ARTESIAN ENVIRONMENTAL CONSULTANTS

#2623

GROUNDWATER SAMPLING REPORT

MINOR PROPERTY
4341 HOWARD STREET
OAKLAND, CALIFORNIA

AEC Job No. 1668
AEC Library No. 100-001-08

Prepared For:

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

January 19, 1996

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1.0 INTRODUCTION

Artesian Environmental Consultants (Artesian) has been retained by Mr. Jim Minor, owner of the property at 4341 Howard Street, Oakland, California (site)(see Figures 1 and 2), to install and sample three groundwater sampling points and sample existing groundwater monitoring well MW-1. Mr. Barney Chan of the Alameda County Health Care Services Agency Department of Environmental Health (ACDEH) had requested the installation of the temporary groundwater sampling points to further delineate the downgradient extent of a chlorinated solvent (VOC) plume in shallow groundwater.

2.0 SITE SETTING

The subject site is located off High Street in Oakland between U.S. Highway 880 and Alameda (Figure 1). The site is approximately 280,000 square feet in area and has several structures; the remainder of the site is paved. The site is currently occupied by Dailey Body, which builds and installs customized truck bodies. There are two residences on Howard Street adjacent to the site; other surrounding properties are light industrial facilities. The Bank of America property is located east of the site across Howard Street (Figure 2).

3.0 BACKGROUND

On November 15, 1991, a 1,000 gallon underground gasoline storage tank (UST) was removed from the site by Zaccor Corp. of Menlo Park, California. Soil samples taken at the time of the tank removal contained up to 8,200 milligrams per kilogram (mg/kg) (equivalent to parts per million (ppm)) total petroleum hydrocarbons as gasoline (TPH-g), 33 milligrams per liter (mg/kg) (equivalent to parts per million (ppm)) benzene, 93 ppm toluene, 0.075 ppm ethylbenzene, and 0.33 ppm total xylenes.
After removal of the tank the excavation was backfilled with clean fill material, excavated soil was stockpiled and left on-site.

On June 24, 1994, Artesian overexcavated additional gasoline-impacted soil; removing approximately 110 yards of soil and producing an excavation approximately 15 feet wide, 20 feet long, and 10 feet deep. The impacted soil excavated was stockpiled on-site. On August 19, 1993 the excavation was backfilled with clean soil.

On August 31, 1993 Artesian supervised the removal of the stockpiled soil. The soil was transported to Gibson Environmental of Bakersfield, California, for recycling.

On June 25, 1993 Artesian installed groundwater monitoring well MW-1. Monitoring well MW-1 was placed approximately 10 feet from the former UST excavation in the presumed downgradient direction. An estimated westerly groundwater flow direction was based on wells at the adjacent Bank of America site. Blymyer Engineers refers to MW-1 on the Minor property as MW-7.

Groundwater samples from MW-1 have been collected on July 7, 1993, April 27,1994, July 29, 1994, October 25, 1994, and March 23, 1995. For the last sampling event, groundwater samples were analyzed for TPH-g by EPA Method 5030 and modified Method 8015, and BTEX by EPA Method 602/8020. The groundwater was reported to

contain 0.08 ppm TPH-g and 1.6 ppb benzene. Other target analytes were not detected in the groundwater sample (reporting limit 0.5 ppb).

The groundwater sample collected from the March, 1995 sampling event was also analyzed for purgeable halocarbons by EPA Method 8010 at the request of the client. Results of this analysis indicate 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) were present in the sample. All other target analytes were reported to be below the laboratory detection limits for this method. Blymyer Engineering also sampled MW-1 for the last three quarters and their analytical results indicate detectable concentrations of VOCs. Blymyer has received permission to sample this well from Mr. Minor to investigate the extent of a VOC release on the adjacent upgradient Bank of America site.

4.0 PERMITTING

A drilling permit was obtained from the Zone 7 Water Agency prior to conducting field activities (Appendix A). Work began after the approval of the submitted groundwater sampling workplan by Mr. Barney Chan of the ACDEH. The workplan was modified to include screening of the soil samples with a photoionization detector (PID) and to retain the sample with the greatest PID reading or the sample from just above the first encountered groundwater in each boring for testing. ACDEH also requested that depth to water measurements in the borings be made to evaluate the groundwater gradient at the site.

5.0 FIELD ACTIVITIES

5.1 Soil Borings

Underground utility lines were located by Underground Service Alert (USA) prior to drilling. Artesian also provided limited magnetic and induction line locating services to aid in locating buried pipes and utilities on site prior to drilling. Field work proceeded following approval of the workplan by the ACDEH and issuance of the drilling permit. On October 13 and October 16, 1995, Artesian drilled 3 borings to groundwater under the supervision of a California Registered Geologist. Boring B-1 was located approximately 130 feet west of MW-1 near the northern house on Howard Street. Boring B-2 was located approximately 90 feet southwest of MW-1 near the southern house on Howard Street. Boring B-3 was located approximately 80 feet south of MW-1 near the former El Monte R.V. Service Center. Boring locations are shown on Figure 2. Log of borings are included as Appendix C.

The drilling was done with direct penetration technology (DPT) equipment. The DPT method does not produce drill cuttings that require disposal. Soil samples were collected continuously using a 4 foot drive sampler equipped with polyethylene terephthalate glycol (PETG) liners. Soil recovered from the borings was screened for volatile organic compounds at two foot intervals using a PID. Standard operating procedures for collecting organic vapor data from soil samples using a PID are included in Appendix B. None of the soil samples screened with the PID detected organic vapor above background levels, therefore the soil sample collected from above first groundwater in each boring was retained for laboratory analysis. The soil samples retained were cut from the 4-foot long liners and the ends of the liners were sealed with Teflon tape and plastic caps.

The samples were labeled, stored in a refrigerated environment, and transported under chain-of-custody control to a ChromaLab Inc. of Pleasanton, California, a state certified laboratory.

5.2 Groundwater Sampling

After completion of the borings, ten feet of one-inch PVC screen and approximately six feet of threaded PVC blank were lowered down the open borehole and sealed at the surface with a bentonite plug to form three temporary groundwater sampling points.

Prior to groundwater sampling, each sampling point was purged by evacuating a minimum of three casing volumes of groundwater or until the well points was evacuated. After allowing sufficient time for the borings to recharge, they were purged again. Groundwater samples were collected after water levels in the borings recovered 80 percent after the second purging. Groundwater samples were collected using a variable speed peristaltic pump with Teflon tubing and dispensed into labeled, HCl preserved 40-milliliter volatile organic analysis (VOA) vials supplied by the analytical laboratory. New tubing was used for each boring. The groundwater collected from boring B-2 reacted with the acid preservative in the VOA vials producing small bubbles after the sample was collected. At the conclusion of groundwater sampling activities the PVC casing was withdrawn from the borings and disposed of. All three borings were grouted with a tremie pipe to ground surface with a neat cement/bentonite grout.

5.3 Monitoring Well Sampling

On October 16, 1995, Artesian measured depth to water, purged, and sampled groundwater monitoring well MW-1. Prior to purging, a depth to water measurement was recorded utilizing an electronic water sounder. The well was then purged a minimum of three well casing volumes of groundwater. Measurements of pH, temperature, and electrical conductivity were recorded between each well casing volume. The wells were considered stabilized and ready for sampling when two subsequent measurements of these three parameters were within 10% of each other. All groundwater samples were collected according to Artesian standard operating procedures for groundwater sampling, described in Appendix B.

The groundwater samples were collected with new disposable polyethylene bailer and new nylon line. Groundwater samples were contained in HCl preserved 40 ml vials provided by the laboratory. Blymyer Engineers, Inc., consultants for the adjacent Bank of America property, received split samples collected from this well.

The samples were stored in a refrigerated environment, and transported under chain-of-custody control to a Chromalab. Artesian's standard operating procedures for groundwater sampling using direct push technology are included in the Appendix B.

All drilling and sampling equipment was decontaminated by steam cleaning prior to and following use at each boring. Decontamination water was stored on site in labeled DOT approved container pending analytical results.

6.0 SUBSURFACE CONDITIONS

Borings B-1 through B-3 were drilled into groundwater to a maximum depth of 16 feet. The borings were continuously cored and the soils encountered were visually logged in the field utilizing the Unified Soil Classification System (ASTM D2488-90) under the direction of a California Registered Geologist. Soil from 12 to 16 feet bgs were not recovered from boring B-1. Soil encountered in borings B-1 through B-3 consisted of fill material composed of clayey gravels and silty sands to a depth of 4 to 5 feet. Native soil consisting of silty clay were encountered in the borings from below the fill to a depth of 14 feet. Silty sandy clay was encountered in boring B-2 at a depth of 14 feet. Sandy gravel and silty clayey sand was encountered at 14 feet bgs and 15 feet bgs respectively in boring B-3. Groundwater was encountered at approximately 8.5 feet bgs in borings B-1 and B-2, and at approximately 12 feet bgs in boring B-3. Groundwater was measured to be approximately 7 feet bgs in groundwater monitoring well MW-1. Boring Logs are included as Appendix C.

7.0 LABORATORY ANALYSES

Soil and groundwater samples collected from Borings B-1, B-2, and B-3, and a groundwater sample collected from monitoring well MW-1 were analyzed for purgeable halocarbons using EPA Method 8010. The groundwater sample from MW-1 was also analyzed for TPH-g and BTEX by EPA Method 8015M and EPA Method 8020 respectively.

None of the soil samples collected from the vadose zone of each boring contained detectable concentrations of purgeable hydrocarbons. Groundwater samples collected from boring B-1 contained 2.2 ppb cis-1,2-DCE and 4.3 ppb TCE. Groundwater samples collected from boring B-2 contained 3.4 ppb trans-1,2 DCE, 22.0 ppb cis-1,2-DCE and 9.7 ppb TCE. Groundwater samples collected from boring B-3 contained 9.4 ppb trans-1,2 DCE, 120.0 ppb cis-1,2-DCE and 83.0 ppb TCE. Groundwater samples collected from monitoring well MW-1 contained 7.0 ppb trans-1,2 DCE, 91.0 ppb cis-1,2-DCE, 91.0 ppb TCE, and 0.6 ppb benzene. All other targeted analytes were below the laboratory reporting limits. Laboratory Analytical Reports and Chain of Custody Records are included as Appendix D.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Three temporary groundwater sampling points were installed at the request of Mr. Barney Chan of the ACDEH to delineate the downgradient extent of a chlorinated solvent (VOC) plume in shallow groundwater.

Artesian installed and sampled the three temporary groundwater sampling points and sampled existing monitoring well MW-1. Soil and groundwater samples from Borings B-1, B-2, and B-3, and a water sample from groundwater monitoring well MW-1 were analyzed for purgeable halocarbons. Groundwater sample from MW-1 was also analyzed for TPH-g and BTEX. Detectable concentrations of purgeable halocarbons were reported in groundwater samples collected from all three borings and monitoring well MW-1. Groundwater samples from monitoring well MW-1 also contained very low concentrations of benzene.

Very low concentrations of petroleum hydrocarbons were found in groundwater samples collected from MW-1 over the last year of monitoring. Based on the removal of the UST and impacted soil which removed the source of petroleum hydrocarbons, and the results of recent groundwater analytical testing, Artesian recommends case closure for the former gasoline UST.

9.0 LIMITATIONS

The authors and firm offer no assurance and assume no responsibility for site conditions or activities which were beyond the scope of work requested by the client and referenced in the introduction of this report. The compensation agreed to by the client and the firm corresponds to the scope of work defined, with the associated limitations which are an integral and important part of this report. This report was prepared with generally accepted standards of environmental geological practice in California at the time this investigation was performed. This investigation was conducted solely as a tool in assessing environmental conditions of the soil and/or groundwater with respect to relative hydrocarbon product contamination in the immediate vicinity of the former underground storage tanks. No soil engineering or geotechnical recommendations are implied or should be inferred.

Evaluation of the geological conditions at the site for the purpose of this investigation is made from a limited number of observation points. There may be variations in subsurface conditions away from the sample points available. There are no representations, warranties, or guarantees that the points selected for sampling are in any way representative of the entire site. Data from this report reflects the sample conditions at specific locations at a specific point in time. No other interpretations, representations, warranties, guarantees, express or implied, are included or intended by this report. Additional work, including further subsurface investigation, can reduce the inherent uncertainties associated with this type of investigation.

This project involved hazardous or toxic compounds and there are certain inherent risk factors involved (such as limitations on laboratory or analytical methods or equipment, variations in subsurface conditions, and risks associated with specific analysis not requested by the client), which may adversely affect the results of the project, even though the services were performed with such skill and care as are generally accepted professional standards for the environmental geology profession.

This report and all matters contained herein were prepared for the sole and exclusive benefit of the client specified herein, and is intended only for the use of the client. Neither all, nor any part of the contents of this report, or copy thereof, shall be used for any purpose by anyone but the client specified herein nor shall it be conveyed or disseminated by anyone without the express written consent of the authors. No one, except for the client specified herein, may rely on this report for any purpose. Any person or entity who obtains or reads this report, or copy thereof, other than the client specified herein, expressly assumes all risk of damages to himself or third person arising out of reliance thereon or use thereof and waives the right to bring any action based on this report, directly or indirectly, and the author shall have no liability to any such person or entity.

10.0 DISTRIBUTION

Artesian will submit copies of this report to the following:

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P.O. Box 726
Diablo, California 94528

Mr. Barney Chan
Alameda County of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Mr. Sum Arigala
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Table 1 **Soil Laboratory Analytical Results**

4341 Howard Street, Oakland, California

Sample ID	Date Sampled	Sample Depth (feet)	EPA Method 8010 compounds µg/Kg
B1	10/13/95	8	<0.5
B2	10/13/95	8	<0.5
B3	10/13/95	11.5	<0.5

Notes

No targeted volatile halogenated compounds detected in soil samples

µg/Kg = micrograms per kilogram; equivalent to parts per billion (ppb)

Table 2 Groundwater Laboratory Analytical Results

4341 Howard Street, Oakland, California

Sample ID	Date Sampled	trans 1.2 DCE µg/L	cis 1,2 DCE µg/L	TCE µg/L	Other EPA Method 8010 compounds	TPH-g mg/L	Benzene µg/L	Toluene µg/L	Ethyl benzene µg/L	Total Xylenes µg/L
MW-1 (1)	6/25/93	NA	NA	NA	NA	**<0.05 (2)**	<0.5	<0.5	<0.5	<0.5
MW-1	7/27/93	NA	NA	NA	NA	**0.25**	**1.7**	<0.5	<0.5	<0.5
MW-1	4/27/94	NA	NA	NA	NA	**0.34**	**2.1**	<0.5	<0.5	<0.5
MW-1	7/29/94	NA	NA	NA	NA	**0.41**	**1.8**	<0.5	<0.5	<0.5
MW-1	10/25/94	NA	NA	NA	NA	<0.05	<0.5	<0.5	<0.5	<0.5
MW-1	3/23/95	**12**	**36**	**220**	ND(3)	**0.08**	**1.6**	<0.5	<0.5	<0.5
MW-1	10/16/95	**7.2**	**91**	**91**	ND	<0.05	**0.6**	<0.5	<0.5	<0.5
B1 AQ	10/13/95	<0.5	**2.2**	**4.3**	ND	NA	NA	NA	NA	NA
B2 AQ (4)	10/13/95	**3.4**	**22**	**9.7**	ND	NA	NA	NA	NA	NA
B3 AQ	10/13/95	**9.4**	**120**	**83**	ND	NA	NA	NA	NA	NA

Notes

(1) Grab water sample collected during well installation

(2) 0.37 mg/L of unknown compounds in gasoline range

(3) All other EPA METHOD 8010 analytes were below laboratory reporting limits

(4) Groundwater reacted with preservative forming small bubbles in VOA

mg/L = milligrams per Liter; equivalent to parts per million (ppm)

µg/L = micrograms per Liter; equivalent to parts per billion (ppb)

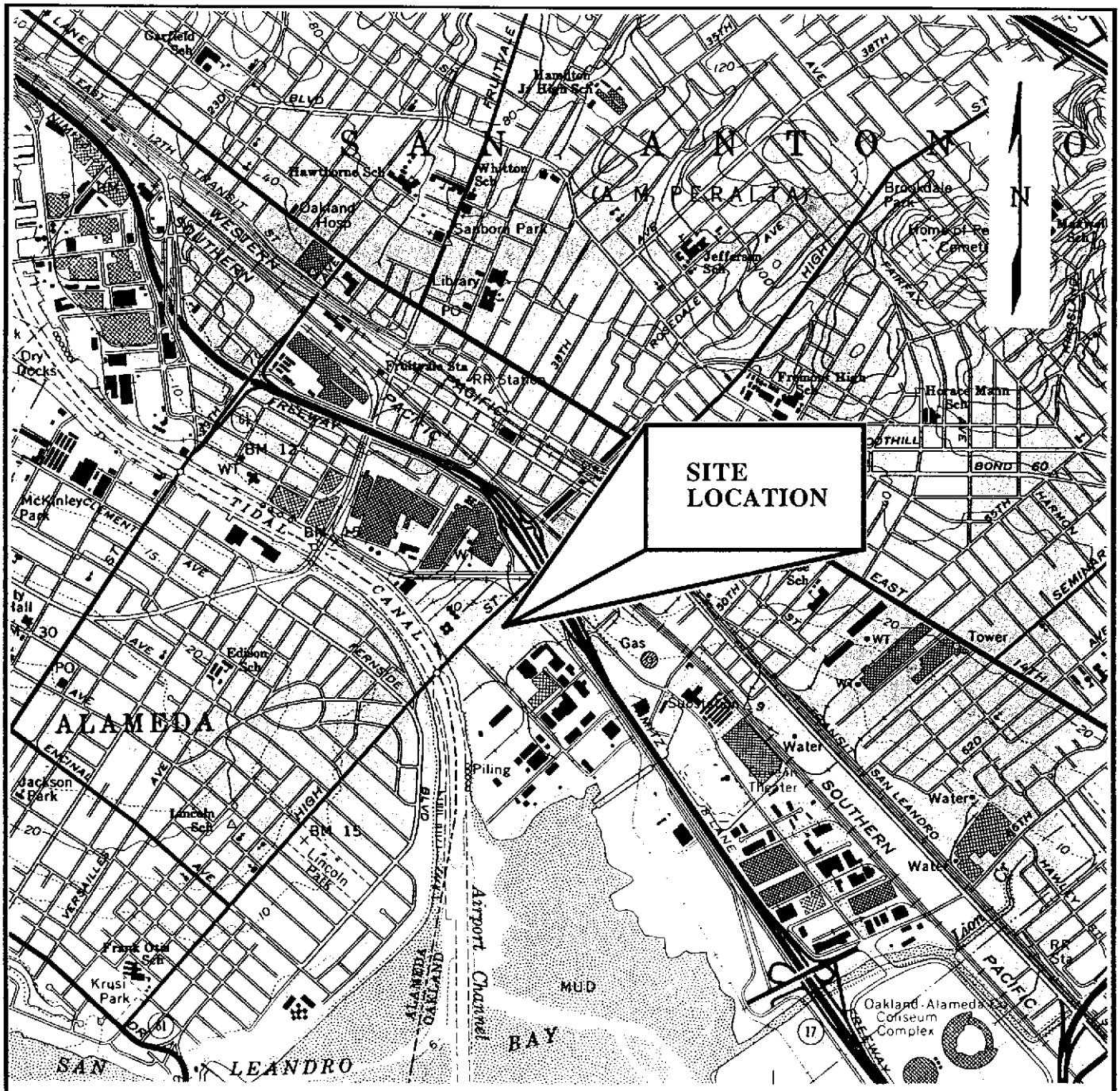
TPH-g = Total Petroleum Hydrocarbons as Gasoline

trans-1,2 DCE = trans 1,2 Dichloroethene

cis-1,2 DCE = cis 1,2 Dichloroethene

TCE = Trichloroethene

NA = Not Analyzed



OAKLAND EAST, CALIF.

SW/4 CONCORD 15' QUADRANGLE

N3745—W12207.5/7.5

1959

PHOTOREVISED 1980

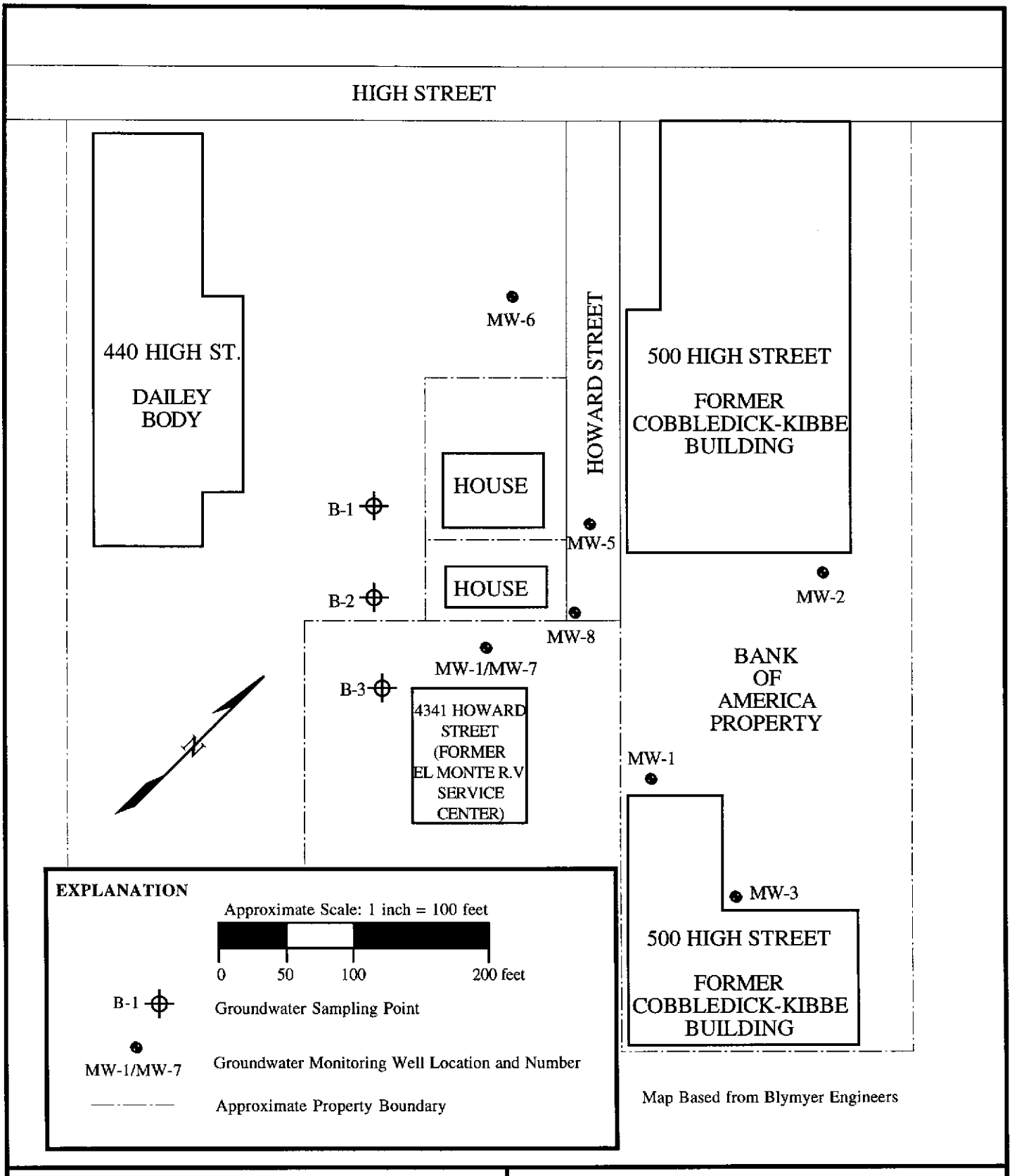
DMA 1559 I SW-SERIES V885

CONTOUR INTERVAL 20 FEET

QUADRANGLE LOCATION

ARTESIAN ENVIRONMENTAL CONSULTANTS 3100 Kerner Blvd., Suite C San Rafael, California 94901 Phone (415) 257-4801 Fax (415) 257-4805	**SITE LOCATION MAP** 4341 Howard Street Oakland, California

Project No.: 1668	Date: 1/15/96	Prepared by: T. Fortner	Figure 1



ARTESIAN ENVIRONMENTAL CONSULTANTS 3100 Kerner Blvd., Suite C San Rafael, California 94901 (415) 257-4801 Fax (415) 257-4805	**BORING LOCATION MAP** MINOR PROPERTY 4341 Howard Street Oakland, California

Project No.: 1668	Date: 1/15/96	Prepared By: T. Fortner	Figure 2

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 4341 Howard Street
Oakland, California

CLIENT
Name Jim Minor
Address P.O. Box 726 Phone (510) 833-8874
City Diablo, CA Zip 94528

APPLICANT
Name Artesian Environmental Consultants
Address 3100 Kerner Blvd., Suite C Phone (415) 257-4801
City San Rafael CA Zip 94901

TYPE OF PROJECT

Construction		Geotechnical Investigation	
athodic Protection		General	
Water Supply		Contamination	X
Monitoring		Well Destruction	

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

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ___
Cable ___ Other Direct Push

DRILLER'S LICENSE NO. C-57 624461

WELL PROJECTS
Drill Hole Diameter ___ in. Maximum
Casing Diameter ___ in. Depth ___ ft.
Surface Seal Depth ___ ft. Number ___

GEOTECHNICAL PROJECTS
Number of Borings 3 Maximum
Hole Diameter 2 in. Depth 12 ft.

ESTIMATED STARTING DATE 10/10/95
ESTIMATED COMPLETION DATE 10/10/95

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

APPLICANT'S SIGNATURE _____ Date 10/02/95

FOR OFFICE USE

PERMIT NUMBER 95654
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 5 Oct 95
Wyman Hong

31992

APPENDIX B

STANDARD OPERATING PROCEDURES

Organic Vapor Screening
Soil Sampling
Groundwater Sampling

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Artesian Environmental Consultants

Standard Operating Procedures

ORGANIC VAPOR SAMPLING

Soil samples from drill cuttings, soil piles or tank excavations are placed with minimal disturbance into pre-cleaned standard soil sample collection jars. The jars are filled to approximately one half full. The soil samples are broken up to provided sufficient surface area to allow for volatilization. Aluminum foil is placed over the mouth of the jar. The jar mouth is then capped with the lid.

The jars are then placed out of direct sunlight and allowed to sit undisturbed for a minimum of twenty minutes; allowing time for the air in the headspace and soil to equilibrate.

An organic vapor analyzer (OVA) or photoionization detector (PID) is to be calibrated and the batteries checked prior to each use. After the headspace within the sample jar and soil vapor has equilibrated, the probe of the organic vapor analyzer or photoionization detector should be inserted into the jar, puncturing the aluminum foil. The presence of any organic vapor detected should be measured and recorded in parts per million (ppm).

The samples used for collecting organic vapor data are never submitted for analytical testing.

ARTESIAN ENVIRONMENTAL

Standard Operating Procedures

Direct Push Technology - Soil Sampling
Direct push technology, also called drive point sampling and soil probing, uses portable and limited access hydraulic or pneumatic probing methods to sample soils. Artesian uses hardened stainless steel soil sampling tools. The tools are designed for discrete or continuous coring.

Piston Probe-Drive Sampler
The 2-foot to 4-foot long Probe-Drive piston sampler remains completely sealed with disposable, rubber o-rings, while it is pushed or driven to the desired sampling depth. After the sampler has been driven to the target depth, a piston stop-pin at the trailing end of the sampler is removed using steel extension rods inserted down the inside diameter of the hollow probe rods. The piston tip retracts into the sample tube as it is displaced approximately 2 feet by the soil while the sample is being collected. Soil samples are usually collected in a 2 foot long inert PETG liners (clear plastic). The liners can be cut easily with a knife. Brass, stainless steel or Teflon liners are also available to suit various sampling requirements.

Continuous Coring Tools
Artesian uses continuous coring tools ranging from 0.5 inches to 2.0 inches in diameter. The soil sampling tools range from 1.0 feet to 4.0 feet in length. The continuous coring tool contains an inner liner composed of PETG (clear plastic), brass, stainless steel or Teflon.

Drive Points
Solid, hardened steel drive points are designed to pre-probe holes or be used where difficult drilling is encountered due to hard pan soils, penetrating frost or asphalt layers. After the hard zone has been penetrated, the drive point is removed and replaced with a coring tool.

Sample Preparation
The sampler is extracted from the borehole to the surface using the Direct Push Technology (DPT) rig, a truck mounted crane, or a portable probe extractor. The sample liner containing the soil sample is removed from the sampler. The soil sample is generally logged for hydrogeologic and lithologic characteristics by a geologist or engineer under the direction and supervision of a state-registered geologist or state-registered engineer using the Unified Soil Classification System (USCS). Soil samples may be screened using an organic vapor analyzer (OVA) or a photoionization detector (PID).

After the soil samples have been logged, the portions of the soil sample selected for analysis are immediately capped on both open ends with Teflon tape, trimmed and capped with plastic caps. The samples are then labeled and placed in individual see-through zip-lock plastic bags. The samples are stored in an ice chest with crushed ice. A thermometer is kept in the ice chest to ensure that the proper temperature is maintained. The samples are then delivered under chain-of-custody to a state-certified hazardous materials testing laboratory. The above mentioned procedures minimize the potential for cross-contamination and volatilization of volatile organic compounds (VOC) prior to chemical analysis.

Decontamination
All sampling equipment is cleaned either with a hot water pressure washer or with a phosphate-free detergent wash and two de-ionized water rinses between samples and between borings to prevent cross-contamination. The sampler is then refitted with a new soil liner and re-inserted into the borehole. The sampler is driven to the next target zone. This procedure is repeated until the total depth of the borehole is reached. Since all materials generated using direct push technology are actual samples, soil disposal in not required.

Artesian Environmental Consultants

Standard Operating Procedures

MONITORING WELL SAMPLING

Prior to groundwater sampling, initial water level and floating liquid hydrocarbon measurements are recorded for each well. Each well is sounded for depth to ascertain if silting has occurred and to verify the actual depth below ground surface. These measurements are used to calculate the volume for each well. At this time, all non-dedicated pumping and sampling supplies are washed with an Alconox solution, rinsed with clean water, and final rinsed with either distilled or deionized water to prevent any cross contamination from other sampling events.

Each well is purged by evacuating a minimum of three well-casing volumes of groundwater from the well. The well water may be evacuated either by bailing, or pumping. Any of the following may be used for bailing: a dedicated pvc bailer, sterile disposable polyethylene bailer, or a stainless steel bailer. For pumping the groundwater out of the well, a downhole impeller type pump (dedicated or removable with PVC tubing), a downhole dedicated bladder pump, or a surface peristaltic pump is used.

After three to four well volumes are pumped, each well is permitted to recharge to at least 80% of original capacity or for two hours; whichever occurs first. The water is then measured to verify whether the well has stabilized. Stabilization is determined by measuring the parameters of pH; temperature; and electrical conductivity. Stabilized measurements indicate that formation water has entered the well. When two subsequent measurements of these three parameters are within 10% of each other, the well is considered stabilized and is ready to be sampled.

The samples are collected using a new polyethylene bailer with a bottom siphon and nylon cord. The bailers are disposable, and therefore, never reused. The groundwater sample is visually inspected for the presence of free product in the sampling bailer. Agitation is minimized during sample retrieval to prevent aeration during the transfer from the well to the laboratory prepared sample containers. Duplicate water samples are collected from the well and siphoned into three, 40 ml, VOA, septum top vials, with additional 950 ml samples collected in an amber glass bottles or polyethylene bottles depending on the analyses to be performed. The VOA vials are filled completely, leaving no headspace, and are sealed with Teflon-lined lids. All samples are labeled, chilled to 4° C in an ice chest, and sent to a California State Certified hazardous materials testing laboratory under chain-of-custody documentation .

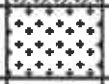
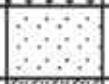
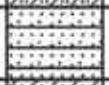
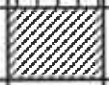
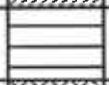
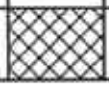
All groundwater samples are collected in accordance with California Regional Water Quality Control Board (RWQCB) procedures described in the *Leaking Underground Fuel Tank (LUFT) Field Manual*, the *Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites*, and local regulatory guidelines.

Standard Environmental Protection Agency (EPA), San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), and Department of Health Services (DHS) methodologies for sampling and analyses are routinely utilized.

Chain of Custody documentation accompanies all samples to the laboratory. A copy of the Chain of Custody documentation is attached to the Certificate of Analysis.

Monitor well purge water is properly stored and labeled on site in DOT 17-H containers pending off site disposal.

UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2488

MAJOR DIVISIONS			SYMBOL / GRAPHIC		DESCRIPTIONS
COARSE GRAINED SOILS (>50% by weight larger than #200 sieve)	GRAVEL AND GRAVELLY SOILS (more than 50% of coarse fraction is larger than the # 4 sieve)	Clean Gravels (little or no fines)	GW		Well Graded Gravels, Gravels - Sand Mixtures
			GP		Poorly Graded Gravels, Gravel - Sand Mixtures
		Gravels With Fines (appreciable amount of fines)	GM		Silty Gravels, Gravel - Sand - Silt Mixtures
			GC		Clayey Gravels, Gravel - Sand - Clay Mixures
	SAND AND SANDY SOIL (more than 50% of coarse fraction is smaller than the #4 sieve)	Clean Sands (little or no fines)	SW		Well Graded Sands, Gravelly Sands
			SP		Poorly Graded Sands, Gravelly Sands
		Sands With Fines (appreciable amount of fines)	SM		Silty Sands, Poorly Graded Sand - Silt Mixures
			SC		Clayey Sands, Poorly Graded Sand - Clay Mixures
FINE GRAINED SOILS (>50% smaller than #200 sieve)	SILTS AND CLAYS (liquid limit less than 50)		ML		Inorganic Silts and Very Fine Sands, Silty or Clayey Fine Sands
			CL		Inorganic Clays of Low to Medium Plasticity; Gravelly, Sandy or 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 Diatomateous Fine Sand 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

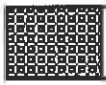
Indicates First Water

Indicates Static Water

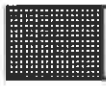
Indicates Recovered Sample

bgs — below ground surface

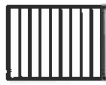
PID — Photo-ionization detector readings



Asphalt



Concrete

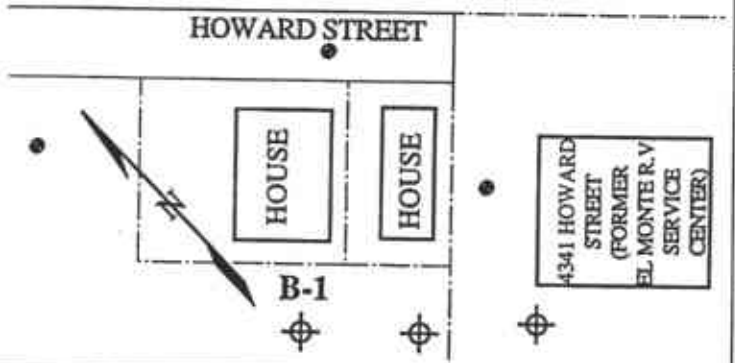


Cement Grout

Artesian Environmental Consultants
3100 Kerner Blvd., Suite C
San Rafael, California 94901

KEY TO BORING LOGS

LOG OF BORING B-1



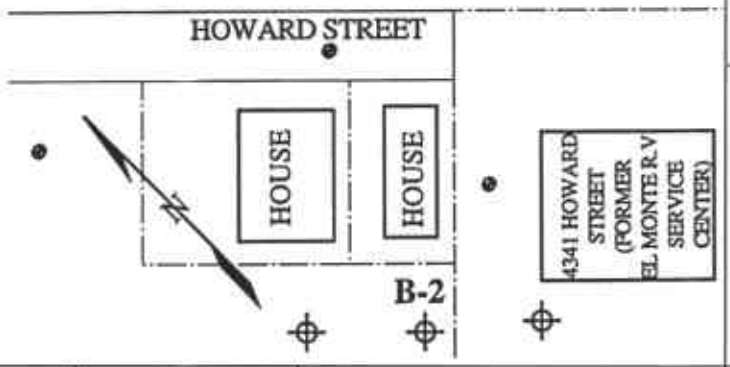
Minor Property
4341 Howard Street
Oakland, California

DATES DRILLED:	10/13/95	SAMPLING METH.:	Continous Core
DRILLING CO.:	Artesian	TOTAL DEPTH:	16.0 feet
DRILL TOOLS:	Geoprobe 5400	LOGGED BY:	J. French
DRILLER:	J. Ross	DATE DEV.:	NA
PROJECT MANAGER:	T. Fortner	DRAWN BY:	T. Fortner
ARTESIAN JOB NO.:	1668	DRAW DATE:	1/3/96

ARTESIAN ENVIRONMENTAL CONSULTANTS
3100 KERNER BLVD., SUITE C • SAN RAFAEL, CA 94901
TEL (415) 257-4801; FAX (415) 257-4805

DEPTH (feet)	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMPLE NO.	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
0		Asphalt: (3" thick)					
		SM: Silty Sand (Fill), green brown, dry, fine sand, some fine to medium gravel, rare gravel.			0		
-5		CH: Silty Clay, black, damp, trace fine to medium sand, very stiff.			0		
		ML: Clayey Silt, black, little coarse sand, some fine gravel, stiff.	B1		0		
-10		ML: Clayey Silt, gray brown, little coarse sand, some plant material, stiff.			0		
					0		
-15							Backfilled 0 to 16 feet bgs: Bentonite (3%) cement grout.

LOG OF BORING B-2



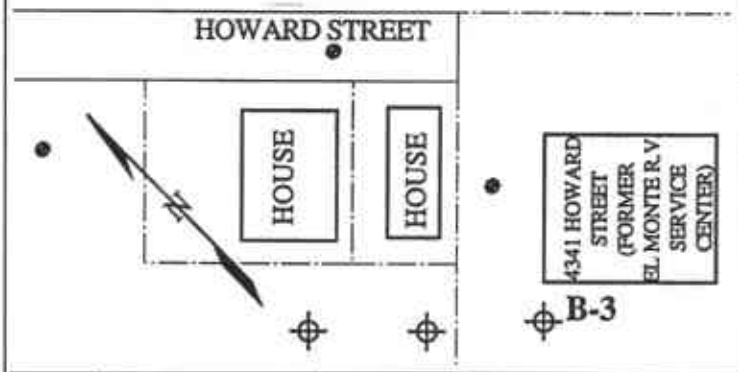
Minor Property
4341 Howard Street
Oakland, California

DATES DRILLED:	10/13/95	SAMPLING METH.:	Continous Core
DRILLING CO.:	Artesian	TOTAL DEPTH:	16.0 feet
DRILL TOOLS:	Geoprobe 5400	LOGGED BY:	J. French
DRILLER:	J. Ross	DATE DEV.:	NA
PROJECT MANAGER:	T. Fortner	DRAWN BY:	T. Fortner
ARTESIAN JOB NO.:	1668	DRAW DATE:	1/3/96

ARTESIAN ENVIRONMENTAL CONSULTANTS
3100 KERNER BLVD., SUITE C • SAN RAFAEL, CA 94901
TEL (415) 257-4801; FAX (415) 257-4805

DEPTH (feet)	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMPLE NO.	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
0		Asphalt: (3" thick)					
		SM: Silty Sand (Fill), green brown, dry, fine to medium sand, some fine to medium gravel, trace clay.			0		
-5		CH: Clay, black, damp, trace fine to medium sand, very stiff.			0		
					0		
▽			B2				
-10		ML: Clayey Silt, gray brown, damp, little fine to medium sand, some fine to medium gravel, stiff.			0		
		ML: Clayey Silt, light brown, little very fine sand, some root hairs, stiff.			0		
					0		
-15		SC: Silty Sandy Clay, orange brown, abundant organic material, occasional coarse sand.			0		Backfilled 0 to 16 feet bgs: Bentonite (3%) cement grout.

LOG OF BORING B-3



Minor Property
4341 Howard Street
Oakland, California

DATES DRILLED:	10/13/95	SAMPLING METH.:	Continous Core
DRILLING CO.:	Artesian	TOTAL DEPTH:	16.0 feet
DRILL TOOLS:	Geoprobe 5400	LOGGED BY:	J. French
DRILLER:	J. Ross	DATE DEV.:	NA
PROJECT MANAGER:	T. Fortner	DRAWN BY:	T. Fortner
ARTESIAN JOB NO.:	1668	DRAW DATE:	1/3/96

ARTESIAN ENVIRONMENTAL CONSULTANTS
3100 KERNER BLVD., SUITE C • SAN RAFAEL, CA 94901
TEL (415) 257-4801; FAX (415) 257-4805

DEPTH (feet)	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMPLE NO.	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
0		Asphalt: (3" thick)					
		GC: Clayey Gravel (Fill), gray brown, occasional silt and fine sand, abundant fine to medium gravel, stiff.			0		
-5		SM: Silty Sand, green brown, damp, fine to medium sand, some clay.			0		
		CH: Silty Clay, black, damp, trace coarse sand, some root hairs, very stiff.			0		
-10			B3		0		
		ML: Clayey Silt, gray, some root hairs, some fine to medium gravel, stiff.			0		
-15		SC: Sandy Gravel, gray brown, abundant fine to coarse sand and fine to coarse gravel.					
		SM: Silty Clayey Sand, brown, abundant organic material, trace coarse sand.			0		Backfilled 0 to 16 feet bgs: Bentonite (3%) cement grout.

APPENDIX D

LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY RECORDS

3100 Kerner Blvd., Suite C · San Rafael, CA · 94901 · (415) 257-4801 · FAX (415) 257-4805

CHROMALAB, INC.

Environmental Services (SDB)

October 31, 1995 *Submission #:* 9510239

ARTESIAN ENV. CONSULTANTS

Atten: Tom Fortner

Project: MINOR *Project#:* 1617
Received: October 17, 1995

re: One sample for Volatile Halogenated Organics analysis.
Method: EPA 8010/8260

SampleID: **B1**
Sample #: 106850 *Matrix:* SOIL
Sampled: October 13, 1995 *Run:* 9121-O *Analyzed:* October 26, 1995

Analyte	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	102
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	118
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

October 31, 1995 *Submission #:* 9510239

ARTESIAN ENV. CONSULTANTS

Atten: Tom Fortner

Project: MINOR *Project#:* 1617
Received: October 17, 1995

re: One sample for Volatile Halogenated Organics analysis.
Method: EPA 8010/8260

SampleID: **B2**
Sample #: 106851 *Matrix:* SOIL
Sampled: October 13, 1995 *Run:* 9121-O *Analyzed:* October 26, 1995

Analyte	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	102
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	118
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

October 31, 1995 *Submission #:* 9510239

ARTESIAN ENV. CONSULTANTS

Atten: Tom Fortner

Project: MINOR *Project#:* 1617
Received: October 17, 1995

re: One sample for Volatile Halogenated Organics analysis.
Method: EPA 8010/8260

SampleID: **B3**
Sample #: 106852 *Matrix:* SOIL
Sampled: October 13, 1995 *Run:* 9121-O *Analyzed:* October 26, 1995

Analyte	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	5.0	N.D.	--
VINYL CHLORIDE	N.D.	5.0	N.D.	--
BROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	102
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	5.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	5.0	N.D.	--
CHLOROFORM	N.D.	5.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	5.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	5.0	N.D.	--
TRICHLOROETHENE	N.D.	5.0	N.D.	118
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	--
2-CHLOROETHYL VINYL ETHER	N.D.	5.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.	--
TETRACHLOROETHENE	N.D.	5.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.	--
CHLOROBENZENE	N.D.	5.0	N.D.	116
BROMOFORM	N.D.	5.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.	--

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

October 27, 1995 *Submission #:* 9510239

ARTESIAN ENV. CONSULTANTS

Atten: Tom Fortner

Project: MINOR *Project#:* 1617
Received: October 17, 1995

re: One sample for Volatile Halogenated Organics analysis.
Method: EPA 8010

SampleID: **B1 AQ**
Sample #: 106846 *Matrix:* WATER
Sampled: October 13, 1995 *Run:* 9124-O *Analyzed:* October 25, 1995

Analyte	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	121
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	2.2	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	4.3	0.5	N.D.	112
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

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(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

October 27, 1995 *Submission #:* 9510239

ARTESIAN ENV. CONSULTANTS

Atten: Tom Fortner

Project: MINOR *Project#:* 1617
Received: October 17, 1995

re: One sample for Volatile Halogenated Organics analysis.
Method: EPA 8010

SampleID: **B2 AQ**
Sample #: 106847 *Matrix:* WATER
Sampled: October 13, 1995 *Run:* 9124-O *Analyzed:* October 25, 1995

Analyte	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	121
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	3.4	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	22	0.5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	9.7	0.5	N.D.	112
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

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CHROMALAB, INC.

Environmental Services (SDB)

October 27, 1995 *Submission #:* 9510239

ARTESIAN ENV. CONSULTANTS

Atten: Tom Fortner

Project: MINOR *Project#:* 1617
Received: October 17, 1995

re: One sample for Volatile Halogenated Organics analysis.
Method: EPA 8010

SampleID: **B3 AQ**
Sample #: 106848 *Matrix:* WATER
Sampled: October 13, 1995 *Run:* 9124-O *Analyzed:* October 25, 1995

Analyte	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	0.5	N.D.	--
VINYL CHLORIDE	N.D.	0.5	N.D.	--
BROMOMETHANE	N.D.	0.5	N.D.	--
CHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	0.5	N.D.	--
1,1-DICHLOROETHENE	N.D.	0.5	N.D.	121
METHYLENE CHLORIDE	N.D.	0.5	N.D.	--
TRANS-1,2-DICHLOROETHENE	9.4	0.5	N.D.	--
CIS-1,2-DICHLOROETHENE	120	5	N.D.	--
1,1-DICHLOROETHANE	N.D.	0.5	N.D.	--
CHLOROFORM	N.D.	0.5	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	0.5	N.D.	--
CARBON TETRACHLORIDE	N.D.	0.5	N.D.	--
1,2-DICHLOROETHANE	N.D.	0.5	N.D.	--
TRICHLOROETHENE	83	5	N.D.	112
1,2-DICHLOROPROPANE	N.D.	0.5	N.D.	--
BROMODICHLOROMETHANE	N.D.	0.5	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	0.5	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	0.5	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	0.5	N.D.	--
TETRACHLOROETHENE	N.D.	0.5	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	0.5	N.D.	--
CHLOROBENZENE	N.D.	0.5	N.D.	115
BROMOFORM	N.D.	0.5	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	0.5	N.D.	--
1,3-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,4-DICHLOROBENZENE	N.D.	0.5	N.D.	--
1,2-DICHLOROBENZENE	N.D.	0.5	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	0.5	N.D.	--

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CHROMALAB, INC.

Environmental Services (SDB)

November 6, 1995 *Submission #:* 9510239

ARTESIAN ENV. CONSULTANTS *Revised from report sent October 27, 1995*

Atten: Tom Fortner

Project: MINOR *Project#:* 1617
Received: October 17, 1995

re: One sample for Volatile Halogenated Organics analysis.
Method: EPA 8010

SampleID: **MW-1/MW-7**
Sample #: 106849 *Matrix:* WATER
Sampled: October 16, 1995 *Run:* 9148-O *Analyzed:* October 27, 1995

Analyte	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
CHLOROMETHANE	N.D.	2.0	N.D.	--
VINYL CHLORIDE	N.D.	2.0	N.D.	--
BROMOMETHANE	N.D.	2.0	N.D.	--
CHLOROETHANE	N.D.	2.0	N.D.	--
TRICHLOROFLUOROMETHANE	N.D.	2.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	2.0	N.D.	97
METHYLENE CHLORIDE	N.D.	2.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	7.2	2.0	N.D.	--
CIS-1,2-DICHLOROETHENE	91	2.0	N.D.	--
1,1-DICHLOROETHANE	N.D.	2.0	N.D.	--
CHLOROFORM	N.D.	2.0	N.D.	--
1,1,1-TRICHLOROETHANE	N.D.	2.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	2.0	N.D.	--
1,2-DICHLOROETHANE	N.D.	2.0	N.D.	--
TRICHLOROETHENE	91	2.0	N.D.	110
1,2-DICHLOROPROPANE	N.D.	2.0	N.D.	--
BROMODICHLOROMETHANE	N.D.	2.0	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	2.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	2.0	N.D.	--
TETRACHLOROETHENE	N.D.	2.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	2.0	N.D.	--
CHLOROBENZENE	N.D.	2.0	N.D.	112
BROMOFORM	N.D.	2.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	2.0	N.D.	--
1,3-DICHLOROBENZENE	N.D.	2.0	N.D.	--
1,4-DICHLOROBENZENE	N.D.	2.0	N.D.	--
1,2-DICHLOROBENZENE	N.D.	2.0	N.D.	--
TRICHLOROTRIFLUOROETHANE	N.D.	2.0	N.D.	--

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CHROMALAB, INC.

Environmental Services (SDB)

November 1, 1995 *Submission #:* 9510239

ARTESIAN ENV. CONSULTANTS *Revised from report sent October 31, 1995*

Atten: Tom Fortner

Project: MINOR *Project#:* 1617
Received: October 17, 1995

re: 1 sample for Gasoline and BTEX analysis.
Method: EPA 5030/8015M/602/8020

Sampled: October 16, 1995 *Matrix:* WATER
Run: 8972-4 *Analyzed:* October 18, 1995

Spl #	Sample ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
106849	MW-1/MW-7	N.D.	0.6	N.D.	N.D.	N.D.
	Reporting Limits	0.05	0.5	0.5	0.5	0.5
	Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
	Blank Spike Result (%)	88	116	113	113	111

Jaspal Singh
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239/106840/[redacted] 85

24447

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

SUBM #: 9510239 REP: PM
CLIENT: ARTESIAN
DUE: 10/31/95
REF #:24447

Chain of Custody

DATE 10/13/95 PAGE 1 OF 1

PROJ MGR Tom Fortner
COMPANY Artesian Environmental
ADDRESS 3100 Kerner Blvd, Ste C
San Rafael, CA 94901

SAMPLERS (SIGNATURE) Jason French

(PHONE NO.) (415)257-4801
(FAX NO.) (415) 257-4805

REPORT

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel, TEPH (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)		LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CONTAINERS
B1 AQ	10/13/95	4:02	H_2O	HCl					X																3
B2 AQ	10/13/95	3:00	H_2O	HCl					X																4
B3 AQ	10/13/95	2:19	H_2O	HCl					X																3
MW-1/MW-7	10/16/95	12:15	H_2O	HCl		X			X																6
B1	10/13/95	1:26	Soil	-					X																1
B2	10/13/95	11:47	Soil	-					X																1
B3	10/13/95	10:37	Soil	-					X																1

PROJECT INFORMATION

PROJECT NAME: MINOR
PROJECT NUMBER: 1617
P.O. #:

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

TAT: STANDARD / 5-DAY / 10-DAY (10-DAY) | 24 | 48 | 72 | OTHER

SPECIAL INSTRUCTIONS/COMMENTS:

10 DAY TURN AROUND.
PRESERVATIVE REACTED WITH H_2O IN B2AQ - RESULTING IN AIR BUBBLES.

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(SIGNATURE) Jason French (TIME) 1115	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) Jason French (DATE) 10/17/95	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY) Artesian Environmental	(COMPANY)	(COMPANY)
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3**
(SIGNATURE) (TIME) 1115	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) R McCray (DATE) 10-17-95	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY) Chromalab	(COMPANY)	(LAB)