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Pleasanton, CA 94566
(925) 426-2600
Fax (925) 426-0106

ENVIRONMENTAL
PROTECTION
99 JAN 15 AM 9:52
Clayton
ENVIRONMENTAL
CONSULTANTS

January 13, 1999

Mr. David Hallstrom
State of California
State Water Resources Control Board
Division of Clean Water Programs
Underground Storage Tank Cleanup Fund
P.O. Box 944212
Sacramento, California 94244-2120

Clayton Project No.70-97066.00

Subject: Request for Pre-Approval of Costs to Implement Workplan

Dear Mr. Hallstrom:

Clayton Environmental Consultants, a division of Clayton Group Services, Inc. has been approved by Alameda County Health Care Services Agency to perform additional investigations at 630 29th Avenue in Oakland, California. Included as an attachment to this letter is the Cost Pre-Approval Request form. In the near future, we will submit an application for approval to your agency on behalf of Bank of America and naming us as a co-payee. The project involves a 1,000-gallon unregistered underground fuel storage tank that Clayton has agreed to remediate on behalf of Bank of America.

Clayton proposed a workplan for additional investigations in Clayton's "Limited Subsurface Investigation, Former Lemoine Sausage Facility, 630 29th Avenue, Oakland, California" dated April 1998. The workplan was conditionally approved by Mr. Barney Chan of the Alameda County Health Care Services Agency (ACHCS) in a letter dated May 1, 1998. The conditions of Mr. Chan's approval were that three of the seven proposed grab groundwater sample borings be converted to monitoring wells. A copy of Clayton's investigation report and ACHCS letter are included as attachments.

In summary, the approved workplan consists of the advancement of seven borings to collect grab groundwater samples. Three of the borings will be converted to groundwater monitoring wells. The purpose of the investigation is to define the extent of petroleum hydrocarbon impacts in the shallow groundwater. The grab groundwater samples from four of the seven borings and three groundwater samples from the monitoring wells will be analyzed for total petroleum hydrocarbons as gasoline (TPH-G) benzene, toluene, ethylbenzene, and xylenes (BTEX), and chlorinated solvents (VOCs) by U.S. EPA Method 8010. A temporary encroachment permit and excavation permit is required by

Mr. David Hallstrom
Underground Storage Tank Cleanup Fund
January 13, 1999
Page 2

the City of Oakland for the installations in the roadway and sidewalk. A drilling permit will be required by Alameda County Public Works Department. Upon completion of the well installations, the wells will be surveyed for top of casing elevations relative to mean sea level. The wells will be developed and sampled.

Four of the seven borings, which includes two of the three wells, are to be completed inside the on-site building. One boring and one monitoring well will be located in the roadway outside the building and one boring will be located in the sidewalk area. The on-site building has some unique access and structural issues. To overcome the building access and structural issues, the wells will need to be completed as pre-packed one-inch diameter groundwater monitoring wells. The rationale for the one-inch diameter wells is that access with drilling equipment that can install conventionally sized wells is extremely limited. Furthermore, the drilling surface is a 6-inch thick suspended concrete slab floor of old construction. The floor joists are constructed of wood and the spacing and location of the joists is not known. A large diameter hole to install conventional sized wells inside the building could jeopardize the integrity of the floor structure. The drilling contractors generally decline to bid the work with conventional two-inch wells because of the access and structural issues.

Clayton has discussed the use of 1-inch diameter wells with Mr. Chan of the ACHCS. Mr. Chan and Mr. Chuck Hedley of the San Francisco Region Water Quality Control Board (RWQCB) conditionally approved the use of 1-inch diameter wells for this phase of the investigation. The conditions of installing the one-inch diameter wells are that all wells proposed in this workplan (inside or outside the building) will be of the same size. If any additional wells need to be installed in the future outside the building, the RWQCB will require that they are of conventional size. A Figure delineating the proposed locations of the wells and borings is included as an attachment.

Due to the timeliness of the encroachment and excavation permit, Mr. Chan has requested that we perform the workplan in two mobilizations. Mr. Chan's request is documented in Clayton's November 23, 1998 letter, included as an attachment. The first mobilization will be to complete all installations inside the building. Once the encroachment and excavation permits have been attained, Clayton will re-mobilize to complete the installations in the roadway. Mr. Chan has also requested that the events be documented in separate reports.

Due to the amount of previous work completed, involvement of multiple parties, regulatory involvement, and the various permits required, the use of competitively bid consultants to complete this phase of work was not cost effective. Furthermore, it is believed that a second consultant would impede the progress of the work and require the consultant to develop a relationship with the other parties as well as gain the confidence

Contingent on there being a delay in receiving a final drilling permit - US

Mr. David Hallstrom
Underground Storage Tank Cleanup Fund
January 13, 1999
Page 3

of those other parties. Moreover, the investigation workplan prepared by Clayton has already been approved by ACEHS.

Clayton has competitively bid all subcontractor work associated with the investigation as required by the Underground Storage Tank Cleanup Fund. Clayton labor for this project is performed at our salary and overhead cost. All subcontractor costs have an 8 percent markup for administrative costs. A detail of the costs is presented in an attachment. The total estimated cost to implement the workplan is \$14,503.90.

If you have any questions, please do not hesitate to call me at (925) 426-2600. We are scheduled to perform the first phase of work the week of January 18, 1999. Would you please have our pre-approval request completed by that time. Thank you in advance for your cooperation.

Sincerely,



Jon Rosso
Director
Environmental Risk Management and
Remediation
San Francisco Regional Office

JAR/mwh

Cc: Rita Repko, Clayton
Marlin Zechman, ECS
Barney Chan, ACHCS

**CALIFORNIA UNDERGROUND STORAGE TANK CLEANUP FUND
COST PRE-APPROVAL REQUEST**
(Complete form, enclose required items, sign, date & return)

TO: DAVID HALLSTROM Fax: (916) 227-4530

I. CLAIM INFORMATION

A. CLAIM NO. N/A B. CLAIMANT Bank of America

C. CLAIM STATUS (complete appropriate section)

i) LOC ISSUED FOR \$ N/A

ii) N/A ON PRIORITY LIST? YES NO IF YES, PRIORITY CLASS A B C D

iii) NOT YET APPLIED TO THE FUND. EXPECTED APPLICATION DATE: 1/18/99

D. CONTACT PERSON: Jon Rosso PHONE: 925 426-2600

ADDRESS: 1252 Quarry Lane FAX: 925 426-0106
Pleasanton, California
94566

II. TYPE OF REQUEST (check appropriate boxes)

PRE-APPROVAL \$ 14,503.90 AMOUNT REQUESTED

3-BID REVIEW \$ 14,503.90 PREFERRED BID (if applicable)

THE FOLLOWING DOCUMENTS ARE REQUIRED FOR THE SPECIFIED REQUEST. ALL DOCUMENTS REQUESTED MUST BE SUBMITTED OR THE REQUEST(S) WILL BE RETURNED UNPROCESSED.

A. REQUEST FOR PRE-APPROVAL OF PROPOSED COSTS-The following items are required before review and determination will be made by Fund Staff.

1. A complete signed copy of the proposed Investigation Workplan or Corrective Action Plan (CAP) (as defined and required by Article 11, Chapter 16, California Underground Storage Tank Regulations). Corrective Action Plans must include the required feasibility study and chosen cost effective alternative.
2. A signed copy of the oversight agency approval letter for the Workplan/CAP.
3. A complete copy of the Request for Bids, including all attachments. A list of all firms requested to bid must be included.
4. Complete copies of all bids and other correspondence submitted in response to the Request for Bids.
5. A time schedule, if not part of bid documents, anticipated for project initiation and duration.
6. A detailed project budget, which includes breakdowns of staff/task/hour with associated estimated totals.

B. THREE-BID REVIEW/EVALUATION/DETERMINATION - Fund staff will assist any claimant requesting an evaluation of bids upon request. The following information must be submitted - 1,2,3 AND 4 as described in Item A above.

III. CERTIFICATION

I certify under penalty of perjury that all information submitted with this request is complete and accurate and in accordance with all applicable laws and regulations. Must be signed by claimant or person designated on the Authorized Representative Designation form.

[Signature] Jon Rosso 1/13/99
Signature Printed Name Date

IV. Authorization for the Fund to give out your name and phone number to other claimants in your region as a reference for consultants and contractors. YES NO

[Signature] 1/13/99
Signature Date

Subcontractor Bid Pricing

Utility Locators

CUS	\$	360.00	
Norcal	\$	360.00	Verbal, no written quote.
Norcal - GPR			Has not submitted quote.

Laboratories

Clayton	\$	945.00
Sequoia	\$	1,015.00
Chromalab	\$	1,015.00

Concrete Corers

Del Secco	\$	1,120.00
Jamco	\$	2,150.00
Vicker		Declined to bid

Drillers

	<u>Option 2</u>	<u>Option 1</u>
ECA	\$ 3,395.00	Declined to bid 2" wells.
Vironex	\$ 3,071.50	Declined to bid 2" wells.
Gregg	\$ 3,980.00	\$ 5,285.00

Well Survey

\$ 500.00

Bold = Selected Subcontractor

Clayton Labor and Expenses

	Hours	Rate	Totals	
<u>Permits</u>				
Drilling Permit			\$ -	
Excavation Permit			\$ 265.68	
Encroachment Permit			\$ 540.00	
All Permit Assembly	20	\$ 67.00	\$ 1,340.00	
<u>Field Prep</u>				
Bid Spec prep	2	\$ 67.00	\$ 134.00	
Bid walk	8	\$ 67.00	\$ 536.00	
Bid organization	2	\$ 67.00	\$ 134.00	
<u>Field Labor</u>				
	40	\$ 67.00	\$ 2,680.00	
<u>Reporting</u>				
Report Prep Supervisor	3	130	\$ 390.00	
Project Geologist	24	67	\$ 1,608.00	
Graphics/Secretarial	10	40	\$ 400.00	
			\$ 8,027.68	Clayton Labor and Expense Subto
Subcontractors Subtotal			\$ 5,996.50	
w/ 8% markup			\$ 479.72	

Estimated Project Total \$ 14,503.90

Clayton Labor and Expenses assumes two reports and two field mobilizations per direction of Barney Chan with Alameda County Environmental Health.

MEMORANDUM

To: Matt Hanko
From: Marc Mullaney
Subject: RFQ'S FOR SCOPE OF WORK AT 630 29TH AVE., OAKLAND
Date: 1/4/99

The scope of work will consist of advancing seven borings to collect grab groundwater samples. The samples will be analyzed for Total Petroleum Hydrocarbons as Gasoline (TPHG), benzene, toluene, ethylbenzene, xylenes (BTEX), and purgable halocarbons using EPA method 8010. The drilling locations will be cleared for utilities by notifying Underground Service Alert a minimum of 48 hours prior to the commencement of work. A private utility locator will be contracted to verify underground utility locations. The drillers will be responsible for implementing one of two types of well construction. During previous investigations the depth to water was approximately six feet below surface grade. The contract will be awarded to the contractor with the lowest bid that is acceptable to the UST Tank Reimbursement Fund. Field work will commence the week of January 11, 1999.

Soil Borings/Monitoring Well Construction:

Option One: Seven soil borings to collect grab groundwater samples. Two soil borings outside the site building and five soil borings inside the site building. Three soil borings will be converted to 2-inch 15-foot deep monitoring wells. One monitoring well will be constructed outside and two constructed inside the building. The monitoring wells will be traffic rated flush mount construction. Drilling methods will be direct push technology and/or hollow stem auger.

Option Two: Seven soil borings to collect grab groundwater samples. Two soil borings outside the site building and five soil borings inside the site building. Three soil borings will be converted to 1 inch 15-foot deep monitoring wells. One monitoring well will be constructed outside and two constructed inside the building. The monitoring wells will be traffic rated flush mount construction. The drilling methods will be direct push technology and/or hollow stem auger.

Drilling contractor is expected to provide costs for each option.

MEMORANDUM
(Continued)

Concrete Coring

A private concrete coring vendor will be responsible for coring all boring locations. The five boring locations inside the building are a two foot thick suspended concrete slab a minimum of six inches above a secondary slab (thickness unknown). The two outside boring locations will be in the asphalt street.

Laboratory Analysis

A State of California licensed analytical laboratory will be responsible for analyzing the seven grab groundwater samples by U.S. EPA methods 8015M/8020 and 8010.

Utility Clearance

A private utility location firm will verify that all boring locations are free of underground utilities within a three feet radius.

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Clayton
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CONSULTANTS

23 November 1998
Project: 70-97066.00

Barney M. Chan
Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Schedule of Subsurface Investigation
630 29th Avenue
Oakland, California

Dear Mr. Chan:

As we discussed, the following is an update of the schedule for the additional investigation workplan previously approved for the subject site. Clayton Environmental Consultants, a division of Clayton Group Services, Inc., (Clayton) initiated efforts to submit the documents for the City of Oakland encroachment and excavation permits, and the Alameda County boring permit. The boring permit was submitted to Alameda County Public Works Agency on 9 November 1998 and is required for drilling of all borings and wells. The encroachment permit is required for installation of the monitor well in 29th Avenue. The excavation permit is required for the soil borings and the monitor well in 29th Avenue. The various documents for the encroachment permit should be submitted to the City by the end of this week. The excavation permit can only be submitted after the encroachment permit has been assigned.

According to the City of Oakland, the encroachment permit will take about four to six weeks to process. Following the receipt of the encroachment permit, the excavation permit can be submitted and will take about two to four weeks to process. The total permitting time is estimated to take between six and ten weeks. Therefore, the necessary permits should be available sometime between 6 January 1999 and 3 February 1999.

As you requested, we will schedule the drilling for the borings and the wells to start the week of 11 January 1999. If the encroachment and excavation permits are not ready, we will proceed with subsurface investigation inside the building and delay the borings and well in 29th Avenue until we receive the permits. Based on this schedule, a report documenting the subsurface investigation and the analytical testing results will be submitted to Alameda County Environmental Health Services by 19 February 1999. If

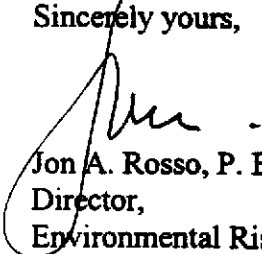
Barney M. Chan
Alameda County Environmental Health Services
23 November 1998
Page 2

Clayton
ENVIRONMENTAL
CONSULTANTS

the borings and well in 29th Avenue are delayed, we will submit a subsequent report documenting these activities.

In the meantime, we will keep you informed of our progress. If you have any questions, please call me at (925) 426-2600.

Sincerely yours,



Jon A. Rosso, P. E.

Director,

Environmental Risk Management and Remediation

Clayton Environmental Consultants, a division of Clayton Group Services, Inc.

San Francisco Regional Office

Cc: Donna Proffitt, Bank of America Environmental Services
Rita Repko, Clayton Group Services
Marlin Zechman, ECS
Michael Alders, ABI Industries

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



Received
10/23/98

October 20, 1998
StID # 6070

Ms. Donna Proffitt
B of A Environmental Services
4000 MacArthur Blvd., Suite 100
Newport Beach, CA 92660-2516

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

Re: Status Report and Schedule for 630 29th Ave., Oakland CA 94601

Dear Ms. Proffitt:

Our office had received and reviewed the October 6, 1998 letter report which responds to my August 31, 1998 letter. In my letter, I requested a site update and a schedule for the previously proposed and approved work plan for the advancement of seven borings around the former underground tank pit. My response to the work plan was conditional approval subject to converting of three of the borings into permanent monitoring wells. The October 6, 1998 letter requests that monitoring wells not be installed within the borings. Monitoring wells would be recommended later, after the results of the samples from the borings have been reviewed and after the extent of the contamination has been determined.

Our office, however, again requests that a minimum of three monitoring wells be installed at the site. It is believed that these wells can be located within three of the seven proposed boring locations. This recommendation is based upon the following assumptions:

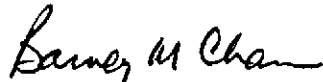
- An up-gradient well is often necessary to determine if any other sources of contamination exist.
- There is a need to determine groundwater concentration near the former underground tank in addition to determining the extent of contamination. This information is necessary to evaluate human health risk, required for site closure.
- In the event that contamination extends beyond the original location of monitoring wells, the initial wells may serve to measure the conditions near the heart of the plume ie natural bio-remediation parameters.
- Groundwater samples from temporary borings are often not representative of actual groundwater conditions and may be used only for qualitative purposes.

Based on this rationale, our office requests that the condition for the converting of three of the seven borings into monitoring wells be retained. Please inform our office if the proposed work schedule (8-10 weeks for submittal of report) is still obtainable.

You should also inform me 72 working hours prior to this work so I may arrange to be on-site during these activities. If you have any comments or questions, I may be reached at (510) 567-6765.

Ms. Donna Proffitt
630 29th Ave.
StID # 6070
October 20, 1998
Page 2.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files
Mr. Jon Rosso, Clayton Environmental, 1252 Quarry Lane, P.O. Box 9019, Pleasanton,
CA, 94566

2Wpsch630

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



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

May 1, 1998
StID #6070

Ms. Donna Proffitt
B of A Environmental Services
560 Davis St., 2nd Floor
San Francisco, CA 94111

Re: **Limited Subsurface Investigation Report for 630 29th Ave.,
Oakland CA, 94601**

Dear Ms. Proffitt:

Our office has received and reviewed the **April 1998 Limited Subsurface Investigation** for the above referenced site as performed by Clayton Environmental Consultants (Clayton). This report details the results of soil Geoprobe borings placed around the former gasoline tank and its dispenser. This work was done in August and September 1997. Please insure that future reports are provided to our office in a more timely manner.

The results of this investigation indicate that although soil contamination may be limited in extent, groundwater contamination from the gasoline tank release has not been defined. The analytical results of the groundwater samples from temporary wells placed in the borings indicate high gasoline and BTEX concentrations. Because of these results, Clayton Environmental proposes the advancement of seven additional borings and once the extent of contamination is defined, they propose to install three shallow monitoring wells.

Our office agrees that additional investigation is warranted, however, please adhere to the following conditions:

- Please install three monitoring wells within three of the proposed borings. I recommend one up-gradient and two down-gradient wells. Although no scale appears on Figure 5, you may advance these borings on up to 30' centers.
- Please field screen soil samples within these borings. No analysis of soil is necessary if field data indicates no contamination.
- Please analyze all samples for TPHg, BTEX and chlorinated solvents (8010).

Until site closure has occurred please adhere to quarterly reporting to update our office as to the status of this investigation in accordance with Title 23, Division 3, Chapter 16, Section 2652 (d).

1252 Quarry Lane
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Clayton
ENVIRONMENTAL
CONSULTANTS

Limited Subsurface Investigation

**Former Lemoine Sausage Facility
630 29th Avenue
Oakland, California**

**Clayton Project No. 70-97066.00
April 1998**

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(continued)

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- A CITY OF OAKLAND EXCAVATION PERMIT**
- B BORING LOGS**
- C LABORATORY ANALYTICAL DATA SHEETS AND
CHAIN-OF-CUSTODY DOCUMENTS**

1.0 INTRODUCTION

Clayton Environmental Consultants, a division of Clayton Group Services, Inc. (Clayton), pursuant to its Indemnification Agreement with BA Properties of August 20, 1996, conducted a limited subsurface investigation in the vicinity of the former gasoline underground storage tank (UST) at the former Lemoine Sausage facility located at 630 - 29th Avenue in Oakland, California (Figure 1).

1.1 SITE DESCRIPTION

The subject site is located at the intersection of 29th Avenue and Seventh Street in Oakland, California and is currently occupied by ABI Industries for the import and manufacturing of bearings and seals. The limited subsurface investigation was conducted in the area of the former UST located on the eastern side of the property building.

1.2 SITE HISTORY

A fueling dispenser and one 1,000-gallon gasoline UST was formerly located east of the facility building. The UST was located beneath the sidewalk adjacent to 7th Street and supplied the dispenser located in a "cubby hole" near the building's roll-up door. The UST and associated piping was removed on November 21, 1996 and petroleum hydrocarbon impacted soil and groundwater was observed during removal activities.

Following UST removal, Clayton collected two soil confirmatory soil samples (S-1 and S-2) from under the product and fill ends of the UST at approximately 8.5 feet below ground surface (bgs) and one soil sample (S-3) at approximately 6 inches below the former dispenser. Clayton also collected an additional four wall samples (S-4, S-5, S-6, and S-7) at approximately 5 feet bgs. Total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethylbenzene, xylenes (BTEX) and lead were detected in the two confirmation soil samples and the four additional wall soil samples. Groundwater was present in the former UST excavation and a sheen was observed on the water surface. The UST removal and results of confirmation sampling are described in more detail in the "Underground Storage Tank Closure Report", dated September 24, 1997.

2.0 SCOPE OF WORK

The following scope of work was performed as part of the subsurface investigation:

- Prepare workplan
- Prepare a Health and Safety Plan
- Locate utilities
- Advance soil borings
- Analyze soil and grab-groundwater samples
- Prepare report

These tasks are described in the following sections.

2.1 PREPARE WORKPLAN

Clayton prepared a "Work Plan for the Limited Subsurface Investigation of One Underground Storage Tank at the former Lemoine Sausage Facility," (Clayton Project No. 70-97066.00.002, January 10, 1997). The workplan was submitted to the Alameda County Health Care Services Agency (ACHCSA) on January 10, 1997 for review and approval. Mr. Barney M. Chan, Hazardous Materials Specialist, subsequently approved the workplan on January 17, 1997.

2.2 PREPARE A HEALTH AND SAFETY PLAN

A health and safety plan was prepared for the work outlined in the workplan, in accordance with the requirements of the State of California General Industry Safety Order (GISO) 5192 and Title 29 of the Code of Federal Regulations, Section 1910.120 (29 CFR 1910.120). A copy of the health and safety plan was kept onsite during field activities.

2.3 LOCATE UTILITIES

Before the drilling event commenced, Underground Service Alert (USA) was contacted and a private utility locator was retained to identify the underground utilities in the vicinity of the planned soil boring locations. The identified utilities were clearly marked on the ground. Drilling activities did not take place within 3 feet of utilities.

2.4 ADVANCE SOIL BORINGS

The scope of work outlined in the workplan dated January 10, 1997 consisted of the advancement of eight soil borings (B-1 through B-8) to collect soil and grab groundwater samples. The purpose of this investigation was to determine the extent of impacted soil and groundwater in the vicinity of the former UST. Before beginning the drilling, Clayton obtained the appropriate permit from the City of Oakland for the scope of work described in the workplan. A copy of the permit is included as Appendix A.

A total of five borings were advanced on August 29, 1997 at the locations shown on Figure 2. The number of borings and boring locations were modified from those proposed in the workplan due to onsite and interior space constraints.

Soil borings were advanced to depths of 12 to 16 feet bgs using truck-mounted Geoprobe equipment. Boring termination depths were based on field conditions noted at the time of the investigation and the depth to groundwater in the former UST excavation at the time of UST removal. Soil samples were collected continuously using clear acetate liners.

Soil samples selected for analysis were sealed using Teflon® sheets and plastic end caps; labelled; and placed into a chilled cooler for transport to a State-certified laboratory for analysis. Appropriate chain-of-custody documentation were followed for the handling of the samples.

The soil samples not selected for analysis were inspected by the field geologist. Characteristics, such as soil type, color, relative moisture content, and odor were noted in the field using USCS soil classifications and Munsell soil color charts. To aid in determining the presence of volatile organic compounds, Clayton assessed the spent soil cores using a photo-ionization detector (PID). Copies of the boring logs with PID readings are included as Appendix B.

Temporary monitoring wells were constructed inside each borehole using one-inch PVC screen and casing. A grab-groundwater sample was collected from temporary well B-1 on August 29, 1997. The recharge rate of groundwater into the temporary wells B-2 through B-5 was very slow and grab-groundwater samples from these wells could not be obtained until September 3 and 10, 1997, when there was a sufficient volume of water present in each casing to allow for sample collection. The depth to water ranged from six to ten feet bgs in the boreholes.

Grab-groundwater samples were collected through the temporary well casing using pre-cleaned bailers and transferred into the appropriate laboratory-supplied containers. The containers were sealed, labelled and placed into a chilled cooler for transport to a State-certified laboratory for analysis. Appropriate chain-of-custody documentation was followed for the handling of the samples.

After borings were completed, the temporary well screen and casing were removed and the borings were backfilled with bentonite grout to approximately 4 inches below the ground surface. The remainder of each boring was sealed to the surface using concrete.

Soil cuttings and water generated by the drilling and decontamination procedures were placed into a United States Department of Transportation (USDOT)-approved 5-gallon drum. The drum was closed, labelled, and transported to an offsite disposal facility.

2.5 ANALYZE SOIL AND GRAB-GROUNDWATER SAMPLES

Selected soil and grab-groundwater samples were analyzed using the following methods:

- United States Environmental Protection Agency (USEPA) Method 8015 (modified) for TPH-G; and
- USEPA Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX) and a qualitative analysis for methyl tertiary butyl ether (MTBE).

3.0 FINDINGS

Table 1 presents the analytical results for the soil samples collected from borings B-1 through B-5; grab-groundwater sample results are summarized on Table 2. Figure 3 presents the distribution of TPH-G and benzene in soil samples. Figure 4 presents the TPH-G and benzene distribution in grab-groundwater samples. Copies of the laboratory analytical data sheets and chain-of-custody documents are included as Appendix C.

3.1 SOIL

The soil analytical data indicate that low levels of TPH-G and BTEX compounds are present in soil adjacent to the former UST excavation (Figure 3). TPH-G concentrations generally ranged from non-detect to 30 milligrams per kilogram (mg/kg). Two soil samples exhibited TPH-G concentrations greater than 100 mg/kg (Table 1).

BTEX compounds were detected in borings B-2 and B-5. A comparison of these detections with the USEPA Region IX Preliminary Remediation Goals (USEPA, 1996) is shown below:

Compound	Maximum Detection Concentration	USEPA Region IX Residential PRG	USEPA Region IX Industrial PRG
Benzene	0.009	0.63	1.4
Toluene	0.005	790	880
Ethylbenzene	5.9	230	230
Xylenes	9.6	320	320

Concentrations shown in mg/kg
TPH-G does not have an established PRG

As can be seen, the maximum detected BTEX concentrations in boring B-1 through B-5 are significantly less than the PRGs established for residential or industrial land use scenarios.

3.2 GRAB-GROUNDWATER

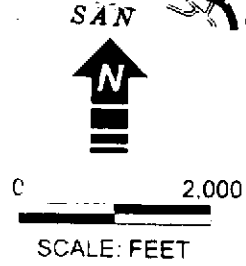
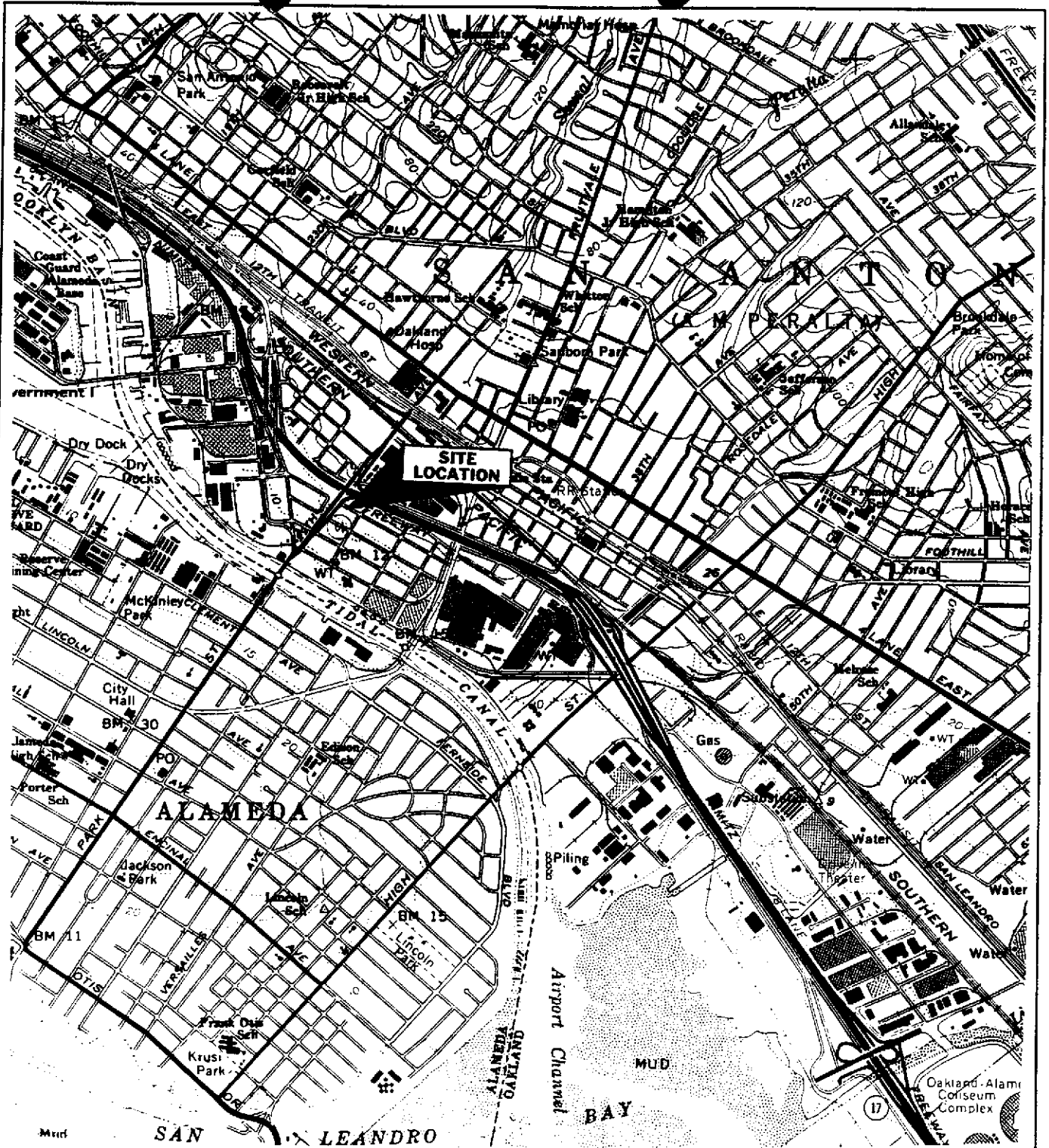
Based on the location of the site relative to the Oakland/Alameda Estuary (Figure 1), Clayton anticipates that the groundwater flow direction is to the west (towards San Francisco Bay). The grab-groundwater data support this anticipated flow direction as higher TPH-G and BTEX concentrations are present in grab-groundwater east of the former UST (Figure 4).

TPH-G concentrations in grab-groundwater samples ranged from 100 to 78,000 micrograms per liter (ug/L); benzene concentrations ranged from less than 0.4 ug/L to 16,000 ug/L (Table 2). It is noted that no MTBE was detected in the samples collected from borings B-3 and B-5, which had the highest TPH-G and benzene concentrations.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The extent of TPH-G and BTEX impacted soil above the water table has been adequately defined. The extent of TPH-G and BTEX impacted groundwater was not defined based on the grab-groundwater data collected to date.

Based on the extremely slow recharge rates observed during the grab-groundwater sampling, it is anticipated that TPH-G and BTEX compounds have not migrated far from the former UST. Clayton recommends that an additional seven borings be advanced at the locations shown on Figure 5 to further define the extent of TPH-G and BTEX compounds in groundwater. It is recommended that once the extent of impacted groundwater has been defined, three groundwater monitoring wells be installed to establish and monitor the limited migration of contaminants in shallow groundwater.

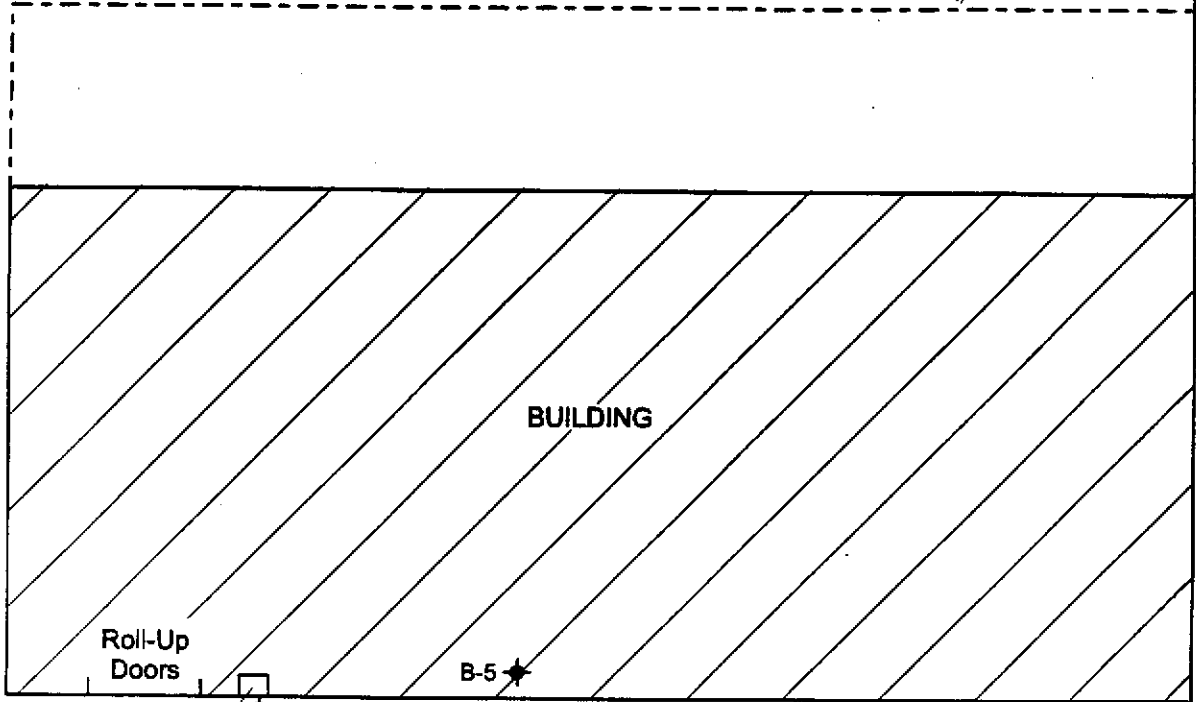


Source: U.S.G.S. OAKLAND EAST, CALIF.,
 7.5 Minute Quadrangle, 1959,
 (photorevised 1980).

<p>SITE LOCATION</p> <p>FORMER LEMOINE SAUSAGE FACTORY 630 29th AVENUE OAKLAND, CALIFORNIA Clayton Project No. 70-97066.00.002</p>	<p>Figure 1 03/20/98 LSF-0398.CDR</p>	<p>Clayton ENVIRONMENTAL CONSULTANTS</p>
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NOT TO SCALE



Sidewalk

29TH AVENUE

Roll-Up Doors

Dispenser

B-4

B-1

Excavation

B-5

B-3

B-2

Sidewalk

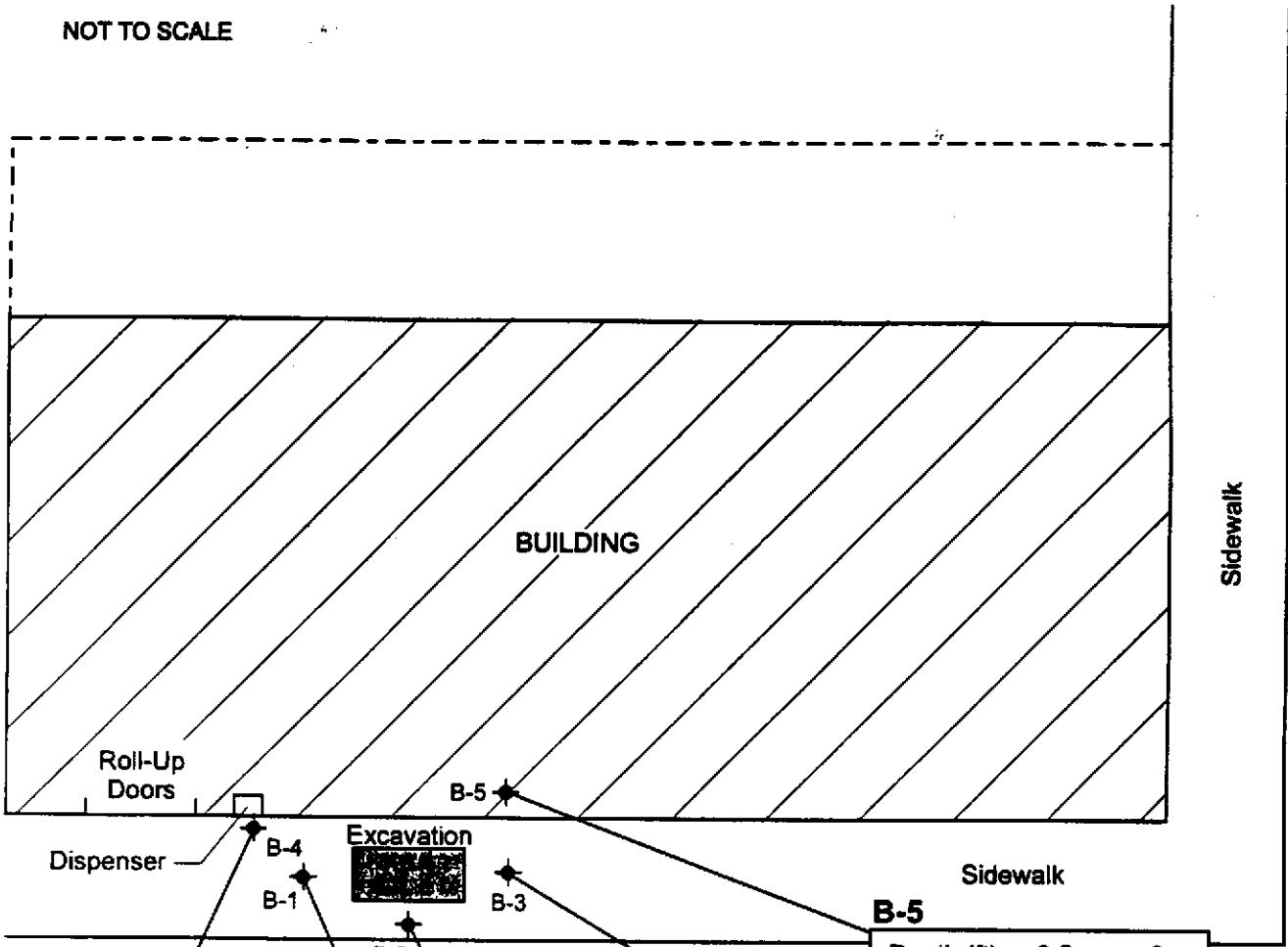
7TH STREET



LEGEND:	SOIL BORING LOCATIONS	Figure	Clayton
◆ Soil Boring Location	FORMER LEMOINE SAUSAGE FACTORY 630 29th AVENUE OAKLAND, CALIFORNIA Clayton Project No. 70-97066.00.002	2 03/20/98 LSF-0398.CDR	ENVIRONMENTAL CONSULTANTS



NOT TO SCALE



Sidewalk
29TH AVENUE

B-4

Depth (ft)	2.5	6	9.5
TPH-G	<0.3	25	0.3
Benzene	<0.005	<0.1	<0.005

B-2

Depth (ft)	2.5	6
TPH-G	<0.3	660
Benzene	<0.005	<0.5

B-5

Depth (ft)	2.5	6
TPH-G	1.6	<0.3
Benzene	0.009	<0.005

B-3

Depth (ft)	2.5	5
TPH-G	27	170
Benzene	<0.1	<0.1

B-1

Depth (ft)	2.5	5.5
TPH-G	<0.3	30
Benzene	<0.005	<0.03



TPH-G Total Petroleum Hydrocarbons as Gasoline
Note: All results in milligrams per kilogram (mg/kg)

LEGEND:

◆	Soil Boring Location
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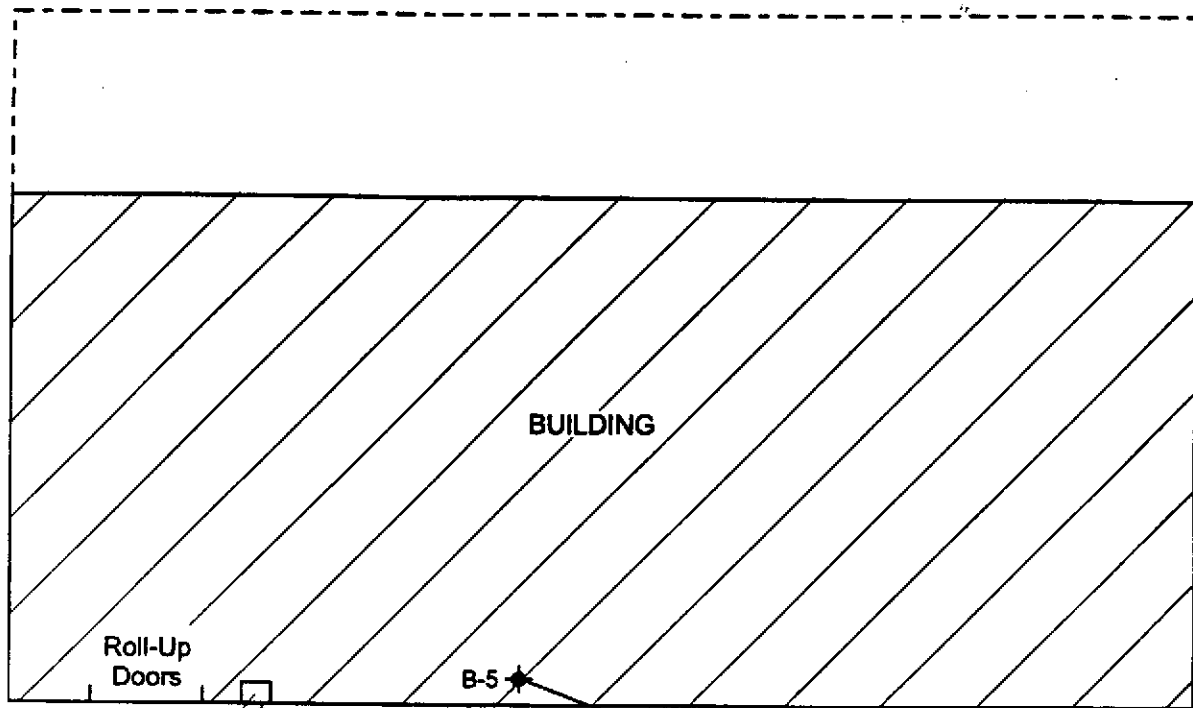
TPH-G AND BENZENE CONCENTRATIONS IN SOIL SAMPLES
FORMER LEMOINE SAUSAGE FACTORY
630 29th AVENUE
OAKLAND, CALIFORNIA
Clayton Project No. 70-97066.00.002

Figure
3
03/20/98
LSF-0398.CDR

Clayton
ENVIRONMENTAL CONSULTANTS



NOT TO SCALE



Location	Date	TPH-G	Benzene
B-4	09/03/97	100	<0.4
B-1	08/29/97	34,000	430
B-2	09/03/97	5,100	2,800
B-3	09/10/97	51,000	13,000
B-5	09/10/97	78,000	16,000

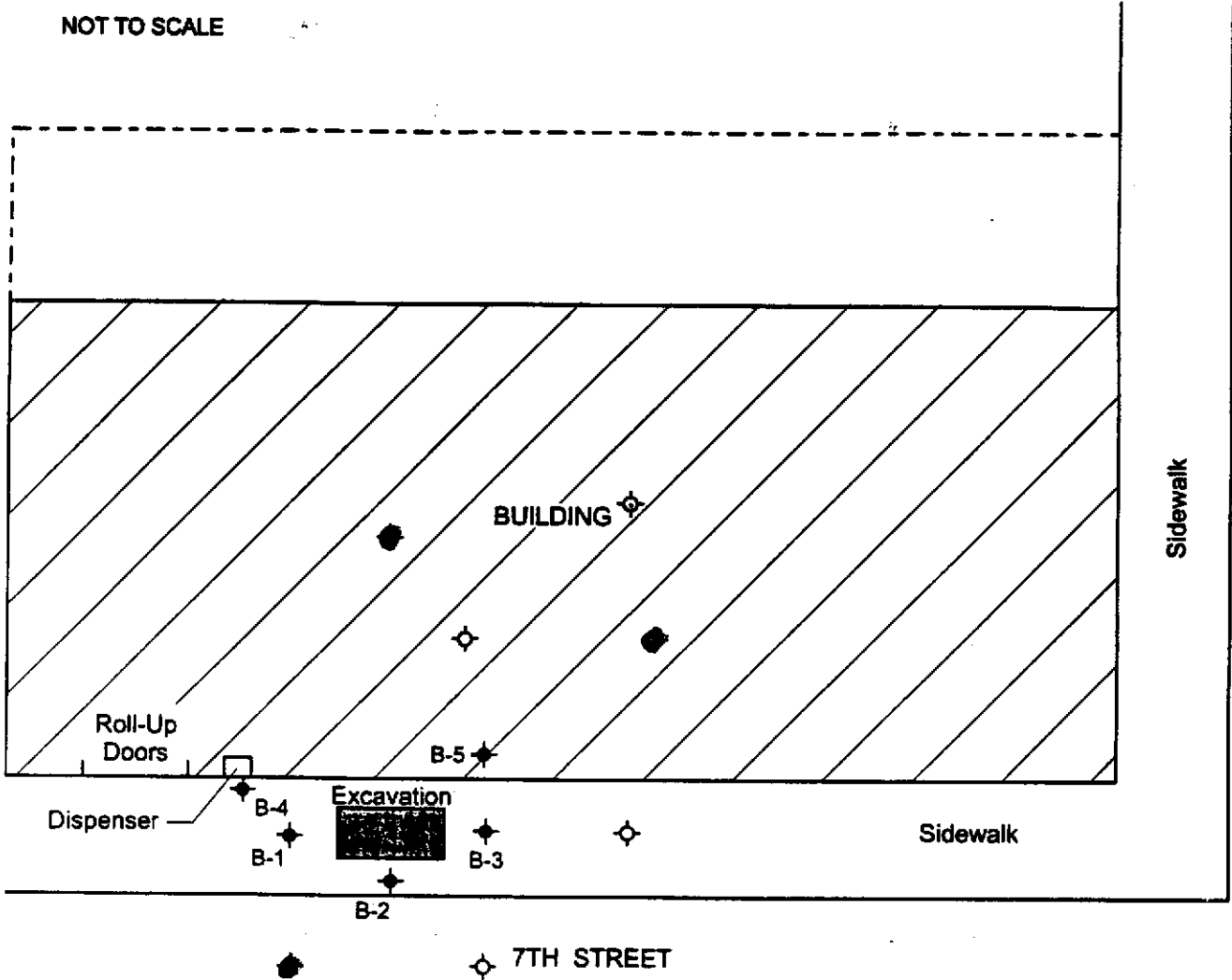


TPH-G Total Petroleum Hydrocarbons as Gasoline
Note: All results in micrograms per liter (ug/L)

LEGEND: Soil Boring Location	TPH-G AND BENZENE CONCENTRATIONS IN GRAB GROUNDWATER SAMPLES FORMER LEMOINE SAUSAGE FACTORY 630 29th AVENUE OAKLAND, CALIFORNIA Clayton Project No. 70-97066.00.002	Figure <h1>4</h1> 03/20/98 LSF-0398.CDR	Clayton ENVIRONMENTAL CONSULTANTS



NOT TO SCALE



Sidewalk
29TH AVENUE



LEGEND:	
◆	Soil Boring Location
◇	Proposed Boring Location
●	Proposed Monitoring wells

PROPOSED BORING LOCATIONS
 FORMER LEMOINE SAUSAGE FACTORY
 630 29th AVENUE
 OAKLAND, CALIFORNIA
 Clayton Project No. 70-97066.00.002

Figure
5
 03/20/98
 LSF-0398.CDR

Clayton
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 CONSULTANTS

TABLE 1
Summary of Soil Sample Results
Former Lemoine Cold Storage Facility
630 29th Avenue, Oakland, California
 (All results in milligrams per kilogram [mg/kg])

Sample Location	Sample Date	Sample Depth (ft)	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes
B-1	29-Aug-97	2.5	< 0.3	< 0.005	< 0.005	< 0.005	< 0.005
B-1	29-Aug-97	5.5	30	< 0.03	< 0.03	< 0.03	< 0.04
B-2	29-Aug-97	2.5	< 0.3	< 0.005	< 0.005	< 0.005	< 0.005
B-2	29-Aug-97	6	660	< 0.5	< 0.5	5.9	9.6
B-3	29-Aug-97	2.5	27	< 0.1	< 0.1	< 0.3	< 0.1
B-3	29-Aug-97	5	170	< 0.1	< 0.1	< 0.1	< 0.1
B-4	29-Aug-97	2.5	< 0.3	< 0.005	< 0.005	< 0.005	< 0.005
B-4	29-Aug-97	6	25	< 0.1	< 0.2	< 0.1	< 0.1
B-4	29-Aug-97	9.5	0.3	< 0.005	< 0.005	< 0.005	0.008
B-5	2-Sep-97	2.5	1.6	0.009	0.005	0.012	0.045
B-5	2-Sep-97	6	< 0.3	< 0.005	< 0.005	< 0.005	< 0.005

TABLE 2
Summary of Grab-Groundwater Sample Results
Former Lemoine Cold Storage Facility
630 29th Avenue, Oakland, California
 (All results in micrograms per liter (ug/L))

Sample Location	Sample Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	1,2-DCA
B-1	29-Aug-97	34,000	430	54	2,400	4,649		NA
B-2	3-Sep-97	5,100	2,800	120	43	140		NA
B-3	10-Sep-97	51,000	14,000	5,900	290	7,100	< 5	410
B-4	3-Sep-97	100	< 0.4	< 0.3	< 0.3	< 0.4		NA
B-5	10-Sep-97	78,000	16,000	22,000	1,100	6,000	< 5	910
	MCL:	NE	1	1,000	680	1,750		0.5