

ARTESIAN ENVIRONMENTAL

# 2623

July 25, 2000



Mr. Jim Minor  
c/o UniLect Corporation  
7080 Donlon Way, Suite 220  
Dublin, California 94568

*Thanks  
Barney  
Gins*

Dear Mr. Minor,

Enclosed please find four copies of the Groundwater Investigation Workplan for 4341 Howard Street in Oakland, California. I spoke to Mr. Barney Chan and alert him that he should receive the workplan shortly and the reason it was delayed. Mr. Chan looks forward to receiving the workplan and was not upset regarding the delay.

A copy of this report, along with a cover letter, should be mailed to the following agencies:

Mr. Barney Chan  
Alameda County Health Services Agency  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, California 94612

If you should have any questions or comments, please do not hesitate to call me at (510) 307-9943.

Sincerely,  
Artesian Environmental

Thomas Fortner  
Project Geologist

CO JUL 31 PM 4:01

ARTESIAN ENVIRONMENTAL

July 25, 2000



Mr. Jim Minor  
P.O. Box 726  
Diablo, California 94528

Re: Groundwater Investigation Workplan  
4341 Howard Street  
Oakland, California  
StID No. 2623  
Artesian Project No.: AP021A

Dear Mr. Minor:

Artesian Environmental Consultants (Artesian) has been retained by Mr. Jim Minor to review historical records and utilities maps, perform a site inspection and update the November 6, 1997 *Soil and Groundwater Workplan* prepared by Artesian. Mr. Minor represents Michael Pond and Shelly Minor who own the subject property located at 4341 Howard Street in Oakland, California (Minor Site).

The Alameda County Department of Environmental Health, Environmental Protection Division (ACDEH) requested the work in a letter dated July 23, 1999. The work was requested to investigate shallow groundwater impacted with volatile organic compounds (VOCs). Groundwater investigations have been previously conducted at the Minor Site and the up-gradient 500 High Street Site. VOCs have been detected in groundwater samples collected from both properties, however concentrations have been higher at the Minor Site. This workplan has been prepared to assess possible onsite and offsite sources of the VOCs.

#### **SITE SETTING**

The Minor Site is located off High Street in Oakland, California between U.S. Highway 880 (Nimitz Freeway) and the City of Alameda (island) (Figure 1). The site is approximately 63,000 square feet in area and has one metal building that occupies 7,600 square feet; the remainder of the site is paved.

The Minor Site is situated approximately six feet above mean sea level on flat topography. The Oakland Hills are located approximately three miles to the northeast, a tidal canal that separates Alameda from Oakland is located approximately 1,000 feet southwest of the Site. The San Leandro Bay (San Francisco Bay) is located 2,000 feet south of the Site (Figure 1). Groundwater measured in the groundwater at the Sites have ranged from 4 to 8 feet below ground surface (bgs) and generally flows toward the west to northwest.

Dailey Body, which builds and installs customized truck bodies, occupies the Site. There are two residences on Howard Street adjacent to the Site; other surrounding properties are industrial facilities. The adjacent 500 High Street Site with VOC impacted groundwater is located across Howard Street (Figure 2).

#### **BACKGROUND**

On November 15, 1991, a 1,000-gallon underground gasoline storage tank (UST) was removed from the Site. Soil samples collected beneath the tank contained up to 8,200 milligrams per kilogram (mg/kg) [equivalent to parts per million (ppm)] total petroleum

hydrocarbons as gasoline (TPH-g). The UST pit was over-excavated in June 1993, the resulting pit 15-feet wide by 20 feet long and 10 feet deep.

In June 1993, Artesian installed groundwater monitoring well MW-1 in the down-gradient direction from the former UST excavation. The 500 High Street Site refers to MW-1 on the Minor property as MW-7.

Groundwater samples were collected from groundwater monitoring well MW-1 during July 1993, April 1994, July 1994, October 1994, and March 1995. For the last sampling event, the groundwater sample was analyzed for TPH-g by EPA Method 8015, benzene, toluene, ethyl benzene and total xylenes (BTEX) by EPA Method 8020 and VOCs by EPA Method 8010. The groundwater sample contained 80 micrograms per liter ( $\mu\text{g/L}$ ) [equivalent to parts per billion (ppb)] TPH-g and 1.6 ppb benzene, 12 ppb trans-1, 2-dichloroethene (trans-1, 2 DCE), 36 ppb cis-1, 2-dichloroethene (cis-1, 2-DCE), and 220 ppb trichloroethene (TCE). All other targeted analytes were below the laboratory detection limits.

During October 1995, Artesian drilled three borings (B-1, B-2, and B-3) down gradient of groundwater monitoring well MW-1 to delineate the extent of chlorinated solvent plume. Soil and groundwater samples were collected from each boring and a groundwater sample was collected from monitoring well MW-1. The soil and groundwater samples collected from borings and monitoring well were analyzed for VOCs by EPA method 8010.

No VOCs were detected in any of the soil samples collected from the borings, however all the groundwater samples contained detectable concentrations of VOCs. The groundwater samples collected from boring B-3 and monitoring well MW-1 contained the greatest concentrations of VOCs. Figure 2 shows analytical results for groundwater samples collected during October 1995 sampling event and analytical results from the 500 High Street Site.

## HISTORIC BACKGROUND

Artesian reviewed historical records and maps for the site at the City of Oakland Public Works Department (OPWD). Sanborn Fire Insurance Maps were reviewed for 1911, 1925 and 1944 (updated in the early 1980s) for the Minor Site and surrounding area. Assessor's Maps, Aerial Photographs and Building Permits and Plans were also reviewed for the site. After historical information was reviewed for the Site, a Registered Environmental Assessor (REA) performed an inspection to locate possible sources of chlorinated solvents.

The 1911 Sanborn Map shows Howard Street running from High Street to 49<sup>th</sup> Avenue. The Southern Pacific Railroad spur is portrayed on the map, however Hull Road and ? other avenues are not shown. The National Mill & Lumber Company is shown to be west of the Site, most of the lots are vacant.

The 1925 Sanborn Map shows the property was occupied by the National Mill and Lumber Company and Pacific Tank and Pipe Company. Howard Street is shown on the map to terminate at a railroad spur near the future location of the subject building. The maps show the area was primarily used to store lumber.

The 1944 Sanborn Map (with updates to 1951) shows the property utilized for a Federal Housing Project (High Street Homes) consisting of 64-eight unit apartment buildings. The housing project was located along Hull Road and Howard Street as well as to the southwest of the Site. Hull Road provided access to the housing project from High Street. The map shows a water supply line along Hull Road, the line runs north, extending across the railroad and terminating at the Minor Site.

The 1944 Sanborn Map shows the 500 High Street Site occupied by White Brother's Hardwood Company. The hardwood operation utilized several buildings close to High Street, a lumberyard along Howard Street and steam dry kilns in the rear portion of the property. Three houses are located across Howard Street from the Hardwood Company. A Truck Body Company is shown at the corner of High Street and Hull Road. The Carter Lumber Company occupies the former National Mill and Lumber Company southwest of the Site.

A 1944 Sanborn Map updated into the early 1980s was found at the OPWD. The updated map shows the steel building located on the Minor Site and the present structures at 500 High Street. A service station is shown at the corner of Howard and High Streets and an unspecified factory located at the Corner of Hull Road and High Street.

The OPWD files contained building permits and plans for the structure at 4341 Howard Street. A building permit was filed by Dailey High Street Properties; the permit specifies the building use as a "new car clean-up" facility. The building plan shows the proposed building and properties from High Street to the railroad. The plan shows Howard Street and Hull Road not to be dedicated city streets. The plan storm water sewers running from Howard Street, across the Minor Site to Hull Road and down Hull Road to High Street. The sanitary sewer and water supply line is shown along Howard Street. The plan has notes indicating that city records show sanitary and storm sewers are in the area of the Minor Site, but exact locations and conditions were unknown.

A site inspection was performed by a REA after reviewing the historical information. The site inspection included interviews with workers concerning past use of the Site and housekeeping practices. The site inspection was also done to identify any potential source of the VOCs. Automobile paint was stored behind the subject building and automobile parts were stored around the perimeter of the building and along fences. A wash pad is located along Howard Street in an area where storm water does not drain well. A paint booth is located against the southeast side of the building. No sumps were found in the building, however two automobile lifts were located inside. The majority of the asphalt paving surrounding the building was degraded and stained. The rear portion of the property near the railroad was recently paved.

A 1995 aerial photograph was reviewed to assess land use in the vicinity of the Minor Site. The area southeast of the Site and railroad is used for industrial and manufacturing businesses. Large warehouses and loading docks in this area are utilized by: Admiral Marine Co. (metal fabricators), Bay Bolt, Inc. (machinist) American Cylinder Head (cylinder repair and exchange), Western Door & Sash, Co. (door and window manufacturer) and Wood Tech (wood products). No records were reviewed concerning these businesses. Figure 3 is a compilation of historic and current features in the vicinity of the Minor Site.

*what about w/ service bays?*

### **BORING LOCATIONS**

Three areas were identified as potential sources for VOCs at the Site. The wash pad located at the corner of the property near Howard Street. A storm sewer runs beneath the wash pad towards Hull Road and may act as a conduit for impacted groundwater. The storm sewer runs past MW-1/MW-7, between borings B-2 and B-3 and past boring B-1. VOCs detected in groundwater samples collected from the borings and well indicate the storm sewer may be impacted.

The second and third potential VOC source areas are the stained and deteriorated paving near the paint drums and paint booth. The area is riddled with functioning and abandoned underground utilities associated with the former housing project. Many of the utilities are situated below sea level and may act as conduits for shallow groundwater at the Site. Figure 4 illustrates the findings of the site inspection and shows underground utilities.

Borings B-1 through B-3 were drilled during the October 1995 investigation along the former Hull Road. Artesian proposes the following boring locations based on historic information and the site inspection. Boring B-4 will be drilled along the storm sewer beneath the wash pad; this area often floods after a significant rainfall and drains from a storm drain in Howard Street. Boring B-5 will be drilled in the paint storage area on the southwest side of the building; pavement in this area is stained and deteriorated. Boring B-5 will also be located down gradient of the building to assess possible VOCs release from inside the building. Boring B-6 will be located on the southeast side of the building near the paint booth; stained and deteriorated pavement was found in this area. Borings B-7 and B-8 will be located near the railroad near Hull Road and Howard Street respectively to assess potential off-site sources of VOCs. Figure 4 shows the proposed boring locations.

### **PERMITTING**

A Boring Permit will be obtained from the Alameda County Public Works Agency prior to work. Underground utilities will be located by Underground Service Alert (USA) prior to drilling. Artesian will provide additional limited magnetic and induction line locating services to aid in locating other buried pipes and utilities prior to drilling.

### **SITE SAFETY PLAN**

The Site Safety Plan for this work will be prepared and will be onsite during all field activities. All persons working in the exclusion zone and the contamination reduction zone will be familiar with the SSP and will be required to comply with its provisions.

### **FIELD ACTIVITIES**

Fieldwork will proceed following approval of this workplan by the ACDEH and issuance of the boring permits. Artesian will drill five borings to groundwater (approximately ten feet bgs). The drilling will be done with direct penetration technology (DPT) equipment.

Approximately ten feet of new one-inch polyvinyl chloride (PVC) screen will be lowered down each open borehole to form temporary groundwater sampling points. Groundwater samples will be collected with a 0.75-inch disposable bailer and new nylon string. The groundwater will be decanted from the bailer into labeled bottles supplied by the laboratory. Samples submitted for VOCs analyses will be dispensed from the bailer into labeled 40-milliliter volatile organic analysis (VOA) vials. The VOA vials will be filled completely, leaving no headspace. The samples will then be stored on ice, and transported under chain-of-custody control to a California State Certified Laboratory.

A geologist under the supervision of a California Certified Hydrogeologist will supervise the drilling. The site geologist will supervise the drilling activities, collect groundwater samples and document field activities. Artesian's standard operating procedures for DPT groundwater sampling are attached.

All drilling and sampling equipment will be decontaminated by steam cleaning before and after drilling as well as between borings. Decontamination water will be stored onsite in labeled DOT-approved containers, pending analytical results and disposal. After the groundwater samples have been collected, the temporary well screen and casing will be withdrawn from the borings and disposed offsite. The borings will be grouted to the surface with a neat cement grout on the same day.

~~Groundwater monitoring well MW-1/MW-7 will be sampled on the same day the borings are drilled.~~ Prior to groundwater sampling, the well will be purged by pumping a minimum of three well casing volumes of groundwater while taking measurements of pH, temperature, and electrical conductivity between each well casing volume. The well will be considered stabilized and ready for sampling when two subsequent measurements of these three parameters are within 10% of each other. Groundwater samples will be collected using a 1.5-inch diameter disposable bailer and new nylon string, and decanted into labeled, laboratory supplied bottles.

In order to reduce the loss of volatile hydrocarbons, samples for VOCs analysis will be dispensed from the bailer into labeled 40-milliliter VOA vials. The VOA vials will be filled completely, leaving no headspace. The sample will then be stored in a refrigerated environment and transported under chain-of-custody control to a California state certified laboratory. Artesian's standard operating procedures for well sampling are attached.

#### LABORATORY ANALYSES

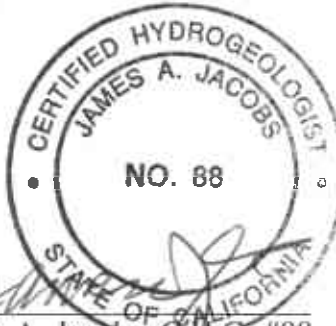
A total of five groundwater samples will be submitted to a state certified laboratory for analyses. The groundwater samples will be analyzed for VOCs by EPA Method 8010.

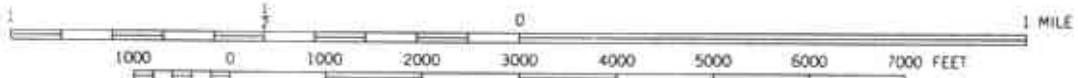
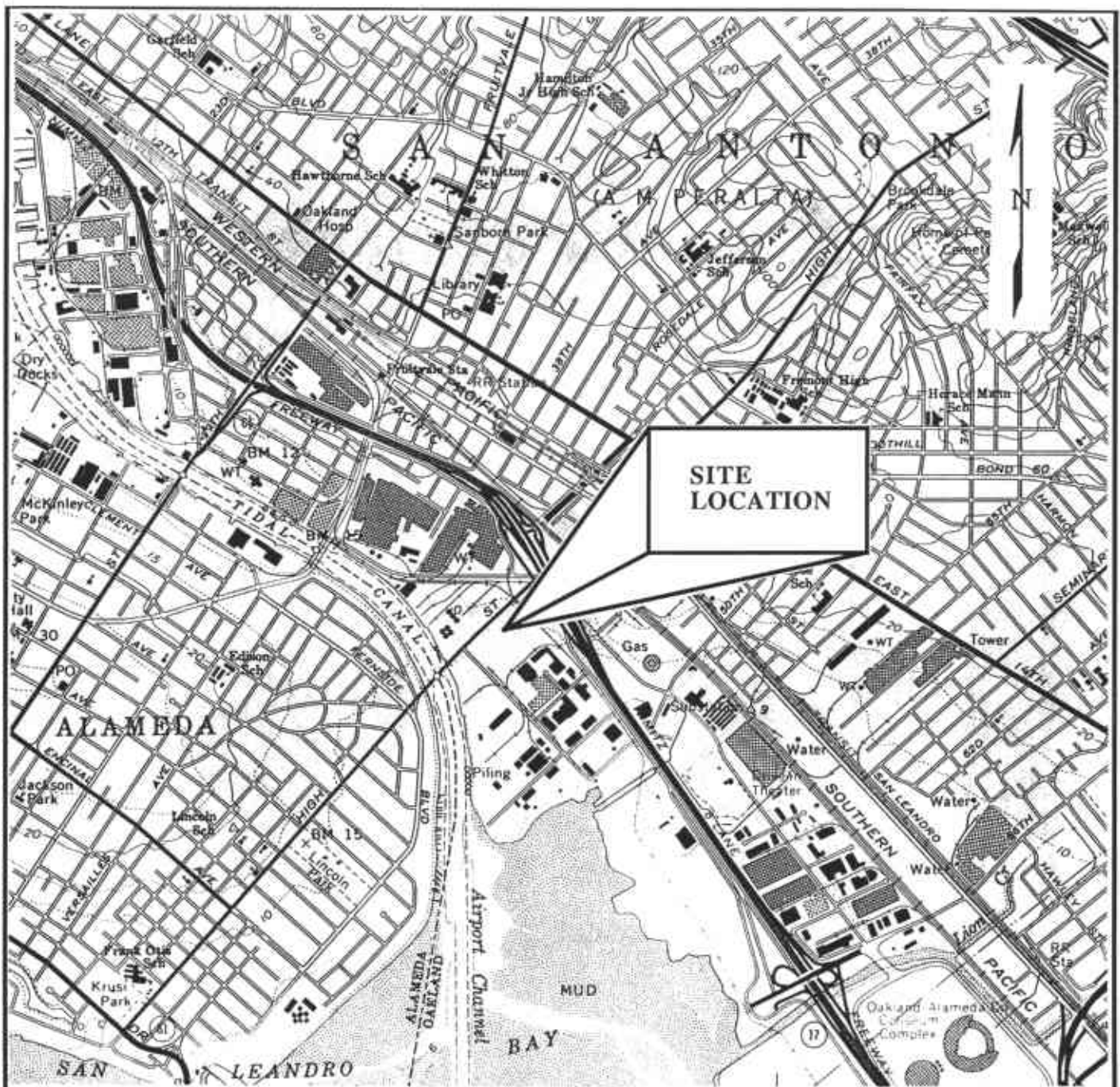
#### REPORT PREPARATION

Following completion of field activities and receipt of the laboratory results, a written report describing field activities will be prepared. The report will include; laboratory reports, chain-of-custody records and laboratory quality control documents, tabulated laboratory results and groundwater data. Site and boring location maps will be prepared, as well as recommendations for further activities, as appropriate.

Sincerely,  
ARTESIAN ENVIRONMENTAL CONSULTANTS

  
Thomas Fortner  
Project Geologist

  
James A. Jacobs, C.H.G. #88  
Certified Hydrogeologist



**OAKLAND EAST, CALIF.**

SW/4 CONCORD 15 QUADRANGLE  
N3745—W12207.5/7.5

1959  
PHOTOREVISED 1980  
DMA 1559 I SW—SERIES V895

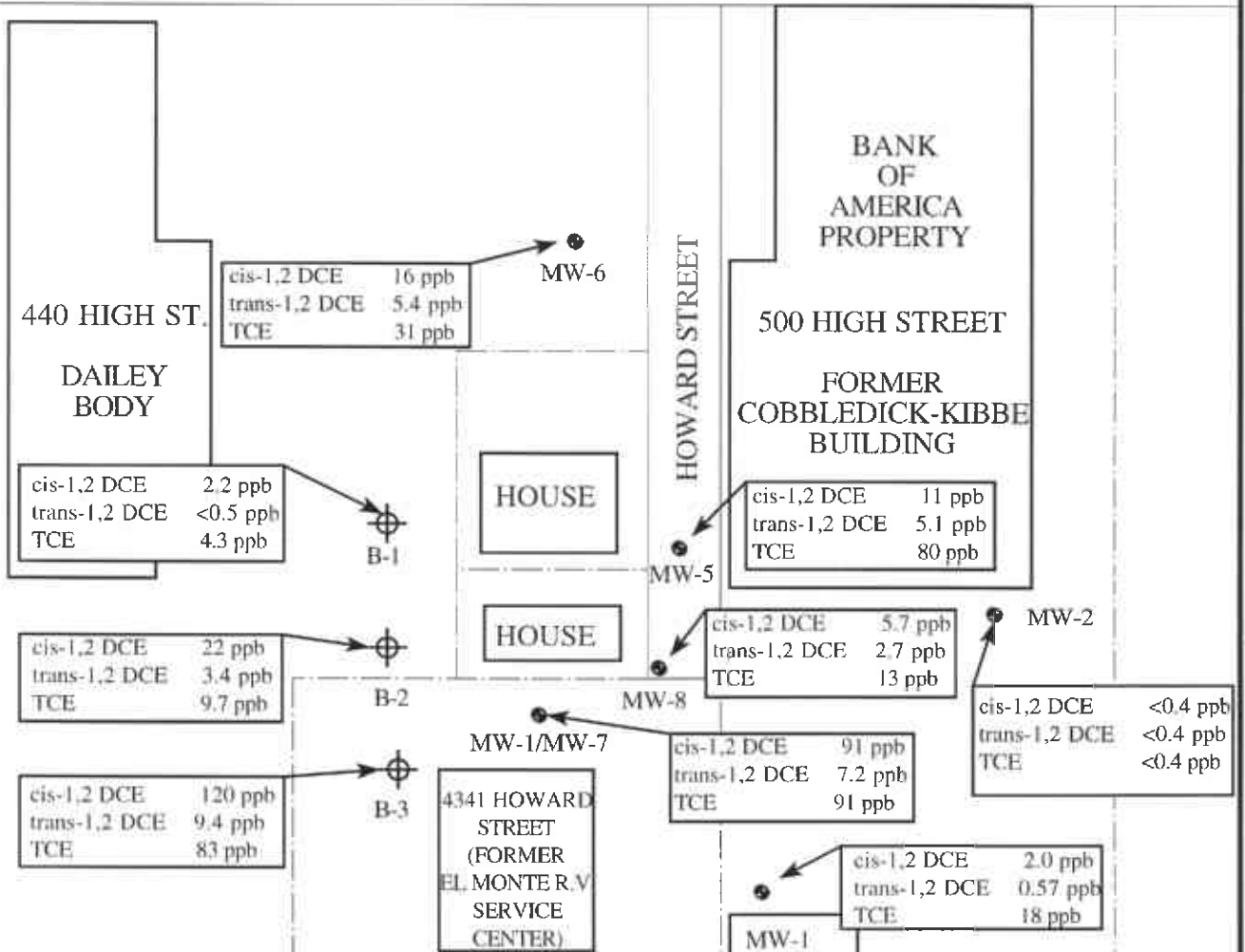
CONTOUR INTERVAL 20 FEET



QUADRANGLE, LOCATION

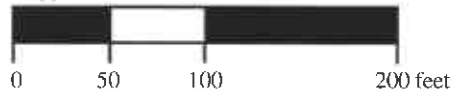
<b>ARTESIAN ENVIRONMENTAL CONSULTANTS</b> 229 Tewksbury Avenue Point Richmond, California 94801 (510) 307-9943 Fax (510) 232-2823		<b>SITE LOCATION MAP</b> MINOR PROPERTY 4341 Howard Street Oakland, California	
Project No.: 100-001-09	Date: 11/5/97	Prepared By: T. Fortner	Figure 1

HIGH STREET



EXPLANATION

Approximate Scale: 1 inch = 100 feet



- B-1 Groundwater Sampling Point
- MW-1/MW-7 Groundwater Monitoring Well Location and Number
- Approximate Property Boundary

cis-1,2 DCE      cis 1,2 Dichloroethene  
 trans-1,2 DCE      trans 1,2 Dichloroethene  
 TCE      Trichloroethene  
 ppb      parts per billion



Map Based from Blymyer Engineers

**ARTESIAN ENVIRONMENTAL CONSULTANTS**  
 229 Tewksbury Avenue  
 Point Richmond, California 94801  
 (510) 307-9943 Fax (510) 232-2823

**OCTOBER 1995 ANALYTICAL DATA MAP**  
 MINOR PROPERTY  
 4341 Howard Street  
 Oakland, California

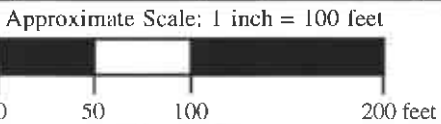
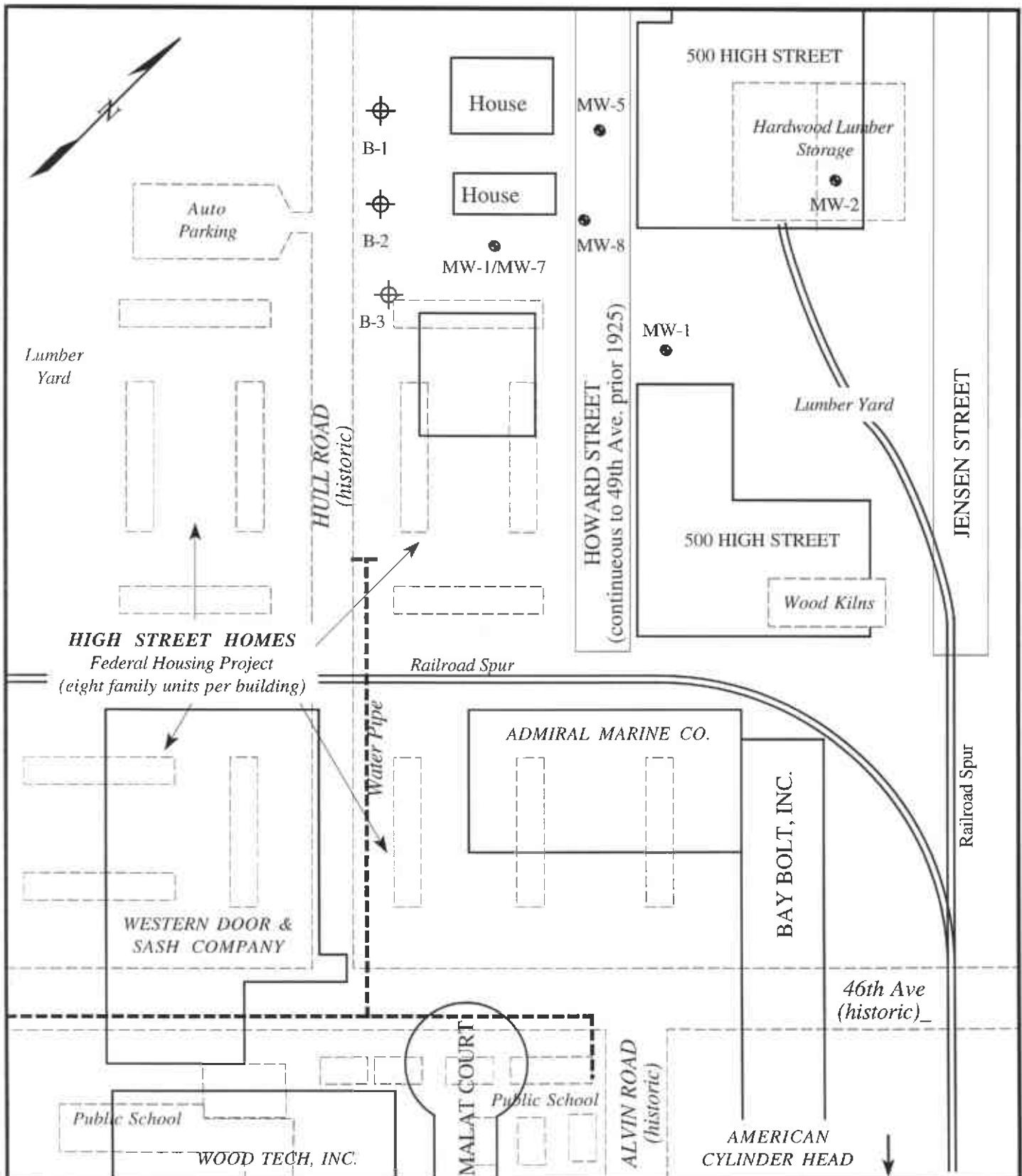
Project No.: AP021A

Date: 11/5/97

Prepared By: T. Fortner

Figure 2





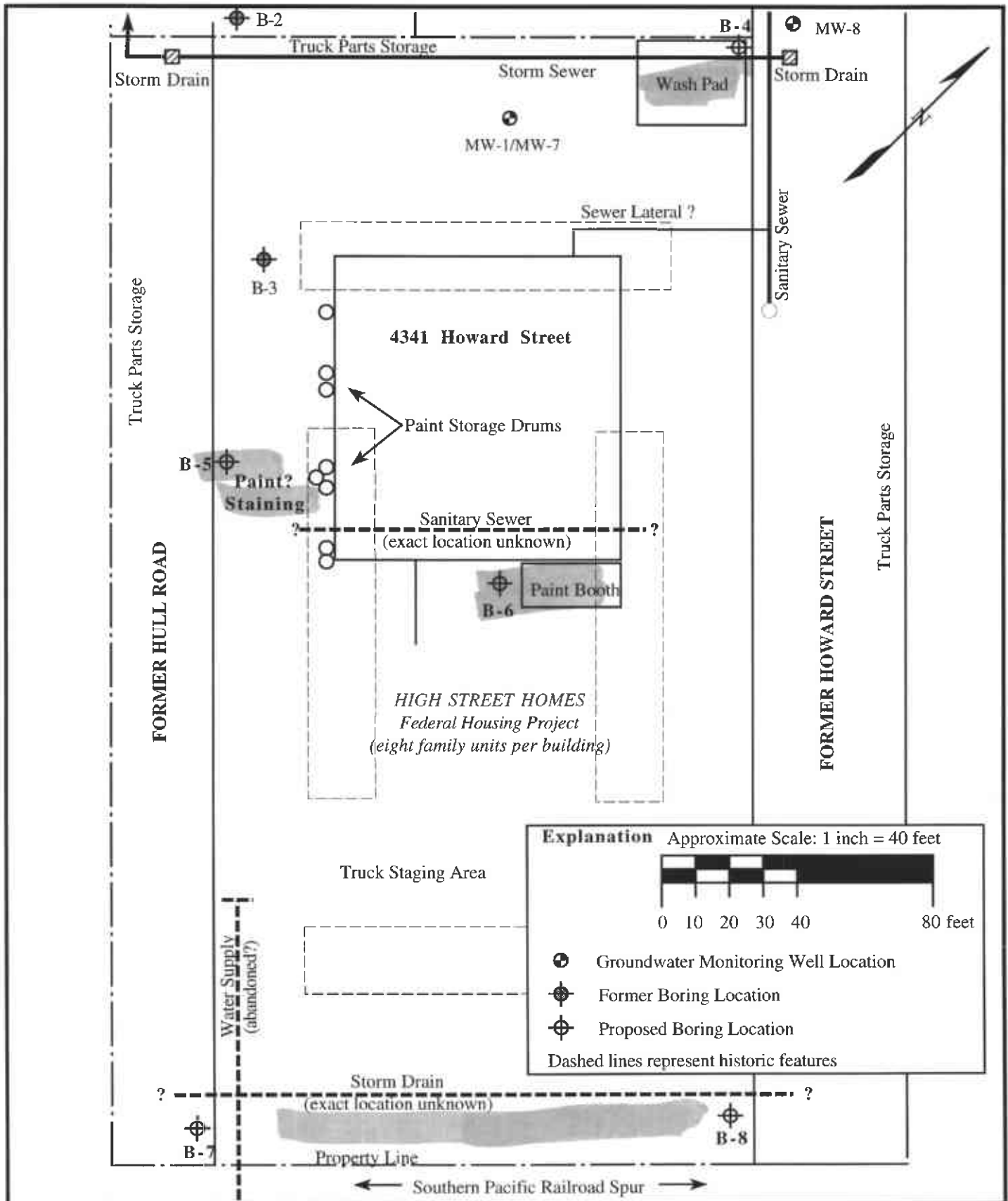
Dashed lines represent historic features

**COMPILATION MAP**  
 Sanborn Maps / Aerial Photo  
 MINOR PROPERTY  
 4341 Howard Street  
 Oakland, California

**ARTESIAN ENVIRONMENTAL CONSULTANTS**  
 Point Richmond, California

Project No.: AP021A  
 Prepared By: T. Fortner

Figure 3  
 Date Prepared: 7/19/00



**ARTESIAN ENVIRONMENTAL**  
 229 Tewksbury Avenue  
 Point Richmond, California 94801  
 Phone (510) 307-9943 Fax (510) 232-2823

**PROPOSED BORING LOCATION MAP**  
 MINOR PROPERTY  
 4341 Howard Street  
 Oakland, California

Project No.: AP021A

Date Prepared: 7/17/00

Prepared By: T. Fortner

Figure 4

## ARTESIAN ENVIRONMENTAL

### Standard Operating Procedures

#### Groundwater Sampling Tools - Bailers and Tubing & Check Valve Systems

Artesian Environmental uses a push driven sampling method to advance a water sampling device (such as Artesian, Geoprobe or other samplers) to the target depth. After the top of the water bearing zone is encountered, the water sampling device is pushed an additional 2 to 3 feet into the aquifer. The water sampling rod consists of a steel inner core well screen nested inside a steel outer sampler sheath. The sampler is kept sealed by o-ring connections while being driven to the desired sampling depth. When the desired sampling depth is reached, the sampler is pulled up approximately 2 feet which exposes the open borehole to the inner core steel well screen, creating a temporary well from which to sample. A groundwater sample can then be collected by one of the following methods:

#### GROUNDWATER SAMPLING - Bailers

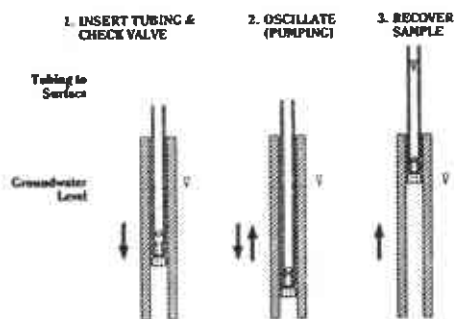
Grab groundwater samples are collected using miniature 1/2-inch diameter Teflon or stainless steel bailers. The bailers are lowered through the hollow centers of the drilling probe rods into the screened groundwater sampling device. The bailers are properly decontaminated between borings.

#### Groundwater Sampling with a Miniature Bailer



#### GROUNDWATER SAMPLING - Tubing & Check Valves

Tubing with a bottom check valve is another method of grab groundwater sampling. The 1/4-inch inner diameter polyethylene tubing with a 3/8-inch outer diameter is mounted with a stainless steel bottom check valve. The tubing, with check valve in place, is lowered down the hollow center of the drilling probe rod into the water column. An oscillating motion pumps the water column up into the tubing. The tubing recovers 9.65 ml per foot. Tests in sandy aquifers have recovered 0.5 liters of water per minute from a depth of 25 feet using the 1/4-inch inner diameter tubing and the bottom check valve.



#### Groundwater Sampling with a Tubing and Bottom Check Valve

Groundwater samples to be analyzed are decanted into laboratory-prepared, 40-milliliter volatile organic analysis (VOA) vials and 1 liter bottles. The VOA vials are filled completely, leaving no headspace, and are capped with septum topped Teflon-lined lids, labeled, and stored in a refrigerated environment of crushed ice and delivered under chain-of-custody to a state-certified hazardous materials testing laboratory.