

February 13, 1989  
SCI 209.006

2/15/89  
ALAMEDA COUNTY  
DEPT. OF ENVIRONMENTAL HEALTH  
HAZARDOUS MATERIALS

Ms. Susan Brown  
C & H Development Company  
3744 Mt. Diablo Boulevard, Suite 301  
Lafayette, California 94549

**Groundwater Monitoring Well Sampling and Analysis**  
**Sampling No. 2**  
**150th Avenue & East 14th Street Project**  
**San Leandro, California**

Dear Ms. Brown,

This letter records the results of services provided by Subsurface Consultants, Inc. (SCI) regarding the sampling and analysis of water from the monitoring well installed at the referenced site. Details of well installation, and previous analytical test results were recorded in a letter dated April 27, 1988.

On January 31, 1989, a groundwater sample was obtained from the well. Prior to sampling, the well was purged of all water using a Teflon bailer. A Teflon sampling device was subsequently used to obtain a groundwater sample for analysis. The water sample was retained in borosilicate vials, precleaned by the supplier. The water samples were refrigerated in an ice chest on-site, and remained under refrigeration until delivered to the analytical laboratory.

#### Analytical Testing

The groundwater sample was transmitted to Curtis & Tompkins, Ltd., a laboratory certified by the California Department of Health Services to conduct hazardous waste and water testing. The sample was tested for (1) total volatile hydrocarbons (EPA Method 8015, purge and trap extraction), (2) benzene, toluene, xylene and ethyl benzene (EPA Method 602), and (3) purgeable halocarbons (EPA Method 601). The analytical program was selected to detect the compounds encountered by analyses performed during previous studies.

■ Subsurface Consultants, Inc.

Ms. Susan Brown  
Sampling No. 2  
February 13, 1989  
SCI 209.006  
Page 2

The results of the chemical analyses are summarized in the following table. For completeness, we have included a summary of previous laboratory data. Laboratory test reports and Chain-of-Custody documents are attached.

	Concentration (ug/l) <sup>5</sup>		Regulatory Criteria <sup>6</sup>
	<u>3/31/88</u>	<u>1/31/89</u>	
Gasoline	29000 <sup>1</sup>	11200 <sup>2</sup>	
EPA 602/624 Chemicals			
Benzene	ND <sup>3</sup>	260 <sup>4</sup>	0.7
Toluene	ND <sup>3</sup>	ND <sup>4</sup>	100
Xylenes	640 <sup>3</sup>	500 <sup>4</sup>	620
Ethylbenzene	550 <sup>3</sup>	500 <sup>4</sup>	680
Other EPA 624 Chemicals	ND	--	
EPA 601 Chemicals	--	ND	

1 EPA 8015 modified, sonication extraction

2 EPA 8015 modified, purge and trap

3 EPA 624

4 EPA 601

5 micrograms per liter or parts per billion (ppb)

6 Drinking Water Standard, ug/l

### Conclusions

The most recent set of analyses indicate that gasoline and several of its soluble constituents, exist at elevated concentrations in the groundwater. In general, the concentrations are consistent with those previously detected. As discussed in our previous correspondence, we consider the analytical data to be indicative of groundwater where relatively low concentrations of gasoline contamination exist. Volatile organic compounds (EPA 601) were not present in the groundwater sample at concentrations above detection limits.

The results indicate a total volatile hydrocarbon concentration, as gasoline, of 11200 ug/l or parts per billion (ppb), which is somewhat lower, but nonetheless similar to the concentration detected previously. Benzene was detected at a concentration of 260 ppb; it was not detected by the analyses previously. Xylenes and ethylbenzene were detected at concentrations of 500 ppb. These concentrations are very similar to those encountered previously.

Benzene, toluene, xylene and ethylbenzene are soluble constituents of gasoline and are regulated as hazardous and/or toxic substances by State and Federal laws. Maximum allowable concentrations for drinking water (Drinking Water Standards, DWS) have been established and are presented in the preceding table. As the data indicates, xylene and ethylbenzene concentrations are slightly below DWS concentrations. However, benzene concentrations are significantly above them.

At this time, we are uncertain what type of remedial response, if any, will be required by the regulatory agencies. Based upon our previous experiences, we judge that at a minimum, they will require that the source of contamination be identified and eliminated, and that the extent of soil and groundwater contamination be evaluated. It is premature to speculate on what type of remedial activities will be appropriate, because of the lack of information regarding the source and extent of gasoline contamination.

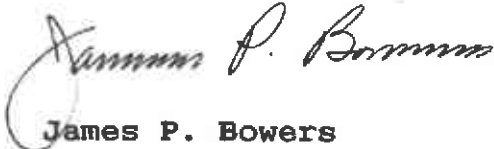
The data generated by the analyses should be considered indicative of shallow groundwater quality near the well location. It should not be considered to represent water quality in other areas of the property.

Ms. Susan Brown  
Sampling No. 2  
February 13, 1989  
SCI 209.006  
Page 4

If you have any questions regarding our services, please call.

Yours very truly,

Subsurface Consultants, Inc.



James P. Bowers  
Geotechnical Engineer 157 (expires 3/31/91)

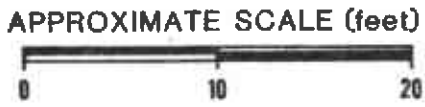
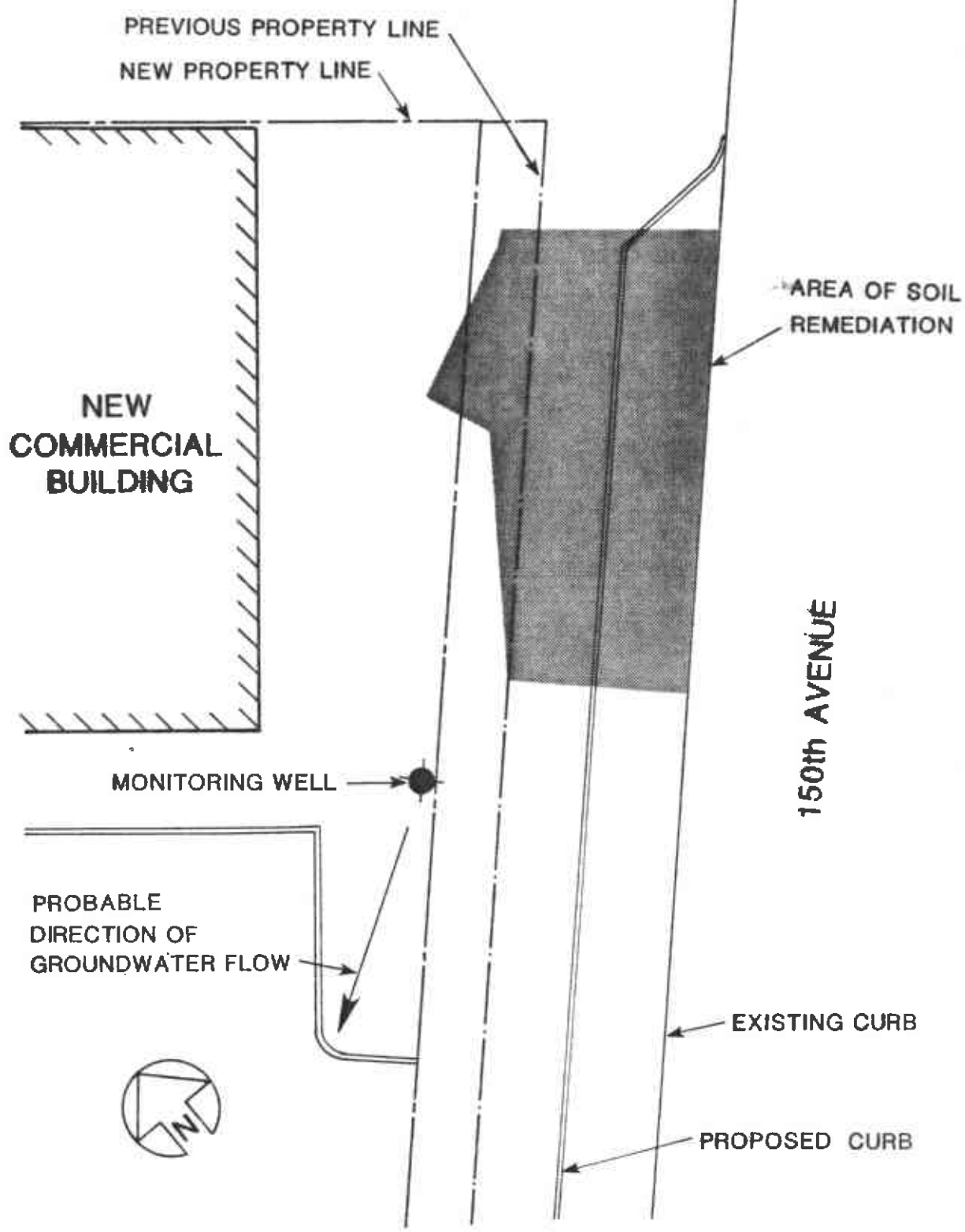
JPB:RWR:ct

Attachments:     Site Plan  
                   Analytical Test Results  
                   Chain-of-Custody Record

4 copies submitted

cc: ✓ Mr. Larry Seto  
      Alameda County Health Agency  
      Division of Hazardous Materials  
      80 Suran Way, #200  
      Oakland, CA 94621

Mr. Steven Long  
San Francisco Federal Savings  
88 Kearney Street, 4th Floor  
San Francisco, CA 94108



**MONITORING WELL LOCATION**

**Subsurface Consultants**

150th AVE. & E.14th ST. - SAN LEANDRO, CA		
JOB NUMBER 209.006	DATE 4/26/88	APPROVED <i>[Signature]</i>

PLATE  
**1**



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710. Phone (415) 486-0900

LABORATORY NUMBER: 16738  
 CLIENT: SUBSURFACE CONSULTANTS  
 JOB NUMBER: 209.006  
 JOB LOCATION: 150TH & E. 14TH

DATE RECEIVED: 02-01-89  
 DATE ANALYZED: 02-07-89  
 DATE REPORTED: 02-09-89  
 PAGE 1 OF 2

Total Volatile Hydrocarbons (TVH) by EPA 8015  
 Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 602/8020  
 Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
16738-1	W1	11,200	260	ND(20)	500	500

ND = None Detected; Limit of detection is indicated in parentheses.

QA/QC SUMMARY

%RPD	7	--	<1	10	2
%RECOVERY	99	97	98	97	95

*Stephen L. Jones*  
 LABORATORY DIRECTOR



LABORATORY NUMBER: 16738  
 CLIENT: SUBSURFACE CONSULTANTS  
 JOB #: 209.006/150TH & E. 14TH  
 CLIENT ID: W1

DATE RECEIVED: 02-01-89  
 DATE ANALYZED: 02-07-89  
 DATE REPORTED: 02-09-89  
 PAGE 2 OF 2

EPA 601  
 Purgeable Halocarbons in Water

Compound	Result ug/L	LOD ug/L
chloromethane	ND	1
bromomethane	ND	1
vinyl chloride	ND	1
chloroethane	ND	1
methylene chloride	ND	1
trichlorofluoromethane	ND	1
1,1-dichloroethene	ND	1
1,1-dichloroethane	ND	1
trans-1,2-dichloroethene	ND	1
chloroform	ND	1
freon 113	ND	1
1,2-dichloroethane	ND	1
1,1,1-trichloroethane	ND	1
carbon tetrachloride	ND	1
bromodichloromethane	ND	1
1,2-dichloropropane	ND	1
cis-1,3-dichloropropene	ND	1
trichloroethylene	ND	1
1,1,2-trichloroethane	ND	1
trans-1,3-dichloropropene	ND	1
dibromochloromethane	ND	1
2-chloroethylvinyl ether	ND	1
bromoform	ND	1
tetrachloroethene	ND	1
1,1,2,2-tetrachloroethane	ND	1
chlorobenzene	ND	1
1,3-dichlorobenzene	ND	1
1,2-dichlorobenzene	ND	1
1,4-dichlorobenzene	ND	1

ND = None Detected. Limit of detection (LOD) in last column.

QA/QC:

Duplicate: Relative % Difference 7  
 Average Spike Recovery % 86

# Subsurface Consultant

## CHAIN OF CUSTODY RECORD & ANALYTICAL TEST REQUEST

Project Name: 150th + E. 14th 16738  
SCI Job Number: 209.006  
Project Contact at SCI: JIM BOWERS  
Sampled By: F. VELEZ  
Analytical Laboratory: CURTIS + TOMPLINS LTD  
Analytical Turnaround: RAPID : 5 DAY

Sample ID	Sample Type <sup>1</sup>	Container Type <sup>2</sup>	Sampling Date	Hold	Analysis	Analytical Method
<u>W1</u>	<u>W</u>	<u>V (3)</u>	<u>1/31/89</u>		<u>TVH w/ BTXE</u> <u>AND</u> <u>EPA 601</u>	

\* Released by: [Signature] Date: 1/31/89  
\* Released by Courier: \_\_\_\_\_ Date: \_\_\_\_\_  
\* Received by Laboratory: [Signature] Date: 1/31/89  
\* Relinquished by Laboratory: \_\_\_\_\_ Date: \_\_\_\_\_  
\* Received by: \_\_\_\_\_ Date: \_\_\_\_\_

<sup>1</sup> Sample Type: W = water, S = soil, O = other (specify)  
<sup>2</sup> Container Type: V = VOA, P = plastic, G = glass, T = brass tube, O = other (specify)

Notes to Laboratory:  
-Notify SCI if there are any anomalous peaks on GC or other scans  
-Questions/clarifications...contact SCI at (415) 268-0461





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

LABORATORY NUMBER: 16738  
 CLIENT: SUBSURFACE CONSULTANTS  
 JOB NUMBER: 209.006  
 JOB LOCATION: 150TH & E. 14TH

DATE RECEIVED: 02-01-89  
 DATE ANALYZED: 02-07-89  
 DATE REPORTED: 02-09-89  
 PAGE 1 OF 2

Total Volatile Hydrocarbons (TVH) by EPA 8015  
 Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 602/8020  
 Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
16738-1	W1	11,200	260	ND(20)	500	500

ND = None Detected; Limit of detection is indicated in parentheses.

QA/QC SUMMARY

%RPD	7	--	<1	10	2
%RECOVERY	99	97	98	97	95

*Stephen L. Jones for C&T*  
 LABORATORY DIRECTOR



LABORATORY NUMBER: 16738  
CLIENT: SUBSURFACE CONSULTANTS  
JOB #: 209.006/150TH & E. 14TH  
CLIENT ID: W1

DATE RECEIVED: 02-01-89  
DATE ANALYZED: 02-07-89  
DATE REPORTED: 02-09-89  
PAGE 2 OF 2

EPA 601  
Purgeable Halocarbons in Water

Compound	Result ug/L	LOD ug/L
chloromethane	ND	1
bromomethane	ND	1
vinyl chloride	ND	1
chloroethane	ND	1
methylene chloride	ND	1
trichlorofluoromethane	ND	1
1,1-dichloroethene	ND	1
1,1-dichloroethane	ND	1
trans-1,2-dichloroethene	ND	1
chloroform	ND	1
freon 113	ND	1
1,2-dichloroethane	ND	1
1,1,1-trichloroethane	ND	1
carbon tetrachloride	ND	1
bromodichloromethane	ND	1
1,2-dichloropropane	ND	1
cis-1,3-dichloropropene	ND	1
trichloroethylene	ND	1
1,1,2-trichloroethane	ND	1
trans-1,3-dichloropropene	ND	1
dibromochloromethane	ND	1
2-chloroethylvinyl ether	ND	1
bromoform	ND	1
tetrachloroethene	ND	1
1,1,2,2-tetrachloroethane	ND	1
chlorobenzene	ND	1
1,3-dichlorobenzene	ND	1
1,2-dichlorobenzene	ND	1
1,4-dichlorobenzene	ND	1

ND = None Detected. Limit of detection (LOD) in last column.

QA/QC:

Duplicate: Relative % Difference 7  
Average Spike Recovery % 86

# Subsurface Consultants

CHA CUSTODY RECORD  
& ANALYTICAL TEST REQUEST

Project Name: 150th + E. 14th  
 SCI Job Number: 209.006  
 Project Contact at SCI: JIM BOWERS  
 Sampled By: F. VELEZ  
 Analytical Laboratory: CURTIS + TOMPKINS LTD  
 Analytical Turnaround: RAPID: 5 DAY

Sample ID	Sample Type <sup>1</sup>	Container Type <sup>2</sup>	Sampling Date	Hold	Analysis	Analytical Method
<u>W1</u>	<u>W</u>	<u>V (3)</u>	<u>1/31/89</u>		<u>TVH w/ BTXE</u> <u>AND</u> <u>EPA 601</u>	

\* \* \* \* \*

Released by: [Signature] Date: 1/31/89  
 Released by Courier: \_\_\_\_\_ Date: \_\_\_\_\_  
 Received by Laboratory: [Signature] Date: 1/31/89  
 Relinquished by Laboratory: \_\_\_\_\_ Date: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_

<sup>1</sup> Sample Type: W = water, S = soil, O = other (specify)  
<sup>2</sup> Container Type: V = VOA, P = plastic, G = glass, T = brass tube, O = other (specify)

Notes to Laboratory:  
 -Notify SCI if there are any anomalous peaks on GC or other scans  
 -Questions/clarifications...contact SCI at (415) 268-0461