Western Operations

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Clayton
ENVIRONMENTAL
CONSULTANTS

June 14, 1994

Ms. Juliett Shin
Hazardous Materials Specialist
ALAMEDA COUNTY HEALTH AGENCY
80 Swan Way, Room 200
Oakland, California 94621

Clayton Project No. 53704.00

Subject: Subsurface Investigation Report for Bank of America Building located at 1528 Webster Street in Alameda, California

Dear Ms. Shin:

Clayton Environmental Consultants, Inc. on behalf of Bank of America is pleased to present this Subsurface Investigation for the Bank of America building located at 1528 Webster Street in Alameda, California.

Clayton discussed the findings in this report with Mr. Rick Oliver, Environmental Analyst with Bank of America, on June 13, 1993. Based on the subsurface investigation, the extent of soil and groundwater contamination appears to be delineated. Therefore, Clayton will perform four quarterly groundwater sampling and analysis of the monitoring wells MW-1, MW-2 and MW-3. Upon completion of the fourth quarterly sampling and analysis Clayton will request a case closure for the site.

* only on the condition of ND or very low levels.

Clayton is planning to initiate the first quarterly groundwater sampling in July, 1994. If you have any questions please contact me at (510) 426-2676.

Sincerely,

John F. Vargas, R.G.
Supervisor, Geosciences and Remediation
Western Operations

JFV/dd
cc: Mr. Rick Oliver, Environmental Analyst, Bank of America

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Subsurface Investigation Report
at
Bank of America Facility
1528 Webster Street
Alameda, California
ES #302412

Clayton Project No. 53704.00
May 31, 1994

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(continued)

Appendices

1.0 INTRODUCTION

Bank of America retained Clayton Environmental Consultants, Inc. to perform a limited subsurface investigation at the Bank of America facility located at 1528 Webster Avenue in Alameda, California. These services included installation of three monitoring wells, soil and groundwater sample collection and analysis. These data will be used to assess the potential environmental impact of the former underground storage tank located adjacent to the subject facility.

The UST was located on the Haight Street side (south) of the Bank of America building at 1528 Webster Street. A site location map is included as Figure 1. A site diagram is included as Figure 2.

The UST was located under the sidewalk, approximately 5 feet from the building foundation. Several utility lines (sewer and water) run along Haight Street and the sidewalk at a depth of approximately 3 feet below ground surface (bgs), near the former UST location.

The area immediately adjacent to the UST is comprised of Haight Street, sidewalks, and general commercial-type buildings. Residential buildings are located east of the Bank of America building.

2.0 BACKGROUND

The possibility that a UST might be located at or near the subject property was indicated in a Phase I investigation performed by Tetra Tech Corporation in February 1993. The review of the historical documents indicated that a permit for a 500-gallon UST was issued to Citizens National Bank by the City of Alameda in 1916. Clayton's investigation revealed the presence of a UST under the sidewalk near the subject site (Figure 2). Further inspection of the UST revealed that the tank was full of water and diesel oil.

Clayton was unable to determine when the UST had last used. Clayton's investigations revealed that the building's fuel consumption had been converted to natural gas in the late 1940s or early 1950s. It appears that since the natural gas service was provided, the UST was abandoned.

There was a possibility that the UST was replaced in 1935, when the present building at the site was constructed. The existing UST had a capacity of 750 gallons, indicating that the older 500-gallon UST may have been replaced.

On August 3, 1993 the UST was removed from the subject site. The tank removal activities were performed by Bay Area Tank Removal, Inc. from San Francisco, California.

Based on a sounding performed at the time prior to the tank removal, the tank contained approximately 4 inches of floating product on top of water. Approximately 750 gallons of liquid (oil and water) were pumped from the UST by H&H Ship Service Company and was transported for proper disposal.

The soil samples collected from the UST excavation pit contained total petroleum hydrocarbons as diesel (TPH-D) concentration ranging from 300 to 1300 milligrams per kilograms (mg/kg).

Because of the TPH-D concentration in the soil samples the UST pit was overexcavated on September 14, 1993. The overexcavation was performed to remove contaminated soil to the extent possible without damaging the near by utility lines or causing structural weakness to the subject building. Because of the limited area in which excavation could take place, approximately 50 tons of soil was excavated and transported for proper disposal. No additional excavation was performed because of the near by utilities lines (i.e., storm drains, sewer lines, water lines). After sampling was completed, the excavation was backfilled using Class II base rock material.

After overexcavation was completed, eight samples were collected from the excavation walls. At the request of Alameda County Health Care Services Agency (ACHCSA) one sample from each wall was analyzed for TPH-D and benzene, toluene, ethylbenzene and xylenes (BTEX). The analytical reports indicated TPH-D concentration ranging from 107 to 1005 mg/kg in soil samples collected from the east west and south walls of the excavation. The soil samples from the excavation pit did not contain BTEX concentrations at or above the analytical detection limits.

3.0 SCOPE OF WORK

The following subsections describe the activities performed during the soil and groundwater investigation at the site.

3.1 PREPARATION OF A WORK PLAN AND HEALTH AND SAFETY PLAN

Clayton prepared a work plan detailing the steps to be completed during the subsurface investigation activities (Appendix A). This work plan was submitted to the ACHCSA for review and approval for review and approval. On March 3, 1994 ACHCSA approved the work plan. A copy of the approval letter is included in Appendix B.

A health and safety plan was prepared (Appendix C) for the work outlined in the work plan in accordance with the requirements of Title 29 of the Code of Federal Regulations, Section 1910.120 (29 CFR 1910.120).

3.2 IDENTIFICATION OF UNDERGROUND UTILITY TRENCHES

Before commencing the field activities Clayton contacted the Underground Services Alert (USA) to identify and mark the utilities near the UST pit area (USA No. 85831). Clayton also reviewed the site plans available from Bank of America to locate other utilities not identified by USA subscribers. No utilities were identified at the monitoring well locations.

3.3 MONITORING WELL INSTALLATION AND SAMPLING

After receiving approval of the work plan from ACHCSA and obtaining the necessary permits from the Zone 7 Water Agency Clayton monitored installation of three monitoring

wells (MW-1, MW-2, and MW-3) at the subject site. A copy of the monitoring well installation permits is included in Appendix D.

Monitoring well MW-2 was located within 10 feet of the UST pit in the estimated downgradient groundwater flow direction. The monitoring wells MW-1 and MW-3 were located in the anticipated crossgradient and upgradient directions from the UST and were installed to determine the groundwater flow direction at the site and the extent of possible groundwater contamination. The monitoring well locations are shown in Figure 2.

The boreholes were drilled using 8-inch diameter hollow-stem augers to an approximate depth of 20 feet. During the drilling of the boreholes, the soil characteristics were logged in the field by Mr. Dariush Dastmalchi, Clayton Project Geologist. Distinguishing features such as color, odor, and relative soil moisture content were noted. The boring logs are included in Appendix E. The boreholes were converted into monitoring wells using a 2 inch diameter schedule 40 polyvinyl chloride (PVC) casing. Because of the shallow water table the screened casing was extended approximately one foot above the water table (approximately 5 feet bgs). Solid casing was then be installed to the surface. The sand pack was placed in the well annulus from the bottom of the well to 1 foot above the screen. A 1-foot bentonite seal was placed on top of the sand pack and the well was sealed to the surface using cement grout. A locking cap was used to secure the well in a Christie box raised above the surface grade by approximately 1 inch to prevent surface run-off from entering the well head. Figures 3, 4, and 5 show the monitoring well construction details.

Drilling and sampling activities were conducted in accordance with Clayton's drilling, well construction and sampling protocols for borehole/monitoring well installation (see Appendix F), under the supervision of a geologist registered in the State of California.

3.4 SOIL SAMPLE COLLECTION

Because of the shallow groundwater table (approximately 6 feet bgs) one soil sample was collected at approximately 5.5 feet bgs from each monitoring well locations. The soil samples were collected using a 2.5-inch split barrel sampler. To aid in locating contamination, Clayton screened the soil cuttings during drilling using a photoionization detector (PID), and visual senses to detect petroleum compounds. The PID did not detect volatile organic compounds. No soil samples were collected for laboratory analysis below the saturated zone.

The soil samples were collected in precleaned brass tubes for the purpose of lithologic logging. The brass tubes selected for analysis were sealed with aluminum foil, plastic caps, and teflon tape, and immediately placed in an iced cooler for transport to the laboratory. Legal chain-of-custody procedures were followed for handling of soil samples.

The soil cuttings and sampling spoils generated by the drilling process were placed into individually labeled, Department of Transportation (DOT)-approved 55-gallon drums and left on the Haight Street under an encroachment permit issued by the City of Alameda. The soil and water drums were removed from the site by a contractor for proper disposal.

3.5 MONITORING WELL DEVELOPMENT AND SAMPLING

The well seals in the newly constructed wells were allowed to set for at least 72 hours prior to well development. The monitoring wells were developed to increase their yield and to minimize the fine-grained material from entering the well casing. The well development was accomplished by surging and pumping water from the well to remove the finer materials from the annular space. Development of the well can volatilize present contaminants; therefore, the wells were allowed to settle for another 72 hours between development and the first purging/sampling event.

Water samples from the wells were collected using clean disposable bailers. Water was collected in clean laboratory supplied containers and placed immediately into an iced cooler for transport to Clayton's laboratory for analysis. The water sampling field survey forms are included in Appendix G. The groundwater sampling activities were conducted in accordance with Clayton's drilling, well construction and sampling protocols for borehole/monitoring well installation (see Appendix F). Legal chain-of-custody procedures were followed for handling of groundwater samples.

The water generated from well development and sampling was placed into DOT-approved 55-gallon drums. The drums containing the decontamination water and groundwater were placed on the Haight Street under an encroachment permit issued by the City of Alameda. The water drums were removed on April 20, 1994 from the site by a contractor for proper disposal.

3.6 WELL HEAD SURVEY

The monitoring well location and elevations were surveyed by Virgil Chavez Land Surveying (licensed land surveyor) using a surveyed benchmark. The surveyed elevations and locations of the wells were used to confirm the local groundwater flow direction and gradient. The land surveyor report is included in Appendix H.

3.7 GROUNDWATER GRADIENT

Using the groundwater elevations measured during the groundwater sampling activities Clayton calculated the groundwater flow and gradient near the subject sit. The groundwater flow direction was calculated to be south toward the San Francisco Bay. The groundwater gradient was measured to be approximately 0.1 feet per 100 feet of horizontal distance.

3.8 LABORATORY ANALYSIS

A total of three soil samples and three groundwater samples were collected and transported to Clayton's state-certified laboratory in Pleasanton, California. The soil and groundwater samples were analyzed using the United State Environmental Protection Agency (USEPA) Method 8015 for TPH-D. The groundwater samples were also analyzed for BTEX. The analytical reports are included in Appendix I. Table 1 summarizes the analytical results for the soil samples collected on March 30, 1994.

Table 1
Analytical Summary for the Soil Samples Collect
on March 30, 1994
All concentrations in mg/kg

Sample I.D.	TPH-D
MW-1-5.5	6
MW-2-5.5	1
MW-3-5.5	ND

ND Not detected at or above the analytical detection limit

The analytical results for the groundwater samples collected on April 7, 1994 are summarized in table 2.

Table 2
Analytical Summary for the Groundwater Samples Collected
on April 7, 1994
All Concentration in Micrograms per liter (µg/l)

Sample ID	TPH-D	BTEX
MW-1	110	ND
MW-2	4,100	ND
MW-3	1,800	ND

ND Not detected at or above the analytical detection limits

4.0 FINDINGS

Based on the analytical results and our field investigation our findings follow:

- TPH-D was detected in the soil sample from MW-1 at concentration of 6 mg/kg and 1 mg/kg in the soil sample from MW-2. TPH-D was not detected in concentration at or above the analytical detection limit in soil sample from MW-3.
- TPH-D was detected in the groundwater samples collected from the monitoring wells. TPH-D concentrations in groundwater samples ranged from 110 µg/l to 4,100 µg/l.
- BTEX were not detected in the groundwater samples in concentration at or above the analytical detection limits.

5.0 REFERENCES

- A compilation of Water Quality Goals, Prepared by the California Regional Water Quality Control Board, Central Valley Region, October, 1990.

This report prepared by:

Dariush Dastmalchi
Project Geologist

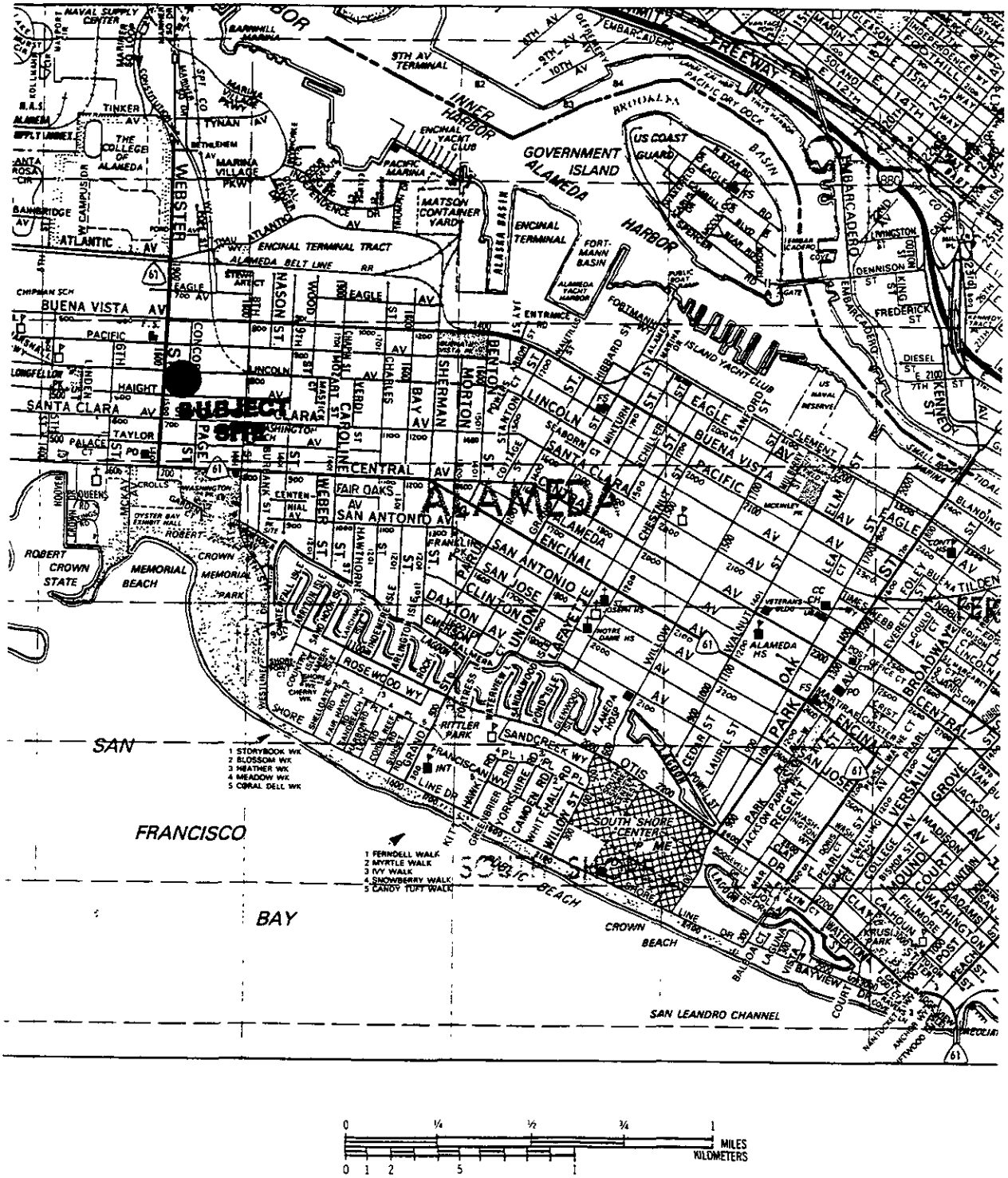
This report reviewed by:

John F. Vargas, R.G.
Supervisor, Geosciences and Remediation
Western Operations

May 31, 1994

REGISTERED GEOLOGIST
JOHN F. VARGAS
NO. 5046
STATE OF CALIFORNIA

FIGURES



Site Location Map
BANK OF AMERICA
1528 Webster Street
Alameda, California

Clayton Project No. 53704.00

Figure
1

53704-00-16

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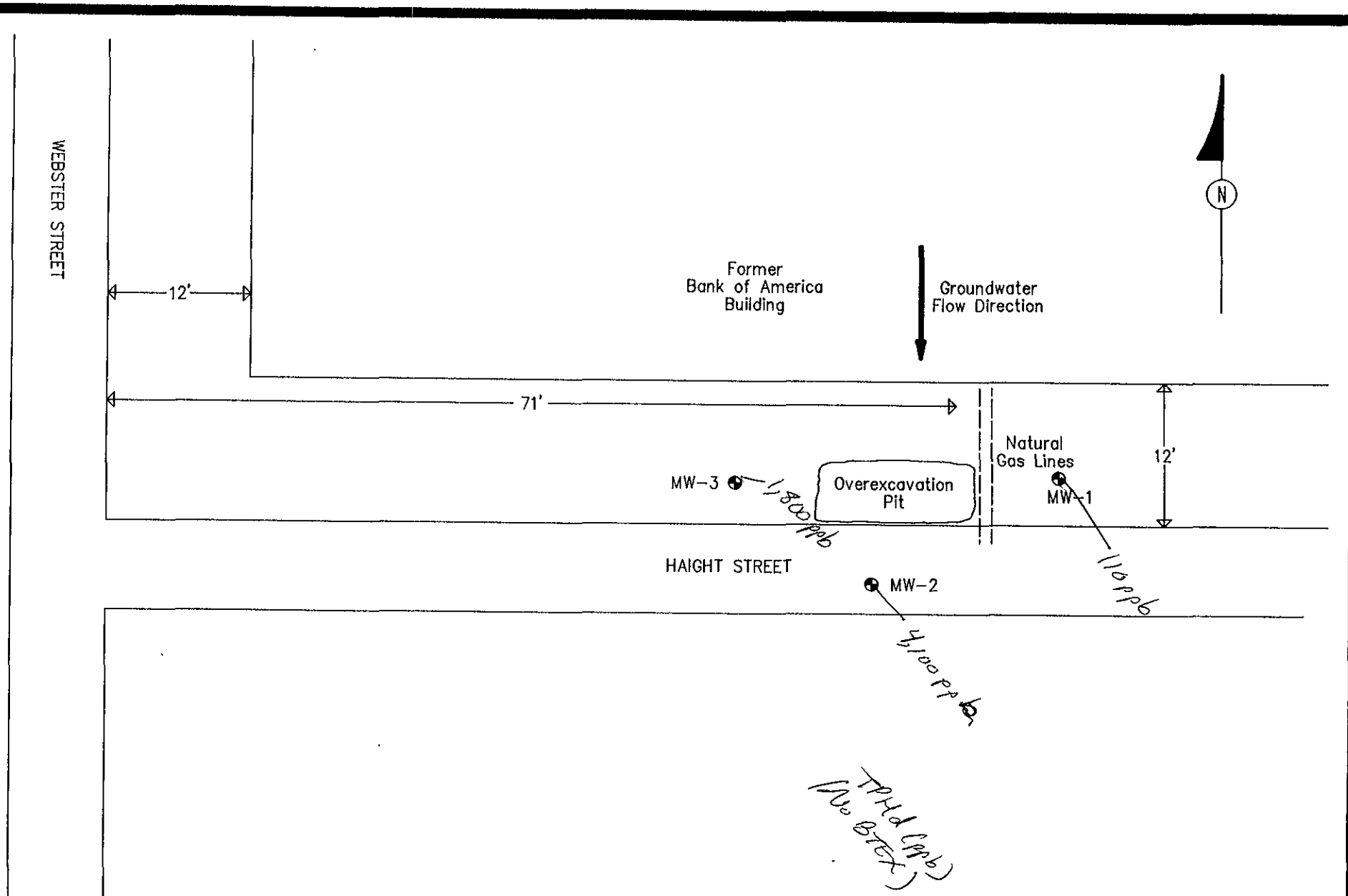

(not to scale)

Tank and Monitoring Well Locations
BANK OF AMERICA
1528 Webster Street
Alameda, California

Clayton Project No. 53704.00

Figure
2

53704-00-18

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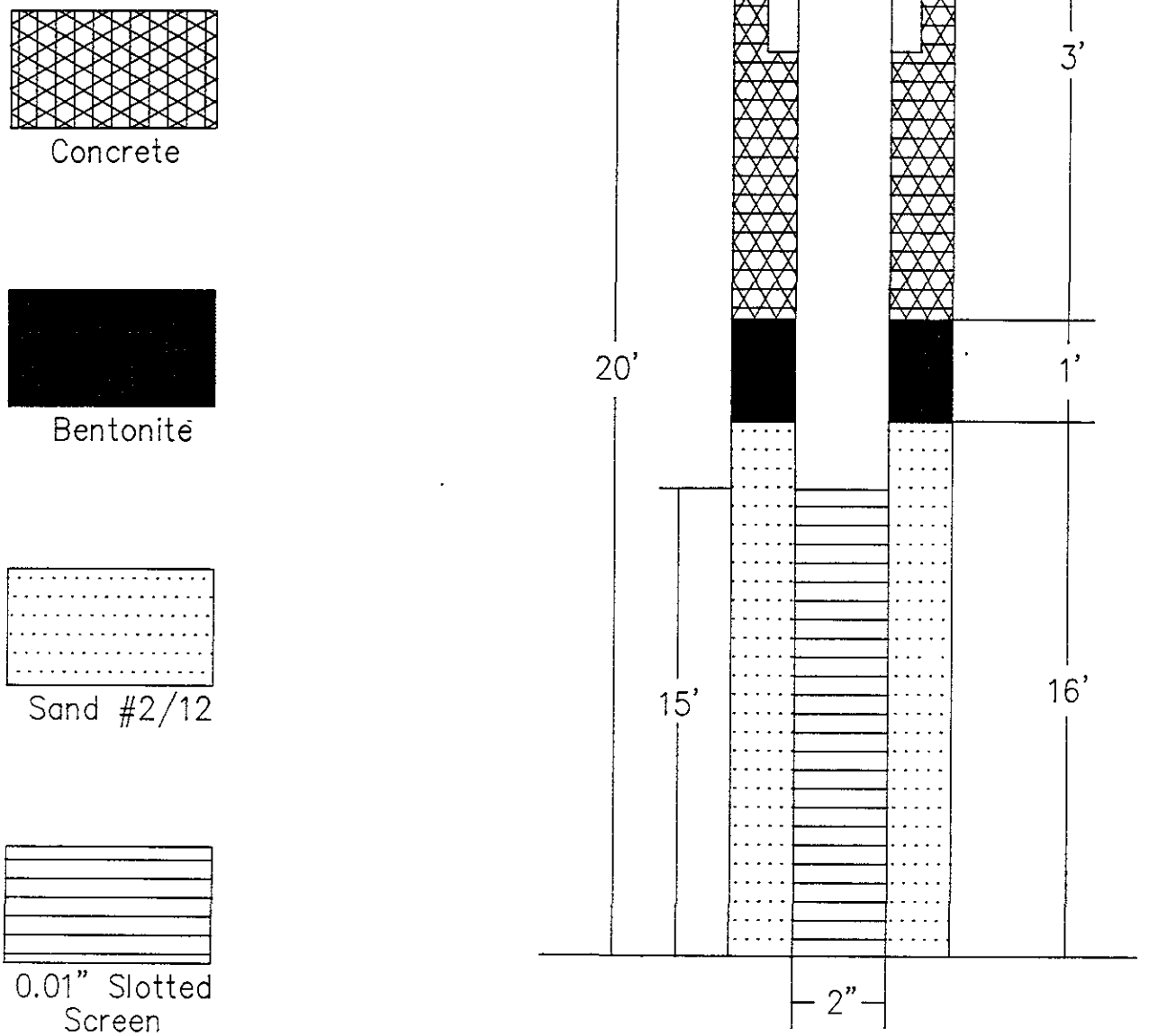

Monitoring Well Diagram (MW-1)
BANK OF AMERICA
1523 Webster Avenue
Alameda, California

Clayton Project No. 53704.00

(not to scale)

Figure 3

53704-MW-16

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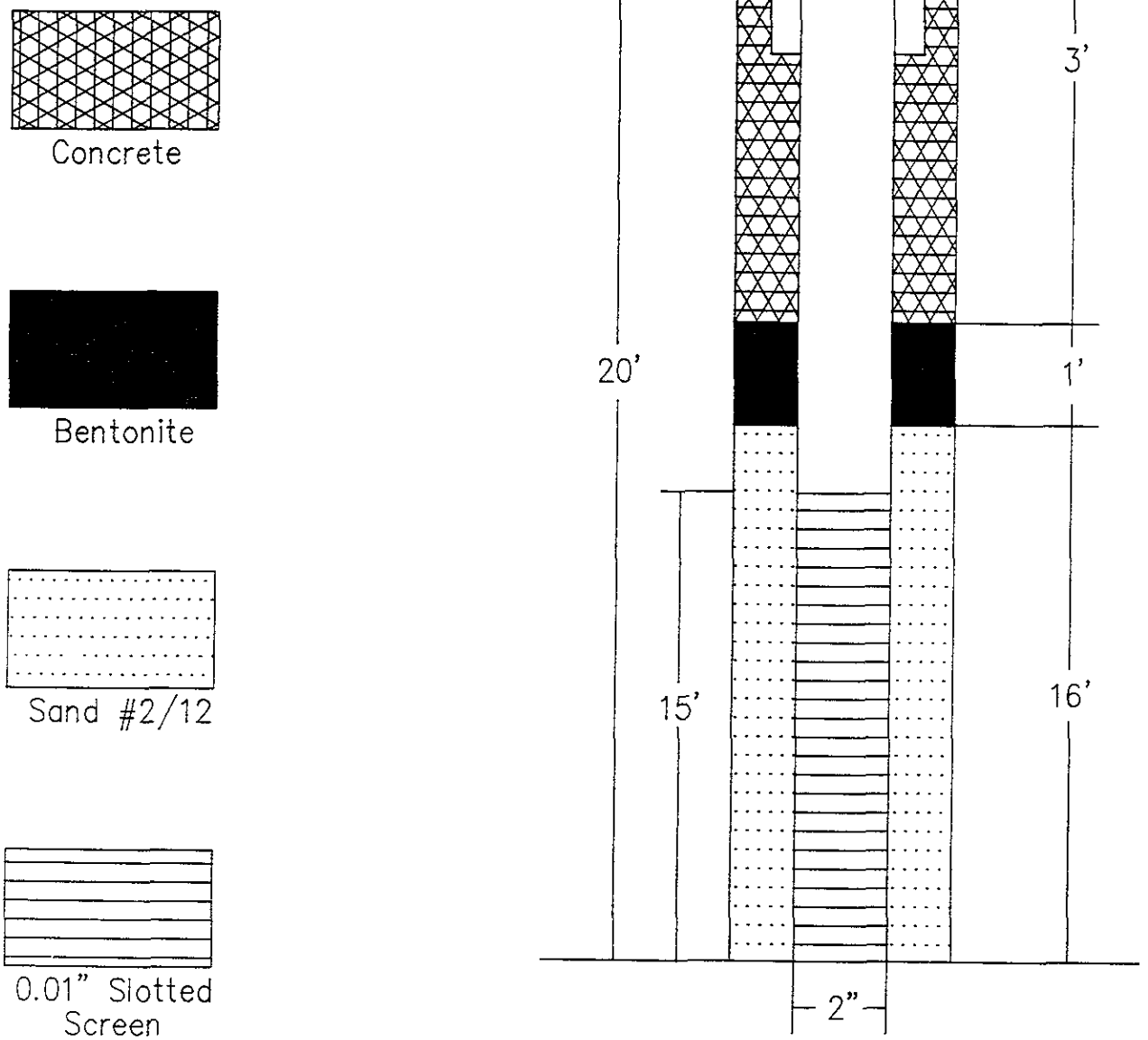

Monitoring Well Diagram (MW-2)
BANK OF AMERICA
1523 Webster Avenue
Alameda, California

(not to scale)

Clayton Project No. 53704.00

Figure 4

53704-MW-17

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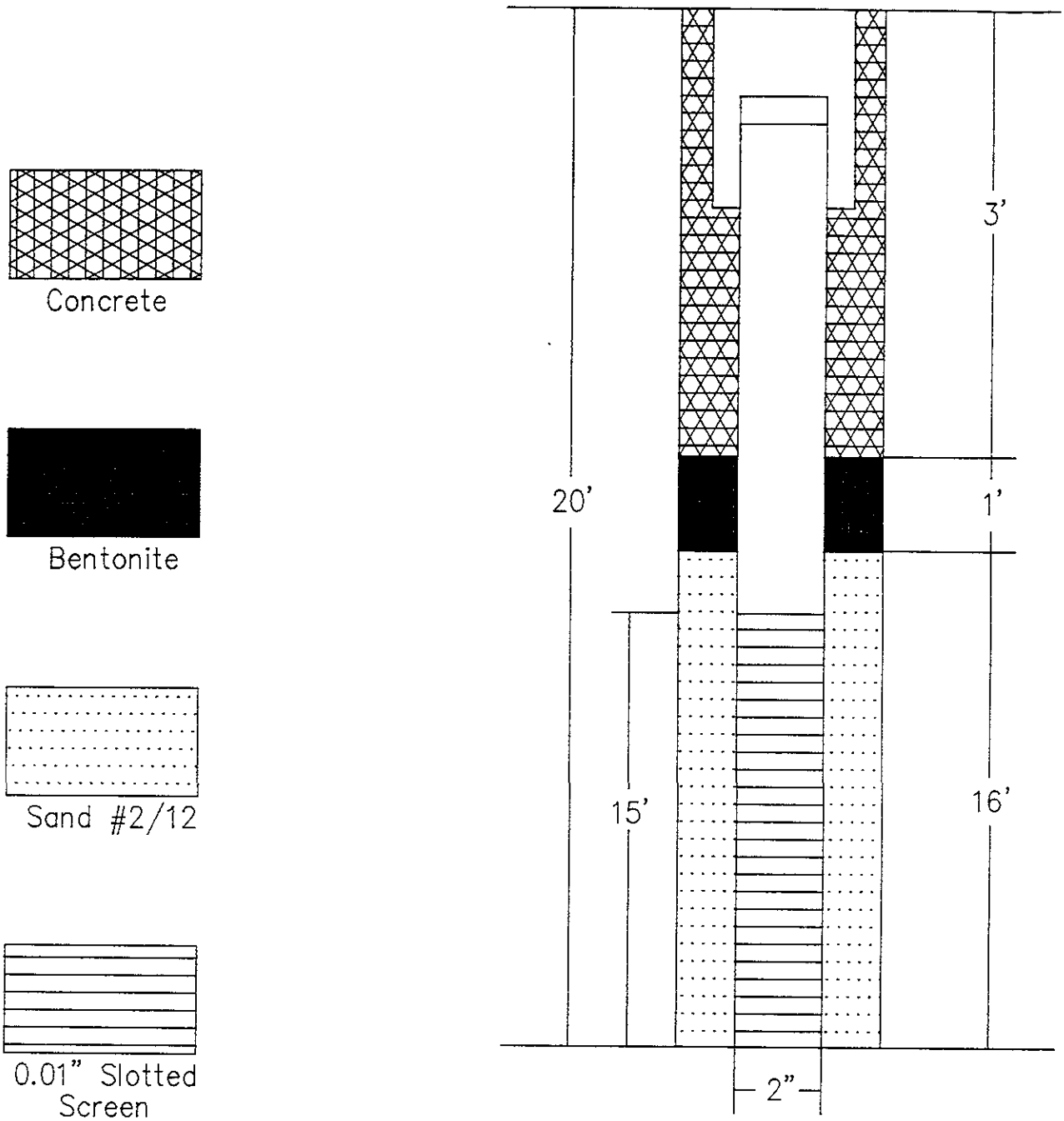

(not to scale)

Monitoring Well Diagram (MW-3)
BANK OF AMERICA
1523 Webster Avenue
Alameda, California

Clayton Project No. 53704.00

Figure 5

53704-MW-18

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APPENDIX A

WORK PLAN

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February 10, 1994

Ms. Juliett Shin
Hazardous Materials Specialist
ALAMEDA COUNTY HEALTH AGENCY
80 Swan Way, Room 200
Oakland, California 94621

Clayton Project No. 53704.00

Subject: Work Plan for Subsurface Investigation at Bank of America located at 1528 Webster Street in Alameda, California

Dear Ms. Shin:

Clayton Environmental Consultants, Inc. on behalf of Bank of America is pleased to present this Work Plan for Subsurface Investigation at Bank of America located at 1528 Webster Street in Alameda, California.

Clayton is planning to start drilling activities on February 22, 1994. If you have any questions please contact me at (510) 426-2676.

Sincerely,

John F. Vargas, R.G.
Supervisor, Geosciences and Remediation
Western Operations

JFV/dd
cc: Mr. Rick Oliver, Environmental Analyst, Bank of America

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Work Plan for Subsurface Investigation
at
Bank of America
1528 Webster Street
Alameda, California

Clayton Project No. 53704.00
February 10, 1994

CONTENTS

1.0 INTRODUCTION

Clayton Environmental Consultants, Inc. was retained by Bank of America to perform a soil and groundwater investigation at the Bank of America Facility located at 1528 Webster Street in Alameda, California.

The site is located in a commercial area of the City of Alameda, north of Height Street and east of Webster Street (Figure 1). The subject facility was previously owned and operated by Security Pacific Bank as a branch office. However, the subject facility is currently vacant and not used for any commercial purposes.

An underground storage tank (UST) was located under the sidewalk, approximately 5 feet from the building foundation, on the Haight Street side. A site diagram showing the tank location is included as Figure 2.

2.0 BACKGROUND

On August 3, 1993 Mr. Mike Holbrook, Clayton Supervisor of Field Operations, Ms. Donna DiRocco, Bank of America Environmental Analyst, and Ms. Juliet Shin, Alameda County Environmental Health Department (ACEHD) Inspector observed the removal of the UST. Bay Area Tank Removal Company performed the tank removal activities.

Based on field measurements performed during the tank removal project, it appeared that the tank contained approximately 4 inches of floating product on top of water. Subsequently 750 gallons of liquid (hydrocarbons and water) were pumped from the UST by H&H Ship Service Company. The liquid was transported to Refineries Service Patterson, Inc. for proper disposal.

The UST appeared to be in good condition with only minor surface corrosion. The UST was then transported by H&H Ship Service to their facility at 220 China Basin in San Francisco, California, for destruction.

2.1 SAMPLING AND ANALYSIS

After the UST was removed, Clayton collected soil samples at approximately 8 feet below ground surface (bgs) from each end of the UST. In addition four soil samples were collected from the excavated soil pile, these samples were composited in the laboratory.

The samples were analyzed using the United States Environmental Protection Agency (USEPA) Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX) and USEPA Method 8015 for total petroleum hydrocarbons as diesel (TPH-D).

After sample collection was completed, the City of Alameda directed Clayton to return the soil to the excavation pit. The ACEHD required that the excavation pit to be covered with plastic sheeting prior to returning the soil.

Analytical results of the soil samples revealed elevated concentrations of TPH-D in the soil samples from the excavation pit and the soil stockpile. Analytical results are summarized in Table 1.

Table 1

Analytical Results for the Soil Samples Collected in August 1993
All Concentrations in Milligrams per Kilogram (mg/kg)

Sample #	Benzene	Toluene	Ethylbenzene	Xylenes	TPH-D	Depth
1 East	ND	0.013	ND	0.36	300	8.4 bgs
2 West	0.020	0.011	0.061	0.053	1,300	8.6 bgs
Composite	NA	NA	NA	NA	2,600	Soil pile

ND Not detected at or above the analytical detection limits
NA Not analyzed

2.2 OVEREXCAVATION

Due to the concentration of TPH-D identified in the samples from the excavation pit, Clayton recommended that overexcavation be performed to remove additional soil contamination. This work was performed on September 14, 1993, and was observed by Mr. Dariush Dastmalchi, Clayton Geologist, Ms. DiRocco, and Ms. Shin.

Approximately 25 tons of pre-excavated soil that had been returned to the excavation pit, and 25 tons of overexcavated soil were transported to Port Costa Materials (PCM) for thermal remediation and recycling.

After overexcavation was completed, Clayton collected eight samples from the excavation pit walls. The samples were collected at approximately 8.5 feet bgs. The four samples designated as S1 (east end), S2 (west end), S4 (center north side), and S6 (center south side) were selected for laboratory analysis. Overexcavation sample locations are included in Figure 3.

The samples were transported by Bay Area Tank Removal to Geochem Environmental Laboratories for analysis. A summary of the analytical results are included in the Table 2.

Table 2
Overexcavation Soil Samples Collected in September 1993
All Concentrations in mg/kg

Sample #	Diesel	BTEX	Location
S-1	107.6	ND	East end of tank excavation
S-2	1,005	ND	West end of tank excavation

Table 2
Overexcavation Soil Samples Collected in September 1993
All Concentrations in mg/kg

Sample #	Diesel	BTEX	Location
S-4	ND	ND	North side of tank excavation
S-6	857	ND	South side of tank excavation

ND Not detected at or above the analytical detection limits

After sampling was completed, the excavation was backfilled using Class II base rock material. The backfill was compacted in 18-inch lifts using a vibratory plate compactor.

3.0 SCOPE OF WORK

This work plan describes activities planned at the Bank of America site to further investigate the extent of soil and possible groundwater contamination near the former UST. The tasks required to perform this investigation are described in the following subsections.

3.1 TASK 1: HEALTH AND SAFETY PLAN

A health and safety plan will be prepared for the work outlined in this work plan in accordance with the requirements of Title 29 of the Code of Federal Regulations, Section 1910.120 (29 CFR 1910.120).

3.2 TASK 2: DRILLING AND MONITORING WELL INSTALLATION PERMITS

Before commencing the field activities Clayton will obtain the necessary permits from the following agencies:

- Zone 7 Water Agency
- City of Alameda Public Works Department

Monitoring well drilling and installation permit will be obtained from Zone 7. Because the monitoring wells will be located on the side walk or the street an encroachment permit will be secured from the City of Alameda Public Works Department.

3.3 TASK 3: IDENTIFICATION OF UNDERGROUND UTILITY TRENCHES

Clayton will contact Underground Service Alert (USA) to identify the utilities leading to the site. The identified utilities will be clearly marked on the ground. Clayton will not drill within 3 feet from each side of a known utility line.

3.4 TASK 4: MONITORING WELL INSTALLATION AND SAMPLING

To further define the vertical and horizontal extent of soil and possible groundwater contamination, Clayton will observe installation of three monitoring wells (MW-1, MW-2 and MW-3) near the former UST excavation pit (Figure 3). One monitoring well will be installed within 10 feet of the former UST excavation pit to monitor the groundwater for the presence of hydrocarbons. The monitoring well will be placed in the estimated downgradient side of the former tank location. The other two monitoring wells will be located away from the tank and will be installed to determine the groundwater flow direction at the site and the extent of possible groundwater contamination. The proposed monitoring well locations are shown in Figure 3.

The monitoring wells will be installed in boreholes at least 6 inches in diameter and approximately 15 feet deep. During the drilling of the boreholes, the soil characteristics will be noted in the field. Distinguishing features such as color, odor, and relative soil moisture content will be noted. The boreholes will be converted into monitoring wells using a 2 inch diameter schedule 40 polyvinyl chloride (PVC) casing. Because of the shallow water table screened casing will be extending two feet above the water table (approximately six feet bgs). Solid casing will then be installed to the surface. The sand pack will extend to 2 feet above the screen. A 1-foot bentonite seal will be placed on top of the sand pack and the well will be sealed to the surface using cement grout. A locking cap will secure the well in a Christie box raised above the surface grade by approximately 1 inch to prevent surface run-off from entering the well head.

Drilling and sampling activities will be conducted in accordance with Clayton's drilling, well construction and sampling protocols for borehole/monitoring well installation (see Appendix), under the supervision of a Clayton civil engineer or a geologist registered in the State of California.

3.5 TASK 5: SOIL SAMPLE COLLECTION

Soil samples will be collected at five foot intervals using a 2.5-inch split barrel sampler. To aid in locating contamination, Clayton will screen the soil cuttings during drilling using a photoionization detector (PID), and visual senses to detect petroleum compounds. If contamination is encountered other than at the specified sampling depth, Clayton will collect additional samples until groundwater is encountered. No soil samples will be collected for laboratory analysis below the saturated zone.

The soil samples will be collected in precleaned brass tubes for the purpose of lithologic logging. The brass tubes selected for analysis will be sealed with aluminum foil, plastic caps, and teflon tape, and immediately placed in an iced cooler for pick up by the District's soil laboratory contractor. Legal chain-of-custody procedures will be followed for handling of soil samples.

The soil cuttings and sampling spoils generated by the drilling process will be placed into individually labeled, Department of Transportation (DOT)-approved 55-gallon drums and left onsite until proper disposal can be determined based on laboratory analysis.

3.6 TASK 6: WELL HEAD SURVEY

The monitoring wells will be surveyed by a licensed land surveyor using a surveyed benchmark. The surveyed elevations and locations of the wells will be used to confirm the local groundwater flow direction and gradient.

3.7 TASK 7: MONITORING WELL DEVELOPMENT AND SAMPLING

The well seals in the newly constructed wells will be allowed to set for at least 48 hours prior to well development. The monitoring wells will be developed to increase their yield and to minimize the fine-grained material from entering the well casing. Well development will be accomplished by removing finer materials from the natural formations surrounding the perforated sections of the wells. Development of the well can volatilize present contaminants; therefore, the wells will be allowed to settle for at least another 48 hours between development and the first purging/sampling event.

Water samples from the wells will be collected using clean disposable bailers. Water will be collected in clean laboratory supplied containers and placed immediately into an iced cooler for transport to Clayton's laboratory for analysis. The groundwater sampling activities will be conducted in accordance with Clayton's drilling, well construction and sampling protocols for borehole/monitoring well installation (see Appendix).

The water generated from wells development and sampling will be placed into DOT-approved 55-gallon drums until laboratory results from groundwater samples can be evaluated to determine the proper disposal method. The drums will be closed, labeled, and left at the site until the proper method of disposal can be determined based on laboratory analysis.

3.8 TASK 8: LABORATORY ANALYSIS

Approximately 6 soil samples and three water samples will be collected and transported to Clayton's state-certified laboratory in Pleasanton, California.

The groundwater samples will be analyzed using the following USEPA Methods in accordance with the Regional Water Quality Control Board (RWQCB) guidelines for minimum verification analyses for leaking diesel tanks:

- USEPA Method 8020 for BTEX
- USEPA Method 8015 for TPH-D

The soil samples will be analyzed using the USEPA Method 8015 for TPH-D. In addition to arrange for proper disposal of the soil and water drums selected samples will be analyzed for reactivity, corrosivity, ignitability (RCI) and metals. The number and frequency of these analysis will be determined after contacting the receiving facilities.

3.9 TASK 9: DATA ANALYSIS AND REPORT PREPARATION

Upon completion of the laboratory analysis, Clayton will prepare a report summarizing the findings of the investigation. A discussion of the site investigation technique, soil

and water sampling, analytical results, conclusions, and recommendations will be included.

4.0 SCHEDULE

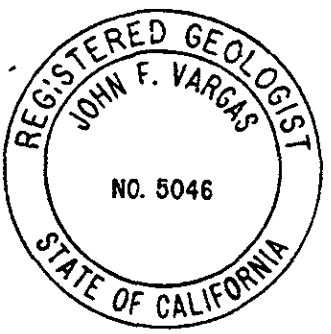
The work on this project can begin immediately upon receipt of authorization to proceed from the ACEHD. We estimate that:

- Tasks 1 through 7 can be completed by March 1994.
- Task 8 can be completed by March 15, 1994.
- Task 9 can be completed by April 1994

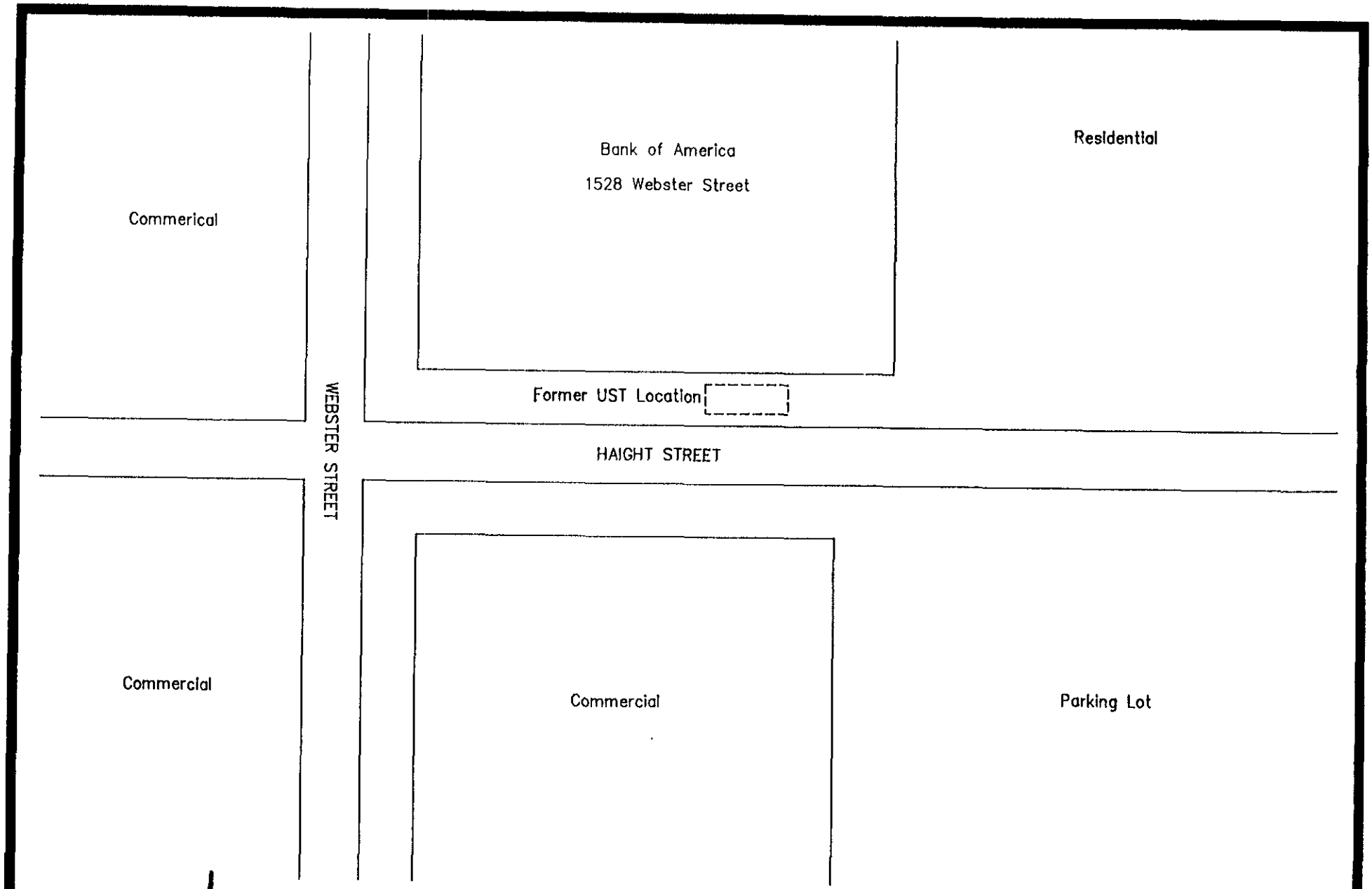
This work plan prepared by: _____
Dariush Dastmalchi
Geologist

This work plan reviewed by: _____
John F. Vargas, R.G.
Supervisor, Geosciences & Remediation
Western Operations

February 10, 1994



FIGURES



Site Diagram
BANK OF AMERICA
1528 Webster Street
Alameda, California

(not to scale)

Clayton Project No. 53704.00

Figure
2

53704-00-17

Clayton
ENVIRONMENTAL
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APPENDIX A

DRILLING, WELL CONSTRUCTION, AND SAMPLING PROTOCOLS FOR BOREHOLE/MONITORING WELL INSTALLATION

DRILLING, WELL CONSTRUCTION, AND SAMPLING PROTOCOLS FOR BOREHOLE/MONITORING WELL INSTALLATION

BOREHOLE INSTALLATION

Clayton Environmental Consultants, Inc. acquires the proper governmental agency permits to bore, drill, or destroy all proposed boreholes and monitoring wells that intersect with groundwater aquifers and writes a health and safety plan.

Clayton subcontracts only with drillers who possess a current C-57 water well contractor's license issued by the State of California and whose personnel have attended the OSHA 40-hour Hazardous Materials Safety Training. Prior to starting work, a "tailgate" safety meeting including discussion of the safety hazards and precautions relevant to the particular job will be held with all personnel working on the job. Well drillers are identified on permit applications.

Borings are drilled dry by hollow- or solid-stem, continuous flight augers. Augers, drill rods, and other working components of the drilling rig are steam-cleaned before arriving onsite to prevent the introduction of contaminants. These components are also steam-cleaned between borings away from boring locations. Cleaned augers, rods, and other components are stored, and/or covered when not in use.

Our bore logs include a detailed description of subsurface stratigraphy. Clayton examines the soil brought to the surface by drilling operations, and samples undisturbed soil every 5 feet or as otherwise specified. Soil cuttings are screened for hydrocarbon contamination using a photoionization detector. Boring logs are filled out in the field by a professional geologist, civil engineer, engineering geologist who is registered by the State of California, or a technician who is trained and working under the supervision of one of the previously mentioned persons, using the Unified Soil Classification System.

SOIL SAMPLING

Soil samples are taken every 5 feet, at areas of obvious contamination, or as otherwise specified, with a California modified split-spoon sampler that is lined with three six-inch brass tubes. The sampler and rod are inserted into the borehole to the current depth and a hammer of known weight and height above the sampler are allowed to free-fall onto the rod, advancing the assembly 18 inches into undisturbed soil. Clayton uses the number of blows necessary to drive the sampler into the ground to help evaluate the consistency of materials encountered. The sampler is then pulled from the borehole and disassembled, and the three brass tubes are separated for inspection and labeling.

Clayton uses new brass liners or liners cleaned with a trisodium phosphate (TSP) solution, double rinsed with clean tap water, and air dried prior to each sampling. The sampler is also cleaned with TSP and rinsed with tap water between sampling events.
Soil samples selected for laboratory analysis are left in the brass liners, sealed with aluminum

foil and plastic caps, taped for air tightness, labeled, and immediately placed into a pre-cooled ice chest chilled to less than 4°C. Labels contain the following information: site name, date and time sampled, borehole number and depth, and the sampler's initials. The samples are transported under chain-of-custody to a state-certified laboratory. The laboratory analyzes soil samples within the prescribed holding time, storing them at temperatures below 4°C at all times.

Pending results of laboratory analysis, excess drilling and sampling cuttings are placed into Department of Transportation (DOT)-approved drums, labeled with the name of the site, address, and well number, and left at the site. Uncontaminated soil may be disposed of by the client. Soil found to contain levels of contaminants above local or state action levels will require that the client dispose of it in accordance with hazardous waste regulations. At the client's request, we will assist with the disposal of contaminated soil.

WELL CONSTRUCTION

Boreholes are converted to monitoring wells by placing 2-inch or 4-inch diameter well casing with flush-threaded joints and slotted screen into the borehole. Construction materials include polyvinyl chloride (PVC), stainless steel, or low carbon steel. The most suitable material for a particular installation will depend on the parameters to be monitored. All screens and casings used are in a contaminant-free condition when placed in the ground. No thread lubrication is used, other than teflon tape, for connecting the casing segments.

Wells extend at least 10 feet into the upper saturated zone, but do not extend through any clay layers greater than 5 feet that are below the shallow water table. The standard practice for wells installed at hydrocarbon contamination sites is to construct a well with a 20-foot long perforated interval extending 15 feet below and 5 feet above the water table in an unconfined aquifer. The top of the well is solid casing. The annular space of the borehole is backfilled with washed, kiln-dried sand to a point at least 1 foot above the slotted screen. A seal above the filter pack is formed by placing a 1- to 2-foot layer of bentonite pellets on top of the sand. The bentonite pellets are moistened by pouring clean tap water down the hole so that they can expand and seal the annulus. A neat cement grout is placed above the bentonite seal and brought to the ground surface.

Well casings are protected from surface contamination, accidental damage, and unauthorized entry or tampering with water-tight locking caps on the well casings. The caps are usually surrounded by a concrete vault. Wells are clearly identified with a metal tag or other device where the following information is recorded: well number, depth to water, depth of well, casing data including location of screened interval.

WELL DEVELOPMENT

The well seal in newly developed wells must set up for 48 to 72 hours prior to development. Since development of the well can volatilize contaminants present, the well must also settle for at least 48 to 72 hours between development and the first purging/sampling incident.

All monitoring wells are initially developed to clean the well and stabilize sand, gravel, and

disturbed aquifer materials around the screened internal perforations. Wells are developed by pumping (or bailing) and surging until water turbidity and specific conductance stabilize. In some cases, where wells are installed in low permeability formations and the wells purge dry, the well is allowed to recover and is purged dry three times. Clean tap water is introduced into the well if it does not recover rapidly enough.

Pending results by laboratory analysis, purge water from well development and sampling is placed into DOT-approved drums, labeled with the name of the site, address, well number, and left at the site. Uncontaminated water may be disposed of by the client. Water found to contain levels of contaminants above local or state action levels requires that the client dispose of it in accordance with hazardous waste requirements. At the client's request, we can assist with the disposal of contaminated purge water.

GROUNDWATER SAMPLING

To collect a representative sample of the groundwater, stagnant water within the well casing and filter material must be purged and fresh aquifer water allowed to replace it. The water is purged from the well by pumping or bailing at least three well volumes. Well volumes are calculated by measuring depth to groundwater to the nearest 0.01 foot upon arrival at the well before any purging has begun. Groundwater samples are collected only after purging has been of sufficient duration for pH, temperature, and electrical conductivity to stabilize. When purging low-yield wells, the wells are purged to dryness. When the well recovers to 80% of the depth measured upon arrival, samples are collected.

Field sampling logs maintained for each well include:

- Monitoring well identification
- Static water level, before and after pumping
- Well depth
- Condition of water prior to purging (e.g., amount of free product)
- Purge rate and volume
- pH, temperature, and conductivity during purging
- Time purged
- Time of sample collection
- Sampling method
- Name of sampler
- Climatic conditions

Water samples are collected using clean teflon bailers. All equipment that contacts samples is thoroughly cleaned before arrival at the site and between sampling events.

Water is collected in clean laboratory-supplied containers, labeled, placed immediately into an ice chest pre-cooled to 4°C, and transported to Clayton's laboratory for analysis. One trip blank will be furnished in accordance with our quality assurance/quality control (QA/QC) program.

All samples are collected in such a manner so as to minimize the volatilization of a sample

due to agitation and/or transfer from bailer to sample container. Samples are collected so that contaminants most sensitive to volatilization are sampled first.

Preservatives are not added to any sample, unless instructed. If requested, they are supplied by Clayton's laboratory.

All sample containers are labeled in the field. Labels contain the following information: project name, sample identification number, project number, date and time of collection, and sampler's initials.

Under no circumstances are sealed sample containers opened by anyone other than the laboratory personnel who perform the requested analyses. If it is necessary for samples or sample chests to leave the immediate control of the sampler prior to delivery to the laboratory, for example during shipment by an overnight shipper, a custody seal is placed on each sample container and/or sample chest to ensure that the samples have not been tampered with during transportation. The custody seal is signed by the sampler, and the date and time that the seal was placed is recorded. The elapsed time between sample collection and delivery to the laboratory never exceeds 48 hours. Water samples are not held for more than 14 days prior to analysis and are kept at 4°C at all times.

To document and trace samples from time of collection, a signed chain-of-custody record is filled out by the sampler and accompanies the samples through the laboratory analyses. The completed chain-of-custody is included with the analytical report from the laboratory.

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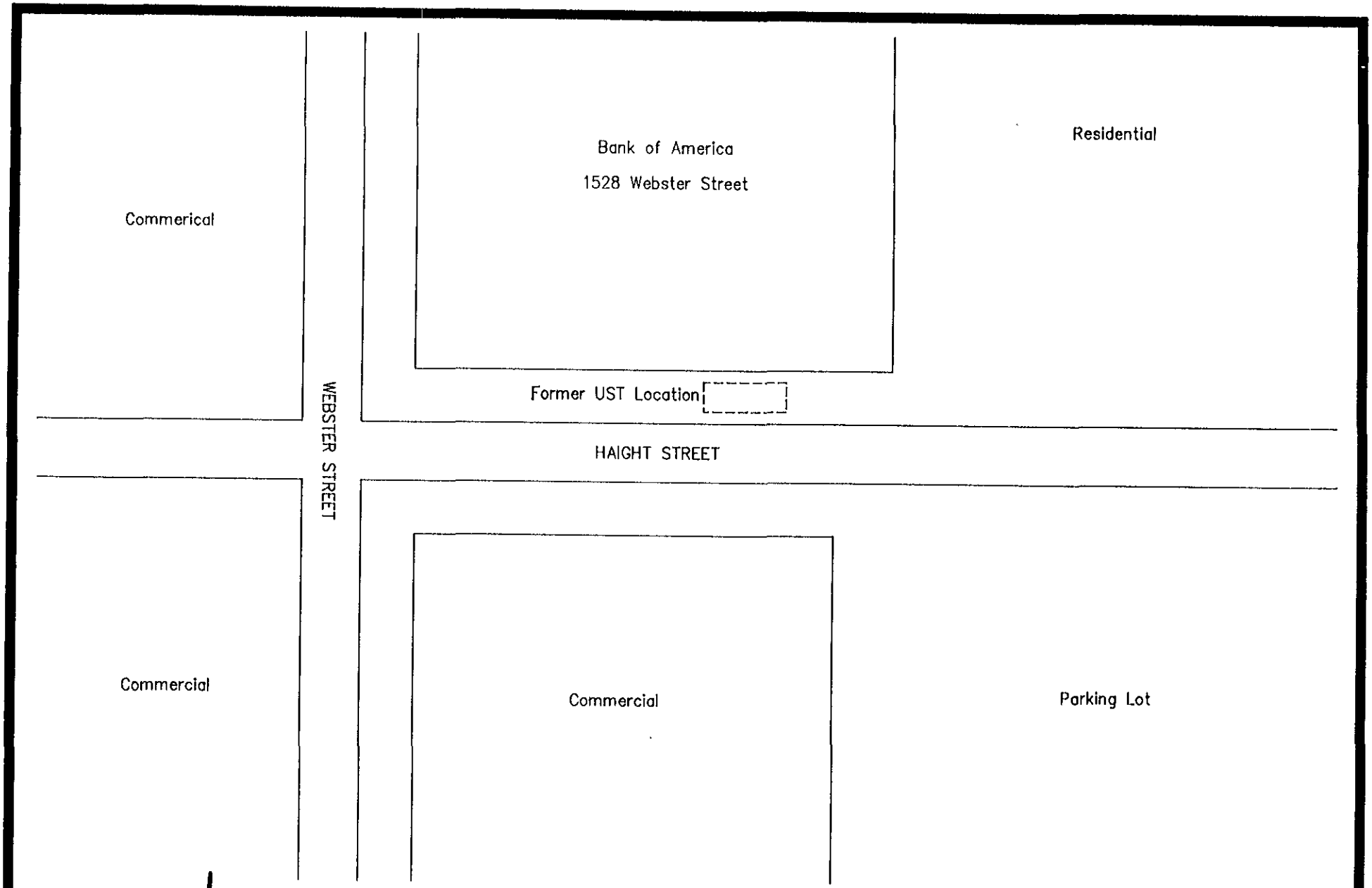

(not to scale)

Site Diagram
BANK OF AMERICA
1528 Webster Street
Alameda, California

Clayton Project No. 53704.00

Figure
2
53704-00-17

Clayton
ENVIRONMENTAL
CONSULTANTS

APPENDIX A

DRILLING, WELL CONSTRUCTION, AND SAMPLING PROTOCOLS FOR BOREHOLE/MONITORING WELL INSTALLATION

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Standards for the Construction and Destruction of Wells and Other Deep Excavations in Santa Clara County, Revised June 1989. Santa Clara Valley Water District.

APPENDIX B

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY LETTER

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST AGENCY DIRECTOR

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

March 3, 1994

Ms. Donna DiRocco
Bank Of America
555 Anton Blvd., Ste 1025
Costa Mesa, CA 92626

STID 4607

Re: Work plan for Subsurface Investigations at the Bank of America site, located at 1528 Webster St., Alameda, California

Dear Ms. DiRocco,

This office has received and reviewed Clayton Environmental's work plan, dated February 10, 1994, addressing the installation of three monitoring wells for the above site. This work plan is acceptable to this office with the following reminders:

- The three monitoring wells must be surveyed to an established benchmark (i.e., Mean Sea Level) to an accuracy of 0.01 foot.
- Field work shall commence within 60 days of the date of this letter, and a report documenting the work shall be submitted within 45 days after completing field activities.
- Please be reminded that, per Section 2725, Article 11, Title 23 California Code of Regulations, you will be required to complete the characterization and delineation of the soil contamination at the site, in addition to the ground water investigations, before this site can be considered for closure in the future.

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

Sincerely,

Juliet Shin
Hazardous Materials Specialist

APPENDIX C

HEALTH AND SAFETY PLAN

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

Health and Safety Plan
for
Subsurface Investigation
at
Bank of America
1528 Webster Street
Alameda, California

Clayton Project No. 53704.00
March 28, 1994

CONTENTS

CONTENTS
(continued)

Appendices

1.0 INTRODUCTION

This Health and Safety Plan describes the procedures that shall be implemented to safeguard the health and safety of employees engaged in field work at the 1528 Webster Street property in Alameda, California.

This Health and Safety Plan complies with the applicable federal, state, and local health requirements including the California Occupational Safety and Health Administration's (Cal-OSHA) requirements, Title 8, California Code of Regulations, Section 5192 (8 CCR 5192) and the federal OSHA requirements, Title 29, Code of Federal Regulations, Section 1910.1200 (29 CFR 1910.1200).

The observance and practice of health and safety procedures and applicable federal, state, and local regulations are mandatory for all personnel and visitors. In the event of conflicting requirements, the procedures that provide the highest degree of required personal protection shall be implemented.

A copy of the site health and safety plan shall be kept on site and made available for inspection and review by employees, clients, agency personnel, and other visitors.

2.0 EMERGENCY TELEPHONE NUMBERS AND STANDARD PROCEDURE

When a person is injured, the Site Safety Officer (SSO) or other qualified personnel must (1) take charge, (2) provide necessary decontamination, (3) administer first aid, and (4) arrange for medical assistance. If a serious injury or life-threatening condition exists, CALL AN AMBULANCE (DIAL 911).

EMERGENCY 911*

FIRE ..... 911* or (510) 748-4602

AMBULANCE ..... 911* or (510) 523-4357

POLICE ..... 911* or (510) 748-4508

* When using a cellular phone, you must use the full telephone number of the emergency service, as dialing 911 will not connect you with the appropriate emergency services.

2.1 LOCATION OF NEAREST HOSPITAL

Hospital: Alameda Hospital
Address: 2070 Clinton Avenue
Alameda, California

Phone: (510) 523-4357 (emergency)
(510) 522-3700 (main)

A map of the hospital location is attached in Appendix A.

3.0 KEY PERSONNEL AND TELEPHONE NUMBERS

The people primarily responsible for site safety are the Project Manager, the Project Health and Safety Officer, and the Site Safety Officer (SSO).

Project Supervisor:	John Vargas
Telephone Number:	(510) 426-2676
Project Health & Safety Officer:	Dariush dastmalchi
Telephone Number:	(510) 426-2609
Project Site Safety Officer:	Dariush dastmalchi
Telephone Number:	(510) 426-2609

Roles and responsibilities of the key personnel are found in Appendix B.

4.0 SITE HISTORY

An underground storage tank was removed from the subject property in August 1993. The analytical results revealed total petroleum hydrocarbons as diesel (TPH-D) concentration of up to 1,005 milligrams per kilogram of in the soil samples collected from the excavation pit.

5.0 FIELD ACTIVITIES

The field activities planned for the site includes drilling and installation of three monitoring wells.

6.0 CHEMICAL HAZARDS

The concerned contaminants that could be present onsite is diesel fuel. The diesel fuel may be absorbed through inhalation, skin contact, and/or ingestion exposures. Human exposure through excessive inhalation of aerosol can cause respiratory tract irritation, headache, dizziness, nausea, vomiting, and loss of coordination. Vomiting and renal involvement may occur after ingestion. Prolonged or repeated skin contact may irritate hair follicles and block sebaceous glands, producing a rash of acne pimples and spots.

6.1 PERMISSIBLE EXPOSURE LIMITS

Toxic Atmosphere is any atmosphere having a toxic contaminant exceeding the legally established Permissible Exposure Limit (PEL) and Short-Term Exposure Limit (STEL) as defined in 29 CFR 1910.1000 or the Threshold Limit Value (TLV) established by the American Conference of Governmental Industrial Hygienists (1991-92). The PEL/TLV shall not be exceeded during an 8-hour workshift of a 40-hour workweek, and STEL's shall not be exceeded for 15 minute TWA exposure at any time during the workday unless respiratory protection is provided and worn. The following lists

the PEL/TLV for suspect compounds identified on the site. Benzene, toluene, ethylbenzene, and xylenes represent the toxic constituents of diesel.

Table 1
Permissible Exposure Limit (PEL)/Threshold Limit Value (TLV)

CHEMICAL	PEL/TLV	STEL
Benzene	1 ppm	5 ppm
Toluene	100 ppm	150 ppm
Ethylbenzene	100 ppm	125 ppm
Xylenes	100 ppm	150 ppm

ppm=parts per million

* Because benzene has the lowest PEL and STEL values, benzene shall be used as the indicator chemical during sampling.

6.2 AIR MONITORING WITH PID

A photoionization detector (PID) will be used onsite to monitor for total ionizable compounds in the air, particularly in the areas of sampling. Because the PID measures the total ionizable compounds, action levels have been established specifically for PID readings at the site:

PID Levels	Required PPE
Background level of 5 ppm or less	No action required
A sustained reading between 5 and 25	Level C: full-face respirators with organic vapor cartridges
A sustained reading of greater than 25	Level B: supplied air or SCBA
Any instantaneous reading above 500 ppm	Level A: SCBA

6.3 EYE AND SKIN EXPOSURE TO CHEMICALS

Many chemicals and substances are irritants to eyes and skin. In case of exposure:

- Remove contaminated clothing and shoes.
- Flush affected areas with plenty of water.
- IF IN EYE, hold eyelids open and flush with plenty of water.
- If irritation or discomfort continues, call for medical aid immediately.

6.4 INTERNAL EXPOSURE TO CHEMICALS

Chemicals can be harmful if swallowed. In case of exposure:

- Call for medical aid.
- If victim is CONSCIOUS have victim drink water or milk.

6.5 PERSONAL PROTECTIVE EQUIPMENT (PPE)

The following table summarizes the required personal protection equipment (PPE) during specific field activities:

Required Personal Protective Equipment (PPE)

Field Activity	Required PPE
Drilling and soil and groundwater sampling activities	Level D: Tyveks, hard hat, chemical resistant steel-toed boots, inner and outer gloves, eye protection, ear plugs (if necessary)

Half-face respirator with organic vapor cartridges shall be worn if PID measurements show concentrations at or above 5 ppm above background level.

6.6 WORK ZONES AND SECURITY MEASURES

The Work Restricted Zone: No persons will be allowed entry within the work restriction zone (which encompasses the contamination and decontamination zones) unless they are in compliance with OSHA training and Site Health and Safety Plan requirements.

The Decontamination Station Zone will be set up to minimize the transfer of harmful materials into the support zone.

The Support Zone: The Support Zone is located at the exit from the decontamination area. Smoking is allowed in the Support Zone in an area 50 feet from the work restricted zone.

All visitors are restricted to the support zone area. The visitors will receive an initial briefing of the site conditions by the SSO. All visitors to the site will be logged on a daily log.

6.7 PERSONNEL DECONTAMINATION

When leaving the work restricted zone, all personnel will decontaminate at the decontamination station. Decontamination will consist of the following basic steps:

Step 1- Wash and rinse boots in Alconox™ and water
Step 2- Remove outer gloves; discard into waste container
Step 3- Remove outer garment (Tyveks, Saranex™, etc.); discard into waste container

Step 4- Remove hard hat, wash, rinse, and hang to dry
Step 6- Remove respirator
Step 5- Remove inner gloves; discard into waste container
Step 7- Wash hands, neck, and face.
Step 8- At the end of the shift, wash respirator thoroughly in wash solution, germicidal rinse, clean rinse, and hang to dry.

6.8 EQUIPMENT DECONTAMINATION

Clayton's geologist, Mr. Dariush Dastmalchi, will instruct the drilling company to prepare a decontamination area for cleaning drilling equipment and sampling tools before drilling each borehole. The drilling company will steam-clean the drilling equipment (augers, split-spoons, and other equipment) in the decontamination area before drilling each borehole.

Under Clayton's supervision, the drilling company will decontaminate the split-spoons before extracting a soil sample from a borehole to minimize the possibility of cross-contamination between samples. Clayton's geologist will decontaminate other sampling equipment such a bailers, hand augers, and trowels. During soil and groundwater sampling, decontamination of sampling equipment (bailers, split-spoons, hand augers, and trowels) will be conducted in the following order:

(1) Washing and scrubbing with non-phosphate detergent
(2) Rinsing with water
(3) Second rinsing with deionized water
(4) Air drying

7.0 ELECTRICAL HAZARDS

Overhead power lines, underground power cables, and electrical equipment may pose shock, electrocution, or fire if contacted or severed during site activities.

Underground utilities will be marked prior to drilling.

Operations adjacent to overhead lines are prohibited unless one of the following conditions is satisfied:

- Lockout/tagout procedure. The main electrical switches is in a locked "off" position for any electrically operated equipment or electrical lines. Deenergized equipment or circuits are tagged attached at all points where such equipment or circuits can be energized.

- Equipment or any part, does not have the capability of coming within the following minimum clearance for energized overhead lines, or the equipment has been positioned and blocked to assure the part, including cables, cannot come within the following minimum clearances:

Table 3
High Voltage Protection - Minimum Clearance

POWER LINES NOMINAL SYSTEM (kilovolts)	MINIMUM REQUIRED CLEARANCE
50 or under	10 feet (3.05 meters)
69	12 feet (3.66 meters)
115-161	15 feet (4.57 meters)
230-285	20 feet (6.10 meters)
345	25 feet (7.62 meters)
500	35 feet (10.67 meters)

8.0 DRILL RIG SAFETY

The National Drilling Federation in their Drilling Safety Guide has provided the following guideline to reduce hazard around a drill rig:

Training

- The drill crew must have received adequate training and are thoroughly familiar with the drill rig, its controls and its capabilities. They must have read the drilling operations safety manual and is familiar with safe operating practices.
- The drill crew supervisor shall check daily prior to operation for structural damage, loose bolts and nuts, proper tension in chain drives, loose or missing guards or protective covers, fluid leaks, damaged hoses and/or damaged pressure gauges and pressure relief valves.
- Pipes, drill rods, casing, augers and similar drill tools, materials and supplies must be stored to prevent rolling or sliding so that they can be safely handled without hitting or falling on a member of the drill crew.
- Avoid storing or transporting tools, materials or supplied within or on the mast (derrick) of the drill rig.
- Penetration or other driving hammers should be placed at a safe location on the ground or be secured to prevent movement when not in use.
- When making repairs or adjustments to a drill rig or to lubricate fittings, shut down the drill rig. Take precautions to prevent accidental starting of an engine during maintenance by removing or tagging the ignition key.
- Always block the wheels or lower the leveling jacks or both and set hand brakes before working under a drill rig.
- All nonessential personnel not directly involved in the drilling operation shall stand in the support zone.

- All drill crew members must wear hard hat, safety glasses, steel toe boots, long pants, short-sleeved shirts, and hand protective gloves.

- Make sure all gear boxes are in neutral, all hoist levers are disengaged, all hydraulic levers are in the correct nonactuating positions and the cathead rope is not on the cathead before starting a drill rig engine.

- Do not drive the drill rig from hole to hole with the mast (derrick) in the raised position.

- Before raising the mast(derrick) look up to check for overhead obstructions.

- Before the mast (derrick) of a drill rig is raised and drilling is commenced, the drill rig must first leveled and stabilized with leveling jacks and/or solid cribbings. Lower the mast (derrick) only when the leveling jacks are down and do not raise the leveling jack pads until the mast (derrick) is lowered completely.

- Loose tools and similar items should not be left on the derrick platform or on structural members of the derrick.

9.0 FLAMMABILITY AND COMBUSTIBILITY HAZARD

Flammable or combustible vapors are likely to be present in the work area. The concentration of vapors in excavations, or work areas may reach the flammable (explosive) range. Precautions must be taken to: (1) eliminate all potential sources of ignition from the area (for example, smoking materials, nonexplosion-proof electrical, and internal combustion equipment) and (2) prevent the accumulation of vapors at ground level. Fire extinguisher (2A:10B:C) will be located on heavy equipment and in chemical use and storage areas.

10.0 NOISE HAZARD

Drilling equipment used onsite may startle, annoy or distract workers and interfere with communication. According to the Occupational Safety and Health Standards, hearing protection shall be provided and worn when sound levels exceed 85 decibels (dBA) when measured on the A scale of a standard sound-level meter at slow response in accordance with ANSI SI.4.

The SSO will determine if any employee's sound-level exposure has exceeded 85 dBA. The observations, or calculations which indicate that employee sound-level exposure may be above 85 dBA, including:

- Any employee exposure measurements which may have been taken;

- Any employee complaints which may be attributable to high sound levels;

- Any difficulties in understanding normal conversation in the work place when the speaker and the listener face each other at a distance of 2 feet.

11.0 EMERGENCY RESPONSE PLAN

A plan specifying the emergency routes will be prepared before the start of site activities. These routes will be familiarized to all personnel who will be conducting field work. All work will be stopped during an emergency situation and all personnel evacuated from the danger area until the Project Manager judges it to be safe for work to resume.

The SSO will familiarize the site personnel with the methods to communicate with the local fire department, police, paramedics, hospital facilities, and poison control centers. Local emergency service transportation will be provided to all personnel as needed.

If an emergency involving actual or suspected personal injury occurs, the steps shall be followed:

- Remove the exposed or injured person(s) from immediate danger.
- Decontaminate the person(s).
- Render first aid if necessary.
- Obtain paramedic services or ambulance transport to local hospital. This procedure will be followed even if there is no visible injury.

12.0 ACCIDENT REPORTING

All accidents are reportable. All accidents or injuries must be reported immediately to the Project Health and Safety Officer. The Project Supervisor and the Health and Safety Officer shall investigate all onsite accidents, determining the direct causes, indirect causes and arriving at proper corrective action.

13.0 APPROVALS

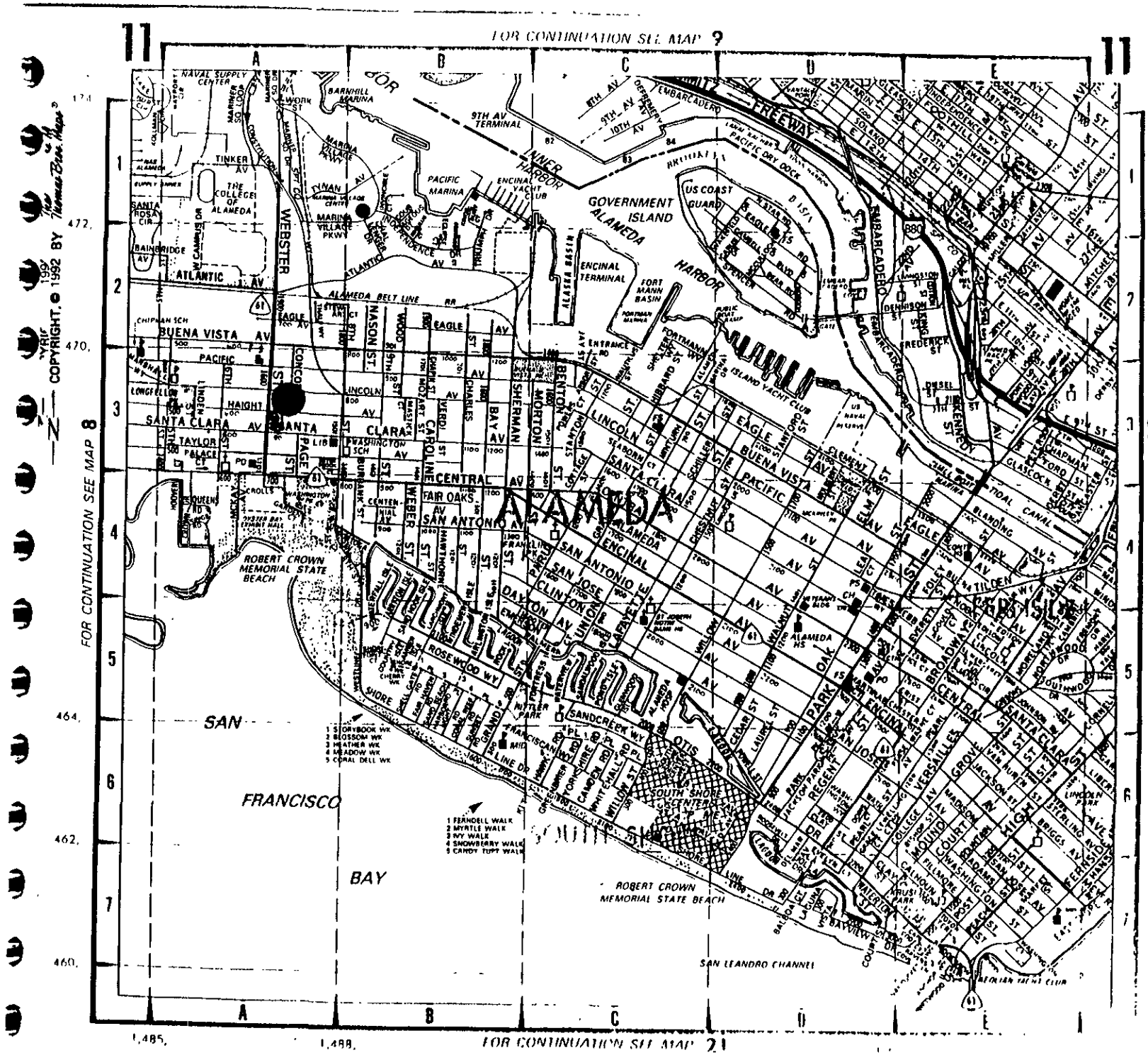
This health and safety plan have been reviewed and approved by the Project Supervisor, the Health and Safety Officer, and the SSO.

This plan was written by:

Dariush Dastmalchi
Health and Safety Officer
Site Safety Officer
Project Geologist
Western Operations

APPENDIX A

HOSPITAL LOCATIONS


FOR CONTINUATION SEE MAP 9
FOR CONTINUATION SEE MAP 8
FOR CONTINUATION SEE MAP 21
COPYRIGHT, © 1992 BY Thomas Bros. Maps®
ALAMEDA
SAN FRANCISCO BAY
GOVERNMENT ISLAND
ALAMEDA HARBOR
INNER HARBOR
ENCINAL TERMINAL
9TH AV TERMINAL
FREEWAY
EMBARCADERO
WEBSTER ST
PACIFIC MARINA
ENCINAL YACHT CLUB
US COAST GUARD
FORT MANN BASIN
ALAMEDA BELT LINE RR
ROBERT CROWN MEMORIAL STATE BEACH
SAN LEANDRO CHANNEL
SOUTH SHORE CENTER
ATLANTIC AV
BUENA VISTA AV
SANTA CLARA AV
CENTRAL AV
FAIR OAKS AV
SAN ANTONIO AV
PACIFIC AV
LINCOLN AV
EAGLE AV
1,485,
1,488,
472,
470,
464,
462,
460,

APPENDIX B

KEY PERSONNEL ROLES AND RESPONSIBILITIES

KEY PERSONNEL ROLES AND RESPONSIBILITIES

Project Supervisor

The Project Supervisor, Mr. John Vargas, has the responsibility for all field work and enforces safe work practices by all workers. He directs all project investigation, monitoring, and remedial activities at the site.

Health and Safety Officer

The Project Health and Safety Officer, Mr. Dariush Dastmalchi, has prepared the site health and safety plan. He has the primary responsibility for the approval of the health and safety procedures to be utilized during all site operations.

Site Safety Officer (SSO)

The Site Safety Officer (SSO), Mr. Dariush Dastmalchi, has the responsibility for implementing and enforcing the site safety program and procedures. He maintains the appropriate protection equipment and enforces the use of protection equipment. He oversees the on-site air monitoring and decides when action levels have been reached and when more stringent personnel protection is required. Mr. Dastmalchi has the primary responsibility for the approval of all site operations that will be conducted during the field investigation.

Mr. Dastmalchi will take the following actions when appropriate:

- Order the immediate evacuation of personnel from the work area during serious or life-threatening situations
- Take charge during emergency situations, notifying local public emergency officials when necessary
- Require personnel engaged in field work at the site to obtain immediate medical attention in the case of a work-related injury or illness
- Properly store and maintain protective clothing and equipment (Clayton site personnel only)
- Restrict visitors from areas of potential exposure to harmful substances
- Provide emergency eye wash kit

1528 Webster Street
Alameda, California

ACKNOWLEDGEMENT OF RECEIPT OF SITE HEALTH AND SAFETY PLAN

Project Name Bank of America - Alameda Project
Number 53704.00

Your signature below indicates that you have received a copy of the health and safety plan for the above identified project, have read it, and understand what is required when working onsite.

NAME	DATE
Rick McDonald	3/25/94
Daron Walton	3/29/94

APPENDIX D

MONITORING WELL INSTALLATION PERMIT

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Bank of America
1528 Webster Street
Alameda, CA

CLIENT
Name Bank of America
Address 555 Anton Blvd.1025 Voice
City Costa Mesa Zip 92626

APPLICANT
Name Dariush Dastmalchi
Clayton Environmental Fax 510-426 0106
Address 1252 Quarry Lane Voice 510-426 2609
City Pleasanton Zip 94566

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	
Monitoring	xx	Well Destruction	

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger xx
Cable ___ Other ___

DRILLER'S LICENSE NO. 610487

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in Depth 20 ft.
Surface Seal Depth 4 ft. Number 3

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE 3/29/94
ESTIMATED COMPLETION DATE 3/29/94

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

APPLICANT'S SIGNATURE [signature] Date 3/28/94

FOR OFFICE USE

PERMIT NUMBER 94227
LOCATION NUMBER

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. 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 drilling logs and location sketch for geotechnical projects.
3. 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.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

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

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 11 Apr 94
Wyman Hong

91992

APPENDIX E

LITHOLOGIC BORING LOG

Clayton
ENVIRONMENTAL CONSULTANTS

LOG OF EXPLORATORY BORING

Project No.: 53704.00 **Date:** 3/30/94
Client: Bank of America
Location: 1528 Webster Street, Alameda, CA
Logged By: D. Dastmalchi **Driller:** Great Sierra

BORING NO. MW-1

Sheet 1 of 1

Field Location of Boring:

Ground Elevation: **Datum:**

Drilling Method: Hollow-stem auger
Hole Diameter: 8"
Casing Installation Data: 15' screen (0.01); 4' solid; 16' sand; 1' bentonite; 4' grout

Water Level	6.5										
Time	0720										
Date	03/30/94										

Blow Count	PID — OVA (ppm)	DEPTH	SAMPLE	Soil Group Symbol (uscs)	Litho-graphic Symbol	DESCRIPTION
						4" concrete sidewall
		1				Silty sand (fine), damp, dark reddish brown (5 YR, 3/3), well rounded, poorly
						graded with little to no clay
		2				
		3		SM		
		4				
		5				
5	0		X			
	0	6			▽	Fine to medium sand, moist, light brown (7.5 YR, 6/4), free water, saturated
		7				
		8				
		9				
		10		SP		
						Light brown, fine to medium sand, wet
		11				
		12				
		13				
		14				
		15				
		16				
		17				
		18				
						TD = 20'

Clayton
ENVIRONMENTAL CONSULTANTS

LOG OF EXPLORATORY BORING

Project No.: 53704.00 **Date:** 3/30/94
Client: Bank of America
Location: 1528 Webster Street, Alameda, CA
Logged By: D. Dastmalchi **Driller:** Great Sierra

BORING NO. MW-2

Sheet 1 of 1

Field Location of Boring:

Ground Elevation: **Datum:**

Drilling Method: Hollow-stem auger
Hole Diameter: 8"
Casing Installation Data: 15' screen (0.01); 4' solid; 16' sand; 1' bentonite; 4' grout

Water Level	6.5				
Time	0715				
Date	03/30/94				

Blow Count	PID — OVA (ppm)	DEPTH	SAMPLE	Soil Group Symbol (uscs)	Litho-graphic Symbol	DESCRIPTION
						Asphalt and packing
		1				Silty sand (fine), damp, dark reddish brown (5 YR, 3/3), well rounded, poorly
						graded with little to no clay
		2				
		3				
		4		SM		
		5				
			X			
		6			▽	Fine to medium sand, moist, light brown (7.5 YR, 6/4), free water, saturated
		7				Free water
		8				
		9				
		10				
				SP		Light brown, fine to medium sand, wet
		11				
		12				
		13				
		14				
		15				
		16				
		17				
		18				
						TD = 20'

Clayton
ENVIRONMENTAL CONSULTANTS

LOG OF EXPLORATORY BORING

Project No.: 53704.00 **Date:** 3/30/94
Client: Bank of America
Location: 1528 Webster Street, Alameda, CA
Logged By: D. Dastmalchi **Driller:** Great Sierra

BORING NO. MW-3

Sheet 1 of 1

Field Location of Boring:

Ground Elevation: **Datum:**

Drilling Method: Hollow-stem auger
Hole Diameter: 8"
Casing Installation Data: 15' screen (0.01); 4' solid; 16' sand; 1' bentonite; 4' grout

Water Level	6.0					
Time	0700					
Date	03/30/94					

Blow Count	PID — OVA (ppm)	DEPTH	SAMPLE	Soil Group Symbol (uscs)	Litho-graphic Symbol	DESCRIPTION
		1				Silty sand (fine), damp, dark reddish brown (5 YR, 3/3), well rounded, poorly
						graded with little to no clay
		2				
		3				
		4		SM		
6		5				
12			X			
8		6			▽	Fine to medium sand, moist, light brown (7.5 YR, 6/4), free water, saturated
		7				
		8		SP		
		9				
		10				
						Light brown, fine to medium sand, wet
		11				
		12				
		13				
		14				
		15				
		16				
		17				
		18				
						TD = 20'

APPENDIX F

DRILLING, WELL CONSTRUCTION, AND SAMPLING PROTOCOLS FOR BOREHOLE/MONITORING WELL INSTALLATION

DRILLING, WELL CONSTRUCTION, AND SAMPLING PROTOCOLS FOR BOREHOLE/MONITORING WELL INSTALLATION

BOREHOLE INSTALLATION

Clayton Environmental Consultants, Inc. acquires the proper governmental agency permits to bore, drill, or destroy all proposed boreholes and monitoring wells that intersect with groundwater aquifers and writes a health and safety plan.

Clayton subcontracts only with drillers who possess a current C-57 water well contractor's license issued by the State of California and whose personnel have attended the OSHA 40-hour Hazardous Materials Safety Training. Prior to starting work, a "tailgate" safety meeting including discussion of the safety hazards and precautions relevant to the particular job will be held with all personnel working on the job. Well drillers are identified on permit applications.

Borings are drilled dry by hollow- or solid-stem, continuous flight augers. Augers, drill rods, and other working components of the drilling rig are steam-cleaned before arriving onsite to prevent the introduction of contaminants. These components are also steam-cleaned between borings away from boring locations. Cleaned augers, rods, and other components are stored, and/or covered when not in use.

Our bore logs include a detailed description of subsurface stratigraphy. Clayton examines the soil brought to the surface by drilling operations, and samples undisturbed soil every 5 feet or as otherwise specified. Soil cuttings are screened for hydrocarbon contamination using a photoionization detector. Boring logs are filled out in the field by a professional geologist, civil engineer, engineering geologist who is registered by the State of California, or a technician who is trained and working under the supervision of one of the previously mentioned persons, using the Unified Soil Classification System.

SOIL SAMPLING

Soil samples are taken every 5 feet, at areas of obvious contamination, or as otherwise specified, with a California modified split-spoon sampler that is lined with three six-inch brass tubes. The sampler and rod are inserted into the borehole to the current depth and a hammer of known weight and height above the sampler are allowed to free-fall onto the rod, advancing the assembly 18 inches into undisturbed soil. Clayton uses the number of blows necessary to drive the sampler into the ground to help evaluate the consistency of materials encountered. The sampler is then pulled from the borehole and disassembled, and the three brass tubes are separated for inspection and labeling.

Clayton uses new brass liners or liners cleaned with a trisodium phosphate (TSP) solution, double rinsed with clean tap water, and air dried prior to each sampling. The sampler is also cleaned with TSP and rinsed with tap water between sampling events.

Soil samples selected for laboratory analysis are left in the brass liners, sealed with aluminum foil and plastic caps, taped for air tightness, labeled, and immediately placed into a pre-cooled ice chest chilled to less than 4°C. Labels contain the following information: site name, date and time sampled, borehole number and depth, and the sampler's initials. The samples are transported under chain-of-custody to a state-certified laboratory. The laboratory analyzes soil samples within the prescribed holding time, storing them at temperatures below 4°C at all times.

Pending results of laboratory analysis, excess drilling and sampling cuttings are placed into Department of Transportation (DOT)-approved drums, labeled with the name of the site, address, and well number, and left at the site. Uncontaminated soil may be disposed of by the client. Soil found to contain levels of contaminants above local or state action levels will require that the client dispose of it in accordance with hazardous waste regulations. At the client's request, we will assist with the disposal of contaminated soil.

WELL CONSTRUCTION

Boreholes are converted to monitoring wells by placing 2-inch or 4-inch diameter well casing with flush-threaded joints and slotted screen into the borehole. Construction materials include polyvinyl chloride (PVC), stainless steel, or low carbon steel. The most suitable material for a particular installation will depend on the parameters to be monitored. All screens and casings used are in a contaminant-free condition when placed in the ground. No thread lubrication is used, other than teflon tape, for connecting the casing segments.

Wells extend at least 10 feet into the upper saturated zone, but do not extend through any clay layers greater than 5 feet that are below the shallow water table. The standard practice for wells installed at hydrocarbon contamination sites is to construct a well with a 20-foot long perforated interval extending 15 feet below and 5 feet above the water table in an unconfined aquifer. The top of the well is solid casing. The annular space of the borehole is backfilled with washed, kiln-dried sand to a point at least 1 foot above the slotted screen. A seal above the filter pack is formed by placing a 1- to 2-foot layer of bentonite pellets on top of the sand. The bentonite pellets are moistened by pouring clean tap water down the hole so that they can expand and seal the annulus. A neat cement grout is placed above the bentonite seal and brought to the ground surface.

Well casings are protected from surface contamination, accidental damage, and unauthorized entry or tampering with water-tight locking caps on the well casings. The caps are usually surrounded by a concrete vault. Wells are clearly identified with a metal tag or other device where the following information is recorded: well number, depth to water, depth of well, casing data including location of screened interval.

WELL DEVELOPMENT

The well seal in newly developed wells must set up for 48 to 72 hours prior to development. Since development of the well can volatilize contaminants present, the well must also settle for at least 48 to 72 hours between development and the first purging/sampling incident.

All monitoring wells are initially developed to clean the well and stabilize sand, gravel, and disturbed aquifer materials around the screened internal perforations. Wells are developed by pumping (or bailing) and surging until water turbidity and specific conductance stabilize. In some cases, where wells are installed in low permeability formations and the wells purge dry, the well is allowed to recover and is purged dry three times. Clean tap water is introduced into the well if it does not recover rapidly enough.

Pending results by laboratory analysis, purge water from well development and sampling is placed into DOT-approved drums, labeled with the name of the site, address, well number, and left at the site. Uncontaminated water may be disposed of by the client. Water found to contain levels of contaminants above local or state action levels requires that the client dispose of it in accordance with hazardous waste requirements. At the client's request, we can assist with the disposal of contaminated purge water.

GROUNDWATER SAMPLING

To collect a representative sample of the groundwater, stagnant water within the well casing and filter material must be purged and fresh aquifer water allowed to replace it. The water is purged from the well by pumping or bailing at least three well volumes. Well volumes are calculated by measuring depth to groundwater to the nearest 0.01 foot upon arrival at the well before any purging has begun. Groundwater samples are collected only after purging has been of sufficient duration for pH, temperature, and electrical conductivity to stabilize. When purging low-yield wells, the wells are purged to dryness. When the well recovers to 80% of the depth measured upon arrival, samples are collected.

Field sampling logs maintained for each well include:

- Monitoring well identification
- Static water level, before and after pumping
- Well depth
- Condition of water prior to purging (e.g., amount of free product)
- Purge rate and volume
- pH, temperature, and conductivity during purging
- Time purged
- Time of sample collection
- Sampling method
- Name of sampler
- Climatic conditions

Water samples are collected using clean teflon bailers. All equipment that contacts samples is thoroughly cleaned before arrival at the site and between sampling events.

Water is collected in clean laboratory-supplied containers, labeled, placed immediately into an ice chest pre-cooled to 4°C, and transported to Clayton's laboratory for analysis. One trip blank will be furnished in accordance with our quality assurance/quality control (QA/QC) program.

All samples are collected in such a manner so as to minimize the volatilization of a sample due to agitation and/or transfer from bailer to sample container. Samples are collected so that contaminants most sensitive to volatilization are sampled first.

Preservatives are not added to any sample, unless instructed. If requested, they are supplied by Clayton's laboratory.

All sample containers are labeled in the field. Labels contain the following information: project name, sample identification number, project number, date and time of collection, and sampler's initials.

Under no circumstances are sealed sample containers opened by anyone other than the laboratory personnel who perform the requested analyses. If it is necessary for samples or sample chests to leave the immediate control of the sampler prior to delivery to the laboratory, for example during shipment by an overnight shipper, a custody seal is placed on each sample container and/or sample chest to ensure that the samples have not been tampered with during transportation. The custody seal is signed by the sampler, and the date and time that the seal was placed is recorded. The elapsed time between sample collection and delivery to the laboratory never exceeds 48 hours. Water samples are not held for more than 14 days prior to analysis and are kept at 4°C at all times.

To document and trace samples from time of collection, a signed chain-of-custody record is filled out by the sampler and accompanies the samples through the laboratory analyses. The completed chain-of-custody is included with the analytical report from the laboratory.

REFERENCES

Groundwater Monitoring Guidelines, Revised February 1990. Alameda County District Groundwater Protection Program.

Leaking Underground Fuel Tank (LUFT) Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Tank Closure, May 1988. State of California LUFT Task Force.

Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks, Revised November 1989. North Coast, San Francisco Bay, and Central Valley regions of the California State Water Quality Control Board.

Standards for the Construction and Destruction of Wells and Other Deep Excavations in Santa Clara County, Revised June 1989. Santa Clara Valley Water District.

APPENDIX G

LAND SURVEYOR REPORT

Virgil Chavez Land Surveying
1418 Lassen Street
Vallejo, California 94591
707.553.2476

April 15, 1994
Project No. 1215-01

Dariush Dastmalchi
Clayton Environmental Consultants
1252 Quarry Lane
Pleasanton, Ca. 94566

Subject: Monitoring Well Survey
1528 Webster Street
Alameda, Ca.

Dear Mr. Dastmalchi:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was performed on April 4, 1994. My findings are shown in the table on below, and are based on Alameda City Datum (Mean Sea Level = 0.00' when City of Alameda = -3.41'). The benchmark used for the survey was a USC&GS brass disk, stamped "Haight", at the Southwest corner of Webster & Haight, City of Alameda Elev. = 13.21'.

Measurements for top of box were taken at approximate north side of top of box. Measurements for top of casing were marked using a black marker on the top of casing.

Monitoring Well No.	Rim Elevation	Top of Casing Elevation
MW- 1	13.31'	13.07'
MW- 2	13.78'	13.52'
MW- 3	13.71'	13.34'

Sincerely yours,

Virgil D. Chavez, P.L.S. 6323
Virgil Chavez Land Surveying

APPENDIX H

WATER SAMPLING FIELD SURVEY FORMS

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job # 53704.00 Site: BofA - Alameda Date: 4-7-94

Well # MW-1 Sampling Team: M Sorensen

Sampling Method: Disposable Bailer

Field Conditions: Clear ~60°

Describe Equipment D-Con Before Sampling This Well: Now Required

Total Depth of Well: 19.67 feet Time: 10:04 Depth to Water Before Pumping: 5.9 feet

Volume Height of Water Column: 13.77 feet * Diameter: 2-inch (.16) / 4-inch .85 = Volume 2.20 gal * Purge Factor 4 = To Purge 8.8

Depth Purging From: 19.0 feet Time Surging Begins: 10:12

Notes on Initial Discharge: Brownish Color

Time	Volume Purged	pH	Conductivity	T	Notes
10:13	2	8.0	375	18.5	Brownish Color
10:14	4	7.8	283	18.3	
10:15	6	7.4	220	18.5	
10:16	8	7.2	196	18.6	
10:17	10	7.2	175	18.5	

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job # 53704 Site: B-4 A - Alameda Date: 4-7-94

Well # MW-2 Sampling Team: M Springman

Sampling Method: Disposable Bailer

Field Conditions: _____

Describe Equipment D-Con Before Sampling This Well: None Required

Total Depth of Well: 19.58 feet Time: 11:04 Depth to Water Before Pumping: 6.37 feet

Volume Height of Water Column: 13.21 feet * Diameter: 2-inch (.16) 4-inch .65 = Volume 2.11 gal * Purge Factor 4 = To Purge 8.44

Depth Purging From: 19.0 feet Time Surging Begins: 11:10

Notes on Initial Discharge: Brownish Color

Time	Volume Purged	pH	Conductivity	T	Notes
11:11	2	7.5	455	19.0	Brownish Color
11:12	4	7.1	644	18.9	Clearing
11:13	6	7.1	678	19.0	
11:14	8	7.0	770	19.0	
11:15	10	7.0	800	19.0	

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job # 53704.00 Site: B of A - Alameda Date: 4.7.94

Well # MW-3 Sampling Team: M Springer

Sampling Method: Disposable Bailer

Field Conditions: _____

Describe Equipment D-Con Before Sampling This Well: None Required

Total Depth of Well: 19.88 feet Time: 11:51 Depth to Water Before Pumping: 6.17 feet

Volume Height of Water Column: 13.71 feet * Diameter: 2-inch (16) / 4-inch .85 = Volume 2.19 gal * Purge Factor 4 = To Purge 8.76

Depth Purging From: 19.0 feet Time Surging Begins: 11.58

Notes on Initial Discharge: Brownish Color

Time	Volume Purged	pH	Conductivity	T	Notes
11:59	2	8.0	552	20.0	Clearing (Turbid)
12:02	4	7.9	483	20.0	Brownish (Dry)
12.04	5	7.7	419	19.9	" (Dry)
12.09	7	7.6	372	19.9	" (Dry)

DRUMS ON SITE -
4 - SOIL
2 - WATER

APPENDIX I

ANALYTICAL REPORTS

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

April 20, 1994

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 53704.00
Clayton Project No.: 94040.86

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on April 7, 1994. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after May 20, 1994, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH
Director, Laboratory Services
Western Operations

HAH/tjb

Attachments

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 53704.00
Clayton Project No. 94040.86

Sample Identification:	MW-1	Date Sampled:	04/07/94
Lab Number:	9404086-01A	Date Received:	04/07/94
Sample Matrix/Media:	WATER	Date Prepared:	04/09/94
Preparation Method:	EPA 5030	Date Analyzed:	04/09/94
Method Reference:	EPA 8020	Analyst:	DTT

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	101	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 53704.00
Clayton Project No. 94040.86

Sample Identification:	MW-2	Date Sampled:	04/07/94
Lab Number:	9404086-02A	Date Received:	04/07/94
Sample Matrix/Media:	WATER	Date Prepared:	04/09/94
Preparation Method:	EPA 5030	Date Analyzed:	04/09/94
Method Reference:	EPA 8020	Analyst:	DTT

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	101	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 53704.00
Clayton Project No. 94040.86

Sample Identification:	MW-3	Date Sampled:	04/07/94
Lab Number:	9404086-03A	Date Received:	04/07/94
Sample Matrix/Media:	WATER	Date Prepared:	04/09/94
Preparation Method:	EPA 5030	Date Analyzed:	04/09/94
Method Reference:	EPA 8020	Analyst:	DTT

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	103	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 53704.00
Clayton Project No. 94040.86

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9404086-05A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	04/08/94
Preparation Method:	EPA 5030	Date Analyzed:	04/08/94
Method Reference:	EPA 8020	Analyst:	DTT

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	103	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 53704.00
Clayton Project No. 94040.86

Sample Identification: See Below
Lab Number: 9404086
Sample Matrix/Media: WATER
Extraction Method: EPA 3510
Method Reference: EPA 8015 (Modified)

Date Received: 04/07/94
Date Extracted: 04/14/94
Date Analyzed: 04/17/94

Lab Number	Sample Identification	Date Sampled	TPH-D (ug/L)		Method Detection Limit (ug/L)
-01	MW-1	04/07/94	110	a	50
-02	MW-2	04/07/94	4100	a	50
-03	MW-3	04/07/94	1800	a	50
-05	METHOD BLANK	--	ND		50

ND: Not detected at or above limit of detection
--: Information not available or not applicable

TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
a Sample does not match the typical diesel pattern.
Sample appears to be oil.

Clayton
ENVIRONMENTAL CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No.	940408
Ind. Code	W.P.
Date Logged In 4/12/94	By

REPORT RESULTS TO

Name: D. DASTMALCHI | Title:
Company: CEC | Dept.:
Mailing Address:
City, State, Zip:
Telephone No.: | Telefax No.:

SEND INVOICE TO

Purchase Order No.: | Client Job No.: 53704.00
Name:
Company: B of A | Dept.:
Address:
City, State, Zip:

Date Results Req.: STANDARD TAT | Rush Charges Authorized? ☐ Yes ☒ No | Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative: P = HCl

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	BTEX	TPH-DIESEL	HOLD	FOR LAB USE ONLY
MW-1	4-7-94	WATER	40 ML	2	P			01 A,B
MW-1			1 LITER	2		P		C,D
MW-2			40 ML	2	P			02 A,B
MW-2			1 LITER	2		P		C,D
MW-3			40 ML	2	P			03 A,B
MW-3			1 LITER	2		P		C,D
TRIP BLANK ~~0040494-HCl-1~~ 0040494-HCl	4-7-94	WATER	40 ML	2			P	04 A,B

CHAIN OF CUSTODY

Collected by: M. Springman (print) | Collector's Signature: M. Springman
Relinquished by: M. Springman | Date/Time 4-7-94 2:35 PM | Received by: | Date/Time
Relinquished by: | Date/Time | Received at Lab by: | Date/Time 4/7/94
Method of Shipment: | Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain) 2.3°

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive Novi, MI 48375 (313) 344-1770	Raritan Center 160 Fieldcrest Ave. Edison, NJ 08837	400 Chastain Center Blvd., N.W. Suite 490 Kennesaw, GA 30144	1252 Quarry Lane Pleasanton, CA 94566 (510) 426-2657

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accountin
PINK - Client Retains

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

April 11, 1994

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 53704.00
Clayton Project No.: 94033.63

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on March 30, 1994. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after May 11, 1994, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH
Director, Laboratory Services
Western Operations

HAH/tjb

Attachments

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 53704.00
Clayton Project No. 94033.63

Sample Identification: See Below
Lab Number: 9403363
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Method Reference: EPA 8015 (Modified)

Date Received: 03/30/94
Date Extracted: 04/01/94
Date Analyzed: 04/02/94

Lab Number	Sample Identification	Date Sampled	TPH-D (mg/kg)		Method Detection Limit (mg/kg)
-01	MW-1-5.5	03/28/94	6	a	1
-02	MW-2-5.5	03/28/94	1	a	1
-03	MW-3-5.5	03/28/94	ND		1
-04	METHOD BLANK	--	ND		1

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.
TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
a Sample does not match the typical diesel pattern.
Sample appears to be oil.

Clayton
ENVIRONMENTAL CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 1 of 1
Project No. 53704.00	
Batch No. 9403363	
Ind. Code	W.P.
Date Logged In 3/30/94	By CG

REPORT RESULTS TO
Name: Jamieh Dastmalchi
Title:
Company:
Dept.:
Mailing Address:
City, State, Zip:
Telephone No.:
Telefax No.:

Purchase Order No.:
Client Job No.:

SEND INVOICE TO
Name: Bank of America/Alameda
Company:
Dept.:
Address:
City, State, Zip:

Date Results Req.:
Rush Charges Authorized? ☐ Yes ☐ No
Phone / Fax Results ☐ ☐

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative:

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	TPH-D	RCI*	FOR LAB USE ONLY
MW-1-5.5	3/28	Soil	2x6 BC	1	✓		01 A
MW-2-5.5	↓	↓	↓	↓	✓	✓	02 ↓
MW-3-5.5	↓	↓	↓	↓	✓		03 ↓

CHAIN OF CUSTODY

Collected by: (print)
Collector's Signature:
Relinquished by: Jamieh Dastmalchi — Date/Time 3/30/94
Received by: — Date/Time
Relinquished by: — Date/Time
Received at Lab by: Tracy B. Butler — Date/Time 3/30/94 1030
Method of Shipment:
Sample Condition Upon Receipt ☒ Acceptable ☐ Other (explain)

*Cancelled by D. Dastmalchi on 4/6. AJ

Authorized by: ______ Date ______
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive
Novi, MI 48375
(313) 344-1770

Raritan Center
160 Fieldcrest Ave.
Edison, NJ 08837
(908) 225-6040

400 Chastain Center Blvd., N.W.
Suite 490
Kennesaw, GA 30144
(404) 499-7500

1252 Quarry Lane
Pleasanton, CA 94566
(510) 426-2657

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