene (TCE) at a maximum concentration of 150 ppb in the soil. Concentrations were highest in the soil samples collected above 5 feet bgs.

- Groundwater samples were also collected from most of the borings in the vicinity of the drycleaner and also analyzed for VOCs. The data indicate the presence of VOCs in groundwater beneath the drycleaner and adjacent to the sewer line. The maximum concentrations detected in groundwater were cis-1,2 DCE at 510 ppb, PCE at 1.7 ppb, and TCE at 37 ppb.

- The concentrations of VOCs measured in soil and groundwater at this location do not appear to represent a significant environmental concern.

Former UST

- The evaluation of the former UST area involved drilling five borings around the south corner of the grocery building and two borings inside the building to help define the lateral and vertical extent of impacted soil. Soil samples were collected from 7.5 and 11 feet bgs and analyzed for TPH, BTEX, and MTBE. TPH as gasoline was detected at a maximum concentration of 1,120 ppm, toluene was detected at a maximum concentration of 1,300 ppb, ethylbenzene was detected at a maximum concentration of 7,400 ppb, and xylenes were detected at a maximum concentration of 3,700 ppb.

- Groundwater samples were also collected from most of the borings near the former UST area and also analyzed for TPH, BTEX and MTBE. TPH as gasoline was detected at a maximum concentration of 3.13 ppm, benzene was detected at a maximum concentration of 6.3 ppb, toluene was detected at a maximum concentration of 3.4 ppb, ethylbenzene was detected at a maximum concentration of 45 ppb, and xylenes were detected at a maximum concentration of 6.4 ppb. One groundwater sample was also analyzed for VOCs with concentrations of 1,3,5-trimethylbenzene (7.5 ppb), isopropyl benzene (9.4 ppb), naphthalene (57 ppb), and n-propylbenzene (17 ppb) detected. The extent of impact in the former UST location has been delineated.

- Although the concentrations of gasoline hydrocarbons measured in soil and groundwater in the vicinity of the former UST locally exceed certain RBSLs or the primary drinking water standards, the general area of impact appears to be relatively limited. In addition, hydrocarbons do not appear to migrating to the Oakland Estuary Tidal Canal.

Recommendations

Based on the results of the soil and groundwater investigations conducted by Northgate, URS has already recommended to Regency Centers that the identified contaminated soil encountered during redevelopment of the site be excavated and removed from the site. None of the sources that supposedly created the impacted soils remain in operation, and in fact, have not operated onsite for at least eight years. It is also Regency's and URS' opinion that based on the results of the investigations performed to date and the type of development, that groundwater remediation is not necessary.

Thank you for the time and consideration paid to this project. We look forward to your response.

Sincerely,

REGENCY CENTERS

Mr. Scott Kyman
Senior Financial Analyist
213-553-2241

URS Corporation

Ms. Debra B. Stott, R.G.
Principal Geologist
213-996-2441

Phase 1 Environmental Site Assessment, E2C, April 10, 1995

NEWMARK
REALTY CAPITAL, INC.
Mortgage Banking & Investments

Mitchell Zeemont
William L. Monheit
Eric S. Von Berg
Terri M. Slocombe
Michael D. Heagerty
John J. Rowder

VIA MESSENGER

January 29, 2002

Mr. Eric C. Starr
Starr & Finley
One California Street, Suite 2200
San Francisco, CA 94111

Re: I.R.E.S. (California), Inc.
Bridgeside Shopping Center
2500-2691 Blanding Avenue
Alameda, California

Dear Eric:

Enclosed is a copy of the Phase I Environmental Site Assessment for the above referenced property.

Should you have any questions, please contact Mitch Zeemont at (415) 956-9885.

Sincerely,

NEWMARK REALTY CAPITAL, INC.

Jean Yee
Loan Portfolio Manager
Direct: (415) 956-9876
E-mail: jyee@e-newmark.com

Starr_02.129
Enclosure

cc: Mitch Zeemont

PHASE 1
ENVIRONMENTAL SITE ASSESSMENT
BRIDGESIDE SHOPPING CENTER
2500-2691 BLANDING AVENUE
ALAMEDA, CALIFORNIA

FOR
USG ANNUITY & LIFE COMPANY,
ITS SUCCESSORS AND ASSIGNS
APRIL 10, 1995

PREPARED BY
E_2C, INC.
CIVIC CENTER TOWER
675 NORTH FIRST STREET, SUITE 500
SAN JOSE, CA 95112-5111

E2C INC.

Environmental/Engineering Consultants

April 10, 1995
Job No: 6430100

Mr. Robert H. Kunnen
USG Annuity & Life Company, its successors and assigns
c/o Newmark Realty Capital, Inc.
100 Pine Street, Suite 1850
San Francisco, CA 94111

ATTN: **Ms. Mary K. Olson**
SUBJECT: **PHASE 1 ENVIRONMENTAL SITE ASSESSMENT**
Bridgeside Shopping Center
2500-2691 Blanding Avenue
Alameda, California

Dear Mr. Kunnen:

E_2C, Inc. has prepared this Phase I Environmental Site Assessment (*ESA*) for the Bridgeside Shopping Center at the request of Newmark Realty Capital, Inc.

The accompanying report presents a description of the work performed by us to complete the ESA. As of the date of preparation of this report, the results of our studies indicate that there is no evidence to suggest that the subject site has been adversely impacted by past-or-present, on-site land uses, or by activities on neighboring properties. Additionally, our research of agency files did not reveal any evidence that the subject site has been adversely impacted by the migration of contaminants from known, agency-listed off-site sources. Appropriate Conclusions and Recommendations are presented on Page 39 of this report.

Should you have any questions or require supplemental information, please do not hesitate to contact us.

Sincerely,

Kendall W. Price, C.E.G./R.E.A.
President

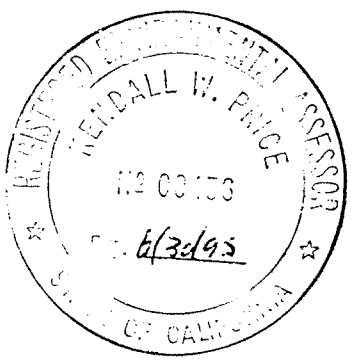

TABLE OF CONTENTS

FIGURES, TABLES, AND APPENDICES

1.0 INTRODUCTION

E_2C, Inc. has completed a Phase 1 Environmental Site Assessment (*ESA*) of the subject property designated as the Bridgeside Shopping Center and located at 2500-2691 Blanding Avenue in the City of Alameda, California. The ESA was performed in accordance with the request of Newmark Realty Capital, Inc., following the guidelines prepared by Equitable Investment Services, Inc.

Mr. Dale H. Duley of E_2C, Inc. visited the subject site on March 31, 1995, at which time an investigation of the premises was performed and a survey was made of the adjacent activities and businesses to determine if any of these has the potential of adversely impacting the subject site. A review of agency publications and files related to known toxic and fuel leak sites also was carried out to determine the possibility of an adverse impact on the subject site from off-site sources located within a 1-mile radius.

Additionally, historical aerial photographs were reviewed to determine past activities on the site and in the vicinity (*see Historical Aerial Photographs, Section 8, and Appendix B*).

This investigation was performed for USG Annuity & Life Company, its successors and assigns, to evaluate the potential for site contamination resulting from past-or-present, on-site land uses, or from off-site sources of contamination. The intent of this report is to address real and potential environmental impairments, or risks of impairments, that may represent existing or potential financial and legal liabilities to USG Annuity & Life Company, its successors and assigns, and/or to its agents.

2.0 SCOPE OF SERVICES

The Scope of Services for the performance of this Phase 1 ESA included the following tasks:

- Site inspection of the subject property and surrounding land-use, and interviews with the owner or representatives.

- Research and review of available geologic and hydrologic information on the site vicinity.

- Review of regional, state, and federal publications for known contaminated sites currently under study or remediation that could adversely impact the subject site.

- Interviews with agency personnel and review of various agency files concerning the use and handling of hazardous materials at the subject site, and investigations of contamination at nearby sites.

- Study of aerial photographs of the site to evaluate past land uses for the last 40 $\pm$ years.

- A review of past environmental investigations on the subject site.

- Collection of potential asbestos-containing building materials for possible laboratory analyses, if determined appropriate.

- Preparation of this formal report presenting the results of our environmental study. Appropriate conclusions and recommendations are presented, based on the results of our study.

3.0 SITE LOCATION AND DESCRIPTION

The subject site is the Bridgeside Shopping Center, located at 2500-2691 Blanding Avenue in the City of Alameda, California (see Site Location Map, Figure 1*)*. The site covers an area of approximately 358,000-square feet (*8.24 acres*), and comprises three single-story commercial buildings, loading/unloading areas, parking facilities, and some landscaping (*see Site Plan, Figure 2*). A list of the current tenants is provided in Appendix E. Access to the site is via three driveways from Blanding Avenue.

Interior and exterior photographs of the site are presented in Appendix A, and representative historical aerial photographs are presented in Appendix B.

According to the United States Geological Survey Map, Oakland East Quadrangle, the subject site is located in the central part of Section 7, Township 2 South, Range 3 West of the Mount Diablo Base and Meridian. The site is relatively flat, lying at an approximate elevation of 10-feet above mean sea level; however, the local area slopes gently to the northeast towards the tidal canal.

The subject site is bound on the north by the Stone Boat Yard, which has a dry dock for the repair of small sea-going vessels. The Oakland Estuary (*Tidal Canal*) bounds the site on the east. An easement and main line of the Southern Pacific Transportation Company bound the site on the south, and Blanding Avenue bounds the site on the west.

The subject site is located within an area on Blanding Avenue zoned for business activities and light industry; however, residences are located on neighboring side streets.

4.0 SITE CONDITIONS

4.1 Regional and Local Geology

The site is located in the northeastern portion of the San Francisco Bay drainage basin, on a westward-sloping alluvial plain between the East Bay Hills and the San Francisco Bay. The Bay depression is a major structural depression in northwestern California that is located between the Diablo Range and the Santa Cruz Mountains. The Bay depression was created by the downwarping of the San Andreas rift zone, near the western side of the depression, and the Hayward fault, along the eastern side (*Department of Water Resources, 1968*). The Hayward Fault zone is a major local structural feature, trending northwest-southeast approximately three and one-half miles east of the subject site.

The surface soils in the general area of the subject site consist of alluvial terrace deposits of late Pleistocene Age (*10,000-to 70,000-years old*). These soils are underlain by a thick series of Tertiary sands and shales, which in turn are underlain by bedrock of the Franciscan Formation. The Franciscan is considered to be of Mesozoic Age (*65-to 225-million years old*). The alluvium was derived mainly from sedimentary rock in highland areas (*i.e., the Berkeley Hills*) that was deposited by flowing water on active stream channels, terraces, and on developing alluvial fans.

4.2 Soil Conditions

Geologic maps of the area indicate that the surface soils at the subject site and in the immediate vicinity are principally part of the Merritt Sand Series (*see Radbruch: Areal and Engineering Geology of the Oakland East Quadrangle, California*). These Pleistocene deposits comprise yellowish-brown to dark yellowish-orange, fine-grained, well-sorted, silty, clayey sands and sandy or silty clays. Borings on the site encountered up to three feet of sand overlying seven to 13 feet of stiff to very stiff, silty or sandy clay. Below the clay was

dense, to very dense, silty sand. The maximum thickness of the Merritt Sand Series approximately 65 feet. The artificial fill along the shore of the tidal canal consists principally of Merritt Sand dredged from the canal. These soils are generally suitable for the construction of light structures; however, the soils must be properly engineered if placed on top of Bay mud.

4.3 Major Regional Faults and Earthquake Hazards

The subject site is located in the seismically active San Francisco Bay Region, and three major faults in the region have a history of strong earth movement. Many other less-known and less-active faults exist in the region. Strong seismic activity on any of these three major faults could have an adverse impact on the subject site, with moderate to major structural damage. These faults are: 1) the Hayward Fault zone, located three and one-half miles to the northeast; 2) the Danville-Calaveras Fault zone, located approximately ten miles to the northeast; and 3) the San Andreas Fault zone, located 15.5 miles to the southwest.

Earthquakes are not predictable and can happen at any time, possibly resulting in an adverse environmental situation. A strong earthquake places hazardous materials on a site at serious risk if not properly stored, and such storage should ensure that the hazardous materials are protected against falling (*i.e., from open shelves*), crushing, breaking, and other potentially destructive forces. An earthquake could cause the accidental mixing of non-compatible chemicals, resulting in hazardous reactions such as explosions or fires. Non-compatible chemicals should be stored far enough apart to ensure that accidental mixing is not possible. Additionally, containers of hazardous chemicals should never be left open, even when in relatively continuous use.

4.4 Groundwater Conditions

The site lies within the northern part of the San Leandro alluvial cone, and groundwater generally is encountered in sands and gravel layers under confined conditions. These aquifers are thinner and less extensive than those in the adjoining Niles cone subarea to the south. Correlations with aquifers in the Niles cone subarea are difficult; however, three aquifers in the area of the subject site are considered to be roughly "equivalent" to the Newark, Centerville, and Fremont aquifers to the south. Deeper aquifers are also encountered locally.

Our review of published and unpublished information in the area of the site indicates that shallow brackish groundwater locally exists in the site vicinity at approximately five-to eight-feet below the ground surface. Based on three groundwater monitoring wells installed in the vicinity of the Lucky's supermarket on the site in April 1988, the flow of groundwater at the site was calculated to be in a northeast direction, toward the adjacent Oakland Estuary.

4.5 Water Quality

According to the California Environmental Protection Agency (*CalEPA*), Office of Drinking Water, Small Water Systems, Assembly Bill 1803, there are no contaminated private or public water wells within a 1-mile radius that could have an adverse environmental impact on the subject site.

4.6 Meteorologic Setting

The site is located within the San Francisco Bay Area, which is considered a "Mediterranean" type climate. Warm, dry summers, along with cool, sometimes wet winters are typical for this area. Mean annual precipitation in the form of rainfall for the site was approximately 18-to-20 inches before the

recent 6-year drought. The prevailing wind at the site and the San Francisco Bay Area in general is from the northwest. At this time, climatic effects on the site show no evidence for environmental concern.

5.0 PREVIOUS INVESTIGATIONS ON THE SITE

Documents on the investigations listed below were supplied to E_2C, Inc. by Mr. Timothy Maechlin of Northwest Asset Management Company. Other investigations or studies may have been performed on the site; however, those have not been brought to the attention of E_2C, Inc.

May 4, 1972

A "Foundation Investigation" report on the subject site was submitted by Lowney/Kalveer Associates. At the time of this study, a lumber company occupied approximately the western one-half of the site, and a concrete mixing plant occupied the eastern part of the site. The purpose of the investigation was to determine the engineering characteristics of the foundation soils on the site preparatory to the construction of a proposed shopping center.

For this soil investigation, 13 borings were drilled on the site to a maximum depth of 24 feet below the ground surface. Groundwater was encountered at an average depth of seven-to-nine feet. No mention was made in this report of any soil or groundwater contamination having been encountered in any of the borings.

October 27, 1987

A "Supplemental Foundation Investigation" report was submitted by Kaldveer and Associates, Inc. This investigation was performed to determine the engineering characteristics of foundation soils adjacent to the eastern end of an Alpha Beta Supermarket for a proposed building extension. As a part of the study, five exploratory borings were drilled in the area of proposed construction. Strong petroleum odors were detected between four feet and six feet during the drilling of one boring (*Boring 5*). No mention was made in the report of any petroleum odors or sheen in the groundwater of that boring.

Groundwater was encountered in the borings at depths of ten-to 13-feet below the ground surface. No conclusions or recommendations were presented regarding the soil contamination encountered. A copy of this report is included in Appendix D.

December 2, 1987

Kaldveer Associates submitted a "Preliminary Soil Testing Program" for the proposed building addition to the Alpha Beta Supermarket. The purpose of this investigation "was to determine the presence and quantities, if any, of petroleum hydrocarbons in the subsurface soils, as noted in one exploratory boring during our recent supplemental foundation investigation at the site." This investigation included the drilling of five exploratory borings, located principally in the area around the previous Boring 5 which was drilled in October 1987. This 1987 report mentioned that one boring (*Boring 7*) drilled during the 1972 investigation also had encountered strong petroleum odors; however, there is no statement to that effect in the 1972 report (*see Figure 5*).

During the field investigation, moderate-to strong-petroleum odors were detected in one boring (*Boring 6*) between five and 11.5 feet, and in a second boring (*Boring 10*) at a depth of seven feet. Soil samples were collected in all five borings, and the laboratory analyses detected Total Extractable Hydrocarbons (*i.e., diesel*) in samples from all five borings. A concentration of 1,200-parts per million (*ppm*) was detected in Boring 6, which was drilled immediately adjacent to the previous Boring 5. A thin, oily sheen also was observed floating on the groundwater in that boring (*Boring 6*).

This investigation did not evaluate the extent of contamination; however, a recommendation was made in the report that additional investigation be conducted. A copy of this 1987 report is included in Appendix D.

January 8, 1988

Kaldveer Associates submitted a letter report entitled "Site Characterization and Environmental Assessment." E_2C, Inc. was not able to review this letter; however, later correspondence states that a recommendation was made in the letter for a subsurface investigation to define the extent of any soil and/or groundwater contamination.

June 29, 1988

Kaldveer Associates submitted an "Additional Soil Testing and Preliminary Investigation of Groundwater Quality" report. This investigation was performed "to determine the presence, if any, of chemical compounds in the subsurface groundwater and to further evaluate the lateral extent of soil contamination." For this investigation, seven exploratory borings were drilled in April 1988 to a maximum depth of 20.5 feet, and three of the borings were converted to groundwater monitoring wells. None of these seven borings was drilled in the immediate vicinity of the previously-detected soil contamination.

Soil samples were collected in four of the borings, and groundwater samples were collected from the other three borings which had been converted to monitoring wells. The soil and groundwater samples were analyzed for gasoline and diesel, and for the constituents of benzene, toluene, ethylbenzene, and xylenes. None of these petroleum hydrocarbons were detected in the laboratory analyses.

Kaldveer recommended the excavation of the contaminated soils in an area around the previous Borings 5 and 6 where contamination levels exceeded 100 ppm. Excavation was proposed to an approximate depth of ten feet, and the lateral limits would be determined by the laboratory analyses of soil samples collected during excavation. A copy of this report is included in Appendix D,

and the estimated area of soil contamination and the monitoring well locations are indicated in Figure 5 of this current E_2C, Inc. report.

August 9, 1990

Kaldveer Associates submitted a letter entitled "Summary of Contamination Status." The letter summarized past investigations performed on the site, and proposed the excavation and removal of the contaminated material having greater than 100-ppm of Total Petroleum Hydrocarbons (*see Figure 5*).

The former underground storage tank (*UST*) was removed from the site in 1974. From the information we have obtained and reviewed, it appears that the UST was removed under the established protocol which existed at that time. Based on results obtained under the procedures and protocols in force at the time the tank was removed, no soil samples were collected. As a result of this procedure, we conclude that the site was most probably listed as a fuel leak site based on the submittal of the Kaldveer soil reports to the DEH. However, as indicated in the listing itself (see Section 7.4 , Figure 3, and Table 1), further remedial action was deemed unnecessary. The latest groundwater test results, obtained in 1988, 14 years after the tank was removed, did not detect the presence of either gasoline, diesel, or their constituents. Since the groundwater at the site has not been impacted by the former UST, we can conclude that the detected soil contamination has not leached through the soil and impacted the near-surface ground water aquifer. Since the UST was removed under established 1974 protocol and the groundwater has not been impacted by its past usage, we concur with the agency in that further remedial activies are unnecessary.

6.0 SITE HISTORY

6.1 Tenant History

Our review of agency files, previous reports on the site, and historical aerial photographs revealed that the subject site was occupied by two commercial enterprises from at least the early 1950's until its development as a shopping center in 1974. Prior to this shopping-center development, the Loop Lumber and Milling Company had occupied approximately the western three-quarters of the site, and the California Rock and Gravel Company (*a concrete-mixing plant*) had occupied approximately the eastern one-quarter of the site. An aerial photograph of April 1973 shows that those two companies still occupied the subject site; however, some former buildings on the Loop Lumber part of the site have been demolished and the property appears deserted. On the rock and gravel property, several vehicles are parked adjacent to one of the buildings; however, there is no other evidence of activity on that site.

The present site was developed in 1974, and was named the Ferndale Shopping Center after the local Ferndale District of the City of Alameda. The name was changed to the Bridgeside Shopping Center in 1992.

6.2 Site Investigation

On March 31, 1995, an inspection of the subject site was carried out by Mr. Dale H. Duley of E_2C, Inc. At that time, the subject site was inspected for evidence of the storage, use or disposal of hazardous materials, and to identify any above-ground or underground storage tanks, chemical storage fluid dischargers, PCB-containing transformers, asbestos-containing building materials, or any other suspicious conditions.

At the time of our inspection, the subject site was occupied by the Bridgeside Shopping Center, and had three multi-tenant commercial buildings. The

inspection was assisted by Mr. Timothy Maechling, Property Manager of Northwest Asset Management Company, who provided a site plan, historical information on the site, and arranged for access to all of the premises. At the time of our site visit, a structural inspection of the buildings was also performed by Mr. George Dicu, E_2C, Inc's. Vice President of Engineering.

The subject site covers an approximate area of 359,000-square feet (*8.24 acres*), and includes three single-story, multi-tenant, concrete-block commercial buildings, loading/unloading areas, parking facilities, and some landscaping (*see Site Plan, Figure 2*). The buildings were constructed prior to the late 1970's/early 1980's major government regulations banning the use of asbestos-containing building materials (*ACMs*). During our investigation, therefore, particular concern was paid to potential ACMs, especially vinyl floor tiles. For the purposes of this report, the three buildings and the individual tenants are discussed separately below.

Building "A"

This building is located on the western end of the site, and has a total floor space of approximately 49,980-square feet. The major part of the building is occupied by a Payless Drug Store (*Payless*); a small space is occupied by Launderland, a self-service laundry. One of the spaces is vacant and had previously been occupied by a restaurant (*see Photographs No. 1-3*). The attached, covered, green nursery of Payless has an approximate floor space of 3,990-square feet.

Payless Drugstore occupies 42,000-square feet of Building A and consists of a large, open customer area at the front, a pharmacy, offices, and a long, relatively-narrow storage room located adjacent to the north and east walls of the building. A computer room, an employee relaxation room, and a small storage loft also were located in the northern part of the building. The long storage room had exposed, concrete floor slabs, as did the attached, 3,990-square foot nursery. Within the rest of the Payless premises, several types of

vinyl floor tiles (*VFTs*) were observed, and two samples of VFTs were collected and analyzed for the possible presence of asbestos (*see discussion in Subsection 6.2.4 on Page 21*). No asbestos was detected in the two samples. All areas of the Payless premises were very clean and well maintained, and nothing of environmental concern was observed at the time of our inspection (*see Photograph No. 4*).

The vacant space occupied by the former restaurant covers 1,974-square feet. The storage room had an exposed, concrete floor slab, whereas the remainder of the premises had two varieties of VFTs. No VFT samples were collected. All areas of the premises were very clean and well maintained, and nothing of environmental concern was observed.

The 2,016-square foot Launderland premises had a customer area at the front with 45 washing machines, 32 dryers, and several clothes-folding areas. At the rear of the premises were a store room and a rest room. The premises had VFTs throughout; however, the tiles were installed in 1993 and no samples were collected. The premises were very clean and well maintained, and nothing of environmental concern was observed.

Building "B"

This building covers an approximate area of 12,300-square feet and has eight tenants, plus a small room (*about 185-square feet*) at the rear of Winchell's Donut House used by the site-security staff. Each premise is accessed from the principal parking lot, and by a second door located at the rear or side of the premise. At the time of our inspection, the various tenant premises in the building varied in size from 875-square feet to 2,535-square feet, and the businesses listed on the following page were tenants in the building (*see Site Plan, and Photographs No. 7 and 8*).

Business	Size of Premises
Round Table Pizza	2,535 sq. ft.
Citibank Federal Savings Bank	2,470 sq. ft.
Subway Sandwiches and Salads	1,080 sq. ft.
Classic Cleaners	1,390 sq. ft.
Baskin-Robbins Ice Cream Store	1,235 sq. ft.
Presto Prints	1,235 sq. ft.
Hair Studio	875 sq. ft.
Winchell's Donut House	1,308 sq. ft.

All areas of each premise were inspected with the exception of several rear rooms and the vault at Citibank. All interior areas in the building were very clean and well maintained. No photographs were permitted in the interior of the Citibank premises; however, internal photographs were taken of all of the other premises. Representative photographs are presented in Appendix A.

The Roundtable Pizza premises had ceramic floor tiles and/or carpeting in the front customer and serving area, and ceramic floor tiles in the rest rooms (*see Photograph No. 7*). The kitchen had a concrete-exposed floor. All cleaning soaps and solutions at the Roundtable Pizza premises were stored on shelves in the kitchen. Citibank had ceramic tiles in the entrance way and in front of the teller counter; whereas the other observed areas were carpeted. The Subway had a parquet floor throughout. The Baskin-Robbins premises also had a parquet floor in the customer area and behind the service counter (*see Photograph No. 9*). However, an office, a store room, and a rest room had orange-colored vinyl floor tiles, and one sample was collected (*see Subsection 6.2.4 on Page 21*). No asbestos was detected in the sample. Nothing of environmental concern was observed on any of the premises discussed above.

The Classic Cleaners has occupied its premises since July 1993. This site was previously occupied by Ann's Cleaners & Coin-Op Laundry from 1974 to 1993. Dry cleaning is performed on the premises. A small customer area is at the front, and the remainder is comprised of the principal laundry room, and a small boiler room and loft at the rear. The floor of the customer area had vinyl floor

tiles; whereas the rest of the premises had an exposed concrete floor. The vinyl floor tiles were installed in July of 1993, and no sample was collected.

During our inspection of the Classic Cleaners' space, we noted that they use Perchlorothane in their dry-cleaning process (*see Photograph No. 10*). According to the present owner, Mr. Moon H. Kim, the solvent tank on the site has a capacity of approximately 25 pounds of solvent. The files of the Hazardous Materials Division of the Alameda Fire Department were reviewed, and these premises are further discussed in Subsection 6.2.1 on Page 18. There were no records of any citations or violations related to environmental issues (*i.e., spills, discharges, or mishandling of solvents*). We did not notice any staining or discolorations to the floor which would indicate the discharge of dry-cleaning solvents.

The Baskin-Robbins Ice Cream premises were immaculate throughout. The company has occupied this site for approximately nine years. The front of the premises has a parquet floor, whereas the rear office, storage room, and restroom have orange-colored vinyl floor tiles. One sample of these tiles was collected for laboratory analyses; however, no asbestos was detected (*see Subsection 6.2.4 on Page 21*).

The premises of Presto Prints comprised a customer service area at the front (*see Photograph No. 10*), a work area, storeroom and a restroom at the rear, and several small offices upstairs. Adjacent to a sink in the rear work area were several small containers of chemicals used in photograph development, and these included developers, stabilizers, and fixers. The containers were less than one gallon in size. Photograph development is performed in a self-contained developing machine. The front of the premises had ceramic floor tiles, whereas the rear, ground floor rooms had exposed concrete floors. The stairs and second-floor rooms were carpeted. Due to the small quantities of photographic chemicals used with the self-contained developing equipment, the developing operation does not appear to pose an environmental concern.

The Hair Studio premises comprised the front hair-styling room (*see Photograph No. 11*), and a small office and a restroom in the rear. All floors were covered with beige vinyl-floor tiles, and one sample was collected for laboratory analyses. No asbestos was detected in the sample (*see Subsection 6.2.4 on Page 21*). Nothing of environmental concern was observed on the premises.

Winchell's Donut House comprised a front room with a serving area, a display cabinet, and six tables, a long rear kitchen/storage room, and a small office. The premises had ceramic floor tiles throughout. Nothing of environmental concern was observed during our inspection.

At the rear of the building, behind Winchell's premises, was a small room used by the security personnel for the site. The roof of the building can be accessed by a ladder in this room. Nothing of environmental concern was observed in this room.

Building "C"

This building covers an approximate area of 30,200-square feet, and comprises a Lucky Food Center (*Lucky's*), the E-Z Liquor Store, and three vacant premises located along the walkway adjacent to Building "B" (*see Site Plan*). The two occupied premises are accessed at the front from the principal parking lot (*see Photograph No. 12*). Lucky's also has two doors located on the loading/unloading dock area at the rear of the building, and E-Z Liquors has a side door leading from the rear storeroom.

The Lucky Food Center has occupied its premises since January 1990. These premises were formerly occupied by an Alpha Beta Supermarket from 1974 to 1989. Lucky's premises cover approximately 25,000-square feet, and comprised the main food hall (*see Photograph No. 16*), offices, storage rooms, freezer rooms, an employee change room, and rest rooms. A stairway in a rear storage room led to a mezzanine level which had air-conditioning ducts and was

also used for some storage (*see Photograph No. 15*). Access to the roof was via a ladder from this mezzanine. The food hall, offices, and rest rooms had vinyl floor tiles throughout; whereas the storage and freezer rooms had exposed-concrete floors. The principal floor tile was a mottled, dull yellow-brown color that had been patched in several areas with beige replacement tiles. A sample of each floor tile was collected; however, no asbestos was detected in either sample (*see Subsection 6.2.4 on Page 21*). At the time of our inspection, all areas of the premises were very clean and well maintained, and nothing of environmental concern was observed.

The E-Z Liquor premises covers 2,213-square feet, and comprised a customer area with a service counter, shelves of beverages and spirits, and a large refrigerator at the front (*see Photograph No. 18*), and a storage room at the rear. The floors were covered with alternating squares of beige and yellow-brown vinyl floor tiles. One sample of the yellow-brown tiles was collected; however, the laboratory analyses did not detect the presence of any asbestos in the sample (*see Subsection 6.2.4 on Page 21*). All areas of the premises were very clean and well maintained, and nothing of environmental concern was observed.

The three vacant premises cover a total area of 3,037-square feet (*see Site Plan*). One premise had only one room; whereas the other two premises each had two rooms. There was no litter or refuse on any of the three premises; however, a few building materials were being stored on one of the locations.

Site Exterior

The site exterior comprised parking facilities, storage areas, loading/unloading areas, landscaping, and a walkway located at the rear adjacent to the Oakland Estuary. In general, the exterior of the site was clean and well maintained with the exception of accumulated materials at the rear of the Payless premises in Building "A" and at the rear of the Lucky's premises in Building "C." These

materials consisted principally of wooden pallets, shopping carts, and cardboard containers which are periodically removed from the storage areas. Payless also has a locked, fenced-in area at the rear of the building for the storage of nursery materials such as bags of compost, potting soil, and lawn seed. Additionally, a recycling truck and associated receptacles for paper, glass, and aluminum were located at the rear of the Payless building.

6.2.1 Hazardous Materials on the Subject Site

State of California regulations mandate that a company using and/or storing hazardous materials on a site must file a Hazardous Materials Management Plan (*HMMP*) with the responsible, local governmental agency, which in this case is the Hazardous Materials Division of the Department of Environmental Health. A Short Form HMMP may be filed if the quantities used and/or stored per annum are less than 500-pounds for solids, less than 55-gallons for liquids, and less than 200-cubic feet for compressed gases.

From our observations, the Classic Cleaners is the only company on the subject site using, and/or storing, a quantity of hazardous materials. Our review of the files of the Hazardous Materials Division of the Alameda Fire Department revealed that there were no records of citations or violations related to environmental issues (*i.e., spills, discharges, or mishandling of cleaning solvents*). There is no evidence to suggest that the underlying soils on the premises may have been adversely impacted by past-or-present, on-site activities.

Several previous soil investigations were performed on the site, concentrating principally on the area adjacent to the south side of the Lucky's premises which were previously occupied by an Alpha Beta Supermarket. Those investigations were performed by Kaldveer Associates in anticipation of a proposed addition to the Alpha Beta

Supermarket (*presently Lucky's*), and the investigations are summarized in Section 5.0 on Page 7. Soil contamination was encountered in several borings between depths of four-and-ten feet; and Kaldveer proposed the excavation of all contaminated soils having contamination levels of petroleum hydrocarbons above 100-parts per million (*ppm*). This was to be determined by continuous sampling and laboratory analyses during excavation. Agency guidelines generally require the removal of all soils having contamination levels above 100 ppm; whereas soils with lesser levels may remain in-situ. For various reasons, the proposed building addition was never constructed. The August 9, 1990 letter report of Kaldveer Associates estimated that the amount of contaminated soils to be excavated would approximate 260-cubic yards (*see Appendix D*).

The former underground storage tank (*UST*) was removed from the site in 1974. From the information we have obtained and reviewed, it appears that the UST was removed under the established protocol which existed at that time. Based on results obtained under the procedures and protocols in force at the time the tank was removed, no soil samples were collected. As a result of this procedure, we conclude that the site was most probably listed as a fuel leak site based on the submittal of the Kaldveer soil reports to the DEH. However, as indicated in the listing itself, further remedial action was deemed unnecessary. The latest groundwater test results, obtained in 1988, 14 years after the tank was removed, did not detect the presence of either gasoline, diesel, or their constituents. Since the groundwater at the site has not been impacted by the former UST, we can conclude that the detected soil contamination has not leached through the soil and impacted the near-surface ground water aquifer. Since the UST was removed under established 1974 protocol and the groundwater has not been impacted by its past usage, we concur with the agency in that further remedial activies are unnecessary.

6.2.2 Fuel Storage Tanks and Monitoring Wells

Soil investigations were performed on the site over a period of years by Kaldveer Associates of Oakland, California. An August 9, 1990 letter from Kaldveer stated that an underground fuel storage tank (*UST*) was excavated and removed from the site in 1974. There were no records of any former USTs in agency files. It should be noted that this tank removal occurred prior to the time when tank excavation soil samples were collected or when detailed tank inspection documentation was performed by the local fire department.

Our review of agency documents (Section 7.0) revealed that the site is listed as a fuel leak site. It appears that this listing is most likely the result of the submittal of one, or more, of the Kaldveer reports to the Alameda County Environmental Health Department. This is further discussed in Section 7.4.

Subsequent to encountering soil contamination on the site in 1987, three groundwater monitoring wells (*MWs*) were installed and sampled in June 1988 (*see Section 5.0 on Page 7*). Laboratory analyses of the groundwater samples did not detect the presence of any petroleum hydrocarbon compounds. The elevations of the three MWs were determined by a California-registered Civil Surveyor, and calculations from groundwater measurements in the three MWs established an eastward groundwater flow direction, towards the Oakland Estuary.

At the time of our investigation, the MWs still existed on the subject site, and their locations are indicated in Figure 5.

6.2.3 Herbicides and Pesticides

Historically the subject site may have been used for agricultural purposes; however, the earliest aerial photograph of 1953 shows the subject site to be occupied by two commercial enterprises (*a lumber company and a cement-mixing plant*). The properties in the vicinity at that time were occupied principally by residences, with a few, relatively-small commercial buildings. If the subject site was farmed at some time prior to the 1950's, it is possible that herbicides and pesticides were used. However, most of these would have eventually dissipated as a result of the passage of time and continuous cultivation. Any remaining chemicals in the shallow soils at the time of initial development would have been mixed with other soils or removed during initial grading operations, encapsulated under the building pads, the asphalt parking surface, or the landscaping. Additionally, the use of herbicides and pesticides was not widespread prior to the 1950's. Therefore, any possible past use of those chemicals is not considered to present an environmental impairment on the site.

6.2.4 Asbestos

The three buildings on the subject site were constructed in 1974, prior to the late 1970's/early 1980's major government regulations banning the use of asbestos in building materials. Based on the above, it was considered possible that asbestos-containing building materials existed on the site, although numerous alterations and renovations probably had been carried out over the years as tenancy changed.

In particular, old and/or worn vinyl tiles (*VFTs*) were observed on some of the premises, and a total of seven representative samples were collected during our initial site inspection. The samples were analyzed by AMER Labs in Sunnyvale, California; however, no asbestos was

detected in any of the samples. The samples were collected on the following premises:

Sample	Business	Where Collected
AS-1	Lucky Food Center	Main food hall
AS-2	Lucky Food Center	Main food hall
AS-3	E-Z Liquors	Rear storeroom
AS-4	Payless Drug	Front of main store
AS-5	Payless Drug	Employee lunch room
AS-6	Baskin-Robbins	Rear storeroom
AS-7	Hair Studio	Rear of shop

NOTE: The following paragraphs describe the different types of asbestos-containing building materials (*ACMs*), and generally outline the chronology of the government regulations in regard to those ACMs.

Beginning in 1971, the U.S. EPA and the Consumer Product Safety Commission began banning the manufacture of asbestos-containing materials (ACMs). The first materials to be banned were sprayed-on pipe insulation, in 1971. In 1975, joint compound and spackling materials, used mostly in dry wall or sheetrock, related construction, were banned. Pitching compounds, such as those used in asphalt roofing materials, were banned in 1977, and all sprayed-on friable ACMs, such as the acoustical plaster used to treat the ceilings in many commercial and residential buildings, were banned in 1978.

Production and importation of flooring material, all roofing materials, and corrugated asbestos cement sheets was banned in August 1990. The distribution of these materials was also to end in August 1992, but the ban on distribution is currently being challenged legally. Based on the above factors, one can assume that the greater the age of the building, the greater the potential for ACMs being present.

Asbestos is not generally considered to be a health threat unless the individual fibers become airborne and are inhaled. This phenomena will occur if the more friable ACMs are disturbed. The airborne release of asbestos fibers is very rare in materials such as vinyl floor tiles, linoleum, and sheet rock joint compounds because the fibers in the floor tiles and linoleum are cemented together and, in the case of sheet rock joint compounds, the fibers are encapsulated by paint. If these materials are properly maintained (i.e., kept waxed or painted) and not disturbed through excessive wear or removal, they are not considered by the EPA or the Bay Area Air Quality Management Board to be an environmental or health threat.

Sprayed-on acoustical ceiling plaster (sometimes referred to as "cottage cheese" or "popcorn material" because of its textured appearance) has a greater potential to become friable because of its composition. However, if this material is property maintained, the potential for it to become friable is minimized.

As of the time of this investigation, we know of no laws which require the abatement of ACMs from buildings unless the building is to be demolished. Legislation exists (California Health and Safety Code

Sections 25915 - 25919.7) which requires that the owners of buildings with known ACMs inform the tenants or residents of the building that ACMs are present. Furthermore, California Health and Safety Code Section 25915 requires that the knowledge of ACMs on properties must be disclosed during real estate transactions.

According to two recently published documents, Asbestos by the Bay Area Air Quality Management District and Asbestos in the Home by the EPA's Consumer Product Safety Commission, the current recommendation regarding ACMs is that they be properly maintained and

are allowed to remain in place. This minimizes the release of asbestos-containing materials into the atmosphere that would be created by the disturbance of the ACMs.

As stated above, these maintenance methods include sealing the ACMs with paint or other sealers. Or, in the case of vinyl floor tiles (*VFTs*) that would otherwise be removed, the EPA recommends that the old VFTs be left in place and covered with newer, non-asbestos containing VFTs.

6.2.5 Polychlorinated Biphenyls (*PCBs*)

At the time of our inspection, four pad-mounted transformers were located on the subject site. One was located at the rear, northeast corner of the Payless Drug Store, two were located near the rear, southeast corner of Lucky's, and one was located adjacent to Blanding Avenue, across from Broadway (*see Site Plan, Figure 2*).

According to the Pacific Gas & Electric Company (*PG&E*), which owns and maintains electrical transformers in the City of Alameda, PCB-abatement programs were initiated and completed in the early 1980's. In some areas, this abatement program targeted transformers located near waterways, schools, residential areas, food processing facilities, and government properties. The PG&E states that 99.9% of all state-wide transformers containing PCB-laden oil were changed-out, and the oil was replaced with mineral oil during those abatement programs. Allowable concentrations of residual PCBs remaining in the changed-out transformers is 50-parts per million (*ppm*).

Should there be a concern over the possible existence of PCBs in on-site or off-site transformers, the PG&E can be contacted to arrange for an inspection and sampling of the transformer oil. Should the transformer be found to contain PCBs above a concentration of 50 ppm, the PG&E

will change-out the unit at no cost. Should the transformer be found to contain PCBs below a concentration of 50 ppm, the PG&E will charge a fee for the inspection and sampling of transformers.

The buildings on the subject site were constructed prior to the 1979 federal government regulations banning the use of PCBs in the ballasts of fluorescent light fixtures. Numerous fluorescent light fixtures were being used in the buildings; however, no suspect ballasts were observed during our investigation.

6.3 Survey of Adjacent Properties

During our investigation, we also conducted a survey of the adjacent site activities and businesses to determine if any of these has the potential of adversely impacting the subject site. The property to the north is occupied by the Stone Boat Yard, and a houseboat. The site is bound on the east by the Oakland Estuary (*Tidal Canal*); and a railway and an easement of the Southern Pacific Transportation Company bound the site on the south. The easement is essentially a vacant lot. Across the railway is Tilden Way. Blanding Avenue bounds the site on the west, and across the avenue are three commercial properties and a vacant residence. The commercial properties include one building occupied by the Greer Family Mortuary, one building occupied by the American Title Insurance Company, one building occupied by 1) The Video Station; 2) Murphy's Pizza; and 3) Tradewind Nautical Supplies and a two-story, vacant residence which is for sale.

None of these adjacent properties is an agency-listed site, and there is no evidence to suggest that the subject site has been adversely impacted by past or present activities on any of these properties.

7.0 DOCUMENT RESEARCH

To further evaluate potential sources of contamination originating from on-or off-site sources, a review of relevant available information was performed by researching historical aerial photographs, published agency documents, agency files, and other pertinent documents available to E_2C, Inc.

7.1 On- and Off-Site Areas of Environmental Concern

Toxic and fuel leak cases, as published in the following documents, were reviewed to determine if any investigations of contamination, either on-site or off-site, have revealed cases in the area that could potentially impact the subject site.

U.S. Government Publications:

- United States Environmental Protection Agency, Region 9; Comprehensive Environmental Response, Compensation, and Liability Information System (*CERCLIS*); Site/Event Listing; including the National Priorities List (*NPL*), Region 9; March 3, 1994. Not updated.

State of California Publications:

- State of California, Department of Conservation, Division of Oil and Gas; Regional Wildcat Maps; September 1989. Not updated.

- State of California, Governor's Office, Office of Planning and Research, Office of Permit Assistance; Hazardous Waste and Substances Sites-List (*CORTESE List*); July 1992. Not updated.

- State of California, Regional Water Quality Control Board; North Bay Site Management System Milestone Report; January 31, 1994. Not updated.

- State of California, Integrated Waste Management Board; Solid Waste Information System List (*SWIS*); Active, Inactive, and Closed Landfills in the State of California. May 27, 1992. Not updated.

- State of California, Regional Water Quality Control Board; San Francisco Bay Region - Fuel Leak List; May 9, 1994.

- State of California, Regional Water Quality Control Board; San Francisco Bay Region - Toxic Pits Cleanup Act (*TPCA*), Summary of Known Sites; November 1989. Not updated.

California Environmental Protection Agency Publications

- State of California, Environmental Protection Agency (*CalEPA*), Department of Toxic Substances Control; Abandoned Site Program Information System (*CALSITES*); February 10, 1994. Not updated.

- CalEPA, Department of Toxic Substances Control; Expenditure Plan for the Hazardous Substances Cleanup Bond Act of 1984 (*BEP*). Last updated January 1990.

- CalEPA/Santa Clara Valley Water District; Small Water Systems Program (*AB 1803*); Final Summary of Results, June 1990. Not updated.

- CalEPA, Water Resources Control Board; Report on Releases of Hazardous Substances from Underground Tanks (*LUFT list*); October 1993. Not updated.

- CalEPA, Water Resources Control Board - San Francisco Bay Region, Well Investigation Program (*WIP*), Volatile Organic Chemicals in Public Water Supply Wells; September, 1991. Not updated.

NOTE:

CERCLIS & CALSITES SITES: These sites often are listed only in the CERCLIS and/or CALSITES lists of contaminated sites. No specific information is presented regarding the contaminant, its extent, or any remediation. Most of these sites have only minor contamination and are classified as low priority or no further action required. According to the EPA, a site can also be placed on the CERCLIS list if hazardous materials are used, stored, or handled on the premises, even if no soil or groundwater contamination has occurred. Additionally, the CERCLIS list is considered as an historical document, and a listed site probably will never be removed from the list even if the site is considered "clean" by all other agencies. A copy of the CERCLIS and CALSITES fact sheets on listed sites can be obtained upon request. A site can be placed on the CALSITES list for such reasons as dirty house keeping or only suspected misuse or storage of hazardous materials, even if no contamination is known to exist. According to Mr. Sean Farrelli of the California EPA office in Sacramento, California, over two-thirds of the sites on the CALSITES list require no further action.

7.2 State, County, and Local Agencies

State/County Agencies:

- Regional Water Quality Control Board (*RWQCB*)
- Alameda County Department of Environmental Health (*DEH*)
- Alameda County Water District, Engineering Division

Local Agencies:

- City of Alameda Planning Department
- City of Alameda Building Permit Department
- City of Alameda Fire Department,
  Hazardous Materials Division (*AFD*)

7.3 Information in Agency Files

The various agencies generally maintain different records, according to the responsibilities and nature of each agency. On the following pages is a general description of the documents, records, reports, notes, and correspondence which may be on file with the different agencies.

City Planning Department

- Building Plans and Proposed Site Development.
- Land usage constraints based on zoning.

City Building Permit Department

- Building Permits and Plans, which may include proposed fuel storage tanks, sumps, and hazardous material storage.
- Geotechnical Reports addressing subsurface soil characteristics and groundwater depth data.
- Demolition Permits.

City Fire Department

- Notes and records on visual site inspections.
- Notes and records of fuel storage tanks and hazardous material storage.
- Notes and records of citations and violations.
- Notes and records of fuel storage tank installations/removals.
- Reports and correspondence by consultants or other agencies regarding soil and/or groundwater contamination, and remediation.
- Facility Closure reports requested by the Fire Department.
- HMMP and MSDS documentation.

County Water Districts (Santa Clara and Alameda Counties)

- Notes and records of fuel storage tank leaks or spills.
- Fuel storage tank removal records and reports.
- Soil excavation reports.
- Soil and/or groundwater contamination reports.
- Notes, records, and reports on groundwater monitoring well installations.
- Groundwater monitoring reports; Quarterly and Annual.
- Correspondence with other agencies, with the property owner, and with consultants regarding potential or known groundwater contamination and remediation.
- Final Closure notification.

County Department of Public Health

- The lead agency in Contra Costa and San Mateo Counties, and in unincorporated areas of Alameda and Santa Clara Counties.
- Maintains essentially the same records as the County Water Districts and the Fire Departments, if it is the lead agency.

Regional Water Quality Control Board

- All reports obtained from the County Water Districts or from the County Health Departments if they are the lead agency.
- Correspondence with other agencies, the property owner, and consultants.
- Requests for additional studies.
- Results of RWQCB public meetings.
- Final Closure notification.

7.4 Agency Files Reviewed

Regulatory agency files for listed sites that appeared to have a potential of adversely impacting the subject site were reviewed at the Hazardous Materials Division (*HMD*) of the Alameda Fire Department (*AFD*) and the Regional Water Quality Control Board (*RWQCB*). The Alameda Fire Department has jurisdiction over the permitting, regulation, inspection, and maintenance of underground fuel storage tanks (USTs) within the city limits of Alameda; however, the Alameda County Department of Environmental Health (*DEH*) is the lead agency for all soil and/or groundwater contamination cases. The DEH maintains reports and files on all environmental investigations, especially if there is a potential or real adverse impact on the groundwater quality caused by leakage or spillage related to USTs. Additionally, the DEH oversees the installation and destruction of groundwater monitoring wells (*MWs*).

NOTE: For this investigation, the files of the RWQCB and the HMD of the Alameda Fire Department were reviewed; however, the files of the DEH had not been reviewed as of the date of this report. Upon receipt of a letter by the DEH requesting a file review of specific sites, the minimum waiting time for an appointment generally is four-to-six weeks. Reviewing the DEH files may have provided us with some additional information on agency-listed sites of concern; however, it is our professional judgment that we have obtained sufficient information on those sites from other agencies for this investigation.

From the publications and documents listed in Section 6.1, lead agencies had identified a total of 30 listed fuel leak and toxic sites located within a 1-mile radius of the subject site. A summary of the location and current status of each site is included in Table 1, and Figure 3 shows the approximate locations of these sites, as well as the anticipated groundwater flow direction. An additional 19 sites were listed by CALSITES, however, a listing by that agency does not automatically indicate that any known soil or groundwater contamination has ever existed on a specific site (*see NOTE on Page 30*). The CALSITES-listed sites are shown in Figure 4, and the current status is included in Table 2. All of the CALSITES-listed cases are "No Further Action" cases, which generally indicates that the sites were listed only because of the company name or the type of business.

Our research revealed that one agency-listed site (*No. 27*) is located potentially up-gradient to the subject site, and one cross-gradient site (*No. 28*) is located relatively near the subject site (*see Figure 3*). These two sites are discussed below.

Alpha Beta (Now Lucky Food Center (*No. 26*)
Blanding and Broadway
Alameda, California

The agency listing is for the subject site. As indicated, only soil has been impacted by the petroleum product and remedial action is deemed unnecessary.

Based on the current agency oversight status of this site, it is highly unlikely that any further remedial action will be requested by the agency. Therefore, it is our professional opinion that the soil remediation, as discussed by Kaldveer Associates, does not need to be implemented.

Alameda Unified School District (*No. 27*)
2615 Eagle Avenue
Alameda, California

This site is located west of the subject site, in an apparent up-gradient position. In December 1991, a 550-gallon underground gasoline storage tank (*UST*) was excavated and removed from the site. One soil sample was collected under the former tank, and the laboratory analyses did not detect the presence of any petroleum hydrocarbons. However, one composite sample was collected from the excavated soils, and the laboratory analyses detected 770-parts per million (*ppm*) of Total Petroleum Hydrocarbons as gasoline (*TPHg*). The excavation was backfilled with clean, imported soils. The contaminated soils were aerated on the site, and later transported to a sanitary landfill.

A June 1, 1993 letter from the DEH of the Alameda County Health Care Services Agency recommended that the site be granted "closure" status, and it is the professional judgment of E_2C, Inc. that the possibility of the subject site having been adversely impacted by this site is very remote.

King Petroleum (*No. 28*)
2001 Versailles Avenue
Alameda, California

This nearby, cross-gradient site is located to the south, immediately across Tilden Way. The site was occupied for approximately 50 years by a succession of bulk-petroleum distributing companies. Past tenants included Chevron USA Inc., Exxon Company USA, and King Petroleum. In July and August of 1990, two 10,000-gallon gasoline USTs, two 8,000-gallon gasoline USTs, one 8,000-gallon diesel UST, and one 800-gallon waste oil UST were excavated and removed from the site. Also, above-ground storage tanks and 55-gallon drums of petroleum products existed on the site.

Soil samples were collected at the time of removal of the USTs in 1990, and the laboratory analyses detected high levels of TPH as gasoline, TPH as diesel, and Oil and Grease (*TOG*). Ten trenches were dug across the site, and the laboratory analyses of soil samples collected from the trenches also had high concentrations of TPHg, TPHd, and TOG.

No soil remediation was performed on the site; however, four groundwater monitoring wells (*MWs*) were recently installed on the site in June 1994. According to the Hazardous Materials Division of the Alameda Fire Department, there is ongoing litigation between the property owner and the former tenants regarding soil remediation on the site.

Based on an eastward groundwater flow direction toward the Oakland Estuary this site is cross-gradient to the subject site, and it is the professional judgment of E_2C, Inc. that the possibility of the subject site having adversely impacted the subject site is very remote.

In fuel-leak cases, preliminary research conducted by regulatory agencies in the San Francisco Bay Area indicates that attenuation and degradation of the product in groundwater play a major role in reducing the contamination to non-detectable levels within several hundred feet of the contaminant source. Moreover, their research indicates that in over 90% of the cases, groundwater contaminant plumes from hydrocarbon releases do not extend more than 100 feet from the source. However, we generally research all fuel leak sites located within a ¼-mile radius (*i.e. 1,320 feet*) of the subject site, which incorporates a significant safety factor regarding potential environmental threats to the site.

In the case of toxic substances in the groundwater, especially the more mobile Volatile Organic Compounds (*VOCs*), detectable levels may extend several thousand feet from the original source. However, in most groundwater plume cases involving VOCs, attenuation will act to reduce the contamination to non-detectable levels within a much shorter distance from the contaminant source. In determining if a particular site may have been adversely impacted by an agency-listed site, the most important factor generally is the relative locations of the contaminant source and the subject site in regards to the groundwater flow direction.

Those agency-listed fuel-leak or toxic-leak sites located in an up-gradient position to a particular site of concern pose an environmental threat by the migration of groundwater contaminants from those sites onto the particular site. Those agency-listed sites that are considered to be cross-gradient from a particular site in terms of groundwater-flow direction are considered to have a very low potential of impacting that particular site. Down-gradient sites generally are considered to have no potential of impacting a particular site because the groundwater is flowing downward toward these sites from the particular site of concern.

Based on our review of agency files and on the above factors, it is the professional judgment of E_2C, Inc. that there is only a remote possibility that the subject site has been adversely impacted by the migration of contaminated groundwater from either of the agency-listed sites previously discussed (*Nos. 27 and 28*). Because of their position in relation to the subject site and/or to distance, none of the other documented fuel or toxic leak sites located within a 1-mile radius appear to pose an environmental threat to the subject site.

7.5 Landfills

According to the California Solid Waste Management Board, there are no active or inactive landfills located upgradient or cross-gradient that could adversely impact the subject site.

7.5.1 Active

The closest active landfill is located down-gradient, approximately 20 miles south-southeast of the subject site.

Durham Road Sanitary Landfill
West end of Durham Road
Fremont, California.
Capacity: 1500 tons per day
Closure: Scheduled for 2004

7.5.2 Inactive

The closest inactive landfill is located down-gradient, approximately four miles south of the subject site. The landfill was closed in 1980.

Davis Street Sanitary Landfill
West end of Davis Street
San Leandro, California

7.6 Oil and Gas Fields

According to the California Department of Conservation, Division of Oil and Gas Map W3-10, the nearest oil and gas field is the Half Moon Bay Oil and Gas Field, located near the Pacific Ocean, approximately 25 miles southwest of the subject site. The field was discovered in the 1890's, and is still producing from several wells. Additionally, the now-abandoned Moody Gulch Oil Field is located one-half mile south of Lexington Reservoir, approximately 43 miles south of the subject site. The field was discovered in 1878, and finally abandoned in the mid-to late-1970's.

The San Francisco Bay Region is not a significant petroleum producing area, and the few small accumulations discovered have not been of environmental concern.

8.0 HISTORICAL AERIAL PHOTOGRAPHS

Historical aerial photographs, available through Pacific Aerial Surveys in Oakland, California, and Air Flight Services in Santa Clara, California, were reviewed to help evaluate past land-uses of the subject site and surrounding area. In the San Francisco Bay region, the earliest available aerial photographs generally are from 1953 or 1954. Photographs during the period 1953 to 1992 were reviewed and are discussed below. Representative photographs during this period are included in Appendix B.

1953

This photograph shows the subject site to be occupied by two commercial enterprises. Approximately the western three quarters of the site is occupied by a lumber yard, and numerous buildings and stacks of lumber are apparent. The eastern one quarter is occupied by a sand and gravel plant, and the photograph shows several buildings and mounds of materials. Our review of the site history revealed that the lumber company was the Loop Lumber and Milling Company, and the other tenant was the California Rock and Gravel Company. Also, numerous stacks of lumber are apparent on the present Greer Family Mortuary site across Blanding Avenue, and Loop Lumber may also occupy this site. The present concrete retaining wall at the rear of the site adjacent to the Oakland Estuary does not exist, and the vehicle bridge across the estuary has only two lanes.

1963

This high altitude aerial photograph shows that the subject site is still occupied by the same two companies, and there are no apparent changes on the site. There are no apparent, significant changes in the site vicinity.

1973

This photograph shows that several of the buildings on the western part of the subject site occupied by the Loop Lumber and Milling Company have been demolished, and this property appears to be deserted. There are no stacks of lumber on the site, and only several small stacks still exist on the present Greer Mortuary site across Blanding Avenue. There does not appear to be any activity on the eastern part of the site occupied by the California Rock and Gravel Company; however, several vehicles are parked next to one of the buildings. At the rear of the site, adjacent to the estuary, a retaining wall now exists. The only apparent changes in the site vicinity are that Tilden Way and the bridge across the estuary both have been widened to four lanes.

1983

The subject site has been developed as it appears today. In the vicinity, the intersection at the corner of Blanding Avenue and Tilden Way has been altered to its present location, and the Greer Family Mortuary site has been developed across Blanding Avenue. There are no other apparent, significant changes in the vicinity.

1992

There are no apparent changes on the subject site or in the vicinity since 1983.

9.0 CONCLUSIONS AND RECOMMENDATIONS

From our review of agency files and an inspection of the subject site, it is the professional judgment of E_2C, Inc. that there is no evidence to suggest that the subject site has been adversely impacted by any of the past or present business activities since the development of the shopping center in 1974. Prior to 1974, the subject site was occupied by two commercial enterprises. The western three-quarters of the site was occupied by the Loop Lumber and Milling Company, and the eastern one-quarter was occupied by the California Rock and Gravel Company.

Previous environmental investigations were performed on the subject site, and copies of reports and correspondence regarding those investigations were provided to E_2C, Inc. The investigations were performed by Kaldveer Associates of Oakland, California, and copies of their reports and correspondence are included in Appendix D of this report. Those investigations are also summarized in Section 5.0 on Page 7. Our review of those reports and correspondence revealed that an area of soil contamination exists on the site. That area is located adjacent to the south side of Building "C," currently occupied by Lucky Supermarket; and the most likely source of the contamination was from a former underground diesel storage tank which was excavated and removed in 1974. At that time, the site was being developed for the existing shopping center.

The soil contamination was discovered during a 1987 geotechnical soil investigation performed in anticipation of a proposed addition to Building "C," occupied at that time by an Alpha Beta Supermarket. In a letter dated August 9, 1990, Kaldveer proposed the excavation of all contaminated soils having contamination levels exceeding 100-parts per million (*ppm*) (See Section 6.2.1). Subsequent to this, three groundwater monitoring wells (*MWs*) were installed and sampled on the site in June 1988. Laboratory analyses of groundwater samples from the three MWs did not detect the presence of any petroleum

hydrocarbon compounds. The samples were analyzed for gasoline, diesel, and the constituents of benzene, toluene, ethylbenzene, and xylenes. At the time of our investigation, the MWs still existed on the site, and their locations are indicated in Figure 5.

As indicated in Section 6.2.2 of this report, the former underground storage tank (*UST*) was removed from the site in 1974. From the information we have obtained and reviewed, it appears that the UST was removed under the established protocol which existed at that time. Based on results obtained under the procedures and protocols in force at the time the tank was removed, no soil samples were collected. As a result of this procedure, we conclude that the site was most probably listed as a fuel leak site based on the submittal of the Kaldveer soil reports to the DEH. However, as indicated in the listing itself, further remedial action was deemed unnecessary. The latest groundwater test results, obtained in 1988, 14 years after the tank was removed, did not detect the presence of either gasoline, diesel, or their constituents. Since the groundwater at the site has not been impacted by the former UST, we can conclude that the detected soil contamination has not leached through the soil and impacted the near-surface ground water aquifer. Another factor contributing to the absence of hydrocarbon contamination in the groundwater is the natural biodegradation that will occur in contaminated soils. Since the UST was removed under established 1974 protocol and the groundwater has not been impacted by its past usage, we concur with the agency in that further remedial activies are unnecessary.

Our inspection of the subject site and review of historical information on the site since the development of the shopping center in 1974 revealed that the only current business activity that appears to be of environmental concern is the dry-cleaning establishment occupied by Classic Cleaners since July 1993.

The premises were previously occupied by Ann's Cleaners & Coin-Op Laundry from 1974 to 1993. Our review of the files of the Hazardous Materials Division

of the Alameda Fire Department did not reveal any citations or violations regarding environmental issues on these premises (*i.e., spills, discharges, or mishandling of solvents*).

Dry-cleaning activities have been performed on-site for the last 20 years. These activities involve the use of dry-cleaning solvents such as perchloroethane. During our inspection of the facilities, we did not observe any evidence of staining or discoloration on the concrete floor slab that would suggest solvent spillage. Since the results of our studies did not identify conditions that could have created an environmental impairment as a result of the past dry-cleaning activities, it is our professional judgment that no further studies are required at this time.

Our review of available, published information on agency-listed sites located within a 1-mile radius revealed that only two sites appeared to be of potential environmental concern (*Nos. 27 and 28 in Figure 3*). However, our research revealed that the possibility of the subject site having been adversely impacted by either of these two sites is very remote. None of the other listed sites located within a 1-mile radius appears to have a potential of posing an environmental threat because of distance or position, in relation to the subject site.

The three buildings on the subject site were constructed in 1974, prior to the late 1970's/early 1980's major regulations banning the use of asbestos-containing building materials (*ACMs*). We carefully inspected all premises during our inspection for the possible presence of any ACMs. The only suspect ACMs observed in the buildings were old, and/or worn, vinyl floor tiles (*VFTs*) located on some of the premises of the site. Seven representative samples of VFTs were collected; however, the laboratory analyses did not detect the presence of asbestos in any of the samples (*see Subsection 6.2.4 on Page 21*). Historically the subject site may have been used for agricultural purposes; however, the earliest available aerial photograph of the area, taken in 1953,

shows the subject site to be occupied by two commercial enterprises (*a lumber company and a cement-mixing plant*). The properties in the vicinity at that time were occupied principally by residences, with a few, relatively-small commercial buildings. If the subject site were farmed at some time prior to the 1950's, it is possible that herbicides and pesticides were used. However, most of these would have eventually dissipated as a result of the passage of time and continuous cultivation. Any remaining chemicals in the shallow soils at the time of initial development would have been mixed with other soils or removed during grading operations, encapsulated under the building pads, the asphalt parking surfaces, or the landscaping. Additionally, the use of herbicides and pesticides was not widespread prior to the 1950's. Therefore, any possible past use of those chemicals is not considered to present an environmental impairment on the site.

10.0 LIMITATIONS

The Conclusions of this report are based solely on the Scope of Services outlined, and on the sources of information referenced in this report. No soil or groundwater sampling was performed during this investigation. Any additional information that becomes available concerning this study should be submitted to E_2C, Inc. so that our Conclusions may be reviewed and modified, if necessary. This report was prepared for the sole use of the USG Annuity & Life Company, its successors and assigns, and/or its agents.

11.0 REFERENCES

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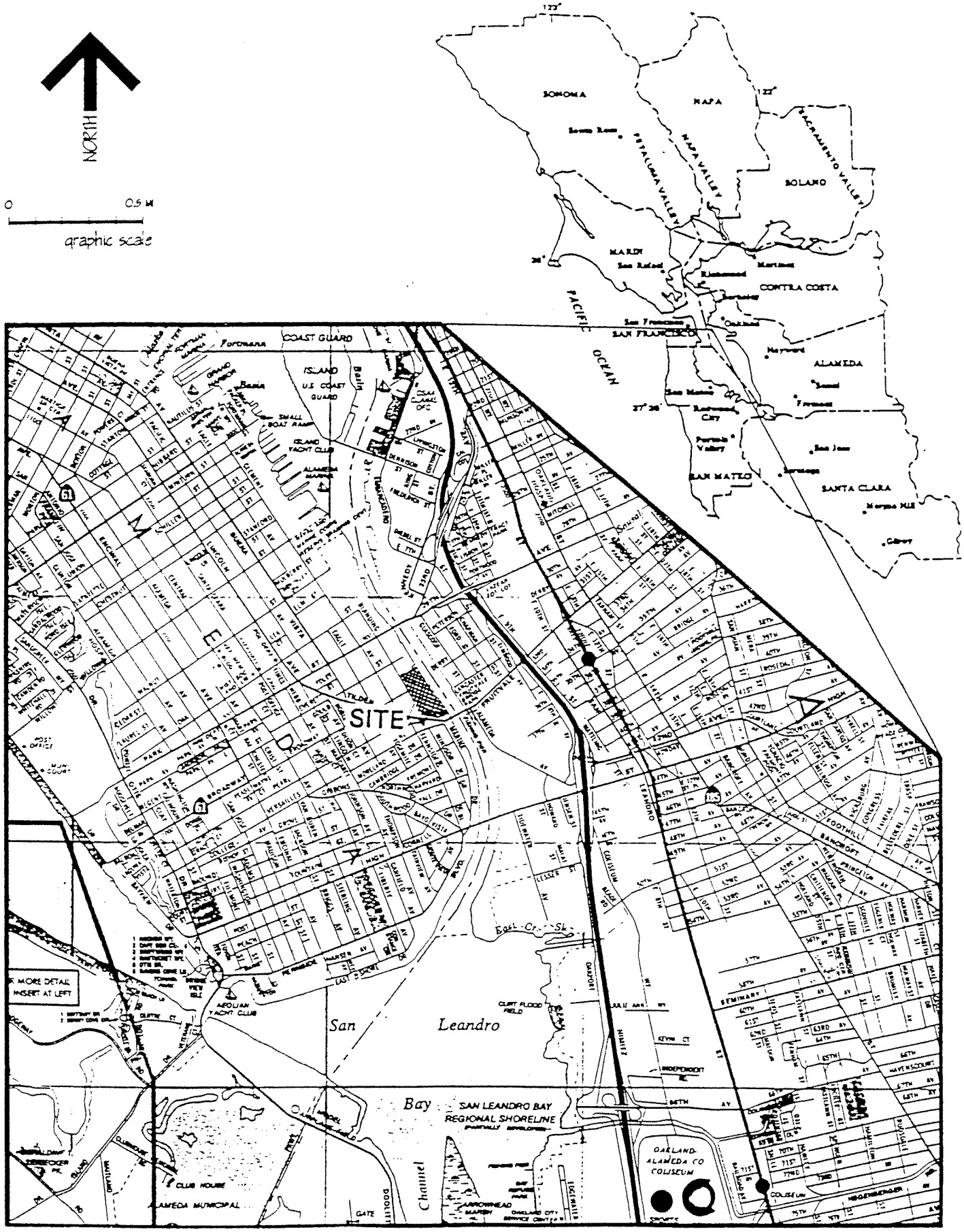
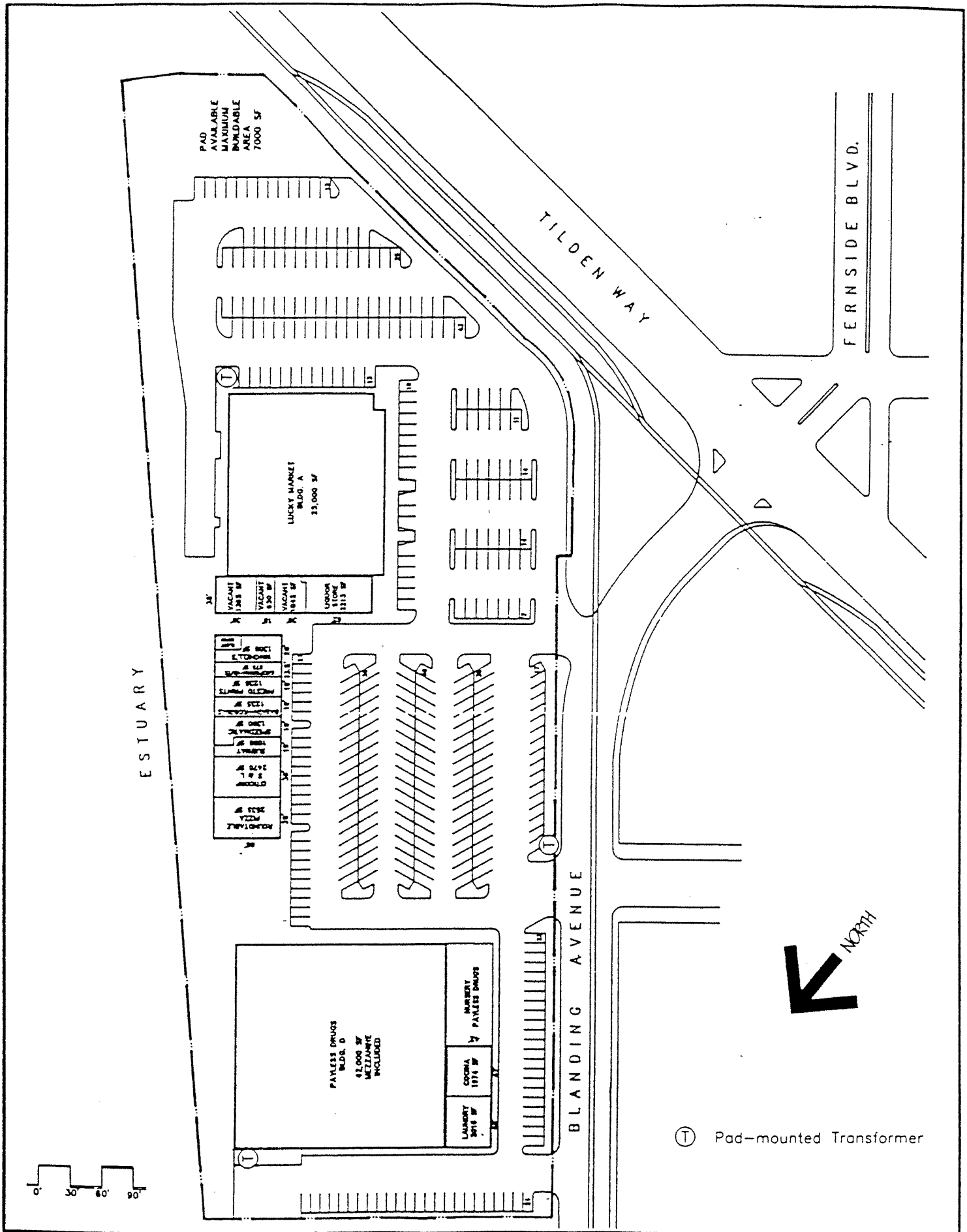


Ref.: California AAA Map, 1992 – Oakland, Berkeley, Alameda

E2C Inc.
Environmental/Engineering Consultants
1220 Crossman Avenue, Suite 200
Sunnyvale, California 94089

SITE LOCATION MAP
BRIDGESIDE SHOPPING CENTER
2500–2691 Blanding Avenue
Alameda, California

JOB NO:	6430100	FIGURE
DRAWN BY:	C. ZARICI	1
APPROVED BY:	K. PRICE	April 1995



Environmental/Engineering Consultants
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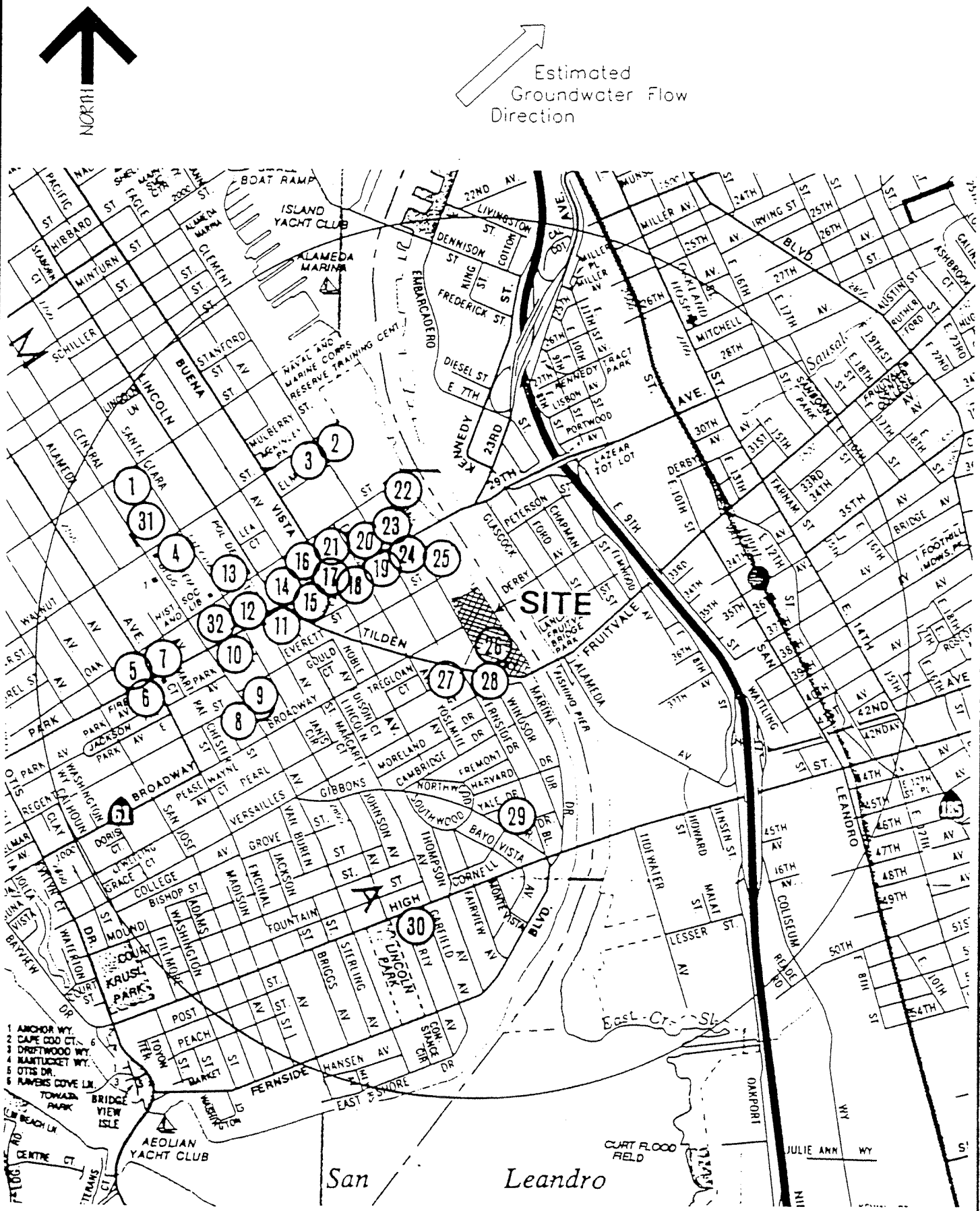
Sunnyvale, California 94089

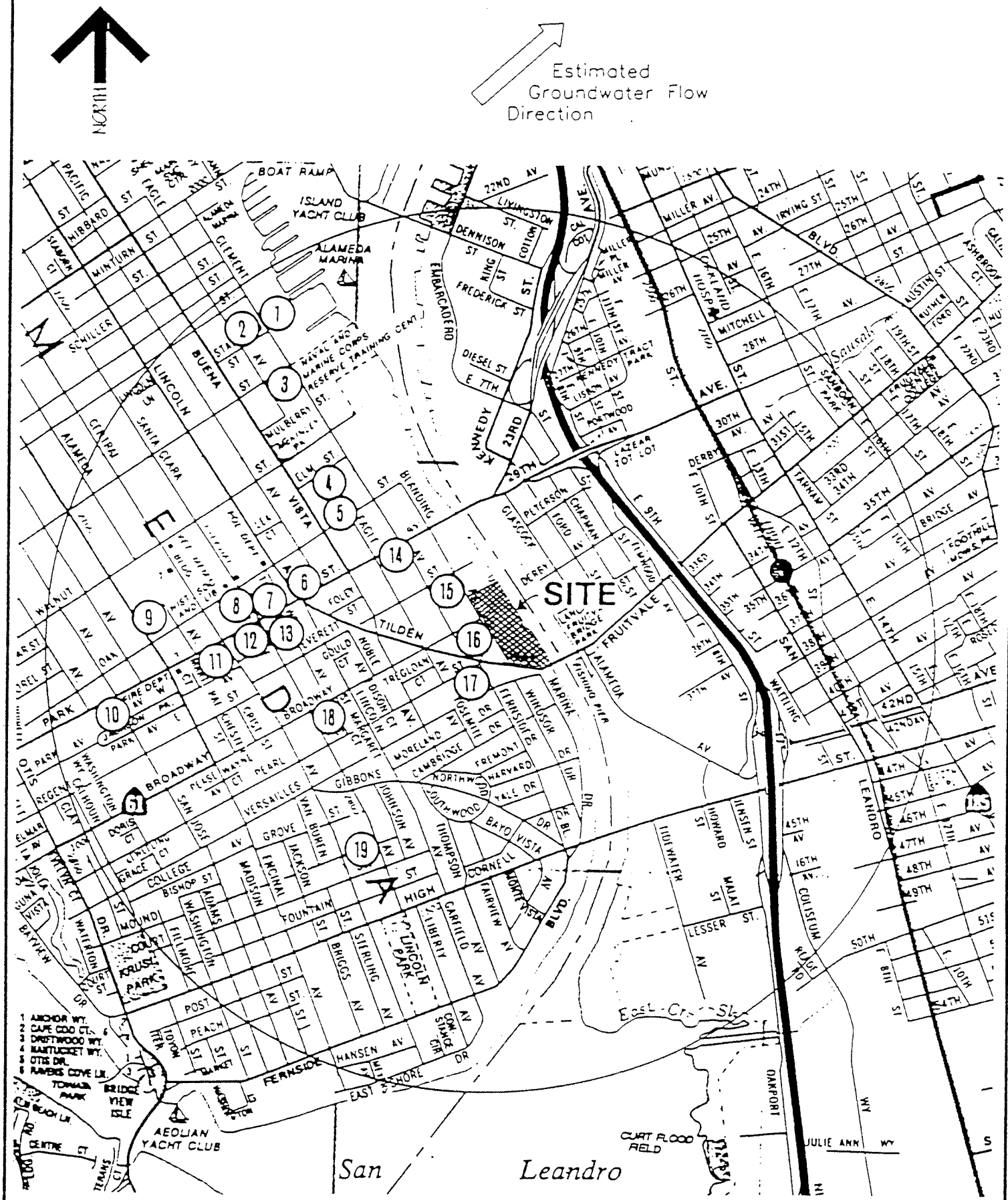
SITE PLAN
BRIDGESIDE SHOPPING CENTER
2500–2691 Blanding Avenue
Alameda, California

JOB NO:	6430100	FIGURE 2
DRAWN BY:	C. ZARICI	
APPROVED BY:	K. PRICE	April 1995



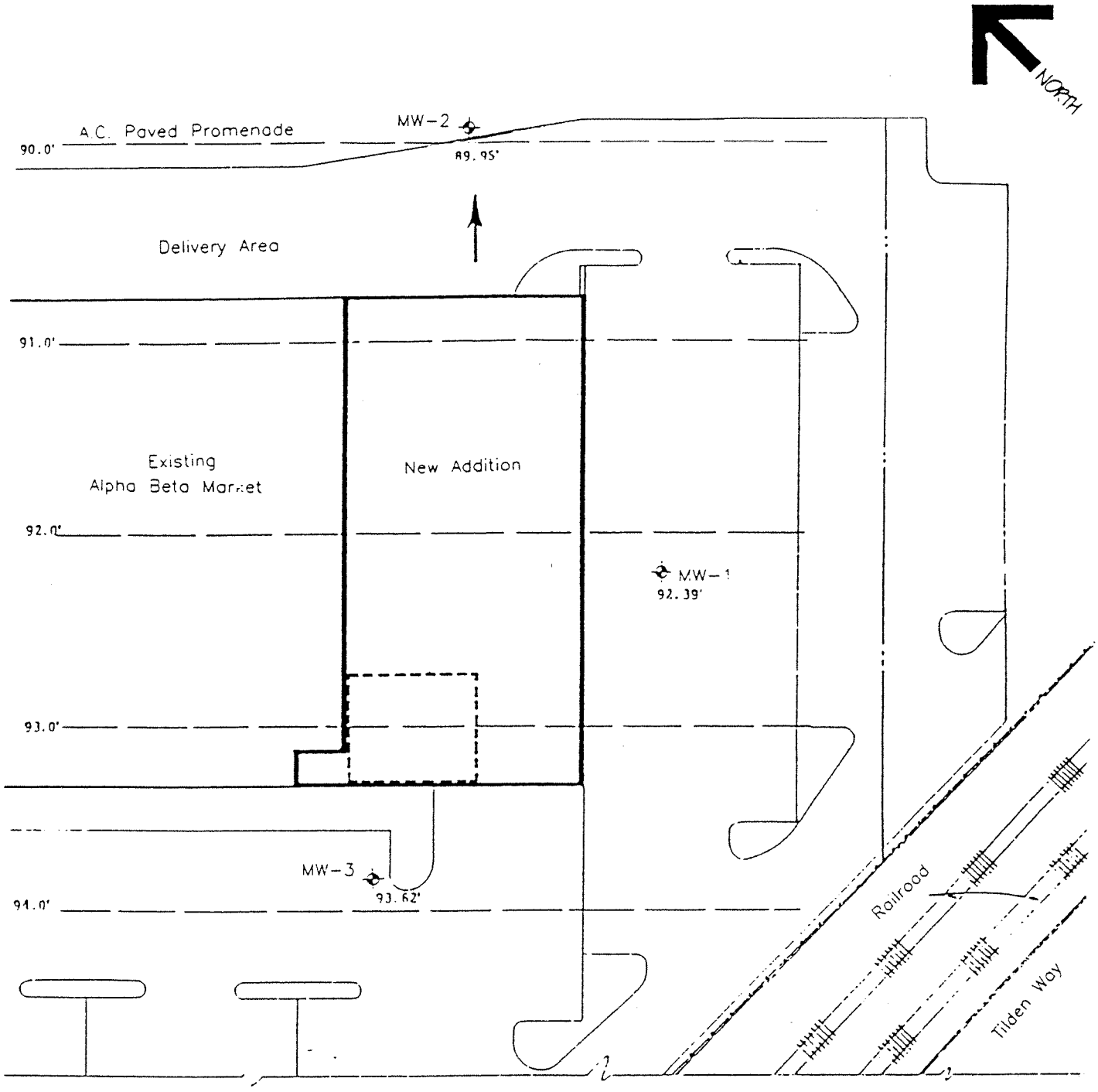
Ref.: California AAA Map – Ockland, Berkeley, Alameda

E2C Environmental/Engineering Consultants 1220 Crossman Avenue, Suite 200 Sunnyvale, California 94089	TOXIC AND FUEL LEAK SITES Located within a 1 mile radius of BRIDGESIDE SHOPPING CENTER 2500–2691 Blanding Avenue Alameda, California	JOB NO: 6430100	FIGURE 3
		DRAWN BY: C. ZARICI	
		APPROVED BY: K. PRICE	April 1995



Ref.: California AAA Map – Oakland, Berkeley, Alameda

Environmental/Engineering Consultants 1220 Crossman Avenue Suite 200	CALSITES Located within a 1 mile radius of BRIDGESIDE SHOPPING CENTER 2500–2691 Blanding Avenue	JOB NO: 6430100 DRAWN BY: C. ZARICI	FIGURE 4



	Approximate Area of Contamination, greater than 1000 ppm.
90.0'	Approximate Elevation of Groundwater Potentiometric Surface in Feet.
MW-1	Location of Monitoring Well with Elevation of Groundwater.
	Directional Groundwater Gradient.

Base: "Site Plan", by James W. Foug and Associates, dated November 26, 1987.

E2C Inc.
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Sunnyvale, California 94089

CONTAMINATED SOIL AREA & MONITORING WELL LOCATIONS
BRIDGESIDE SHOPPING CENTER
2500-2691 Blanding Avenue
Alameda, California

JOB NO:	6430100	FIGURE 5
DRAWN BY:	C. ZARICI	
APPROVED BY:	K. PRICE	April 1995

TABLE 1 LIST OF FUEL LEAK/TOXIC SITES WITHIN A 1-MILE RADIUS OF 2500-2691 BLANDING AVENUE, ALAMEDA, CALIFORNIA

NO	FACILITY/LOCATION	SUBSTANCE	CASE TYPE	STATUS	REMEDIAL ACTION	SOURCE LIST
1	Pacific Bell 2100 Central Avenue	Diesel	S	1	NT	CORTESE RWQCB SWRCB
2	Clement Avenue Project 2235 Clement Avenue	Gasoline	S	1	ED/ET	CORTESE RWQCB SWRCB
3	2229 Clement Avenue Site 2229/35 Clement Avenue	Gasoline	U	0	ED/ET	TOXICS
4	Fowler Anderson Mortuary 2244 Santa Clara Street	Waste Oil	S	9	ET/ED	CORTESE SWRCB
5	Alameda Cellars 2425 Encinal Avenue	Gasoline	O	1	ED	CORTESE RWQCB SWRCB
6	Alameda Fire Department 2410 Encinal Avenue	Diesel	S	9	ET	RWQCB SWRCB
7	Arco 1260 Park Street	Gasoline	S	3A	ED/ET	CORTESE RWQCB SWRCB
8	Celia Harris Trust 2521 Central Avenue	Diesel	O	9	ED	RWQCB SWRCB
9	Merritt Tire 2501 Santa Clara Street	Gasoline	O	1	ED	CORTESE RWQCB SWRCB
10	Automotive Auto Repari 2425 Central Avenue	Misc MVF	O	3B	NT	CORTESE RWQCB SWRCB
11	BP Oil/Mobil 1541 Park Street	Gasoline	O	5C	NT	CORTESE SWRCB
12	Chun Service Station 2301 Santa Clara Avenue	Gasoline	O	3A	NT	RWQCB SWRCB
13	Police Department 1555 Oak Street	Diesel	O	3B	NT	CORTESE SWRCB
14	Alameda Auto Enhancers 2327 Lincoln Avenue	Unknown	U	U	UK	TOXICS
15	Cavanaugh Motors 1700 Park Street	Gasoline	O	5C	ED/ET	CORTESE RWQCB SWRCB
16	Good Chevrolet 1630 Park Street	Gasoline	O	3B	ED	CORTESE RWQCB SWRCB

NO	FACILITY/LOCATION	SUBSTANCE	CASE TYPE	STATUS	REMEDIAL ACTION	SOURCE LIST
17	Shell 1701 Park Street	Gasoline	U	1	NT	SWRCB
18	Exxon/Regal 1725 Park Street	Gasoline	O	5R	NT	CORTESE RWQCB SWRCB
19	Ron Goode Toyota 1825 Park Avenue	Waste Oil	O	3B	NT	SWRCB
20	Unknown 1800 Park Street	Gasoline	S	1	NT	RWQCB SWRCB
21	Henry-Dare Property 1726 Park Street	Gasoline	O	3A	NT	RWQCB SWRCB
22	Park Street Landing 2301 Blanding Avenue	Waste Oil	S	1	NT	SWRCB
23	Alameda Collision 1911 Park Street	Gasoline	O	3A	NT	CORTESE RWQCB SWRCB
24	Alameda Electric 2420 Blanding Avenue	Gasoline	O	9	ED	RWQCB SWRCB
25	Allied Engineering and Product Corporation 2421 Blanding Avenue	Unknown	U	U	UK	TOXICS
26	Alpha Beta(Now Lucky Food Center) 2691 Blanding Avenue	Gasoline	O	3B	NT	CORTESE RWQCB SWRCB
27	Alameda Unified School District 2615 Eagle Avenue	Gasoline	S	9	ED	CORTESE RWQCB SWRCB
28	King Petroleum 2001 Versailles Avenue	Gasoline	S	1	NT	CORTESE RWQCB SWRCB
29	Chevron 3126 Fernside Boulevard	Gasoline	O	5R	ED	CORTESE RWQCB SWRCB
30	Alameda Texaco (Independent) 1357 High Street	Gasoline	O	3A	NT	CORTESE RWQCB SWRCB
31	Alameda Historical High School 2200 Central Avenue	Diesel	O	9	ED	SWRCB
32	Chevron 2428 Central Avenue	Diesel	O	3B	NT	SWRCB

CODES

SUBSTANCES ABBREVIATIONS

MVF = Motor Vehicle Fuels

CASE TYPE

G = Groundwater has been affected
O = Other
S = Soil only has been affected
U = Undefined

STATUS CODES

0 = No action taken after initial report of leak
1 = Leak suspected at site but has not been confirmed
3A = Preliminary site assessment workplan submitted
3B = Preliminary site assessment under way
5C = Pollution characterization
5R = Remediation plan developed
9 = Remedial action completed or deemed unnecessary
U = Unknown

REMEDIAL ACTION CODES

ED = Excavate and dispose - remove contaminated soil and dispose inapproved site
ET = Excavate and Treat - remove contaminated soil and treat (includes spreading or land farming)
NT = No action taken - no indication that action was taken
UK = Unknown - action not known

SOURCE LIST

CORTESE = Hazardous Waste and Substances Sites List, July 1992; Governor's Office, Office of Planning and Research, Office of Permit Assistance.
RWQCB = Regional Water Quality Control Board, San Francisco Bay Region (2), July 03, 1994.
SWRCB = Report on Releases of Hazardous Substances from Underground Tanks, December 1994; State Water Resources Control Board.
TOXICS = Nouth Bay Site Management System Quarterly Reports, January 27, 1994; Regional Water Quality Control Board, San Francisco Bay Region.

TABLE 2 LIST OF CALSITES WITHIN A ONE-MILE RADIUS OF 2500-2691 BLANDING AVENUE, ALAMEDA, CALIFORNIA

NO	FACILITY/LOCATION	STATUS	SOURCE LIST
1	Cam Tool Company, Inc. 2005 Clement Avenue	NFA	CALSITES
2	Inland Ladder Company 1914 Stanford Street	NFA	CALSITES
3	Thomas Wylie Design Group 1924 Willow Street	NFA	CALSITES
4	Seat Company Office Service 1816 Elm Street	NFA	CALSITES
5	US Steel Supply Division- Container Products 1849 Oak Street	NFA	CALSITES
6	Alameda Glass and Paint 2315 Lincoln Avenue	NFA	CALSITES
7	Luque's Upholstering 1532 Park Street	NFA	CALSITES
8	Bay Records 1516 Oak Street	NFA	CALSITES
9	Fugger Painting & Decorating 2309 Encinal Avenue	NFA	CALSITES
10	Bernardi Cleaners 1222 Park Street	NFA	CALSITES
11	Indian Arts Trading Company 1350 Park Street	NFA	CALSITES
12	John & Julia Eckert 2416 Central Avenue	NFA	CALSITES
13	JMA Coin-Op Dry Cleaners 2414 Santa Clara Avenue	NFA	CALSITES
14	Chalet Tool Company 2406 Eagle Avenue	NFA	CALSITES
15	GM Associates, Inc. 1912 Everett Street	NFA	CALSITES
16	Clamp Swing Pricing Company 2515 Blanding Avenue	NFA	CALSITES
17	North Coast Yachts 3100 Clement Avenue	NFA	CALSITES
18	NCA, Inc. 1415 Broadway	NFA	CALSITES
19	Dewco 2917 Central Avenue	NFA	CALSITES

CODES

STATUS CODES

NFA = No further action deemed necessary

SOURCE LIST

CALSITES = State of California Environmental Protection Agency (CalEPA), Department of Toxic Substances Control; formerly known as Abandoned Site Program Information System(ASPIS); March 03, 1994.

APPENDIX A

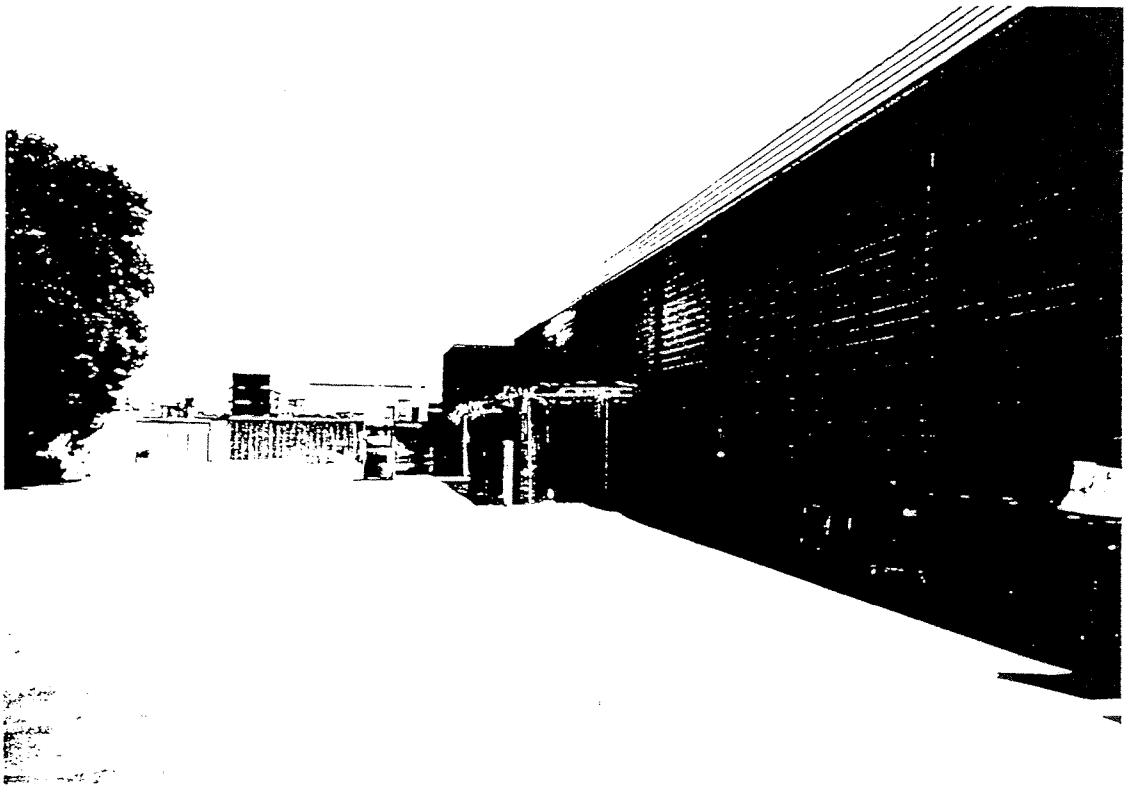
SITE PHOTOGRAPHS

Photograph No. 1

Front view of Building "A" from the main parking lot.

Photograph No. 2

Side view of Building "A" from the adjacent parking lot.



Photograph No. 3

Rear view of Building "A".

Photograph No. 4

Interior view of the Payless Drug Store.

Photograph No. 5

Front view of Building "B" from the main parking lot.

Photograph No. 6

Rear view of Building "B".

Photograph No. 7

Interior view of the Round Table Pizza premises.

Photograph No. 8

View of the dry-cleaning machine at Classic Cleaners.

Photograph No. 9

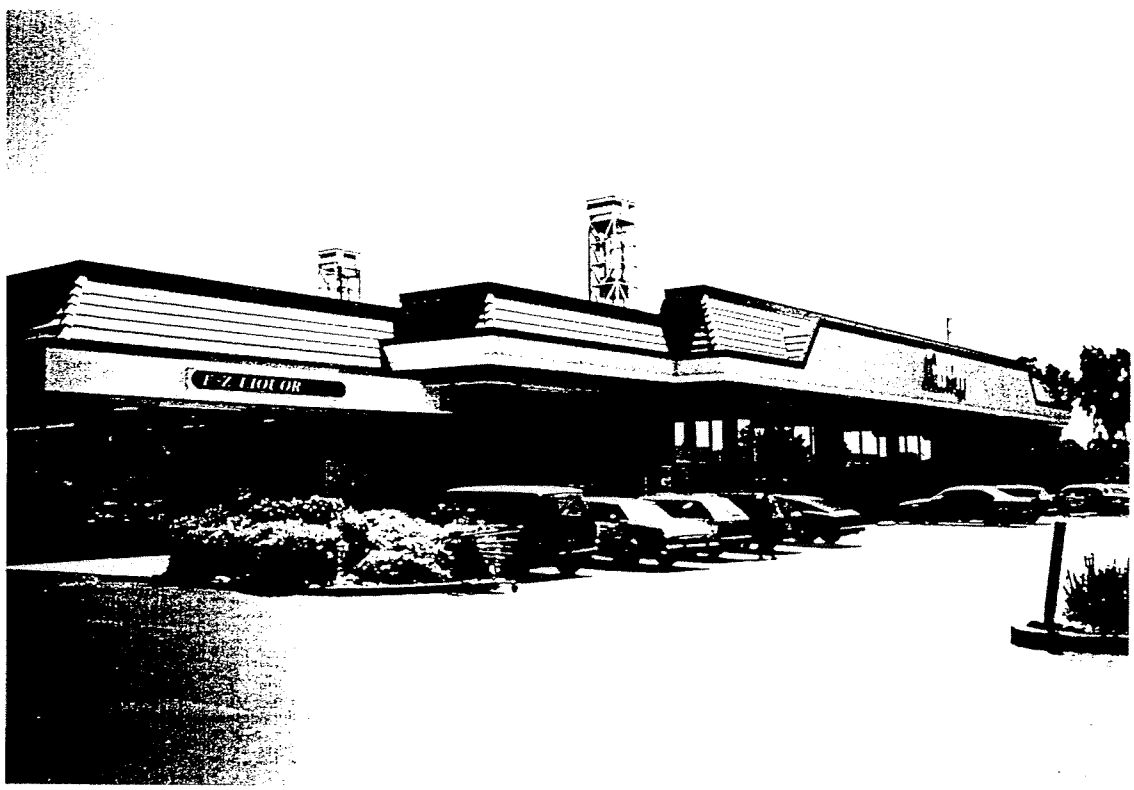
Interior view of the Baskin-Robbins premises.

Photograph No. 10

Interior view of the Presto Prints premises.

Photograph No. 11

Interior view of the Hair Studio premises.



Photograph No. 12

Front view of Building "C" from the main parking lot.

Photograph No. 13

Rear view of Building "C" from the nearby railway bridge.

Photograph No. 14

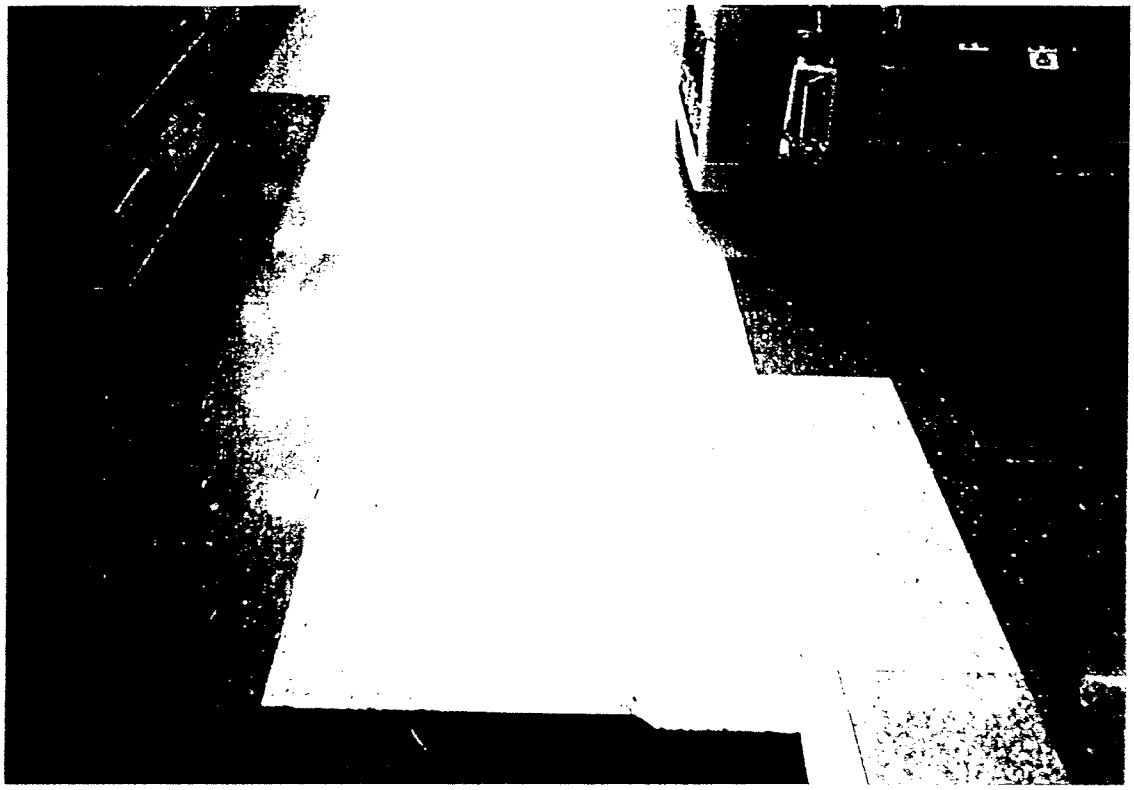
View of the rear loading/unloading ramp of Luckys.

Photograph No. 15

View of rear second-floor storage room of Luckys.

Photograph No. 16

Interior view of main food hall of Luckys.



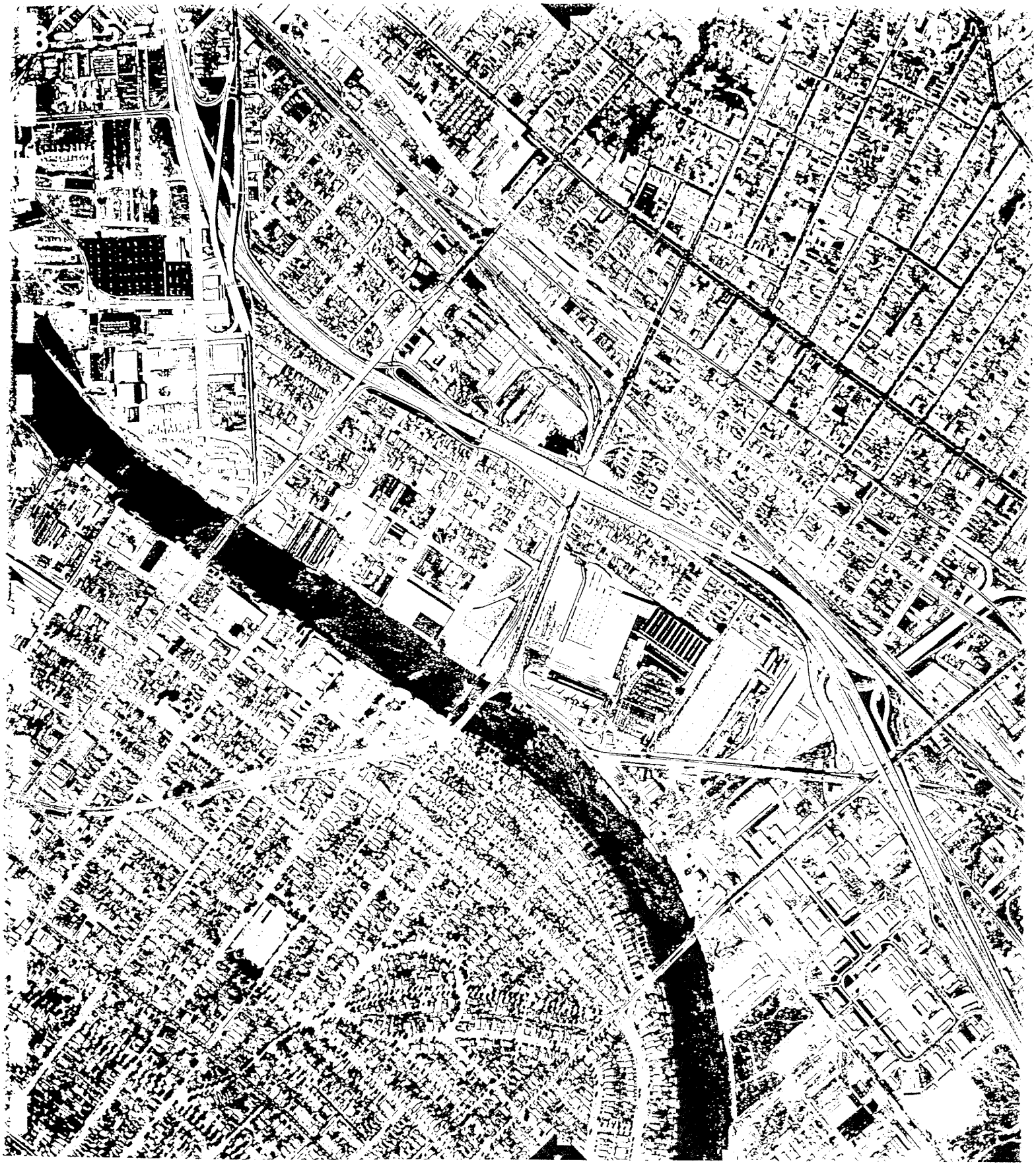
Photograph No. 17

View of vinyl floor tiles in the main food hall of Luckys.

Photograph No. 18

Interior view of the E-Z Liquor premises.

APPENDIX B
HISTORICAL AERIAL PHOTOGRAPHS



AERIAL PHOTOGRAPH #AV-119-21-32

August 17, 1953

AERIAL PHOTOGRAPH #AV-550-12-30

July 26, 1963

AERIAL PHOTOGRAPH #AV-1193-06-45

May 19, 1973

AERIAL PHOTOGRAPH #AV-2640-06-49

May 15, 1983

AERIAL PHOTOGRAPH #AV-4230-19-45

June 17, 1992

APPENDIX C

LABORATORY ANALYSES OF ASBESTOS SAMPLES BY AMER LABS, WITH CHAIN-OF-CUSTODY DOCUMENTATION

AMER

Advanced Materials Engineering Research, Inc. *NVLAP**

Polarized Light Microscopy Asbestos Analytical Report

E2C, Inc.
1220 Crossman Ave., Ste. 200
Sunnyvale, CA 94089
Attn: Dale Duley

Date Received: 06/24/94
Date Analyzed: 06/27/94
Date Reported: 06/28/94
AMER No: A4062404-10

SAMPLE INFORMATION

Project:	# 6430100			
Client Sample ID:	AS-1	AS-2	AS-3	AS-4
AMER Sample ID:	A4062404	A4062405	A062406	A4062407
Description:	Floor Tile	Floor TIle	Floor Tile	Floor Tile
Sample Color:	Brown	Beige	Yellow	Off White
Sample Homogeous?	Yes	Yes	Yes	Yes
Sample Layered?	No	No	No	No

ASBESTOS CONTENT

Chrysotile %				
Amosite %				
Crocidolite %				
Tremolite %				
Total Asb. %	ND	ND	ND	ND

NON-ASBESTOS FIBROUS MATERIALS

Cellulose %				
Fiber Glass %				
Synthetic Fiber %				

NON-FIBROUS MATERIALS

Major Components	Sand & Binder	Sand & Binder	Sand & Binder	Sand & Binder
% of Total Sample	100	100	100	100

Remarks:

** None Detected: Asbestos is not detected based on the PLM method described below, but the sample may contain more than 0.1% asbestos, which is considered to be positive according to the California Code of Regulation, "Title 8. Section 341.6 et seg."

Analysis by polarized light microscope per EPA Interim Method, 1984. This QA report only relates to this item tested.

Reviewed by: Harry Kawayoshi

Harry Kawayoshi

AMER

Advanced Materials Engineering Research, Inc. *NVLAP**

Polarized Light Microscopy Asbestos Analytical Report

E2C, Inc.
1220 Crossman Ave., Ste. 200
Sunnyvale, CA 94089
Attn: Dale Duley

Date Received: 06/24/94
Date Analyzed: 06/27/94
Date Reported: 06/28/94
AMER No: A4062404-10

SAMPLE INFORMATION

Project:	# 6430100			
Client Sample ID	AS-5	AS-6	AS-7	
AMER Sample ID	A4062408	A4062409	A4062410	
Description:	Floor Tile	Floor Tile	Floor Tile	
Samples Color:	Off White	Orange	Beige	
Sample Homogeous?	Yes	Yes	Yes	
Sample Layered?	No	No	No	

ASBESTOS CONTENT

Chrysotile %				
Amosite %				
Crocidolite %				
Tremolite %				
Total Asb. %	ND	ND	ND	

NON-ASBESTOS FIBROUS MATERIALS

Cellulose %	3			
Fiber Glass %				
Synthetic Fiber %				

NON-FIBROUS MATERIALS

Major Components	Sand & Binder	Sand & Binder	Sand & Binder	
% of Total Sample	97	100	100	

Remarks:

* None Detected: Asbestos is not detected based on the PLM method described below, but the sample may contain more than 0.1% asbestos, which is considered to be positive according to the California Code of Regulation, "Title 8. Section 341.6 et seg."

Analysis by polarized light microscope per EPA Interim Method, 1984. This QA report only relates to this item tested.

Reviewed by: Harry Kawayoshi

Harry Kawayoshi

LABORATORY AMER

CHAIN OF CUSTODY

E,C, Inc./1220 Crossman Avenue
Suite 200/Sunnyvale, CA 94089
(408) 747-1414 Fax: (408) 745-1089
Attention: DALE H. DULEY

Turnaround Time: NORMAL

JOB NO. 6430100

Project No.

Site Name and Address: Bridgeside Shopping Center

Sampler: (signature) Dale H. Duley Company E,C

Sample No.	Date 1994	Time	Soil	Water	Location of Sample	No. of Containers Plastic Bag	TPH as Gas + BTEX*	TPH as Diesel*	EPA 3010/601	EPA 8240/624	EPA 8080/608	EPA 8270/625	EPA 8020/602	Oil and Grease 5520* Soil	Oil and Grease 5520* Water	ASBESTOS	Remarks
AS-1	6-22	AM			Front of Luckys	1										X	
-2					Front of Luckys												
-3					E-Z Liquors												
-4					Front of Payless												
-5					Rear of Payless												
-6					Rear of Baskin-Robbins												
-7	↓	↓			Rear of Hair Studio	↓										↓	

* Per RWQCB Guidelines

Relinquished by: (signature) Dale H. Duley — Date 6/24/94 — Time 11:10 AM — Received by: (signature) — Company AMER

Relinquished by: (signature) — Date — Time — Received by: (signature) — Company

Relinquished by: (signature) — Date — Time — Received for LABORATORY by: (signature)

The following MUST be completed by the laboratory accepting samples for analysis:

1) Have all samples received been stored on ice?_____

2) Did any VOA samples received have any head space?____

3) Were samples in appropriate containers and packaged

APPENDIX D

PREVIOUS ENVIRONMENTAL SITE INVESTIGATIONS

1) SUPPLEMENTAL FOUNDATION INVESTIGATION, OCTOBER 27, 1987

2) PRELIMINARY SOIL TESTING PROGRAM, DECEMBER 2, 1994

3) ADDITIONAL SOIL TESTING AND PRELIMINARY INVESTIGATION OF GROUNDWATER QUALITY, JUNE 29, 1994

4) SUMMARY OF CONTAMINATION STATUS, AUGUST 9, 1990

Peter Kaldveer and Associates, Inc.

Geotechnical Consultants

425 ROLAND WAY, OAKLAND, CALIFORNIA 94621, 415/568-4001

Peter Kaldveer, P.E.
President

Richard Short, P.E.
Executive Vice President

Ronald Bajuniemi, P.E.
Vice President Engineering

Patrick Stevens, P.E.
Associate

Michael McRae, P.E.

Dawn Rinaldi, P.E.

John North, P.E.

October 27, 1987
K998-1, 10433

American Stores Propertiers, Inc.
c/o FFKR Architects and Planners
132 Pierport Avenue, Suite 200
Salt Lake City, Utah 84101

JUN - 9 1994

Attention: Mr. Jeff Fisher

RE: SUPPLEMENTAL FOUNDATION
INVESTIGATION
ALPHA BETA MARKET
EXPANSION
ALAMEDA, CALIFORNIA

Gentlemen:

In accordance with your request, we have performed a supplemental foundation investigation for the proposed expansion of the Alpha Beta Market. The accompanying report presents the results of our field investigation, laboratory tests, and engineering analysis. The soil and foundation conditions are discussed and recommendations for the soil and foundation engineering aspects of the project are presented. The conclusions and recommendations contained herein are based upon applicable standards of our profession at the time this report has been prepared. Copies of this report are furnished only to provide the factual data which were gathered and which were summarized in the report.

We refer you to the text of the report for detailed recommendations. If you have any questions concerning our findings, please call us.

REGISTERED PROFESSIONAL ENGINEER
RONALD L BAJUNIEMI
No. 112
EXPIRES
12-31-89
GEOTECHNICAL
STATE OF CALIFORNIA

Very truly yours,

PETER KALDVEER AND ASSOC., INC.

Ronald L. Bajuniemi
Vice President Engineering

RLB:pv
Copies: Addressee (6)

SUPPLEMENTAL FOUNDATION INVESTIGATION

For
ALPHA BETA MARKET EXPANSION
ALAMEDA, CALIFORNIA

To
American Stores Propertiers, Inc.
c/o FFKR Architects and Planners
132 Pierport Avenue, Suite 200
Salt Lake City, Utah 84101

October 1987

TABLE OF CONTENTS

SUPPLEMENTAL FOUNDATION INVESTIGATION
FOR
ALPHA BETA MARKET EXPANSION
ALAMEDA, CALIFORNIA

INTRODUCTION

In this report, we present the results of our foundation investigation for the proposed expansion of the existing Alpha Beta Market located within the shopping center northeast of the intersection of Blanding Avenue and Broadway in Alameda, California, as shown on the Site Plan, Figure 1. The purpose of our investigation was to evaluate the foundation soils and provide recommendations concerning the soil and foundation engineering aspects of the project.

Our firm previously performed a foundation investigation for the existing shopping center and the results of our study were presented in our report titled "Foundation Investigation, Shopping Center, Alameda, California", dated May 4, 1972. In addition, our firm performed construction observation and testing services at the shopping center.

Based on the information indicated on the Site Plan as well as on our conversations with Mr. Dave Gilles, with FFKR Architects and Planners, it is our understanding that the expansion will be located on the southeast side of the existing Alpha Beta Market. The expansion will be of similar construction as the existing store and will have plan dimensions of approximately 70 by 150 feet. Building loads will be typical for this type of structure. Minimum grading will be required to develop the site for the subject project.

SCOPE

The scope of work performed in this investigation included a review of our previous work at the site, a site reconnaissance, subsurface exploration, laboratory testing, engineering analyses of the field and laboratory data and the preparation of this report. The data obtained and the analyses performed were for the purpose of providing design and construction criteria for site earthwork, building foundations, slab-on-grade floors, and lateral load resistance.

This report has been prepared for the exclusive use of American Stores Properties, Incorporated and their consultants for specific application to the proposed expansion of the existing Alpha Beta Market in accordance with generally accepted soil and foundation engineering practices. In the event that there are any changes in the nature, design or location of the building addition or if any future additions are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

SITE INVESTIGATION

A subsurface investigation was performed using a truck-mounted, 6-inch diameter continuous flight and a 7-inch diameter hollow stem auger to investigate and sample the subsurface soils. Five exploratory borings were drilled on October 13, 1987, to a maximum depth of 20½ feet. In addition, we have previously drilled thirteen exploratory borings at the shopping center on April 10 and 12, 1972 to a maximum depth of 24 feet. The approximate locations of the borings drilled for the present investigation and five of the thirteen previous borings are shown on the Site Plan, Figure 1. Logs of the borings and details regarding the field investigation are included in Appendix A, and the results of our laboratory tests are discussed in Appendix B.

A. Surface

The site for the proposed expansion is rectangular in shape, essentially level and has maximum plan dimensions of approximately 70 by 150 feet. At the time of our field investigation, the majority of the site was covered with pavement consisting of approximately 1½ to 2 inches of asphaltic concrete over 6 to 8 inches of baserock. In addition, a concrete sidewalk and ramp was adjacent to the southeast side of the existing market. At the northern corner of the proposed new addition there was a transformer pad with high voltage electric lines. These electric lines and an additional gas line ran along the southeast side of the existing market. Other utility lines existed under the proposed new expansion area. Vegetation consisted of a planter area with a medium sized tree at the southern corner of the site.

B. Subsurface

The surface soils encountered in our exploratory borings generally consist of a fill material consisting of stiff to very stiff black sandy clay and medium dense clayey sand extending to depths of 2½ to 7 feet. However, in Boring 4 we encountered soft silty sandy clay within the first 2 feet. The surface clays display a low plasticity and a low expansion potential. Underlying the fill materials were stiff sandy and silty clays over medium dense to very dense clayey and silty sands which extended to the maximum depth explored of 20½ feet. It should be noted that in Boring 5 at depths of approximately 4 to 7 feet a strong gasoline odor was detected. Detailed descriptions of the soils encountered in each of the exploratory borings are presented in Appendix A.

The attached boring logs and related information depict subsurface conditions only at the specific locations shown on the Site Plan and on the particular date designated on the logs. Also, the passage of time may result in changes in the subsurface conditions due to environmental changes. The locations of the borings were approximately determined by pacing and should be considered accurate only to the degree implied by the method used.

C. Groundwater

Free groundwater was encountered in all five borings at depths of 9½ to 14 feet at the time of drilling. Borings 2, 3 and 4 were left open for periods of a ½ to 1 hour at which time groundwater was measured at depths of 10 to 14 feet. All other borings were backfilled immediately after drilling. It should be noted that the borings may not have been left open for a sufficient period of time to establish equilibrium groundwater conditions. In addition, fluctuations in the groundwater level could occur due to change in seasons, variations in rainfall, and other factors.

D. Geology and Seismicity

The site is underlain by artificial fill consisting largely of Merritt Sand dredged from the bay along the shore of Alameda. Underlying the fills are the Merritt Sands.

The San Francisco Bay Area is located in one of the most seismically active regions in the United States. Significant earthquakes that have occurred in the Bay Area are believed to be associated with crustal movements along a system of subparallel fault zones that generally trend in a northwesterly direction. The site is located approximately 15 miles northeast and 3½ miles southwest, respectively, of the active San Andreas and Hayward fault zones.

Earthquake intensities vary throughout the Bay Area, depending upon the magnitude of earthquake, the distance of the site from the causative fault, and the type of materials underlying the site. Nevertheless, the site will be subjected to at least one moderate to severe earthquake that will cause strong ground shaking. However, during such an earthquake, the hazard associated with surface ground rupture is considered to be low.

CONCLUSIONS AND RECOMMENDATIONS

From a soil and foundation engineering standpoint, it is our opinion that the site is suitable for the proposed development. However, all of the conclusions and recommendations presented in this report should be incorporated in the design and construction of the project to avoid possible soil and foundation problems. Detailed earthwork and foundation recommendations for use in design and construction of the project are presented below.

We recommend that our firm be provided the opportunity for a general review of the final design and specifications in order that the earthwork and foundation recommendations may be properly interpreted and implemented in the design and specifications. If our firm is not accorded the privilege of making this recommended review, we can assume no responsibility for misinterpretation of our recommendations.

A. Earthwork

1. Clearing and Site Preparation

The site should be cleared of all obstructions including the asphaltic concrete pavements, concrete sidewalk and ramp and the associated baserock, designated underground utility lines, tree and associated root system and debris. The removed asphaltic concrete can be used as fill material provided it is broken up to meet the size requirements presented under Item A.3, "Material for Fill". Holes resulting from the removal of underground obstructions that extend below the proposed finish grade should be cleared and backfilled with suitable material compacted to the requirements given below under Item A.4, "Compaction". We recommend that the backfilling operations for any excavations to remove deleterious material be carried out under the observation of the soil engineer, so that these excavations will be properly backfilled.

2. Subgrade Preparation

After the site has been properly cleared and any necessary excavations made, the exposed soils in those areas to receive structural fill or slabs-on-grade should be scarified to a depth of 6 inches, moisture conditioned to slightly above optimum water content and compacted to the requirements for structural fill.

3. Material for Fill

All on-site soils below the stripped layer and having an organic content of less than 3 percent by volume can be used as fill. However, all fill placed at the site including on-site soils should not contain rocks or lumps larger than 6 inches in greatest dimension with not more than 15 percent larger than 2.5 inches. In addition, any required import fill should be predominantly granular with a plasticity index of 12 or less.

4. Compaction

All structural fill less than 5 feet thick should be compacted to at least 90 percent relative compaction as determined by ASTM Test Designation D1557-78. Structural fill greater than 5 feet deep should be compacted to at least 95 percent relative compaction. Fill material should be spread and compacted in lifts not exceeding 8 inches in uncompacted thickness.

5. Trench Backfill

Pipeline trenches should be backfilled with fill placed in lifts of approximately 8 inches in uncompacted thickness. However, thicker lifts may be used provided the method of compaction is approved by the soil engineer and the required minimum degree of compaction is achieved. If on-site soil is used, the material should be compacted to at least 85 percent relative compaction by mechanical means only. Imported sand can also be used for backfilling trenches provided it is compacted to at least 90 percent relative compaction. If imported sand is used, sufficient water

should be added during the trench backfilling operations to prevent the soil from "bulking" during compaction. In slab areas, the upper 3 feet of trench backfill should be compacted to at least 90 percent relative compaction for on-site soils, and 95 percent where imported sand backfill is used.

6. Drainage

Positive surface gradients should be provided adjacent to the building so as to direct surface water away from foundations and slabs toward suitable discharge facilities. In addition, ponding of surface water should not be allowed adjacent to the structure.

7. Construction During Wet Weather Conditions

If construction proceeds during or shortly after wet weather conditions, the moisture content of the on-site soils may be appreciably above optimum. Consequently, subgrade preparation, placement and/or reworking of on-site soil as structural fill may not be possible. Alternative wet weather construction recommendations will be provided by the soil engineer in the field at the time of construction, if appropriate.

8. Guide Specifications

All earthwork should be performed in accordance with the Guide Specifications - Site Earthwork presented in Appendix C. It should be pointed out, however, that these specifications are only general in nature and the actual job specifications should also incorporate all requirements contained in this report.

B. Foundations

1. Footings

We recommend that the Alpha Beta Market expansion be supported on conventional continuous and isolated spread footings bearing on either undisturbed existing fills or new compacted fills. All footings should be founded at least 18 inches below lowest adjacent finished grade. However, where pockets of weak soft clay fills are encountered, such as in Exploratory Boring 4 at the northern corner of the proposed expansion, the footings should extend through these weak soils to competent materials. Footings adjacent the existing building should be founded at the same depth as the existing footings. The exact depth should be determined by the soil engineer in the field at the time of construction. In addition, footings located adjacent to other footings or utility trenches should have their bearing surfaces situated below an imaginary 1.5 horizontal to 1 vertical plane projected upward from the bottom edge of the adjacent footings or utility trench.

At the above depths, the footings can be designed for an allowable bearing pressure of 2000 pounds per square foot due to dead loads, 3000 pounds per square foot due to dead plus live loads and 4000 pounds per square

foot for all loads including wind or seismic. These allowable bearing pressures are net values; therefore, the weight of the footing can be neglected for design purposes. Footings should not, however, have a width of less than 12 inches.

All continuous footings should be designed with adequate top and bottom reinforcement to provide structural continuity and permit spanning of local irregularities. Any visible cracks in the bottoms of the footing excavations should be closed by wetting prior to construction of the foundations. To assure that footings are founded on appropriate material, we recommend that we observe the footing excavations prior to placing reinforcing steel or concrete.

Settlements under building loads are expected to be within tolerable limits for the proposed addition.

2. Interior Slabs-on-Grade

Interior slabs-on-grade can be supported directly on the properly prepared subgrade as previously described under Item A.2, "Subgrade Preparation". Prior to final construction of the slab, the subgrade surface should be proof-rolled to provide a smooth, firm surface for slab support. In addition, slab reinforcing should be provided in accordance with the anticipated use and loading of the slab.

In areas where floor wetness would be undesirable, a moisture barrier and/or capillary break should be provided between the slab and subgrade. If a moisture barrier is required, we recommend it consist of 4 inches of free draining gravel covered with an impermeable membrane placed between the subgrade soil and the slab. The membrane should be covered with 2 inches of sand to protect it during construction, and the sand should be lightly moistened just prior to placing the concrete. Alternatively, a capillary break can be provided by using 6 inches of free draining gravel to avoid floor wetness.

3. Lateral Loads

Lateral load resistance for the building and walls can be developed in friction between the foundation bottom and the supporting subgrade. A friction coefficient of 0.35 is considered applicable. As an alternative, a passive resistance equal to an equivalent fluid weighing 350 pounds per cubic foot acting against the foundations may be used. If the foundations are poured neat against the soil, friction and passive resistance can be used in combination.

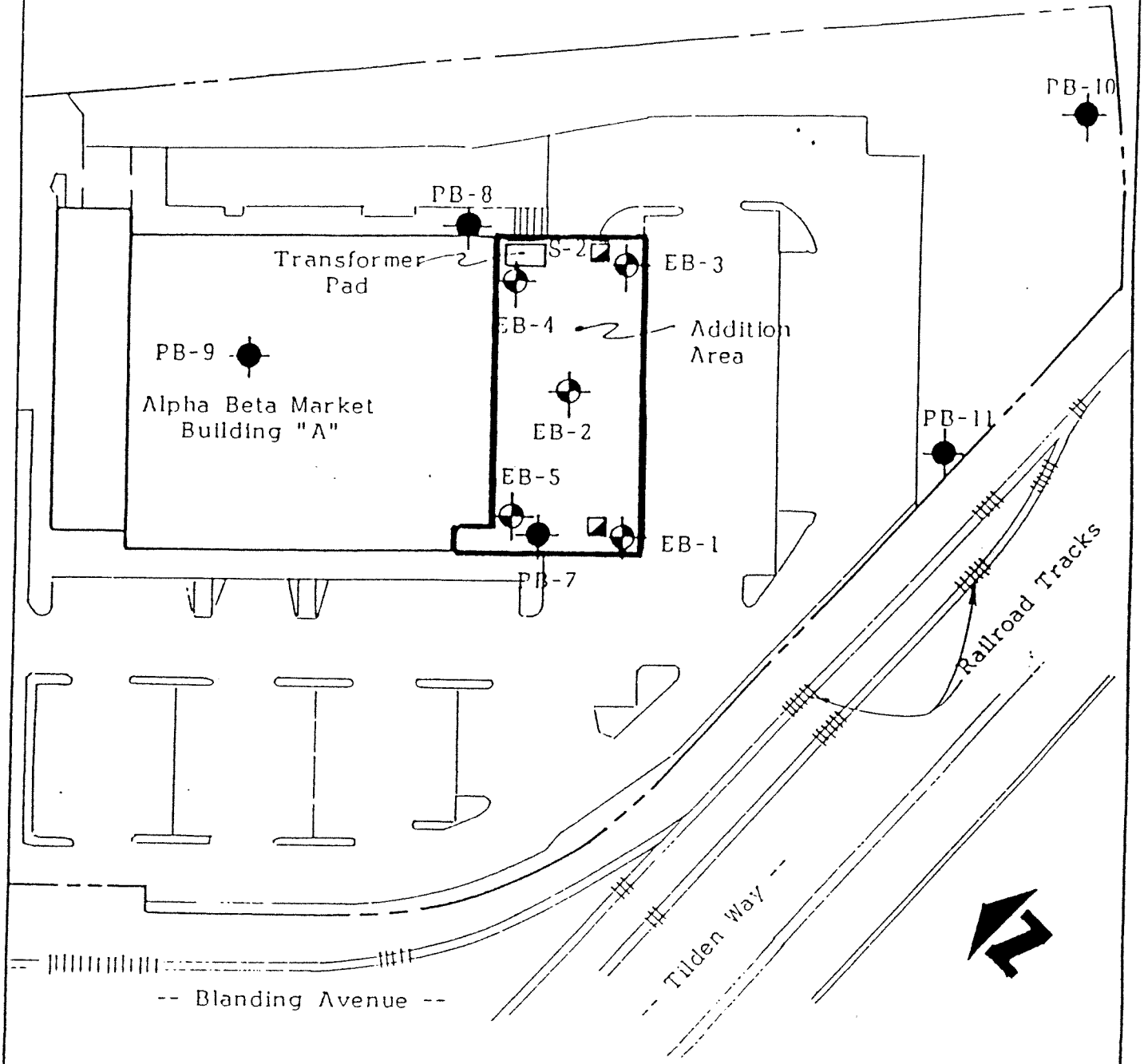
C. Construction Observation

The analysis and recommendations submitted in this report are based partly upon the data obtained from the current five soil borings and partly from the thirteen soil borings from our previous report for the shopping center in 1972. The nature and extent of variations between the borings may not become evident until construction. If variations then become

apparent, it will be necessary to re-evaluate the recommendations of this report.

We recommend that our firm be retained to provide soil engineering services during the excavation and foundation construction phases of the work. This is to observe compliance with the design concepts, specifications and recommendations and to allow design changes in the event that subsurface conditions differ from that anticipated prior to the start of construction.

* * * * * * * * * * * * * * * * * * *



LEGEND

EB-5 — Approximate Location of Exploratory Boring

PB-11 — Approximate Location of Previous Boring

S-2 — Approximate Location of Bulk Sample

Base: "Site Plan", by James W. Fong & Associates, dated November 26, 1973.

APPROXIMATE SCALE (Feet)

0 50 100

KALDVEER ASSOCIATES, INC. *Geotechnical Consultants*	SITE PLAN	
	ALPHA BETA ADDITION Alameda, California	
	PROJECT NO	DATE
	K998-1	October 1987
		Figure 1

APPENDIX A - FIELD INVESTIGATION

The field investigation consisted of a surface reconnaissance and a subsurface exploration program using a truck-mounted, continuous flight and hollw stem augers. Five 7-inch diameter exploratory borings were drilled on October 13, 1987, to a maximum depth of 20½ feet. The locations of the exploratory borings are shown on the Site Plan, Figure 1. The soils encountered in the borings were continuously logged in the field by our representative. The soils are described in accordance with the Unified Soil Classification System (ASTM D-2487). The logs of the borings as well as a key for the classification of the soil (Figure A-1) are included as part of this appendix.

Representative soil samples were obtained from the exploratory borings at selected depths appropriate to the soil investigation. Undisturbed samples were obtained using a 3-inch O.D. Modified California sampler and disturbed samples were obtained using the 2-inch O.D. split spoon sampler. All samples were transmitted to our laboratory for evaluation and appropriate testing. Both sampler types are indicated in the "Sampler" column of the boring logs as designated below:

☐ Split Spoon

☒ Modified California

Resistance blow counts were obtained with the samplers by dropping a 140-pound hammer through a 30-inch free fall. The sampler was driven 18 inches, and the number of blows were recorded for each 6 inches of penetration. The blows per foot recorded on the boring logs represent the accumulated number of blows that were required to drive the last 12 inches. When the split spoon sampler was used, these blow counts are the standard penetration resistance values. However, due to the larger diameter of the Modified California sampler, the blow counts recorded for this sampler are not standard penetration resistance values. Consequently, these values are followed by an asterisk (*) on the boring logs. In order to convert these values to standard penetration resistance values, the indicated blow counts should be multiplied by a factor of 0.56.

The attached boring logs and related information show our interpretation of the subsurface conditions at the dates and locations indicated, and it is not warranted that they are representative of subsurface conditions at other locations and times.

PRIMARY DIVISIONS			SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS — MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well graded gravels, gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
	SANDS — MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands, gravelly sands, little or no fines
			SP	Poorly graded sands or gravelly sands, little or no fines
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines
			SC	Clayey sands, sand-clay mixtures, plastic fines
FINE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS SMALLER THAN NO 200 SIEVE SIZE	SILTS AND CLAYS — LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS — LIQUID LIMIT IS GREATER THAN 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils

DEFINITION OF TERMS

U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS				
200	40	10	4	3/4"	3"	12"		
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS	
	FINE	MEDIUM	COARSE	FINE	COARSE			

GRAIN SIZES

SANDS AND GRAVELS	BLOWS/FOOT[1]
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	STRENGTH[2]	BLOWS/FOOT[1]
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

CONSISTENCY

[1] Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1-3/8 inch I.D.) split spoon (ASTM D-1586)

[2] Unconfined compressive strength in tons/sq. ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation

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KEY TO EXPLORATORY BORING LOGS
Unified Soil Classification System (ASTM D-2487)

ALPHA BETA ADDITION
Alameda, California

PROJECT NO	DATE	
K998-1	October 1987	Figure A-1

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY BK
DEPTH TO GROUNDWATER 9½' (see note 3)	BORING DIAMETER 7 Inches	DATE DRILLED 10/13/87

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" AC over 8" Baserock									
SAND (fine-coarse grained), clayey, trace of gravel (fine grained) Passing #200 Sieve = 41%	black brown	medium dense	SC	1–2		25	13		
CLAY, silty, sandy (fine-medium grained) (FILL)	black	very stiff	CL	3		17	15		
SAND (fine-medium grained), clayey	light tan	medium dense	SC	4–5		12	17		
CLAY, sandy (fine-medium grained) Passing #200 Sieve = 60%	tan	stiff	CL	6–8					
SAND (fine-medium grained), clayey (grading silty) Passing #200 Sieve = 30%	tan	medium dense	SC / SM	9–10		19*	25 ▽		
		dense		14–15		45	21		
Bottom of Boring = 20½ Feet		very dense		20		75	21		

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values marked with an asterisk (*) see first page, Appendix A.
3. Groundwater level was measured at 9½ feet at time of drilling.

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EXPLORATORY BORING LOG

ALPHA BETA ADDITION
Alameda, California

PROJECT NO.	DATE	BORING NO.
K 998-1	October 1987	1

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY BK
DEPTH TO GROUNDWATER 10½' (see note 3)	BORING DIAMETER 7 Inches	DATE DRILLED 10/13/87

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" AC over 8" Baserock									
CLAY, silty, some sand (fine-medium grained) (grading sandy fine-medium grained) (FILL)	black	stiff	CL	1 2 3 4		9 25*	20 17	109	2.1
SAND (fine-medium grained), clayey Passing #200 Sieve = 47%	light tan	medium dense	SC	5 6 7 8		25*	14		
SAND (fine-medium grained), silty	tan	medium dense	SM	9 10 11 12 13 14 15		10 56	▽ 21		
Bottom of Boring = 15½ Feet				16 17 18 19 20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values marked with an asterisk (*) see first page, Appendix A.
Groundwater level was measured at 9½ feet at time of drilling. One hour after drilling, groundwater level was measured at 10½ feet

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EXPLORATORY BORING LOG

ALPHA BETA ADDITION
Alameda, California

PROJECT NO.	DATE	BORING NO.
K 998-1	October 1987	2

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY BK
DEPTH TO GROUNDWATER 11' (see note 3)	BORING DIAMETER 7 Inches	DATE DRILLED 10/13/87

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
1½" AC over 6" Baserock									
CLAY, silty, sandy (fine-medium grained) Liquid Limit = 25% Plasticity Index = 14% Passing #200 Sieve = 50% (FILL)	black	very stiff	CL-SC	1 2 3		18 14	15		
CLAY, sandy (fine-medium grained) Passing #200 Sieve = 57% Passing #200 Sieve = 76% (grading less sandy)	blue grey	stiff	CL-SC	4 5 6 7 8		26*	19		
SAND (fine-medium grained), silty	blue grey tan	medium	SM	9 10 11 12 13 14 15		20 48	21 18		
Bottom of Boring = 15½ Feet				16 17 18 19 20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values marked with an asterisk (*) see first page, Appendix A.
3. Groundwater level was measured at 9½ feet at time of drilling. After drilling, groundwater level was measured at 11 feet.

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EXPLORATORY BORING LOG

ALPHA BETA ADDITION
Alameda, California

PROJECT NO.	DATE	BORING NO.
K998-1	October 1987	3

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY BK
DEPTH TO GROUNDWATER 14' (see note 3)	BORING DIAMETER 7 Inches	DATE DRILLED 10/13/87

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" AC over 8" Baserock									
CLAY, silty, sandy (fine-medium grained)	black	soft	CL	1					
				2		4	25		
		stiff		3		14	18		
				4					
(grading very sandy fine-medium grained) Passing #200 Sieve = 56% (FILL)	grey		CL-SC	5		30*	15		
CLAY, sandy (fine-medium grained)	blue grey	stiff	CL-SC	6					
				7					
				8					
				9					
SAND (fine-medium grained), clayey Passing #200 Sieve = 38%	light grey tan	medium dense	SC	10		26	15		
				11					
				12					
				13					
(grading silty)				14			▽		
	tan	dense	SM-SP	15		40			
Bottom of Boring = 15½ Feet				16					
				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values marked with an asterisk (*) see first page, Appendix A.
3. Groundwater level was measured at 14 feet at time of drilling.

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EXPLORATORY BORING LOG

ALPHA BETA ADDITION
Alameda, California

PROJECT NO	DATE	BORING NO.
K998-1	October 1987	4

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY BK
DEPTH TO GROUNDWATER 12' (see note 3)	BORING DIAMETER 7 Inches	DATE DRILLED 10/13/87

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" AC over 8" Baserock									
SAND (fine-medium grained), silty	brown	medium dense	SM	1					
CLAY, silty, sandy (fine-medium grained)	black	stiff	CL	2		13	21		
SAND (fine-medium grained), clayey (very strong gasoline odor) Passing #200 Sieve = 41%	black	medium dense	SC	3		24*	15		
	blue grey			4					
				5		17			
(FILL)				6					
				7					
SAND (fine-medium grained), silty	blue grey	medium dense	SM	8					
Passing #200 Sieve = 29%				9					
Notes: 1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual. 2. For an explanation of penetration resistance values marked with an asterisk (*) see first page, Appendix A. 3. Groundwater level was measured at 12 feet at time of drilling.				10		22	18		
				11					
				12			▽		
				13					
				14					
	tan	dense		15		44	22		
Bottom of Boring = 15½ Feet				16					
				17					
				18					
				19					
				20					

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EXPLORATORY BORING LOG

ALPHA BETA ADDITION
Alameda, California

PROJECT NO	DATE	BORING
K 998-1	October 1987	NO. 5

APPENDIX B - LABORATORY INVESTIGATION

The laboratory testing program was directed toward a quantitative and qualitative evaluation of the physical and mechanical properties of the soils underlying the site.

The natural water content was determined on twenty-two samples of the materials recovered from the borings in accordance with ASTM Test Designation D-2216. These water contents are recorded on the boring logs at the appropriate sample depths.

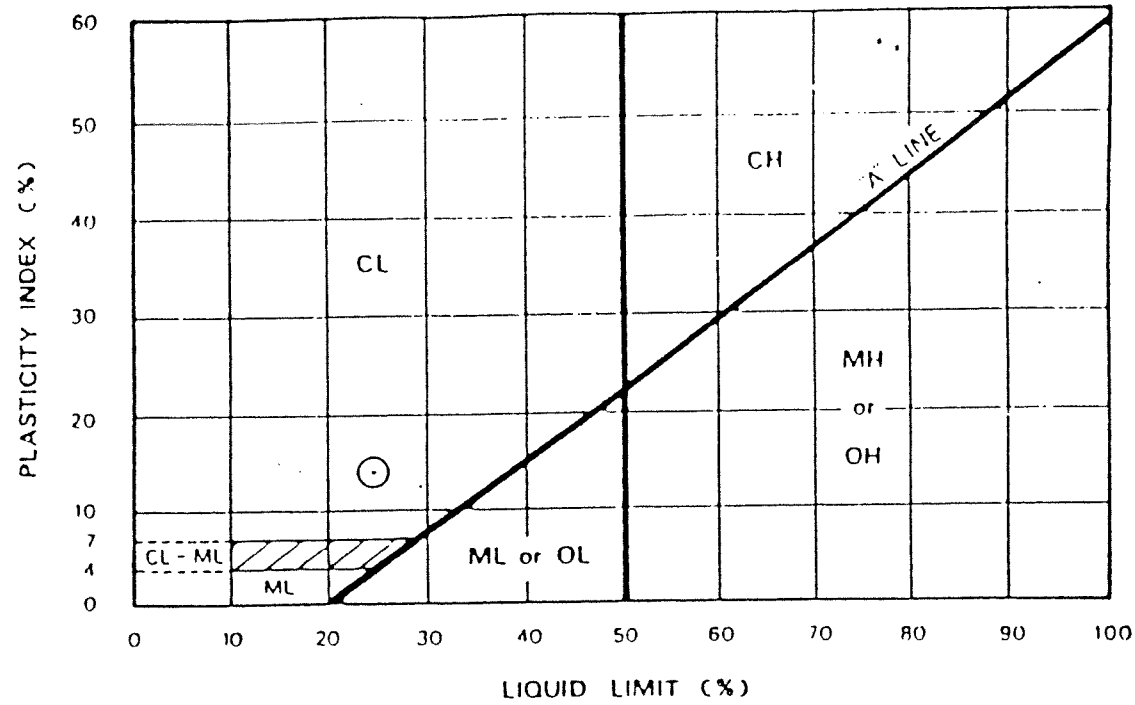
Dry density determinations were performed on one sample of the subsurface soils to evaluate their physical properties. The results of these tests are shown on the boring logs at the appropriate sample depths.

An Atterberg Limit determination was performed on one sample of the subsurface soils to determine the range of water content over which these materials exhibit plasticity. The Atterberg Limit was determined in accordance with ASTM Test Designations D-428 and D-424. These values are used to classify the soil in accordance with the Unified Soil Classification System and to indicate the soil's compressibility and expansion potentials. The results of this tests is presented on Figure B-1 and on the logs of the borings at the appropriate sample depths.

The percent passing the #200 sieve was determined on twelve samples of the subsurface soils to aid in the classification of these soils. These tests were performed in accordance with ASTM Test Designation D-1140. The results of these tests are shown on the boring logs at the appropriate sample depths.

Gradation tests were performed on three samples of the subsurface soils in accordance with California Test Method No. 202. These tests were performed to assist in the classification of the soils and to determine their grain size distribution. The results of these tests are presented on Figure B-2.

Unconfined compression tests were performed on one undisturbed sample of the clayey subsurface soils to evaluate the undrained shear strengths of these materials. The unconfined tests were performed in accordance with ASTM Test Designation D-2166 on samples having a diameter of 2.4 inches and a height-to-diameter ratio of at least two. Failure was taken as the peak normal stress. The results of these tests are presented on the boring logs at the appropriate sample depths.



KEY SYMBOL	BORING NO.	SAMPLE DEPTH (feet)	NATURAL WATER CONTENT %	ATTERBERG LIMITS			PASSING NO. 200 SIEVE %	UNIFIED SOIL CLASSIFICATION SYMBOL
				LIQUID LIMIT %	PLASTICITY INDEX %	LIQUIDITY INDEX %		
⊙	S-2	--	--	25	14	--	50	CL

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PLASTICITY CHART AND DATA

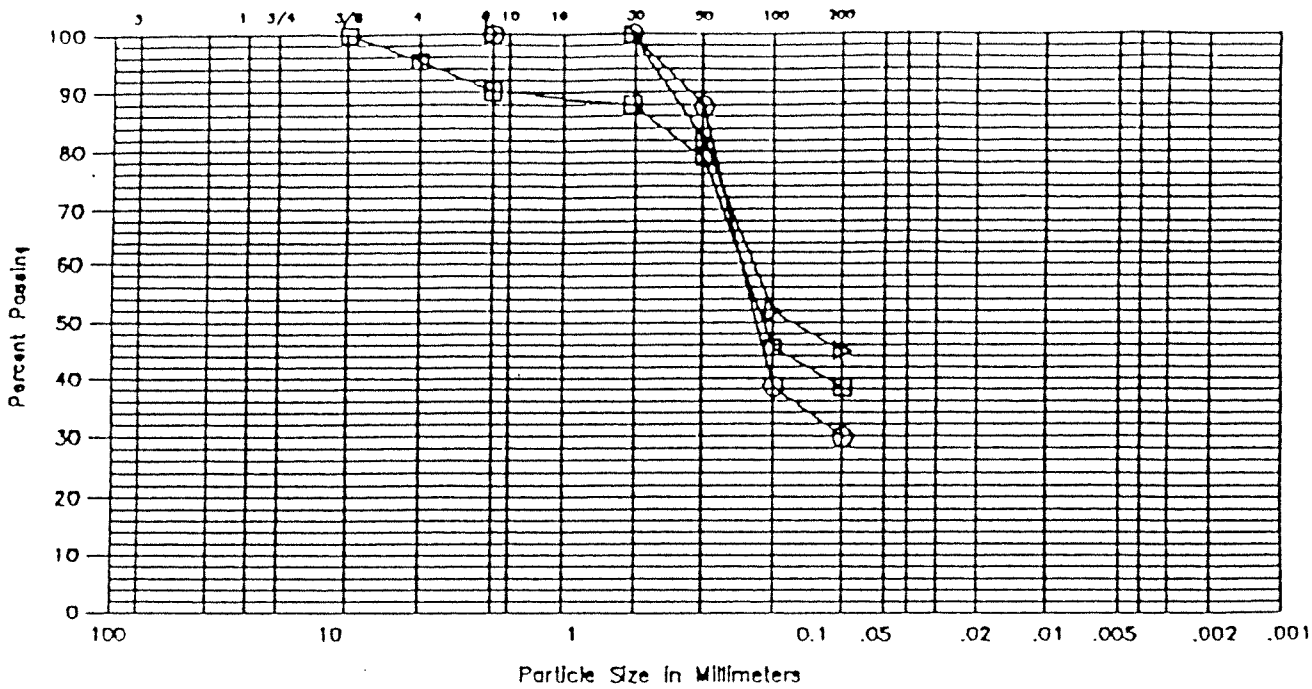
ALPHA BETA ADDITION
Alameda, California

PROJECT NO	DATE	
K998-1	October 1987	Figure B-1

UNIFIED SOIL CLASSIFICATION SYSTEM

(ASTM D 422-72)

U.S. STANDARD SIEVE SIZES



gravel		sand			silt and clay
coarse	fine	coarse	medium	fine	

KEY SYMBOL	BORING NO.	SAMPLE DEPTH (feet)	ELEV. (feet)	UNIFIED SOIL CLASSIFICATION SYMBOL	SAMPLE DESCRIPTION
⊙	1	10	--	SC	Tan Clayey SAND
⊡	4	10	--	SC	Grey Tan Clayey SAND
△	5	3½	--	SC	Black Clayey SAND

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GRADATION TEST DATA

ALPHA BETA ADDITION
Alameda, California

PROJECT NO.	DATE	Figure
K998-1	October 1987	B-2

APPENDIX C
GUIDE SPECIFICATIONS - SITE EARTHWORK
FOR
ALPHA BETA MARKET EXPANSION
ALAMEDA, CALIFORNIA

1. GENERAL

A. Scope of Work

These specifications and applicable plans pertain to and include all site earthwork including, but not limited to, the furnishing of all labor, tools, and equipment necessary for site clearing and stripping, disposal of excess materials, excavation, preparation of foundation materials for receiving fill, and placement and compaction of fill to the lines and grades shown on the project grading plans.

B. Performance

The Contractor warrants all work to be performed and all materials to be furnished under this contract against defects in materials or workmanship for a period of ___years(s) from the date of written acceptance of the entire construction work by the Owner.

Upon written notice of any defect in materials or workmanship during said ___ year period, the Contractor shall, at the option of the Owner, repair or replace said defect and any damage to other work caused by or resulting from such defect without cost to the Owner. This shall not limit any rights of the Owner under the "acceptance and inspection" clause of this contract.

The Contractor shall be responsible for the satisfactory completion of all site earthwork in accordance with the project plans and specifications. This work shall be observed and tested by a representative of Peter Kaldveer and Associates, Inc., hereinafter known as the Soil Engineer. Both the Soil Engineer and the Architect/Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by the Soil Engineer and the Architect/Engineer. No deviation from the specifications shall be made except upon written approval of the Soil Engineer or Architect/Engineer.

No site earthwork shall be performed without the physical presence or approval of the Soil Engineer. The Contractor shall notify the Soil Engineer at least twenty-four hours prior to commencement of any aspect of the site earthwork.

The Soil Engineer shall be the Owner's representative to observe the grading operations during the site preparation work and the placement and compaction of fills. He shall make enough visits to the site to familiarize himself generally with the progress and quality of the work. He shall make a sufficient number of tests and/or observations to enable him to

form an opinion regarding the adequacy of the site preparation, the acceptability of the fill material, and the extent to which the compaction of the fill, as placed, meets the specification requirements. Any fill that does not meet the specification requirements shall be removed and/or recompacted until the requirements are satisfied.

In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal work hours.

Any construction review of the Contractor's performance conducted by the Soil Engineer is not intended to include review of the adequacy of the Contractor's safety measures in, on or near the construction site.

Upon completion of the construction work, the Contractor shall certify that all compacted fills and foundations are in place at the correct locations, have the correct dimensions, are plumb, and have been constructed in accordance with sound construction practice. In addition, he shall certify that the materials used are of the types, quantity and quality required by the plans and specifications.

C. Site and Foundation Conditions

The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the soil report titled, "Supplemental Foundation Investigation, Alpha Beta Market Expansion, Alameda, California", dated October 27, 1987. The Contractor shall not be relieved of liability under the contract for any loss sustained as a result of any variance between conditions indicated by or deduced from the soil report and the actual conditions encountered during the course of the work.

The Contractor shall, upon becoming aware of surface and/or subsurface conditions differing from those disclosed by the original soil investigation, promptly notify the Owner as to the nature and extent of the differing conditions, first verbally to permit verification of the conditions, and then in writing. No claim by the Contractor for any conditions differing from those anticipated in the plans and specifications and disclosed by the soil investigation will be allowed unless the Contractor has so notified the Owner, verbally and in writing, as required above, of such changed conditions.

D. Dust Control

The Contractor shall assume responsibility for the alleviation or prevention of any dust nuisance on or about the site or off-site borrow areas. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

II. DEFINITION OF TERMS

STRUCTURAL FILL - All soil or soil-rock material placed at the site in order to raise grades or to backfill excavations, and upon which the Soil Engineer has made sufficient tests and/or observations to enable him to issue a written statement that, in his opinion, the fill has been placed and compacted in accordance with the specification requirements.

ON - SITE MATERIAL - Material obtained from the required site excavations.

IMPORT MATERIAL - Material obtained from off-site borrow areas.

ASTM SPECIFICATIONS - The 1980 edition of the American Society for Testing and Materials Standards.

DEGREE OF COMPACTION - The ratio, expressed as a percentage, of the in-place dry density of the compacted fill material to the maximum dry density of the same material as determined by ASTM Test Designation D 1557-78.

III. SITE PREPARATION

A. Clearing and Grubbing

The Contractor shall accept the site in its present condition and shall remove from the area of the designated project earthwork all obstructions including the asphaltic concrete pavements, concrete sidewalk and ramp and the associated baserock, designated underground utility lines, tree and associated root system and any other matter determined by the Soil Engineer to be deleterious. Such material shall become the property of the Contractor and shall be removed from the site. Holes resulting from the removal of underground obstructions that extend below finish grades shall be cleared and backfilled with structural fill.

IV. EXCAVATION

All excavation shall be performed to the lines and grades and within the tolerances specified on the project grading plans. All overexcavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the specifications. The Contractor shall assume full responsibility for the stability of all temporary construction slopes at the site.

V. SUBGRADE PREPARATION

Surfaces to receive compacted fill, and those on which concrete slabs and pavements will be constructed, shall be scarified to a minimum depth of 6 inches and compacted. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill material shall be approved by the Soil Engineer prior to the placement of any fill material.

VI. GENERAL REQUIREMENTS FOR FILL MATERIAL

All fill material must be approved by the Soil Engineer. The material shall be a soil or soil-rock mixture which is free from organic matter or other deleterious substances. The fill material shall not contain rocks or rock fragments over 6 inches in greatest dimension and not more than 15 percent shall be over 2.5 inches in greatest dimension. On-site material having an organic content of less than 3 percent by volume is suitable for use as fill in all areas except where non-expansive import material is specified.

All imported fill material shall be nonexpansive with a plasticity index of 12 or less.

VII. PLACING AND COMPACTING FILL MATERIAL

All structural fill less than 5 feet thick shall be compacted by mechanical means to produce a minimum degree of compaction of 90 percent as determined by ASTM Test Designation D 1557-78. All structural fill greater than 5 feet in thickness shall be compacted to at least 95 percent relative compaction. Field density tests shall be performed in accordance with either ASTM Test Designation D 1556-64 (Sand-Cone Method) or ASTM Test Designation D 2922-71 and D 3017-72 (Nuclear Probe Method). The locations and number of field density tests shall be determined by the Soil Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work shall be judged by the Soil Engineer.

VIII. TRENCH BACKFILL

Pipeline trenches shall be backfilled with compacted structural fill placed in lifts not exceeding 8 inches in uncompacted thickness. If onsite soil is used, the material shall be compacted by mechanical means to a minimum degree of compaction of 85 percent. Imported sand may also be used for backfilling trenches provided it is compacted to at least 90 percent. If imported sand backfilling is used, sufficient water shall be added during the trench backfilling operations to prevent the soil from bulking during compaction. In all building pad and pavement areas, the upper 3 feet of trench backfill shall be compacted to a minimum degree of compaction of 90 percent for onsite soils and 95 percent where imported sand backfill is used.

IX. TREATMENT AFTER COMPLETION OF EARTHWORK

After the earthwork operations have been completed and the Soil Engineer has finished his observation of the work, no further earthwork operations shall be performed except with the approval of and under the observation of the Soil Engineer.

It shall be the responsibility of the Contractor to prevent erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

IX. TREATMENT AFTER COMPLETION OF EARTHWORK

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It shall be the responsibility of the Contractor to prevent erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

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Associate

Michael McRae P.E.

Dawn Rinaldi, P.E.

December 2, 1987
KE998-1, 10593

Gordon
please follow
w/ Recommendations
pg. 5.

American Store Properties, Inc.
1500 Anaheim Boulevard
Anaheim, California 92805

Attention: Mr. Gordon Powers

RE: PRELIMINARY SOIL TESTING
PROGRAM
ALPHA BETA #541 ADDITION
ALAMEDA, CALIFORNIA

12/14/E

Gentlemen:

In this letter report, we present a summary of our preliminary soil testing program at the proposed location of the Alpha Beta Store #541 addition. The addition will extend the southeastern end of the existing market as shown on Figure 1, Site Plan. The market is within the neighborhood shopping center located northeast of the intersection of Blanding Avenue and Broadway and northwest of Tilden Way in Alameda, California. The purpose of this preliminary soil testing program was to determine the presence and quantities, if any, of petroleum hydrocarbons in the subsurface soils, as noted in one exploratory boring during our recent supplemental foundation investigation at the site.

BACKGROUND

Kaldveer Associates has previously performed a foundation investigation for the market addition. The results of this investigation was presented in our report titled, "Supplemental Foundation Investigation, Alpha Beta Market Expansion, Alameda, California", dated October 27, 1987. During this investigation, a strong fuel-like odor was noted in the soil samples obtained from Boring 5, located at the western corner of the addition. Furthermore, our firm had conducted the initial foundation investigation for the shopping center and the results were presented in our report titled, "Foundation Investigation, Shopping Center, Alameda, California", dated May 4, 1972. We should note that in one of the borings drilled for this initial (1972) investigation, similar and unnatural coloration of the soil was noted in our Previous Boring 7, situated in the same general location as Boring 5.

SCOPE

The scope of work included a subsurface investigation, soil sampling, analytical testing of the obtained soil samples, and preparation of this report. The investigation was conducted by Dawn Y. Rinaldi, P.E., Senior Project Engineer.

SITE HISTORY

Based on the information presented in our initial foundation investigation, the majority of the shopping center site was formerly occupied by Loop Lumber Yard and the southeastern end of the site was occupied by California Rock and Gravel Company, a concrete mixing plant. The approximate boundaries between these two operations are unknown. In addition, details of the operations and locations of any underground tanks is unknown.

SITE INVESTIGATION

A. Subsurface Investigation

The subsurface investigation was performed using a trailer-mounted drill rig equipped with an 8-inch diameter, continuous flight, hollow stem augers to investigate and sample the subsurface soils. The augers were steam cleaned prior to the drilling operations.

Five exploratory borings, Borings 6 through 10, were drilled on November 4, 1987 to a maximum depth of 16 feet. The borings were generally located in the vicinity of our previous Boring 5, where contamination was originally observed. Previously, five borings were drilled for our supplemental foundation investigation study to a maximum depth of 20.5 feet on October 13, 1987. In addition, a total of thirteen borings, two of which were near the proposed addition site, were drilled on April 10 to 12, 1972 to a maximum depth of 24 feet. The approximate locations of the five borings drilled for this investigation, the five borings drilled for our previous supplemental foundation investigation and two previous borings drilled during our initial foundation investigation are shown on Figure 1. Logs of the borings drilled for this investigation and details regarding the field investigation are included in Appendix A.

B. Soil Sampling

Soil samples were generally obtained from each of the borings between depths of 4 to 16 feet. The sampling program was based on our field observations at the time of drilling.

The soil samples were obtained with a 2½-inch O.D. California sampler. Each sample was contained in 2-inch diameter, 6-inch long brass liners. The sampler and brass liners were decontaminated with a trisodium

phosphate (TSP) solution, rinsed with clear water and a final rinse of deionized water prior to each sampling. The obtained soil samples were stored using the following procedures: 1) the sample ends were covered with aluminum foil, fitted with rubber caps, and taped and 2) each sample was stored in a zip-lock plastic bag and refrigerated. The samples were delivered immediately after drilling under chain-of-custody control to Trace Analysis Laboratories in Hayward, California for testing.

C. Groundwater Sampling

A grab sample of the groundwater from Boring 6 was obtained approximately 3½ hours after the boring was drilled. The water sample was obtained with a teflon bailer which had been decontaminated as previously described above. Two 40-ml VOA vials and one 1-liter glass bottle were filled with the groundwater sample. The groundwater samples were refrigerated until delivery with the soil samples, under chain-of-custody control to Trace Analysis Laboratories. We should note that these samples were for visual observation and no analytical testing was performed.

SITE CONDITIONS

A. Surface

At the time of our field investigation, the majority of the market addition site was surfaced with approximately 2 inches of asphaltic concrete over 7 to 8 inches of baserock. In addition, a concrete sidewalk, ramp and curbing was adjacent the southeast side of the market.

B. Subsurface

The near surface soils encountered below the pavement were fill materials generally consisting of loose to medium dense silty, clayey or gravelly sands and stiff silty and sandy clays which extended to depths of 4 to 6½ feet. Underlying these fill materials were medium dense to dense silty and clayey sands and stiff sandy clays. These native materials extended to the maximum depth explored of 16 feet.

A moderate to strong fuel-like odor was noted in the soil samples from Boring 6 at depths of 5 to approximately 11.5 feet and in Boring 10 at a depth of 7 feet.

Detailed descriptions of the soils encountered in each of the exploratory borings drilled for this investigation are presented in Appendix A. The attached boring logs and related information depict subsurface conditions only at the specific locations shown on the Site Plans and on the particular date designated on the logs. Also, the passage of time may result in changes in the subsurface conditions due to environmental changes. The locations of the borings were approximately determined by pacing and

should be considered accurate only to the degree implied by the method used.

C. Groundwater

Groundwater was not encountered in any of the borings at the time of drilling. However, Borings 6 and 7 were left open for a period of 2½ to 3½ hours at which time the groundwater was measured at depths of 7 and 9 feet, respectively. The groundwater level was previously measured at depths of 9½ to 14 feet. Fluctuations of the groundwater level could occur due to change in seasons, variations in rainfall, tidal action and other factors.

We should note that a very thin oily sheen was observed floating on the groundwater in Boring 6.

ANALYTICAL TEST RESULTS

A total of five soil samples were analyzed for 1) total volatile hydrocarbons (low to medium boilers, primarily gasoline), 2) total extractable hydrocarbons (medium to high boilers, primarily diesel), and 3) benzene, toluene, and xylene. In addition, one sample from Boring 6 was tested for purgeable and aromatic volatile organics.

The following table (Table 1) presents a summary of the constituents which were identified at concentrations above the minimum detection limits. The results are also summarized on Figure 1. The complete analytical results of the chemical laboratory tests are presented in the attached Appendix B in addition to the Chain-of-Custody records for the samples. The analytical results are presented in concentrations of ug/kg or parts per billion in Appendix B, and have been converted to mg/kg or parts per million in Table 1 and Figure 1.

TABLE 1
SUMMARY OF TEST RESULTS ABOVE THE MINIMUM DETECTION LIMITS*

Boring Number	Depth (Feet)	Volatile Hydrocarbons	Extractable Hydrocarbons	Benzene	Toluene
6	6	39	1,200	.12	.08
8	5½	ND	23	ND	ND
9	5½	34	4**	--	--
9	8	ND	4**	ND	ND
10	7	12	46	ND	ND

Note: * All concentrations in mg/kg or parts per million, ppm.
** These two samples were composited into one analysis.
ND Not detected above detection limits.

The soil test procedures were performed in accordance with the Standard EPA Test Methods and Attachment 2 of the "Guidelines for Addressing Fuel Leaks" (September 1985) by the California State Regional Water Quality Control Board. The analysis for total volatile and extractable hydrocarbon testing on the soil samples were performed using a Modified 8015 test method. The benzene, toluene and xylene analysis was performed using a Modified 8020 test method. In addition, the purgeable and aromatic volatile organics analysis was performed using the 8010 test method and the aromatic volatile organics analysis was performed using the 8020 test method.

DISCUSSION AND CONCLUSIONS

This investigation was conducted to confirm the presence of petroleum hydrocarbons apparently encountered during our previous supplemental foundation investigation. Petroleum hydrocarbons were detected in all samples submitted for testing. All of the total concentrations (volatile and extractable, combined) detected were less than 100 parts per million, ppm, except those of a sample from Boring 6, in the southeast corner of the proposed addition. Hydrocarbon levels at this location were in excess of 1,200 ppm. It should be noted that this investigation did not evaluate the extent of contamination.

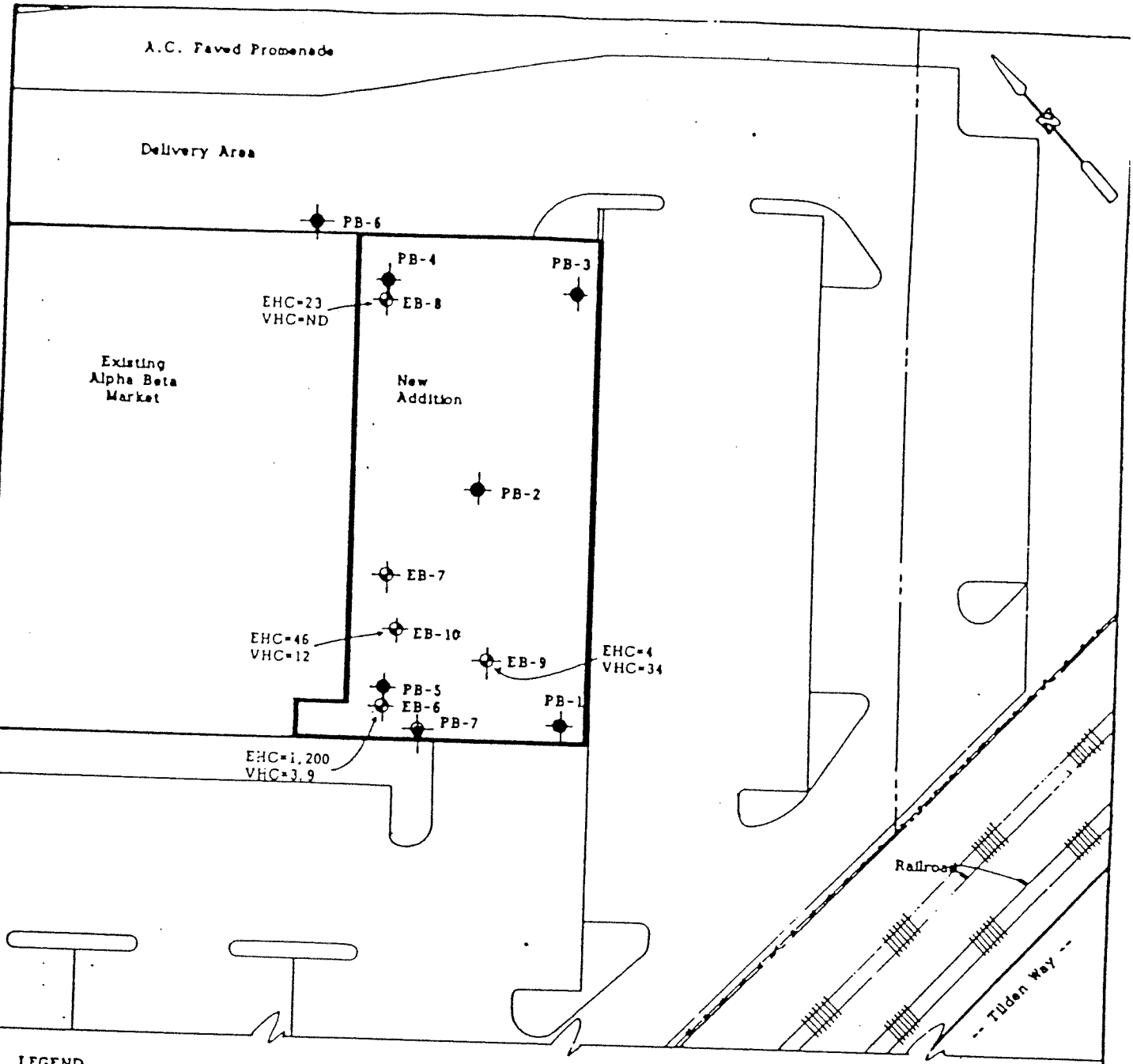
The San Francisco Bay Region California Water Quality Control Board has issued guidelines for fuel leak contamination of soil. These guidelines are contained in "Guidelines for Addressing Fuel Leaks", revised September, 1985. These guidelines generally require site remediation where hydrocarbon content in soil exceeds 1000 ppm, and further investigation of potential or existing groundwater contamination at levels exceeding 100 ppm in soil.

It is difficult to assess the significance of the hydrocarbon contamination due to the limited confirming investigation conducted to date. The extent of soil contamination throughout the site, possible groundwater contamination, and groundwater utilization have not been evaluated to date. After information on these factors is obtained, an overall evaluation of the contamination can be conducted, and recommendations for remediation, if any, can be developed.

RECOMMENDATIONS

We recommend that additional investigation be conducted, to further evaluate the lateral extent of soil contamination, as well as possible groundwater contamination. A copy of this letter should be sent to the California Regional Water Quality Board, San Francisco Bay Region, located in Oakland, California, with an appropriate cover letter describing proposed further investigation.

who sends? ASPT



LEGEND

EB-10 ⊕ Approximate Location of Exploratory Borings

PB-5 ● Approximate Location of Previous Borings drilled on October, 1987.

PB-7 ⊕ Approximate Location of Previous Borings drilled on April, 1972.

EHC —— Total Concentrations of Extractable Hydrocarbons in ppm

VHC —— Total Concentrations of Volatile Hydrocarbons in ppm

ND —— Not Detected Above Detection Limits

Base: "Site Plan", by James W. Foug & Associates, dated November 26, 1987.

APPROXIMATE SCALE (Feet)

0 50 100

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A Converse Corporation

SITE PLAN

ALPHA BETA #541 ADDITION
Alameda, California

PROJECT NO.	DATE	Figure 1
KE998-1	December 1987	

APPENDIX A - FIELD INVESTIGATION

The soils encountered in the five exploratory borings drilled for this investigation were continuously logged in the field by our representative. The soils are described in accordance with the Unified Soil Classification System (ASTM D-2487). The logs of the borings as well as a key for the classification of the soil (Figure A-1) are included as part of this appendix.

Representative soil samples were obtained from the exploratory borings at selected depths appropriate to the soil testing program. The soil samples were obtained using a 2½-inch O.D. California sampler. The sampler type is indicated in the "Sampler" column of the boring logs as designated below:

 California Sampler

Resistance blow counts were obtained with the sampler by dropping a 140-pound hammer through a 30-inch free fall. The sampler was driven 18 inches, and the number of blows were recorded for each 6 inches of penetration. The blows per foot recorded on the boring logs represent the accumulated number of blows that were required to drive the last 12 inches. Due to the larger diameter of the California sampler, the blow counts recorded for this sampler are not standard penetration resistance values. In order to convert these values to standard penetration resistance values, the indicated blow counts should be multiplied by a factor of 0.8.

The attached boring logs and related information show our interpretation of the subsurface conditions at the dates and locations indicated, and it is not warranted that they are representative of subsurface conditions at other locations and times.

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS — MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO 4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well graded gravels gravel-sand mixtures little or no fines
			GP	Poorly graded gravels or gravel-sand mixtures little or no fines
		GRAVEL WITH FINES	GM	Silty gravels gravel-sand-silt mixtures non-plastic fines
			GC	Clayey gravels gravel-sand-clay mixtures plastic fines
	SANDS — MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO 4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands gravelly sands little or no fines
			SP	Poorly graded sands or gravelly sands little or no fines
		SANDS WITH FINES	SM	Silty sands sand-silt mixtures non-plastic fines
			SC	Clayey sands sand-clay mixtures plastic fines
FINE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS SMALLER THAN NO 200 SIEVE SIZE	SILTS AND CLAYS — LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands rock flour silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays sandy clays silty clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS — LIQUID LIMIT IS GREATER THAN 50%		MH	Inorganic silts micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils

DEFINITION OF TERMS

U S STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4"	3"	12"	
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

GRAIN SIZES

SANDS AND GRAVELS	BLOWS/FOOT†
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	STRENGTH‡	BLOWS/FOOT†
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

CONSISTENCY

† Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O D (1-3/8 inch I D) split spoon (ASTM D-1586).

‡ Unconfined compressive strength in tons/sq ft as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation

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KEY TO EXPLORATORY BORING LOGS
Unified Soil Classification System (ASTM D-2487)

ALPHA BETA #541 ADDITION
Alameda, California

PROJECT NO	DATE	
KE998-1	December 1987	Figure A-1

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY DYR
DEPTH TO GROUNDWATER 7' (see note 3)	BORING DIAMETER 8 Inches	DATE DRILLED 11/4/87

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (PSF)
2" AC over 8" Baserock									
SAND (fine grained), silty	black	medium dense	SM	1					
				2					
SAND (fine grained), clayey, silty	black	medium dense	SC	3					
(grading to trace of clay) (FILL)			SM	4					
SAND (fine grained), silty, trace of clay (moderate to strong fuel-like odor)	blue grey	medium dense	SM	5		19			
				6		23			
				7			▽		
				8		25			
				9		25			
				10					
	mottled with tan			11		25			
(light fuel-like odor)				12					
(grading no clay and to trace of silt)	tan		SM	13					
				14					
		dense		15		48			
				16					
Bottom of Boring = 16 Feet				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values, see first page Appendix A.
3. Groundwater water was not encountered at time of drilling. Three and one-half hours later, the groundwater level was measured at 7 feet. (light fuel-like odor)

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EXPLORATORY BORING LOG

ALPHA BETA #541 ADDITION
Alameda, California

PROJECT NO	DATE	BORING NO.
KE998-1	December 1987	6

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY DYR
DEPTH TO GROUNDWATER Not Encountered	BORING DIAMETER 8 Inches	DATE DRILLED 11/4/87

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" AC over 8" Baserock									
SAND (fine grained), clayey	black	loose	SC	1–2					
CLAY, silty, with sand (FILL)	black	stiff	CL	3–6		19			
CLAY, silty, sandy (fine grained)	blue grey	stiff	CL-SC	7–8					
SAND (fine grained), clayey	light grey tan	medium dense	SC	9–10		25			
Bottom of Boring = 10 Feet				11–20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values, see first page, Appendix A.
3. Groundwater level was not encountered at time of drilling. Two and one-half hours later, the groundwater level was not measureable.

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EXPLORATORY BORING LOG

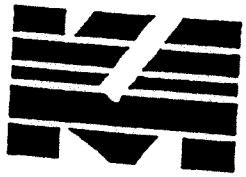
ALPiA BETA #541 ADDiTION
Alameda, California

PROJECT NO	DATE	BORING NO.
KE998-1	December 1987	8

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY DYR
DEPTH TO GROUNDWATER Not Encountered	BORING DIAMETER 8 Inches	DATE DRILLED 11/4/87

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2" AC over 7" Baserock									
SAND (fine grained), with some silt and gravel	orange tan	medium dense	SM	1					
CLAY, sandy (fine grained) (FILL)	black	stiff	CL	2					
				3					
SAND (fine grained), some silt, trace of clay	grey tan	medium dense	SM	4					
				5		13			
				6					
				7					
				8		16			
Bottom of Boring = 8½ Feet				9					
				10					
				11					
				12					
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values, see first page, Appendix A.



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EXPLORATORY BORING LOG

ALPHA BETA #541 ADDITION
Alameda, California

PROJECT NO	DATE	BORING NO.
KE998-1	December 1987	9

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION --	LOGGED BY DYR
DEPTH TO GROUNDWATER Not Encountered	BORING DIAMETER 8 Inches	DATE DRILLED 11/4/87

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (TSF)
2" AC over 8" Baserock									
SAND, with some gravel, some silt	brown	medium dense	SM	1					
CLAY, sandy (fine grained)	black	stiff	CL	2					
(FILL)				3					
				4					
CLAY, sandy (fine grained)	blue grey	stiff	CL-SC	5		15			
				6					
(moderate fuel-like odor)				7		18			
Bottom of Boring = 7½ Feet				8					
				9					
				10					
				11					
				12					
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values, see first page, Appendix A.
3. Groundwater level was not encountered at time of drilling.

Kaldveer Associates
Geoscience Consultants
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EXPLORATORY BORING LOG

ALPHA BETA #541 ADDITION
Alameda, California

PROJECT NO.	DATE	BORING NO.
KE998-1	December 1987	10

11F + 5304 GGS 21

CHAIN OF CUSTODY RECORD

Project Number	Project Name
KE998-1	Alpha Beta #541 Expansion

Samplers (signature): Dawn Rinaldi

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Number of Containers	Tests: Back-up Sample	VHC w/ BTX	EHC	601	602	Remarks
6	11-4	1:30P		X	7'	2 40 ml VOA						Cancel these tests w/ lab on 11-6-87
6	"			X	7'	1 liter						

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature) Dawn Rinaldi	Nov. 4 1987 18:30	Received for Laboratory by: (Signature) [illegible]	Date/Time 11/4/87 18:30	Remarks: [illegible] turnaround	

☐ 2 week turnaround (request may change after results from 1 wk turnaround tests is determined)

☒ 1 week turnaround

PETER KALOVEER AND ASSOCIATES, INC.
Geotechnical Consultants

Proj # 5301

CHAIN OF CUSTODY RECORD

Project Number: RE448-1
Project Name: Alpha Beta #541 Addition, Alameda
Sampler's (signature): Dawn Rinaldi

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Number of Containers	Tests: Back-up Sample	VHC	EHC	8010	8020	VHC w/ BTX	Remarks
6	11-4	8:15	X		5'	1							Blue gray sand. Mod. odor
		8:30	X		6'	1		/	/	X	X		Blue gray sand. Strong odor
		8:40	X		8'	1							" "
		8:50	X		7½	1							" "
		9:10	X		11'	1							
7	11-4	9:50	X		5'	1							Black sand. No odor
		10:15	X		8½'	1							Tan, gray clayey sand. No odor
		10:30	X		10	1							
		10:40	X		11½	1							Added these tests to request on 11-6-87
8	11-4	11:10	X		5½' HOLD	1			/			/	Black clayey silty sand. No odor
		11:20	X		8½'	1							Tan, Blue gray, sandy clay. No odor
9	11-4	11:40	X		5½	1			/			/	Composite.
		11:55	X		8'	1							gray tan silty SAND. No odor
10	11-4	12:25	X		5½'	1							
		12:35	X		7'	1			/			/	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature) Dawn Rinaldi	Date/Time Nov. 4 '87 | 18:30	Received for Labgratory by: (Signature)	Date/Time 11/4/87 18:30	Remarks: 2 ~~week~~ turnaround	

☐ 2 week turnaround (test request may change after results from 1 wk turnaround tests are determined)

☒ 1 wk turnaround

PETER KALDVEER AND ASSOCIATES, INC.
Geotechnical Consultants

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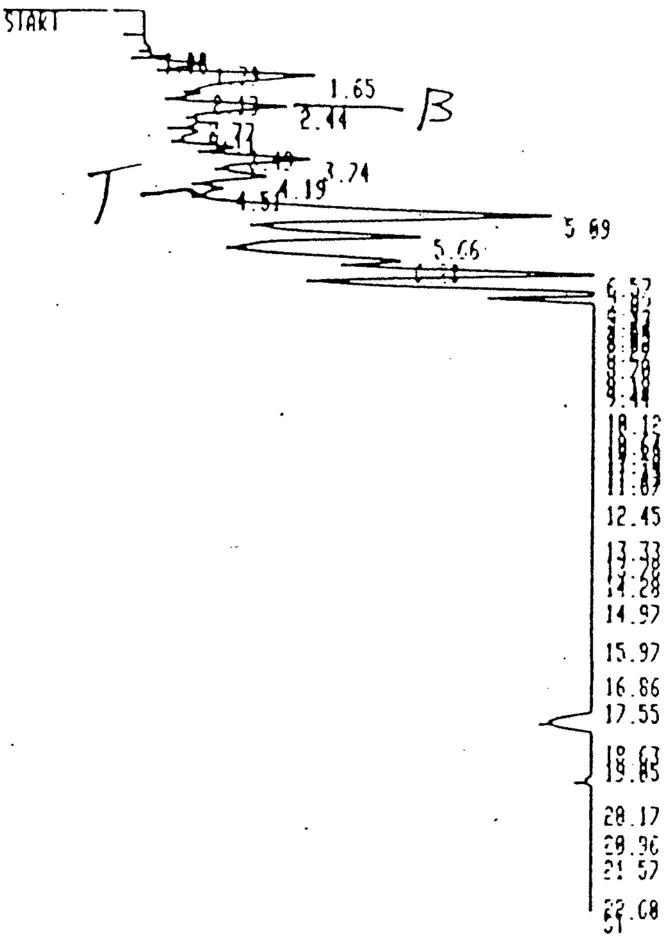

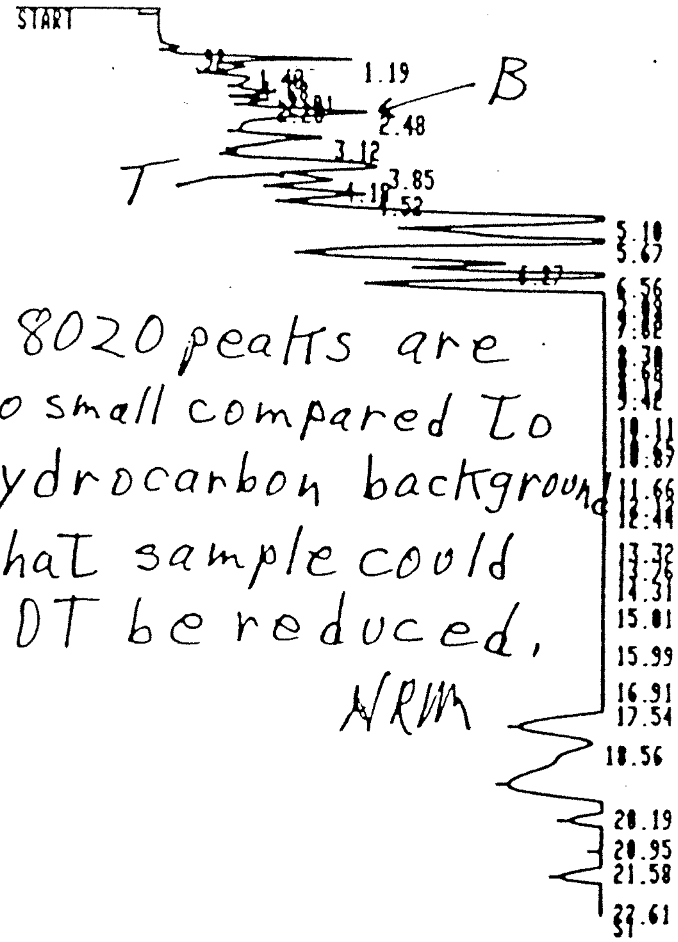

8020 peaks are so small compared to hydrocarbon background that sample could not be reduced.

NRM

RUN # 301 NOV/11/87 13:36:21

AREA%

RT	AREA	TYPE	AR/HT	AREA%
1.00	0	PP	0.000	0.000
1.10	10898	PB	0.045	8.2142E-04
1.39	835130	BV	0.159	0.063
1.65	4694600	VV	0.275	0.354
2.13	383570	VP	0.117	0.029
2.44	2307200	PV	0.196	0.174
2.77	26213	VB	0.087	0.002
3.11	171470	BP	0.126	0.013
3.49	911340	PV	0.151	0.069
3.74	3491400	VV	0.245	0.263
4.19	2459900	VV	0.260	0.185
4.51	1082900	VV	0.224	0.082
5.09	1.3582E+07	VV	0.335	1.024
5.66	7987600	VV	0.305	0.602
6.28	6689000	VV	0.278	0.504
6.57	1.2532E+07	VV	0.266	0.945
7.07	1.4886E+07	VV	0.279	1.122
7.43	1.6017E+07	VV	0.212	1.207
7.64	2.3506E+07	VV	0.228	1.772
7.89	7187200	VV	0.131	0.542
8.02	1.0765E+07	VV	0.192	0.811
8.27	1.7337E+07	VV	0.258	1.307
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

RUN # 268 NOV/11/87 13:38:39

AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.92	357190	PV	0.151	0.025
1.19	3066800	VV	0.143	0.216
1.40	1960300	VV	0.200	0.138
1.68	2934500	VV	0.284	0.206
2.01	2716900	VV	0.207	0.191
2.20	2094100	VV	0.175	0.147
2.48	8854600	VV	0.382	0.623
3.12	5978800	VV	0.329	0.421
3.85	8444800	VV	0.348	0.594
4.18	5602500	VV	0.289	0.394
4.52	6755100	VV	0.293	0.475
5.10	2.3121E+07	VV	0.425	1.626
5.67	2.2563E+07	VV	0.374	1.587
6.27	1.0855E+07	VV	0.279	0.764
6.56	1.7057E+07	VV	0.294	1.200
7.09	1.6503E+07	VH	0.279	1.161
7.42	3.4527E+07	SHH	0.249	2.429
7.62	2.9904E+07	SHH	0.226	2.103
8.30	5.4227E+07	SHH	0.463	3.814
8.68	6.0586E+07	SHH	0.460	4.261
9.17	3.1595E+07	SHH	0.253	2.222
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

DATE: 11/13/87
LOG NO.: 5365
DATE SAMPLED: 11/4/87
DATE RECEIVED: 11/4/87
PAGE: Three

Sample Type: Soil

Method and Constituent	Units	#6, 6' Concentration	Detection Limit
EPA Method 8020:			
Benzene	ug/kg	120	9
Chlorobenzene	ug/kg	< 9	9
1,2-Dichlorobenzene	ug/kg	< 9	9
1,3-Dichlorobenzene	ug/kg	< 9	9
1,4-Dichlorobenzene	ug/kg	< 9	9
Ethyl benzene	ug/kg	< 9	9
Toluene	ug/kg	80	9
Xylenes	ug/kg	< 9	9

8020 peaks are so small compared to hydrocarbon background that sample could not be reduced.

Hugh R. McLean

Hugh R. McLean
Supervisory Chemist

HRM:tlh

Trace Analysis Laboratory, Inc.
2323 Investment Boulevard, #8 • Hayward, California 94545 (415) 783-6960

TAL

NOV 16 1987

DATE: 11/13/87
LOG NO.: 5365
DATE SAMPLED: 11/4/87
DATE RECEIVED: 11/4/87

CUSTOMER: Peter Kaldveer and Associates, Inc.

REQUESTER: Dawn Rinaldi

PROJECT: No. KE998-1, Alpha Beta #541 Addition, Alameda

Sample Type: Soil

Method and Constituent	Units	#6, 6' Concentration	Detection Limit
EPA Method 8010:			
Benzyl chloride	ug/kg	< 40	40
Bis (2-chloroethoxy) methane	ug/kg	< 40	40
Bis (2-chloroisopropyl) ether	ug/kg	< 40	40
Bromobenzene	ug/kg	< 40	40
Bromodichloromethane	ug/kg	< 40	40
Bromoform	ug/kg	< 40	40
Bromomethane	ug/kg	< 40	40
Carbon tetrachloride	ug/kg	< 40	40
Chloracetaldehyde	ug/kg	< 40	40
Chloral	ug/kg	< 40	40
Chlorobenzene	ug/kg	< 40	40
Chloroethane	ug/kg	< 40	40
Chloroform	ug/kg	< 40	40
1-Chlorohexane	ug/kg	< 40	40
2-Chloroethyl vinyl ether	ug/kg	< 40	40

DATE: 11/13/87
LOG NO.: 5365
DATE SAMPLED: 11/4/87
DATE RECEIVED: 11/4/87
PAGE: Two

Method and Constituent	Units	Sample Type: Soil #6, 6' Concentration	Detection Limit
EPA Method 8010 (Continued):			
Chloromethane	ug/kg	< 40	40
Chloromethyl methyl ether	ug/kg	< 40	40
Chlorotoluene	ug/kg	< 40	40
Dibromochloromethane	ug/kg	< 40	40
Dibromomethane	ug/kg	< 40	40
1,2-Dichlorobenzene	ug/kg	< 40	40
1,3-Dichlorobenzene	ug/kg	< 40	40
1,4-Dichlorobenzene	ug/kg	< 40	40
Dichlorodifluoromethane	ug/kg	< 40	40
1,1-Dichloroethane	ug/kg	< 40	40
1,2-Dichloroethane	ug/kg	< 40	40
1,1-Dichloroethylene	ug/kg	< 40	40
trans-1,2-Dichloro-ethylene	ug/kg	< 40	40
Dichloromethane	ug/kg	< 40	40
1,2-Dichloropropane	ug/kg	< 40	40
1,3-Dichloropropylene	ug/kg	< 40	40
1,1,2,2-Tetrachloro-ethane	ug/kg	< 40	40
1,1,1,2-Tetrachloro-ethane	ug/kg	< 40	40
Tetrachloroethylene	ug/kg	< 40	40
1,1,1-Trichloroethane	ug/kg	< 40	40
1,1,2-Trichloroethane	ug/kg	< 40	40
Trichloroethylene	ug/kg	< 40	40
Trichlorofluoro-methane	ug/kg	< 40	40
Trichloropropane	ug/kg	< 40	40
Vinyl chloride	ug/kg	< 40	40

Kaldveer Associates
Geoscience Consultants

Executive Vice President
Ronald I. Baljinski, P.E., G.E.
Vice President Engineering
Patrick Stevens, P.E.
Associate
David F. Hoexter, C.E.G.
Associate
Michael McRae, P.E.
Dawn Rinaldi, P.E.

June 29, 1988
KE998-1B, 11703

Taylor-Woodrow of California
333 Third Street
San Francisco, California 94107

Attention: Mr. Robert Upton
Executive Vice President

RE: ADDITIONAL SOIL TESTING
AND PRELIMINARY
INVESTIGATION OF
GROUNDWATER QUALITY
ALPHA BETA #541
ALAMEDA, CALIFORNIA

Gentlemen:

In this letter report, we present the results of our additional soil testing and preliminary groundwater testing at the proposed location of the Alpha Beta Store #541 addition. The existing Alpha Beta market is located within the Fernside Shopping Center, situated northeast of the intersection of Blanding Avenue and Broadway and northwest of Tilden Way and the railroad tracks, as shown on the Site Vicinity Map, Figure 1. The purpose of this investigation was to obtain information on site hydrogeologic characteristics; determine the presence, if any, of chemical compounds in the subsurface groundwater and to further evaluate the lateral extent of soil contamination. The investigation was conducted by Ms. Polly L. Worrell, Senior Geologist/Environmental Specialist.

The soil material within the contaminated area contains petroleum hydrocarbons at concentrations greater than 100 parts per million (ppm). A possible source of the detected petroleum hydrocarbons in the subsurface soils at the southeast corner of the existing Alpha Beta market could have been the underground tank which was removed in 1974, as shown in Figure 2. Another source, which we were unable to verify, was indications from several sources that waste hydrocarbons may have periodically been dumped on the site.

425 Roland Way
Oakland, California 94621
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A California Corporation

PREVIOUS WORK PERFORMED BY OUR FIRM

Kaldveer Associates (KA) has previously performed an environmental study, site characterization and environmental assessment, and two geotechnical engineering investigations at the site. Our firm conducted the original foundation investigation of the neighborhood shopping center and the results were presented in our report titled, "Foundation Investigation, Shopping Center, Alameda, California", dated May 4, 1972. More recently, our firm conducted a foundation investigation for the proposed addition to the Alpha Beta market. The results of this study were presented in the report titled, "Supplemental Foundation Investigation, Alpha Beta Market Expansion, Alameda, California", dated October 27, 1987. During this supplemental investigation for the Alpha Beta addition, a strong fuel-like odor was noted in the soil samples obtained from Boring 5, which was located near the southeast corner of the existing market.

Subsequently, a preliminary soil testing program was performed to assess the presence and measure concentrations of petroleum hydrocarbons in the subsurface soils in this vicinity. The results of this investigation were presented in the letter report titled, "Preliminary Soil Testing Program, Alpha Beta #541 Addition, Alameda, California", dated December 2, 1987. More recently, our firm conducted a site characterization and environmental assessment for the market addition. The results of this investigation was presented in our letter report titled, "Site Characterization and Environmental Assessment, Alpha Beta #541, Alameda, California", dated January 8, 1988. In this letter report, we recommended a subsurface investigation to define the extent of both soil and groundwater contamination.

SCOPE OF WORK

The scope of work for this investigation included the following:

1. Review of applicable geologic information on the site and surrounding area. Review of our previous geotechnical and environmental investigations to determine optimum exploratory boring and monitoring well locations.

2. A field subsurface exploratory program consisting of drilling seven exploratory borings and screening soil and water samples for hydrocarbons and other organic compounds with a vapor detection instrument and a combustible gas indicator.

3. Installation of a groundwater monitoring well in three of the seven exploratory borings in accordance with Zone Seven, Alameda County Flood Control and Water Conservation District Guidelines.

4. Development and sampling of the new groundwater monitoring wells.

5. Analytical testing of the soil and groundwater samples including: 1) low to medium boiling point ("gasoline") hydrocarbons with benzene, toluene, xylene and ethylbenzene (BTXE) and; 2) high boiling point hydrocarbons ("diesel").

6. Surveying of well head elevations of the three installed monitoring wells.

7. Presentation of the analytical test results and discussion of conclusions concerning the concentration of contaminants, if any, detected in the soil groundwater samples.

8. Recommendations for excavation of contaminated soils at the southeast corner of the existing Alpha Beta market.

9. Preparation of this letter report.

SITE INVESTIGATION

A. Subsurface Investigation

During our October 13, 1987 supplemental foundation investigation study, five borings were drilled to a maximum depth of 20.5 feet. In addition, a total of thirteen borings, two of which were near the proposed addition site were drilled on April 10 to 12, 1972 to a maximum depth of 24 feet. The approximate locations of the seven borings drilled for this investigation (includes three monitoring wells), the five borings drilled for our December 2, 1987 investigation, the five borings drilled for our previous supplemental foundation investigation and two previous adjacent borings drilled during our initial investigation are shown on the Site Plan, Figure 2.

In our preliminary soil testing program, five exploratory borings, Boring 6 through 10 were drilled on November 4, 1987 to a maximum depth of 16 feet. The borings were generally located in the vicinity of our previous

Boring 5, where contamination was originally observed. Petroleum hydrocarbons were detected in all samples submitted for testing. All of the total concentrations (volatile and extractable combined) detected were less than 100 parts per million (ppm), except those of a sample from Boring 6, in the southwest corner of the proposed addition. Hydrocarbon levels at this location were in excess of 1,200 ppm. During our current investigation, Monitoring Well Three (MW-3) was drilled approximately 50 feet southwest of Boring 6.

The subsurface investigation was performed using truck mounted continuous flight hollow stem augers. Seven exploratory borings were drilled on April 12 and 13, 1988. The seven borings were drilled to a maximum depth of 25 feet. Subsequent to the drilling of three of the exploratory borings, the borings were converted into groundwater monitoring wells. The monitoring wells were permitted with Alameda County Flood Control and Water Conservation District (Zone Seven) prior to initiation of the field investigation.

Four of the seven borings drilled were located in the vicinity where contamination was originally observed, and surrounding areas where previous soil samples contained hydrocarbons. The three remaining exploratory borings were converted monitoring wells.

The observations performed during the drilling process showed that fuel-like odors noted in our previous soil testing program were not present in the current additional borings. The observations and later analytical laboratory results allowed approximate horizontal area of contaminated soil to be mapped.

Logs of the borings and monitoring wells and details of the field investigation, sampling methodology and well construction for this investigation are presented and discussed in Appendix A. The augers and equipment were steam-cleaned prior to the drilling operations. A photo log of the field investigation is also presented in Appendix A.

B. Soil Sampling

Soil samples were generally obtained from each of the borings between depths of 2 and 21 feet. The sampling program was based on our field observations at the time of drilling.

The soil samples were obtained with a 2½-inch O.D. California sampler. Each sample was contained in 2-inch diameter, 6-inch long brass liners. The sampler and brass liners were decontaminated with a trisodium phosphate (TSP) solution, rinsed with clear water and a final rinse of deionized water prior to each sampling. The obtained soil samples were stored using the following procedures: 1) the sample ends were covered with aluminum foil, fitted with rubber caps, and taped and 2) each sample was stored in a zip-lock plastic bag and refrigerated. Details of the sampling methodology for this investigation are presented and discussed in Appendix A. The samples were delivered after drilling under chain-of-custody control to Fireman's Fund Environmental Laboratory in Petaluma, California for testing. Chain-of-custody records and analytical results are presented in Appendix B.

C. Groundwater Sampling

Initial groundwater sampling was conducted on April 21, 1988. Immediately prior to groundwater sampling, each of the three wells was developed and purged with a 2-inch well development pump. The pump and lines were decontaminated prior to and after each use. Well development logs and details concerning decontamination procedures are presented in Appendix A. A decontaminated Teflon bailer was utilized to sample each monitoring well.

Stabilized water levels were measured on May 10, 1988. At that time, a fuel-like odor was noted from monitoring well MW-3. In our previous groundwater sampling (April 21, 1988), no odors were noted. Analytical results indicated no presence of petroleum hydrocarbons. However, since fuel-like odors were noted on May 10, 1988, groundwater sampling was conducted again, on May 18, 1988. Immediately prior to this groundwater sampling, each of the three wells was purged with a decontaminated 2-inch Teflon bailer. Three well casing volumes were removed from each well immediately prior to sampling. A decontaminated Teflon bailer was utilized to sample each monitoring well.

The water samples were stored in the appropriate cleansed and preserved glass, plastic and VOA vial containers supplied by the laboratory. The groundwater samples were refrigerated and transported under chain-of-custody control to Fireman's Fund Environmental Laboratory for testing. Details of the groundwater sampling of the wells are also discussed in Appendix A. Chain-of-custody records and analytical results are presented in Appendix B.

SITE CONDITIONS

A. Surface

At the time of our field investigation, the majority of the market addition site was surfaced with approximately two inches of asphaltic concrete over four to six inches of baserock. In addition, a concrete sidewalk, ramp and curbing was adjacent to the southeast side of the market.

B. Subsurface

The near surface soils encountered below the pavement were fill materials generally consisting of loose to medium dense silty, clayey or gravelly sands and stiff silty and sandy clays which extended to depths of 4 to 6½ feet. Underlying these fill materials were medium dense to dense silty and clayey sands and stiff sandy clays. These native materials extended to the maximum depth explored of 25 feet.

A moderate to strong fuel-like odor was noted in our previous soil testing program for soil samples from Boring 6 at depths of 5 to approximately 11.5 feet and in Boring 10 at a depth of seven feet. No odors of any kind were noted in soil samples from the seven borings drilled for this investigation.

Detailed descriptions of the soils encountered in each of the exploratory borings drilled for this investigation are presented as boring logs in Appendix A. The attached boring logs and related information depict subsurface conditions only at the specific locations shown on the Site Plan, Figure 2, and on the particular date designated on the logs. Also, the passage of time may result in changes in the subsurface conditions due to environmental changes. The locations of the borings were approximately determined by pacing and should be considered accurate only to the degree implied by the method used.

B. Groundwater

First groundwater was encountered in Monitoring Wells 1, 2 and 3 at a depth of approximately 11 to 14½ feet at the time of drilling. Stabilized groundwater levels and elevations were established on May 10, 1988 for each monitoring well. These elevations were used to establish the general groundwater flow direction of the site. Directional groundwater gradient for the site flows in a northeasterly direction as shown on Figure 3, Groundwater Surface Map, May, 1988.

The following Table 1 presents the results of these measurements.

TABLE 1

MEASURED GROUNDWATER LEVELS

Monitoring Well	Assumed Datum	Relative Elevation of Top of Well (casing)	Depth of Groundwater	Relative Elevation of Groundwater	Date
MW-1	100 ft.	97.08 ft.	4.69 ft.	92.39	5/10/88
MW-2	100 ft.	99.15 ft.	9.20 ft.	89.95	5/10/88
MW-3	100 ft.	99.13 ft.	5.51 ft.	93.62	5/10/88

A permanent marker was used as a reference elevation at 100.00 feet. The permanent marker was a nail at the intersection of concrete slabs on the walkway along the estuary, approximately 15 feet from MW-2. The nail was encircled with blue spray paint. The permanent marker is shown in the Photo Log, part of Appendix A.

ANALYTICAL TESTING

United States Environmental Protection Agency (EPA) Test Methods were performed on seven soil and six groundwater samples, two from each of the wells. In addition to the groundwater samples, one quality assurance/quality control (QA/QC) travel blank sample was archived by the laboratory for volatile organic compounds. The samples were analyzed in accordance with the following EPA Test Methods.

Test Name	EPA Test Method
TPH(1)/Gasoline (volatile, low to medium boiling point hydrocarbons + BTXE(2)	Modified 615/8015 + 602/8020
TPH(1)/Diesel (extractable high boiling point hydrocarbons)	Modified 615/8015

Notes:

(1) TPH = Total Petroleum Hydrocarbons
(2) BTXE = Benzene, Toluene, Xylene and Ethylbenzene

ANALYTICAL TEST RESULTS AND DISCUSSION

No detectable amounts of petroleum hydrocarbons including BTXE, for soil samples in Exploratory Borings EB-1, EB-2, EB-3, EB-4 and Monitoring Wells MW-1, MW-2 and MW-3 were reported by the analytical laboratory. Additionally, no detectable amounts of petroleum hydrocarbons including BTXE in groundwater samples MW-1, MW-2 and MW-3 were reported by the analytical laboratory.

The following Table 2 presents cumulative analytical data reported from our current and previous investigations.

TABLE 2
SUMMARY OF TEST RESULTS ABOVE
THE METHOD DETECTION LIMITS
(in ppm)

Matrix	Boring/ Well Number	Depth (Feet)	Volatile low to medium B.P. Hydrocarbons	Extractable High B.P. Hydrocarbons	Benzene	Toluene
Soil	EB-1	1½+6½	ND	ND	ND	ND
Soil	EB-2	3½+7½	ND	ND	ND	ND
Soil	EB-3	3½+8½	ND	ND	ND	ND
Soil	EB-4	4½+8½	ND	ND	ND	ND
Soil	MW-1	2½+5½	ND	ND	ND	ND
Soil	MW-2	3+8	ND	ND	ND	ND
Soil	MW-3	2½+7½	ND	ND	ND	ND
Water	MW-1	N/A	ND	ND	ND	ND
Water	MW-2	N/A	ND	ND	ND	ND
Water	MW-3	N/A	ND	ND	ND	ND
Soil	PB-6	6	39	1,200	.12	.08
Soil	PB-8	5½	ND	23	ND	ND
Soil	PB-9	5½+8	34	4	--	--
Soil	PB-10	7	12	46	ND	ND

Notes:

B.P. = Boiling Point
EB = Exploratory Boring drilled in April 1988
MW = Monitoring Well drilled in April 1988
PB = Previous Boring drilled in December 1987
ND = Not Detected (above detection limit for test method)
-- = Not Analyzed
N/A = Not Applicable

DISCUSSION AND CONCLUSIONS

The analytical data indicates groundwater quality of the subject property has not been impacted by contaminants found in our previous study. A down-gradient well within the footprint of the proposed addition has not been constructed, thus some groundwater contamination may be present at the southwest building corner. However, the previous exploration and sampling provided no indication of high concentrations of hydrocarbons in the groundwater.

In our previous investigation, petroleum hydrocarbons were detected in all samples submitted for testing. However, the total concentrations (volatile and extractable, combined) detected were less than 100 parts per million (ppm), except those of a sample from Boring 6, in the southwest corner of the proposed addition. Hydrocarbons levels at this location were in excess of 1,200 ppm.

As discussed in our previous report, the San Francisco Bay Region California Water Quality Control Board has issued guidelines for fuel leak contamination of soil. These guidelines are contained in "Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure", revised May, 1988. These guidelines generally require site remediation where hydrocarbons content in soil exceeds 1000 ppm, and further investigation of potential or existing groundwater contamination at levels exceeding 100 ppm in soil. At levels less than 100 ppm, the soil may be left in place. According to Appendix F in the referenced document, the following is stated: "If contaminated soil is to be treated at or removed from a site, a decision needs to be made regarding the waste classification of the soil. If the soil is classified as hazardous, it must be managed accordingly (i.e., manifested, licensed hauler, sent to a licensed facility). If it is treated on-site, the treatment system must have a permit or variance from Department of Health Services (DHS)".

Additionally, the leaching potential analysis for diesel using total petroleum hydrocarbons (TPH) and benzene, toluene, xylene and ethylbenzene (BTXE) was calculated from Table 2-2 of the referenced document. By following this table (attached Figure 4), we were able to establish the concentrations of TPH and BTXE that can be left in place without threatening groundwater which calculated to be 100ppm.

RECOMMENDATIONS

Petroleum hydrocarbons are present at concentrations greater than 1000 ppm in the southwest corner of the proposed addition. We recommend that the contaminated soils be removed to the approximate depth of 10 feet (or less, depending upon precise contamination concentrations). Figure 5, "Proposed Excavation Limits of Hydrocarbon Contaminated Soil", delineates the approximate area which should be excavated. A concentration of 100 ppm should be used as a cut off. The precise depth and limits of excavation should be determined in the field. Soil contamination may be present under the existing building. As groundwater has not been impacted at the site, it is our opinion that removal of contaminated soil below the existing building, if it exists, would not be economically justified. A copy of this letter should be sent to the California Regional Water Quality Board, San Francisco Bay Region, located in Oakland, California, with an appropriate cover letter describing proposed further investigation/excavation.

Post-removal soil sampling and analytical testing should be conducted to verify that all the hydrocarbon contaminated soils have been removed to the required levels.

Following this letter report, a work plan will be provided by Kaldveer Associates including excavation limits, underpinning requirements, soil aeration/disposal, and post removal soil sampling/testing.

LIMITATIONS

Our services are performed in accordance with generally accepted environmental principles and practices. Soil deposits and rock formation may vary in thickness, lithology, saturation, strength and other properties across any site. Our studies assume that the field and laboratory data are reasonably representative of actual field conditions. The analytical results of our testing program are only specific to the locations shown on the Site Plan and the dates of sampling. The analytical results reflect concentrations detected above detection limits applicable to each test method requested. We make no warranty, expressed or implied, except that our services have been performed in accordance with those techniques and principles generally accepted at this time and location. If the information or data presented in this report change, we should be advised so that we can review our report in light of these changes.

It has been a pleasure to provide our services to you. If you have any questions, please call our office.

Very truly yours,

KALDVEER ASSOCIATES, INC.

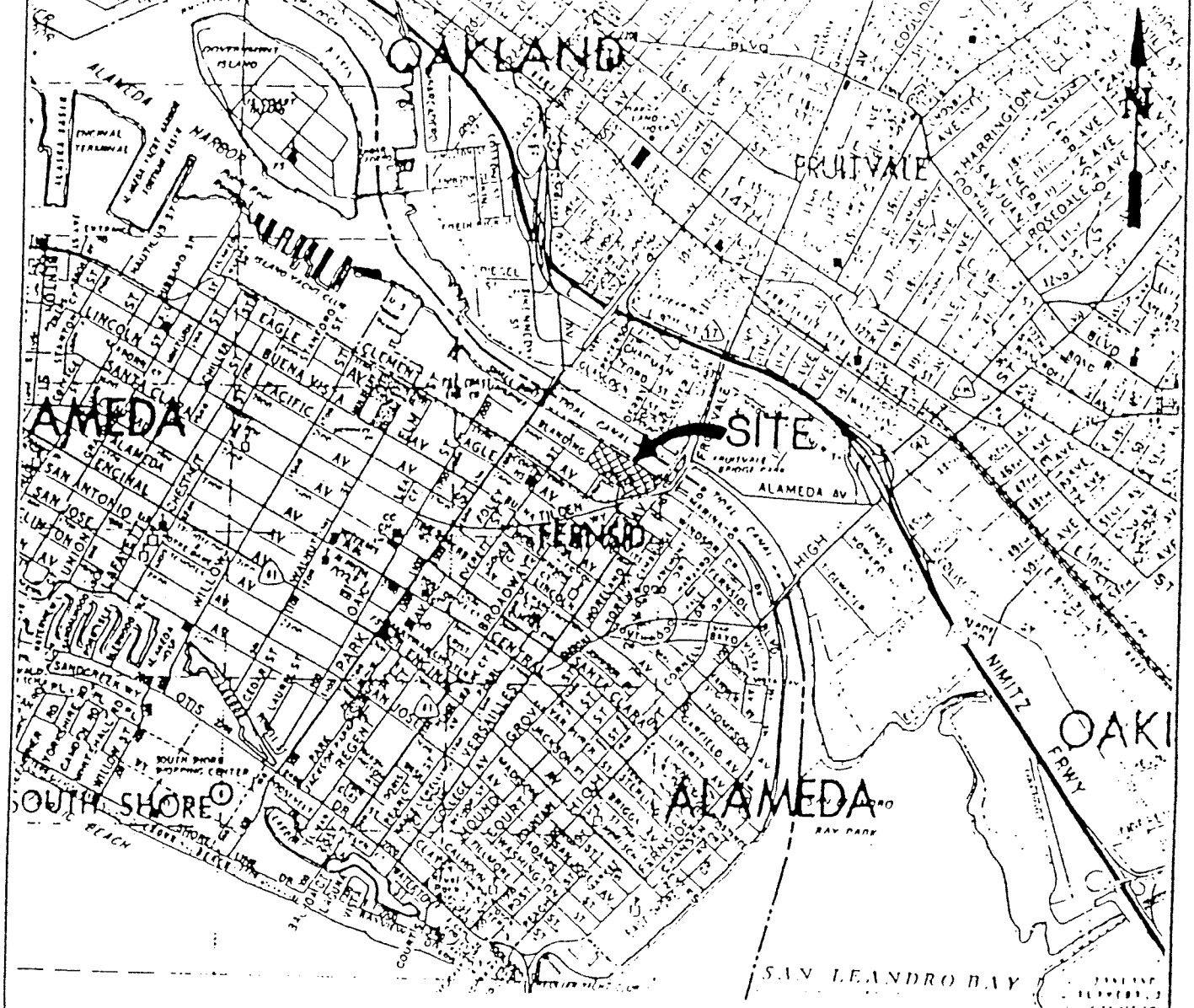
Prepared By: Polly Worrell
Senior Geologist/Environmental Specialist

REGISTERED GEOLOGIST
DAVID F. HOEXTER
No. 1158
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Reviewed By: David F. Hoexter, C.E.G. 1158
Manager, Environmental/Geologist Services

Reviewed By: Ronald L. Bajuniemi
Vice President Engineering

PW/DFH/RLB:pv
Copies: Addressee (3)
Enclosures: Figure 1 - Site Vicinity Map
Figure 2 - Site Plan with Previous Structures
Figure 3 - Groundwater Surface Map, May 1988
Figure 4 - Table 2-2, "Leaching Potential Analysis for Diesel"
Figure 5 - Proposed Excavation Limits of Petroleum Hydrocarbon Contaminated Soil
Appendix A - Environmental Field Investigation
Appendix B - Analytical Test Results and Chain-of-Custody Records for MW-1, MW-2, MW-3, Boring 1, 2, 3 and 4



APPROXIMATE SCALE (Mile)

0 ½ 1

Base: 1984 Alameda County Thomas Guide, by Thomas Bros. maps, 1983, pages 11 and 12.

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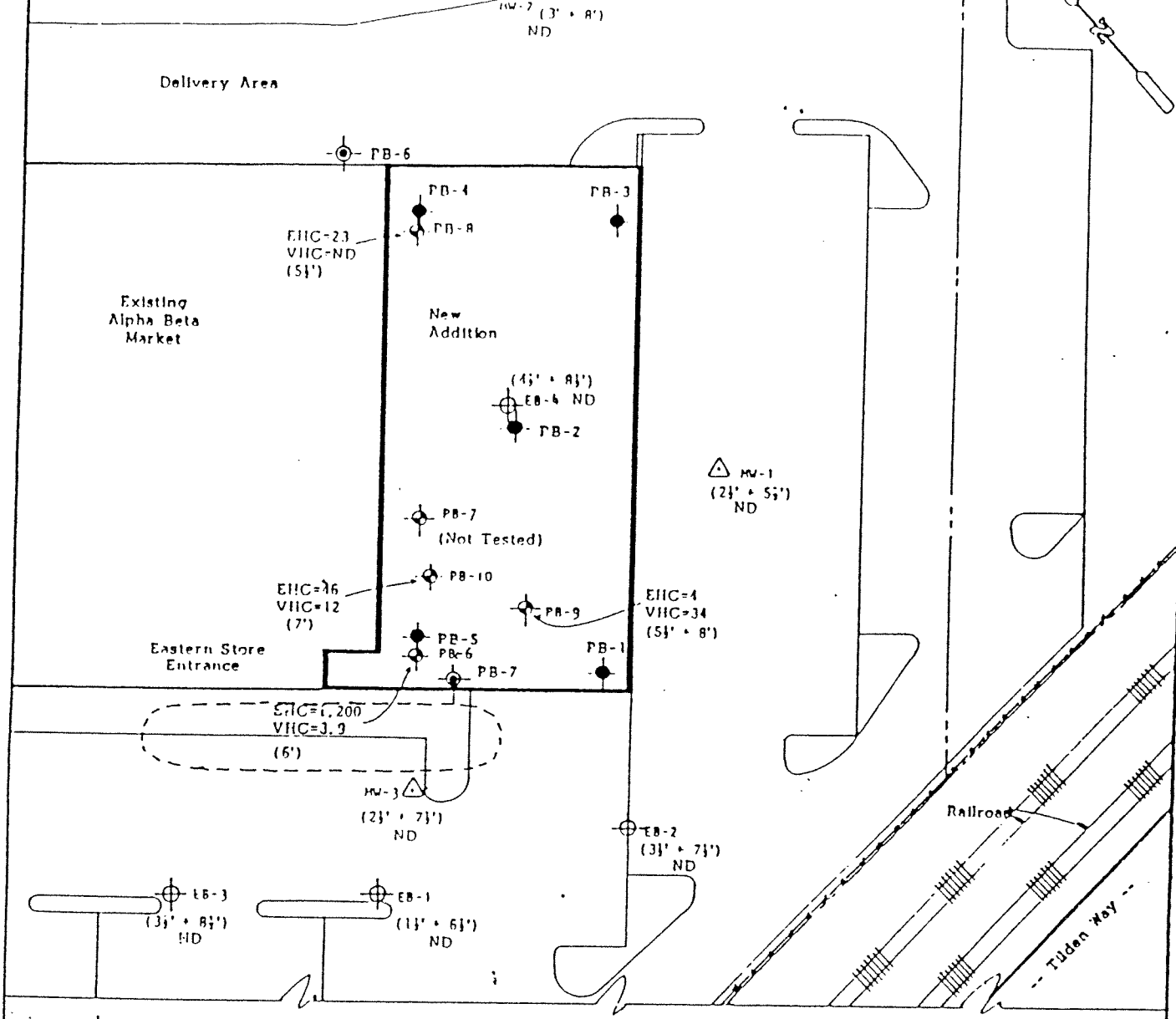
SITE VICINITY MAP

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO	DATE	
KE998-1B	June 1988	Figure 1



EB-4 ⊕ Approximate Location of Exploratory Boring Drilled in April, 1988.

PB-10 ⊕ Approximate Location of Previous Borings Drilled in December, 1987.

PB-5 ● Approximate Location of Previous Borings drilled in October, 1987. (Geotechnical Testing Only)

PB-7 ⊕ Approximate Location of Previous Borings drilled in April, 1972. (Geotechnical Testing Only)

EHC —— Total Concentrations of Extractable Hydrocarbons in ppm

VHC —— Total Concentrations of Volatile Hydrocarbons in ppm

ND —— Not Detected Above Detection Limits

Base: "Site Plan", by James W. Foug & Associates, dated November 26, 1987.

APPROXIMATE SCALE (Feet)

0 50 100

MW-3 △ Approximate Location of Monitoring Well.

(5½') Sample Depth

– – – – Inferred Location of Former Fuel Tank.

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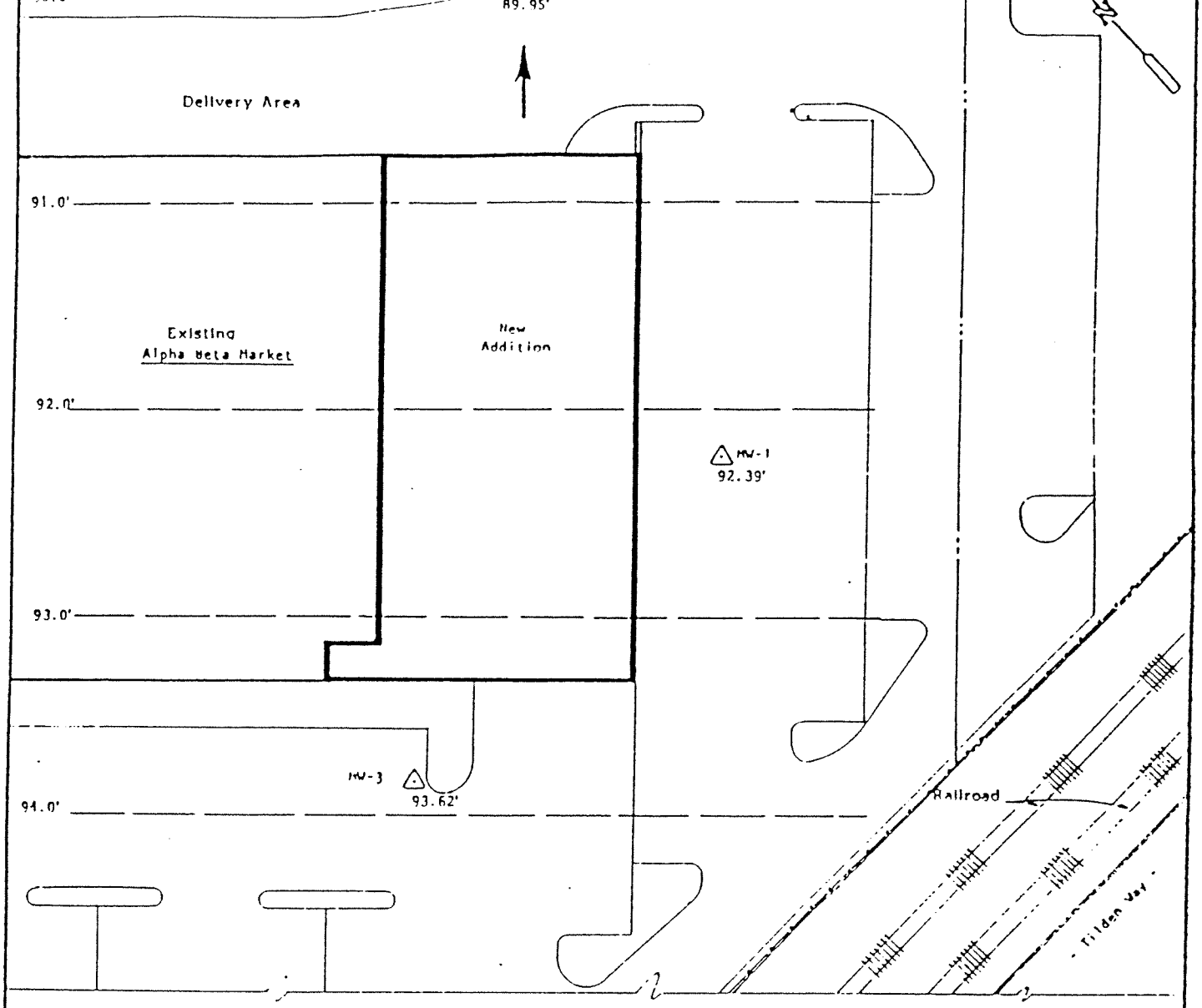
SITE PLAN

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Figure
KE898-1B	June 1988	2



LEGEND

94.0' ——— Approximate Elevation of Groundwater Potentiometric Surface in Feet.

MW-1 92.39' △ Location of Monitoring Well with Elevation of Groundwater.

→ Directional Groundwater Gradient.

Approximate Scale (feet)

0 50 100

Base: "Site Plan", by James W. Foug and Associates, dated November 26, 1987.

Kaldveer Associates
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GROUNDWATER SURFACE MAP - MAY, 1988

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Figure 3
KE998-18	June 1988	

Table 2-2
Leaching Potential Analysis for Diesel
Using Total Petroleum Hydrocarbons(TPH)
and Benzene, Toluene, Xylene and Ethylbenzene (BTX&E)

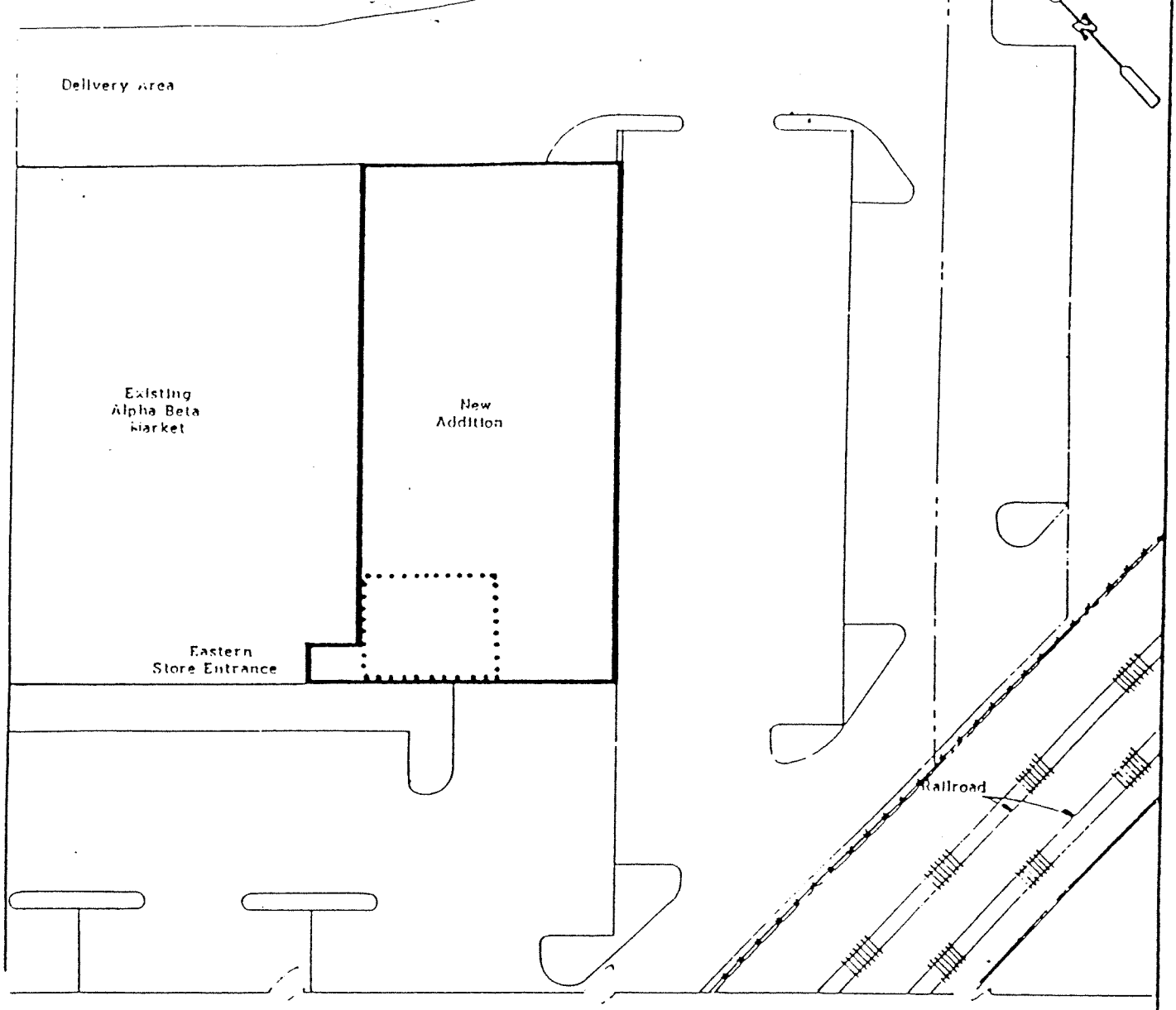
The following table was designed to permit estimating the concentrations of TPH and BTX&E that can be left in place without threatening ground water. Three levels of TPH and BTX&E concentrations were derived (from modeling) for sites which fall into catagories of low, medium or high leaching potential. To use the table, find the appropriate description for each of the features. Score each feature using the weighting system shown at the top of each column. Sum the points for each column and total them. Match the total points to the allowable BTX&E and TPH levels.

SITE FEATURE	SCORE	SCORE 10 PTS IF CONDITION IS MET	SCORE	SCORE 9 PTS IF CONDITION IS MET	SCORE	SCORE 5 PTS IF CONDITION IS MET
Minimum Depth to Ground Water from the Soil Sample (feet)		>100		51-100		25-50\1
Fractures in subsurface (applies to foothills or mountain areas)		None		Unknown		Present
Average Annual Precipitation (inches)		<10		10-25		26-40\2
Man-made conduits which increase vertical migration of leachate		None		Unknown		Present
Unique site features: recharge area, coarse soil, nearby wells, etc		None		At least one		More than one
COLUMN TOTALS→TOTAL PTS		+		+		=
RANGE OF TOTAL POINTS	49pts or more		41 - 48 pts		40pts or less	
MAXIMUM ALLOWABLE B/T/X/E LEVELS (PPM)	1/50/50/50		.3/.3/1/1		NA\3	
MAXIMUM ALLOWABLE TPH LEVELS (PPM)	10000		1000		100	

\1 If depth is greater than 5 ft. but less than 25 ft., score 0 points. If depth is 5 ft. or less, this table should not be used.
If precipitation is over 40 inches, score 0 points.
\3 Levels for BTX&E are not applicable at a TPH concentration of 100ppm

Table from "Leaking Underground Fuel Tank (LUFT) Field Manual", dated May 1988.

Figure 4



LEGEND

• • • • • • • Approximate Area of Contamination greater than 1000 ppm.

APPROXIMATE SCALE (FEET)

0 50 100

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PROPOSED EXCAVATION LIMITS OF PETROLEUM HYDROCARBON CONTAMINATED SOIL

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Figure 5
KE998-1B	June 1988	

APPENDIX A -
ENVIRONMENTAL FIELD INVESTIGATION

SUBSURFACE SOIL SAMPLING

The subsurface investigation was performed using a truck-mounted, 8-inch diameter, continuous flight hollow stem augers to investigate and sample the subsurface soils. Seven exploratory borings were drilled on April 12 and 13, 1988, to depths of 12 to 25 feet below existing grade. The approximate locations of the borings are shown on the Site Plan, Figure 2. The augers and equipment were steam-cleaned prior to the drilling operations.

The soils encountered in the borings were continuously logged in the field by our engineer or geologist. The soils were described in accordance with the Unified Soil Classification System (ASTM D-2487). The logs of the borings as well as a key for the classification of the soil (Figure A-1) and the symbols utilized on the logs (Figure A-2) are included as part of this appendix.

Representative soils samples were obtained from the exploratory borings at selected depths based on our field observations at the time of drilling. The soil samples were obtained with the 2½-inch O.D. California sampler. The locations where each soil sample was obtained is indicated in the "Sample" column of the logs as designated below. In addition, the depth of the selected soil sample to be utilized for possible analytical testing is designated by the cross-hatched area within the "sampler" column.


California Sampler


Soil Sample Stored for Possible Analytical Testing

Each sample was contained in 2-inch diameter, 6-inch long, brass liners. The sampler and brass liners were decontaminated with a trisodium phosphate (TSP) solution, rinsed with fresh water, and then a final rinse of deionized water prior to each sampling. The ends of the soil samples were covered with aluminum foil, rubber capped, sealed with tape, and placed in zip-lock, plastic bags. Each sample was labeled in such a manner as to maintain client confidentiality and immediately placed in refrigerated storage. A chain-of-custody form was completed by the sampler and accompanied the samples to Fireman's Fund Environmental Laboratory, in Petaluma, California, on April 11, and May 19, 1988 for testing.

Resistance blow counts were obtained with the samplers by dropping a 140-pound hammer through a 30-inch free fall. The sampler was driven 18 inches and the number of blows were recorded for each 6 inches of penetration. The blows per foot recorded on the boring logs represent the accumulated number of blows that were required to drive the last 12 inches. Due to the larger diameter of the California Sampler, the blow counts recorded with this sampler are not standard penetration resistance values. In order to convert these values to standard penetration resistance values, the indicated blow count should be multiplied by a factor of 0.8.

The attached boring/monitoring well logs and related information show our interpretation of the subsurface conditions at the dates and locations indicated, and it is not warranted that they are representative of subsurface conditions at other locations and times.

MONITORING WELL INSTALLATION

Subsequent to the drilling of Borings MW-1, MW-2, and MW-3, the borings were converted into 24 foot deep groundwater monitoring wells. The monitoring wells have been permitted with the Alameda County Flood Control and Water Conservation District under Permit Number 88131. Diagrams and descriptions of each well constructed is presented on the individual well logs.

Monitoring well construction consisted of installing a 2-inch diameter, threaded Schedule 40 PVC well casing. The lower 19 feet of the well casing was a factory slotted (slot size = .020 inches) to allow the inflow of the groundwater. The upper 5 feet of the well casing was solid casing consisting of threaded 10-foot sections. Number 3-sized Monterey sand was used to fill the annular seal up to 2 feet above the screened portion of each well. A 1 foot thick betonite pellet seal was placed over the sand pack and the remaining annular space was sealed with a lean concrete slurry to 2 feet below the existing ground surface. A steel locking well cover followed by a concrete Cristy box were placed over each well casing for protection. The construction details for each well is shown on the individual well logs.

WELL DEVELOPMENT

On April 19, 1988, the monitoring wells were developed using a well development pump sepcifically designed to develop 2 and 4 inch wells. The pump and hoses used for development were cleaned with a TSP solution, double rinsed with tap water, and the a final rinse of deionized water prior to each use. The attached well development logs list the number of gallons purged and provide a description of groundwater excavated.

MONITORING WELL SAMPLING

The monitoring wells were sampled after development, following an initial groundwater level measurement. Prior to sample collection, the wells were purged such that a representative formation sample was collected. Purging of the wells consisted of removing 3 to 4 well volumes with a Teflon bailer. Temperature, specific conductivity and pH of the produced water were periodically measured. A Telfon bailer was used for sampling. The sampling equipment were cleaned with a TSP solution, rinsed with clear water, and then a final rinse of deionized water prior to sampling.

All groundwater samples were collected in laboratory prepared containers as appropriate for the type of analysis required. The containers were treated with any preservatives required per EPA approved sampling protocol. The samples were labeled and immediately placed in refrigerated storage until delivery, under chain-of-custody control, to Fireman's Fund Environmental Laboratory in Petaluma, California for testing.

The attached water sample logs present the field record of sample collection.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE ♦ PLEASANTON, CALIFORNIA 94566 ♦ (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2691 Glanding Ave.
Alameda
Alpine Beta Market

CLIENT
Name American Stores Properties Inc.
Address 1500 Anaheim Blvd Phone 714-956-4460
City Anaheim, CA Zip 92805

APPLICANT
Name Kaldveer Assoc. *
Attn: Ken Ferrone
Address 425 Kalamath Way Phone 565-4001
City Oakland Zip 94621

DESCRIPTION OF PROJECT
Water Well Construction X Geotechnical X
Cathodic Protection ___ Well Destruction ___

PROPOSED WATER WELL USE
Domestic ___ Industrial ___ Irrigation ___
Municipal ___ Monitoring X Other ___

PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

WELL PROJECTS
Drill Hole Diameter 6 in. Depth(s) 25 ft.
Casing Diameter 2½ in. Number
Surface Seal Depth 4 ft. of Wells 3
Driller's License No. 407379

GEOTECHNICAL PROJECTS
Number 2
Diameter 6 in. Maximum Depth 30 ft.

ESTIMATED STARTING DATE 4-12-88
ESTIMATED COMPLETION DATE 4-13-88

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Ken Ferrone Date 4-6-88

FOR OFFICE USE

PERMIT NUMBER 88131
LOCATION NUMBER

Approved Craig A. Mayfield Date 8 Apr 88
Craig A. Mayfield

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Notify this office (484-2600) at least one day prior to starting work on permitted work and before placing well seals.
3. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or bore hole logs and location sketch for geotechnical projects. Permitted work is completed when the last surface seal is placed or the last boring is completed.
4. Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie, or equivalent.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic, irrigation, and monitoring wells unless a lesser depth is specially approved.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie, or equivalent.

(E) WELL DESTRUCTION. See attached.

* Kaldveer Associates' Representative:
Mr. Ken Ferrone

91987

COARSE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS — MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO 4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
	SANDS — MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO 4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands, gravelly sands, little or no fines
			SP	Poorly graded sands or gravelly sands, little or no fines
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines
			SC	Clayey sands, sand-clay mixtures, plastic fines
FINE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS — LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS — LIQUID LIMIT IS GREATER THAN 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

DEFINITION OF TERMS

	U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS			
	200	40	10	4	3/4"	3"	12"	
SILTS AND CLAYS	SAND				GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE		FINE	COARSE		

GRAIN SIZES

SANDS AND GRAVELS	BLOWS/FOOT†
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	STRENGTH††	BLOWS/FOOT†
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

CONSISTENCY

†Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1-3/8 inch I.D.) split spoon (ASTM D-1586).

††Unconfined compressive strength in tons/sq. ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation.

Kaldveer Associates
Geoscience Consultants
A California Corporation

KEY TO EXPLORATORY BORING LOGS
Unified Soil Classification System (ASTM D-2487)

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Figure
KE998-1B	June 1988	A-1

DRILL RIG	Hollow Stem Auger	SURFACE ELEVATION	-	LOGGED BY	KF
DEPTH TO GROUNDWATER	6½ feet	BORING DIAMETER	8 inches	DATE DRILLED	4/13/88

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE						
2" A.C., 4" Baserock									
SAND(fine-medium grained), silty, some clay, gravelly (FILL)	dark-brown black	medium dense-dense	SM	1 2		83/9			
CLAY, silty, trace of sand(fine grained)	dark brown black	stiff	CL	3 4 5					
SAND(fine-medium grained), silty, some clay (grading less clay)	grey-brown	loose-medium dense	SM	6 7 8 9 10		12	▽		
SAND(fine-medium grained), some silt, moist	grey-brown	medium dense	SM	11 12 13 14		18 28			
Bottom of Boring = 14 feet				15 16 17 18 19 20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values, see Appendix A.
3. The groundwater level was measured at 13½ feet at time of drilling. Four hours after drilling, the groundwater level was measured at 6½ feet.

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EXPLORATORY BORING LOG

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	BORING NO
KE998-1B	June 1988	1

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION	LOGGED BY KT
DEPTH TO GROUNDWATER 6 feet	BORING DIAMETER 8 inches	DATE DRILLED 4/13/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (psf)
2" A.C., 4" Base									
SAND(fine-coarse grained), silty, gravelly (FILL)	brown	medium dense	SM	1					
CLAY, silty, sandy(fine grained), trace of gravel	dark brown black	very stiff	CL	2					
				3		22			
				4					
CLAY, silty, sandy(fine grained)	grey-brown	stiff	CL	5					
				6			▽		
				7		13			
SAND(fine-medium grained), some silt, moist	grey-brown	stiff	SM	8					
				9					
(occasional clay lenses)				10					
				11		20			
				12					
				13					
				14					
				15		47			
Bottom of Boring = 15½ Feet				16					
				17					
				18					
				19					
				20					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values, see Appendix A.
3. The groundwater level was measured at 11 feet at time of drilling. Three hours after drilling, the groundwater level was measured at 6 feet.

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EXPLORATORY BORING LOG

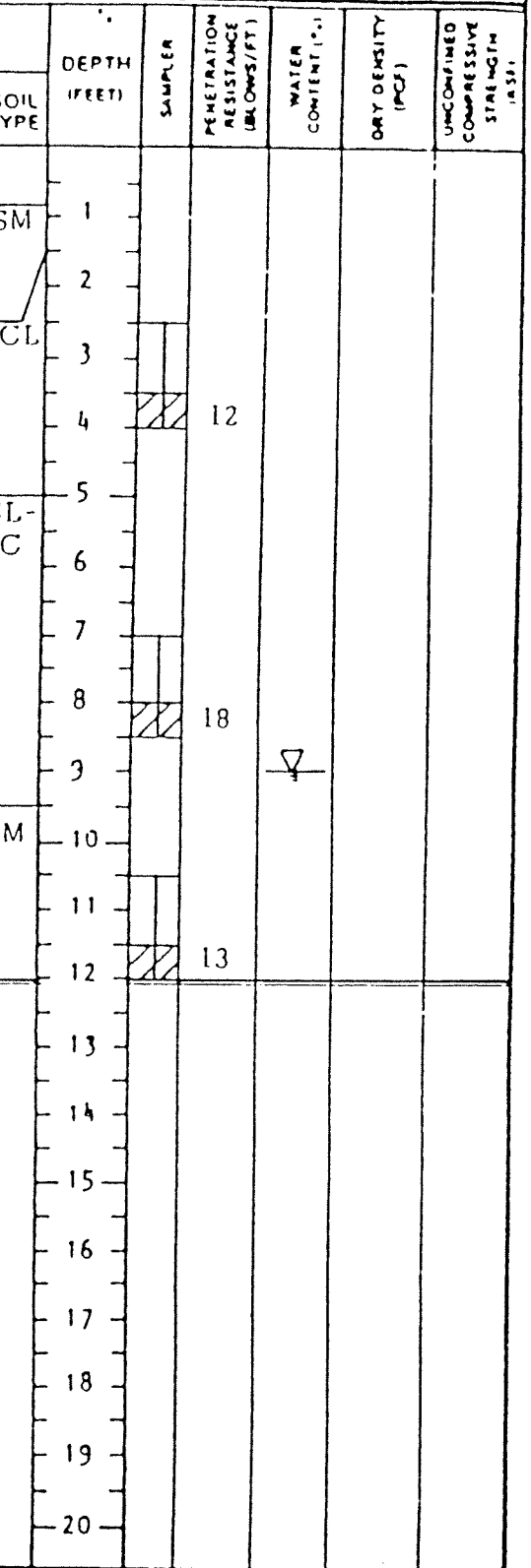
ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	BORING NO
KE998-1B	June 1988	2

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION -	LOGGED BY KF
DEPTH TO GROUNDWATER 9 Feet	BORING DIAMETER 8 inches	DATE DRILLED 4/13/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE
4" A.C., 6" Base			
SAND(fine-coarse grained), gravelly, silty, some clay (FILL)	dark-brown black	medium dense	SM
CLAY, silty, sandy(fine-medium grained)	dark-brown black	firm-stiff	CL
CLAY, silty, sandy(fine-medium grained)	grey-brown	stiff	CL-SC
SAND(fime-medium grained), silty, trace of clay, moist	grey-brown	medium-dense	SM
Bottom of Boring = 12 Feet			

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values, see Appendix A.
3. The groundwater level was measured at 12 feet at time of drilling. Two hours later groundwater level was measured at 9 feet.



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EXPLORATORY BORING LOG

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO	DATE	BORING NO
KE998-1B	June 1988	3

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION -	LOGGED BY KF
DEPTH TO GROUNDWATER 9 feet	BORING DIAMETER 8 inches	DATE DRILLED 4/13/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
3" A.C., 6" Base									
CLAY, silty, sandy (fine-medium grained)	dark brown-black	stiff	CL	1–5		12			
CLAY, silty, sandy (fine-medium grained), moist	grey-brown	stiff	CL-SC	6–9		17	▽		
SAND (fine-medium grained), some silt, moist-wet	grey-brown	medium-dense	SM	10–12		25			
Bottom of Boring = 12½ Feet				13–20					

Notes:
1. The stratificaiton lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values, see Appendix A.
3. The groundwater level was measured at 12 feet at time of drilling. Half hour later the groundwater level measured 9 feet.

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EXPLORATORY BORING LOG

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	BORING NO
KE998-1B	June 1988	4

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION 6.66' (note 4)	LOGGED BY KF
DEPTH TO GROUNDWATER 5' (see note 3)	BORING DIAMETER 8 inches	DATE DRILLED 4/12/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (ksf)
5" A.C., 4" Base									
CLAY, silty, sandy (fine grained), very slight petroleum odor.	black-	stiff	CL	1					
				2		17			
				3					
CLAY, silty, sandy (fine grained)	grey-brown	very stiff	CL	4					
				5			▽		
				6		25			
				7					
SAND (fine-medium grained), silty, trace of clay, moist	grey-brown	loose medium dense	SM	8					
				9					
				10		11			
				11					
		medium dense		12					
				13					
		dense-very dense		14					
				15		74			
				16					
				17					
				18					
				19		61			
				20					

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EXPLORATORY BORING LOG

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Monitoring Well 1
KE998-1B	June 1988	

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION 6.66' (note 4)	LOGGED BY KT
DEPTH TO GROUNDWATER 5 feet (note 3)	BORING DIAMETER 8 inches	DATE DRILLED 4/12/88

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
SAND (fine-medium grained), silty, trace of clay	grey-brown	dense-very dense	SM	21					
CLAY, silty, trace of sand (fine-coarse grained)	green-grey	very stiff	CL-CH	22					
				23					
				24					
Bottom of Boring = 24 Feet				25					
Notes:				26					
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.				27					
2. For an explanation of penetration resistance values, see Appendix A.				28					
3. The groundwater level was measured at 12 feet at time of drilling. Five hours later groundwater level was measured at 5 feet.				29					
4. Location of reference datum is explained in Appendix A and shown on figure 3.				30					
				31					
				32					
				33					
				34					
				35					
				36					
				37					
				38					
				39					
				40					

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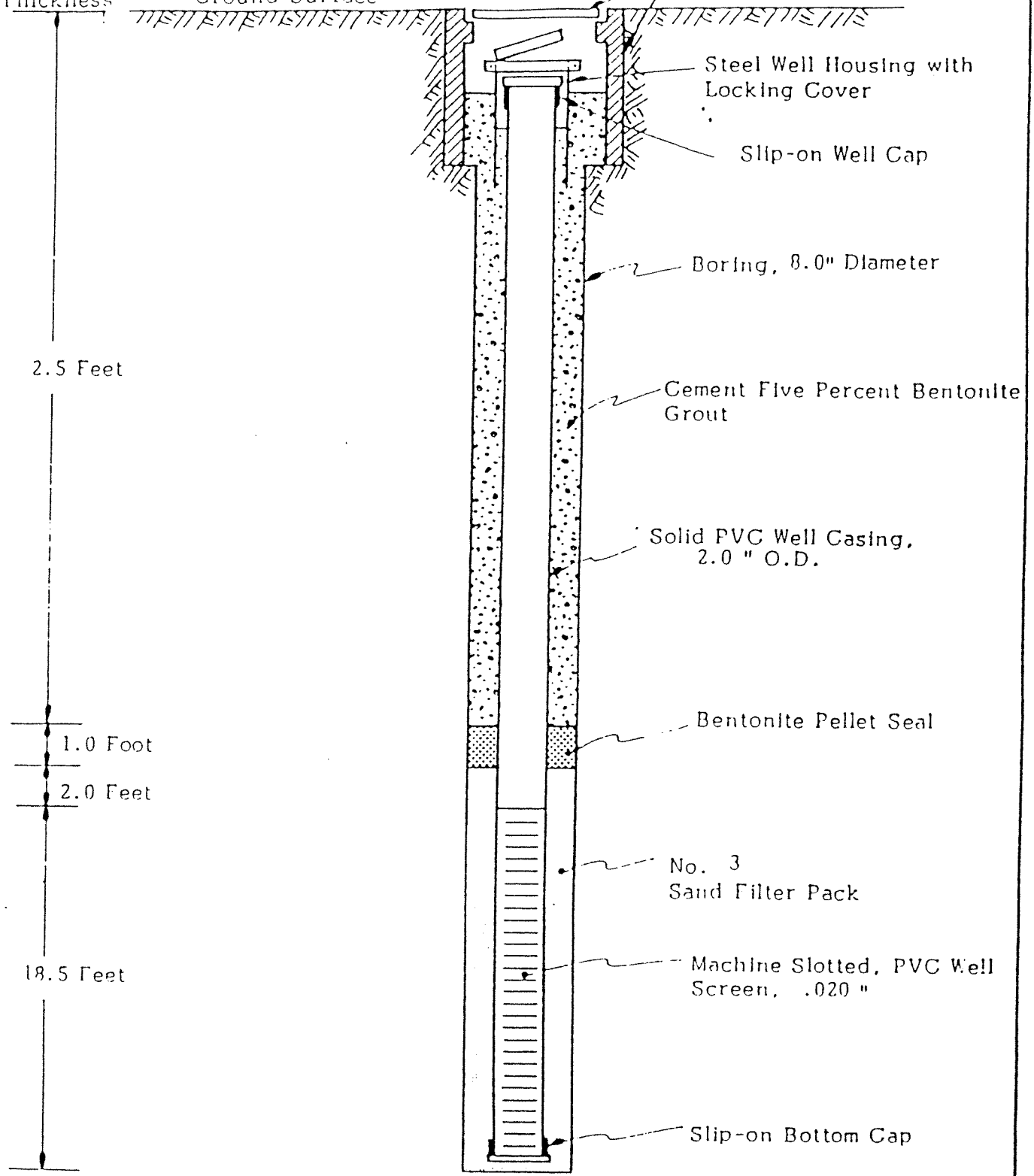
EXPLORATORY BORING LOG

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	
KE998-1B	June 1988	Monitoring Well No. 1



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MONITORING WELL COMPLETION DETAIL

ALPHA BETA GROUNDWATER CONTAMINATION
Oakland, California

PROJECT NO.	DATE	Figure
KE998-1B	June 1988	MW-1

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION 4.82' (note 4)	LOGGED BY KF
DEPTH TO GROUNDWATER 9' (note 3)	BORING DIAMETER 8 inches	DATE DRILLED 4/12/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
CLAY, silty, sandy (fine grained)	dark brown-black	firm-stiff	CL	1–4		7			
CLAY, silty, sandy (fine grained)	grey-brown	stiff	CL	5–9		12	▽		
SAND (fine-medium grained)	grey-brown	dense	SM	10–20		44 (13), 56 (18)			

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EXPLORATORY BORING LOG

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Monitoring Well No.
KE998-1B	June 1988	2

DEPTH TO GROUNDWATER 9' (note 3)	BORING DIAMETER 8 inches	DATE DRILLED 4/12/88

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
SAND (fine-medium grained), some silt	grey-brown	dense	SM	21					
CLAY, silty, trace of sand and gravel	green-grey	very stiff	CL	22					
				23					
				24					
Bottom of Boring = 25 Feet				25					
				26					
				27					
				28					
				29					
				30					
				31					
				32					
				33					
				34					
				35					
				36					
				37					
				38					
				39					
				40					

Notes:
1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values, see Appendix A.
3. The groundwater level was measured at 11½ feet at time of drilling. Twenty-four hours after drilling groundwater level was measured at 9 feet.
4. Location of reference datum is explained in Appendix A and shown on Figure 3.

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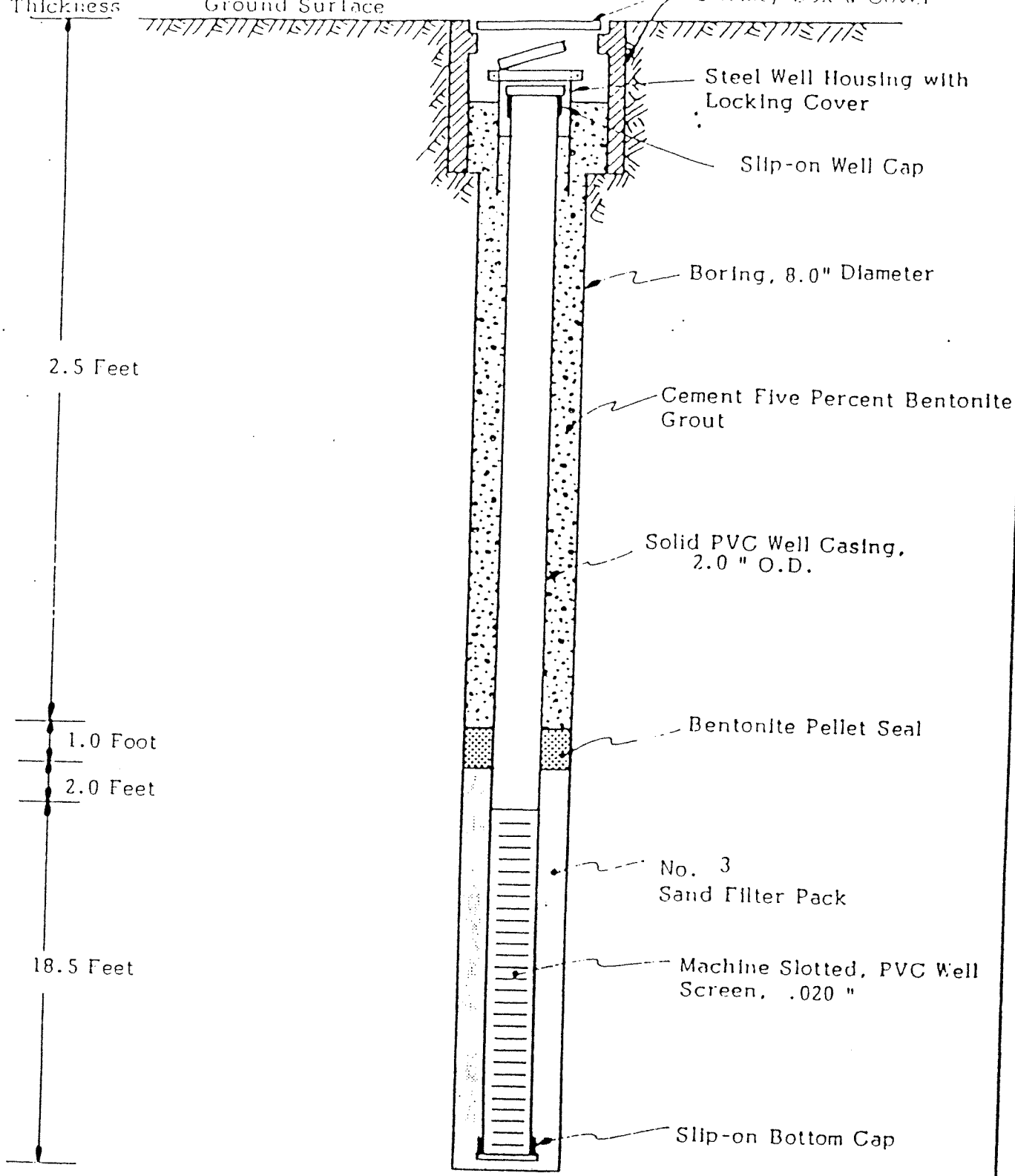
EXPLORATORY BORING LOG

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Monitoring Well No. 2
KE998-1B	June 1988	



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MONITORING WELL COMPLETION DETAIL

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California.

PROJECT NO.	DATE	Figure
KE998-1B	June 1988	MW-2

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION 4.87' (note 4)	LOGGED BY KF
DEPTH TO GROUNDWATER 6' (note 3)	BORING DIAMETER 8 inches	DATE DRILLED 4/13/88

DESCRIPTION AND REMARKS	COLOR	CONSIST	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
2½" A.C., 4" Base									
CLAY, silty, some sand (fine grained)	dark brown-black	stiff	CL	1–5		15			
CLAY, silty, sandy (fine grained)	grey-brown	stiff	CL-SC	5–10		18	▽		
SAND (fine-medium grained), with silt	grey-brown	medium dense	SM	10–20		24, 32, 85			

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EXPLORATORY BORING LOG

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Monitoring Well No.
KE998-1B	June 1988	3

DRILL RIG Hollow Stem Auger	SURFACE ELEVATION 4.87' (note 4)	LOGGED BY KF
DEPTH TO GROUNDWATER 6' (note 3)	BORING DIAMETER 8 inches	DATE DRILLED 4/13/88

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
SAND (fine-medium grained), some silt	grey-brown	dense	SM	21		85			
				22					
				23					
				24					
Bottom of Boring = 25 Feet				25					
				26					
				27					
				28					
				29					
				30					
				31					
				32					
				33					
				34					
				35					
				36					
				37					
				38					
				39					
				40					

1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
2. For an explanation of penetration resistance values, see Appendix A.
3. The groundwater level was measured at 14½ feet at time of drilling. Six hours later groundwater level measured 6 feet.
4. Location of reference datum is explained in Appendix A and shown on figure 3.

Kaldveer Associates
Geoscience Consultants
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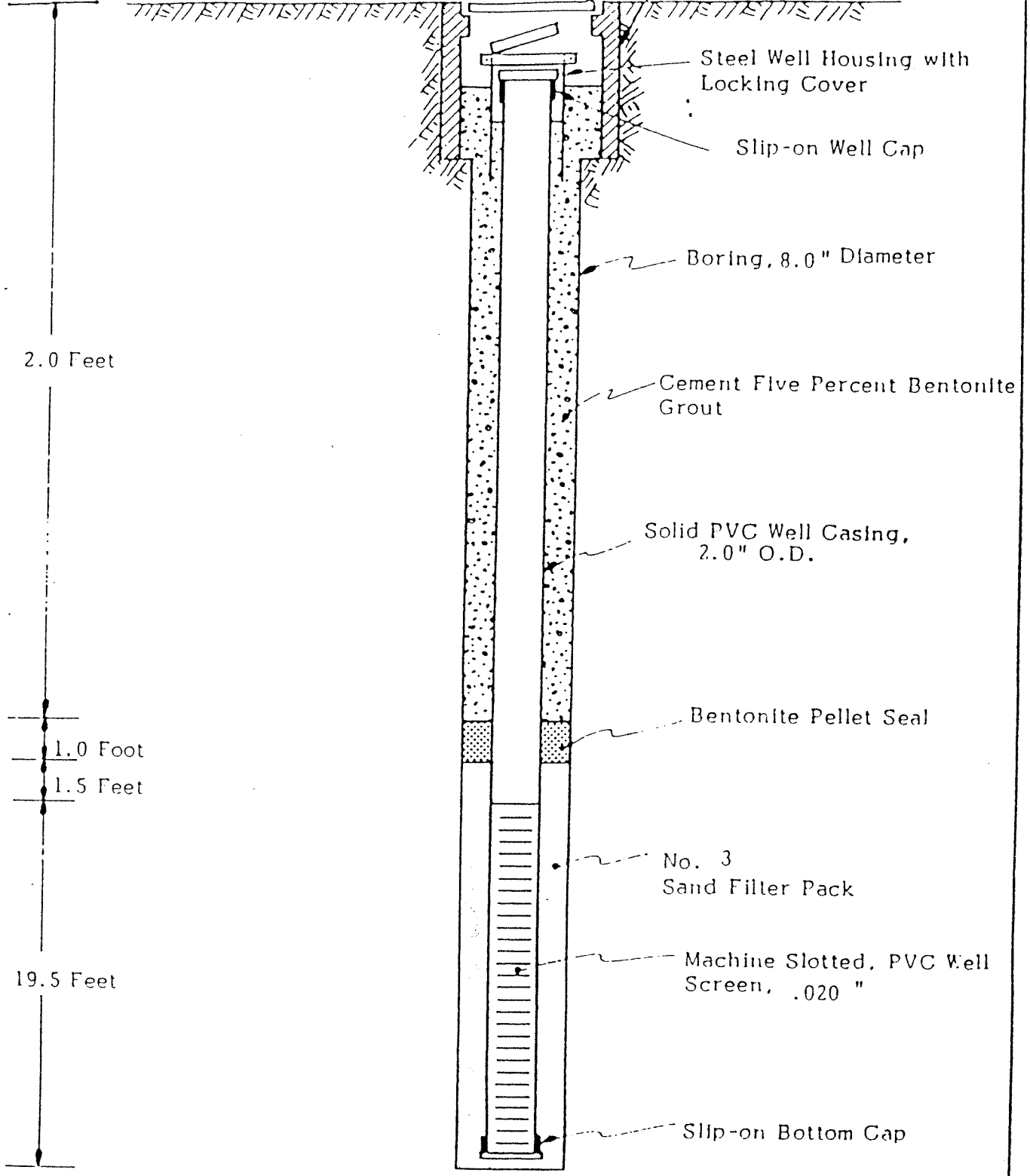
EXPLORATORY BORING LOG

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	
KE998-1B	June 1988	Monitoring Well No. 3



Kaldveer Associates
Geoscience Consultants
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MONITORING WELL COMPLETION DETAIL

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO	DATE	Figure
KE998-1B	June 1988	MW-3

WELL DEVELOPMENT LOGS

ALPHA BETA GROUNDWATER CONTAMINATION

MW-1

Date	Gallons Purged	Comments	Time
4/19/88	Set Pump	Very, very turbid	9:35
	20 gallons	Very turbid	9:50
	40 gallons	Turbid	10:15
	10 gallons	Slightly turbid	10:20
	40 gallons	Slightly turbid to clear	10:45
	45 gallons	Clear	11:10
	5 gallons	Clear	11:15
Total gallons purged	160 gallons		

Water Level
4.48' before pump
5.78' after pump

WELL DEVELOPMENT LOGS

ALPHA BETA GROUNDWATER CONTAMINATION

MW-2

Date	Gallons Purged	Comments	Time
4/19/88	Set Pump		12:00
	18 gallons	Very, very turbid with sulfur odor	12:10
	17 gallons	Very turbid with sulfur odor	12:20
	15 gallons	Turbid with sulfur odor	12:30
	0 gallons	Turbid with sulfur odor	13:00
	15 gallons	Slightly turbid with sulfur odor	13:10
	10 gallons	Slightly turbid with sulfur odor	13:20
	13 gallons	Slightly turbid with sulfur odor	13:30
	12 gallons	Slightly turbid with sulfur odor	13:41
	10 gallons	Slightly turbid with sulfur odor	13:49
	20 gallons	Slightly turbid	14:00
	25 gallons	Clear to Slightly turbid	14:30
Total gallons purged	165 gallons		

Water level
8.78' before pump

WELL DEVELOPMENT LOGS

ALPHA BETA GROUNDWATER CONTAMINATION
(continued)

MW-3

Date	Gallons Purged	Comments	Time
4/18/88	Set Pump		13:00
	10 gallons	Very, very turbid	13:05
	8 gallons	Turbid	13:10
	37 gallons	Slightly turbid	13:35
	25 gallons	Slightly turbid	13:50
	35 gallons	Slightly turbid	14:20
	27 gallons	Clear to slightly turbid	15:00
	32 gallons	Clear	15:30
Total gallons purged	174 gallons		

Water level
5.73' before pump
6.12' after pump

WATER SAMPLE LOG

Project Name: Alpha Beta G.W. Contamination Date: 4/21/88
Project Number: KE998-1B Sampler: P. Worrell/Keith Craig
Well Number: MW-1 Weather: Sunny, warm 70°F
Well Location: MW-1, Alameda, Ca

Well Construction:

Date Completed: 4/21/88
Total Depth of Well: 24.0'
Diameter: 2"
Well Elevation & Reference:

Groundwater Levels:

Initial: 4.24
Final: 4.31
Reference Point: black mark on top of casing
Well Volume of Water: 3.22 gals.

Sampling Equipment & Cleaning

Sampler Type: Teflon Bailer
Method of Cleaning: ISP scrub, tap, D.I, D.I
Pump or Bailer Type: Teflon Bailer
Method of Cleaning: ISP scrub tap, D.I, D.I
pH Meter: DSPH-3
Conductivity Meter: DSPH-3
Comments:
photo vac (PID) Tip 1
10:00 7.7 ppm Detected

SAMPLING MEASUREMENTS

Time	Discharge (gal.) Per Time Period	Discharge (gal.) Cummulative	pH	Temp (°C)	Spec. Conductance (umhos/cm) Field	Spec. Conductance (umhos/cm) @ 25°C	Color/ Turbidity	Odor
11:00		1 gal	7.3	16.9	110x10		clear tan	none
11:15	5 gals							
	5 gals							
	3 gals							
10:50	1 gal							

Total Discharge: 15 gallons
Purged: Casing Volumes Removed: 13 gals (4 WWV)
Method of Disposal: Barrelled

Comments: weather: sunny warm 70°F

Kaldveer Associates
Geoscience Consultants
A California Corporation

WATER SAMPLE LOG
ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Figure
KE998-1B	June 1988	MW-1

WATER SAMPLE LOG

Project Name: Alpha Beta GW Contamination Date: 5/18/88
Project Number: KE998-1B Sampler: Keith Hardt/Polly Worrell
Well Number: MW-1 Weather: Sunny, warm 75°F
Well Location: Alameda, California

Well Construction:

Date Completed: 4/21/88
Total Depth of Well: 24.0
Diameter: 2"
Well Elevation & Reference:

Groundwater Levels:

Initial: 4.55
Final: 4.77
Reference Point: black mark on top of casing
Well Volume of Water: 3.17 gal.

$WWV = 19.5 \times 0.163 \times (2/2)^2$
3.17 x 3 = 3 Purge volumes = 9.5 gallons

Sampling Equipment & Cleaning

Sampler Type: Bailer (teflon)
Method of Cleaning: TSP, TAP, D.I, D.I
Pump or Bailer Type: Teflon
Method of Cleaning: TSP, TAP, D, I, D.I
pH Meter: DSPH-3
Conductivity Meter: DSPH-3
Comments:
Samples collected:
1x80 oz Amber: TPH "diesel"
3x40 ml VOA w/HCL: TPH "gasoline" + BTXE
Sample ID NO. MW-1-2
Time: 15:45

SAMPLING MEASUREMENTS

Time	Discharge (gal.) Per Time Period	Discharge (gal.) Cummulative	pH	Temp (°C)	Spec. Conductance (umhos/cm) Field	Spec. Conductance (umhos/cm) @ 25°C	Color/ Turbidity	Odor
15:30	5 gal		7.4	9.2	1040		clear tan	None
15:40	5 gal		7.6	8.8	1020		clear tan	None
15:45	1 gal		7.8	9.5	1000		clear tan	None

Total Discharge: 11 gallons
Casing Volumes Removed: 3
Method of Disposal: barrel

Comments:

Kaldveer Associates
Geoscience Consultants
A California Corporation

WATER SAMPLE LOG
ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	
KE998-1B	June 1988	Figure MW-1

WATER SAMPLE LOG

Project Name: Alpha Beta G.W. Contamination Date: 4/21/88
Project Number: KE998-1B Sampler: Keith Craig
Well Number: MW-2-1 Weather: Overcast, Windy
Well Location: Near water, back of A.B. Store

Well Construction:

Date Completed: 4/21/88
Total Depth of Well: 24'
Diameter: 2"
Well Elevation & Reference:

Groundwater Levels:

Initial: 8.38'
Final:
Reference Point: black mark on top casing
Well Volume of Water: 2.55
2.55x4 = purge = 10.20

Sampling Equipment & Cleaning

Sampler Type: Teflon Bailer
Method of Cleaning: TSP, TAP, D.I, D.I
Pump or Bailer Type: 1 3/4" bailer
Method of Cleaning: TSP, TAP, D.I, D.I
pH Meter: DSPH-3
Conductivity Meter: DSPH-3
Comments: 3.2% on sniffer

SAMPLING MEASUREMENTS

Time	Discharge (gal.) Per Time Period	Discharge (gal.) Cummulative	pH	Temp (°C)	Spec. Conductance (umhos/cm) Field	Spec. Conductance (umhos/cm) @ 25°C	Color/ Turbidity	Odor
15:30	0	0					clear to ~~slightly turbid~~	NO
16:00	11.5	11.5	6.9	13.7	6410		Turbid brown	NO
16:20	2.0	13.5	7.1	13.0	6650		Turbid brown	NO

Total Discharge: 25 gallons
Casing Volumes Removed: 9
Method of Disposal: barrelled

Comments:

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Geoscience Consultants
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WATER SAMPLE LOG

ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Figure
KE998-1B	June 1988	MW-2

WATER SAMPLE LOG

Project Name: Alpha Beta G.W. Contamination Date: 5/18/88
Project Number: KE998-1B Sampler: Polly Worrell/Keith Hardt
Well Number: MW-2 Weather: Sunny, warm, 75°F
Well Location: Alameda, California

Well Construction:

Date Completed: 4/21/88
Total Depth of Well: 25'
Diameter: 2"
Well Elevation & Reference:

Groundwater Levels:

Initial: 8.04
Final: 8.19
Reference Point:
Well Volume of Water: 2.76
$WWV = 16.96 \times 0.163 \times (2/2)^2 = 2.76$
2.76x3 = 3 purge volumes

Sampling Equipment & Cleaning

Sampler Type: Teflon Bailer
Method of Cleaning: TSP,TAP,D.I., D.I.
Pump or Bailer Type: Teflon
Method of Cleaning: TSP,TAP,D.I., D.I.
pH Meter: DSPH-3
Conductivity Meter: DSPH-3
Comments: Samples collected
1x80 oz Amber - TPH "Diesel"
3x40 ml VOAs - TPH "gasoline" + BTXE

SAMPLING MEASUREMENTS

Time	Discharge (gal.) Per Time Period	Discharge (gal.) Cummulative	pH	Temp (°C)	Spec. Conductance (umhos/cm) Field	Spec. Conductance (umhos/cm) @ 25°C	Color/ Turbidity	Odor
16:07	5 gal		7.6	7.3	6380		clear,tan	None
16:12	5 gal		7.7	7.0	6350		clear,tan	None
16:15	1 gal		7.6	6.6	6020		clear,tan	None

Total Discharge: 11 gallons
Casing Volumes Removed: 3
Method of Disposal: barrel

Comments:

Kaldveer Associates
Geoscience Consultants
A California Corporation

WATER SAMPLE LOG
ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	Figure
KE998-1B	June 1988	MW-2

WATER SAMPLE LOG

Project Name: Alpha Beta
Date: 4/21/88
Project Number: KE998-1B
Sampler: Keith B. Craig
Well Number: MW-3-1
Weather: Partly overcast, windy, 60°
Well Location: Front of Alpha Beta

Well Construction:

Date Completed: 4/21/88
Total Depth of Well: 24'
Diameter: 2"
Well Elevation & Reference:

Groundwater Levels:

Initial: 5.36'
Final:
Reference Point: Dark blue mark on top of casing
Well Volume of Water: 3.04 x 4 = 12.16 purged

Sampling Equipment & Cleaning

Sampler Type: Bailer (Teflon)
Method of Cleaning: TSP, TAP, D.I., D.I.
Pump or Bailer Type: 1 3/4" bailer
Method of Cleaning: TSP, TAP, D.I., D.I.
pH Meter: DSPH-3
Conductivity Meter: DSPH-3
Comments: 7.4% on sniffer

SAMPLING MEASUREMENTS

Time	Discharge (gal.) Per Time Period	Discharge (gal.) Cummulative	pH	Temp (°C)	Spec. Conductance (umhos/cm) Field	Spec. Conductance (umhos/cm) @ 25°C	Color/ Turbidity	Odor
13:20	0	0						
14:00	13	13	6.9	15.1	590		Tan, turbid oil film	
14:05	10.1	13.1	6.9	15.1	590		Tan turbid oil film	
14:35	1.0	14.1	7.5	14.5	570		Tan turbid oil film	

Total Discharge: 40 gallons
Casing Volumes Removed: 13
Method of Disposal: barrelled
Comments:

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WATER SAMPLE LOG
ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

PROJECT NO.	DATE	
KE998-1B	June 1988	Figure MW-3

WATER SAMPLE LOG

Project Name: Alpha Beta G.W. Contamination Date: 5/18/88
Project Number: KE998-1B Sampler: Keith Hardt/Polly Worrall
Well Number: MW-3 Weather: Sunny, warm 75° F
Well Location: Alameda, California

Well Construction:

Date Completed: 4/21/88
Total Depth of Well: 25.0'
Diameter: 2"
Well Elevation & Reference:

Groundwater Levels:

Initial: 5.6
Final: 5.8
Reference Point: Blue mark on top of casing
Well Volume of Water: 3.16 gal.
WWV = 19.4x0.163 x(2/2)^2 3.16 gal
3.16x3 = 9.48 (3 purge volumes)

Sampling Equipment & Cleaning

Sampler Type: Teflon Bailer
Method of Cleaning: TSP,TAP, D.I,D.I.
Pump or Bailer Type: Teflon
Method of Cleaning: TSP,TAP,D.I, D.I.
pH Meter: DSPH-3
Conductivity Meter: DSPH-3
Comments:
Samples collected
1x80 oz Amber-TPH "Diesel"
3x40ml VOA+HCL-TPH "gasoline" + BTXE
Sample I.D. MW-3-2
Time: 15:00

SAMPLING MEASUREMENTS

Time	Discharge (gal.) Per Time Period	Discharge (gal.) Cummulative	pH	Temp (°C)	Spec. Conductance (umhos/cm) Field	Spec. Conductance (umhos/cm) @ 25°C	Color/ Turbidity	Odor
14:30	5 gal		7.2	6.8	530		Tan	None
14:50	5 gal		7.5	7.0	517		Tan,clear	None
15:00	1 gal		8.2	7.2	520		Tan.clear	None
15:20								

Total Discharge: 11 gallons
Casing Volumes Removed: 3
Method of Disposal: barrel

Comments:

Kaldveer Associates
Geoscience Consultants
A California Corporation

WATER SAMPLE LOG
ALPHA BETA GROUNDWATER CONTAMINATION
Alameda, California

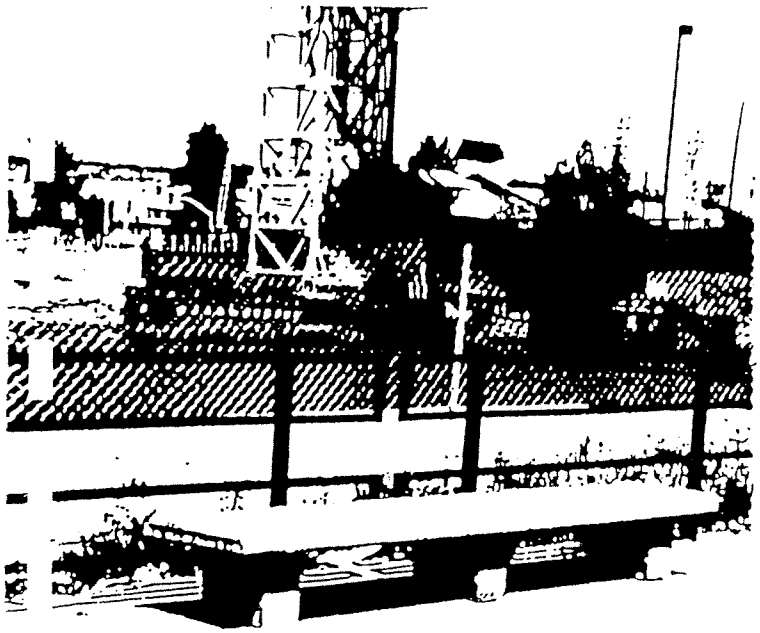
PROJECT NO.	DATE	Figure
KE998-1B	June 1988	MW-3

PHOTO LOG

ALPHA BETA G.W. CONTAMINATION

PROJECT NO. KE998-1B, ALAMEDA, CALIFORNIA

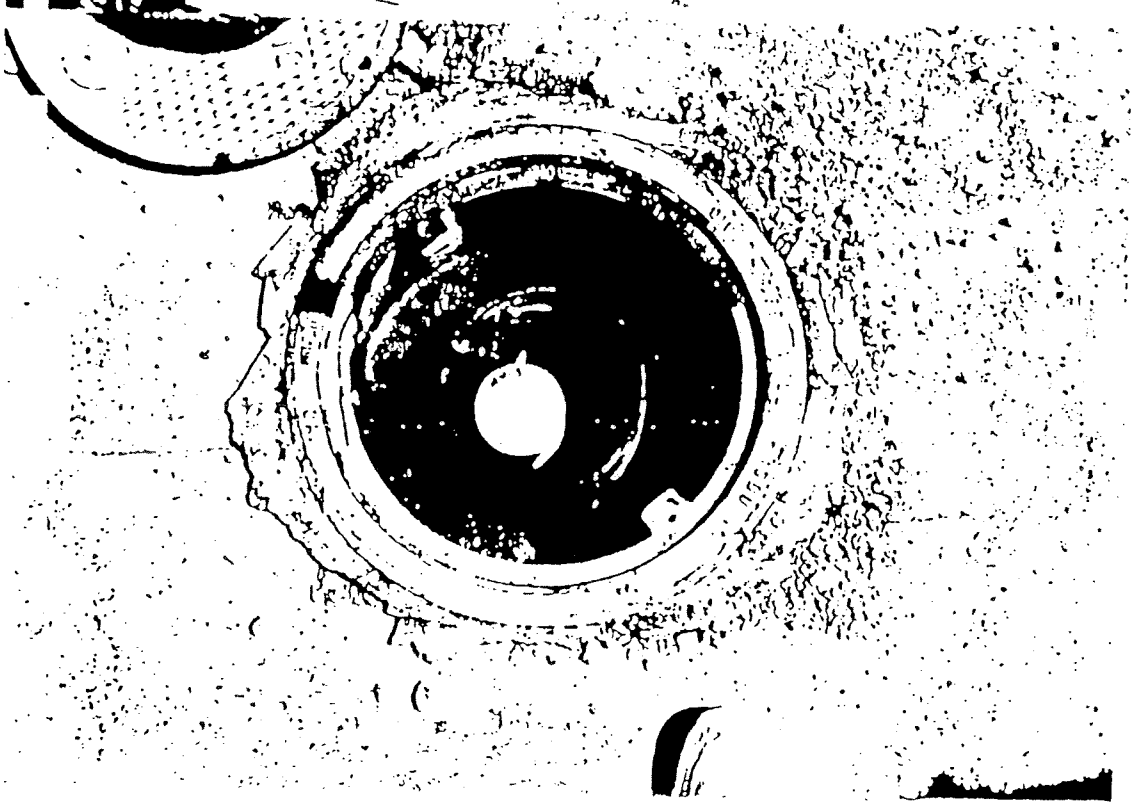
DATE: MAY 10, 1988



Permanent Marker was used as a reference elevation at 100.00 feet.

PHOTO LOG
ALPHA BETA G.W. CONTAMINATION
PROJECT NO. KE998-1B, ALAMEDA, CALIFORNIA
DATE: MAY 10, 1988

Pan views of monitoring well MW-2 and MW-3



A steel locking well cover which extends flush with existing grade was placed over each well casing for protection. A Christy box with lid was installed flush with the existing grade and grouted with a sloping concrete apron.

APPENDIX B

Chain-of-Custody Records
and
Analytical Test Results

1 of 2

CHAIN-OF-CUSTODY RECORD

Project Number	Project Name
KE998-1B	Alpha Beta G.W. Contamination

Sampler's Name (printed): Ken Ferrone

Boring Number	Date (yr. 88)	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers (Brass Tube)	Analytical Tests: MOD. 8015 + 8020 TOTAL Low to Med. B.P. HC. + B.T.X.E.	Analytical Tests: MOD. 8015 TOTAL Med to High B.P. HC.	Analytical Tests: Oil & Grease	Analytical Tests: Halogenated Volatile Organics	Analytical Tests: Aromatic Volatile Organics	Analytical Tests: Polynuclear Aromatics	Remarks
MW-1	4-12	A.M.	X		2½' + 5½'		2x2"x6"							Please composite, then analyze
MW-2	4-12	P.M.	X		3' + 8'		2x2"x6"							Please composite, then analyze
MW-3	4-13	A.M	X		2½' + 7½'		2x2"x6"							Please composite, then analyze
EB-1	4-13	A.M	X		1½' + 6½'		2x2"x6"							Please composite, then analyze
EB-2	4-13	P.M	X		3½' + 7½'		2x2"x6"							Please composite, then analyze
EB-3	4-13	P.M.	X		3½' + 8½'		2x2"x6"							Please composite, then analyze
EB-4	4-13	P.M.	X		4½' + 8½'		2x2"x6"							Please composite, then analyze

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Ken Ferrone	4-13-88 / 1746	Polly L Worrell
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Polly L. Worrell	4-14-88 / 10:25	
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
Tom UCS	4-14-88 / 10:26	

Ship To: Firemans Fund
Environmental LAB
3700 LAKEVILLE HWY
Petaluma, CA 94952

Attention: ~~MARK VALENTINI~~

Phone No: 800-FFIC-LAB

Requested Turnaround Time: Normal

Kaldveer Assoc. Contact: Polly Worrell

Remarks:

Please address correspondence to:
Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

Kaldveer Associates
Geoscience Consultants

White - Kaldveer Associates Yellow - Analytical Laboratory

CHAIN-OF-CUSTODY RECORD

Project Number	Project Name
KE998·1B	Alpha Beta GW Contamination

Sampler's Name (printed): Ken Ferone

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers 2"x6"	Analytical Tests: Hold "L" for Archive	Remarks
MW-1	4-12	A.M.	X		9½', 14½', 19½'		3- BRASS TUBE		
MW-2	4-12	P.M.	X		13½', 18½',		2-		
MW-3	4-13	A.M.	X		12½', 17½', 21½'		3-		
EB-1	4-13	A.M.	X		10½', 13½',		2-		
EB-2	4-13	P.M.	X		10½', 15½'		2-		
EB-3	4-13	P.M.	X		11½'		1-		
EB-4	4-13	P.M.	X		12½', 16½'		2-		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Ken Ferone	4-13-88 / 1746	Polly L. Worrell
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Polly L. Worrell	4/14-88 10:25	TOM NCS
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
	/	

Ship To: Fireman's Fund - Environmental LA
3700 LAKEVILLE HWY
Petaluma, CA 94952

Attention: Mark Valentini

Phone No: 800·FFIC-LAB

Requested Turnaround Time: Normal

Kaldveer Assoc. Contact:

Remarks:

Tom NCS

Please address correspondence to:

Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

White · Kaldveer Associates Yellow · Analytical Laboratory

CHAIN-OF-CUSTODY RECORD

Project Number	Project Name
KE-998-1B	Alpha Beta G.W. Contamination

Sampler's Name (printed): Polly L. Worrell / Keith Craig

Well ~~Boring~~ Number	Yr. 88 Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers	Analytical Tests: LOW TO MED BP HC (gasoline)	TPH + BTXE Mod. 602 + 625	MED TO HIGH BP HC + BTXE Mod. 602 + 625	TPH	Archive pending further analysis	ADS. 615	Remarks
MW-1	4-21	11:00		X	MW-1	MW-1-1	1x1L		X					Please preserve samples
MW-1		11:00		X	MW-1	MW-1-1	3x40ml	X						Thank you
MW-2		16:10		X	MW-2	MW-2-1	1x1L		X					
MW-2		16:10		X	MW-2	MW-2-1	3x40ml	X						
MW-3		14:15		X	MW-3	MW-3-1	1x1L		X					
MW-3	↓	14:15		X	MW-3	MW-3-1	3x40ml	X						
T-BLANK	4-18			X	LAB PREPARED		1x40ml			X				

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Polly L. Worrell	4-21-88 17:15	Mike Pyzer 817
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: Fireman's Fund Environmental Lab
9700 Lakeville Hwy
Petaluma, CA 94952

Attention: Steve Wilbur

Phone No: (415) FFIC-LAB

Requested Turnaround Time: Normal

Kaldveer Assoc. Contact: Polly L. Worrell

Remarks:

Please address correspondence to:
Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

White - Kaldveer Associates Yellow - Analytical Laboratory

CHAIN-OF-CUSTODY RECORD

Project Number	Project Name
KE998-1B	Alpha Beta G.W. Contamination

Sampler's Name (printed): Polly L. Worrell / Keith Hardt

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Number/Type of Containers	Analytical Tests: TPH as gas + BTXE	Analytical Tests: TPH as diesel	Analytical Tests: Oil & grease	Remarks
MW-1	5/18			X	MW-1	MW-1-2	3x40ml	X			
MW-1	5/18			X	MW-1	MW-1-2	1x3L		X		
MW-2	5/18			X	MW-2	MW-2-2	3x40ml	X			
MW-2	5/18			X	MW-2	MW-2-2	1x3L		X		
MW-3	5/18			X	MW-3	MW-3-2	3x40ml	X			
MW-3	5/18			X	MW-3	MW-3-2	1x3L		X		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Polly L. Worrell	5/19 16:30	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: Fireman's Fund Environmental Lab
3700 Lakeville Hwy
Petaluma, CA 94952

Attention: Steve Wilbur

Phone No: 800-FFIC-LAB

Requested Turnaround Time: NORMAL - June 2, 1988

Kaldveer Assoc. Contact: Polly Worrell

Remarks:

Please address correspondence to:
Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

White - Kaldveer Associates Yellow - Analytical Laboratory

FIREMAN'S FUND
INSURANCE COMPANIES
Environmental Laboratory
3700 Lakeville Highway
Petaluma, CA 94952
800-FFIC-LAB

ENVIRONMENTAL LABORATORY

Polly Worrell
Kaldveer Associates, Inc.
425 Roland Way
Oakland, CA 94621

L A B O R A T O R Y R E S U L T S

Supply/Order No.:
Client's Survey No.:
Contract/PO No.: NO CONTRACT NUMBER
Release No.: KE998-1B

Laboratory Job No.: 881769
Date Received: 04/14/88
Date Reported: 05/11/88
Client Code: KALD3

ASSAY:TPH/DIESEL (EPA 3550/8015)
MATRIX:SOIL

LABNO	SMPLNO-ID	RESULTS	DET.LIM
10316	MW1		
	DIESEL	<6.0 mg/kg	6.0 mg/kg
10317	MW2		
	DIESEL	<6.0 mg/kg	6.0 mg/kg
10318	MW3		
	DIESEL	<6.0 mg/kg	6.0 mg/kg
10319	EB1		
	DIESEL	<6.0 mg/kg	6.0 mg/kg
10320	EB2		
	DIESEL	<6.0 mg/kg	6.0 mg/kg
10321	EB3		
	DIESEL	<6.0 mg/kg	6.0 mg/kg
10322	EB4		
	DIESEL	<6.0 mg/kg	6.0 mg/kg

ANALYST:JEAN M.BONITE

APPROVED BY
JERRY TUMA, PH.D., CIH
LABORATORY DIRECTOR

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INSURANCE COMPANIES
Environmental Laboratory
3700 Lakeville Highway
Petaluma, CA 94952
800-FFIC-LAB

ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 881769

ASSAY:TPH/GASOLINE (EPA 5020/8015)
MATRIX:SOIL

LABNO SMPLNO-ID	RESULTS	DET.LIM
10316 MW1 GASOLINE	<2.2 mg/kg	2.2 mg/kg
10317 MW2 GASOLINE	<2.2 mg/kg	2.2 mg/kg
10318 MW3 GASOLINE	<2.2 mg/kg	2.2 mg/kg
10319 EB1 GASOLINE	<2.2 mg/kg	2.2 mg/kg
10320 EB2 GASOLINE	<2.2 mg/kg	2.2 mg/kg
10321 EB3 GASOLINE	<2.2 mg/kg	2.2 mg/kg
10322 EB4 GASOLINE	<2.2 mg/kg	2.2 mg/kg

ANALYST:JEAN M.BONITE

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Environmental Laboratory
3700 Lakeville Highway
Petaluma, CA 94952
800-FFIC-LAB

ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 881769

PURGEABLE AROMATICS IN SOIL (EPA8020)

COMPOUNDS: PURGEABLES	LAB#10320 SMP#EB2 PPM	LAB#10321 SMP#EB3 PPM	LAB#10322 SMP#EB4 PPM
BENZENE	<0.1	<0.1	<0.1
TOLUENE	<0.1	<0.1	<0.1
ETHYL BENZENE	<0.1	<0.1	<0.1
XYLENES	<0.1	<0.1	<0.1

ANALYST:MARK VALENTINI

FIREMAN'S FUND
INSURANCE COMPANIES
Environmental Laboratory
3700 Lakeville Highway
Petaluma, CA 94952
800-FFIC-LAB

ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 881769

PURGEABLE AROMATICS IN SOIL (EPA8020)

COMPOUNDS: PURGEABLES	LAB#10316 SMP#MW1 PPM	LAB#10317 SMP#MW2 PPM	LAB#10318 SMP#MW3 PPM	LAB#10319 SMP#EB1 PPM
BENZENE	<0.1	<0.1	<0.1	<0.1
TOLUENE	<0.1	<0.1	<0.1	<0.1
ETHYL BENZENE	<0.1	<0.1	<0.1	<0.1
XYLENES	<0.1	<0.1	<0.1	<0.1

ANALYST:MARK VALENTINI

FIREMAN'S FUND
INSURANCE COMPANIES
Environmental Laboratory
3700 Lakeville Highway
Petaluma, CA 94952
800-FFIC-LAB

ENVIRONMENTAL LABORATORY

Polly Worrell
Kaldveer Associates, Inc.
425 Roland Way
Oakland, CA 94621

L A B O R A T O R Y R E S U L T S

Supply/Order No.:
Client's Survey No.:
Contract/PO No.: NO CONTRACT NUMBER
Release No.: KE-998-1B

Laboratory Job No.: 881942
Date Received: 04/22/88
Date Reported: 05/11/88
Client Code: KALD3

ASSAY:TPH/GASOLINE (EPA 5030/8015)
MATRIX:WATER

LABNO	SMPLNO-ID	RESULTS (PPM)		DET.LIM (PPM)	
11241	MW11				
	GASOLINE	<0.1	ug/l	0.1	ug/l
11242	MW21				
	GASOLINE	<0.1	ug/l	0.1	ug/l
11243	MW31				
	GASOLINE	<0.1	ug/l	0.1	ug/l

ANALYST:JEAN M.BONITE

APPROVED BY J.Y.
JERRY TUMA, PH.D., CIH
LABORATORY DIRECTOR

FIREMAN'S FUND
INSURANCE COMPANIES
Environmental Laboratory
3700 Lakeville Highway
Petaluma, CA 94952
800-FFIC-LAB

ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 881942

ASSAY:TPH/DIESEL (EPA 3510/8015)
MATRIX:WATER

LABNO SMPLNO-ID	RESULTS		DET.LIM	
11241 MW11				
DIESEL	<300.0	ug/l	300.0	ug/l
11242 MW21				
DIESEL	<300.0	ug/l	300.0	ug/l
11243 MW31				
DIESEL	<300.0	ug/l	300.0	ug/l

ANALYST:JEAN M.BONITE

FIREMAN'S FUND
INSURANCE COMPANIES
Environmental Laboratory
3700 Lakeville Highway
Petaluma, CA 94952
800-FFIC-LAB

ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 881942

PURGEABLE AROMATICS IN WATER (EPA602)

COMPOUNDS: PURGEABLES	LAB#11241 SMP#MW1-1 PPB	LAB#11242 SMP#MW2-1 PPB	LAB#11243 SMP#MW3-1 PPB
BENZENE	<0.50	<0.50	<0.50
TOLUENE	<0.50	<0.50	<0.50
ETHYL BENZENE	<0.50	<0.50	<0.50
XYLENES	<0.50	<0.50	<0.50

ANALYST:MARK VALENTINI

FIREMAN'S FUND
INSURANCE COMPANIES
Environmental Laboratory
3700 Lakeville Highway
Petaluma, CA 94952
800-FFIC-LAB

JUN 14 1988

ENVIRONMENTAL LABORATORY

Polly Worrell
Kaldveer Associates, Inc.
425 Roland Way
Oakland, CA 94621

L A B O R A T O R Y R E S U L T S

Supply/Order No.:
Client's Survey No.:
Contract/PO No.: NO CONTRACT NUMBER
Release No.: KE998-1B

Laboratory Job No.: 882446
Date Received: 05/19/88
Date Reported: 06/10/88
Client Code: KALD3

ASSAY:TPH/DIESEL EPA 3510/8015
MATRIX:WATER

LABNO SMPLNO-ID	RESULTS		DET.LIM	
14016 MW12				
DIESEL	<300.0	ug/l	300.0	ug/l
14017 MW22				
DIESEL	<300.0	ug/l	300.0	ug/l
14018 MW32				
DIESEL	<300.0	ug/l	300.0	ug/l

ANALYST:JEAN M.BONITE

APPROVED BY
JEAN M. BONITE, M.D., CIH
LABORATORY DIRECTOR

FIREMAN'S FUND
INSURANCE COMPANIES
Environmental Laboratory
3700 Lakeville Highway
Petaluma, CA 94952
800-FFIC-LAB

ENVIRONMENTAL LABORATORY

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 882446

ASSAY:TPH/GAS & BTEX EPA 5030/8015/8020
MATRIX:WATR

LABNO SMPLNO-ID	RESULTS		DET.LIM	
14016 MW12				
BENZENE	<0.5	ug/l	0.5	ug/l
TOLUENE	<0.5	ug/l	0.5	ug/l
XYLENE	<0.5	ug/l	0.5	ug/l
ETHYLBENZENE	<0.5	ug/l	0.5	ug/l
GASOLINE	<50	ug/l	50	ug/l
14017 MW22				
BENZENE	<0.5	ug/l	0.5	ug/l
TOLUENE	<0.5	ug/l	0.5	ug/l
XYLENE	<0.5	ug/l	0.5	ug/l
ETHYLBENZENE	<0.5		0.5	
GASOLINE	<50	ug/l	50	ug/l
14018 MW32				
BENZENE	<0.5	ug/l	0.5	ug/l
TOLUENE	<0.5	ug/l	0.5	ug/l
XYLENE	<0.5	ug/l	0.5	ug/l
ETHYLBENZENE	<0.5	ug/l	0.5	ug/l
GASOLINE	<50	ug/l	50	ug/l

ANALYST:JEAN M.BONITE

Kaldveer Associates
Geoscience Consultants

Richard Short, P.E., G.E.
Executive Vice President
Ronald L. Bajuniemi, P.E., G.E.
Vice President Engineering
Patrick Stevens, P.E., G.E.
Associate
David Hoexter, C.E.G., R.E.A.
Associate
Michael McRae, P.E.
Associate
William Bender, P.E., S.E., A.I.A.
Associate
Dawn Rinaldi, P.E.
Barbara L. Potter, P.E.
Randy P. Rowley, R.E.A.
Polly L. Worrell, R.E.A.

August 9, 1990
KE1248-1-278, 16828

AUG 10 1990

Taylor Woodrow
333 Third Street
San Francisco, California 94107

Attention: Ms. Cynthia Rock

RE: SUMMARY OF CONTAMINATION STATUS
"ALPHA BETA ADDITION" SITE
AT FERNSIDE SHOPPING CENTER
BLANDING AVENUE AND PEARL STREET
ALAMEDA, CALIFORNIA

Dear Ms. Rock:

This letter is a summary of the current status of a soil contamination occurrence at the above-referenced location. At your request, we have also provided an estimate of costs for remediation at the site. This letter follows a telephone conversation with David Hoexter on July 24, 1990.

BACKGROUND

Kaldveer Associates initially provided geotechnical engineering services in May, 1972 for the (then proposed) Fernside Shopping Center, which was constructed during 1974. Our firm subsequently provided geotechnical engineering services for an addition to the existing Alpha Beta (now Luckys) store in October, 1987. One of these borings encountered soil with a "gasoline-like" odor. A subsequent environmental investigation (Kaldveer Associates, December 2, 1987) confirmed the presence of 1,200 parts per million (ppm) total petroleum hydrocarbons (TPH) as diesel in one boring, and from non-detect to 46 ppm TPH as gasoline and diesel in other borings. The contamination was generally limited to samples collected from four to 10 feet below ground level.

We performed a limited-scope characterization/assessment study of the site to evaluate potential sources of the diesel contamination (Kaldveer Associates, January 8, 1988). We were not able to definitively identify the origin of the diesel contamination, although the most likely source was the underground fuel tank that was removed from near the contaminated area during the 1974 construction.

Following that study, we conducted additional soil testing and a ground water quality investigation (Kaldveer Associates, June 29, 1988). Ground water contamination was not indicated. However, monitoring wells were placed beyond the limits of the proposed building footprint, and thus the ground water immediately adjacent to the most highly contaminated soil was not directly tested. We recommended removal of hydrocarbon contaminated soil down to a level of 100 ppm total petroleum hydrocarbons (TPH), and notification of the occurrence to the Regional Water Quality Control Board (RWQCB). A remediation work plan was then drafted (Kaldveer Associates, August 1, 1988). This work plan provided our best estimate of the area to be remediated, and the procedures to accomplish this task.

At this time, you have not provided comments on the work plan, nor requested us to finalize it. Also, we understand that you have not notified the RWQCB of the contamination, as we recommended.

REMEDIATION PLAN

We previously recommended excavation and removal of the contaminated material having greater than 100 ppm TPH. The anticipated excavation would occur in an area of approximately 1200 ft^2 at the front (southwest corner) of the proposed Alpha Beta addition, from four to 10 feet below the ground surface. The upper four feet which did not appear to be contaminated would need to be initially excavated and temporarily stored. This would be followed by excavation of the contaminated material. The volume of contaminated material would be on the order of 260 yd^3. Some contaminated material would have to be left in place adjacent to the existing building, to avoid loss of support to the building foundations. Some of the deeper lying material might be below the ground water table, and excavation might not be feasible at these depths. As we stated in the work plan, this diesel-contaminated soil is not amenable to aeration, similarly, space for bio-remediation may be a problem. Offsite disposal at a licensed facility was thus recommended.

The most significant item of this remediation plan is the acceptable concentration of contamination which can be left in the ground. While the remediation plan has been based on 100 ppm of TPH, there are no regulations or agency guidelines to justify this limit. In some cases, remediation to "non-detect" has been required, while in other cases as much as 1,000 ppm has been acceptable. This project must have its specific remediation limits negotiated, typically with the Alameda County Health Department, in advance of site work.

The approval to leave some of the contaminated soil in place (so that existing building foundation stability is not impacted) should also be a part of this agency negotiation. Recommendations on

limits of encroachment of excavations into existing foundation support areas were provided in Section 2 of the (draft)work plan.

COST ESTIMATE

The remediation will essentially comprise excavation of the "clean" soil in the upper four feet, and temporary storage; excavation of the zone between four and ten feet depth, and its disposal. After sampling and analysis of samples from the excavation sides and bottom to show that the agreed levels have been attained, the hole will be backfilled as an engineered fill, and, if the building addition is to be further delayed, reinstatement of the pavement surface.

Excavation and disposal of diesel contaminated soil in the Bay Area typically costs $200 to $250 per cubic yard ($yd^3$). This presumes no additional excavation support is needed. Backfilling and testing will cost about $30 to $35 per yd^3. With excavation, disposal and reinstatement, including testing, the total project cost, based on 260 yd^3 is expected to range $65,000 to $90,000.

RECOMMENDATIONS

The next step towards remediation should be finalization of the work plan and negotiation with the agencies. To provide greater negotiating power, the three ground water monitoring wells should also be resampled. The previous sampling was in our June 29, 1988 report, i.e. 2 years ago. A recent sampling, again showing "non-detect" on all parameters, will justify the proposed cleanup levels.

Kaldveer would be happy to assist you with the recommended agency negotiations, sampling, selection and engagement of remediation and disposal contractors. It has been a pleasure to provide our consultation services to you. Please call if you have any questions.

Very truly yours,

KALDVEER ASSOCIATES, INC.

John R. Sutton, P.E./G.E.
Manager, Environmental/Hazardous
Waste Services
Associate

JRS:pv
Copies: Addressee (1)
Enclosures: References
Proposed Excavation Limit (Figure 1)

REFERENCES

Kaldveer Associates, Inc., "Foundation Investigation, Shopping Center, Alameda, California", May, 1972.

....., "Supplemental Foundation Investigation, Alpha Beta Market Expansion, Alameda, California", dated September 3, 1987.

....., "Preliminary Soil Testing Program, Alpha Beta #541 Addition, Alameda, California", dated December 2, 1987.

....., "Site Characterization and Environmental Assessment, Alpha Beta #541, Alameda, California", dated January 8, 1988.

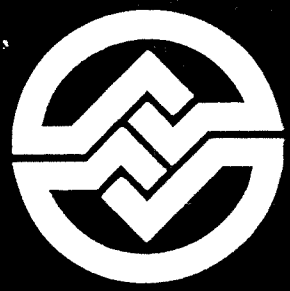
....., "Additional Soil Testing and Preliminary Investigation of Ground Water Quality, Alpha Beta #541, Alameda, California", dated June 29, 1988.

....., "Draft Submittal, Work Plan for Soil Excavation, Alpha Beta #541, Alameda, California", dated August 1, 1988.

APPENDIX E

CURRENT TENANT LIST

BRIDGESIDE SHOPPING CENTER TENANT LIST		
TENANT NAME	**ADDRESS**	**SIZE OF PREMISES**
BUILDING A		
Pay Less Drug Store	2531 Blanding Avenue	42,000 ft.^{2}
Vacant	2525 Blanding Avenue	1,974 ft.^{2}
Launderland		2,016 ft.^{2}
BUILDING B		
Round Table Pizza	2611 Blanding Avenue	2,533 ft.^{2}
Citibank Federal Savings Bank	2619 Blanding Avenue	2,470 ft.^{2}
Subway Sandwiches and Salads	2627 Blanding Avenue	1,080 ft.^{2}
Classic Cleaners	2631 Blanding Avenue	1,390 ft.^{2}
Baskin-Robbins Ice Cream Store	2635 Blanding Avenue	1,235 ft.^{2}
Presto Prints	2639 Blanding Avenue	1,235 ft.^{2}
Hair Studio	2643 Blanding Avenue	875 ft.^{2}
Winchell's Donut House	2647 Blanding Avenue	1,308 ft.^{2}
BUILDING C		
E-Z Liquor & Check Cashing	2671 Blanding Avenue	2,213 ft.^{2}
Lucky Food Center	2691 Blanding Avenue	25,000 ft.^{2}
Three Vacant Premises		3,037 ft.^{2}



CONVERSE CONSULTANTS
ORANGE COUNTY

E.C.S. DESK COPY

ASBESTOS SAMPLING/
ASSESSMENT REPORT
LUCKY STORE #370
ALAMEDA, CALIFORNIA

CONFIDENTIAL

L1046

CCOC Project No.94-42-966-01
August 10, 1994

ASBESTOS SAMPLING/
ASSESSMENT REPORT
LUCKY STORE #370
ALAMEDA, CALIFORNIA

Prepared For:

Mr. George Wouwenaar
American Stores Properties, Inc.
6565 Knott Ave.
Buena Park, CA 90620

CONFIDENTIAL

L1047

CONVERSE CONSULTANTS
ORANGE COUNTY

Consulting Engineering
and Applied Sciences

15245 Alton Parkway, Suite 100
Irvine, CA 92718-2307

Telephone (714) 453-2880
Facsimile (714) 453-2888

August 10, 1994

Mr. George Wouwenaar
American Stores Properties, Inc.
6565 Knott Ave.
Buena Park, CA 90620

SUBJECT: **ASBESTOS SAMPLING/ASSESSMENT REPORT**
Lucky Store #370
2691 Blanding Avenue
Alameda, California
Converse Project No. 94-42-966-01

Dear Mr. Wouwenaar:

On June 7, 1994, Converse Consultants Orange County (Converse) conducted an asbestos inspection and survey to confirm the presence of asbestos-containing materials (ACM) at the above referenced property. Accessible areas were sampled for the presence of ACMs. Samples of general building components (i.e. visually identical flooring material and ceiling tiles) are assumed to be representative of materials used throughout the building.

The strategy for the collection of samples was in accordance with EPA guidance document *"Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials"*, EPA 560/5-85-030a, October 1985, 40 CFR 763 (AHERA), and SCAQMD Rule 1403 which refers to 40 CFR 763.107 for a sampling protocol.

The samples were submitted to Environmental Management Consultants, Inc., an accredited laboratory, for analysis. Bulk samples were analyzed according to Environmental Protection Agency (EPA) analytical method 600/M-82-020 for Polarized Light Microscopy (PLM) *Analysis of Bulk Materials for Asbestos*.

Definition of asbestos-containing building materials according to EPA 40 CFR Part 61 Subpart M, 11/20/90, is as follows:

Asbestos-containing building materials are those that contain more than 1% asbestos by weight.

1) Friable materials- these are materials that may be crumbled, pulverized, or reduced to powder by hand pressure;

2) Non-friable- Non-friable material are divided into two categories.

L1048

Category I materials are packings, gaskets, resilient floor coverings, and asphalt roofing products. If these materials are to be disturbed during renovation/demolition activities, they must be treated as friable asbestos-containing materials. Category II materials are non-friable materials that are intact and have little or no potential for becoming friable.

RESULTS OF SURVEY

FRIABLE MATERIALS

Converse personnel collected a sample of drywall mud at the stock room, and the laboratory analysis detected asbestos in this sample.

NON-FRIABLE MATERIALS

Converse personnel collected samples of brown mottled floor tile and mastic at aisle #9, aisle #10, and the produce area. Laboratory analysis detected the presence of asbestos in all of these samples with an exception of the floor tile mastic sample that was taken at aisle #10. Linoleum flooring of the Men's restroom was sampled and was found to contain asbestos. Samples of white floor tile taken at aisle #1 and 2'x4' ceiling tile taken from the replacement stock area did not detect asbestos content. Transite panels were observed at the coolers and are assumed to be asbestos-containing building materials. At the time of the inspection, roof access was not available to Converse personnel.

Copies of the bulk sample log and laboratory analysis are enclosed.

FURTHER ACTIONS

This report, alone, is not intended for abatement purposes. If you choose to have the asbestos-containing materials removed, we recommend that removal plans and specifications be prepared, a bid walk (with pre-qualified abatement contractors) be conducted, and third party project management services be retained.

Federal, State, and local regulations require that building owners, prior to any demolition or renovation activities that may disturb any asbestos-containing materials, meet the following requirements:

a) Notification;
b) Proper removal techniques for abatement;
c) Clean-up procedures; and
d) Waste storage and disposal requirements.

LIMITATIONS

Converse is not responsible for any claims or damages associated with interpretation of available information. This assessment should not be regarded as a guarantee that no further asbestos, beyond that which was suspected to be present and sampled during our investigation, is present at the property. In addition, asbestos is usually not distributed uniformly throughout a material and Converse cannot guarantee that all areas sampled are exactly as represented throughout the entire facility. In the event that changes in the nature of the property occur, or additional relevant information about the property is brought to our attention, the recommendations contained in this assessment may not be valid unless these changes and additional relevant information are reviewed and the recommendations of this assessment are modified or verified in writing.

CLOSURE

We appreciate the opportunity to provide our inspection service for you. If you have any questions concerning this report or about other services we can provide for you, please call us.

Respectfully submitted,

CONVERSE CONSULTANTS ORANGE COUNTY

Norm Kramer
Certified Asbestos Consultant
92-0582

Gary S. Salzman
President

Enclosed: Sample Log, Bulk Sample Log, Chain of Custody, and Laboratory Analysis Results

TP:GSS:NEK/

CONFIDENTIAL

L1050

SAMPLE LOG -LUCKY STORE #370

SAMPLE #	MATERIAL	LOCATION	% ASBESTOS	QUANTITY SQ.FT.
370-01	Brown Mottled Floor Tile	Aisle #10	2	6,000
370-02	Mastic underneath Brown Mottled Floor Tile	Aisle #10	0	NA
370-03	2'x4' Ceiling Tile	Replacement stock	0	NA
370-04	Drywall Mud	Stock room	2	4,000
370-05	Brown Mottled Floor Tile	Aisle #9	2	6,000
370-06	Mastic underneath Brown Mottled Floor Tile	Aisle #9	10	6,000
370-07	White Floor Tile	Aisle #1	0	NA
370-08	Brown Mottled Floor Tile	Produce	2	4,000
370-09	Mastic underneath Brown Mottled Floor Tile	Produce	10	4,000
370-10	Linoleum Flooring	Men's restroom	40	150

ULK SAMPLE LOG

Job Name: Lucky 370

CW Job Number: 94-41.966-01

Date: 6/7/94

Collected By: JMB

Notes: 120 + 130 + 3600 + 120 = 15,600

CONVERSE CONSULTANTS
ORANGE COUNTY
15245 Alton Parkway, Suite 100
Irvine, California 92718
Telephone: 714/453-2880
FAX: 714/453-2888

SAMPLES #	PHOTO #	MATERIAL SAMPLED	LOCATION	AREA SQ. FT.	CONDITION	COMMENTS
370-01		Floor tile brown mottled	Aisle 10	≈16,000	Good	Possible transite in living room (ceiling) also in all ceramic paper insulation
370-02		mastic black	Aisle 10		good	
370-03		2×4 ceiling tile	Taken from replacement stock		good	Other colors tile in small areas
370-04		Drywall mud	Stock rm.		Good	replacement
370-05		F.T. brown mottled	Aisle 9		Good	
370-06		black mastic	Aisle 9		good	
370-07		F.T. white	Aisle 1	?		Ceramic-like possible 2nd layer
370-08		F.T. brown mottled	Aisle - Produce		good	under freezer block
370-09		black mastic	Aisle - Produce		Good	
370-10		linoleum paper	Ken's room	150		no roof access

CHAIN OF CUSTODY

Relinquished By: J. Michael Batts — Time: 1300 — Date: 6/7/94

Received By: [illegible] — Time: [illegible] — Date: [illegible]

Relinquished By: — Time: — Date:

Received By: — Time: — Date:

CONFIDENTIAL

L1052

BULK MATERIAL REPORT

REPORT Laboratory Analysis: BULK
Client: Converse - Irvine
Reported to: Norm Kramer
Sampled from: Lucky #370
Shipped via: Federal Express

LAB: 6873
Methodology: EPA 600/M4-82-020
P/O#:
Proj: 94-42-966-01
By: Client
Received: 6/08/94 **Reported:** 6/09/94

SAMPLE	IDENTIFICATION	PARAMETER	TEST RESULTS
01	370-1 Floor Tile Brown	Asbestos	Positive. This sample contains approx. 2% Chrysotile, 70% CaCO, and 25% Binder.
02	370-2 Mastic Black	Asbestos	None detected. This sample contains approx. 20% Cellulose, and 75% Binder.
03	370-3 Ceiling Tile Tan	Asbestos	None detected. This sample contains approx. 40% Cellulose, 45% Fiberglass, and 10% Perlite.
04	370-4 Drywall Mud White	Asbestos	Positive. This sample contains approx. 2% Chrysotile, 65% CaCO, and 30% CaSO.
05	370-5 Floor Tile Brown	Asbestos	Positive. This sample contains approx. 2% Chrysotile, 70% CaCO, and 25% Binder.

CONFIDENTIAL

Kenneth N. Hokanson

Analyst(s): Kenneth Hokanson

By: Russell Nassof PD __

NVLAP Accreditation #1926, CA ELAP #1913, NY ELAP #11445, TX DOH #30-0094

4455 EAST CAMELBACK ROAD, SUITE D-155 PHOENIX, ARIZONA 85018 PHONE: (602) 840-8012 FAX: (602) 990-8468

REPORT Laboratory Analysis: BULK
Client: Converse - Irvine
Reported to: Norm Kramer
Sampled from: Lucky #370
Shipped via: Federal Express

LAB: 6873
Methodology: EPA 600/M4-82-020
P/O#:
Proj: 94-42-966-01
By: Client
Received: 6/08/94 Reported: 6/09/94

SAMPLE	IDENTIFICATION	PARAMETER	TEST RESULTS
06	370-6 Mastic Black	Asbestos	Positive. This sample contains approx. 10% Chrysotile, 10% CaCO, and 75% Binder.
07	370-7 Floor Tile Tan	Asbestos	None detected. This sample contains approx. 10% Cellulose, and 85% Binder.
08	370-8 Floor Tile Brown	Asbestos	Positive. This sample contains approx. 2% Chrysotile, 70% CaCO, and 25% Binder.
09	370-9 Mastic Black	Asbestos	Positive. This sample contains approx. 10% Chrysotile, 10% CaCO, and 75% Binder.
10	370-10 Linoleum Paper White	Asbestos	Positive. This sample contains approx. 40% Chrysotile, and 55% Binder.

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L1054

ACCREDITED BY THE NATIONAL INSTITUTE OF STANDARDS & TECHNOLOGY, VOLUNTARY LABORATORY ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ASBESTOS. ALL ANALYSES ARE DERIVED FROM CALIBRATED VISUAL ESTIMATE UNLESS OTHERWISE NOTED.

Kenneth N. Hokanson

Analyst(s): Kenneth Hokanson

By: Russell Nassof PD __

NVLAP Accreditation #1926, CA ELAP #1913, NY ELAP #11445, TX DOH #30-0094

4455 EAST CAMELBACK ROAD, SUITE D-155 PHOENIX, ARIZONA 85018 PHONE: (602) 840-8012 FAX: (602) 990-8468

BULK SAMPLE LOG

Job Name: Lucky 370

EW Job Number: 94-41-966-01

Date: 6/7/94

Collected By: JMB

Notes: 120 + 130 = 7600; 120 = 15,600

CONVERSE CONSULTANTS
ORANGE COUNTY
15245 Alton Parkway, Suite 100
Irvine, California 92718
Telephone: 714/453-2880
FAX: 714/453-2888

SAMPLES #	PHOTO #	MATERIAL SAMPLED	LOCATION	AREA SQ. FT.	CONDITION	COMMENTS
370-01		Floor tile brown mottled	Aisle 10	≈16,000	good	probably transite in living cooler (ceiling) also in all coolers
370-02		mastic black	Aisle 10		good	paper insulation
370-03		2 x 4 ceiling tile	Taken from replacement stock		good	white color tile in small area
370-04		drywall mud	Stock rm.		good	replacement
370-05		F.T. brown mottled	Aisle 9		good	
370-06		black mastic	Aisle 9		good	
370-07		F.T. white	Aisle 1	?		ceramic-like possible 2nd layer
370-08		F.T. brown mottled	Aisle - Produce		good	under freezer block
370-09		black mastic	Aisle - Produce		good	
370-10		linoleum paper	Mgr's room	150		no roof access

CHAIN OF CUSTODY

Relinquished By: J. Michael Battle — Time: 1300 — Date: 6/7/94

Received By: [illegible] — Time: [illegible] — Date: [illegible]

Relinquished By: — Time: — Date:

Received By: — Time: — Date:

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L1055

ENVIRONMENTAL MANAGEMENT CONSULTANTS

CHAIN OF CUSTODY FORM

FAXED 6/9/94

CLIENT [illegible] LAB # 1683

PROJECT NAME [illegible]

NUMBER OF SAMPLES 10 PAGE ____ OF ____

CLIENT SAMPLE ID 376 (1-10)

LAB SAMPLE ID 1683 (1-10)

REC'D [illegible] DATE REC'D 6/8/94 TIME 1530 AM / PM

DELIVERED BY FED. SHIPPING BILL RETAINED YES / NO

CONDITION OF PACKAGE CHILLED

PACKAGE OPENED BY [illegible] DATE 6/8/94

SAMPLE CONDITION EXAMINED BY [illegible] DATE 6/8/94

CONDITION OF INDIVIDUAL SAMPLES CHILLED

SAMPLE ACCEPTED (YES) / NO

ASSIGNED FOR PREP ANALYSIS BY [illegible] DATE 6/8/94

PREPARED FOR ANALYSIS BY [signature] DATE 6-9-94

ANALYZED BY [signature] DATE 06-09-94

SUBMITTED FOR Q.C. ____ DATE ____

QUALITY CONTROL CHECKED BY [signature] DATE 6-9-94

ACTION TAKEN None

INITIAL BY ALL PARTIES INVOLVED ____

SUBMITTED FOR REPORT BY [signature] DATE 6-9-94

REPORT CHECKED BY [signature] DATE 6/9/94

REPORT ISSUED TO CLIENT BY ____ DATE ____

SAMPLES RETURNED YES / NO ____ DATE ____

SAMPLES STORED ____ DATE ____

OTHER ____

CONFIDENTIAL

4455 EAST CAMELBACK ROAD, SUITE D-155 • PHOENIX, ARIZONA 85018
602) 840-8012 FAX: (602) 990-8468

L1056

ENVIRONMENTAL MANAGEMENT CONSULTANTS

Job # 1673 Account # XONO7 Page 1 of 10

LABORATORY ANALYSIS OF BULK ASBESTOS: Method Interim EPA 600/M4-82-020

Client CONOCO - IRVINE Purchase Order # [illegible]

Reported To NORM KRHNICK By Order Of [illegible]

Sampled From LUCAS #37C Sampled By [illegible] Date 10/7/94

Shipped Via Fed Ex Date Received 10/8/94

Client Sample ID # 37C-1 Lab Sample ID # 1673-1

Sample Description FT

STEREOSCOPIC ANALYSIS

White ___ Yellow ___ Tan ___ Brown / Black ___ Green ___ Blue ___ Other ___

Friable ___ Solid / Paper ___ Tile ___ Plaster ___ Paint ___ Other ___

FIBROUS MATERIAL 0 % NONFIBROUS 100 % HOMOGENEOUS: Y N

TEXTURE: Smooth.

ESTIMATED FIBROUS CONSTITUENTS ___

PLM ANALYSIS

Chrysotile 2 %	Amosite ___ %	Crocidolite ___ %
/ Wavy Fibers	___ Straight Fibers	___ Straight Fibers
/ Sign of Elongation (+)	___ Sign of Elongation (+)	___ Sign of Elongation (-)
/ Parallel Extinction	___ Parallel Extinction	___ Parallel Extinction
/ Perpendicular Extinction	___ Perpendicular Extinction	___ Perpendicular Extinction
/ Birefringence - L.M.H.	___ Birefringence - L.M.H.	___ Birefringence - L.M.H.
/ ω blue ε yellow	___ ω blue ε yellow	___ ω Tan ε Blue
/ D.St. - II Mag. - | Blue	___ D.St. - II Gold - | Blue	___ D.St. - II Yellow - | Yellow
___ Becke Line Used	___ pleochroic @ 40X	___ pleochroic @ 40X
η II ___ η | ___	___ Becke Line Used	___ Becke Line Used
___ Pleochroic @ 40X	η II ___ η | ___	η II ___ η | ___
Cellulose ___ %	Mineral Wool ___ %	___ Perlite ___
___ Flat Twisted fibers	___ irregular shapes	___ Quartz ___
___ Anisotropic	___ isotropic	___ Wollastonite ___
		/ CaCO 70
Synthetics ___ %	Glass Fibers ___ %	___ CaSO ___
___ even edges	___ staight fibers	___ Mica ___
___ high birefringence	___ isotropic	___ Other ___

Comments / Special Treatment ___

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FINAL ANALYSIS 2% CHRY; 70% CaCO; 25% BDR

Analyst [signature] Date 05/07/94

KENNETH W. [illegible]

4455 EAST CAMELBACK ROAD, SUITE [illegible] • PHOENIX, ARIZONA 85018

2nd Party ___ (if needed)

L1057

ENVIRONMENTAL MANAGEMENT CONSULTANTS

Job # 6873 Account # 20-417 Page 2 of 10

LABORATORY ANALYSIS OF BULK ASBESTOS: Method Interim EPA 600/M4-82-020

Client Converse - IRVINE Purchase Order # 94 4296101

Reported To NORM KRAMER By Order Of CLIENT

Sampled From LUCKY #370 Sampled By Client Date 6/7/94

Shipped Via FE Date Received 6/8/94

Client Sample ID # 370-2 Lab Sample ID # 6873-2

Sample Description MASTIC

STEREOSCOPIC ANALYSIS

White ___ Yellow ___ Tan ___ Brown ___ Black / Green ___ Blue ___ Other ___

Friable ___ Solid / Paper ___ Tile ___ Plaster ___ Paint ___ Other ___

FIBROUS MATERIAL 5 % NONFIBROUS 95 % HOMOGENEOUS: Y N

TEXTURE: Smooth

ESTIMATED FIBROUS CONSTITUENTS 5% COM

PLM ANALYSIS

Chrysotile ___%	Amosite ___%	Crocidolite ___%
___ Wavy Fibers	___ Straight Fibers	___ Straight Fibers
___ Sign of Elongation (+)	___ Sign of Elongation (+)	___ Sign of Elongation (-)
___ Parallel Extinction	___ Parallel Extinction	___ Parallel Extinction
___ Perpendicular Extinction	___ Perpendicular Extinction	___ Perpendicular Extinction
___ Birefringence - L.M.H.	___ Birefringence - L.M.H.	___ Birefringence - L.M.H.
___ ω blue ε yellow	___ ω blue ε yellow	___ ω Tan ε Blue
___ D.St. - II Mag. - __I__ Blue	___ D.St. - II Gold - __I__ Blue	___ D.St. - II Yellow - __I__ Yellow
___ Becke Line Used	___ pleochroic @ 40X	___ pleochroic @ 40X
η II ___ η __I__ ___	___ Becke Line Used	___ Becke Line Used
___ Pleochroic @ 40X	η II ___ η __I__ ___	η II ___ η __I__ ___
Cellulose 20 %	Mineral Wool ___%	___ Perlite ___
/ Flat Twisted fibers	___ Irregular shapes	___ Quartz ___
/ Anisotropic	___ Isotropic	___ Wollastonite ___
		___ CaCO ___
Synthetics ___%	Glass Fibers ___%	___ CaSO ___
___ even edges	___ staight fibers	___ Mica ___
___ high birefringence	___ Isotropic	___ Other ___

Comments / Special Treatment ___

CONFIDENTIAL

FINAL ANALYSIS 20' CELL; 75 BOR

Analyst [signature] Date 06/09/94

2nd Party (if needed) ___

L1058

ENVIRONMENTAL MANAGEMENT CONSULTANTS

Lab # 6873 Account # 20-417 Page 3 of 10

LABORATORY ANALYSIS OF BULK ASBESTOS: Method Interim EPA 600/M4-82-020

Client Converse - IRVINE Purchase Order # GU 4296101

Reported To NORM KRAMER By Order Of CLIENT

Sampled From Lucky #270 Sampled By CLIENT Date 10/7/94

Shipped Via FE Date Received 10/8/94

Client Sample ID # 370-3 Lab Sample ID # 6873-3

Sample Description CT

STEREOSCOPIC ANALYSIS

White ___ Yellow ___ Tan / Brown ___ Black ___ Green ___ Blue ___ Other ___

Friable ___ Solid / Paper ___ Tile ___ Plaster ___ Paint ___ Other ___

FIBROUS MATERIAL 80 % NONFIBROUS 20 % HOMOGENEOUS: (Y) N

TEXTURE: F

ESTIMATED FIBROUS CONSTITUENTS 40% CELL; 40% FG.

PLM ANALYSIS

Chrysotile ___%	Amosite ___%	Crocidolite ___%
___ Wavy Fibers	___ Straight Fibers	___ Straight Fibers
___ Sign of Elongation (-)	___ Sign of Elongation (+)	___ Sign of Elongation (-)
___ Parallel Extinction	___ Parallel Extinction	___ Parallel Extinction
___ Perpendicular Extinction	___ Perpendicular Extinction	___ Perpendicular Extinction
___ Birefringence - L.M.H.	___ Birefringence - L.M.H.	___ Birefringence - L.M.H.
___ ω blue ___ ε yellow	___ ω blue ___ ε yellow	___ ω Tan ___ ε Blue
___ D.St. - ⊥ Mag. - ∥ Blue	___ D.St. - ⊥ Gold - ∥ Blue	___ D.St. - ⊥ Yellow - ∥ Yellow
___ Becke Line Used	___ pleochroic @ 40X	___ pleochroic @ 40X
η ⊥ ___ η ∥ ___	___ Becke Line Used	___ Becke Line Used
___ Pleochroic @ 40X	η ⊥ ___ η ∥ ___	η ⊥ ___ η ∥ ___
/ Cellulose 40 %	Mineral Wool ___%	/ Perlite 10
___ Flat Twisted fibers	___ Irregular shapes	___ Quartz
/ Anisotropic	___ Isotropic	___ Wollastonite
Synthetics ___%	/ Glass Fibers 45 %	___ CaCO
___ even edges	/ ___ staight fibers	___ CaSO
___ high birefringence	/ ___ Isotropic	___ Mica
		___ Other

Comments / Special Treatment ___ CONFIDENTIAL

FINAL ANALYSIS 40% CELL; 45% FG; 10% PERL L1059

Analyst [signature] Date 05/09/94 2nd Party (if needed) ___

4455 EAST CAMELBACK ROAD SUITE B-235 PHOENIX, ARIZONA 85018

ENVIRONMENTAL MANAGEMENT CONSULTANTS

Lab # 6873 Account # 20-1617 Page 4 of 10

LABORATORY ANALYSIS OF BULK ASBESTOS: Method Interim EPA 600/M4-82-020

Client Converse - IRVINE Purchase Order # 94 4296 1601

Reported To NORM KRAMER By Order Of CLIENT

Sampled From LUCKY #370 Sampled By Client Date 10/7/94

Shipped Via FE Date Received 10/8/94

Client Sample ID # 370-4 Lab Sample ID # 6873-4

Sample Description DUCT WIPE Small Sample

STEREOSCOPIC ANALYSIS

White ✓ Yellow ___ Tan ___ Brown ___ Black ___ Green ___ Blue ___ Other ___

Friable ___ Solid ✓ Paper ___ Tile ___ Plaster ___ Paint ___ Other ___

FIBROUS MATERIAL 0 % NONFIBROUS 100 % HOMOGENEOUS: SP N

TEXTURE: P.

ESTIMATED FIBROUS CONSTITUENTS ___

PLM ANALYSIS

Chrysotile 2 %	Amosite ___ %	Crocidolite ___ %
✓ Wavy Fibers	___ Straight Fibers	___ Straight Fibers
✓ Sign of Elongation (-)	___ Sign of Elongation (+)	___ Sign of Elongation (-)
___ Parallel Extinction	___ Parallel Extinction	___ Parallel Extinction
___ Perpendicular Extinction	___ Perpendicular Extinction	___ Perpendicular Extinction
___ Birefringence - L.M.H.	___ Birefringence - L.M.H.	___ Birefringence - L.M.H.
___ ω blue ε yellow	___ ω blue ε yellow	___ ω Tan ε Blue
✓ D.St. - ⊥ Mag. - ∥ Blue	___ D.St. - ⊥ Gold - ∥ Blue	___ D.St. - ⊥ Yellow - ∥ Yellow
___ Becke Line Used	___ pleochroic @ 40X	___ pleochroic @ 40X
η ⊥ 1.68 η ∥ 1.54	___ Becke Line Used	___ Becke Line Used
___ Pleochroic @ 40X	η ⊥ ___ η ∥ ___	η ⊥ ___ η ∥ ___
Cellulose ___ %	Mineral Wool ___ %	___ Perlite ___
___ Flat Twisted fibers	___ irregular shapes	___ Quartz ___
___ Anisotropic	___ isotropic	___ Wollastonite ___
		✓ CaCO3 55
Synthetics ___ %	Glass Fibers ___ %	✓ CaSO4 30
___ even edges	___ staight fibers	___ Mica ___
___ high birefringence	___ isotropic	___ Other ___

Comments / Special Treatment ___

CONFIDENTIAL

FINAL ANALYSIS 2% CHRY; 55% CaCO3; 30% CaSO4

Analyst [signature] Date 05/09/94 2nd Party ___ (if needed)

L1060

ENVIRONMENTAL MANAGEMENT CONSULTANTS

Lab # 6873 Account # 20-1417 Page 5 of 10

LABORATORY ANALYSIS OF BULK ASBESTOS: Method Interim EPA 600/M4-82-020

Client Converse - IRVINE Purchase Order # 9L4296101

Reported To NORM KRAMER By Order Of CLIENT

Sampled From LUCKY #270 Sampled By Client Date 6/7/94

Shipped Via FE. Date Received 6/8/94

Client Sample ID # 370-5 Lab Sample ID # 6873-5

Sample Description FT

STEREOSCOPIC ANALYSIS

White ___ Yellow ___ Tan ___ Brown / Black ___ Green ___ Blue ___ Other ___

Friable ___ Solid / Paper ___ Tile ___ Plaster ___ Paint ___ Other ___

FIBROUS MATERIAL ___ % NONFIBROUS 99 % HOMOGENEOUS: Y N

TEXTURE: Sm.

ESTIMATED FIBROUS CONSTITUENTS 1% chry?

PLM ANALYSIS

Chrysotile 2 %	Amosite ___ %	Crocidolite ___ %
/ Wavy Fibers	___ Straight Fibers	___ Straight Fibers
___ Sign of Elongation (-)	___ Sign of Elongation (+)	___ Sign of Elongation (-)
___ Parallel Extinction	___ Parallel Extinction	___ Parallel Extinction
___ Perpendicular Extinction	___ Perpendicular Extinction	___ Perpendicular Extinction
___ Birefringence - L.M.H.	___ Birefringence - L.M.H.	___ Birefringence - L.M.H.
___ ω blue ε yellow	___ ω blue ε yellow	___ ω Tan ε Blue
/ D.St. - ⊥ Mag. - ∥ Blue	___ D.St. - ⊥ Gold - ∥ Blue	___ D.St. - ⊥ Yellow - ∥ Yellow
___ Becke Line Used	___ pleochroic @ 40X	___ pleochroic @ 40X
η ⊥ / η ∥ 1.57	___ Becke Line Used	___ Becke Line Used
___ Pleochroic @ 40X	η ⊥ ___ η ∥ ___	η ⊥ ___ η ∥ ___
Cellulose ___ %	Mineral Wool ___ %	___ Perlite ___
___ Flat Twisted fibers	___ irregular shapes	___ Quartz ___
___ Anisotropic	___ isotropic	___ Wollastonite ___
		___ CaCO 70
Synthetics ___ %	Glass Fibers ___ %	___ CaSO ___
___ even edges	___ staight fibers	___ Mica ___
___ high birefringence	___ isotropic	___ Other ___

Comments / Special Treatment ___

CONFIDENTIAL

FINAL ANALYSIS 2% CHRY; 70% CaCO; 28% BOE

L1061

Analyst [signature] Date 06/09/94

2nd Party _ (if needed)

4435 EAST CAMELBACK ROAD, SUITE D-155 • PHOENIX, ARIZONA 85018

ENVIRONMENTAL MANAGEMENT CONSULTANTS

Lab # 6873 Account # 20-417 Page 1 of 10

LABORATORY ANALYSIS OF BULK ASBESTOS: Method Interim EPA 600/M4-82-020

Client Converse-IRVINE Purchase Order # 94 429601.01

Reported To NORM KRAMER By Order Of CLIENT

Sampled From Lucky #370 Sampled By Client Date 6/7/94

Shipped Via FE Date Received 6/8/94

Client Sample ID # 370-6 Lab Sample ID # 6873-6

Sample Description DRYSTIC

STEREOSCOPIC ANALYSIS

White ___ Yellow ___ Tan ___ Brown ___ Black / Green ___ Blue ___ Other ___

Friable ___ Solid ___ Paper ___ Tile ___ Plaster ___ Paint ___ Other ___

FIBROUS MATERIAL 5 % NONFIBROUS 95 % HOMOGENEOUS: (Y) N

TEXTURE: SM.

ESTIMATED FIBROUS CONSTITUENTS 5 % CEL

PLM ANALYSIS

Chrysotile 10 %	Amosite ___ %	Crocidolite ___ %
/ Wavy Fibers	___ Straight Fibers	___ Straight Fibers
___ Sign of Elongation (+)	___ Sign of Elongation (+)	___ Sign of Elongation (-)
/ Parallel Extinction	___ Parallel Extinction	___ Parallel Extinction
/ Perpendicular Extinction	___ Perpendicular Extinction	___ Perpendicular Extinction
___ Birefringence - L.M.H.	___ Birefringence - L.M.H.	___ Birefringence - L.M.H.
___ ω blue ε yellow	___ ω blue ε yellow	___ ω Tan ε Blue
___ D.St. - II Mag. - / Blue	___ D.St. - II Gold - / Blue	___ D.St. - II Yellow - / Yellow
___ Becke Line Used	___ pleochroic @ 40X	___ pleochroic @ 40X
η II / η /	___ Becke Line Used	___ Becke Line Used
___ Pleochroic @ 40X	η II ___ η / ___	η II ___ η / ___
Cellulose ___ %	Mineral Wool ___ %	___ Perlite ___
___ Flat Twisted fibers	___ irregular shapes	___ Quartz ___
___ Anisotropic	___ isotropic	___ Wollastonite ___
		/ CaCO 10
Synthetics ___ %	Glass Fibers ___ %	___ CaSO ___
___ even edges	___ staight fibers	___ Mica ___
___ high birefringence	___ isotropic	___ Other ___

Comments / Special Treatment ___ CONFIDENTIAL

FINAL ANALYSIS 10% CHRY; 10% CaCO; 75% BOR

Analyst [signature] Date 06/09/94 2nd Party ___ (if needed)

L1062

ENVIRONMENTAL MANAGEMENT CONSULTANTS

Lab # L6873 Account # 20-1417 Page 1 of 10

LABORATORY ANALYSIS OF BULK ASBESTOS: Method Interim EPA 600/M4-82-020

Client Converse - IRVINE Purchase Order # 9L 4729616.01

Reported To NORM KRAMER By Order Of CLIENT

Sampled From Lucky #270 Sampled By Client Date 10/7/94

Shipped Via FE Date Received 10/8/94

Client Sample ID # 370-7 Lab Sample ID # L6873-7

Sample Description FT Small Sample

STEREOSCOPIC ANALYSIS

White ___ Yellow ___ Tan ✓ Brown ___ Black ___ Green ___ Blue ___ Other ___

Friable ___ Solid ✓ Paper ___ Tile ___ Plaster ___ Paint ___ Other ___

FIBROUS MATERIAL 2 % NONFIBROUS 98 % HOMOGENEOUS: (Y) N

TEXTURE: Soft.

ESTIMATED FIBROUS CONSTITUENTS 2% cell

PLM ANALYSIS

Chrysotile ___%	Amosite ___%	Crocidolite ___%
___ Wavy Fibers	___ Straight Fibers	___ Straight Fibers
___ Sign of Elongation (+)	___ Sign of Elongation (+)	___ Sign of Elongation (-)
___ Parallel Extinction	___ Parallel Extinction	___ Parallel Extinction
___ Perpendicular Extinction	___ Perpendicular Extinction	___ Perpendicular Extinction
___ Birefringence - L.M.H.	___ Birefringence - L.M.H.	___ Birefringence - L.M.H.
___ ω blue ε yellow	___ ω blue ε yellow	___ ω Tan ε Blue
___ D.St. - ⊥ Mag. - ∥ Blue	___ D.St. - ⊥ Gold - ∥ Blue	___ D.St. - ⊥ Yellow - ∥ Yellow
___ Becke Line Used	___ pleochroic @ 40X	___ pleochroic @ 40X
η ⊥ ___ η ∥ ___	___ Becke Line Used	___ Becke Line Used
___ Pleochroic @ 40X	η ⊥ ___ η ∥ ___	η ⊥ ___ η ∥ ___
Cellulose 10 %	Mineral Wool ___%	___ Perlite
✓ Flat Twisted fibers	___ irregular shapes	___ Quartz
___ Anisotropic	___ isotropic	___ Wollastonite
		___ CaCO
Synthetics ___%	Glass Fibers ___%	___ CaSO
___ even edges	___ staight fibers	___ Mica
___ high birefringence	___ isotropic	___ Other

Comments / Special Treatment ___

CONFIDENTIAL

FINAL ANALYSIS 10% CELL; 85% FOR

Analyst [signature] Date 06/09/94 2nd Party ___ (if needed)

L1063

4455 EAST CAMELBACK ROAD, SUITE D-155 • PHOENIX, ARIZONA 85018

ENVIRONMENTAL MANAGEMENT CONSULTANTS

Lab # 6873 Account # 30-417 Page 5 of 10

LABORATORY ANALYSIS OF BULK ASBESTOS: Method Interim EPA 600/M4-82-020

Client Converse - IRVINE Purchase Order # 9U 4291601 01

Reported To NORM KRAMER By Order Of CLIENT

Sampled From Lucky #270 Sampled By Client Date 10/7/94

Shipped Via FE Date Received 10/8/94

Client Sample ID # 370-E Lab Sample ID # 6873-5

Sample Description FT

STEREOSCOPIC ANALYSIS

White ___ Yellow ___ Tan ___ Brown / Black ___ Green ___ Blue ___ Other ___

Friable ___ Solid ___/ Paper ___ Tile ___ Plaster ___ Paint ___ Other ___

FIBROUS MATERIAL 1 % NONFIBROUS 99 % HOMOGENEOUS: X N

TEXTURE: Sft.

ESTIMATED FIBROUS CONSTITUENTS 1% chrys ?

PLM ANALYSIS

Chrysotile 2 %	Amosite ___ %	Crocidolite ___ %
/ Wavy Fibers	___ Straight Fibers	___ Straight Fibers
/ Sign of Elongation (+)	___ Sign of Elongation (+)	___ Sign of Elongation (-)
___ Parallel Extinction	___ Parallel Extinction	___ Parallel Extinction
___ Perpendicular Extinction	___ Perpendicular Extinction	___ Perpendicular Extinction
/ Birefringence - L.M.H.	___ Birefringence - L.M.H.	___ Birefringence - L.M.H.
/ ω blue ε yellow	___ ω blue ε yellow	___ ω Tan ε Blue
/ D.St. - II Mag. - ⊥ Blue	___ D.St. - II Gold - ⊥ Blue	___ D.St. - II Yellow - ⊥ Yellow
___ Becke Line Used	___ pleochroic @ 40X	___ pleochroic @ 40X
η II 1.55 η ⊥ 1.547	___ Becke Line Used	___ Becke Line Used
___ Pleochroic @ 40X	η II ___ η ⊥ ___	η II ___ η ⊥ ___
Cellulose ___ %	Mineral Wool ___ %	___ Perlite ___
___ Flat Twisted fibers	___ Irregular shapes	___ Quartz ___
___ Anisotropic	___ Isotropic	___ Wollastonite ___
		/ CaCO3 70
Synthetics ___ %	Glass Fibers ___ %	___ CaSO4 ___
___ even edges	___ staight fibers	___ Mica ___
___ high birefringence	___ Isotropic	___ Other ___

Comments / Special Treatment ___ CONFIDENTIAL

FINAL ANALYSIS 2% CHRY; 70% CO3; 25% BOR

Analyst [signature] Date 10/09/94 2nd Party ___ (if needed)

L1064

ENVIRONMENTAL MANAGEMENT CONSULTANTS

Lab # 6873 Account # 20-417 Page 9 of 10

LABORATORY ANALYSIS OF BULK ASBESTOS: Method Interim EPA 600/M4-82-020

Client Converse - IRVINE Purchase Order # 94 47216001

Reported To NORM KRAMER By Order Of CLIENT

Sampled From Lucky #370 Sampled By Client Date 10/7/94

Shipped Via FE Date Received 10/8/94

Client Sample ID # 370-9 Lab Sample ID # 6873-9

Sample Description MASTIC

STEREOSCOPIC ANALYSIS

White ___ Yellow ___ Tan ___ Brown ___ Black / Green ___ Blue ___ Other ___

Friable ___ Solid / Paper ___ Tile ___ Plaster ___ Paint ___ Other ___

FIBROUS MATERIAL >5 % NONFIBROUS 95 % HOMOGENEOUS: (Y) N

TEXTURE: SM.

ESTIMATED FIBROUS CONSTITUENTS ~5? chry

PLM ANALYSIS

/ Chrysotile 10 %
- / Wavy Fibers
- / Sign of Elongation (+)
- / Parallel Extinction
- / Perpendicular Extinction
- / Birefringence - L.M.H.
- / ω blue ε yellow
- / D.St. - ⊥ Mag. - ∥ Blue
- / Becke Line Used
  η ∥ 1.551 η ⊥ 1.549
- ___ Pleochroic @ 40X
- Cellulose ___ %
- ___ Flat Twisted fibers
- ___ Anisotropic
- Synthetics ___ %
- ___ even edges
- ___ high birefringence

Amosite ___ %
- ___ Straight Fibers
- ___ Sign of Elongation (+)
- ___ Parallel Extinction
- ___ Perpendicular Extinction
- ___ Birefringence - L.M.H.
- ___ ω blue ε yellow
- ___ D.St. - ∥ Gold - ⊥ Blue
- ___ pleochroic @ 40X
- ___ Becke Line Used
  η ∥ ___ η ⊥ ___
- Mineral Wool ___ %
- ___ irregular shapes
- ___ isotropic
- Glass Fibers ___ %
- ___ staight fibers
- ___ isotropic

Crocidolite ___ %
- ___ Straight Fibers
- ___ Sign of Elongation (-)
- ___ Parallel Extinction
- ___ Perpendicular Extinction
- ___ Birefringence - L.M.H.
- ___ ω Tan ε Blue
- ___ D.St. - ∥ Yellow - ⊥ Yellow
- ___ pleochroic @ 40X
- ___ Becke Line Used
  η ∥ ___ η ⊥ ___
- ___ Perlite
- ___ Quartz
- ___ Wollastonite
- / CaCO 10
- ___ CaSO
- ___ Mica
- ___ Other

Comments / Special Treatment

CONFIDENTIAL

FINAL ANALYSIS 10% CHRY; 10% CALCITE BOX

Analyst [signature] Date 10/09/94 2nd Party (if needed)

L1065

ENVIRONMENTAL MANAGEMENT CONSULTANTS

Lab # L6873 Account # 20-1417 Page 10 of 10

LABORATORY ANALYSIS OF BULK ASBESTOS: Method Interim EPA 600/M4-82-020

Client Converse - IRVINE Purchase Order # 9U 4291601

Reported To NORM KRAMER By Order Of CLIENT

Sampled From Lucky #370 Sampled By Client Date 10/7/94

Shipped Via Fed Date Received 10/8/94

Client Sample ID # 370-1C Lab Sample ID # L6873-1C

Sample Description 1 LIT. PAPER

STEREOSCOPIC ANALYSIS

White ✓ Yellow ___ Tan ___ Brown ___ Black ___ Green ___ Blue ___ Other ___

Friable ___ Solid ✓ Paper ___ Tile ___ Plaster ___ Paint ___ Other ___

FIBROUS MATERIAL 45 % NONFIBROUS 55 % HOMOGENEOUS: Y N

TEXTURE: F.

ESTIMATED FIBROUS CONSTITUENTS 45% Chry

PLM ANALYSIS

Chrysotile 40 %

- ✓ Wavy Fibers
- ✓ Sign of Elongation (+)
- ✓ Parallel Extinction
- ✓ Perpendicular Extinction
- ___ Birefringence - L.M.H.
- ___ ω blue ε yellow
- ___ D.St. - ⊥ Mag. - ∥ Blue
- ✓ Becke Line Used
  η ∥ 1.55 η ⊥ 1.54
- ___ Pleochroic @ 40X
- Cellulose ___ %
- ___ Flat Twisted fibers
- ___ Anisotropic

Amosite ___ %

- ___ Straight Fibers
- ___ Sign of Elongation (+)
- ___ Parallel Extinction
- ___ Perpendicular Extinction
- ___ Birefringence - L.M.H.
- ___ ω blue ε yellow
- ___ D.St. - ⊥ Gold - ∥ Blue
- ___ pleochroic @ 40X
- ___ Becke Line Used
  η ∥ ___ η ⊥ ___
- Mineral Wool ___ %
- ___ Irregular shapes
- ___ Isotropic

Crocidolite ___ %

- ___ Straight Fibers
- ___ Sign of Elongation (-)
- ___ Parallel Extinction
- ___ Perpendicular Extinction
- ___ Birefringence - L.M.H.
- ___ ω Tan ε Blue
- ___ D.St. - ⊥ Yellow - ∥ Yellow
- ___ pleochroic @ 40X
- ___ Becke Line Used
  η ∥ ___ η ⊥ ___
- ___ Perlite ___
- ___ Quartz ___
- ___ Wollastonite ___
- ___ CaCO ___
- ___ CaSO ___
- ___ Mica ___
- ___ Other ___

Synthetics ___ %

- ___ even edges
- ___ high birefringence

Glass Fibers ___ %

- ___ staight fibers
- ___ Isotropic

Comments / Special Treatment ___

CONFIDENTIAL

FINAL ANALYSIS 40% CHRY; 55% BDR

L1066

Analyst [signature] Date 06/09/94

2nd Party ___ (if needed)

KENNETH W. HOKANSON

4455 EAST CAMELBACK ROAD, SUITE D-155 • PHOENIX, ARIZONA 85018