A·C·C
ENVIRONMENTAL
CONSULTANTS

December 7, 1993

Mr. Steve Chrissanthos
Alameda Cellars
1702 Lincoln Avenue
Alameda, CA 94501

RE: Quarterly Groundwater Sampling
901 Lincoln Avenue, Alameda, California

Dear Mr. Chrissanthos:

The attached report describes the materials and procedures used during installation of one additional monitoring well and groundwater sampling of the monitoring wells located at 901 Lincoln Avenue, Alameda, California.

This work was performed to evaluate the presence or absence of residual hydrocarbon concentrations in groundwater by obtaining samples from existing monitoring wells and the newly installed monitoring well.

Monitoring well MW-4 was installed in the downgradient from monitoring well MW-1. Laboratory analysis of soil samples collected during drilling indicated below detectable levels of constituents. Groundwater samples obtained from each monitoring well were submitted to ChromaLab, Inc. for petroleum hydrocarbon analysis, in accordance with the "Tri-Regional Guidelines for Underground Storage Tank Sites".

The results of the groundwater analysis indicated non-detectable concentrations in monitoring wells MW-2, MW-3 and MW-4. Sample analysis results from monitoring well MW-1 indicated detectable levels of Total Petroleum Hydrocarbons (TPH) as gasoline and Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX).

If you have any comments regarding this report, please call me.

Sincerely,

Misty C Kaltreider

Misty C Kaltreider
Geologist

cc: Mr. Richard Hiett - Regional Water Quality Control Board
Ms. Juliet Shin - Alameda County Health Care Services - Division of Hazardous Materials
Mr. Wyman Hong - Alameda County Flood Control - Zone 7

1000 Atlantic Avenue, Suite 110 • Alameda, CA 94501 • (510) 522-8188 • FAX: (510) 865-5731

A·C·C
ENVIRONMENTAL
CONSULTANTS

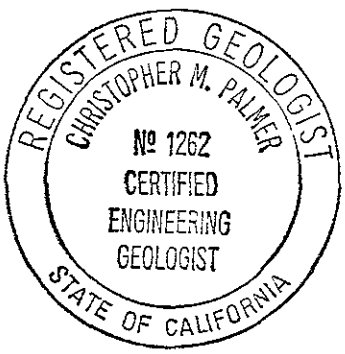
INSTALLATION OF ADDITIONAL MONITORING WELL AND QUARTERLY GROUNDWATER SAMPLING

901 LINCOLN AVENUE
ALAMEDA, CALIFORNIA

December 1993

Prepared for:
Mr. Steve Chrissanthos
Alameda Cellars
1702 Lincoln Avenue
Alameda, CA 94501

Prepared by:



Prepared by:

Misty Kaltreider,
Project Geologist

Reviewed by:

Christopher M. Palmer, CEG # 1262
Certified Engineering Geologist

1000 Atlantic Avenue, Suite 110 • Alameda, CA 94501 • (510) 522-8188 • FAX: (510) 865-5731

A·C·C ENVIRONMENTAL CONSULTANTS

TABLE OF CONTENTS

TABLES

FIGURES

ATTACHMENTS

1.0 INTRODUCTION

This report presents the procedures and findings of the soil and groundwater investigation and quarterly groundwater sampling conducted by ACC Environmental Consultants, Inc., ("ACC") on behalf of Mr. Steve Chrissanthos and Alameda Cellars, site owner at 901 Lincoln Avenue, Alameda, California. The project objective is to evaluate extent of petroleum hydrocarbons in the groundwater by installing an additional monitoring well in the downgradient direction of monitoring well MW-1 and obtaining samples from the existing monitoring wells.

2.0 BACKGROUND

The site is presently occupied by E-Z Liquors, a commercial liquor store. The property is owned by Mr. Steve Chrissanthos. On March of 1990, two 10,000-gallon gasoline tanks and one 2,000-gallon diesel tank were removed from the above referenced site. Analysis of the soil samples collected from beneath the two gasoline tanks indicated up to 710 parts per million (ppm) of Total Petroleum Hydrocarbons (TPH) as gasoline. Soil samples collected from beneath the diesel tank indicated less than detectable levels of TPH as diesel.

Per request of Alameda County Health Care Services - Hazardous Materials Division, a preliminary Site Assessment was conducted to further evaluate the soil contamination from the gasoline release on-site.

ACC was retained by Mr. Chrissanthos to perform the work requested by the Alameda County Health Care Services.

In December 4, 1992, three monitoring wells were installed on-site. Analytical results of soil collected during drilling indicated 55.96 parts per million (ppm) of TPH as gasoline with benzene, toluene, ethylbenzene, and total xylenes (BTEX) from monitoring well MW-1. Soil samples collected from the other borings indicated constituents below detectable levels.

Initial groundwater samples collected from the on-site monitoring wells on December 15, 1992, indicated below detectable levels of constituents.

In February 24, 1993, ACC performed a soil investigation on the property to evaluate the lateral and vertical extent of soil contamination adjacent to monitoring well MW-1. Analytical results of soil samples collected indicated below detectable levels of hydrocarbon constituents in the soil. It was concluded that hydrocarbon impact on-site is limited to soil around monitoring well MW-1.

3.0 FIELD PROCEDURES

Boring MW-4 was drilled on October 6, 1993 using a B-53 mobile drill rig equipped with 8 inch outside diameter hollow-stem augers. Concurrent with drilling, subsurface soil samples were obtained with a Modified California Split Spoon Sampler equipped with three six-inch long brass liners.

The sampler and brass liners were pre-cleaned prior to use and between sample drives by washing them with a trisodium phosphate (TSP and potable water solution, a potable water rinse, and distilled water rinse.

Soil samples were collected every five feet, at any noted changes in lithology and at the approximate soil/groundwater interface. Subsurface soil samples were obtained by drilling to the approximate sampling location and driving the sampler eighteen inches into undisturbed material.

An HNu photoionization detector (PID) was used during drilling and sampling procedures to detect field evidence of volatile hydrocarbons in the soil. No field indications of petroleum hydrocarbons (i.e. odor, discoloration, etc.) were observed during drilling and sampling.

Soil sample and drill cuttings were prescreened for volatile organic compounds with a photoionization detector (PID) calibrated for benzene. Upon removal from the sampler, each labeled, and stored in an ice-filled cooler to be transported under chain of custody to ChromaLab, a Cal/EPA certified laboratory.

Two soil samples were selected from the boring and submitted to ChromaLab for analysis according to the "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", dated August 10, 1993. Samples from the boring was submitted for analysis for Total Petroleum Hydrocarbons (TPH) as gasoline by EPA test method 5030 and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA test method 8020. Copy of the analytical results and chain of custody form is provided in Appendix A.

The soil cuttings and samples were logged by an ACC geologist during drilling operations. The soil cuttings are described in accordance with the Unified Soil Classification System. Lithologic log of the boring and the Unified Soil Classification System are attached in Appendix B. Soil cuttings were stockpiled on-site and covered with visqueen.

3.1 Monitoring Well Construction and Development

Monitoring well MW-4 was installed within the boring upon completion of drilling. Well construction details are attached in Exhibit B. Monitoring well MW-4 was installed with well casing consisting of 2-inch I.D. Schedule 40 PVC with 15 feet of 0.020-inch factory slotted screen below 5 feet of solid casing.

The well was installed with Lonestar #2/12 sand used an annular fill to at least one foot above the top of the screen. One foot of 1/4-inch pelletized bentonite was placed between the annular sand and neat cement seal. A water tight "Christy" box was cemented over the top of the PVC casing and set slightly above grade to drain surface water away from the well head. A locking expansion plug with lock was placed on the well.

Monitoring well MW-4 was developed on October 12, 1993. During development, the well was bailed using a designated disposable Teflon bailer. The well was developed until development water was clear and essentially free of fine material. Ten well casing volumes of water were removed from the well and placed in sealed 55-gallon drums on-site. The drums were labeled pending analytical results.

3.2 Groundwater Sampling

Groundwater samples were collected from monitoring well MW-4 on October 25, 1993 and quarterly groundwater samples are collected from each on-site well (MW-1, MW-2, MW-3, and MW-4) on November 12, 1993. Prior to groundwater monitoring the depth to the surface of the water table was measured from the top of the PVC casing using a Solinst Water Level Meter. Information regarding depths of wells, well elevations and groundwater levels are summarized in Table 1.

TABLE 1 - Groundwater Depth Information

Date Sampled	Depth to Groundwater (ft)	Groundwater Elevation (ft)
Well No. MW-1	Elevation of Top of Casing-18.99 MSL	
12/15/92	10.27	8.72
01/06/93	8.67	10.32
02/09/93	6.98	12.01
03/10/93	6.94	12.05
04/08/93	7.25	11.74
05/17/93	8.67	10.32
06/23/93	9.58	9.41
07/13/93	10.21	8.78
08/10/93	10.78	8.21
09/10/93	11.21	7.78
10/25/93	11.58	7.41
11/12/93	11.74	7.25
Well No. MW-2	Elevation of Top of Casing-19.03 MSL	
12/15/92	10.14	8.89
01/06/93	8.50	10.53
02/09/93	6.66	12.37
03/10/93	6.53	12.50
04/08/93	6.83	12.20
05/17/93	8.34	10.69
06/23/93	9.36	9.67
07/13/93	9.99	9.04
08/10/93	10.54	8.49
09/10/93	11.08	7.95
10/25/95	11.41	7.62
11/12/93	11.58	7.45

TABLE 1 - Groundwater Depth Information, cont.

Date Sampled	Depth to Groundwater (ft)	Groundwater Elevation (ft)
Well No. MW-3	Elevation of Top of Casing-19.35 MSL	
12/15/92	10.44	8.91
01/06/93	8.91	10.44
02/09/93	7.26	12.09
03/10/93	7.16	12.19
04/08/93	7.49	11.86
05/17/93	9.01	10.34
06/23/93	10.22	9.13
07/13/93	10.58	8.77
08/10/93	11.12	8.23
09/10/93	11.68	7.67
10/25/93	11.98	7.37
11/12/93	12.12	7.23
Well No. MW-4	Elevation of Top of Casing-18.51 MSL	
10/25/93	11.43	7.08
11/12/93	11.59	6.92

Notes: All measurements in feet
MSL = Mean Sea Level

During sampling, after water-level measurements were taken, each on-site well was purged by hand using a designated disposable Teflon bailer for each well. Groundwater pH, temperature and electrical conductivity were monitored during well purging. Each well was considered to be purged when these parameters stabilized. Four well volumes were removed to purge each well. Worksheets of groundwater conditions monitored during purging are attached in Appendix C.

After the groundwater had recovered to a minimum of approximately 80 percent of its static level, water samples were obtained using the designated disposable Teflon bailer. Two 40 ml VOA vials, without headspace, were filled from the water collected from each monitoring well.

The samples were preserved on ice and submitted to ChromaLab Inc. under chain of custody protocol. Laboratory results with chain of custody forms are attached in Appendix D.

4.0 FINDINGS

4.1 Subsurface Conditions

At the time of drilling and sampling activities, the site study area was covered with approximately 2 feet of fill material consisting of dark brown silty sand. Below the surface fill material, the subsurface soils consisted of brown fine grain sand with silt to the depth investigated of 20 feet below ground surface.

The sand is interpreted to be part of the Merritt Sand Formation and is interpreted to be a wind and water deposited beach and near-shore deposit and is exposed only in the Alameda and Oakland areas.

Groundwater was encountered at approximately 11 feet below ground surface (bgs) during drilling. Boring MW-4 was drilled to approximately 20 feet bgs. Monitoring well MW-4 was completed to the drilled depth in the boring.

A report by the Alameda County Flood Control and Water conservation District, Geohydrology and Groundwater - Quality Overview, East Bay Plain Area, Alameda County, California, 205 (J) Report, June 1988, described the Merritt Sand as consisting of loose well-sorted, fine to medium grained sand and silt, with lenses of sandy clay and clay.

4.2 Analytical Results - Soil

Two soil samples collected during drilling boring MW-4 were submitted to analytical laboratory for analysis of TPH as gasoline with BTEX. Samples chosen for analysis were collected at the capillary fringe (sample no. MW-4-11 at 11 feet bgs) and the saturated zone (sample no. MW-4-13 at 13 feet bgs). Both samples indicated below detectable levels of TPH as gasoline with BTEX. Copy of the analytical results with chain of custody form is attached in Appendix A.

4.3 Analytical Results - Groundwater

One groundwater sample from monitoring well MW-4 was collected on October 25, 1993 and submitted ChromaLab for analysis of TPH as gasoline be EPA test method 5030 and BTEX by EPA test method 602. On November 12, 1993 each on-site groundwater monitoring well has been collected quarterly and submitted to ChromaLab for analysis for TPH as gasoline by EPA test method 5030 and BTEX by EPA test method 602. Analysis results from the groundwater samples are illustrated in Table 2. Copies of the analytical results are attached in Appendix B.

TABLE 2

Analytical Results - Groundwater

Well Number	Date Sampled	TPH-gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
MW-1	12/15/92	<50	<0.5	<0.5	<0.5	<0.5
	03/10/93	100	0.86	<0.5	<0.5	6.3
	06/23/93	6,800	2,500	1,100	100	560
	09/10/93	15,000	4,400	620	850	630
	10/25/93	NT	NT	NT	NT	NT
	11/12/93	5,400	1,900	1.1	700	20

TABLE 2, cont.

Analytical Results - Groundwater

Well Number	Date Sampled	TPH-gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
MW-2	12/15/92	<50	<0.5	<0.5	<0.5	<0.5
	03/10/93	<50	<0.5	<0.5	<0.5	<0.5
	06/23/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5
	10/25/93	NT	NT	NT	NT	NT
	11/12/93	<50	<0.5	<0.5	<0.5	<0.5
MW-3	12/15/92	<50	<0.5	<0.5	<0.5	<0.5
	03/10/93	<50	<0.5	<0.5	<0.5	<0.5
	06/23/93	<50	<0.5	<0.5	<0.5	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5
	10/25/93	NT	NT	NT	NT	NT
	11/12/93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	10/25/93	<50	<0.5	<0.5	<0.5	<0.5
	11/12/93	<50	<0.5	<0.5	<0.5	<0.5

Notes:

ug/L = micrograms per liter (ppb)
NT = not tested

4.4 Groundwater Gradient

Prior to calculating the groundwater gradient, elevations for the on-site monitoring wells were surveyed by Ron Archer Civil Engineer, Inc. to an accuracy of one-hundredth of a foot. The well elevation was surveyed at the top of the PVC well casing. The elevations of the monitoring wells were established relative to a nearby benchmark located in the curb on the northwest corner of the intersection of Ninth Street and Pacific Avenue in Alameda, California.

The groundwater gradient was calculated using measurements from the on-site monitoring wells. The location of the wells is shown in Figure 1 - Site Plan.

Groundwater elevations were taken from the wells on October 25 and November 12, 1993 and are illustrated on Figures 2 and 3, respectively. The gradient was evaluated by triangulation using the elevation of the potentiometric surface measured with respect to Mean Sea Level datum.

Table 3 summarizes the historic groundwater gradient and the direction of groundwater flow on-site.

TABLE 3
Historic Groundwater Gradient

Date Monitored	Gradient (foot/foot)	Direction
12/15/92	0.00175	west-southwest
01/06/93	0.004	northwest
02/09/93	0.008	northwest
03/10/93	0.009	northwest
04/08/93	0.011	northwest
05/17/93	0.008	northwest
06/23/93	0.008	north-northwest
07/13/93	0.0064	northwest
08/10/93	0.0064	northwest
09/10/93	0.0064	northwest
10/25/93	0.0071	northwest
11/12/93	0.0056	northwest

5.0 CONCLUSION

The data and observations discussed herein indicate that groundwater and soil has been impacted due to an unauthorized hydrocarbon release. In December 1992, low levels of Total Petroleum Hydrocarbons (TPH) as gasoline with BTEX were found in the soil sample collected at 11 feet bgs from boring MW-1. Soil staining was also observed in the same boring from 8 to 13 feet below ground surface. Initial sampling and analysis of the groundwater in December 1992 indicated no release had occurred to impact groundwater.

Further soil investigation performed in February 1993, indicated hydrocarbon impact on-site is limited to soil around monitoring well MW-1.

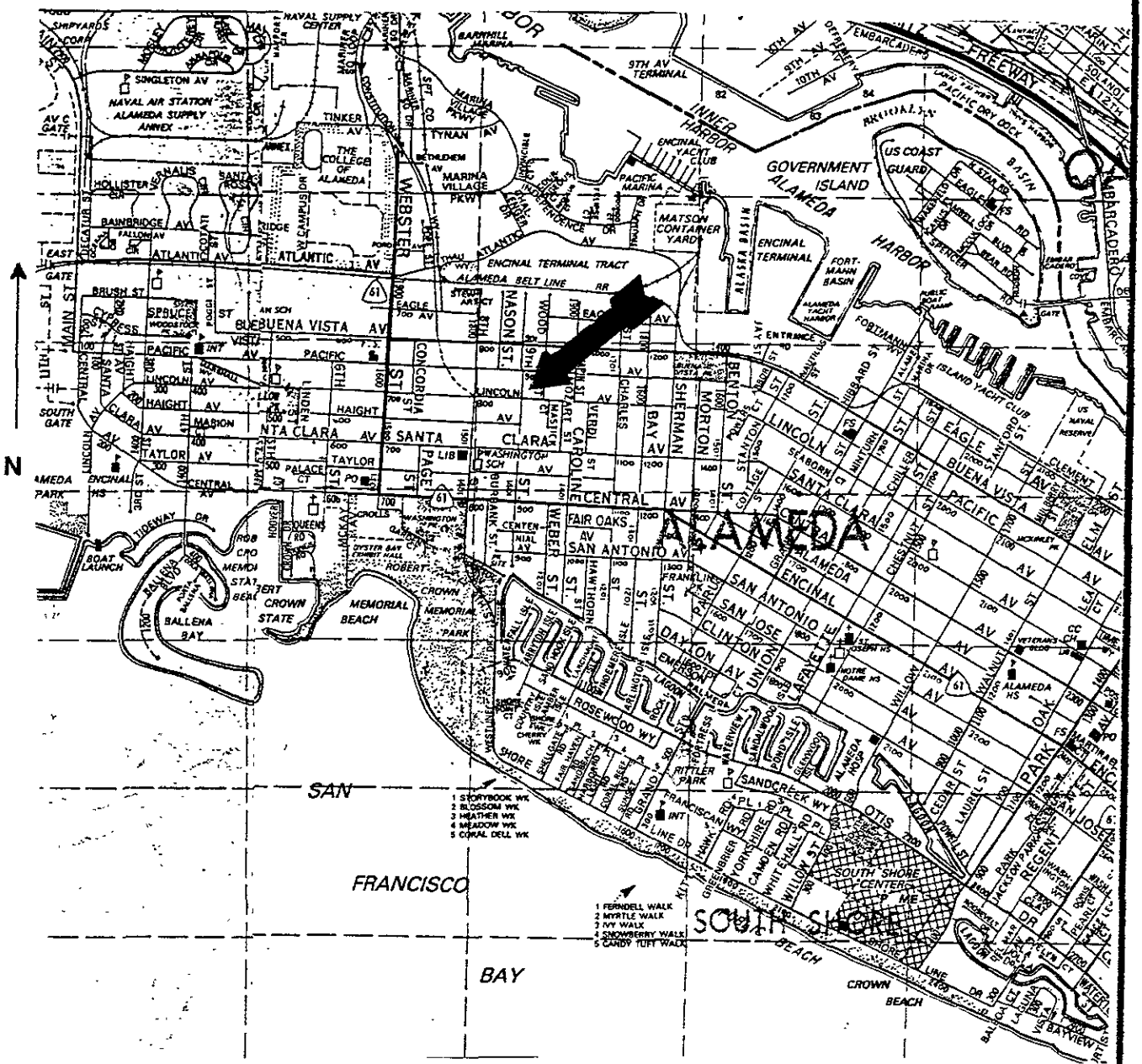
An additional monitoring well (MW-4) was installed in October 1993. This well was located downgradient (northwest) of the former tank excavation to evaluate the extent of groundwater contaminate plume. Laboratory analysis of soil and groundwater samples collected from monitoring well MW-4 indicated below detectable levels of constituents.

Since December substantial rainfall has increased the elevation of the groundwater. Contaminated soil adjacent to monitoring well MW-1 apparently has come into contact with the fluctuating groundwater. In our opinion, this represents residual contamination since data from the new well shows soil and groundwater is not contaminated. Historic observations indicate that this contamination is not mobile and ACC anticipates a decline in concentrations overtime.

From December 1992 through November 1993, quarterly groundwater sample analysis from monitoring wells MW-2 and MW-3 has continuously indicated no detectable levels of constituents in the groundwater. In addition, monitoring wells MW-2 and MW-3 are located cross gradient from monitoring well MW-1 and the known extent of contamination.

Given the contamination extent, and on behalf of Mr. Steve Chrissanthos, ACC requests a reduction in groundwater monitoring and analysis. Pursuant to the Tri-Regional Board guidelines, ACC proposes to perform groundwater monitoring on a quarterly basis and include all four on-site monitoring wells. Groundwater sampling and chemical analysis will continue on a quarterly basis however, will only include monitoring wells MW-1 and MW-4. Potentiometric measurements will continue to be made in all four wells.

Quarterly groundwater samples will be collected from monitoring wells MW-1 and MW-4 and submitted to a CAL/EPA accredited analytical laboratory for analysis of TPH as gasoline using EPA test method 5030 and BTEX using EPA test method 8020.

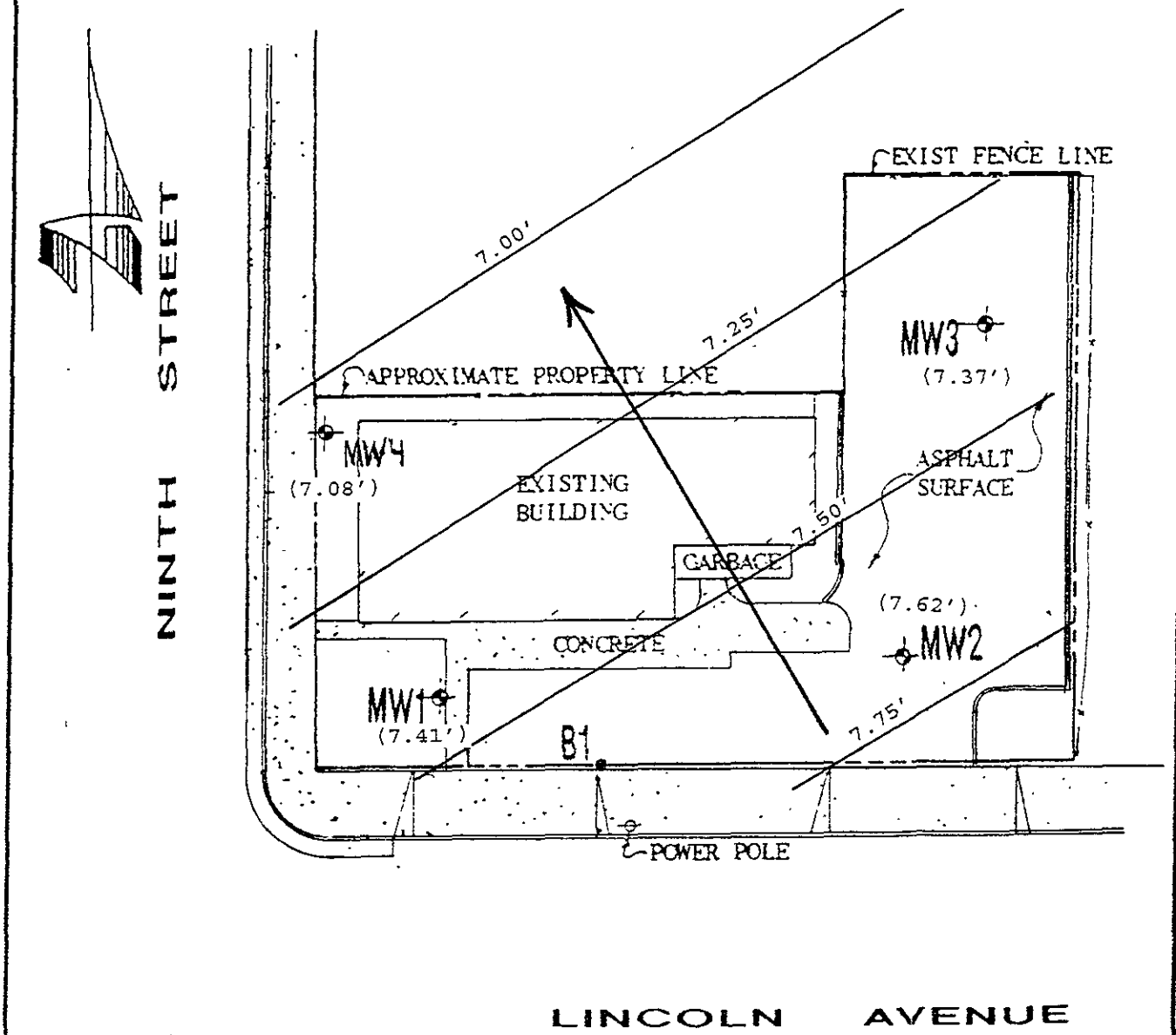


(Source: Thomas Bros.)

Vicinity Map

Scale: 1" = 2200'

ACC Environmental Consultants, Inc. 1000 Atlantic Avenue, Suite 110 Alameda, California 94501		Vicinity Map 901 Lincoln Ave. Alameda, California	
Project No. 6039-2b	Date: 7/16/93	Dn by: CS	Figure 1



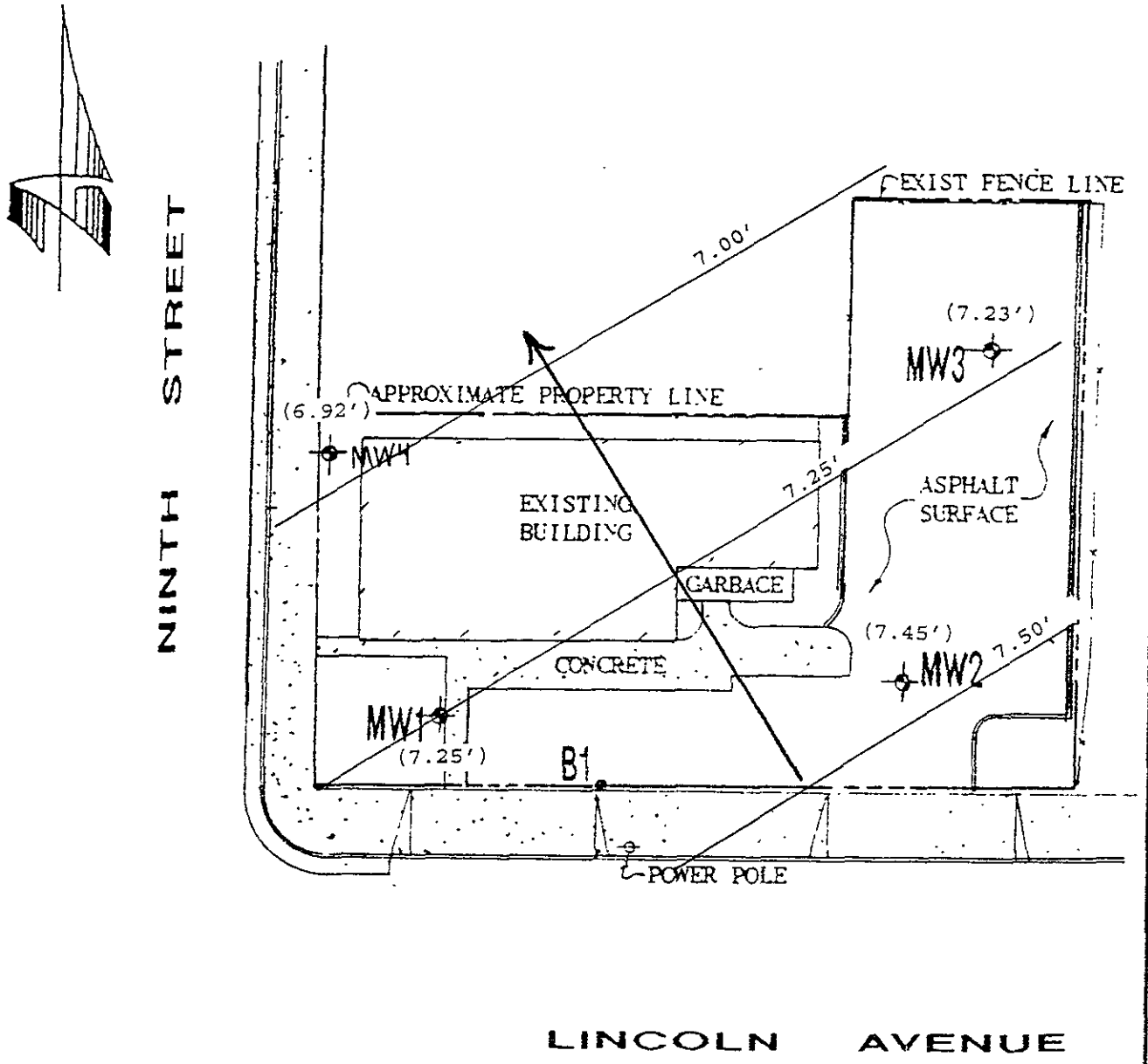
Groundwater Elevations in Feet Above Mean Sea Level

1" = 30'

0 15 30 60 90

Graphic Scale
In feet

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6039-2b	Groundwater Gradient 901 Lincoln Avenue Alameda, CA
	DATE: 10/25/93	Figure: 2



Groundwater Elevations in Feet Above Mean Sea Level

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6039-2b	Groundwater Gradient 901 Lincoln Avenue Alameda, CA
	DATE: 11/12/93	Figure: 3

APPENDIX A

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

October 12, 1993 ChromaLab File#: 9310070

ACC ENVIRONMENTAL CONSULTANTS

Atten: MISTY KALTREIDER

Project: 901 LINCOLN **Project#:** 6039-2b
Submitted: October 6, 1993

re: 2 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Sampled on: October 6, 1993 *Analyzed on:* October 7, 1993
Method: EPA 5030/8015/8020 *Run#:* 1019

Lab # SAMPLE ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
24227 MW-4-11	N.D.	N.D.	N.D.	N.D.	N.D.
24228 MW-4-13	N.D.	N.D.	N.D.	N.D.	N.D.
DETECTION LIMITS	1.0	5.0	5.0	5.0	5.0
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY(%)	107	95	98	99	99

ChromaLab, Inc.

Jack Kelly
Chemist

Eric Tam
Laboratory Director

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

CHROMALAB, INC.

DOHS 1094

SUBM #: 9310070
CLIENT: ACCENV
2239 (DUE: 10/13/93
REF: 13604

70/24227-8
Order # 13604

Chain of Custody

DATE 10/6/93 PAGE _____ OF _____

PROJ. MGR. Misty Koltreider
COMPANY ACC Environmental
ADDRESS 1020 Atlantic Ave.
Alameda.

SAMPLERS (SIGNATURE) (PHONE NO.)
Misty Kolthreider (510) 522-8188

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	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)		METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CONTAINERS
MW-4-11	10/6/93		S			X																			1
MW-4-13			S			X																			1

PROJECT INFORMATION

PROJECT NAME: 901 Lincoln
PROJECT NUMBER: 6039-26
P.O. # 6039-26

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	2
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

TAT: STANDARD 5-DAY | | | 24 | 48 | 72 | OTHER

SPECIAL INSTRUCTIONS/COMMENTS:

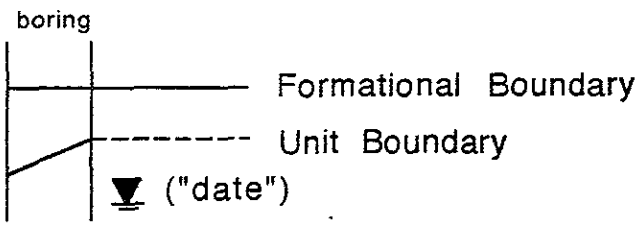
RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(SIGNATURE) Misty Kolthreider (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) Misty Kolthreider (DATE) 10/6/93	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY) ACC Environmental	(COMPANY)	(COMPANY)
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3.**
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) 5:11 (TIME)
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) E. Morrow 10/6/93 (DATE)
(COMPANY)	(COMPANY)	(LAB) Chromalab

APPENDIX B

UNIFIED SOIL CLASSIFICATION SYSTEM

	MAJOR DIVISIONS				TYPICAL NAMES
COARSE GRAINED SOILS more than half > #200 sieve	GRAVELS more than half coarse fraction is larger than No. 4 sieve	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		well graded gravels, gravel-sand mixtures
			GP		poorly graded gravels, gravel-sand mixtures
		GRAVELS WITH OVER 12% FINES	GM		silty gravels, poorly graded gravel-sand silt mixtures
			GC		clayey gravels, poorly graded gravel-sand clay mixtures
	SANDS more than half coarse fraction is smaller than No. 4 sieve	CLEAN SANDS WITH LITTLE OR NO FINES	SW		well graded sands, gravelly sands
			SP		poorly graded sands, gravelly sands
		SANDS WITH OVER 12% FINES	SM		silty sands, poorly graded sand-silt mixtures
			SC		clayey sands, poorly graded sand-clay mixtures
FINE GRAINED SOILS more than half < #200 sieve	SILTS AND CLAYS liquid limit less than 50		ML		inorg. silts and v.fine sands, rock flour silty or clayey sands, or clayey silts w/sl. plasticity
			CL		inorg. clays of low-med plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL		organic clays and organic silty clays of low plasticity
	SILTY AND CLAYS liquid limit greater than 50		MH		inorganic silty, micaceous or diatomacious fine sandy or silty soils, elastic silts
			CH		inorganic clays of high plasticity, fat clays
			OH		organic clays of medium to high plasticity organic silts
	HIGHLY ORGANIC SOILS		Pt		peat and other highly organic soils

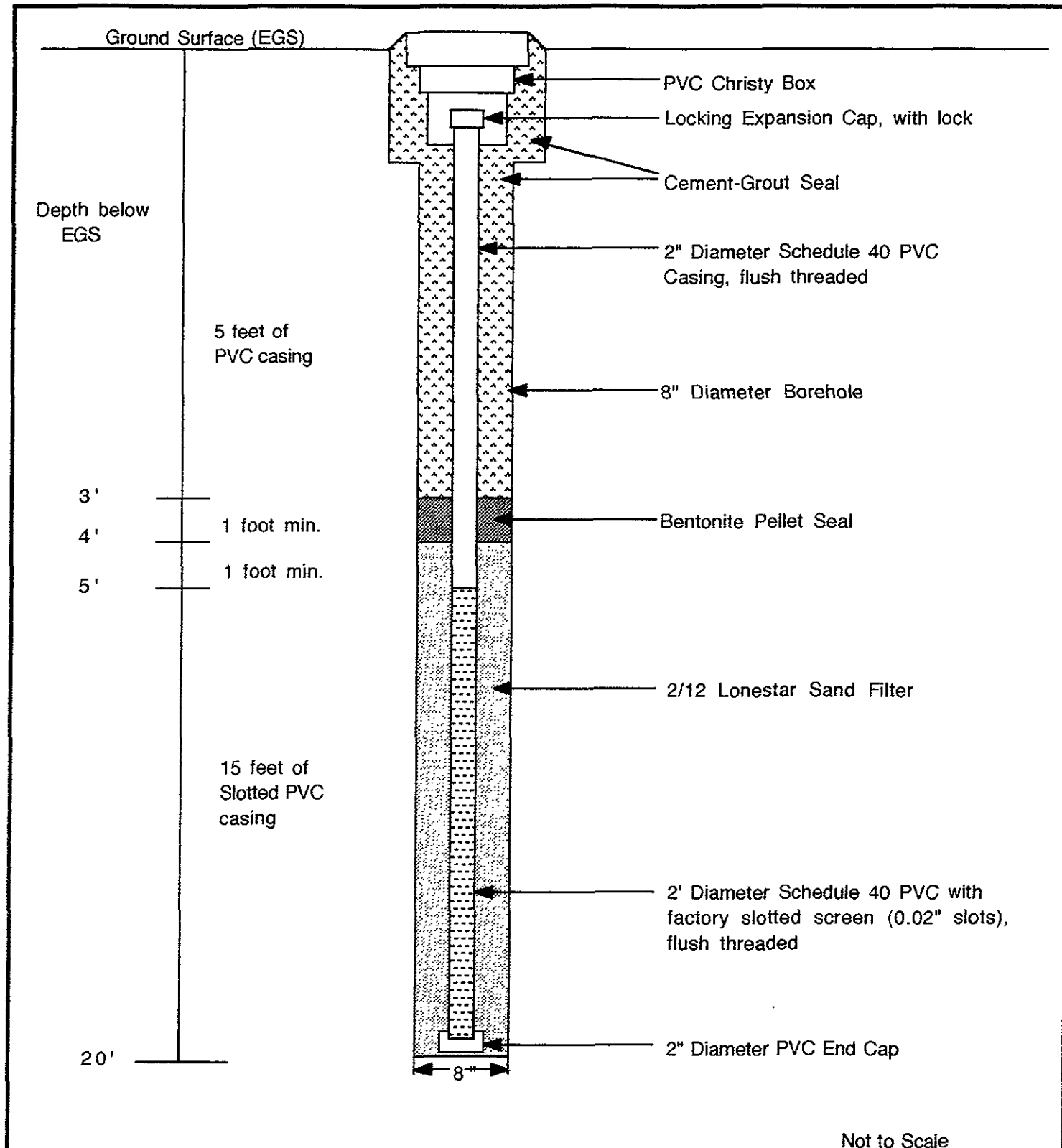
LEGEND FOR BORING LOGS



ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVENUE, SUITE 110 ALAMEDA, CA 94501		Soil Classification System	
Project No. 6039-2b	Date: 11/29/93	DRN: MCK	901 Lincoln Avenue

Gregg Drilling B-53 Drill Rig.	HNu (ppm)	Blows/6 in.	SAMPLE #	Sample Int.	Depth (feet)	Equipment: Hollow Stem Auger Logged By: M. Kaltreider PROJECT: 901 Lincoln Start Date: 10/06/93
Soil color described using Munsell soil color charts Color code					0	Dark brown silty sand (SM), medium dense, moist (Fill).
					2	Merritt Sand: Dk. yellowish brown fine grain sand (SP), with silt, mottled redish brown. medium dense, very moist.
(10YR-4/6)	0	9	MW4-6		4	
					6	
					8	
					10	Same as above, very moist. ▼ (groundwater 10/6/93)
(10YR-4/6)	0	15	MW4-11		12	
	0	17	MW4-13		14	
(10YR-4/6)	0	9			16	Same as above, saturated.
					18	
					20	BOTTOM OF BORING @ 20 FEET (Converted into Monitoring Well MW-4)
					22	
					24	
					26	
					28	

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6039-2b	LOG OF BORING MW-4 901 Lincoln Avenue
	DATE: 11/29/93	Drawn By: MCK



Not to Scale

ACC Environmental Consultants 1000 Atlantic Avenue, Suite 110 Alameda, CA 94501	Job No.: 6039-2b	Schematic of Monitoring Well No.: MW-4
	Date: 11/29/93	Drawn By: MCK

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

APPENDIX C

Well Sampling [✓] Well Development [ ] check one

Well Number: MW1

Job Number:

Job Name: 901 Lincoln

Date: 11-12-93

Sampler: Fallin

Depth to Water (measured from TOC): 11.74'

Inside Diameter of Casing: 2"

Depth of Boring: 14.2'

Method of well development/purging: bail

Amount of Water Bailed/Pumped from well: 5gal

Depth to Water after well development: —

Depth to water prior to sampling: 11.72'

Bailed water stored on-site ? How ? drum

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New

Water Appearance:

	yes	no
froth		✓
irridesence	✓	
oil		✓
smell	✓	
product		✓
other, describe		✓

Gallons Removed	pH	EC	Temp
5	5.35	.73	69.4
10	5.48	.77	70.3
15	5.48	.73	70.3
20	5.48	.73	70.4
25			
30			
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)	✓
TPH (diesel)	
TPH (motor oil)	
BTXE	✓
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

Well Sampling [✓] Well Development [ ] check one

Well Number: MW3

Job Number: _____

Job Name: 99 Lincoln

Date: 11-12-93

Sampler: Fallin

Depth to Water (measured from TOC): 12.12'

Inside Diameter of Casing: 2"

Depth of Boring: 17.75'

Method of well development/purging: bail

Amount of Water Bailed/Pumped from well: 5gal

Depth to Water after well development: ~

Depth to water prior to sampling: 12.13'

Bailed water stored on-site ? How ? drum

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New

Water Appearance:

	yes	no
froth		✓
irridesence		✓
oil		✓
smell		✓
product		✓
other, describe		✓

Gallons Removed	pH	EC	Temp
5	5.47	.76	68.6
10	5.61	.26	69.1
15	5.61	.26	69.0
20	5.62	.25	69.1
25			
30			
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)	✓
TPH (diesel)	
TPH (motor oil)	
BTXE	✓
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

Well Sampling [✓] Well Development [ ] check one

Well Number: MW2

Job Number: _____

Job Name: 99 Lincoln

Date: 11-12-93

Sampler: Fallin

Depth to Water (measured from TOC): 11.58'

Inside Diameter of Casing: 2"

Depth of Boring: 16.8'

Method of well development/purging: bail

Amount of Water Bailed/Pumped from well: 5 gal

Depth to Water after well development: _____

Depth to water prior to sampling: 11.58'

Bailed water stored on-site ? How ? drum

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New

Water Appearance:

	yes	no
froth		✓
irridesence		✓
oil		✓
smell		✓
product		✓
other, describe		✓

Gallons Removed	pH	EC	Temp
5	5.61	.13	70.3
10	5.64	.13	70.5
15	5.63	.12	70.6
20	5.63	.13	70.5
25			
30			
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)	
TPH (diesel)	
TPH (motor oil)	
BTXE	
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

Well Sampling [ ] Well Development [ ] check one

Well Number: MW4

Job Number: _____

Job Name: 909 Lincoln

Date: 11-12-93

Sampler: Fallin

Depth to Water (measured from TOC): 11.59'

Inside Diameter of Casing: 2"

Depth of Boring: 19.55'

Method of well development/purging: bail

Amount of Water Bailed/Pumped from well: 7 gal

Depth to Water after well development: [illegible]

Depth to water prior to sampling: 11.59

Bailed water stored on-site ? How ? drum

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New

Water Appearance:

	yes	no
froth		✓
irridesence		✓
oil		✓
smell		✓
product		✓
other, describe		✓

Gallons Removed	pH	EC	Temp
5	5.57	.62	65.7
10	5.57	.61	66.8
15	5.58	.62	65.7
20	5.58	.62	65.7
25			
30			
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)	
TPH (diesel)	
TPH (motor oil)	
BTXE	
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

Well Sampling [✓] Well Development [ ] check one

Well Number: MW4

Job Number: 6039-2B

Job Name: 901 Lincoln

Date: 10-25-93

Sampler: Fallin

Depth to Water (measured from TOC): 11.43'

Inside Diameter of Casing: 2" 7.35

Depth of Boring: 19.31'

Method of well development/purging: bail

Amount of Water Bailed/Pumped from well: 6 gallons

Depth to Water after well development: —

Depth to water prior to sampling: 11.41

Bailed water stored on-site ? How ? 55 gal drum

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New

Water Appearance:

	yes	no
froth		✓
irridesence		✓
oil		✓
smell		✓
product		✓
other, describe		✓

Gallons Removed	pH	EC	Temp
5	[illegible]	.738	74.3
10	[illegible]	.34	75.8
15		.35	75.7
20		.34	75.7
25			
30			
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)	✓
TPH (diesel)	
TPH (motor oil)	
BTXE	✓
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

APPENDIX D

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 19, 1993 ChromaLab File#: 9311167

ACC ENVIRONMENTAL CONSULTANTS

Atten: Misty Kaltreider

Project: 901 LINCOLN
Submitted: November 12, 1993

re: 4 samples for Gasoline and BTEX analysis.

Matrix: WATER
Sampled on: November 12, 1993 *Analyzed on:* November 16, 1993
Method: EPA 5030/8015/602 *Run#:* 1566

Lab # SAMPLE ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
36964 MW1	5400	1900	1.1	700	20
36965 MW2	N.D.	N.D.	N.D.	N.D.	N.D.
36966 MW3	N.D.	N.D.	N.D.	N.D.	N.D.
36967 MW4	N.D.	N.D.	N.D.	N.D.	N.D.
DETECTION LIMITS	50	0.5	0.5	0.5	0.5
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY(%)	101	97	94	97	96

ChromaLab, Inc.

Jack Kelly
Chemist

Eric Tam
Laboratory Director

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

CHROMALAB, INC.

DOHS 1094

223 SUBM #: 9311167
CLIENT: ACCENV
DUE: 11/19/93
REF: 14106

order # 14106
167/36964 – 36967

Chain of Custody

DATE 11-12-93 PAGE 1 OF 1

PROJ. MGR. Kaltreider
COMPANY ACC Envt. Consultants
ADDRESS 1000 Atlantic Ave, Ste 110
Alameda CA 94501

SAMPLERS (SIGNATURE) (PHONE NO.) (510)-522-8188

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	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)		METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CONTAINERS
MW1			H2O			X																			2
MW2						X																			2
MW3						X																			2
MW4						X																			2

PROJECT INFORMATION

PROJECT NAME: 90 Lincoln
PROJECT NUMBER:
P.O. #

TAT: STANDARD 5-DAY | 24 | 48 | 72 | OTHER

SPECIAL INSTRUCTIONS/COMMENTS:

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	8
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

RELINQUISHED BY 1.
Misty Kaltreider 3:50
(SIGNATURE) (TIME)
Misty Kaltreider 11/12/93
(PRINTED NAME) (DATE)
ACC Environmental
(COMPANY)

RECEIVED BY 1.
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RELINQUISHED BY 2.
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RECEIVED BY 2.
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RELINQUISHED BY 3.
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RECEIVED BY (LABORATORY) 3.
(SIGNATURE) 1550 (TIME)
R. Marcou 11/12/93
(PRINTED NAME) (DATE)
Chromalab
(LAB)

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 1, 1993 ChromaLab File#: 9310306

ACC ENVIRONMENTAL CONSULTANTS

Atten: Misty Kaltreider

Project: 901 LINCOLN
Submitted: October 25, 1993

re: 1 sample for Gasoline and BTEX analysis.

Matrix: WATER
Sampled on: October 25, 1993 *Analyzed on:* October 28, 1993
Method: EPA 5030/8015/602 *Run#:* 1338

Lab # SAMPLE ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
34506 MW4	N.D.	N.D.	N.D.	N.D.	N.D.
DETECTION LIMITS	50	0.5	0.5	0.5	0.5
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY(%)	118	102	110	108	109

ChromaLab, Inc.

Billy Thach
Chemist

Eric Tam
Laboratory Director

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

CHROMALAB, INC.

DOHS 1694

SUBM #: 9310306
CLIENT: ACCENV
DUE: 11/01/93
REF: 13853

Proj. # 13853

306/34506

83

Chain of Custody

DATE 10-25-93 PAGE 1 OF 1

PROJ. MGR. Misty Kaltreider
COMPANY ACC Environmental
ADDRESS

SAMPLERS (SIGNATURE) [signature]
(PHONE NO.) 521-8188

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	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)		METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CONTAINERS
MW4	10:45	102593	Water	Cold	X	X																			2

PROJECT INFORMATION

PROJECT NAME: 901 Lincoln
PROJECT NUMBER:
P.O. #

TAT: STANDARD 5-DAY | | 24 | 48 | 72 | OTHER

SPECIAL INSTRUCTIONS/COMMENTS:
Regular Turnaround!

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	2
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(SIGNATURE) [signature] (TIME) 11:15	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) Tim Fallon (DATE) 102593	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY) ACC	(COMPANY)	(COMPANY)

RECEIVED BY 1.	RECEIVED BY 2.	RECEIVED BY (LABORATORY) 3.
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) [signature] (TIME) 11:15
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) B. Morrow (DATE) 10-25-93
(COMPANY)	(COMPANY)	(LAB) Chromalab