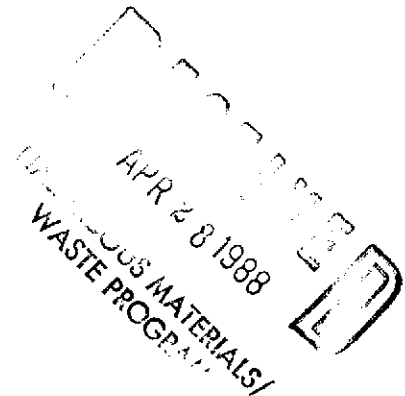


April 27, 1988
SCI 209.006

Mr. Larry Seto
Alameda County Environmental
Health Department
Division of Hazardous Materials
470 27th Street, Room 322
Oakland, California 94612

Groundwater Monitoring Well
Installation and Sample Analysis
150th Avenue and East 14th Street Project
San Leandro, California



Dear Mr. Seto,

This letter records the results of services provided by Subsurface Consultants, Inc. (SCI) for the referenced project. The scope of our services included installing a groundwater monitoring well, sampling groundwater, and performing analytical tests on the sample as outlined in our Monitoring Well and Sampling Plan dated February 11, 1988.

Well Installation

Prior to well installation, a Groundwater Protection Ordinance Permit, No. 88071, was obtained from the Alameda County Flood Control and Water Conservation District (Zone 7). The well was installed in accordance with Zone 7 and state regulatory requirements.

The well location, shown on the attached Site Plan, was selected because it was judged to be down gradient of the area previously excavated. We have assumed that groundwater generally flows toward the Bay.

The well was installed in a test boring drilled to a depth of 24 feet with a trailer-mounted drill rig equipped with 8-inch-diameter hollow-stem augers. The boring was continuously sampled from 19 to 24 feet to confirm that the boring did not penetrate an aquitard (a clay layer which separates aquifers).

Our geologist observed drilling operations, obtained samples of the materials encountered, and prepared a detailed log of the test boring. At the completion of drilling, a well was installed

Subsurface Consultants, Inc.

171 12th Street • Suite 201 • Oakland, California 94607 • Telephone 415-268-0461

Mr. Larry Seto
150th Avenue & E. 14th Street Project
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to a depth of 19 feet in the boring. The log of the test boring, complete with well details, has been attached. Drilling and sampling equipment and well construction materials were steam-cleaned prior to each use.

The completed well was developed by removing 50 gallons of water from the well using a steam-cleaned Teflon bailer. After development, a Teflon sampling device was used to obtain a groundwater sample. The sample was retained in borosilicate vials and amber glass containers precleaned by the supplier. The sample was refrigerated in an ice chest until delivery to the analytical laboratory.

Analytical Testing

The groundwater sample, accompanied by appropriate chain-of-custody forms, 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 petroleum hydrocarbons (EPA method 8015, modified), (2) volatile organic compounds by gas chromatography/mass spectroscopy with additional identification of the 10 highest peaks (EPA method 624), and (3) total oil and grease (Standard Method 503E).

The results of the chemical analyses are summarized in the attached Table 1. Laboratory test reports are also attached.

Conclusions

Detectable concentrations of TPH (as gasoline), ethylbenzene, xylene and 8 other volatile aromatic hydrocarbon constituents of gasoline are present in the groundwater. The detected concentrations of ethylbenzene and xylene are below the California Department of Health Services (DHS) action levels for drinking water¹. The DHS has not established action levels for the other compounds. We consider them indicative of groundwater where low levels of gasoline contamination are present.

Based on the analytical data, it is our opinion that no further soil and/or groundwater remediation, nor additional detailed study are appropriate at this time. However, we look forward to your input following your review of the data.

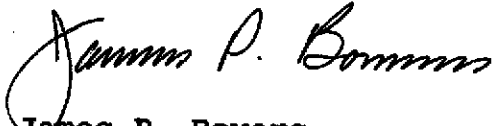
¹ DHS Action Level for ethylbenzene - 680 ppb
DHS Action Level for xylene - 620 ppb

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If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.



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

JNA:JPB:RWR:clh

Attachments: Site Plan
Log of Test Boring
Analytical Test Results

4 copies submitted

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

TABLE 1. SUMMARY OF ANALYTICAL TEST RESULTS

<u>Chemical Analysis</u>	<u>Concentrations</u>
TPH (as gasoline)	29 mg/L ²
Total Oil and Grease	ND ³
EPA Method 624 ⁴	
Ethylbenzene	550 ug/L ⁵
Total xylenes	640 ug/L
Other EPA 624 chemicals	ND
GC/MS Peak Search ⁶	
Propylbenzene	240 ug/L
Ethylcyclobutane	98 ug/L
2-Methylpentane	94 ug/L
2-Methylbutane	88 ug/L
2,3-Dimethylpentene	73 ug/L
2-Methylhexane	58 ug/L
3-Methylhexane	57 ug/L
2,5,6-Trimethyloctane	57 ug/L

¹ TPH = Total Petroleum Hydrocarbons, method includes gasoline, kerosene and diesel constituents

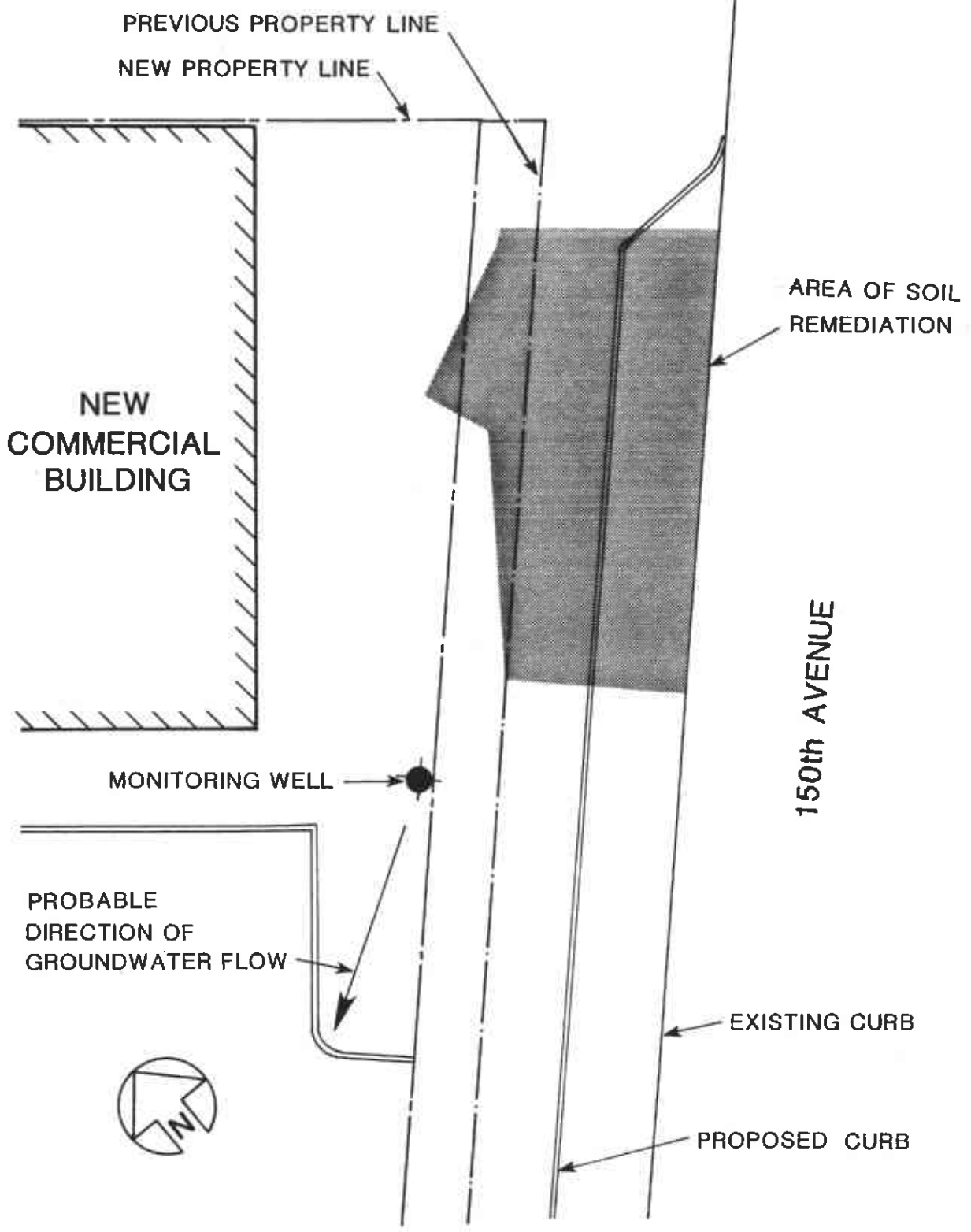
² mg/L = milligrams per liter = ppm

³ ND = Not detected, chemicals not present at concentrations above detection limits

⁴ Method includes the 35 chemicals listed on the attached test report

⁵ ug/L = micrograms per liter = ppb

⁶ Includes a search of 70,000 compounds within the Wiley/NBS spectral data library



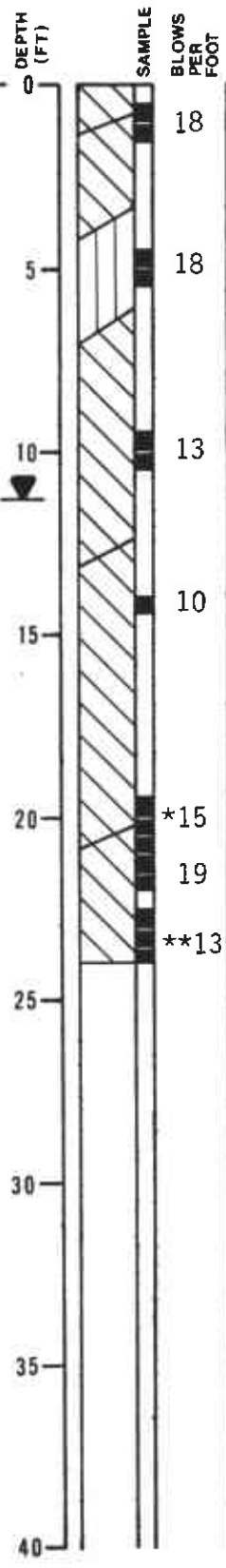
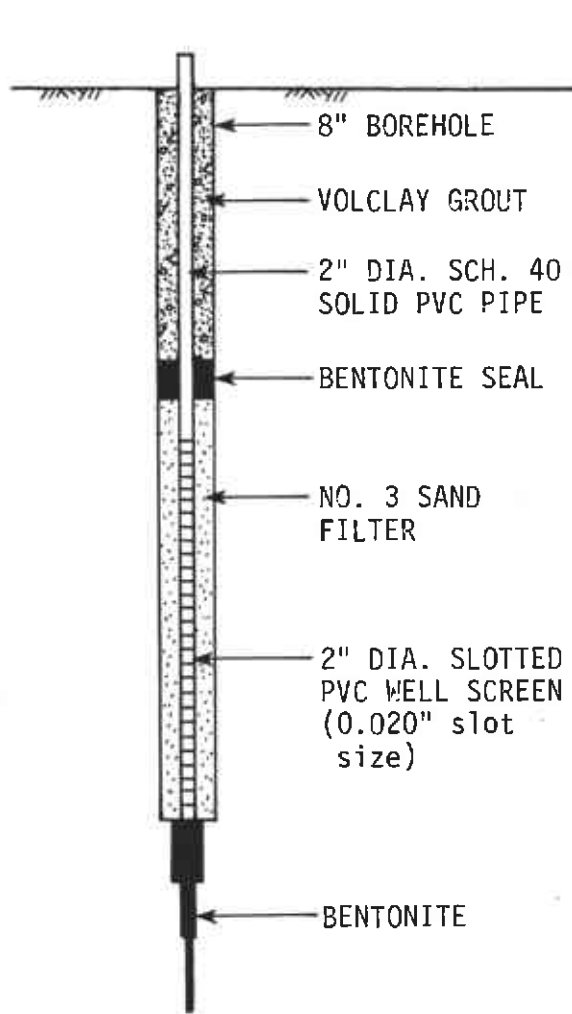
MONITORING WELL LOCATION

Subsurface Consultants

150th AVE. & E.14th ST. - SAN LEANDRO, CA			PLATE
JOB NUMBER	DATE	APPROVED	1
209.006	4/26/88		

LOG OF TEST BORING 1

EQUIPMENT 8" Hollow Stem Auger
 DATE DRILLED 3/31/88
 ELEVATION --



BROWN SILTY CLAY (CL)
 stiff, moist, contains numerous rock fragments
 BLACK SILTY CLAY (CL)
 stiff, moist
 OLIVE-BROWN SANDY CLAYEY SILT (ML)
 stiff, moist, contains occasional rock fragments
 MOTTLED OLIVE-BROWN SILTY CLAY (CL)
 medium stiff, moist
 GROUNDWATER LEVEL 1 HOUR AFTER DRILLING
 OLIVE-GREEN SILTY CLAY (CL)
 medium stiff, wet
 increase in sand content
 DARK BROWN SILTY CLAY (CL)
 stiff, wet

SAMPLER TYPES:
 CALIFORNIA DRIVE
 *MODIFIED CALIFORNIA DRIVE
 **STANDARD PENETRATION TEST
 (see text for sampler descriptions)

HAMMER WEIGHT: 140 pounds
 HAMMER DROP: 30 inches



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

290 Division Street, San Francisco, CA 94103, Phone (415) 861-1863

LAB NUMBER: 14464
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 209.006, 150TH AVE. &
E. 14TH ST.

DATE RECEIVED: 03/31/88
DATE ANALYZED: 04/04/88
DATE REPORTED: 04/11/88
PAGE 1 of 3

Results of Analysis for Petroleum Hydrocarbons/Oil & Grease

Method References: O&G: Oil and Grease, EPA 413.1
TPH: Total Petroleum Hydrocarbons, EPA 3550/8015

LAB ID	SAMPLE ID	GASOLINE (mg/L)	KEROSINE (mg/L)	DIESEL (mg/L)	O&G (mg/L)
14464-1	W1	29	ND(10)	ND(10)	ND(20)

ND = Not Detected; Limit of detection indicated in parentheses.

QA/QC SUMMARY

	TPH
Duplicate: Relative % Difference	4
Spike: % Recovery	98

[Signature]
LABORATORY DIRECTOR

LABORATORY NUMBER: 14464
 CLIENT: SUBSURFACE CONSULTANTS
 SAMPLE ID: W1
 PROJECT ID: 209.006, 150TH AVE. & E.14TH ST.

DATE RECEIVED: 03/31/88
 DATE ANALYZED: 04/01/88
 DATE REPORTED: 04/11/88
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EPA METHOD 624: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Detection Limit ug/L
benzene	ND	5
carbon tetrachloride	ND	5
chlorobenzene	ND	5
1,2-dichloroethane	ND	5
1,1,1-trichloroethane	ND	5
1,1-dichloroethane	ND	5
1,1,2-trichloroethane	ND	5
1,1,2,2-tetrachloroethane	ND	5
chloroethane	ND	5
2-chloroethylvinyl ether	ND	10
chloroform	ND	5
1,1-dichloroethene	ND	5
1,2-trans-dichloroethene	ND	5
1,2-dichloropropane	ND	5
1,3-dichloropropene	ND	5
ethylbenzene	550	5
methylene chloride	ND	10
chloromethane	ND	5
bromomethane	ND	5
bromoform	ND	5
bromodichloromethane	ND	5
fluorotrichloromethane	ND	5
chlorodibromomethane	ND	5
tetrachloroethene	ND	5
toluene	ND	5
trichloroethene	ND	5
vinyl chloride	ND	5

Non-Priority Hazardous Pollutant Substances List Compounds

acetone	ND	10
2-butanone	ND	10
carbon disulfide	ND	5
2-hexanone	ND	5
4-methyl-2-pentanone	ND	5
styrene	ND	5
vinyl acetate	ND	5
total xylenes	640	5

QA/QC:

Average Spike Recovery %

1,2 Dichloroethane-d4	125
Toluene-d8	102
Bromofluorobenzene	98

LABORATORY NUMBER: 14464
 CLIENT: Subsurface Consultants
 JOB NUMBER: 209.006
 SAMPLE ID: W1

DATE RECEIVED: 03/31/88
 DATE ANALYZED: 04/01/88
 DATE REPORTED: 04/11/88
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LIBRARY SEARCH RESULTS

 The 70,000 compound Wiley/NBS mass spectral data library was searched using the Hewlett-Packard probability matching search algorithm. This program identified 8 compounds with estimated concentrations from approximately 57 ug/L to approximately 240 ug/L. These compounds with the highest probability matches are identified and presented with their match probabilities and approximate concentrations below:

COMPOUND	MATCH PROBABILITY	CONCENTRATION (ug/L)
Propylbenzene	83%	240
Ethylcyclobutane	77%	98
2-Methylpentane	84%	94
2-Methylbutane	89%	88
2,3-Dimethylpentene	87%	73
2-Methylhexane	81%	58
3-Methylhexane	89%	57
2,5,6-Trimethyloctane	78%	57