ENVIRONMENTAL
PROTECTION

95 MAR 21 PM 1:54

540 - 525 = 03

LETTER OF TRANSMITTAL

TO: Mr. Patrick Ellwood
Grand Avenue Associates
1345 Grand Avenue
Piedmont, CA 94611

DATE: March 20, 1995
PROJECT 1345 - 1375 Grand Avenue, Piedmont
SCI JOB NUMBER: 740.003

WE ARE SENDING YOU:

6 copies

- [x] of our final report
- [ ] a draft of our report
- [ ] a Service Agreement
- [ ] a proposed scope of services
- [ ] specifications
- [ ] grading/foundation plans
- [ ] soil samples/groundwater samples
- [ ] an executed contract
- [ ] _____

- [ ] if you have any questions, please call
- [ ] for your review and comment
- [ ] please return an executed copy
- [ ] for geotechnical services
- [ ] with our comments
- [ ] with Chain of Custody documents
- [x] for your use
- [ ] _____
- [ ] _____

REMARKS:

COPIES TO: √(1) Ms. Eva Chu, Alameda Counth Health Care Services Agency, Division of Hazardous Materials, 1131 Harbor Bay Parkway, Alameda, CA 94501

BY: _____
Thomas J. Echols

■ Subsurface Consultants, Inc.

171 12th Street • Suite 201 • Oakland, California 94607 • Telephone 510-268-0461 • FAX 510-268-0137

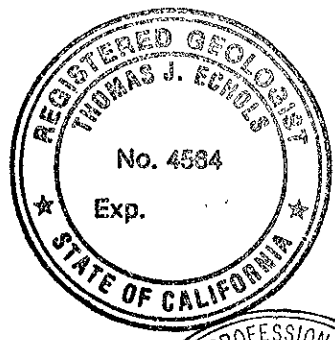
LIMITED SOIL AND GROUNDWATER CONTAMINATION INVESTIGATION
1345-1375 GRAND AVENUE
PIEDMONT, CALIFORNIA
SCI 740.003

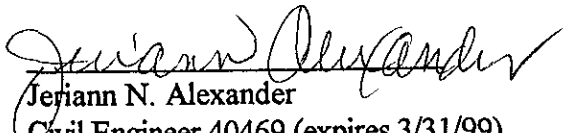
Prepared for:

Mr. Patrick Ellwood
Grand Avenue Associates
1345 Grand Avenue
Piedmont, California

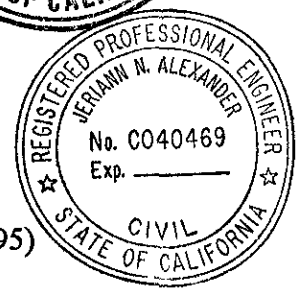
By:

Thomas J. Echols
Registered Geologist 4564 (exp. 8/31/96)





Jeriann N. Alexander
Civil Engineer 40469 (expires 3/31/99)
Registered Environmental Assessor 03130 (expires 6/30/95)



Subsurface Consultants, Inc.
171 - 12th Street, Suite 201
Oakland, California 94607
(510) 268-0461

March 17, 1995

TABLE OF CONTENTS

I INTRODUCTION

This report presents the results of a limited soil and groundwater contamination investigation conducted by Subsurface Consultants, Inc. (SCI) at 1345-1375 Grand Avenue in Piedmont, California. The subject property is currently occupied by 2 two-story buildings. The location of the subject property is shown on the Site Plan (Plate 1).

The intent of this investigation was to evaluate the presence of residual contaminants on the subject property and their relation to the past use of the site as a service station. As outlined in SCI's proposal and service agreement dated January 26, 1995, the scope of services for the investigation included:

1. Preparing a work plan,
2. Obtain soil and grab groundwater samples from three test borings,
3. Analyzing selected samples for contaminants of concern, and
4. Preparing this report.

II FIELD INVESTIGATION

The field investigation was performed in general conformance with SCI's Work Plan dated February 8, 1995. The plan was approved by Ms. Eva Chu, hazardous materials specialist with the Alameda County Health Care Services Agency (ACHCSA) as documented in a letter dated February 16, 1995.

Groundwater elevations at the subject property were documented in a report by Hallenbeck Associates (Soil Investigation for Office Building Complex, October 11, 1985). Plate 2 presents a groundwater elevation contour map SCI constructed based on the static groundwater elevations from the Hallenbeck investigation. SCI estimated the groundwater flow direction from these data and used that flow direction as the basis for choosing, with the concurrence of the ACHCSA, the local enforcing agency for the subject property, boring locations for the current investigation.

Subsurface conditions at the site were investigated by drilling 3 soil borings at locations shown on the Site Plan (Plate 1). Borings TW-1 and TW-3 were drilled adjacent to and in the estimated downgradient direction from the former locations of underground waste oil tanks and fuel tanks, respectively. Boring TW-2 was drilled at the estimated downgradient portion of the site. Temporary piezometers were installed in borings TW-2 and TW-3 to obtain groundwater grab samples. Groundwater was not encountered in boring TW-1 because the sampling rig encountered refusal. A detailed discussion of the field procedures is presented in Appendix A.

Soils encountered during this investigation were clayey sand to gravel from the surface (or below the concrete slab) to about 1 foot depth, silty to gravely clay from about 1 foot to about 6

to 12 feet, and interbedded clays, sands, silts and gravels below about 6 to 12 feet (except in boring TW-1).

Groundwater was encountered at depths of about 9 feet in borings TW-2 and TW-3 during drilling, and reached equilibrium at depths of about 4 feet and 7 feet, respectively.

III ANALYTICAL TESTING

Selected soil samples and the grab groundwater samples were analyzed by Curtis & Tompkins, Ltd., a laboratory certified by the Department of Health Services (DHS) for hazardous waste and water testing. Chain-of-Custody records accompanied all samples transported to the laboratory.

The testing program included analysis for contaminants of concern based on the former locations of the underground fuel and waste oil tanks. Three soil samples, one from each of the borings, and grab groundwater samples from two of the borings, were analyzed. Soil samples chosen for analysis were either from the zone of highest photoionization detector (PID) readings, using the procedure described in Appendix A, or from just above groundwater. Analytical results are presented in Tables 1 and 2. Laboratory analytical test reports and Chain-of-Custody records are presented in Appendix B. A discussion of test results is presented below.

A. Soil Test Results

1. Hydrocarbons

Total volatile hydrocarbons (TVH) were not detected in any of the soil samples analyzed. Total extractable hydrocarbons (TEH), characterized as diesel, were detected at 5 mg/kg in soil sample TW-1 at 2 ft; however, the laboratory stated that the sample chromatogram did not

resemble the diesel standard, and that oil-range components contributed to diesel range quantitation. Kerosene range was not reported due to overlap of hydrocarbon ranges.

2. **Metals**

The five waste oil metals were analyzed for in soil sample TW-1 at 2 ft. Cadmium was not detected, chromium was detected at 27 mg/kg, lead was detected at 7.9 mg/kg, nickel was detected at 31 mg/kg, and zinc was detected at 34 mg/kg.

3. **Total Organic Carbon**

At the request of ACHCSA, one sample from boring TW-3 was analyzed for total organic carbon (TOC). The purpose of this analysis was to allow ACHCSA to evaluate the extent to which natural biodegradation of the hydrocarbons in the soil is occurring. Soil sample TW-3 at 6.5 ft contained TOC at 220 mg/kg.

4. **Volatile Organic Compounds**

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were not detected in soil samples TW-2 at 7.5 ft and TW-3 at 6.5 ft. Ethylbenzene was detected at 10 ug/kg and total xylenes were detected at 49 ug/kg in soil sample TW-1 at 2 ft. No other VOC were detected.

5. **Semi-Volatile Organic Compounds**

After discussing the above analytical results with Ms. Eva Chu of ACHSA, it was decided that no analyses for semi-volatile organic compounds would be required. Because it exceeded holding time when I got call.

B. **Groundwater Test Results**

1. **Hydrocarbons**

TVH were not detected in the groundwater samples. TEH were not detected in sample TW-2.

2. **Metals**

Waste oil metals cadmium, chromium, lead, and nickel were not detected in sample TW-2. Zinc was detected at 32 ug/L in sample TW-2.

3. **Dissolved Oxygen**

At the request of ACHCSA, the groundwater sample from boring TW-3 was analyzed for dissolved oxygen. The purpose of this analysis was to allow ACHCSA to evaluate the extent to which natural biodegradation of the hydrocarbons in the groundwater is occurring. Sample TW-3 contained 0.8 ug/l dissolved oxygen.

4. **Volatile Organic Compounds**

VOC were not detected in sample TW-2, and BTEX were not detected in sample TW-3

5. **Semi-Volatile Organic Compounds**

After discussing the above analytical results with Ms. Eva Chu of ACHSA, it was decided that no analyses for semi-volatile organic compounds would be required.

IV CONCLUSIONS

Based on the limited study discussed herein, it appears that there is minimal impact to the soil and groundwater from the former service station improvements. Hydrocarbons detected in the soil samples analyzed are well below the 100 ppm level which has been used as a rule-of-thumb for requiring additional study at a site. The metals detected in the soil sample from near the former waste oil tank were below total threshold limit concentration (TTLC) levels, and less than

ten times the soluble threshold limit concentrations (STLC) listed in CCR Title 22. The benzene detected in groundwater sample TW-3 was at a concentration less than the maximum contaminant level (MCL) for benzene listed in CCR Title 22. Hence, no additional study appears to be warranted at this time.

V LIMITATIONS

This study was intended to provide a preliminary means of evaluating the potential risk of on-site and off-site contamination from sources associated with the former service station facilities, based on limited subsurface investigation and analytical testing. If areas of contamination exist on other portions of the property, away from the areas investigated, it is possible that they would not have been detected during this study. In addition, if chemicals that were not tested for exist, they would not have been detected during this study.

Environmental sampling studies, such as presented herein, are by nature non-comprehensive and subject to limitations including those presented herein. This study was not designed to identify all potential concerns or eliminate the probability of acquiring land without some degree of risk.

SCI has performed this environmental assessment in accordance with generally accepted standards of care which exist in Northern California at the time of this study. Please recognize that the definition and evaluation of environmental conditions is difficult and inexact. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the subsurface and/or historic conditions applicable to the site. In addition, the conclusions made herein reflect site

conditions at the time of the investigation. These conditions may change with time and as such the conclusions may also change.

The conclusions and opinions presented herein may also be affected by rapid changes in the field of environmental engineering and the laws governing hazardous waste. The reader is advised to consult with SCI prior to relying upon the information provided.

List of Tables

Table 1 - Analytical Results - Soil Samples

Table 2 - Analytical Results - Groundwater Samples

List of Plates

Plate 1 - Site Plan

Plate 2 - Groundwater Elevation Contours - August 1985

Plate 3 and 4 - Boring Logs

Plate 5 - Unified Soil Classification System

Appendix

A Investigation Protocol

B Analytical Test Reports
Chain-of-Custody Documents

Distribution

6 copies: Patrick Ellwood
Grand Avenue Associates

1 copy: Ms. Eva Chu
ACHCSA

TE:JNA:sld

Table 1.
Analytical Results - Soil Samples

Soil Sample Boring & Depth	TVH[1] (mg/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethyl-benzene (ug/kg)	Total Xylenes (ug/kg)	TEH[2] (ug/kg)	VOC[3] (ug/kg)	Cd (mg/kg)	Cr (mg/kg)	Pb (mg/kg)	Ni (mg/kg)	Zn (mg/kg)	TOC[4] (mg/kg)
TW1 @ 2'	<1	<5	<5	10	49	5*	ND	<0.25	27	7.9	31	34	NA
TW2 @ 7.5'	<1	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA
TW3 @ 6.5'	<1	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	220

[1] Total volatile hydrocarbons
[2] Total extractable hydrocarbons
[3] Volatile organic compounds (other than BTEX)
[4] Total organic carbon
* Diesel range quantitation. Sample chromatogram does not resemble diesel standard. Oil range components contributed to diesel range quantitation. Kerosene range not reported due to overlap of hydrocarbon ranges.
NA = Not analyzed
ND = None detected

Table 2.
Analytical Results - Groundwater Samples

Groundwater Sample Boring	TVH[1] (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Total Xylenes (ug/l)	TEH[2] (ug/l)	VOC[3] (ug/l)	Cd (ug/l)	Cr (ug/l)	Pb (ug/l)	Ni (ug/l)	Zn (ug/l)	DO[4] (mg/l)
TW 2	<50	<5	<5	<5	<5	<50	ND	<5	<10	<3	<20	32	NA
TW 3	<50	0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	0.8

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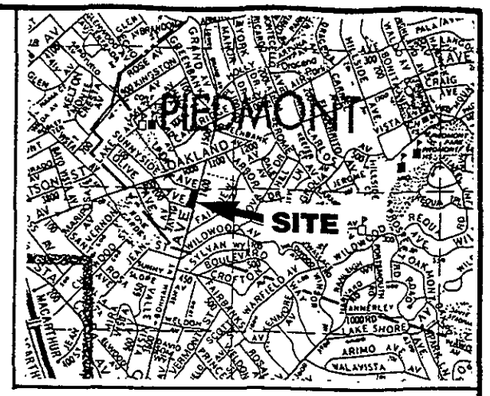
[1] Total volatile hydrocarbons
[2] Total extractable hydrocarbons
[3] Volatile organic compounds (other than BTEX)
[4] Dissolved oxygen
NA not analyzed
ND none detected



VICINITY MAP

SUNNYSIDE AVENUE

GARAGE

TW-1

PARKING LOT

FORMER SERVICE STATION BUILDING

LINDA AVENUE

OFFICE BUILDING

OFFICE BUILDING

TW-2

TW-3

SIDEWALK

GRAND AVENUE

TEST BORING BY SCI

FORMER UNDERGROUND GASOLINE TANK

FORMER UNDERGROUND WASTE OIL TANK

APPROXIMATE SCALE (feet)

0 30 60

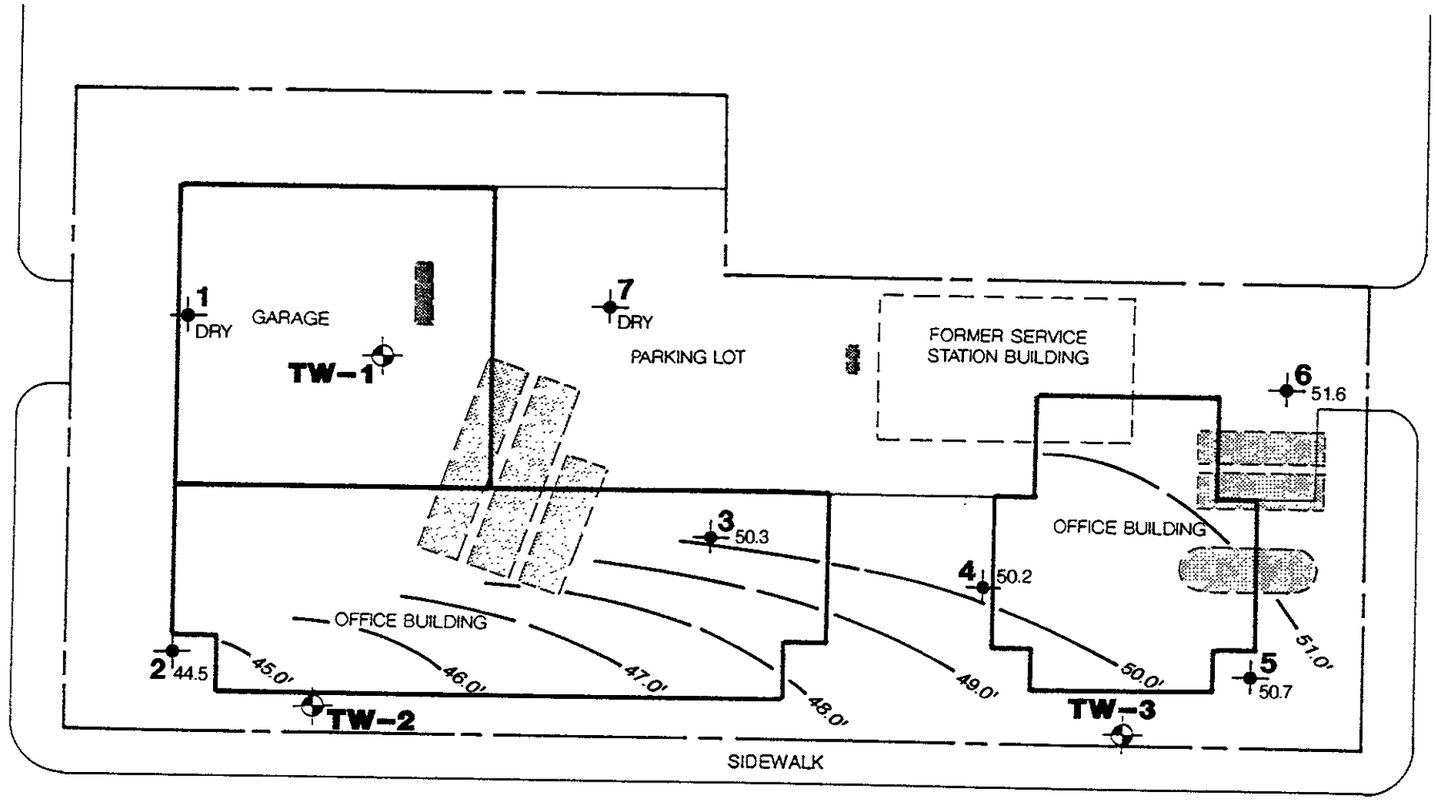
SITE PLAN

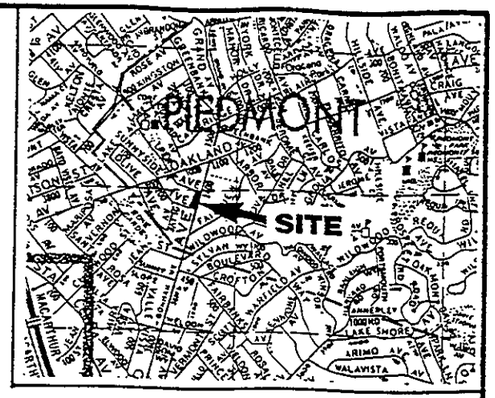
Subsurface Consultants

1345- 1375 GRAND AVENUE – PIEDMONT CA

JOB NUMBER	DATE	APPROVED
740 003	3/2/95	

PLATE 1





VICINITY MAP

- TEST BORING BY SCI
- TEST BORING BY HALLENBECK AND STATIC GROUNDWATER ELEVATION (FEET MSL) 8/26/85
- GROUNDWATER ELEVATION CONTOUR (FEET MSL)
- FORMER UNDERGROUND GASOLINE TANK
- FORMER UNDERGROUND WASTE OIL TANK

APPROXIMATE SCALE (feet)
0 30 60

GROUNDWATER ELEVATION CONTOURS AUGUST 1985

Subsurface Consultants

1345-1375 GRAND AVENUE - PIEDMONT CA

JOB NUMBER	DATE	APPROVED
740 003	3/2/95	

PLATE 2

LOG OF TEST BORING TW-1

EQUIPMENT Pneumatic Hammer
DATE DRILLED 2/23/95
ELEVATION - -

LABORATORY TESTS	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	OVM (PPM)	DEPTH (FEET)	SAMPLE	BLOWS PER FOOT
			0	0		
			10.5			
			2.1			
			0			
			0			
			0	5		
			0			
			0			
			0			
			0			
			0	10		
			0			
				15		

CONCRETE SLAB - 7" thick
ORANGE BROWN CLAYEY SANDY GRAVEL (GC)
medium dense, moist (fill)
ORANGE BROWN AND DARK GRAY AND BLACK SANDY GRAVELLY CLAY (CL)
medium stiff, moist, with construction debris
asphaltic concrete at 2.5 feet
MOTTLED ORANGE AND BROWN GRAVELLY SANDY CLAY (CL)
stiff, moist
ORANGE BROWN CLAYEY SAND (SC)
medium dense, moist
MOTTLED ORANGE AND BROWN GRAVELLY SANDY CLAY (CL)
medium stiff to stiff, moist
increased moisture at 8 feet
refusal at 10 feet

GROUNDWATER NOT ENCOUNTERED DURING DRILLING

LOG OF TEST BORING TW-2

EQUIPMENT Pneumatic Hammer
DATE DRILLED 2/23/95
ELEVATION - -

LABORATORY TESTS	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	OVM (PPM)	DEPTH (FEET)	SAMPLE	BLOWS PER FOOT
			0	0		
			0			
			0			
			0	▽		
				5		
			0			
			0			
			0			
			0			
			0	▼		
				10		
			0			
			0			
				15		

BROWN CLAYEY SAND (SC)
medium dense, moist (fill)
BLACK SILTY CLAY (CH)
soft to medium stiff, moist, with occasional sand and gravel
GROUNDWATER LEVEL AFTER DRILLING
VERY DARK GRAY BROWN SILTY CLAY (CL/CH)
medium stiff, moist
MOTTLED GRAY AND GRAY BROWN SANDY SILTY CLAY (CL)
medium stiff, moist
GROUNDWATER LEVEL DURING DRILLING
MOTTLED GRAY AND LIGHT BROWN SILTY CLAY (CL)
medium stiff, moist
MOTTLED GRAY AND LIGHT ORANGE BROWN CLAYEY SAND (SC)
medium dense, moist, some gravel lenses
LIGHT BROWN SILTY CLAYEY SAND (SM/SC)
medium dense, wet

Subsurface Consultants

1345 - 1375 GRAND AVENUE - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
740.003	3/2/95	TE

PLATE 3

LOG OF TEST BORING TW-3

EQUIPMENT Pneumatic Hammer

DATE DRILLED 2/23/95

ELEVATION - -

LABORATORY TESTS	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	OVM (PPM)	DEPTH (FEET)	SAMPLE	BLOWS PER FOOT	
			0	0			DARK BROWN CLAYEY SAND (SC) loose, moist
			0				BLACK SILTY CLAY (CL/CH) medium stiff, moist, with organic material
			0				MOTTLED OLIVE AND DARK GRAY SANDY SILTY CLAY (CL) medium stiff, moist, with gravel to 1" in dia.
			0	5			GROUNDWATER LEVEL AFTER DRILLING
			0				OLIVE GREEN AND ORANGE BROWN CLAYEY GRAVEL (GC) dense, moist
			0				GROUNDWATER LEVEL DURING DRILLING
			0	10			OLIVE AND BROWN GRAVELLY SANDY CLAY (CL) medium stiff, moist
			0				BROWN CLAYEY SAND (SC) medium dense, wet, with some gravel
			0				LIGHT BROWN SANDY CLAYEY SILT (ML) medium stiff, moist
				15			BROWN CLAYEY GRAVEL (GC) dense, wet
							LIGHT BROWN SANDY CLAYEY SILT (ML) soft, wet

Subsurface Consultants

1345 - 1375 GRAND AVENUE - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
740.003	3/2/95	TE

PLATE 4

GENERAL SOIL CATEGORIES			SYMBOLS	TYPICAL SOIL TYPES
COARSE GRAINED SOILS More than half is larger than No. 200 sieve	GRAVEL More than half coarse fraction is larger than No. 4 sieve size	Clean Gravel with little or no fines	GW	Well Graded Gravel, Gravel-Sand Mixtures
			GP	Poorly Graded Gravel, Gravel-Sand Mixtures
		Gravel with more than 12% fines	GM	Silty Gravel, Poorly Graded Gravel-Sand-Silt Mixtures
			GC	Clayey Gravel, Poorly Graded Gravel-Sand-Clay Mixtures
	SAND More than half coarse fraction is smaller than No. 4 sieve size	Clean Sand with little or no fines	SW	Well Graded Sand, Gravelly Sand
			SP	Poorly Graded Sand, Gravelly Sand
		Sand with more than 12% fines	SM	Silty Sand, Poorly Graded Sand-Silt Mixtures
			SC	Clayey Sand, Poorly Graded Sand-Clay Mixtures
FINE GRAINED SOILS More than half is smaller than No. 200 sieve	SILT AND CLAY Liquid Limit Less than 50%		ML	Inorganic Silt and Very Fine Sand, Rock Flour, Silty or Clayey Fine Sand, or Clayey Silt with Slight Plasticity
			CL	Inorganic Clay of Low to Medium Plasticity, Gravelly Clay, Sandy Clay, Silty Clay, Lean Clay
			OL	Organic Clay and Organic Silty Clay of Low Plasticity
	SILT AND CLAY Liquid Limit Greater than 50%		MH	Inorganic Silt, Micaceous or Diatomaceous Fine Sandy or Silty Soils, Elastic Silt
			CH	Inorganic Clay of High Plasticity, Fat Clay
			OH	Organic Clay of Medium to High Plasticity, Organic Silt
HIGHLY ORGANIC SOILS			PT	Peat and Other Highly Organic Soils

UNIFIED SOIL CLASSIFICATION SYSTEM

Subsurface Consultants

1345 - 1375 GRAND AVENUE - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
740.003	3/2/95	TE

PLATE 5

APPENDIX A

INVESTIGATION PROTOCOL

APPENDIX A

INVESTIGATION PROTOCOL

1. Test Borings

SCI's field engineer/geologist observed drilling and sampling operations, prepared detailed logs of the test borings and obtained undisturbed samples of the materials encountered. Test boring logs are presented on Plates 3 and 4. Soils are classified in accordance with the Unified Soil Classification System described on Plate 5.

Test borings were drilled using a portable cuttingless sampling system driven by a hydraulic hammer. Outer rods (2.5-inch outer diameter) were driven to serve as temporary casing. Soil was driven into a 3-foot-long sample barrel attached to the end of the inner rods (1.875-inch outer diameter), which were lined with 1.75-inch diameter stainless-steel tubes. After each 3-foot drive interval, the inner rods were removed from the borehole with a hydraulic winch, and the soil samples were retrieved. Drilling and sampling equipment was thoroughly steam-cleaned prior to each use to reduce the likelihood of cross-contamination between samples and/or borings.

Samples were retained in the stainless-steel liners. Teflon sheeting was placed over the ends of the liners; the liners were subsequently capped and sealed with duct tape. The sealed liners were placed in ice-filled coolers and remained iced until delivery to the analytical laboratory. Chain-of-Custody documents accompanied the samples.

Grab groundwater samples were obtained following drilling in borings TW-2 and TW-3. After raising the outer drill rods approximately 3 feet, the samples were collected using a steam-cleaned

stainless-steel bailer which were lowered through a temporary PVC casing having the lower 10 feet screened. The samples were retained in pre-cleaned glass containers which were placed in ice filled coolers and remained iced until delivery to the analytical laboratory. Chain-of-Custody documents accompanied the samples.

Upon completion of drilling, the borings were grouted, using a tremie tube, with cement/bentonite grout and sealed to match existing conditions. Cuttings generated during drilling and sampling were placed in a DOT-approved 5-gallon bucket. Rinseate water was placed in a DOT-approved 55 gallon drum. The containers were labeled and left on-site for later disposal by others.

2. **Field Analysis for Organic Vapors**

Field analysis for organic vapors was performed on drive-shoe samples obtained during drilling. The drive-shoe samples were broken up and placed into clean plastic bags. The bags were heated in an oven in SCI's lab. The bags were then pierced with the probe of a portable photo-ionization detector (PID) which then measured the organic vapor concentrations. Measurements are presented on the respective boring logs.

APPENDIX B

ANALYTICAL TEST REPORTS

CHAIN-OF-CUSTODY DOCUMENTS

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 07-MAR-95
Lab Job Number: 120028
Project ID: 740.003
Location: 1345 Grand Ave.

Reviewed by: Mary Pleasant

Reviewed by:

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 740.003
LOCATION: 1345 GRAND AVE.

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE ANALYZED: 02/27/95
DATE REPORTED: 03/06/95
BATCH NO: 19200

Total Volatile Hydrocarbons as Gasoline in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (mg/Kg)	REPORTING LIMIT (mg/Kg)
120028-001	TW1 @ 2	ND	1
120028-014	TW2 @ 7.5	ND	1
120028-024	TW3 @ 6.5	ND	1
METHOD BLANK		ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: MS/MSD

RPD, %	1
RECOVERY, %	97

QC Sample: 120000-001

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 740.003
LOCATION: 1345 GRAND AVE.

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE ANALYZED: 02/25/95
DATE REPORTED: 03/06/95
BATCH NO: 19192

Total Volatile Hydrocarbons as Gasoline in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (ug/L)	REPORTING LIMIT (ug/L)
120028-026	TW2	ND	50
120028-027	TW3	ND	50
METHOD BLANK		ND	50

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: BS/BSD

RPD, %	2
RECOVERY, %	108

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 740.003
LOCATION: 1345 GRAND AVE.

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE EXTRACTED: 02/27/95
DATE ANALYZED: 02/28/95
DATE REPORTED: 03/06/95
BATCH NO: 19203

Extractable Petroleum Hydrocarbons in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
120028-001	TW1 @ 2	**	5*	1
METHOD BLANK		ND	ND	1

ND = Not detected at or above reporting limit; reporting limit applies to all analytes.

* Sample chromatogram does not resemble diesel standard.
  Oil range components contributed to diesel range quantitation.
** Kerosene range not reported due to overlap of hydrocarbon ranges.

QA/QC SUMMARY: LCS

RECOVERY, %	100

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 740.003
LOCATION: 1345 GRAND AVE.

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE EXTRACTED: 02/27/95
DATE ANALYZED: 03/01/95
DATE REPORTED: 03/06/95
BATCH NO:19211

Extractable Petroleum Hydrocarbons in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT (ug/L)
120028-026	TW2	ND	ND	50
METHOD BLANK		ND	ND	50

ND = Not detected at or above reporting limit. Reporting limit applies to all analytes.

QA/QC SUMMARY: BS/BSD

RPD, %	2
RECOVERY, %	107

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 740.003
LOCATION: 1345 GRAND AVE.

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE ANALYZED: 02/27/95
DATE REPORTED: 03/06/95
BATCH NO: 19200

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020
Extraction by EPA 5030 Purge and Trap

LAB ID	SAMPLE ID	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)	REPORTING LIMIT (ug/Kg)
120028-014	TW2 @ 7.5	ND	ND	ND	ND	5
120028-024	TW3 @ 6.5	ND	ND	ND	ND	5
METHOD BLANK		ND	ND	ND	ND	5

ND = Not detected at or above reporting limit.

Reporting Limit applies to all analytes.

QA/QC SUMMARY: MS/MSD

RPD, %	2
RECOVERY, %	93

QC Sample: 120034-003

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 740.003
LOCATION: 1345 GRAND AVE.

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE ANALYZED: 02/25/95
DATE REPORTED: 03/06/95
BATCH NO: 19192

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020
Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)	REPORTING LIMIT (ug/L)
120028-027	TW3	0.5	ND	ND	ND	0.5
METHOD BLANK		ND	ND	ND	ND	0.5

ND = Not detected at or above reporting limit.

Reporting Limit applies to all analytes.

QA/QC SUMMARY: LCS

RECOVERY, %	93

Curtis & Tompkins, Ltd.

SAMPLE ID: TW1 @ 2
LAB ID: 120028-001
CLIENT: Subsurface Consultants
PROJECT ID: 740.003
LOCATION: 1345 Grand Ave.
MATRIX: Soil

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE REPORTED: 03/06/95

Metals Analytical Report

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
Cadmium	ND	0.25	19244	EPA 6010A	03/02/95
Chromium (total)	27	0.50	19244	EPA 6010A	03/02/95
Lead	7.9	5.0	19244	EPA 7420	03/01/95
Nickel	31	0.99	19244	EPA 6010A	03/02/95
Zinc	34	0.99	19244	EPA 6010A	03/02/95

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: TW2
LAB ID: 120028-026
CLIENT: Subsurface Consultants
PROJECT ID: 740.003
LOCATION: 1345 Grand Ave.
MATRIX: Water

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE REPORTED: 03/07/95

Metals Analytical Report

Compound	Result (ug/L)	Reporting Limit (ug/L)	QC Batch	Method	Analysis Date
Cadmium	ND	5.0	19325	EPA 6010A	03/07/95
Chromium (total)	ND	10	19325	EPA 6010A	03/07/95
Lead	ND	3.0	19325	EPA 6010A	03/07/95
Nickel	ND	20	19325	EPA 6010A	03/07/95
Zinc	32	20	19325	EPA 6010A	03/07/95

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

CLIENT: Subsurface Consultants
JOB NUMBER: 120028

DATE REPORTED: 03/07/95

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	QC Batch	Method	Analysis Date
Cadmium	ND	0.25	mg/Kg	19244	EPA 6010A	03/01/95
Cadmium	ND	5	ug/L	19325	EPA 6010A	03/07/95
Chromium (total)	ND	0.5	mg/Kg	19244	EPA 6010A	03/01/95
Chromium (total)	ND	10	ug/L	19325	EPA 6010A	03/07/95
Lead	ND	5	mg/Kg	19244	EPA 7420	03/01/95
Lead	ND	3	ug/L	19325	EPA 6010A	03/07/95
Nickel	ND	1	mg/Kg	19244	EPA 6010A	03/01/95
Nickel	ND	20	ug/L	19325	EPA 6010A	03/07/95
Zinc	ND	1	mg/Kg	19244	EPA 6010A	03/01/95
Zinc	ND	20	ug/L	19325	EPA 6010A	03/07/95

ND = Not Detected at or above reporting limit

Curtis & Tompkins, Ltd.

CLIENT: Subsurface Consultants
JOB NUMBER: 120028

DATE REPORTED: 03/07/95

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS % Recovery	BSD % Recovery	Average Recovery	RPD	QC Batch	Method	Analysis Date
Cadmium	50	46.19	45.48	ug/L	92	91	92	2	19244	EPA 6010A	03/01/95
Cadmium	50	47.1	46.5	ug/L	94	93	94	1	19325	EPA 6010A	03/07/95
Chromium (total)	200	203	201.7	ug/L	102	101	102	1	19244	EPA 6010A	03/01/95
Chromium (total)	200	192	191	ug/L	96	96	96	1	19325	EPA 6010A	03/07/95
Lead	500	510	490	ug/L	102	98	100	4	19244	EPA 7420	03/01/95
Lead	500	475	472	ug/L	95	94	95	1	19325	EPA 6010A	03/07/95
Nickel	500	499.6	498	ug/L	100	100	100	0	19244	EPA 6010A	03/01/95
Nickel	500	473	471	ug/L	95	94	95	0	19325	EPA 6010A	03/07/95
Zinc	500	516.8	515.8	ug/L	103	103	103	0	19244	EPA 6010A	03/01/95
Zinc	500	511	512	ug/L	102	102	102	0	19325	EPA 6010A	03/07/95

Curtis & Tompkins, Ltd.

CLIENT: Subsurface Consultants
JOB NUMBER: 120028

DATE REPORTED: 03/07/95

BATCH QC REPORT
SAMPLE DUPLICATE

Compound	Sample	Sample Result	Duplicate Result	Units	RPD	QC Batch	Method	Analysis Date
Cadmium	120000-002	<0.249	<0.249	mg/Kg	NC	19244	EPA 6010A	03/01/95
Cadmium	120127-001	<5.000	<5.000	ug/L	NC	19325	EPA 6010A	03/07/95
Chromium (total)	120000-002	12.806	12.672	mg/Kg	1	19244	EPA 6010A	03/01/95
Chromium (total)	120127-001	10.8	10.5	ug/L	3	19325	EPA 6010A	03/07/95
Lead	120000-002	8.458	8.955	mg/Kg	6	19244	EPA 7420	03/01/95
Lead	120127-001	<3.000	<3.000	ug/L	NC	19325	EPA 6010A	03/07/95
Nickel	120000-002	15.806	16.677	mg/Kg	5	19244	EPA 6010A	03/01/95
Nickel	120127-001	<20.000	<20.000	ug/L	NC	19325	EPA 6010A	03/07/95
Zinc	120000-002	81.244	82.139	mg/Kg	1	19244	EPA 6010A	03/01/95
Zinc	120127-001	79	78.6	ug/L	1	19325	EPA 6010A	03/07/95

NC = Not Calculable

Curtis & Tompkins, Ltd.

CLIENT: Subsurface Consultants
JOB NUMBER: 120028

DATE REPORTED: 03/07/95

BATCH QC REPORT
SAMPLE SPIKE

Compound	Spike Amount	Sample	Sample Result	Spike Result	Units	Percent Rec.	QC Batch	Method	Analysis Date
Cadmium	2.48	120000-002	<0.248	2.107	mg/Kg	85	19244	EPA 6010A	03/01/95
Cadmium	50	120127-001	<5.000	46.5	ug/L	93	19325	EPA 6010A	03/07/95
Chromium (total)	9.9	120000-002	12.806	19.985	mg/Kg	73	19244	EPA 6010A	03/01/95
Chromium (total)	200	120127-001	10.8	203	ug/L	96	19325	EPA 6010A	03/07/95
Lead	25	120000-002	8.458	31.188	mg/Kg	91	19244	EPA 7420	03/01/95
Lead	500	120127-001	<3.000	468	ug/L	94	19325	EPA 6010A	03/07/95
Nickel	24.75	120000-002	15.806	32.322	mg/Kg	67	19244	EPA 6010A	03/01/95
Nickel	500	120127-001	<20.000	483	ug/L	97	19325	EPA 6010A	03/07/95
Zinc	24.75	120000-002	81.244	77.772	mg/Kg	-14	19244	EPA 6010A	03/01/95
Zinc	500	120127-001	79	590	ug/L	102	19325	EPA 6010A	03/07/95

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028-001
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 740.003
LOCATION: 1345 GRAND AVE.
SAMPLE ID: TW1 @ 2

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE ANALYZED: 02/28/95
DATE REPORTED: 03/06/95
BATCH NO: 19198

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	10	5.0
Styrene	ND	5.0
Total xylenes	49	5.0

ND = Not detected at or above reporting limit.

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	111 %
Toluene-d8	95 %
Bromofluorobenzene	89 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028-026
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 740.003
LOCATION: 1345 GRAND AVE.
SAMPLE ID: TW2

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE ANALYZED: 03/01/95
DATE REPORTED: 03/06/95
BATCH NO: 19253

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	120 %
Toluene-d8	90 %
Bromofluorobenzene	105 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS

DATE ANALYZED: 02/27/95
DATE REPORTED: 03/06/95
BATCH NO: 19198

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit.

SURROGATE RECOVERIES

1,2-Dichloroethane-d4	101 %
Toluene-d8	89 %
Bromofluorobenzene	96 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028 METHOD BLANK
CLIENT: SUBSURFACE CONSULTANTS

DATE ANALYZED: 03/01/95
DATE REPORTED: 03/06/95
BATCH NO: 19253

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
Freon 113	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon tetrachloride	ND	5.0
Vinyl acetate	ND	50
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethyl benzene	ND	5.0
Styrene	ND	5.0
Total xylenes	ND	5.0

ND = Not detected at or above reporting limit

SURROGATE RECOVERIES	
1,2-Dichloroethane-d4	121 %
Toluene-d8	89 %
Bromofluorobenzene	106 %

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

8240 Laboratory Control Sample Report

Lab No: QC85965
Date Analyzed: 27-FEB-95
Matrix: SOIL
Batch No: 19198 425058135004

LCS Datafile: CBR04
Operator: ATR

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	44.6	50	89 %	59-172%
Trichloroethene	41.1	50	82 %	62-137%
Benzene	42.5	50	85 %	66-142%
Toluene	41.2	50	82 %	59-139%
Chlorobenzene	40.1	50	80 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	47.7	50	95 %	75-143%
Toluene-d8	47.3	50	95 %	77-134%
Bromofluorobenzene	45.5	50	91 %	65-129%

Results within Specifications - PASS

Note: Instrument C and D surrogates based on LCS data

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

8240 Laboratory Control Sample Report

Lab No: QC86231 LCS Datafile: AC113
Date Analyzed: 01-MAR-95
Matrix: WATER Operator: ATR
Batch No: 19253 405060217013

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	60.9	50	122 %	61-145%
Trichloroethene	52.1	50	104 %	71-120%
Benzene	48.9	50	98 %	76-127%
Toluene	51.1	50	102 %	76-125%
Chlorobenzene	51.5	50	103 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	56.8	50	114 %	87-133%
Toluene-d8	45.0	50	90 %	88-125%
Bromofluorobenzene	48.2	50	96 %	87-120%

Results within Specifications - PASS

Note: Instrument C and D surrogates based on LCS data

Curtis & Tompkins, Ltd

Curtis & Tompkins, Ltd.

8240 MS/MSD Report

Matrix Sample Number: 120028-026
Lab No: QC86232 QC86233
Matrix: WATER
Batch No: 19253 405061011018 405061018019 405060237016 Analyst: ATR

Date Analyzed: 02-MAR-95
Spike File: AC118
Spike Dup File: AC119

	Instrdg	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	53.8	50	108 %	61-145%
Trichloroethene	52.3	50	105 %	71-120%
Benzene	54.2	50	108 %	76-127%
Toluene	51	50	102 %	76-125%
Chlorobenzene	50.8	50	102 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	62	50	124 %	87-133%
Toluene-d8	44.3	50	89 %	88-125%
Bromofluorobenzene	56.3	50	113 %	87-120%
MSD RESULTS				
1,1-Dichloroethene	51.4	50	103 %	61-145%
Trichloroethene	48.1	50	96 %	71-120%
Benzene	44.3	50	89 %	76-127%
Toluene	52	50	104 %	76-125%
Chlorobenzene	47.8	50	96 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	63.3	50	127 %	87-133%
Toluene-d8	48.8	50	98 %	88-125%
Bromofluorobenzene	59.5	50	119 %	87-120%
MATRIX RESULTS				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	0.0498			
Toluene	0			
Chlorobenzene	0			
RPD DATA				
1,1-Dichloroethene	5 %			< 22%
Trichloroethene	9 %			< 24%
Benzene	20 %			< 21%
Toluene	2 %			< 21%
Chlorobenzene	6 %			< 21%

** Result is out of limits

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 740.003
LOCATION: 1345 GRAND AVE.

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE ANALYZED: 03/02/95
DATE REPORTED: 03/06/95

ANALYSIS: Total Organic Carbon
ANALYSIS METHOD: EPA 9060 modified

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
120028-024	TW3 @ 6.5	220	mg/Kg	10
METHOD BLANK		ND	mg/Kg	10

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: MS/MSD

RPD, %	2
RECOVERY, %	95

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 120028
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 740.003
LOCATION: 1345 GRAND AVE.

DATE SAMPLED: 02/23/95
DATE RECEIVED: 02/24/95
DATE ANALYZED: 03/08/95
DATE REPORTED: 03/08/95

ANALYSIS: Dissolved Oxygen
ANALYSIS METHOD: EPA 360.1

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
120028-027	TW3	0.8	mg/L	--

QA/QC SUMMARY: DUPLICATE

RPD, %	18

CHAIN OF CUSTODY FORM

120628

PROJECT NAME: 1345 Grand Ave.

JOB NUMBER: 740.003 LAB: Curtis & Tompkins

PROJECT CONTACT: Tom Echols TURNAROUND: Normal

SAMPLED BY: John Wolfe REQUESTED BY: Tom Echols

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR			CONTAINERS: VOA	LITER	PINT	TUBE			METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME				NOTES	ANALYSIS REQUESTED: TVH	TEH	Metals Cd, Cr, Pb, Zn, Ni	8240
-1	TW1@2		X								X						X		02	23	95					X	X	X	X	
-2	TW1@3½		X								X						X									X				
-3	TW1@4½		X								X						X									X				
-4	TW1@5½		X								X						X									X				
-5	TW1@6½		X								X						X									X				
-6	TW1@7½		X								X						X									X				
-7	TW1@8½		X								X						X									X				
-8	TW1@9½		X								X						X		02	23	95					X				
~~-9~~																														
~~-~~																														

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	2/24/95 1:25 p.m.	Mary Plessa	2/24/95 1:30 pm
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES:

Hold extra samples for possible future analysis (TW1@2' may need additional analysis for 8270

Subsurface Consultants, Inc.
171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
(510) 268-0461 • FAX: 510-268-0137

CHAIN OF CUSTODY FORM

12660

PROJECT NAME: 1345 Grand Ave.

JOB NUMBER: 740.003 LAB: Curtis & Tompkins

PROJECT CONTACT: Tom Echols TURNAROUND: Normal

SAMPLED BY: John Wolfe REQUESTED BY: Tom Echols

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR			CONTAINERS: VOA	LITER	PINT	TUBE			METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME				NOTES	ANALYSIS REQUESTED: TVH 5030/8015	BTXE 8020
-9	TW2@ 2½'		X								X						X		02	23	95					X		
-10	TW2@ 3'		X								X						X									X		
-11	TW2@ 4'		X								X						X									X		
-12	TW2@ 5'		X								X						X									X		
-13	TW2@ 6½'		X								X						X									X		
-14	TW2@ 7½'		X								X						X										X	X
-15	TW2@ 8'		X								X						X									X		
-16	TW2@ 8½'		X								X						X									X		
-17	TW2@ 10'		X								X						X									X		
-18	TW2@ 12'		X								X						X		02	23	95					X		

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Jennifer Alexander	2/24/95 1:25 p.m.	Mary Plessa	2/24/95 1:30pm
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES: Hold extra samples for possible future analysis.

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CHAIN OF CUSTODY FORM

120028

PROJECT NAME: 1345 Grand Ave.

JOB NUMBER: 740.003 LAB: Curtis & Tompkins

PROJECT CONTACT: Tom Echols TURNAROUND: Normal

SAMPLED BY: John Wolfe REQUESTED BY: Tom Echols

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	MATRIX: SOIL	MATRIX: WASTE	MATRIX: AIR	CONTAINERS: VOA	CONTAINERS: LITER	CONTAINERS: PINT	CONTAINERS: TUBE	METHOD PRESERVED: HCL	METHOD PRESERVED: H_2SO_4	METHOD PRESERVED: HNO_3	METHOD PRESERVED: ICE	METHOD PRESERVED: NONE	SAMPLING DATE: MONTH	SAMPLING DATE: DAY	SAMPLING DATE: YEAR	SAMPLING DATE: TIME	NOTES	ANALYSIS REQUESTED: TVH 5030/8015	ANALYSIS REQUESTED: BTXE 8020	ANALYSIS REQUESTED: Total Organic Carbon
-19	TW3@3		X						X				X		02	23	95		X			
-20	TW3@3½		X						X				X						X			
-21	TW3@4		X						X				X						X			
-22	TW3@4½		X						X				X						X			
-23	TW3@5½		X						X				X							X	X	X
-24	TW3@6½		X						X				X						X			
-25	TW3@9		X						X				X		02	23	95		X			

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	2/24/95 1:25 p.m.	Mary Rivera	2/24/95 1:30pm
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES: Hold extra samples for possible future analysis

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CHAIN OF CUSTODY FORM

120028

PROJECT NAME: 1345 Grand Ave.

JOB NUMBER: 740.003 LAB: Curtis + Tompkins

PROJECT CONTACT: Tom Echols TURNAROUND: Normal

SAMPLED BY: John Wolfe REQUESTED BY: Tom Echols

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR			CONTAINERS: VOA	LITER	PINT	TUBE			METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME				NOTES	ANALYSIS REQUESTED: TVH 5030/8015	TEH 3550/8015	BTXE 8020	Dissolved Oxygen	Metals Cd, Cr, Pb, Zn, Ni	8240
-26	TW2	X						6	4					X			X		02	23	95					X	X	X		X	X	
-27	TW3	X						6	4					X			X		02	23	95					X	X		X	X		

Samples Received 2/24/95

TW1

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	2/24/95 1:25 pm.	Mary Pleasant 2/24/95	1:30 pm
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES: Hdd extra samples for possible future analysis (TW2 may need additional analysis for 8270)

TW2 is correct ID for samples labelled TW1 per Tom Echols 3/6/95 11:10am MRP

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CHAIN OF CUSTODY FORM

PROJECT NAME: 1345 Grand Ave.

JOB NUMBER: 740.003 LAB: Curtis + Tompkins

PROJECT CONTACT: Tom Echols TURNAROUND: Normal

SAMPLED BY: John Wolfe REQUESTED BY: Tom Echols

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	MATRIX: SOIL	MATRIX: WASTE	MATRIX: AIR	CONTAINERS: VOA	CONTAINERS: LITER	CONTAINERS: PINT	CONTAINERS: TUBE	METHOD PRESERVED: HCL	METHOD PRESERVED: H_2SO_4	METHOD PRESERVED: HNO_3	METHOD PRESERVED: ICE	METHOD PRESERVED: NONE	SAMPLING DATE: MONTH	SAMPLING DATE: DAY	SAMPLING DATE: YEAR	SAMPLING DATE: TIME	NOTES	ANALYSIS REQUESTED: TVH 5030/8015	ANALYSIS REQUESTED: BTXE 8020	ANALYSIS REQUESTED: Total Organic Carbon
	TW3@3		X						X				X		02	23	95		X			
	TW3@3½		X						X				X						X			
	TW3@4		X						X				X						X			
	TW3@4½		X						X				X						X			
	TW3@5½		X						X				X						X			
	TW3@6½		X						X				X						X	X	X	X
	TW3@9		X						X				X		02	23	95		X			

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	2/24/95 1:25 p.m.	Mary Meeson	2/24/95 1:30pm
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME

COMMENTS & NOTES: Hold extra samples for possible future analysis

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