AllWest Environmental, Inc.
Specialists in Environmental Due Diligence and Remedial Services
One Sutter Street, Suite 600
San Francisco, Ca 94104
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GROUNDWATER MONITORING WELL INSTALLATION REPORT

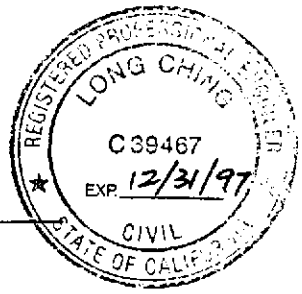
Former Underground Storage Tank Site
3080 Broadway
Oakland, California

PREPARED FOR:

Mr. Gerald Shirar
7215 Pleasant Valley Road
Vacaville, CA 95688

AllWest Project No. 93337.23

July 27, 1994



PREPARED BY:

Long Ching, P.E.
Senior Project Manager

REVIEWED BY:

Marc D. Cunningham, REA
President

AllWest

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July 27, 1994

Mr. Gerald Shirar
7215 Pleasant Valley Road
Vacaville, CA 95688

Subject: **Groundwater Monitoring Well Installation Report**
3080 Broadway, Oakland, California
AllWest Project No. 93337.23

Dear Mr. Shirar:

AllWest is pleased to present the attached report which describes the installation of one groundwater monitoring well and the sampling of that well at the subject site.

In summary, the well was successfully installed into the shallow groundwater table at the site. Laboratory analyses indicate minor amounts of gasoline (TPH-g) and gasoline constituents (BTEX) in the groundwater sample but no TPH-g or BTEX were detected in the soil samples. This result suggests that the contaminants were transported by groundwater and are likely from an off-site source.

AllWest recommends that the site groundwater conditions be monitored for at least another three quarters according to Alameda County Environmental Health Department's requirements. AllWest also recommends a copy of the attached report be forwarded to Alameda County Environmental Health Department and San Francisco Bay Regional Water Quality Control Board to fulfill agency reporting obligation.

We appreciate the opportunity to providing this service to you. If you have any questions regarding the attached report, please call us at (415) 391-2510.

Sincerely,

AllWest Environmental, Inc.

Long Ching, P.E.
Senior Project Manager

LC/bms

encls.

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AllWest

Groundwater Monitoring Well Installation Report
Former Underground Storage Tank Site
3080 Broadway, Oakland, California

I. EXECUTIVE SUMMARY

AllWest conducted a groundwater monitoring well installation and sampling program at the former underground storage site located at 3080 Broadway in Oakland, California between July 5 and 11, 1994. The program included the advancement of one soil boring, the collection of eight soil samples from the soil boring, the installation of one groundwater monitoring well through the soil boring, the collection of one groundwater sample from the monitoring well, the chemical analyses of the collected soil and groundwater samples, and the surveying of well head elevation.

All collected soil and groundwater samples were forwarded to a state certified analytical laboratory. Two selected soil samples and the groundwater sample were chemically analyzed for the presence of petroleum hydrocarbons and fuel related volatile organic compounds. Test results indicate detectable concentrations of gasoline and gasoline constituents in the groundwater sample. No target analytes were detected in the soil samples. The concentrations of detected compounds in groundwater are generally low; however, the benzene concentration, at 8 parts per billion (ppb), exceeded the Maximum Contamination Level of 1 ppb.

Depth to groundwater measured during sampling was at about 24.5 feet below the ground surface. Utilizing the well head and groundwater surface elevations reported at an adjacent site, *Connell Olds* at 3093 Broadway, the groundwater is determined flow southeast.

Based on data gathered during this well installation and sampling program, *AllWest* concludes that the site groundwater has been impacted by petroleum hydrocarbons and volatile organics. The possible release sources included the former underground storage tank, the known groundwater contamination site at 3093 Broadway, and the various automobile repair facilities in the neighbor. However, the likely source may be the *Connell Olds* at 3093 Broadway becasue no contaminants in the soil column and the *Connell Olds'* groundwater plume contains the same contituents found in 3080 Broadway's well.

AllWest recommends initiating a groundwater monitoring program to document the groundwater conditions at the subject site. The program should include quarterly groundwater sampling of the monitoring well for at least another three quarters. *AllWest* also recommends that a copy of this report be submitted to the Alameda County Environmental Health Department and the San Francisco Bay Regional Water Quality Control Board.

II. INTRODUCTION

This report presents the results of a groundwater monitoring well installation and sampling program conducted at a former underground storage tank (UST) site located at 3080 Broadway in Oakland, California. Included in this report is an abbreviated site history, a description of field activities, a summary of analytical results, our interpretation of the data, and a recommended course of action. Supporting information such as site figures, boring logs, groundwater sampling log, and laboratory reports are also included as appendices.

A. Site Background

The subject property is located at 3080 Broadway in Oakland, California, just southeast of the intersection with Brook Street. The location of the site is graphically depicted on Figure 1 in the FIGURES section of this report. A 350-gallon underground storage tank that stored waste oil was removed from the site by *Versar, Inc.* on May 10, 1993. The tank was located beneath the sidewalk of Brook Street, behind the 3080 Broadway building.

According to *Versar's* tank removal report, two corrosion holes were observed at the west end of the tank. Soil sampling at the time of tank removal detected gasoline range petroleum hydrocarbons (TPH-g), diesel range petroleum hydrocarbons (TPH-d), and oil and grease (O&G) at concentrations of 1 parts per million (ppm), 23 ppm, and 140 ppm, respectively.

After reviewing *Versar's* report, the Alameda County Environmental Health Department (ACEHD) issued a letter requiring a preliminary site assessment to assess the potential of subsurface impact by petroleum hydrocarbons. In December 1993, *AllWest* was retained to perform the mandated preliminary site assessment. After discussing the site conditions with ACEHD's Hazardous Materials Specialist Ms. Eva Chu, Ms. Chu agreed to allow the installation of one downgradient groundwater monitoring well as the initial phase of the preliminary site assessment.

A workplan describing the proposed well installation and sampling was prepared by *AllWest* and submitted to ACEHD in January 1994. The workplan was approved by Ms. Chu on January 28, 1994. However, due to the lengthy process of street encroachment and well permit application, the work was not initiated until early July 1994.

B. Purpose and Scope of Work

The purpose of this groundwater monitoring well installation and sampling program was to collect site soil and groundwater baseline data to verify whether the former UST has impacted the subsurface environment of the subject property. The scope of work, as defined in the January 1994 workplan prepared by *AllWest* and approved by ACEHD, included the following tasks:

1. Prepare a workplan outlining the sampling strategies, analytical methods, and QA/QC protocols. Obtain street encroachment and well installation permits from the city of Oakland and Alameda County Zone 7 Water District. Schedule well inspection. Arrange for underground utility clearing.

2. Advance one soil boring and collect soil samples according to the approved workplan. Convert the soil boring into a groundwater monitoring well. Develop and sample the newly installed groundwater monitoring well. Survey well head elevations to include both the on-site well and selected off-site wells.

3. Submit collected soil and groundwater samples to a state certified laboratory for chemical analyses. Analyze the groundwater sample first and analyze selected soil samples if target analytes are detected in the groundwater sample. Laboratory analyses include total petroleum hydrocarbons in both the gasoline and diesel ranges (TPH-g & TPH-d) by modified EPA method 8015, fuel related volatile organic compounds: benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA method 8020/602, and oil and grease (O&G) by EPA method 5520.

4. Prepare a written report to describe the field investigation conducted, summarize the analytical results and field measurements, present professional opinions regarding the possible extent of contamination, and provide recommendations on appropriate course of action.

IV. PROJECT INITIATION

A. Workplan Preparation

A written workplan that outlines the sampling strategy, locations, and procedures, and describes the analytical methods, the quality control protocols, and the project schedules was prepared by *AllWest* in January 1994. The workplan was submitted to ACEHD for review and approval on January 10, 1994. Approval of the workplan by Ms. Eva Chu of ACEHD was received in a letter dated January 28, 1994.

B. Well Permit Application

After the approval of the workplan, *AllWest* submitted a street encroachment permit application to the city of Oakland Department of Public Works (ODPW). The encroachment permit was approved in May 1994. A street excavation permit was obtained from ODPW on June 9, 1994. *AllWest* submitted and obtained verbal approval of a well permit from Alameda County Zone 7 Water Agency on June 20, 1994. Copies of the street excavation and well permits are included as Appendix A in the APPENDICES section of this report.

V. FIELD ACTIVITIES

A. Underground Utility Clearing

To avoid damage to underground utilities during the course of subsurface investigation, *AllWest* contacted *Underground Service Alert (USA)*, an organization for public utility information, on June 27, 1994 of the pending subsurface investigation. *USA* then notified each of the public and private entities that maintained underground utilities at the site to locate and mark their installations for field identification.

In addition to notifying *USA*, a private underground utility locator, *California Utility Survey (CUS)* of San Leandro, California, was also employed by *AllWest* to conduct a magnetometer sweep of the proposed sampling areas to detect underground utilities, if any. *CUS* conducted the underground utility sweep on June 8, 1994. An *AllWest* engineer was also present to identify the proposed boring location. The final boring location was selected at a spot cleared of known underground utilities.

B. Soil Borehole Drilling

One soil boring was drilled at the selected location on July 5, 1994. Soil borehole drilling was performed by *AllWest's* subcontractor *Soils Exploration Services (SES)* of Benicia, California under the direction of an *AllWest* engineer. The boring was numbered MW-1 and its approximate location is presented on Figure 2, Site Map.

The soil boreholes was drilled with a CME-75 truck-mounted drill rig equipped with 8-inch outside diameter (O.D.) hollow-stem augers. Soil samples were collected from the borehole at 5-foot intervals to evaluate the soil types and subsurface stratigraphy. *AllWest's* engineer also kept a boring log that contained descriptions on soil conditions, sample collections, and well installation details. Copies of the boring log and boring log legends are included in Appendix B of this report. Soil cuttings generated during borehole drilling were contained in Department of Transportation (DOT) approved 55-gallon steel drums. The drums were labeled and stored on-site pending laboratory results for proper disposal method.

C. Soil Sampling

Soil samples were obtained from the borehole by driving a 2-inch split-spoon sampler (modified California sampler) into the soil through the hollow center of the drill auger. The soil sampler, containing three separate six-inch brass sleeves, were driven 18 inches with a standard 140 pound hammer repeatedly dropped from a height of 30 inches. The number of hammer blows to drive the sampler each successive 6 inches were counted and recorded on the boring logs. This information was used to evaluate the soil's consistency and to correlate soil type. The

sampling process is essentially the same as the Standard Penetration Test with Split-Spoon Sampler (ASTM D1786-90) except for the slightly larger diameter of the sampler.

All soil samples were contained in 6-inch long by 2-inch diameter, pre-cleaned brass tubes. The tubes were capped at both ends with Teflon sheets and plastic end caps, sealed with inert silicon tapes, labeled, and kept refrigerated for subsequent laboratory analyses. Each soil sample was field screened by an organic vapor meter (OVM) equipped with a photo-ionization detector (PID). The readings of the OVM were recorded on the boring logs. Standard chain-of-custody protocols were followed for all soil samples from collection in the field to delivery to the laboratory.

D. Groundwater Monitoring Well Installation

One groundwater monitoring well was installed inside the soil borehole after soil sampling was completed. Well installation was also performed by *SES* on July 5, 1994. After soil sampling was completed, the well casing was lowered into the borehole through the center of the hollow stem augers. The augers were removed after the well casing and filter pack was placed. The well was constructed to a total depth of 40 feet below the ground surface (BGS).

The well casing was composed of several 2-inch diameter, schedule-40, PVC pipes. The screen section of the casing had factory-slotted 0.02-inch perforations and extended from a depth of 18 feet BGS to 38 feet BGS. The blank (non-perforated) section was then added to the screen section to complete the well casing to the ground surface. A 2-foot sediment trap was installed in the bottom of the well casing to complete the 40 feet casing length.

Pre-washed #3 Monterey sands were placed around the screen section of the well casing to form a filter pack. The filter pack was placed from the bottom of the well up to one foot above the screen section. A 1-foot bentonite seal was then placed above the filter pack to prevent surface water infiltration. The remaining length of the annular space in the borehole was backfilled with neat cement grout up to a foot below the ground surface. The uppermost foot of the well casing was protected by a traffic-rated Christy box set in concrete. A water-tight lockable end-cap was placed on top of the well casing to prevent surface water intrusion and unauthorized access. A graphic presentation of the well profile is included in each of the boring logs.

E. Groundwater Sampling

Prior to groundwater sampling, the newly installed groundwater monitoring well was properly developed by surging and bailing. A representative groundwater sample was collected from the groundwater monitoring well on July 11, 1994 after well development. The following is a brief description of the groundwater sampling procedures.

Upon arriving at the well site, the conditions of the vault protecting the well head was first visually examined by *AllWest* personnel to determined if the well was still usable. After opening the well vault and removing the upper end cap of the well casing, an organic vapor meter (OVM) was used to detect any hydrocarbons vapor existing inside the well casing. The reading of the OVM was then recorded onto the groundwater sampling field log. No odor or OVM reading was detected at the subject well.

After taking the OVM reading, an electric water level sounder was lowered into the well casing to measure the depth to the water to the nearest 0.01 feet. A clear teflon bailer was then lowered into the well casing and partially submerged. Upon retrieval of the clear bailer, the surface of the water column retained in the bailer was carefully examined for any floating product or product sheen. No visible sheens were noted in this well.

After all initial measurements were completed and recorded, the well was purged by an electrical submersible pump. A total of 15 gallons of groundwater water, about six well volumes, were purged. Due to the slow recharging rate, the purging process took about three hours to complete. During the purging process, the groundwater physical property indicators (temperature, pH, and conductivity) were monitored periodically with a combination meter. Purging was considered complete when indicators were stabilized (consecutive readings within 10% of each other) and the purged water was relatively free of sediments.

Groundwater sampling was conducted after the water level recovered to at least 80% of the initial level, recorded before the purging process. The groundwater sample was collected by using a disposable bailer that was discarded after each sampling event. Upon retrieval of the disposable bailer, the retained water was carefully transferred to appropriate glassware furnished by the analytical laboratory. A special adapter fitted to the bottom end of the bailer was used to minimize the loss of volatile organics during transfer. All sample containers were fitted with a teflon lined septum/cap and filled such that no headspace was present. After the water sample was properly transferred to the appropriate container, the container was labeled and immediately placed on ice to preserve its chemical characteristics. A well sampling log was kept for the groundwater monitoring well sampling event and a copy of the log is included as Appendix C.

Samples were field stored and transported in an insulated cooler filled with crushed ice. After the samples arrived at *AllWest's* office, they were rechecked and then placed in a refrigerator awaiting for transportation to the analytical laboratory. The samples were delivered to the analytical laboratory by a courier of the laboratory. All samples were transported to the laboratory under proper chain of custody documentation from the time of collection to the time of arrival at the laboratory.

To avoid cross-contamination, all groundwater sampling equipment that came in contact with the groundwater was thoroughly cleansed by washing it in an Alconox solution and rinsed with distilled water prior to each well sampling event. Sample collection was by a disposable bailer which was discarded after the well sampling event. All purged water was temporarily stored on-site in a labeled 55-gallon drum awaiting test results to determine the proper disposal method.

F. Well Head Elevation Survey

To evaluate the direction of groundwater flow and to verify the well is located hydraulically downgradient from the UST site, a well head elevation survey was conducted by *AllWest* on July 20, 1994. Based on an U.S. Geological Survey topographic map of the site area, a bench mark of 55.00 feet above mean seal level datum (+55.00' MSL) was found at the intersection of Broadway and Piedmont Avenue. The elevation of the north rim of the PVC well casing of the monitoring well was then surveyed based on this bench mark. The well head elevation was determined to be at +48.65' MSL. Depth to water surface in the well at the time of elevation survey was also measured with an electric water depth sounder. The water surface depth was at 24.54' below the rim of well casing. Therefore, the groundwater surface elevation on July 20, 1994 was at +24.11' MSL.

In accordance to the workplan, the well head elevation of MW-1 was converted to the elevation system of the *Connell Olds'* monitoring wells to evaluate the groundwater flow direction. The *Connell Olds'* elevation system was based on an assumed datum of +100.00'. Converting to this elevation datum, the well casing elevation is then at +79.85' and the groundwater surface elevation was at +55.31'. By plotting the groundwater surface elevations of MW-1 and some of the wells at *Connell Olds* on the site map, it is apparent that the subject well is located at a downgradient location of the former UST site and the groundwater flow direction is to the southeast. A groundwater surface elevation map is presented as Figure 3.

VI. INVESTIGATION FINDINGS

A. Subsurface Conditions

Field investigation data revealed that the near surface soils at the subject property generally consisted of various layers of silty sand and clayey sand clay. From beneath the asphalt pavement to a depth about 7 feet below ground surface (BGS) was a yellow brown silty fine sand soil stratum that graded medium dense, non plastic, and slightly damp. Beneath this surface silty sand layer was a brown gravelly sand to sandy gravel stratum that graded dense, non-plastic, and damp, and extended to depths between 12 and 13 feet BGS.

Underlying the gravelly sand stratum was a gray to light olive brown fine sand to sandy silt layer that extended to a depth of 24 feet BGS. This sand and silt layer generally graded medium dense to medium stiff, moist, very low to non-plastic, and with trace of fine gravel. A thin layer of well graded sand was encountered between 24 and 26 feet BGS. This sand layer was medium dense, non-plastic, with fine gravels, and wet.

Site soils below this thin saturated sand layer were a light olive brown silty sand to sandy silt stratum that graded moist, medium dense, and very low plasticity, and extended to a depth about 38 feet BGS. From 38 feet BGS to the boring termination depth of 41.5 feet BGS, the

site soil was a blue gray clayey fine sand that graded moist, low plasticity, and medium dense. Subsurface soil conditions revealed during this investigation were generally consistent with the regional geologic conditions as described in various published geologic literature.

The first groundwater table at the site encountered during borehole drilling was generally between 24 and 26 feet BGS. Depth to groundwater measured in the completed groundwater monitoring well at the time of groundwater sampling and well head elevation survey was at 24.83 feet BGS and 24.54 feet BGS, respectively. Groundwater flow direction at the subject site area was to the southeast.

B. Laboratory Analyses

A total of eight soil and one groundwater samples were forwarded to *Priority Environmental Labs* of Milpitas, California, a state certified analytical laboratory, for chemical analysis. The groundwater sample was analyzed first with a fast turn-around time. Analyses performed included total petroleum hydrocarbons in gasoline and diesel ranges by gas chromatography (TPH-g & TPH-d, modified EPA method 8015), fuel related volatile organic compounds: benzene, toluene, ethylbenzene, and xylenes by gas chromatography (BTEX, EPA method 8020/602), and oil and grease (O&G, EPA method 5520F). Analytical results indicate low concentrations of TPH-g and BTEX in the groundwater sample. No TPH-d or O&G was detected in the groundwater.

After reviewing the groundwater sample results, two soil samples were selected for the same set of chemical analyses. The soil samples were selected to represent soil conditions immediately above and below the groundwater table. Analytical results indicate no detectable concentrations of TPH-g, BTEX, TPH-d, or O&G in any of the two soil samples. The following table summarizes the results of the soil and groundwater laboratory analyses. A copy of the laboratory analytical reports and chain-of-custody records are presented in Appendix C of this report.

Table 1

Summary of Analytical Results

Sample I.D.	Sample Type	TPH-G	TPH-d	O&G	Benzene	Toluene	Ethyl-Benzene	Total Xylenes
MW-1	Water	480	N.D.	N.D.	8.0	6.1	2.4	8.3
MW-1-21	Soil	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-1-26	Soil	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Notes:
1. Numerical values are in units of $\mu g/L$, equivalent to parts per billion (ppb).
2. N.D. stands for "none detected" at the laboratory reporting limit.
3. Laboratory reporting limit for TPH-d and O&G in groundwater is 50 ppb and 500 ppb, respectively. Reporting limit for both TPH-g and TPH-d in soil is 1 parts per million (ppm). Reporting limit for O&G in soil is 10 ppm. Reporting limits for BTEX in soil are 5 ppb.

VII. DISCUSSION OF FINDINGS

Based on data gathered during this groundwater monitoring well installation and sampling program, it appears that the site groundwater has been impacted by petroleum hydrocarbons. The concentration levels of the detected groundwater contaminants are generally low. However, the benzene level, at 8 ppb, exceeds the Maximum Contamination Level (MCL) of 1 ppb.

No target analytes were detected in soil samples analyzed during this subsurface investigation. This result indicates that the contaminants found in the groundwater migrated to this location through groundwater flow rather than through leaching from the soil column above.

The contaminants detected in the groundwater sample collected during this investigation do not completely match those detected in the soil samples collected during tank removal. TPH-d and O&G were detected in higher concentrations than TPH-g in the soils beneath the former UST. However, no TPH-d nor O&G was found in the groundwater sample. The only contaminant type detected in the groundwater is gasoline and gasoline related volatile organics (BTEX). Therefore, the potential that the former UST is the groundwater contamination source is low.

The groundwater contaminants found at the *Connell* site are mostly gasoline and BTEX. The extent of groundwater contamination plume at *Connell*, although not fully defined, has extended off-site in the direction of the subject property. Since that the subject site is located downgradient from a known groundwater contamination plume with the same type of contaminants found in the water sample, the potential that the *Connell* site is the source of site groundwater contamination is considered high.

There are automobile repair shops adjacent to and in the vicinity of the subject property. Petroleum hydrocarbons are routinely handled at these locations. Even though no releases or spills were reported, there exists the potential that undetected releases may have occurred at these sites and impacted the groundwater of the site area. However, due to the generally downgradient locations of these sites, the potential for these sources to impact the subject property is considered low.

VIII. CONCLUSIONS AND RECOMMENDATIONS

Based on the investigation findings, *AllWest* concludes:

1. Site groundwater has been impacted by petroleum hydrocarbons and fuel related volatile organic compounds. The concentration levels are considered low, however, the benzene level exceeds MCL.

2. The groundwater contamination detected at well MW-1 has been transported through groundwater flow as evident by the "non-detect" analytical results of the soil samples above the groundwater table.

3. The potential of the former UST is the groundwater contamination source is considered low because contaminant type does not fully match those detected in the tank pit soils. However, the current data cannot conclusively prove that the former UST did not cause the detected groundwater contamination.

4. The potential that the *Connell* site is the contamination source is considered high because of the confirmed groundwater contamination plume extending toward the subject property from the *Connell* site and the similar type of contaminants.

AllWest recommends:

1. Submit a copy of this report to Alameda County Environmental Health Department and San Francisco Bay Regional Water Quality Control Board to inform the regulators of the investigation findings.

2. Implement a groundwater monitoring program at the subject site to evaluate the groundwater conditions and to establish the database for groundwater contamination source identification. The program should include quarterly groundwater monitoring and testing for at least three more quarters.

IX. REPORT LIMITATIONS

The work described in this report is performed in accordance with generally accepted engineering principles and practices. The conclusions and recommendations contained in this report are made based on observed conditions existing at the site and on laboratory test results of the submitted samples. It must be recognized that changes can occur in subsurface conditions due to site use or other reasons. Furthermore, the distribution of chemical concentrations in the subsurface can vary spatially and over time. The results of chemical analysis are valid as of the date and at the sampling location only. *AllWest* cannot be held accountable for the accuracy of the test data from an independent laboratory nor for any analyte quantities falling below the recognized standard detection limits for the method utilized by the independent laboratory.

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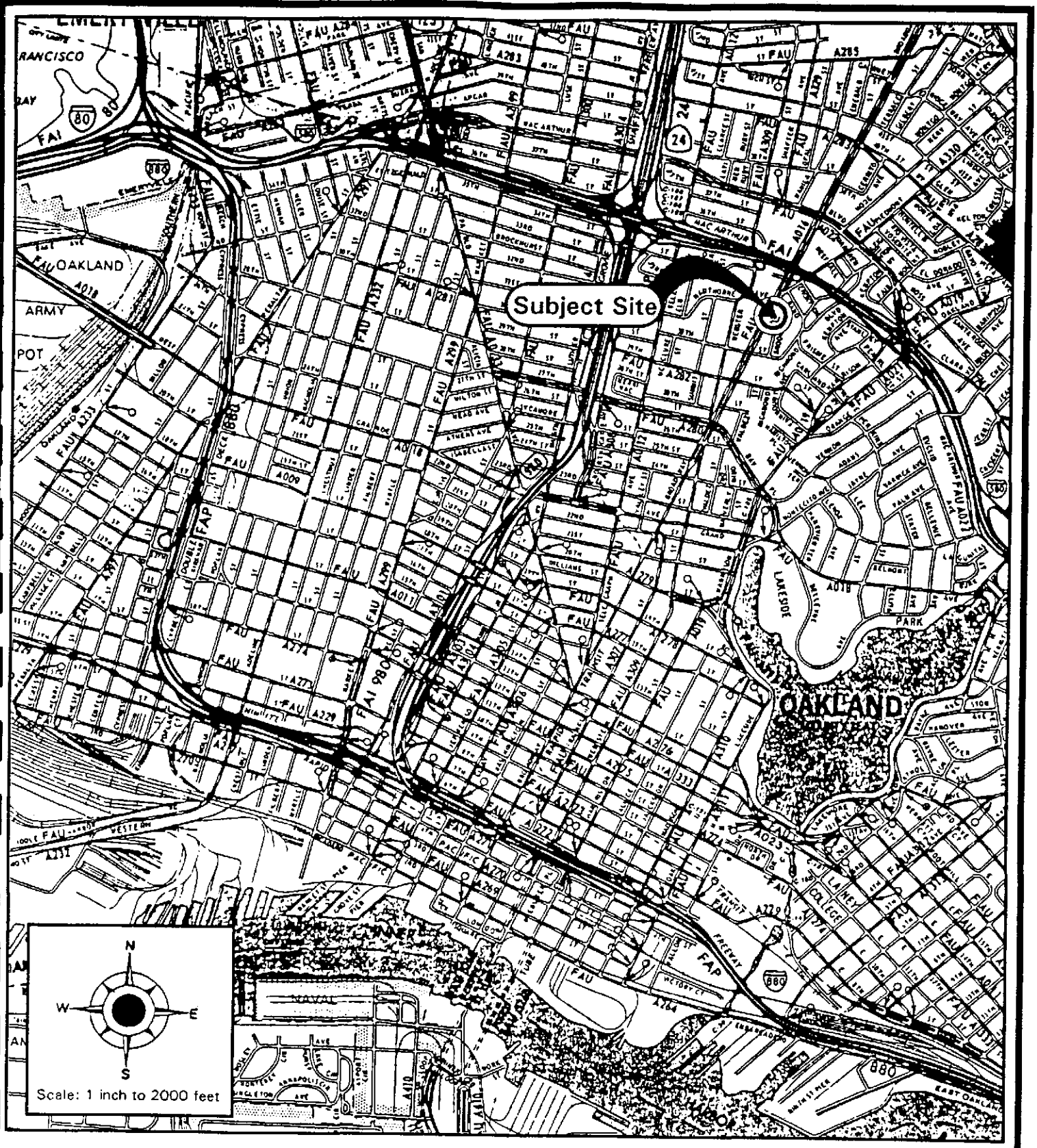
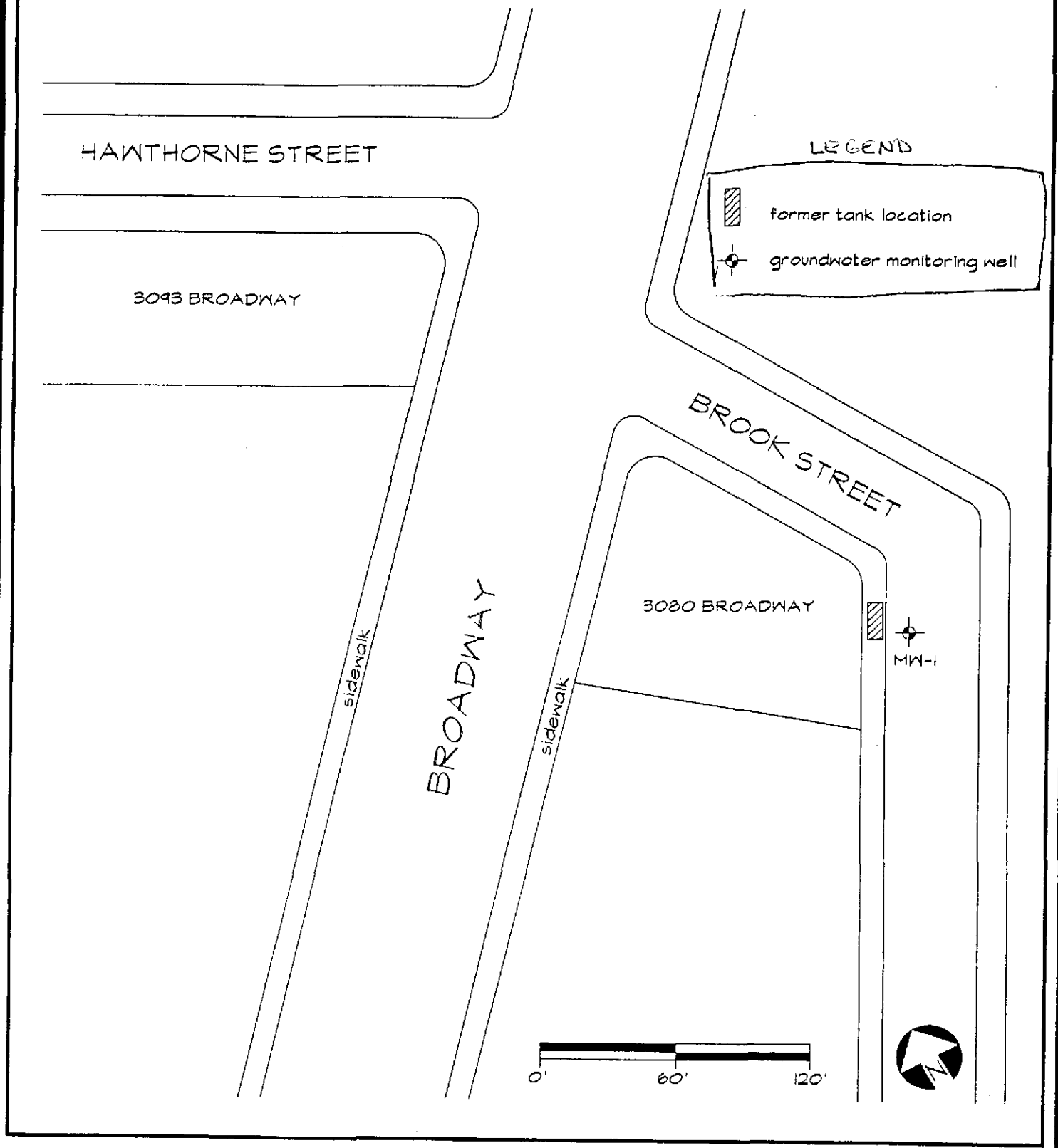
FIGURES

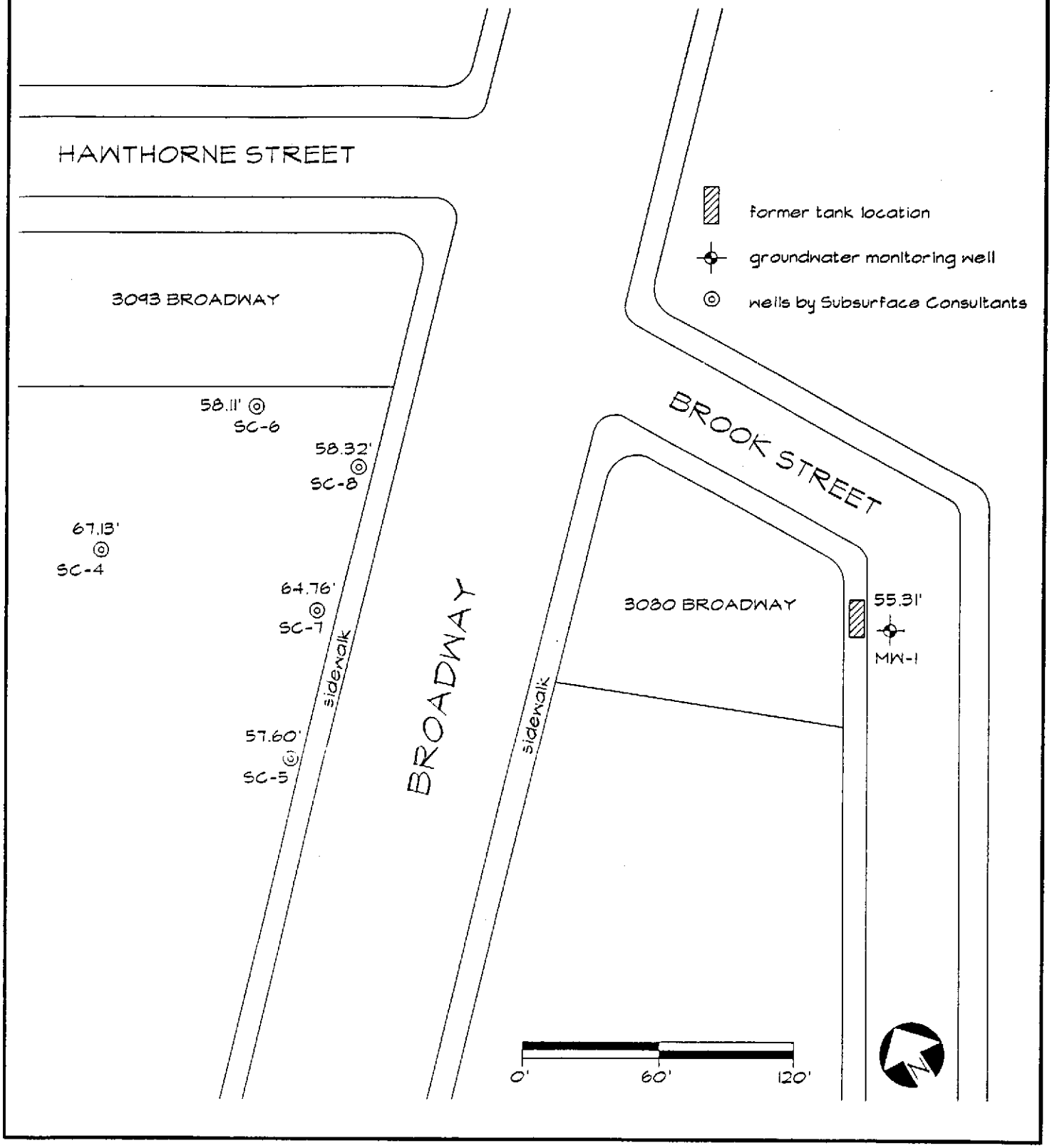


AllWest
AllWest Environmental, Inc

July 1994	Site Location Map	Project 93337.23	Figure 1
3080 Broadway, Oakland, California			Source *CA DOT*



AllWest Environmental, Inc.	July 1994	Site Plan	Project 93337.23	Figure 2
	3080 Broadway, Oakland, California			Source *AllWest*



AllWest AllWest Environmental, Inc.	July 1994	**Groundwater Elevation Map**	Project 93337.23	Figure 3
	3080 Broadway, Oakland, California			Source *Subsurface Cons.*

APPENDIX A

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X 9400718

EXCU - 195
A. FEE 40
TOTAL 235

CITY OF OAKLAND

PERMIT TO EXCAVATE IN STREETS OR OTHER WORK AS SPECIFIED

LOCATION OF WORK: 3080 Broadway/on Brook St. Side (Street or Address) BETWEEN 30th (Street/Ave.) AND Hawthorne (Specify)

PERMISSION TO EXCAVATE IN THE PUBLIC RIGHT-OF-WAY IS HEREBY GRANTED TO:

APPLICANT Soils Exploration Services, Inc.

ADDRESS P.O. Box 188, Benicia, Ca. 94510 PHONE #: 707-745-2928

TYPE OF WORK: GAS___ ELECTRIC___ WATER___ TELEPHONE___ CABLE TV___ SEWER___ OTHER WELL (Specify)

NATURE OF WORK: Install one groundwater monitoring well in City Street

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5, Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to it's issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption in this subdivision on more than two structures more than once during any three-year period. (Sec. 7044, Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License Law).

☐ I am exempt under Sec. _____, B&PC for this reason _____

Signature _____ Date _____

WORKER'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Workers' Compensation Insurance, or a certified copy thereof (Sec. 3800, Lab C).

Policy # 1166599-93 Company Name Soils Exploration Services, Inc.

☐ Certified copy is hereby furnished.

☒ Certified copy is filed with the city building inspection dept.

Signature [signature] Date 6-3-94

(This section need not be completed if the permit is for one hundred dollars ($100) or less.)

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of California.

Signature _____ Date _____

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Workers' Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked.

PERMIT VOID 90 DAYS FROM DATE OF ISSUE UNLESS EXTENSION GRANTED BY DIRECTOR OF PUBLIC WORKS.

Approximate Starting Date	DATE ___		
Approximate Completion Date	DATE ___		
HOLIDAY RESTRICTION (1 NOV — 1 JAN)	YES ___	NO ___	
LIMITED OPERATION AREA (7AM – 9AM / 4PM – 6PM)	YES ___	NO ___	
DATE STREET LAST RESURFACED	DATE ___		
SPECIAL PAVING DETAIL REQUIRED	YES ___	NO ___	

24-HOUR EMERGENCY PHONE NUMBER _____

PERMIT NOT VALID WITHOUT 24 HOUR NUMBER.

Telephone 273-3668 Forty-eight (48) HOURS BEFORE ACTUAL CONSTRUCTION.

ATTENTION

State law requires that contractor/owner call Underground Service Alert two working days before excavating to have below-ground utilities located. This permit is not valid unless applicant has secured an inquiry identification number issued by Underground Service Alert.

Call Toll Free: 800-642-2444 USA ID Number 202621

This permit issued pursuant to all provisions of Chapter 6, Article 2 of the Oakland Municipal Code.

This permit is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance.

CONTRACTOR

I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

LICENSE # AND CLASS C57-582696 CITY BUSINESS TAX # 623156

X [signature] Date 6-3-94

Signature of Contractor Owner or Agent

☐ Agent for ☒ Contractor ☐ Owner

OFFICIAL USE ONLY

UTILITY COMPANY REPORT

Supervisor: _____

Completion Date _____

CITY INSPECTOR'S REPORT

	BACKFILL	PAVING
Initials		
Hours		
Date		
Concrete		
Asphalt		
Sidewalk		

Size of Cut: Sq. Ft. ___ Inches ___

Paved by ___ Type ___

Bill No. ___

Charges: Backfill ___ Paving ___ Paving Insp. ___

Traffic Striping Replaced ___ Date

APPROVED

Engineering Services ___ Date ___

Planning ___ Date ___

Field Services ___ Date ___

Construction ___ Date ___

Traffic Engineering ___ Date ___

Electrical Engineering ___ Date ___

DIRECTOR OF PUBLIC WORKS

APPROVED BY: [signature]

DATE: 6-9-94

EXTENSION GRANTED BY: ___

DATE: ___

ZONE 7 WATER AGENCY

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

RECEIVED
JUN 6 1994
ZONE 7, ACFC&WCD

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

TION OF PROJECT 3080 Broadway St.
Oakland, California

ENT
me Gerald Shirar
ess 7215 Pleasant Valley Rd. Voice (707) 446-2262
Vacaville Zip 95688

ICANT
AllWest Environmental
Anibal Mata-Sol Fax (415)391-2508
ress 1 Sutter St., #600 Voice (415) 391-2510
San Francisco Zip 94104

PE OF PROJECT
Construction ___ Geotechnical Investigation
thodic Protection ___ General ___
Water Supply ___ Contamination ___
Monitoring X Well Destruction ___

OSED WATER SUPPLY WELL USE
mestic ___ Industrial ___ Other N/A
ipal ___ Irrigation ___

ILLING METHOD:
Rotary ___ Air Rotary ___ Auger X
___ Other ___

ILLER'S LICENSE NO. 374152

PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 35 ft.
Surface Seal Depth 2 ft. Number 1

OTECHNICAL PROJECTS
Number of Borings N/A Maximum
Hole Diameter ___ in. Depth ___ ft.

MATED STARTING DATE 6/17/94
MATED COMPLETION DATE 6/17/94

eeby agree to comply with all requirements of this permit and Alameda y Ordinance No. 73-68.

PLICANT'S ATURE Gerald Shirar Date 6/3/94

FOR OFFICE USE

PERMIT NUMBER 94459
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 8 Aug 94
Wyman Hong

91992

APPENDIX B

UNIFIED SOIL CLASSIFICATION SYSTEM

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOIL	GRAVELS More than half of course fraction is larger than No. 4 sieve.	Clean gravels (less than 5% of fines)	GW	Well graded gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		Gravel with fines	GM	Silty gravels or gravel-sand-silt mixtures, with non-plastic fines.
			GC	Clayey gravels or gravel-sand-clay mixtures, with plastic fines.
	SANDS More than half of course fraction is smaller than No. 4 sieve.	Clean sands (less than 5% of fines)	SW	Well graded sands or gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		Sands with fines	SM	Silty sands or sand-silt mixtures, with non-plastic fines.
			SC	Clayey sands or sand-clay mixtures, with plastic fines.
FINE GRDINED SOIL	SILTS AND CLAYS Liquid Limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, or clayey silts, with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS Liquid Limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils.

BORING LOG LEGEND

- Sampler Drive Interval
- Relatively Undisturbed Sample Recovered and Preserved
- Sampler Driven, No Sample Recovery
- Disturbed Sample Recovered and Preserved

AllWest
AllWest Environmental, Inc.

Log of Boring: MW-1

Sheet 1 of 2

Project Name: 3080 Broadway, Oakland

Project Number: 93337.23

Drilling Date: July 5, 1994

Drilling Contractor: Soils Exploration Services
Drill Rig: CME-75
Auger: Hollow Stem - 8" O.D.

Sampler: 2.0" Mod. California Sampler
Hammer: 140 lbs - 30" drop
Logged By: Long Ching

Blow Count	OVM Reading	Sample Interval	Depth in Feet	Well Profile	USCS Code	Soil Description
			1			Asphalt Pavement and Base Rock
6 9 13	0		5		CL	Light brown to yellow brown, slightly clayey to silty SAND, fine grained, trace of fine gravel, medium dense, damp, non-plastic
13 22 23	0		10		SW	Brown mottled with red brown, black, and tan, gravelly SAND, well graded with fine gravels, medium dense to dense, moist, non-plastic
5 7 10	0		15		SM/SC	Light olive brown to gray brown, silty to clayey SAND, fine grain, medium dense, very low to none plastic, moist
5 9 13	0		20		SM/ML	Gray brown, silty SAND to sandy SILT, fine to very fine grained, medium dense, moist, none plastic, trace of fine gravel

Boring log continues on the next page

AllWest
AllWest Environmental, Inc.

Log of Boring: MW-1

Project Name: 3080 Broadway, Oakland

Project Number: 93337.23

Drilling Date: July 5, 1994

Drilling Contractor: Soils Exploration Services
Drill Rig: CME-75
Auger: Hollow Stem - 8" O.D.

Sampler: 2.0" Mod. California Sampler
Hammer: 140 lbs - 30" drop
Logged By: Long Ching

Blow Count	OVM Reading	Sample Interval	Depth in Feet	Well Profile	USCS Code	Soil Description
			21		SM/ML	Gray brown, silty SAND to sandy SILT, fine to very fine grained, medium dense, moist, none plastic, trace of fine gravel
			22			
			23			
			24			
			25		SW	Gray brown, gravelly SAND, medium to coarse grained, medium dense, wet, non-plastic
5						
10	0		26			
19						
			27			Light olive brown to gray brown, silty SAND, fine to very fine grained, medium dense, very low to non-plastic, very moist
			28			
			29			
			30			
4						
7	0		31			
15						
			32		SM	
			33			
			34			
			35			grades very silty and very fine grained below 35'
5						
7	0		36			
9						
			37			
			38			
			39			
			40		SC	Blue gray, clayey SAND, fine to very fine grained, medium dense, moist, very low to non-plastic
6						
11	0		41			
14						

Boring terminated at 41.5 feet below ground surface.
Groundwater first encountered at 26 feet.
Well screen 18 feet to 40 feet. Sand pack 17 feet to 40 feet. Bentonite seal 16 feet to 17 feet.

APPENDIX C

Groundwater Monitoring Well Sampling Field Log

Project No.: 93337.23 Project Name: 3080 Broadway, Oakland

Well No.: MW-1 Well Location: Brook Street Side of 3080 Broadway

Well Depth: 40 (ft.) Casing Diameter: 2 (in.)

Depth to Water: 24.83 (ft.) Date: 7/11/94 Time: 15:20

Water Column in Well: 15.17 (ft.) Well Volume: 2.6 (gal.)

Odor? no Free Product? no Thickness: n/a

Purging Method: Hand Pump ___ Submersible Pump X Bailer ___ Other ___

Time	pH	Conduc. (μS)	Temp. (°F)	Water Level	Volume Removed	Remark
15:50	7.11	893	66.8	37.2'	5 gal.	
16:45	7.09	822	66.4	37.6'	5 gal.	
17:45	7.02	809	66.3	38.1'	5 gal.	

Purging Start Time: 15:45 Purging Stop Time: 17:45

Total Volume Purged: 15 (gal.) Well Dewater? yes

Water Level Prior to Sampling: 28.2 (ft.) Time: 18:20

Sampling Method: Teflon Bailer ___ Disposable Bailer X Sampling Pump ___

Sample Collected: three - 40 ml. & two - 1 ltr. Sample No.: MW-1

Remark: Very slow recharging well

Sampler: L. Ching Date/Time: 7/11/94 @ 18:40

APPENDIX D

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

July 14, 1994

PEL # 9407032

ALLWEST ENVIRONMENTAL, INC.

Attn: Long Ching
Re: One water sample for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: 3080 Broadway
Project number: 93337.23

Date sampled: Jul 11, 1994
Date extracted: Jul 12-13, 1994

Date submitted: Jul 12, 1994
Date analyzed: Jul 12-13, 1994

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	Oil & Grease (mg/L)
MW-1	480	N.D.	8.0	6.1	2.4	8.3	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	100.7%	91.2%	90.2%	92.6%	87.0%	83.2%	---
Detection limit	50	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	3510 / 8015	602	602	602	602	5520 C & F

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

July 18, 1994 PEL # 9407032

ALLWEST ENVIRONMENTAL, INC.

Attn: Long Ching
Re: Two soil samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: 3080 Broadway
Project number: 93337.23

Date sampled: Jul 05, 1994 Date submitted: Jul 12, 1994
Date extracted: Jul 15-16, 1994 Date analyzed: Jul 15-16,1994

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)	Oil & Grease (mg/Kg)
MW-1-21	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-1-26	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	100.7%	91.2%	90.2%	92.6%	87.0%	83.2%	---
Detection limit	1.0	1.0	5.0	5.0	5.0	5.0	10
Method of Analysis	5030/ 8015	3550 / 8015	8020	8020	8020	8020	5520 D & F

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

1764 Houret Court
Milpitas, CA 95035
(408) 946-9636
1764 Houret Ct. Milpitas,CA.95035 Tel:408-946-96..

PEL # 9407032

INV # 24991

Chain of Custody

DATE: 7/12/94 PAGE: 1 OF: 1

PROJECT MGR.: LONG CHING
COMPANY: ALLWEST ENVIRONMENTAL
ADDRESS: ONE SUTTER ST., #600
SAN FRANCISCO, CA 94104
PHONE: 415-391-2510 FAX: 415-391-2008
SIGNATURE: Long Ching

ANALYSIS REPORT

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TPH-Gasoline (EPA 5030,8015)	TPH-Gasoline(5030,8015) w/BTEX(EPA 602,8020)	TPH-Diesel (EPA 3510/3550,8015)	PURGEABLE AROMATICS BTEX (EPA 602,8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	PESTICIDES/PCB (EPA 608,8080)	TOTAL RECOVERABLE HYDROCARBONS EPA 418.1	NUMBER OF CONTAINERS
MW-1-6	7/5/94		SOIL									1
MW-1-11												1
MW-1-16												1
MW-1-21						X	X		X			1
MW-1-26						X	X		X			1
MW-1-31												1
MW-1-36	↓		↓									1
MW-1-41	7/5/94		SOIL									1
MW-1	7/11/94		WATER			X	X		X			5

per phone Long Ching on 07.15.94 at 9:57 AM

PROJECT INFORMATION
PROJECT NAME:: 3080 BROADWAY
PROJECT NUMBER: 93337.23

SAMPLE RECEIPT
TOTAL # OF CONTAINERS:
RECD. GOOD COND./COLD:

INSTRUCTIONS & COMMENTS: HOLD SOIL SAMPLES PENDING WATER SAMPLE RESULT, 48-HR TAT ON WATER SAMPLE

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
SIGNATURE: Long Ching Date:	SIGNATURE: T HANH LAM Date: 7/12/94	SIGNATURE: Date:	SIGNATURE: Date:
NAME: LONG CHING Time:	NAME: Time: 11:12 AM	NAME: Time:	NAME: Time:
COMPANY: ALLWEST	COMPANY: PEL	COMPANY:	COMPANY: