



REMEDIAL ACTION COMPLETION CERTIFICATION

**StID 4602 - 603 Key Route Blvd., Albany, CA
(1-2K gallons heating oil tank removed on September 14, 1998)**

July 2, 1999

Mr. Rich Vila
Albany Unified School District
590 S 33rd Street
Richmond, CA 94804

Dear Mr. Vila:

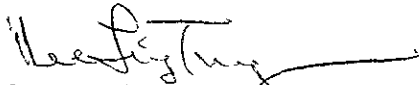
This letter confirms the completion of site investigation and remedial action for the underground storage tank formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, Section 2721(e) of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,


Mee Ling Tung, Director

cc: Richard Pantages, Chief of Division of Environmental Protection
Chuck Headlee, RWQCB
Dave Deaner, SWRCB
Brian Crudo, Albany Fire Department, 1000 San Pablo Ave., Albany, CA 94706
files-ec (albanyhs-4)

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



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

StID 4602

July 2, 1999

Mr. Rich Vila
Albany Unified School District
590 S 33rd Street
Richmond, CA 94804

Re: Fuel Leak Site Case Closure for 603 Key Route Blvd., Albany, CA

Dear Mr. Vila:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Protection Division is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- up to 2,500ppm TPH as diesel and 2,400ppm TOG exists in soil beneath the site;
- up to 810ppb TPHd and 100ppb TPHg exists in groundwater beneath the site;
- a risk management plan has been prepared for the site in the event of excavation/trenching in the vicinity of the former underground storage tank; and,
- a site safety plan must be prepared for construction workers in the event of excavation/trenching is proposed in the vicinity of residual soil and groundwater contamination.

If you have any questions, please contact me at (510) 567-6762.

eva chu
Hazardous Materials Specialist

enclosures: 1. Case Closure Letter 2. Case Closure Summary

c: Ann Chaney, Community Development Director, City of Albany, Planning Dept,
1000 San Pablo Ave, Albany, CA 94706
files (albanyhs-5)

ALAMEDA COUNTY
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Sincerely,

A handwritten signature in black ink, appearing to read 'Mee Ling Tung', written over a horizontal line.

Mee Ling Tung, Director

cc: Richard Pantages, Chief of Division of Environmental Protection
Chuck Headlee, RWQCB
Dave Deaner, SWRCB
Brian Crudo, Albany Fire Department, 1000 San Pablo Ave., Albany, CA 94706
files-ec (albanyhs-4)

BB# 01-2454

CALIFORNIA REGIONAL WATER

JUN 29 1999

QUALITY CONTROL BOARD

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: May 28, 1999

Agency name: **Alameda County-HazMat**
City/State/Zip: **Alameda, CA 94502**
Responsible staff person: **Eva Chu**

Address: **1131 Harbor Bay Pkwy**
Phone: **(510) 567-6700**
Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: **Albany High School**
Site facility address: **603 Key Route Blvd., Albany, CA 94706**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **4602**
URF filing date: **10/15/98** SWEEPS No: **N/A**

<u>Responsible Parties:</u>	<u>Addresses:</u>	<u>Phone Numbers:</u>
Rich Vila Albany Unified School District	590 S 33 rd Street Richmond, CA 94804	(510) 559-6600

<u>Tank No:</u>	<u>Size in gal.:</u>	<u>Contents:</u>	<u>Closed in-place or removed?:</u>	<u>Date:</u>
1	2,000	Heating Oil	Removed	10/14/98

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Unknown**
Site characterization complete? **YES**
Date approved by oversight agency: **5/14/99**
Monitoring Wells installed? **No, but 7 temporary wells points were installed.**
Proper screened interval? **Yes, from 8' to 10'bgs to bottom of borehole (16' to 21'bgs)**
Highest GW depth below ground surface: **6.47'** Lowest depth: **7.86' in SB-3**
Flow direction: **Southwest at a gradient of 0.04 ft/ft**
Most sensitive current use: **High School**
Are drinking water wells affected? **No** Aquifer name: **Unknown**
Is surface water affected? **No** Nearest affected SW name: **NA**
Off-site beneficial use impacts (addresses/locations): **None**
Report(s) on file? **YES** Where is report(s) filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda, CA 94502

Treatment and Disposal of Affected Material:

<u>Material</u>	<u>Amount (include units)</u>	<u>Action (Treatment or Disposal w/destination)</u>	<u>Date</u>
Tank	1 UST	Disposed by ECI, in Richmond, CA	10/14/98
Soil	270 cy	Disposed at Altamont LF in Livermore, CA	Nov 1998
Rinsate	1050 gallons	Disposed by Clearwater	10/13/98

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

<u>Contaminant</u>	<u>Soil (ppm)</u>		<u>Water (ppb)</u>	
	<u>Before¹</u>	<u>After²</u>	<u>Before³</u>	<u>After⁴</u>
TPH (Gas)	74	74	ND	100
TPH (Diesel)	1,300	2,500	920	810
Benzene	ND	ND	ND	ND
Toluene	.036	.067	ND	1.1
Ethylbenzene	ND	.008	ND	67
Xylenes	.380	.790	ND	6.3
MTBE	ND	ND	ND	ND
TOG	14,000	2,400	ND	ND
Other PAH	ND	ND	ND	ND

- NOTE: 1 soil sample collected below the UST after removal, 10/98
 2 soil samples collected from the trenches, which were not overexcavated. 10/98
 3 grab groundwater from tank pit, 10/98
 4 grab groundwater from borings advanced in March 1999

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? _____

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? _____

Does corrective action protect public health for current land use? **YES**

Site management requirements: **A Risk Management Plan has been submitted for the site. In addition, a site safety plan must be prepared for construction workers in the event excavation/trenching is proposed in the vicinity of residual soil and groundwater contamination.**

Should corrective action be reviewed if land use changes? **YES**

Monitoring wells Decommissioned: **NA**

Number Decommissioned: **NA** Number Retained:

List enforcement actions taken: **NA**

List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Eva Chu**

Title: **Haz Mat Specialist**

Signature: 

Date: **4/14/99**

Reviewed by

Name: **Barney Chan**


Title: **Haz Mat Specialist**

Signature: 

Date: **6/3/99**

Name: **Thomas Peacock**

Title: **Supervisor**

Signature: 

Date: **6-9-99**

VI. RWQCB NOTIFICATION

Date Submitted to RB: **6/15/99**

RB Response: **concur**

RWQCB Staff Name: **Chuck Headlee**

Title: **EG**

Signature: 

Date: **6/28/99**

VII. ADDITIONAL COMMENTS, DATA, ETC.

The site is part of the Albany Unified School District (AUSD). It is currently vacant but the construction of a high school is planned for the site.

A 2,000 gallon heating oil UST was removed on October 14, 1998. The depth of the UST was at approximately 12'bgs. Soil below the UST exhibited a strong petroleum odor and contained globules of weathered heating oil. Initially, groundwater was not encountered in the pit. Two soil samples (CS-East and CS-West) were collected from the floor of the excavation at 13'bgs and a soil sample (CS-North) was collected from the sidewall at 13'bgs. (See Figs 1, 2 and Table 1)

The pit was overexcavated to dimensions of 20' by 15' by 14'deep. Still, hydrocarbon-impacted soil was observed on the sidewalls and a thick, free-phase product was seeping from the walls in some locations. During overexcavation weathered bedrock was encountered at 12' to 14'bgs. Groundwater slowly seeped into the pit. At this time, it was determined that exploratory trenching would be more appropriate to delineate the lateral extent of soil contamination.

A northward trench was excavated and stopped 25' north of the UST excavation, where the sidewalls no longer appeared stained. A westward trench extended 65' west of the west wall of the excavation was stopped due to space constraints, even though free product was seen seeping slowly into the westernmost end of the trench at 13'bgs. And, a trench was excavated toward the south, extending

approximately 55' south of the tank pit, stopping even though globules of product were still present in the soil. No trenching was conducted in the easterly direction due to space constraints. (See Fig 2)

A total of 16 soil samples were collected from the trenches. Only two soil samples each from the west and south trenches were submitted for laboratory analysis. And one groundwater sample (GW-1) was collected from the pit. A maximum of 2,500ppm TPHd, 74ppm TPHg, 14,000ppm TOG, and trace levels of TEX were identified in the soil samples. Benzene, MTBE and PAHs were not detected. The groundwater sample contained 920ppb TPHd, and was non-detect for the other analytes sought. (See Table 1)

In order to delineate the extent of soil and groundwater contamination at the site, seven soil borings (SB-1 through SB-7) were advanced to depths ranging from 16.5' to 21'bgs, when weathered bedrock was encountered. A soil sample collected from just above the water table and/or the soil sample displaying the highest PID reading from each boring was submitted for laboratory analysis. (See Fig 3)

To facilitate the collection of groundwater samples, temporary groundwater sampling points were constructed in the boreholes. A slotted PVC casing was placed in each borehole and the annular space packed with sand. Each borehole was purged before sampling. Groundwater elevation measurements were also collected. Groundwater flowed to the southwest at a gradient of 0.04ft/ft. Soil and groundwater samples were analyzed for TPHg, TPHd, BTEX, and MTBE. The most impacted soil and groundwater samples were also analyzed for PAHs. In addition, one soil sample was also analyzed for bulk density, water content, total organic carbon content, and porosity to assist in assessing risk to human exposure due to residual hydrocarbons in soil.

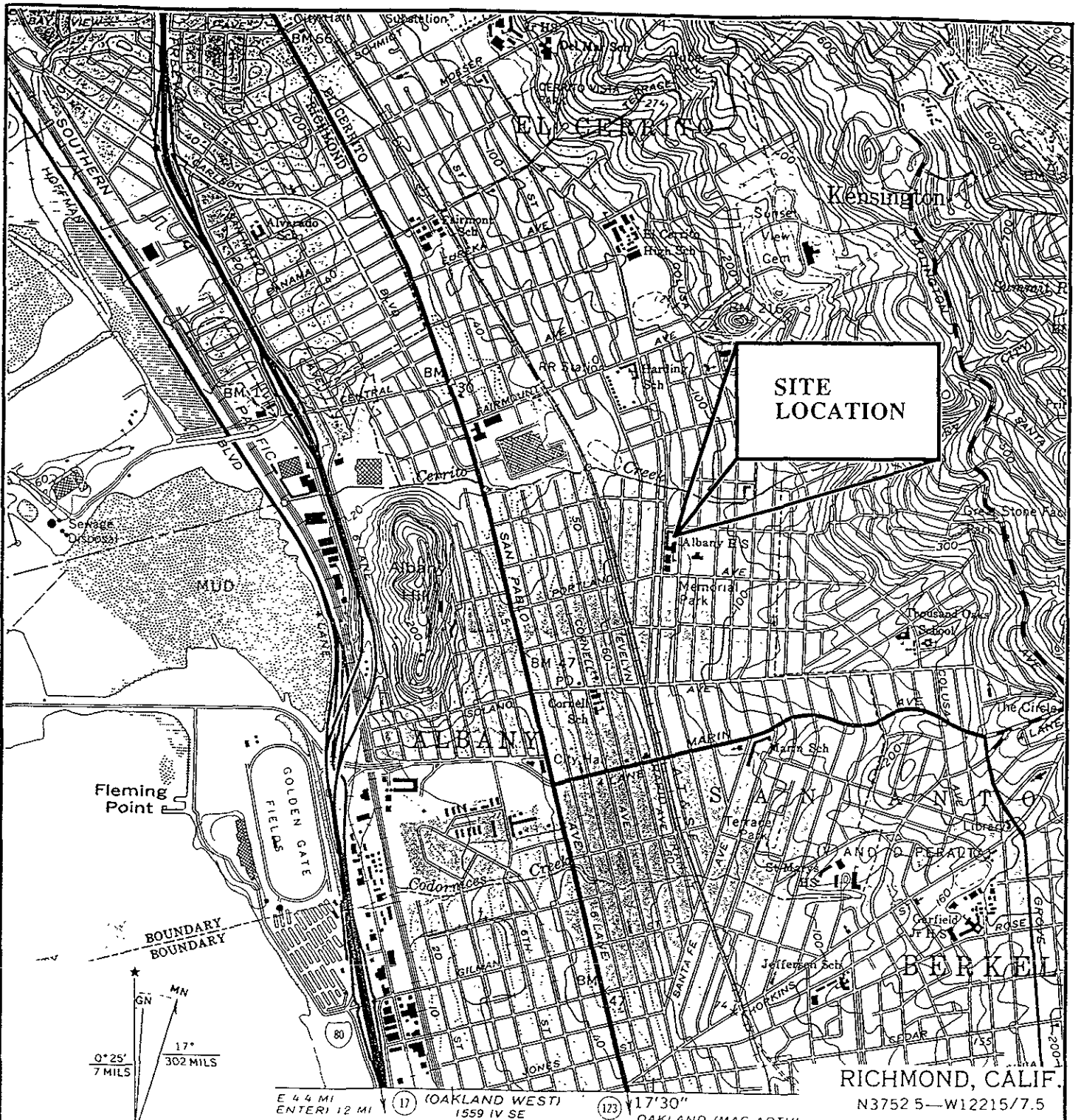
Only soil samples from boring SB-3 contained elevated hydrocarbons. At 13'bgs, soil contained up to 1,700ppm TOG, 1,600ppm TPHd, and 32ppm TPHg. No benzene, MTBE or PAHs were detected. Groundwater from each boring (except boring SB-2) contained low levels of hydrocarbons. A maximum of 810ppb TPHd, 100ppb TPHg, and ND, 1.1, 67, and 6.3ppb BTEX, respectively, were detected. MTBE, TOG, and PAHs were not detected above the laboratory detection limits. It appears levels of regulated petroleum constituents (BTEX, MTBE, PAH) are below their MCL's for drinking water and below Tier 1 RBSLs in a residential soil scenario. (See Tables 2 and 3)

During purging, pH, temperature, conductivity, Oxidation Reduction Potential, Dissolved Oxygen and Iron were measured in groundwater. In addition, alkalinity, nitrate, sulfate, and carbon dioxide were measured. Based on these measurements, it was concluded that intrinsic biodegradation is occurring anaerobically in groundwater at the site.

Finally, risk management plan (RMP) was prepared for the site which would be protective of construction workers in the event of construction at the site. A vapor barrier will also be placed under the proposed building footprint. The RMP will be kept at the Albany Unified School District, at Alameda County Department of Environmental Health, onsite during any construction activities, and onsite during permanent occupancy. (See attached RMP)

In summary, case closure is recommended because:

- the leak and ongoing sources have been removed;
- groundwater is less than 50 ft deep;
- the site has been adequately characterized;
- the dissolved hydrocarbon plume is not migrating;
- no preferential pathways exist at the site;
- no water wells, surface water, or other sensitive receptors are likely to be impacted; and,
- the site presents no significant risk to human health or the environment.

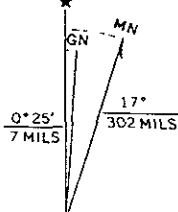


**SITE
LOCATION**

Fleming Point

GOLDEN GATE FIELDS

BOUNDARY
BOUNDARY



E 44 MI ENTER 12 MI (17) OAKLAND WEST 1559 IV SE (12) 17'30" OAKLAND (MAC ARTHUR) ALAMEDA (CITY HALL)

RICHMOND, CALIF.
N3752 5—W12215/7.5

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24,000

1959
PHOTOREVISED 1958 AND 1973
AMS 1553 V NE-SERIES V855

CONTOUR INTERVAL 20 FEET

ARTESIAN ENVIRONMENTAL

229 TOWNSHIP AVENUE
Point Richmond, California 94804
PHONE (415) 307-9913 FAX (415) 382-2825

SITE LOCATION MAP

Albany Unified School District
103 Rec Room Building
Albany, California

NO. 578 001 01	DATE 1980	DESIGNED & DRAWN	CHECKED
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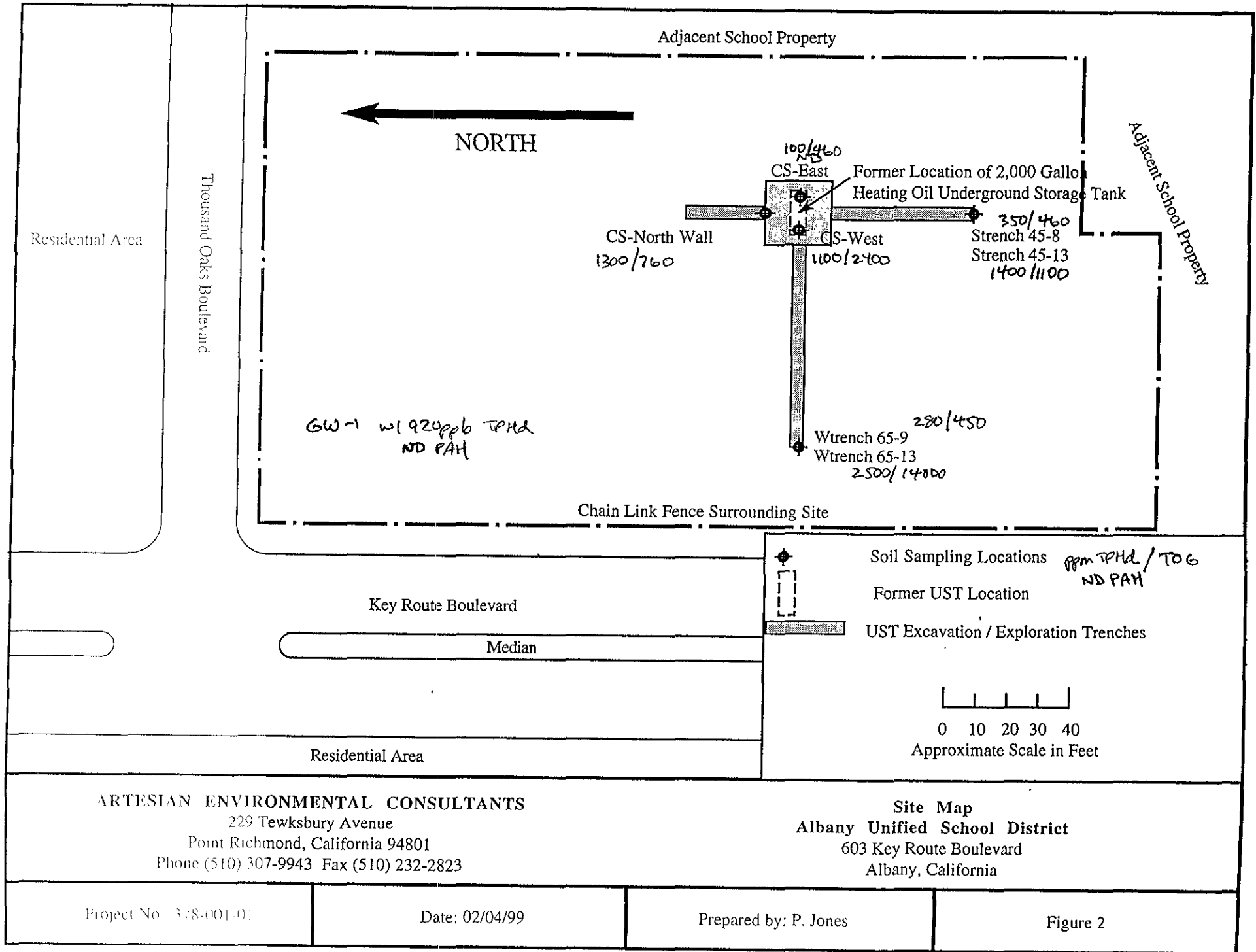
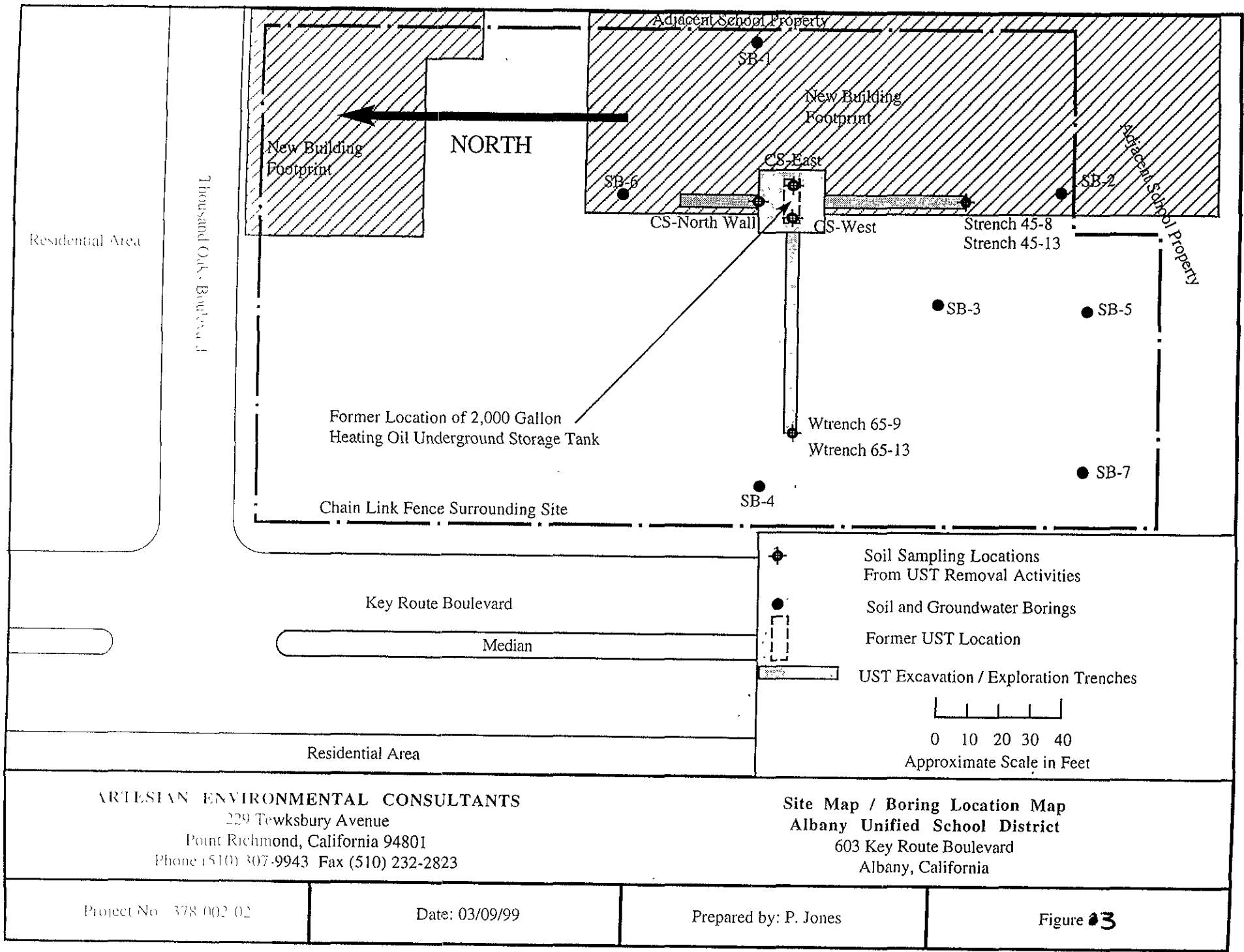


TABLE 1: EXCAVATION SOIL AND GROUNDWATER SAMPLE RESULTS
 Albany Unified School District
 603 Key Route Boulevard
 Albany, California

Sample Location	Sample Date	TPH-d mg/Kg	TPH-g mg/Kg	TPH-og mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethylbenzene mg/Kg	Xylenes mg/Kg	MTBE mg/Kg	PAH mg/Kg
CS-East	10-14-98	100	11	460	ND	ND	ND	0.057	ND	All ND
CS-West	10-14-98	1,100	74	2,400	ND	0.031	ND	0.330	ND	NA
CS-North Wall	10-14-98	1,300	NA	760	ND	0.036	ND	0.380	NA	NA
W Trench 65-13	10-16-98	2,500	NA	14,000	ND	0.067	ND	0.790	NA	NA
W Trench 65-9	10-19-98	280	NA	450	ND	ND	0.008	0.028	NA	NA
S Trench 45-8	10-19-98	350	NA	460	ND	ND	ND	0.013	NA	NA
S Trench 45-13	10-19-98	1,400	NA	1,100	ND	0.021	ND	0.230	NA	NA
GW-1*	10-19-98	920 µg/L	ND	ND	ND	ND	ND	ND	ND	All ND

NOTES:

TPH-g	Total Petroleum Hydrocarbons as gasoline	mg/Kg	milligrams per kilogram (ppm)
TPH-d	Total Petroleum Hydrocarbons as diesel	µg/L	micrograms per liter (ppb)
TPH-og	Total Petroleum Hydrocarbons as oil and grease	ND	Not Detected (above reporting limit)
MTBE	Methyl Tertiary Butyl Ether	NA	Not Analyzed
PAH	Polynuclear Aromatic Hydrocarbons	ppm	parts per million
*	Groundwater sample results reported in µg/L	ppb	parts per billion



Soil Sampling Locations From UST Removal Activities
 Soil and Groundwater Borings
 Former UST Location
 UST Excavation / Exploration Trenches

0 10 20 30 40
 Approximate Scale in Feet

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

Site Map / Boring Location Map
Albany Unified School District
 603 Key Route Boulevard
 Albany, California

Project No 378-002-02

Date: 03/09/99

Prepared by: P. Jones

Figure #3

TABLE 32 SOIL SAMPLE RESULTS
Albany Unified School District
603 Key Route Boulevard
Albany, California

Sample Location	Sample Date	TOG mg/Kg	TPH-d mg/Kg	TPH-g mg/Kg	Benzene µg/Kg	Toluene µg/Kg	Ethylbenzene µg/Kg	Xylenes µg/Kg	MTBE µg/Kg
SB1-12	3-30-99	14	1	ND	ND	ND	ND	ND	ND
SB2-13	3-30-99	ND	ND	ND	ND	ND	ND	ND	ND
SB3-9	3-30-99	1,000	600	20	ND	ND	ND	ND	ND
SB3-13	3-30-99	1,700	1,600	32	ND	20	37	150	ND
SB4-14.5	3-30-99	ND	ND	ND	ND	ND	ND	ND	ND
SB5-15	3-30-99	ND	ND	ND	ND	ND	ND	ND	ND
SB6-13	3-30-99	ND	ND	ND	ND	10	ND	10	ND
SB7-12	3-30-99	ND	ND	ND	ND	ND	ND	ND	ND
CS-East	10-14-98	460	100	11	ND	ND	ND	57	ND
CS-West	10-14-98	2,400	1,100	74	ND	31	ND	330	ND
CS-North Wall	10-14-98	760	1,300	NA	ND	36	ND	380	NA
WTrench 65-13	10-16-98	14,000	2,500	NA	ND	67	ND	790	NA
WTrench 65-9	10-19-98	450	280	NA	ND	ND	8	28	NA
STrench 45-8	10-19-98	460	350	NA	ND	ND	ND	13	NA
STrench 45-13	10-19-98	1,100	1,400	NA	ND	21	ND	230	NA

Sample Location	Sample Date	PAH mg/Kg	Moisture Wt. %	Density g/cc	Porosity Vol. %
SB1-12	3-30-99	NA	NA	NA	NA
SB2-13	3-30-99	All ND	18	1.9	40
SB3-13	3-30-99	NA	NA	NA	NA
SB4-14.5	3-30-99	NA	NA	NA	NA
SB5-15	3-30-99	NA	NA	NA	NA
SB6-13	3-30-99	NA	NA	NA	NA
SB7-12	3-30-99	NA	NA	NA	NA
CS-East	10-14-98	All ND	NA	NA	NA

SB3
SB2

NOTES:			
TPH-g	Total Petroleum Hydrocarbons as gasoline	MTBE mg/Kg	Methyl Tertiary Butyl Ether micrograms per Kilogram (ppm)
TPH-d	Total Petroleum Hydrocarbons as diesel	µg/Kg	micrograms per Kilogram (ppb)
TOG	Total Oil and Grease	ND	Not Detected (above method reporting limit)
PAH	Polycyclic Aromatic Hydrocarbons	NA	Not Analyzed

TABLE 4: GROUNDWATER SAMPLE RESULTS

Albany Unified School District
 603 Key Route Boulevard
 Albany, California

Sample Location	Sample Date	TOG mg/L	TPH-d µg/L	TPH-g µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L
SB-1	3-31-99	ND	61	ND	ND	ND	ND	ND	ND
SB-2	3-31-99	ND	ND	ND	ND	ND	ND	ND	ND
SB-3	3-31-99	ND	810	100	ND	ND	ND	0.74	ND
SB-4	4-1-99	NA*	150	NA	ND	0.69	ND	1.20	ND
SB-5	4-1-99	ND	180	NA	ND	1.10	0.73	6.30	ND
SB-6	4-1-99	NA*	98	NA	ND	1.00	ND	2.20	ND
SB-7	4-1-99	ND	ND	NA	ND	0.95	67.00	5.60	ND

Sample Location	Sample Date	Alk mg/L	Nitrate mg/L	Sulfate mg/L	CO2 mg/L
SB-1	3-31-99	350	24	130	11
SB-2	3-31-99	290	9	69	33
SB-3	3-31-99	590	ND	17	95
SB-4	4-1-99	NA	NA	NA	NA
SB-5	4-1-99	330	9	86	31
SB-6	4-1-99	NA	NA	NA	NA
SB-7	4-1-99	350	35	143	44

NOTES:

- Alk = Total Alkalinity (mg/L)
- CO₂ = Carbon Dioxide (mg/L)
- TPH = Total Petroleum Hydrocarbons (mg/L)
- EBL = Ethylbenzene (mg/L)
- MTBE = Methyl Tertiary Butyl Ether (mg/L)
- ppm = milligrams per liter (mg/L)
- µg/L = micrograms per liter (mg/L)
- ND = Not Detected (at or below reporting level)
- NA = Not Analyzed
- mg/L = milligrams per liter (mg/L)
- µg/L = micrograms per liter (mg/L)

TABLE 1: GROUNDWATER ELEVATION DATA
Albany Unified School District
603 Key Route Boulevard
Albany, California

Boring Number	Date Measured	TOC Elevation	Depth to Water (ft)	Static Water Elev. (ASB)
SB-1	4-15-99	104.92	5.33	99.59
	4-30-99		7.37	97.55
SB-2	4-15-99	102.04	7.01	95.03
	4-30-99		8.99	93.05
SB-3	4-15-99	100.35	6.47	93.88
	4-30-99		7.86	92.49
SB-4	4-15-99	100.69	6.60	94.09
	4-30-99		7.82	92.87
SB-5	4-15-99	99.92	6.40	93.52
	4-30-99		8.14	91.78
SB-6	4-15-99	104.62	6.41	98.21
	4-30-99		7.89	96.72
SB-7	4-15-99	99.51	7.12	92.39
	4-30-99		8.72	90.79

TABLE 2: GROUNDWATER QUALITY VALUES
Albany Unified School District
603 Key Route Boulevard
Albany, California

Sample Location	Date Sampled	pH	Temperature °C	DO ppm	Conductivity mS	ORP mv	Fe ppm
SB-1	3-30-99	7.56	17.3	8.7	1,640	-33.9	<0.5
SB-2	3-30-99	8.62	14.10	6.20	1,460	249.60	<0.5
SB-3	3-30-99	7.42	14.10	7.60	1,790	-25.60	<0.5
SB-4	3-31-99	7.26	14.00	8.90	2,040	-15.40	<0.5
SB-5	3-31-99	7.11	14.70	8.00	1,560	-6.30	<0.5
SB-6	3-31-99	7.23	16.60	9.40	NA	-13.10	<0.5
SB-7	3-31-99	6.97	14.60	7.60	1,150	15.70	<0.5

NOTES:

DO	Dissolved Oxygen	mS	Millisiemen (1mS = 1mmho)
ORP	Oxidation Reduction Potential	mv	Millivolts
Fe	Ferrous Iron	ppm	parts per million
ASB	relative to Arbitrary Site Benchmark at 100.00 ft	NA	Not Analyzed
		TOC	Top of well Casing

Even though no significant concentrations of regulated petroleum constituents are present in site soils or groundwater, the presence of total petroleum hydrocarbons as diesel (TPHd) and total oil and grease (TOG) in some site soils warrants that measures be taken in some situations to reduce the risk for human exposure to these residual concentrations of petroleum. These measures as described below are intended to reduce risks of human exposure to acceptable levels during future construction activities and during permanent occupancy of the site. These measures shall be followed at all times unless they are deemed unnecessary by the ACDEH in the future.

RISK MANAGEMENT PLAN

Risk Management During Construction

If subsurface soil at the site is disturbed (i. e. excavated), proper monitoring of exposed soil and any resulting vapors should be conducted. Proper monitoring is necessary to minimize exposure risk of workers or nearby residents to residual concentrations of chemicals which may be contained in site soil. During future earth moving activities at the site, the contractor should monitor the work area and most importantly the breathing zone of the workers for volatile organic vapors. The breathing zone of the workers should be monitored using a photoionization detector (PID) or equivalent instrument to measure the concentration of volatile organic vapors in the air. If PID readings indicate that high concentrations of volatile organic vapors are present in the breathing zone of the workers, workers should be removed from the area until concentrations are below approximately 15 parts per million (ppm) in the breathing zone. If at all possible work should be conducted where PID readings are at zero in the breathing zone. If work must be conducted in areas where PID readings exceed 15 ppm, work may be continued in level C personal protective equipment (standard work uniform with nitrile gloves and an OSHA approved air purifying respirator).

If soils exhibiting strong petroleum odors are encountered during excavation activities, they should be stockpiled between plastic sheeting and samples be collected to determine their suitability for re-use as fill before being re-used.

Every effort should be made to avoid contact of workers with site groundwater. If skin contact of workers with groundwater is unavoidable due to the nature of a task to be performed, those personnel should conduct work in a modified personal protection level D (standard work uniform with nitrile gloves, tyvek® or other splash protective suit, and rubber over-boots).

Risk Management for Future Occupants

For any future construction projects, the above risk management measures should be followed. The new building proposed for construction at the site are to be constructed on the eastern portion of the site (see Figure 2). A portion of one of the buildings will be constructed over the former UST location and, therefore, over potentially impacted soils. Site soils are high density, low permeability clay soils which are not anticipated to transmit petroleum vapors from the impacted soils (approximately 9 to 13 feet depth) to the surface and into structures. Because residual concentrations of TPHd and TOG may be present in shallow soils which were used as excavation backfill, a polyethylene vapor barrier should be

ARIESIAN ENVIRONMENTAL

414 624-2911 • A/B Haz. Ass. C-57 • e-mail: aueer1@comcast.net
229 Lewisburg Avenue • P.O. Box 100 • Richmond, CA 94801 • (510) 307-9943 • FAX (510) 232-2823

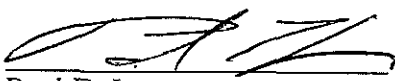
placed below all building floor slabs as a precaution to prevent potentially present vapors from entering site structures.

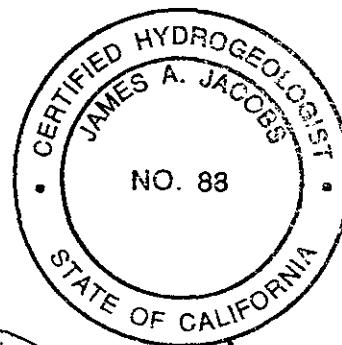
Groundwater at the site is unsuitable for human consumption and may present an increased risk of human exposure to potentially contained petroleum if used for small scale irrigation or other uses. Onsite groundwater may be suitable for some uses in the future, however, onsite groundwater should not be utilized for any purpose without prior assessment of water quality.

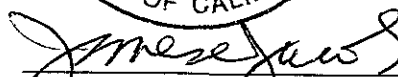
This plan is summarized in a Risk Management Matrix (Matrix), contained in Attachment A. The Risk Management Matrix summarizes the Risk Management Plan in a quick-reference format for on-the-job use. The Matrix lists each type of environmental medium which may contain petroleum, contaminants and their maximum detected levels at the site, modes of human exposure to contaminants, and most importantly exposure mitigation measures to be taken to avoid exposure.

Copies of this Risk Management Plan shall be kept at the AUSD, at the ACDEH, onsite during any construction activities, and onsite during permanent occupancy. If you have any questions or comments regarding this site, please do not hesitate to contact me at (510) 307-9943, extension 230.

Sincerely,
Artesian Environmental


Paul E. Jones
Project Geologist



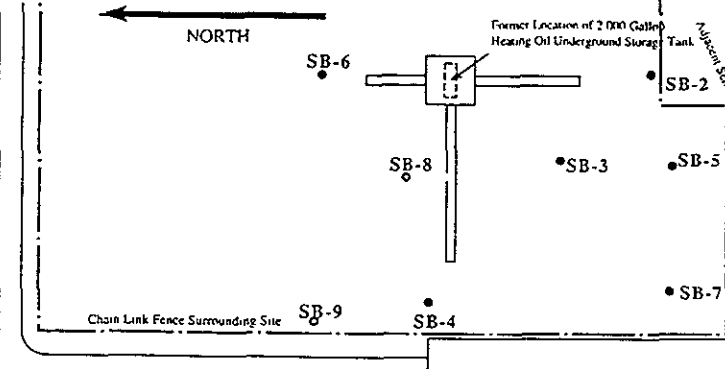

James A. Jacobs, OHG #88
Principal Hydrogeologist

attachment

cc: Ms. Eva Chu, ACDEH

LOG OF BORING SB-1

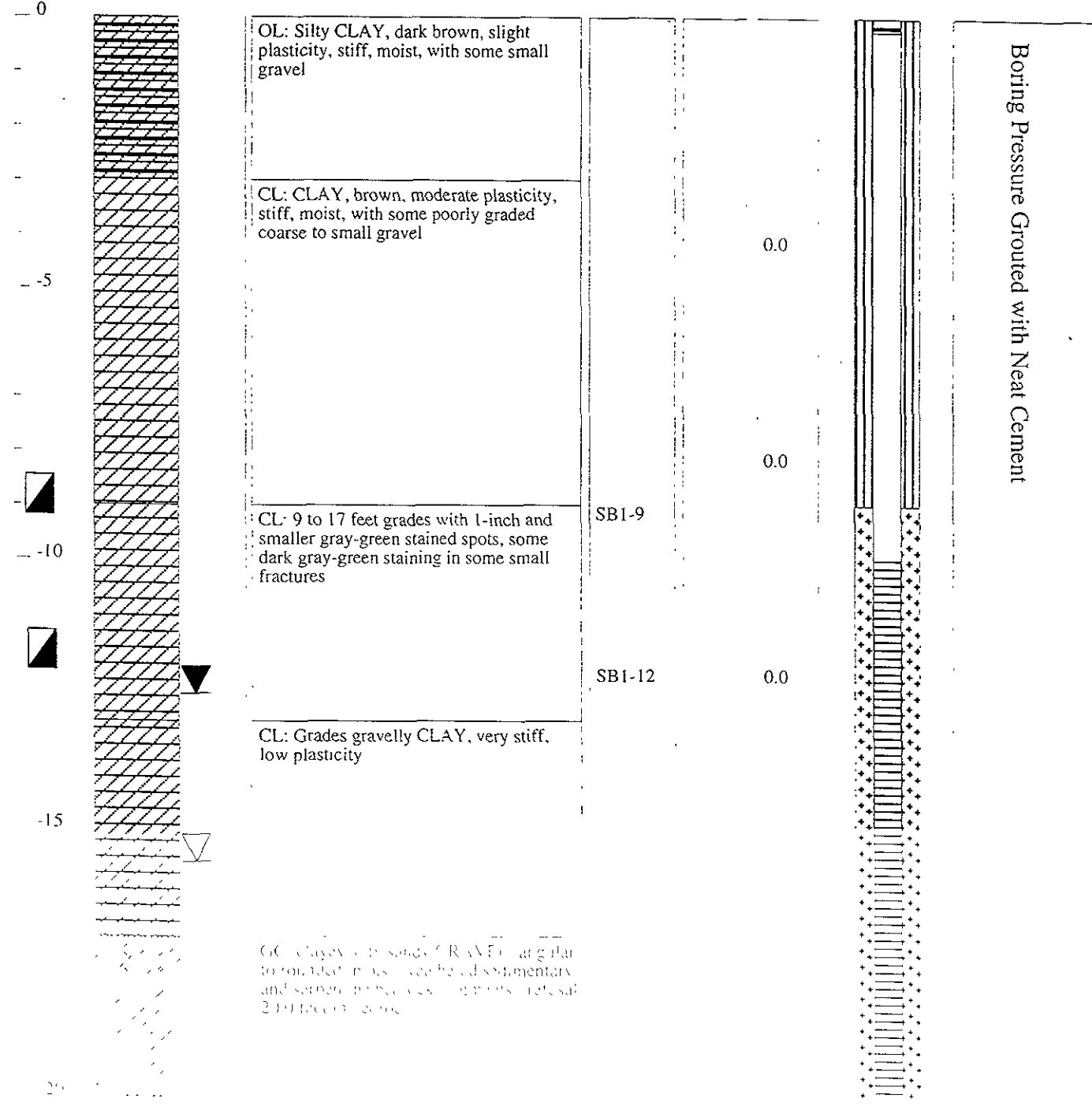
Albany Unified School District
 603 Key Route Boulevard
 Albany, California



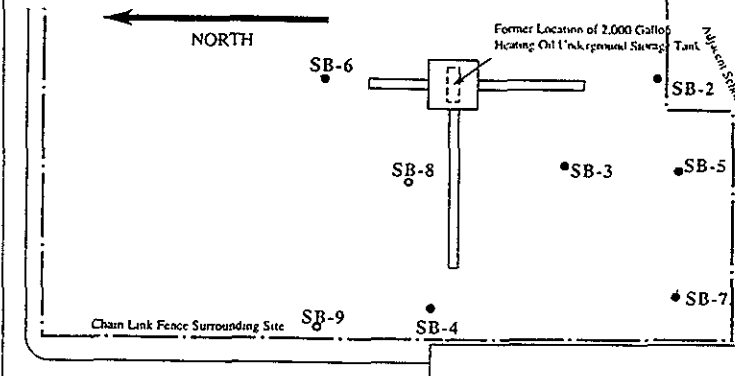
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DRILLING CO.	Artesian	TOTAL DEPTH:	20 feet bgs
DRILL TOOLS:	Direct Push	LOGGED BY	P. Jones
DRILLER	E Svoboda	DATE DEV.	NA
PROJECT MANAGER	P. Jones	DRAWN BY:	P. Jones
ARTESIAN JOB NO.:	378-K12-112	DRAW DATE:	4/2/99

ARTESIAN ENVIRONMENTAL CONSULTANTS
 229 Tewksbury Avenue, Point Richmond, California 94801
 TEL (510) 307-9943 • FAX (510) 232-2823

DEPTH (feet)	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMPLE NO.	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
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LOG OF BORING SB-2

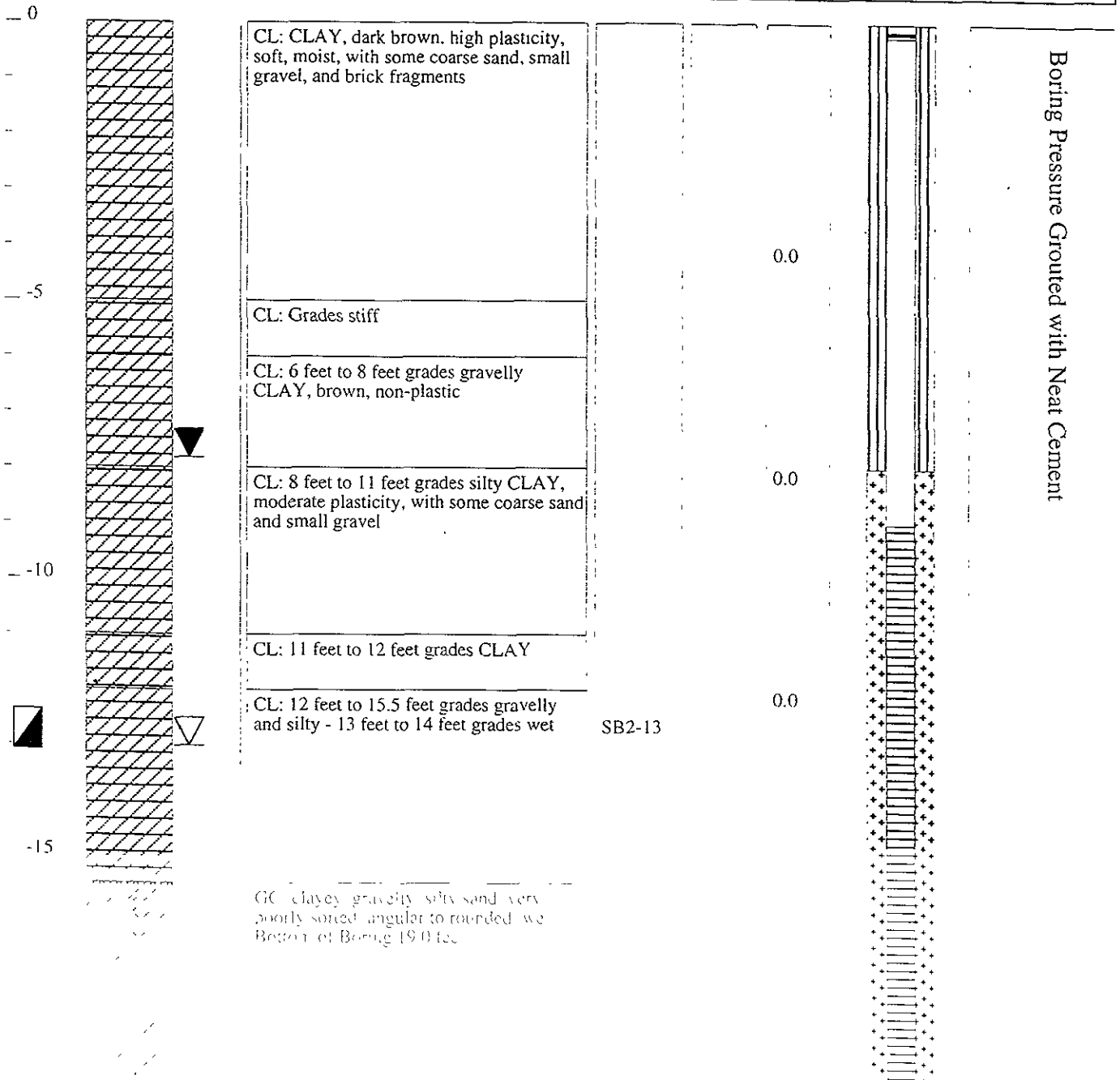


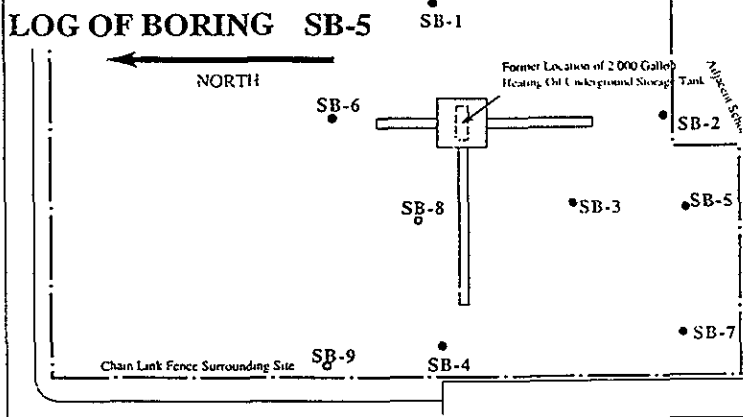
Albany Unified School District
 603 Key Route Boulevard
 Albany, California

DATES DRILLED	3/30/99	SAMPLING METH.	4 X 2" Continuous Core
DRILLING CO	Artesian	TOTAL DEPTH	19 feet bgs
DRILL TOOLS	Direct Push	LOGGED BY	P. Jones
DRILLER	E. Svoboda	DATE DEV	NA
PROJECT MANAGER:	P. Jones	DRAWN BY:	P. Jones
ARTESIAN JOB NO.	378-012-012	DRAW DATE	4/5/99

ARTESIAN ENVIRONMENTAL CONSULTANTS
 229 Tewksbury Avenue, Point Richmond, California 94801
 TEL (510) 307-9943 • FAX (510) 232-2823

DEPTH (feet)	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMPLE NO.	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
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 603 Key Route Boulevard
 Albany, California

DATES DRILLED: 3/30/99
 DRILLING CO: Artesian
 DRILL TOOLS: Direct Push
 DRILLER: E. Svoboda

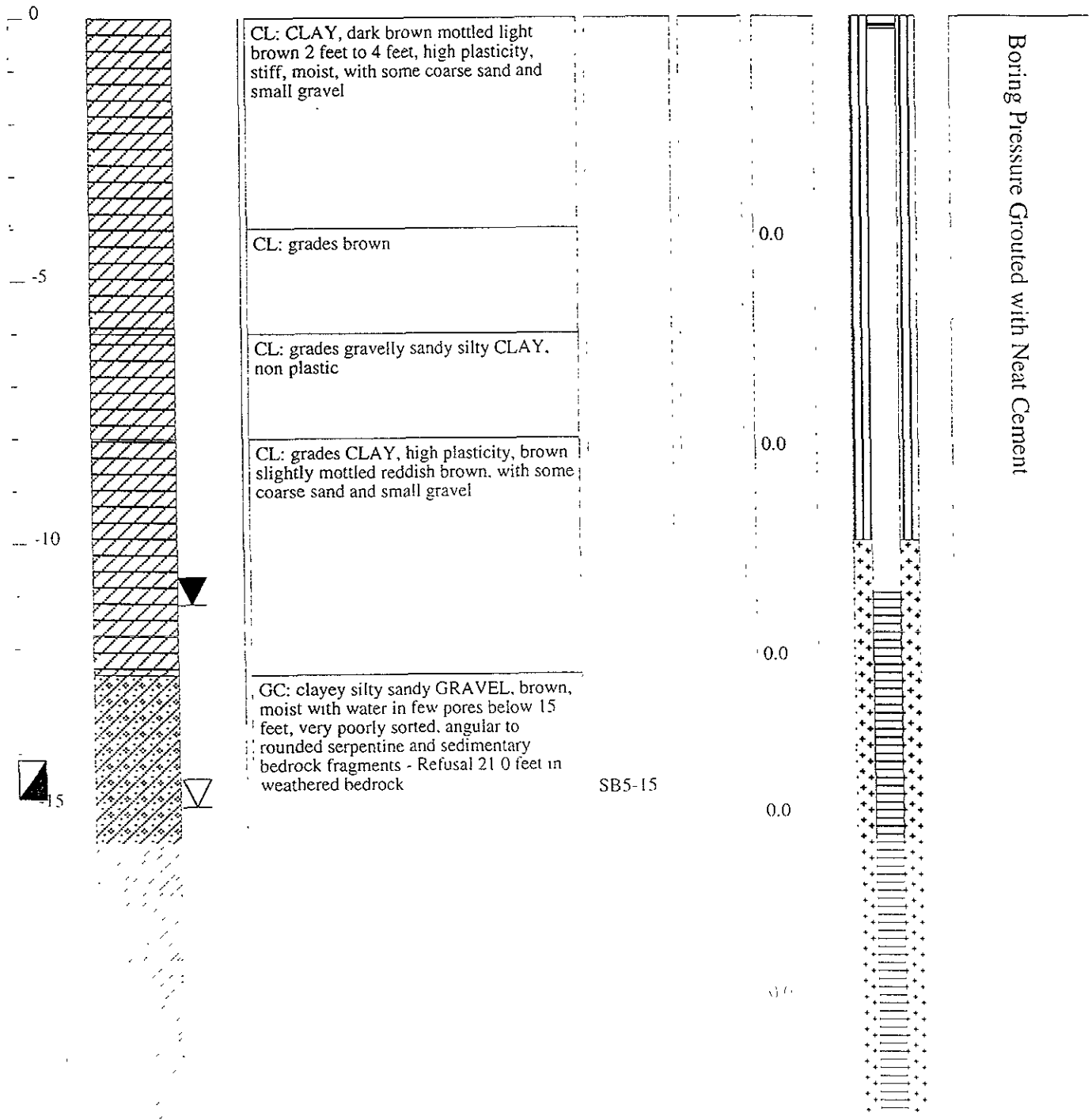
SAMPLING METH: 4" X 2" Continuous Core
 TOTAL DEPTH: 21 feet bgs
 LOGGED BY: P. Jones
 DATE DEV: NA

PROJECT MANAGER: P. Jones
 ARTESIAN JOB NO.: 378-1002-02

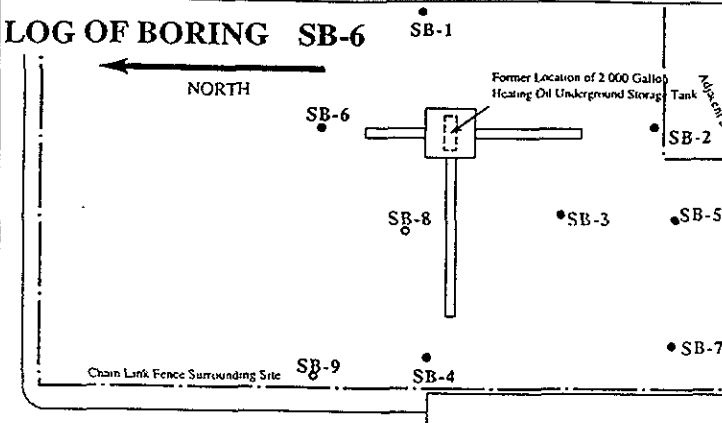
DRAWN BY: P. Jones
 DRAW DATE: 4/5/99

ARTESIAN ENVIRONMENTAL CONSULTANTS
 229 Tewksbury Avenue, Point Richmond, California 94801
 TEL (510) 307-9943 • FAX (510) 232-2823

DEPTH (feet)	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMPLE NO.	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
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LOG OF BORING SB-6

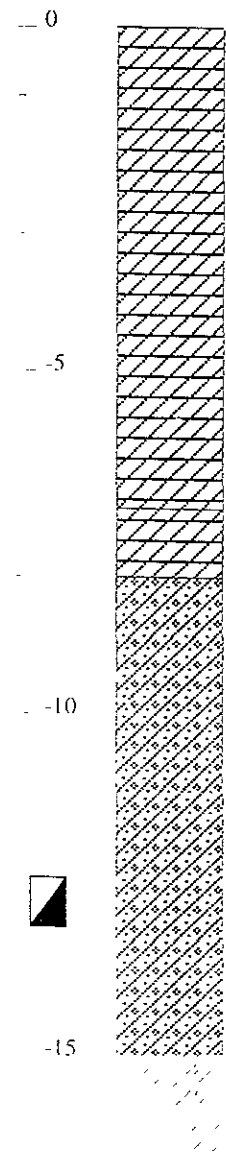


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DATES DRILLED: 3/30/99 SAMPLING METH: 4 X 2" Continuous Core
 DRILLING CO.: Artesian TOTAL DEPTH: 17.5 feet bgs
 DRILL TOOLS: Direct Push LOGGED BY: P. Jones
 DRILLER: E. Svoboda DATE DEV: NA
 PROJECT MANAGER: P. Jones DRAWN BY: P. Jones
 ARTESIAN JOB NO: 378-012-02 DRAW DATE: 4/5/99

ARTESIAN ENVIRONMENTAL CONSULTANTS
 229 Tewksbury Avenue, Point Richmond, California 94801
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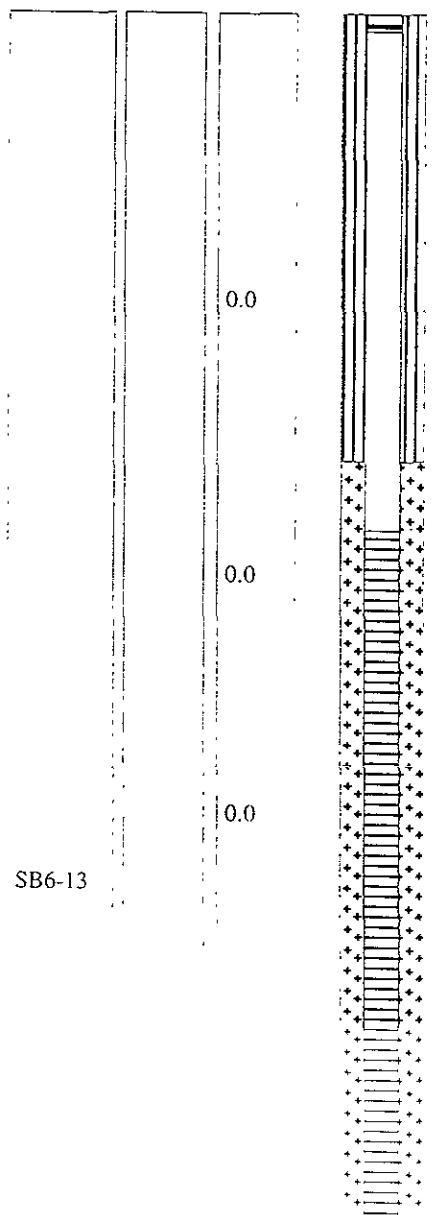
DEPTH (feet)	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMPLE NO.	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
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CL: CLAY, dark brown, high plasticity, stiff, moist, with some coarse sand and small gravel

CL: grades brown

GC: clayey silty sandy GRAVEL, brown, moist, very poorly sorted, angular to rounded serpentine and sedimentary bedrock fragments - Refusal 17.5 feet in weathered bedrock

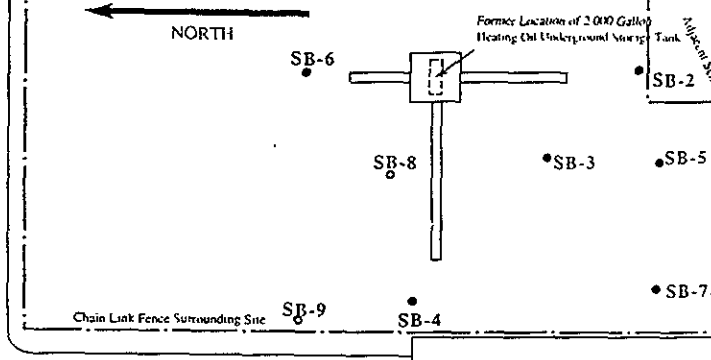


Boring Pressure Grouted with Neat Cement

SB6-13

LOG OF BORING SB-7

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DATES DRILLED: 3/30/99 SAMPLING METH: 4 X 2" Continuous Core
 DRILLING CO: Artesian TOTAL DEPTH: 19.5 feet bgs
 DRILL TOOLS: Direct Push LOGGED BY: P Jones
 DRILLER: E. Svoboda DATE DEV: NA
 PROJECT MANAGER: P Jones DRAWN BY: P Jones
 ARTESIAN JOB NO: 378-002-012 DRAW DATE: 4/5/99

ARTESIAN ENVIRONMENTAL CONSULTANTS
 229 Tewksbury Avenue, Point Richmond, California 94801
 TEL (510) 307-9943 • FAX (510) 232-2823

DEPTH (feet)	SOIL SYMBOLS/ FIELD TEST DATA	SOIL DESCRIPTION	SAMPLE NO.	BLOWS /6 in.	PID ppm	COMPLETION DIAGRAM	DESCRIPTION
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