

91 NOV 22 AM 11:46

November 27, 1991
SCI 615.002

Carl Sean Carlson
re: R.A.

Risk Assessment
Guidance for Superfund

Human Health
Risk Manual
Part A

Mr. Paul Smith
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Request for Clarification
Dignity Housing West
15th and Castro Streets
Oakland, California

No land -
pet hydro-
pesticide
Benz
Community had a
see not present

Dear Mr. Smith:

The California State Department of Housing and Community Development (DHCD) is partially responsible for funding the referenced project, which is now under construction. In reviewing your July 12, 1991 letter, DHCD has become concerned about the "cleanliness, safety and habitability" of the project. In order to provide DHCD with additional information so they may continue their evaluation and ultimately fund the project, Subsurface Consultants, Inc. (SCI) is requesting clarification from Alameda County Health Care Services Agency (ACHCSA). Specifically, we are requesting ACHCSA's concurrence with the following statements.

- a. The soil contamination identified on the property has been satisfactorily remediated in accordance with ACHCSA requirements.
- b. Further soil remediation is not required provided that no other on-site sources are discovered, and groundwater quality tests continue to show no significant impacts.
- c. After one year of quarterly monitoring (ending with the February 8, 1992 event) ACHCSA will support a petition to the Regional Water Quality Control Board for case closure, provided that petroleum hydrocarbons, and BTXE are not present in groundwater at concentrations above detection limits. To date, petroleum hydrocarbons and BTXE have not been detected in groundwater.

■ Subsurface Consultants, Inc.

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- d. Given the site conditions as defined by our studies, the site does not appear to pose a health or safety risk for multifamily residential habitation.

Supporting Data

SCI has provided you the following reports and letters:

- a. A Phase II Hydrocarbon Contamination Assessment report by SCI, dated May 16, 1991.
- b. A letter describing soil remediation by SCI, dated July 2, 1991.
- c. A letter containing the results of the second quarterly groundwater monitoring event, dated August 29, 1991.

We understand that these documents have been reviewed and that you have requested additional information. Transmitted with this letter are:

- a. A Preliminary Environmental Assessment report completed by SCI for the project, dated May 8, 1991.
- b. The third quarterly groundwater monitoring report dated November 26, 1991.

Conclusions

Since our last quarterly groundwater monitoring report, site development has commenced. Part of the project included removal of two to three feet of the weak surface soils on the entire property. After removal, these soils were replaced with compacted fill to provide uniform support for the building. An SCI representative observed the soils exposed at the bottom of the excavation. No sumps, pipelines, tanks, hoists or similar subsurface improvements were encountered during grading. Soils exposed at the bottom of the excavation consisted of dense undisturbed native sands throughout the property. There were no stained soils, or other visual indications or odors that would suggest the presence of contaminated soils on the property.

As summarized in our groundwater monitoring report dated November 26, 1991, TVH, TEH, BTXE were not detected in the water samples. However, low levels of chloroform and PCE were detected in the current and initial sampling events. We suspect that the chloroform was from a lab contaminant because it was also encountered in the method blank. In our opinion, the PCE is likely from an off-site source, since PCE has never been found within the

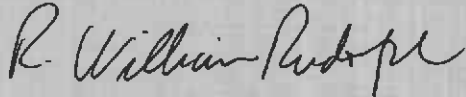
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soils on-site. We should also point out that the measured concentrations of PCE are within the state drinking water standards of 5 ug/l. On this basis, we conclude that groundwater at the site has not been impacted by the on-site contamination.

Thank you for your attention to this matter. If you have any questions, please call. In order to expedite the project funding process, we request that you respond in writing as soon as possible.

Yours very truly,

Subsurface Consultants, Inc.



R. William Rudolph
Geotechnical Engineer 741 (expires 12/31/92)

SOC:RWR:JPB:sld

Attachments: Preliminary Environmental Assessment, dated May 8,
1991
Groundwater Monitoring Report, dated November 26,
1991

cc: Ms. Lydia Tan
Tsen & Associates
4 Embarcadero Center, Suite 3400
San Francisco, California 94111-4105

November 26, 1991
SCI 615.002

EPA 8080

Organochlorine & PCB's

7 size site

1/2 Acre 4 Sample

Dignity Housing West
c/o Ms. Lydia Tan
Tsen & Associates
4 Embarcadero Center, Suite 3400
San Francisco, California 94111-4105

Quarterly Groundwater Monitoring Report
November 1991 - 3rd Quarterly Groundwater
Monitoring Event
Dignity Housing West
15th and Castro Streets
Oakland, California

Dear Ms. Tan:

This letter transmits the results of the November 1991 quarterly groundwater monitoring event at the referenced project. Groundwater monitoring is being performed in accordance with Regional Water Quality Control Board (RWQCB) requirements after soil contamination was encountered at the site. The soil contamination resulted from two leaking underground storage tanks which were subsequently removed from the site in 1987.

The soil contamination consisted of up to 5600 mg/kg petroleum hydrocarbons, as gasoline and stoddard solvent. The contamination has been almost completely removed. Only low levels of toluene and xylene remain in the soil beyond the excavation limits. Details of soil remediation are summarized in a report dated July 2, 1991.

This latest groundwater monitoring event consisted of (1) measuring groundwater levels, (2) purging five gallons of water from each of the wells, and (3) sampling the wells with a pre-cleaned disposable bailer. The water samples were retained in glass containers and preserved with hydrochloric acid. The containers were placed in ice filled coolers and remained iced until delivery to the analytical laboratory. Chain-of-Custody records accompanied the samples to the laboratory. A site plan (Plate 1) showing the locations of the wells and the groundwater gradient at the site on November 8, 1991 is attached.

Analytical testing was performed by Curtis & Tompkins, Ltd., a State of California Department of Health Services (DHS) certified analytical laboratory for the tests performed. The analytical tests included:

■ **Subsurface Consultants, Inc.**

Dignity Housing West
 c/o Ms. Lydia Tan
 Tsen & Associates
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1. Total volatile hydrocarbons (TVH), sample preparation and analysis using EPA Methods 5030 (purge and trap) and 8015 modified (gas chromatograph coupled to a flame ionization detector),
2. Total extractable hydrocarbons (TEH), sample preparation and analysis using EPA Methods 3550 (sonication) and 8015 (modified gas chromatograph coupled to a flame ionization detector),
3. Benzene, toluene, xylenes and ethylbenzene (BTXE), sample preparation and analysis using EPA Methods 5030 and 8020 (gas chromatograph coupled to a flame ionization detector),
4. Purgeable halocarbons (EPA 8010), sample preparation and analysis using EPA methods 5030 (purge and trap) and 8010 (gas chromatograph coupled to a electrolytic conductivity detector).

Copies of the analytical test reports for the November 1991 sampling event are attached. The results of the analytical testing and groundwater level measurements are summarized in Tables 1 and 2 respectively.

Table 1. Analytical Test Results

Well	Sample Date	TVH ¹ ug/l ⁷	TEH ² ug/l	B ³ ug/l	T ug/l	X ug/l	E ug/l	Chl ⁴ ug/l	PCE ⁵ ug/l	Other ⁶ EPA 8010 Chemicals ug/l
MW-1	05/08/91	<50	<50	<1	<1	<1	<1	1.2	2.5	<1 ⁸
	08/13/91	<50	<50	<1	<1	<1	<1	<1	<1	<1
	11/08/91	<50	<50	<0.5	<0.5	<0.5	<0.5	2.4	2.3	<1
MW-2	05/08/91	<50	<50	<1	<1	<1	<1	2	2.4	<1
	08/13/91	<50	<50	<1	<1	<1	<1	<1	<1	<1
	11/08/91	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	1.3	<1
MW-3	05/08/91	<50	<50	<1	<1	<1	<1	<1	2.3	<1
	08/13/91	<50	<50	<1	<1	<1	<1	<1	<1	<1
	11/08/91	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	<1	<1
Blank	11/08/91							2.2	<1	2.3

1 TVH = Total Volatile Hydrocarbons, EPA method 8015/5030
 2 TEH = Total Extractable Hydrocarbons, EPA method 8015/3550
 3 BTXE = benzene, toluene, xylene and ethylbenzene, EPA method 8020/5030
 4 Chl = Chloroform, EPA method 8010/5030
 5 PCE = Tetrachloroethylene, EPA method 8010/5030
 6 For a complete list of other EPA 8010 chemicals, refer to test reports
 7 ug/l = micrograms per liter or parts per billion (ppb)
 8 Detection limits for EPA 8010 chemicals vary from 1.0 to 2.0 ug/l
 9 Methylene chloride, a common laboratory solvent

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 c/o Ms. Lydia Tan
 Tsen & Associates
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Table 2. Groundwater Elevations

Well	Date	Top of Casing Elevation ¹	Depth to Groundwater (ft)	Groundwater Elevation (ft) ¹
MW-1	05/08/91	27.62	26.82	0.80
	08/13/91		27.06	0.56
	11/08/91		27.05	0.57
MW-2	05/08/91	27.97	26.88	1.09
	08/13/91		27.11	0.86
	11/08/91		27.11	0.86
MW-3	05/08/91	29.90	28.54	1.31
	08/13/91		28.82	1.08
	11/08/91		28.88	1.02

¹ Elevations are referenced to project datum established by Bates and Bailey on the land survey and topographic plan of February 25, 1991.

The analytical test results indicates that total volatile hydrocarbons, total extractable hydrocarbons (TEH), and benzene, toluene, xylene, and ethylbenzene, were not present at concentrations above detection limits in the water samples. However, low concentrations of chloroform and tetrachloroethylene (PCE) were detected.

The presence of chloroform is believed to be a laboratory contaminant, since it was also detected in the laboratory method blank. PCE was detected in wells MW-1 and MW-2 at concentration up to 3.3 ug/l. It is suspected to be from an upgradient source. No known PCE sources have been detected on-site. PCE concentrations are within the allowable drinking water standards of California which is 5 ug/l.

The groundwater level data indicate that the groundwater flow direction is toward the west at a gradient of approximately 0.6 percent. Groundwater flow direction and gradient remain consistent with previous measurements.

Per your request, we are forwarding a copy of this letter and the analytical test results directly to Alameda County Health Care Services Agency (ACHCSA), and the Regional Water Quality Control Board (RWQCB).

Dignity Housing West
c/o Ms. Lydia Tan
Tsen & Associates
SCI 615.002
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If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.



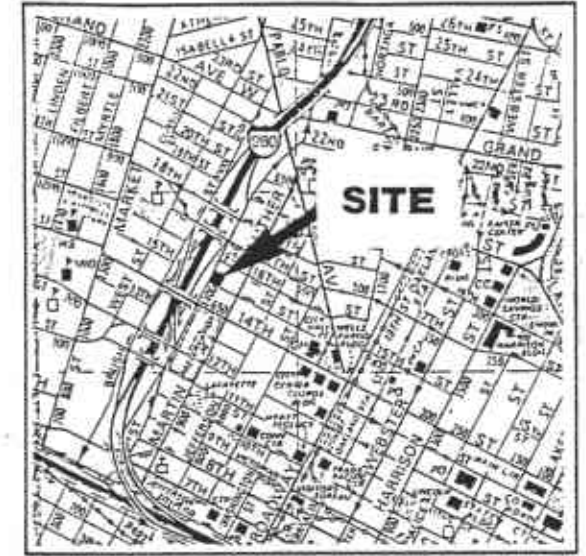
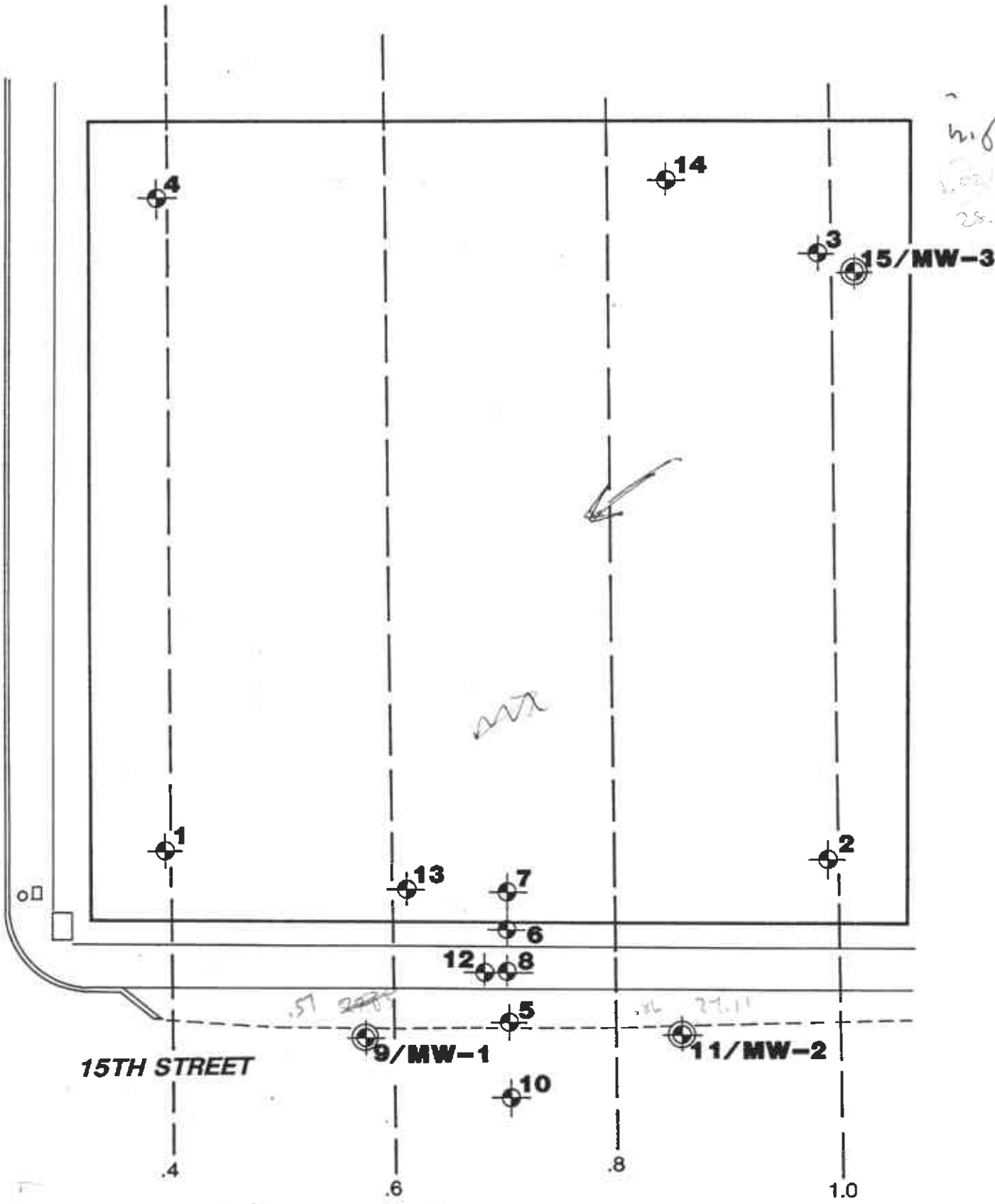
R. William Rudolph
Geotechnical Engineer 741 (expires 12/31/92)

SOC:RWR:JPB:sld

Attachments: Site Plan - Plate 1
 Analytical Test Reports
 Chain-of-Custody Forms

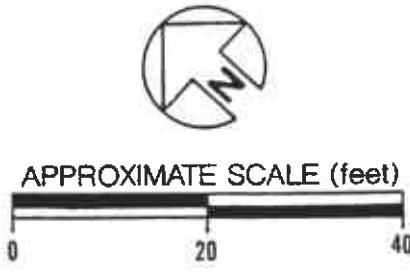
cc: Mr. Paul Smith - ACHCSA
 Mr. Richard Hyatt - RWQCB

CASTRO STREET



VICINITY MAP

	TEST BORING/MONITORING WELL
	TEST BORING
	EDGE OF PAVEMENT
	1.0 GROUNDWATER GRADIENT CONTOUR 11/8/91



SITE PLAN

Subsurface Consultants

DIGNITY HOUSING WEST - OAKLAND, CA			PLATE 1
JOB NUMBER 615.002	DATE 11/27/91	APPROVED <i>see</i>	

depth casing - true depth =



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

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

DATE RECEIVED: 11/11/91

DATE REPORTED: 11/20/91


LABORATORY NUMBER: 105759

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 615.002

LOCATION: DIGNITY HOUSING WEST

RESULTS: SEE ATTACHED



QA/QC Approval



Final Approval

Berkeley

Wilmington

Los Angeles

LABORATORY NUMBER: 105759
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 615.002
 LOCATION: DIGNITY HOUSING WEST

DATE RECEIVED: 11/11/91
 DATE ANALYZED: 11/14/91
 DATE REPORTED: 11/20/91

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
 TVH by California DOHS Method/LUFT Manual October 1989
 BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
105759-1	MW-1	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
105759-2	MW-2	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
105759-3	MW-3	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not detected at or above reporting limit; Reporting limit
 indicated in parentheses.

QA/QC SUMMARY

RPD, %	<1
RECOVERY, %	88

LABORATORY NUMBER: 105759-1
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 615.002
 LOCATION: DIGNITY HOUSING WEST
 SAMPLE ID: MW-1

DATE RECEIVED: 11/11/91
 DATE ANALYZED: 11/12/91
 DATE REPORTED: 11/20/91

EPA 8010
 Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl chloride	ND	2.0
Chloroethane	ND	2.0
Methylene chloride	ND	2.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	1.4	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethylene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
2-Chloroethylvinyl ether	ND	2.0
Bromoform	ND	1.0
Tetrachloroethene	3.3	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	110
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LABORATORY NUMBER: 105759-2
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 615.002
 LOCATION: DIGNITY HOUSING WEST
 SAMPLE ID: MW-2

DATE RECEIVED: 11/11/91
 DATE ANALYZED: 11/12/91
 DATE REPORTED: 11/20/91

EPA 8010
 Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl chloride	ND	2.0
Chloroethane	ND	2.0
Methylene chloride	ND	2.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethylene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
2-Chloroethylvinyl ether	ND	2.0
Bromoform	ND	1.0
Tetrachloroethene	1.3	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	108
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LABORATORY NUMBER: 105759-3
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 615.002
 LOCATION: DIGNITY HOUSING WEST
 SAMPLE ID: MW-3

DATE RECEIVED: 11/11/91
 DATE ANALYZED: 11/12/91
 DATE REPORTED: 11/20/91

EPA 8010
 Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl chloride	ND	2.0
Chloroethane	ND	2.0
Methylene chloride	ND	2.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethylene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
2-Chloroethylvinyl ether	ND	2.0
Bromoform	ND	1.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

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Surrogate Recovery, %

=====

110

LABORATORY NUMBER: 105759
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 615.002
 LOCATION: DIGNITY HOUSING WEST
 SAMPLE ID: METHOD BLANK

DATE ANALYZED: 11/12/91
 DATE REPORTED: 11/20/91

EPA 8010
 Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl chloride	ND	2.0
Chloroethane	ND	2.0
Methylene chloride	2.3	2.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	1.2	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethylene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
2-Chloroethylvinyl ether	ND	2.0
Bromoform	ND	1.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	109
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BS/BSD SUMMARY SHEET FOR EPA 601(602)/8010(8020)
 INSTRUMENT: HP-5890 COLUMN: RESTEK 502.2 DETECTORS: HALL/PID

Operator: AV Spike file: 315W/X013
 Analysis date: 11/11/91 Spike dup file: 315W\X014
 Sample type: WATER Instrument: GC12
 Sequence name NOV 11

601 BS/BSD DATA (spiked at 20 ppb) Ave Rec= 108 %

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	21.12	106 %	OK	61 - 145
Trichloroethene	22.35	112 %	OK	71 - 120
Chlorobenzene	24.87	124 %	OK	75 - 130

SPIKE DUP COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	18.65	93 %	OK	61 - 145
Trichloroethene	20.01	100 %	OK	71 - 120
Chlorobenzene	22.10	111 %	OK	75 - 130

SURROGATES	READING	RECOVERY	STATUS	LIMITS
BROMOBENZENE (BS)	112.00	112 %	OK	75 - 120
BROMOBENZENE (BSD)	108.00	108 %	OK	75 - 120

602 BS/BSD DATA (spiked at 20 ppb) Ave Rec= 93 %

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
Benzene	17.59	88 %	OK	76 - 127
Toluene	17.36	87 %	OK	76 - 125
Chlorobenzene	20.91	105 %	OK	75 - 130

SPIKE DUP COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
Benzene	17.67	88 %	OK	76 - 127
Toluene	17.42	87 %	OK	76 - 125
Chlorobenzene	21.15	106 %	OK	75 - 130

SURROGATES	READING	RECOVERY	STATUS	LIMITS
BROMOBENZENE (BS)	101.00	101 %	OK	75 - 120
BROMOBENZENE (BSD)	101.00	101 %	OK	75 - 120

RPD DATA 601 RPD= 11.8 % 602 RPD= 0.6 %

601 COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
1,1-Dichloroethene	21.12	18.65	12 %	OK	< 14
Trichloroethene	22.35	20.01	11 %	OK	< 14
Chlorobenzene	24.87	22.10	12 %	OK	< 13

602 COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
Benzene	17.59	17.67	0 %	OK	< 11
Toluene	17.36	17.42	0 %	OK	< 13
Chlorobenzene	20.91	21.15	1 %	OK	< 13

REVIEWED BY: 



LABORATORY NUMBER: 105759
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 615.002
LOCATION: DIGNITY HOUSING WEST

DATE RECEIVED: 11/11/91
DATE EXTRACTED: 11/19/91
DATE ANALYZED: 11/18,19/91
DATE REPORTED: 11/20/91
DATE REVISED: 11/22/91

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)
105759-1	MW-1	ND	ND	50
105759-2	MW-2	ND	ND	50
105759-3	MW-3	ND	ND	50

ND = Not detected at or above reporting limit.

*Reporting limit applies to all analytes.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	87


PRELIMINARY ENVIRONMENTAL ASSESSMENT
DIGNITY HOUSING WEST
15TH AND CASTRO STREETS
OAKLAND, CALIFORNIA
SCI 615.001

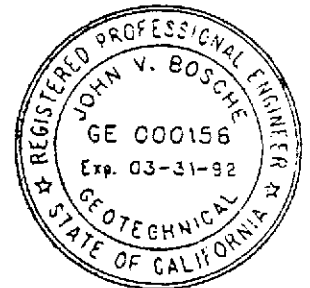
May 8, 1991

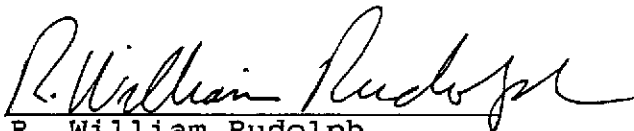
Prepared for:

Dignity Housing West
C/O Mr. Willie Pettus
Pyatok Associates
339 15th Street, Suite 212
Oakland, California 94612

By:


John V. Bosche
Geotechnical Engineer 156 (expires 3/31/92)




R. William Rudolph
Geotechnical Engineer 741 (expires 12/31/92)



Subsurface Consultants, Inc.
171 - 12th Street, Suite 201
Oakland, California 94607
(415) 268-0461

May 8, 1991

I INTRODUCTION

This report presents the results of a preliminary environmental assessment conducted by Subsurface Consultants, Inc. (SCI) for the Dignity Housing West project at the northeast corner of 15th and Castro Streets in Oakland, California. The location of the site is indicated on the Site Plan, Plate 1. As outlined in our Service Agreement dated January 30, 1991, our assessment was conducted to evaluate the likelihood of on-site and off-premises sources of hazardous materials impacting the soil and groundwater at the site. In general, our services consisted of:

1. Reviewing available city, county and state files;
2. Reviewing historical aerial photographs and maps;
3. Discussing existing hazardous material uses in the area with regulatory agencies;
4. Conducting a site reconnaissance to visually check for indications of contamination and the presence of hazardous and/or toxic materials;
5. Drilling 8 test borings to obtain samples at various locations across the site and in the vicinity of a former buried tank;
6. Obtaining surface samples to check for indications of surface soil contamination;
7. Analysis of soil samples for presence of selected heavy metals, cyanide, and hydrocarbons; and
8. Preparing this report.

Subsurface Consultant's Statement of Qualifications, resumes of key personnel and related data for conducting Preliminary Environmental Assessments are attached in Appendix A.

II SITE CONDITIONS

A. Site Geology

The site is situated within the northern California Coast Ranges Geomorphic Province. Locally the site is mapped¹ as being underlain by Merritt Sand. This Quaternary age deposit consists primarily of fine-grained silty and clayey sand deposited by wind and water as beach and near shore deposits. The Merritt Sand overlies the Alameda Formation, also deposited in Quaternary time. The Alameda Formation consists of continental and marine sediment deposited in the valley of the San Francisco Bay.

B. Site Conditions

The site encompasses a relatively level, nearly square lot with maximum plan dimensions of 115 by 117 feet. At the time of our reconnaissance, the property was vacant with the exception of a portable stage platform currently stored on the north side of the site. The site is relatively level, fenced and void of vegetation except for weeds and grasses. The top of a former brick lined water well was observed in the northeast corner of the property. The well was approximately 5 to 6 feet in diameter and has been filled with rubble and debris. The concrete sidewalk has been replaced with asphaltic concrete south of the property line on 15th Street near the middle of the site.

¹ Radbruch, "Aerial and Engineering Geology of the Oakland West Quadrant, California," 1957, US Geologic Survey Map I-239

III SITE USAGE HISTORY

A. General

We were able to research the past use of the site and neighboring parcels by reviewing and/or contacting the following sources:

1. Sandborn Fire Insurance maps,
2. City of Oakland Department of Public Works,
3. Chain of title review,
4. Personal interviews, and
5. Historic aerial photographs.

The chain-of-title information we reviewed is attached in Appendix A.

B. Site History

Based upon our research, we have determined that the property was a small portion of a large parcel which occupied most of the block bounded by Grove, Castro, 15th and 16th Streets. It appears that in 1901 the parcel was occupied by a dwelling, a church and various other structures. The dwelling and the church were situated beyond the current property boundaries. It appears that a carriage house, various sheds, a water storage tank and outhouse occupied the site. Other development surrounding the property consisted of residential structures.

In 1911, the Sanborn maps identify a groundwater well within the property and a gasoline engine used to pump water to a 4000 gallon water holding tank. No fuel tanks are identified in the vicinity of the engine or areas surrounding the site in 1911.

In April of 1922, a permit was drawn to build a garage/warehouse structure that covered the entire site. The structure was single story with brick and tile walls. The 1935 Sanborn map shows the structure under the operation of the Pacific Gas and Electric Company. The 1954 Sanborn map shows the structure as an auto repair shop. Based on discussions with PG&E employees, PG&E leased the property into the mid 1960's.

In 1965, the building department issued a sign permit for an auto service company and an auto towing service. On December 31, 1979 the property was sold to the City of Oakland.

Two underground fuel storage tanks were removed from the site in November 1987. Both tanks were reportedly used to store gasoline. The tank volumes were reportedly 500 and 1500 gallons. Upon tank removal it was evident that tank leakage had occurred. The tank excavation was enlarged in an attempt to remove all petroleum hydrocarbons contaminated soil containing greater than 100 mg/kg of hydrocarbons. After the excavation was completed, it was backfilled with imported baserock. Analytical test data for soil samples obtained from the tank excavation are summarized below. Copies of the analytical test reports, chain-of-custody documents and tank disposal manifests are presented in the attached Appendix B.

Table 1
Previous Analytical Test Results For Soils
Below Previous Tanks

<u>Sample Location</u>	<u>Sampling Date</u>	<u>TPH¹ (mg/kg)²</u>
Pit - West End	11/12/87	2400
Pit - East End	11/12/87	5600
Pit - North End	01/15/88	<50
Pit - South End	01/15/88	<50
Pit - East End	01/15/88	<50
Pit - West End	01/15/88	<50
Pit - Bottom	01/15/88	760
Pit - North End	02/12/88	960
Pit - South End	02/12/88	490
Pit - East End	03/15/88	<50
Pit - West End	03/15/88	89

¹ TPH = Total Petroleum Hydrocarbons

² mg/kg = milligrams per kilogram

C. Surrounding Neighborhood

The property surrounding the site has been developed with a variety of residential and commercial improvements. From an environmental standpoint, previous developments which may have had underground fuel storage tanks may be significant. We do not have data to indicate if and where underground fuel storage tanks may have been present. The 1935 Sanborn Map shows the L & K garage present at the northwest corner of 15th and Grove Streets (now Martin Luther King Jr. Way). The 1954 Sanborn Map shows that the property was used for repossessed automobile storage. A fill cap and vent are currently visible in the sidewalk near the corner of 15th Street and Martin Luther King Jr. Way. Based upon discussions

with the current occupants of the building (Kirby Electric Company), an underground fuel storage tank is present and was used some 20 years ago for storage of gasoline. The fuel pump was removed from the building about one month ago. The integrity of the tank is unknown.

IV LOCAL ENVIRONMENTAL CONCERNS

Our research indicates that areas surrounding the site have been occupied by residential and commercial developments. Existing and former businesses in the area include facilities such as gasoline stations, auto repair facilities, machine shops and other manufacturing facilities which likely use or have used materials which are currently considered hazardous and whose use is restricted by the State of California. Due to the former presence of leaking underground fuel storage tanks, the property itself (690 15th Street) is on the San Francisco Regional Water Quality Control Board list of sites with fuel leaks. Based upon our review of environmental cases compiled by San Francisco Regional Water Quality Control Board (RWQCB), the California Department of Health Services, and the Federal Environmental Protection Agency, there appears to be no other documented environmental cases on the site. We have identified a number of other environmental cases within 2000 feet of the property. The location of these cases are indicated on the environmental case plan, Plate 2. References used to identify the sites are listed in the Appendix A.

The geologic site conditions in the Oakland area do not lend themselves to production and accumulation of significant levels of radon gas within structures. SCI is conducting further research regarding the potential for accumulation of radon gas at the site.

V FIELD INVESTIGATION

A. Environmental Sampling

Soil samples for environmental analyses were obtained during our geotechnical investigation. Eight test borings were drilled ranging from 5 to 35 feet deep, at the locations shown on the Site Plan. Drilling was performed using a truck mounted drill rig equipped with both 6-inch-diameter solid flight augers and 8-inch-diameter hollow stem augers. The hollow stem augers were used to drill the environmental borings (5 through 8). Environmental soil samples were obtained using a California Drive Sampler and a Modified California Drive Sampler. The soil samples were retained in 2- and 2.5-inch-diameter brass liners. Teflon sheets were placed over the liner ends prior to capping taping and labeling. The samples were refrigerated until delivery to the analytical laboratory. Samples were accompanied by Chain-of-Custody records, copies of which are presented in the Appendix. The borings are located as shown on Plate 1. Logs of the borings are presented on Plates 3 through 9. Soils are described in accordance with the Unified Soil Classification System presented on Plate 10.

B. Subsurface Conditions

Our test borings indicate that the subsurface conditions at the site are relatively uniform. The surface of the site is covered with a layer of loose to medium dense sand or sandy gravel. The surface layer extends to depths of between approximately 2 and 4 feet and represents either fill or natural soils which were disturbed during demolition of the former structure. The surface layer is underlain by dense silty and clayey sand of the Merritt Sand formation. These materials extended to the maximum depths explored of 35 feet. Borings 5 through 8 were drilled in the vicinity of the former tank. Three of those borings were drilled through the former tank excavation backfill. In those borings, the backfill extended to depths of from 6.5 to 12.5 feet. The backfill was underlain by natural sands. In Borings 5 and 8 the natural sands were visibly discolored and smelled of gasoline. Groundwater was encountered in Boring 3 at a depth of 28 feet at the time of drilling. Groundwater was not encountered in the other borings.

VI ANALYTICAL TESTING

Soil testing was performed by Curtis and Tompkins, Ltd., a California Department of Health Services (DHS) certified laboratory for the testing performed. The analytical tests performed included

1. Heavy metals including cadmium, chromium, lead, nickel and zinc using inductively coupled plasma spectrometry and graphite furnace atomic absorption spectrophotometry;
2. Total cyanide compounds using EPA method 335.2 (modified);
3. Oil & grease using SMWW 17:5520 E&F;
4. Total volatile hydrocarbons using EPA method 5030/8015;
5. Total extractable petroleum hydrocarbons using EPA methods 3550/8015; and
6. Benzene, toluene, ethylbenzene and total xylenes using EPA methods 5030/8020.

The results of the analytical tests are presented in Tables 2 and 3. Analytical test reports and chain-of-custody documents are presented in the Appendix C.

Table 2
Heavy Metals and Cyanide
Concentrations in Soil

<u>Boring</u>	<u>Depth (ft.)</u>	<u>Cadmium (ppm)</u>	<u>Chromium (ppm)</u>	<u>Lead (ppm)</u>	<u>Nickel (ppm)</u>	<u>Zinc (ppm)</u>	<u>Cyanide</u>
1	1.0	ND ¹	17	21	5.1	24	ND
2	1.0	ND	20	25	6.9	18	ND
3	1.0	1.2	29	36	26	48	ND
4	1.0	0.6	24	ND	8.7	31	ND

¹ ND = None detected, chemicals not present at concentrations above detection limits

Table 3
Petroleum Hydrocarbons and
BTXE Concentrations in Soil

<u>Boring</u>	<u>Depth (ft.)</u>	<u>TVH¹ (ppm)</u>	<u>TEH² (ppm)</u>	<u>Benzene (ppb)</u>	<u>Toluene (ppb)</u>	<u>Ethyl Benzene (ppb)</u>	<u>Total Xylenes (ppb)</u>	<u>Oil & Grease (ppm)</u>
5	7.5	ND ⁵	ND	ND	ND	ND	ND	ND
8	13.0	750	720	55	1,300	14,000	38,000	ND
8	19.5	25	58	40	110	170	910	ND

¹ TVH = Total volatile hydrocarbons, quantified as gasoline
² TEH = Total extractable hydrocarbons, quantified as Stoddard Solvent
³ ppm = mg/kg = milligrams per kilogram
⁴ ppb = ug/kg = micrograms per kilogram
⁵ ND = None detected, chemicals not present at concentrations above detection limits

when use the hydrocarbon data?

VI DISCUSSION AND CONCLUSIONS

Based upon the results of our preliminary investigation, we conclude that conditions of environmental concern exist on-site. These concerns are primarily associated with (1) hydrocarbon contamination in the area occupied by the previous gasoline tanks and (2) the presence of the existing water well that has been backfilled with rubble and debris. These concerns are discussed in more detail below.

A. Gasoline Contamination

The studies completed to date indicate that hydrocarbon contamination exists near the former fuel tanks within the property and immediately south of the property line. The location of the tank backfill area is shown on the attached Plate 1. It is our opinion that the previous fuel tanks are the source of the contamination. Test Boring 8 was drilled near the middle of the tank backfill area and encountered gasoline concentrations in soil ranging from 25 to 750 mg/kg. A less volatile hydrocarbons (stoddard solvent) was also detected in Boring 8 soils at concentrations ranging from 58 to 720 mg/kg. The hydrocarbon contamination extended to the bottom of the boring at a depth of 20 feet below the ground surface. The depth of contamination below the bottom of the boring was not determined as a part of this study.

The local regulatory agencies require that soils containing elevated hydrocarbon concentrations be remediated. The gasoline concentrations encountered are sufficiently high that we judge that

remediation is appropriate and will likely be required by the regulatory agencies.

B. Existing Well

The existing brick lined well has been backfilled with rubble. As such, it has not been abandoned in accordance with the requirements of the Alameda County Water district. Prior to construction at the site, the well should be abandoned in accordance with the Water District's requirements.

C. Impacts From Off-Site Sources

As previously discussed, there are and have been businesses upgradient of the project area which likely use or have used materials considered to be hazardous. If present, contamination sources on these properties could impact groundwater. Contaminated groundwater could migrate onto the project site. Groundwater quality on-site is currently being investigated by SCI.

D. Recommendations

It is apparent that fuel releases have contaminated soils in the vicinity of the former tanks. Hydrocarbon concentrations are sufficiently high that remediation will likely be required by the regulatory agencies. Prior to remediation, we recommend that additional studies be conducted to characterize the lateral and vertical extent of soil and groundwater contamination. SCI is currently conducting these studies.

E. Regulatory Involvement

The Alameda County Health Care Services Agency (ACHCSA) and the Regional Water Quality Control Board (RWQCB) regulate soil and groundwater contamination resulting from gasoline leaks/spills. In this regard, we recommend that the forthcoming Soil and Groundwater Contamination Assessment report being prepared by SCI be submitted to the Alameda County Health Care Services Agency.

VII LIMITATIONS

This assessment was intended to provide a preliminary means of evaluating the risk of the property containing significant soil and/or groundwater contamination. The conclusions drawn from this assessment are an expression of our professional opinion, and do not constitute a warranty or guarantee, either expressed or implied. It should be understood that additional investigative work on the property may modify the conclusions presented herein, as additional information becomes available.

List of Attached Plates:

Plate 1	Site Plan
Plate 2	Environmental Cases Plan
Plates 3 through 9	Logs of Borings 1 through 8
Plate 10	Unified Soil Classification System

Appendix A:

Statement of Qualifications and Related Information
Air Photo List
Regulatory Agency Document List
Chain-of-Title Documents

Appendix B:

Documents from former tank removal including:
i) Unauthorized Release Reports
ii) Manifests
iii) Analytical Test Data

Appendix C:

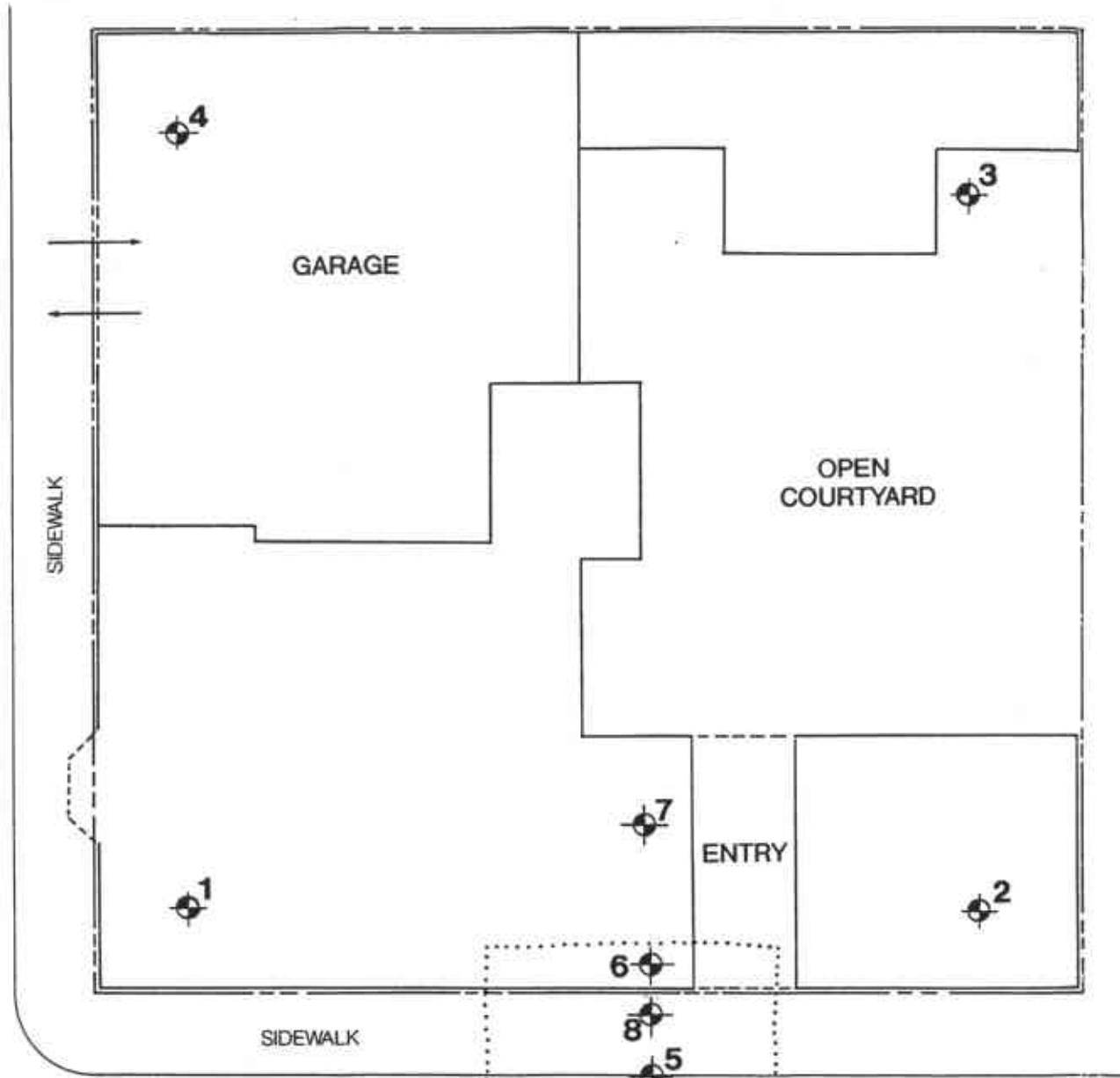
Analytical Laboratory Test Reports
Chain-of-Custody Documents

Distribution:

6 copies: Dignity Housing West
c/o Mr. Willie Pettus
Pyatok Associates
339 15th Street, Suite 212
Oakland, California 94612

JVB:RWR:JPB:ddh




CASTRO STREET

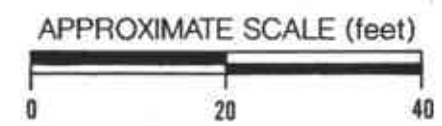


15TH STREET



VICINITY MAP

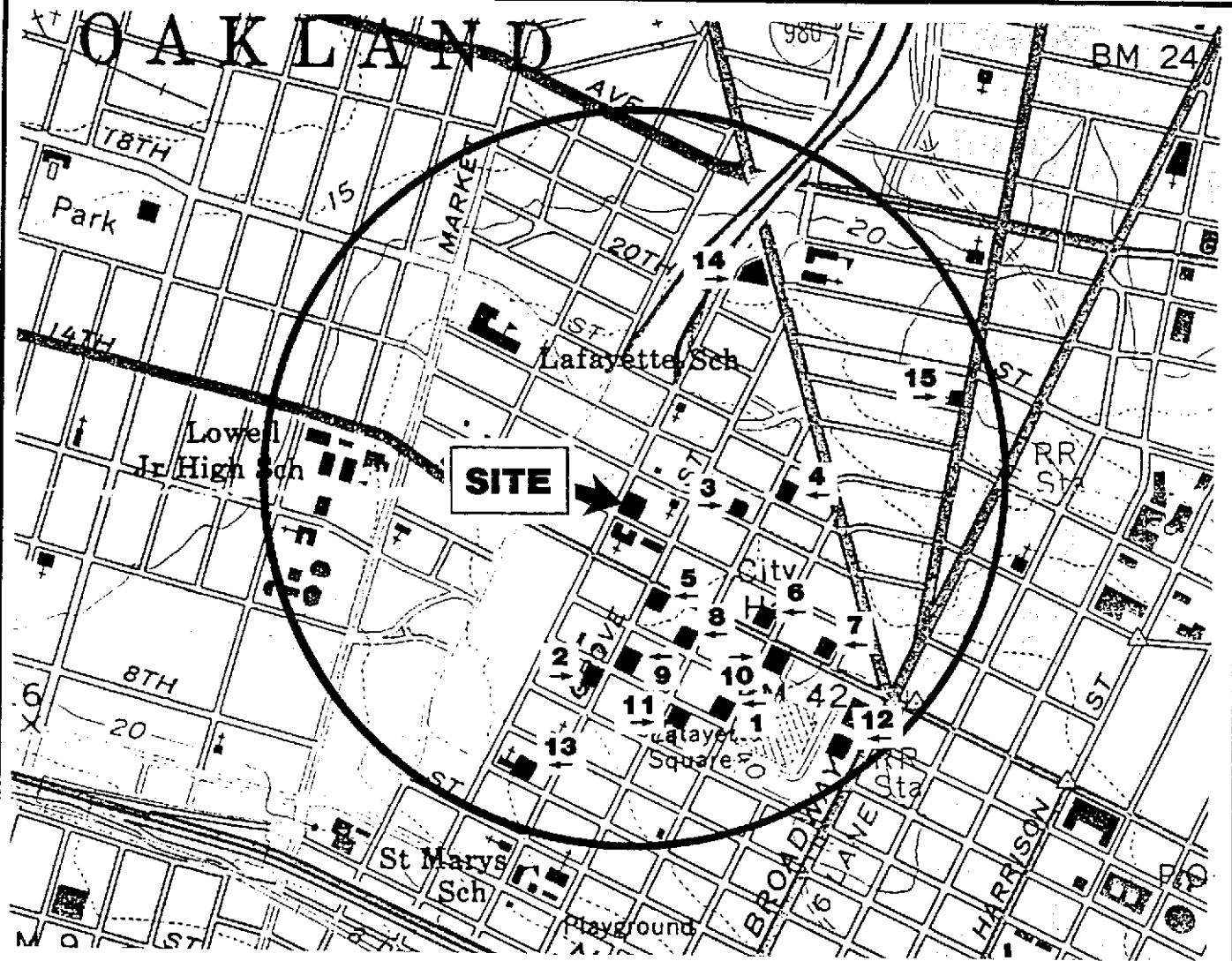
-  TEST BORING
-  PROPERTY LINE
-  APPROXIMATE LIMITS OF BACKFILL FROM PREVIOUS TANK EXCAVATION



SITE PLAN

Subsurface Consultants

DIGNITY HOUSING WEST - OAKLAND, CA			PLATE 1
JOB NUMBER 615.001	DATE 3/1/91	APPROVED JVB	



LIST OF ENVIRONMENTAL CASES IDENTIFIED WITHIN 2000 FEET

<u>SITE NAME</u>	<u>ADDRESS</u>
1 Bramalea Pacific	12th & Clay Streets
2 Service Station	12th & Martin Luther King Jr. Way
3 Champion Company	610 16th Street
4 Blue Print Service Company	1700 Jefferson Street
5 Oakland Redevelopment Agency	13th, 14th & Jefferson Street & Martin Luther King Jr. Way
6 City of Oakland	1417 Clay Street
7 Oakland City Hall	1 City Hall Plaza
8 Bramalea Pacific	13th & Jefferson Streets
9 Oakland Redevelopment Agency	1330 Martin Luther King Jr. Way
10 5 City Center	1300 Clay Street
11 Blue Print Service Company	1160 Jefferson Street
12 Batte Resources Int.	1221 Broadway
13 GTE Telephone Company	670 9th Street
14 Greyhound Bus Lines Terminal	2103 San Pablo Avenue
15 Chevron	1911 Telegraph Avenue

ENVIRONMENTAL CASES PLAN

Subsurface Consultants

DIGNITY HOUSING WEST - OAKLAND, CA

PLATE

JOB NUMBER
615.001

DATE
5/7/91

APPROVED
JVB

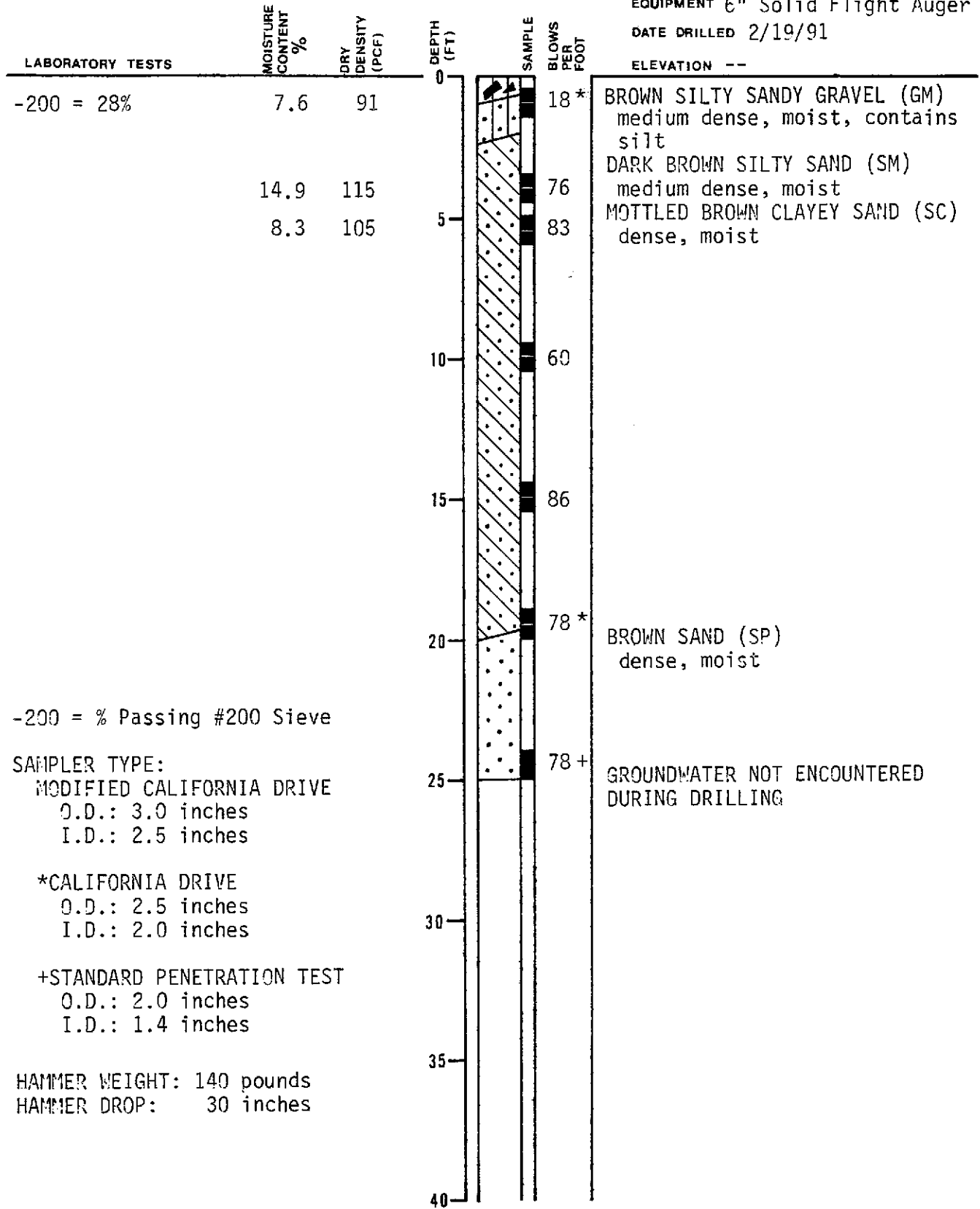
2

LOG OF TEST BORING 1

EQUIPMENT 6" Solid Flight Auger

DATE DRILLED 2/19/91

ELEVATION --



-200 = % Passing #200 Sieve

SAMPLER TYPE:
MODIFIED CALIFORNIA DRIVE
O.D.: 3.0 inches
I.D.: 2.5 inches

*CALIFORNIA DRIVE
O.D.: 2.5 inches
I.D.: 2.0 inches

+STANDARD PENETRATION TEST
O.D.: 2.0 inches
I.D.: 1.4 inches

HAMMER WEIGHT: 140 pounds
HAMMER DROP: 30 inches

Subsurface Consultants

DIGNITY HOUSE WEST - OAKLAND, CA

JOB NUMBER
615.001

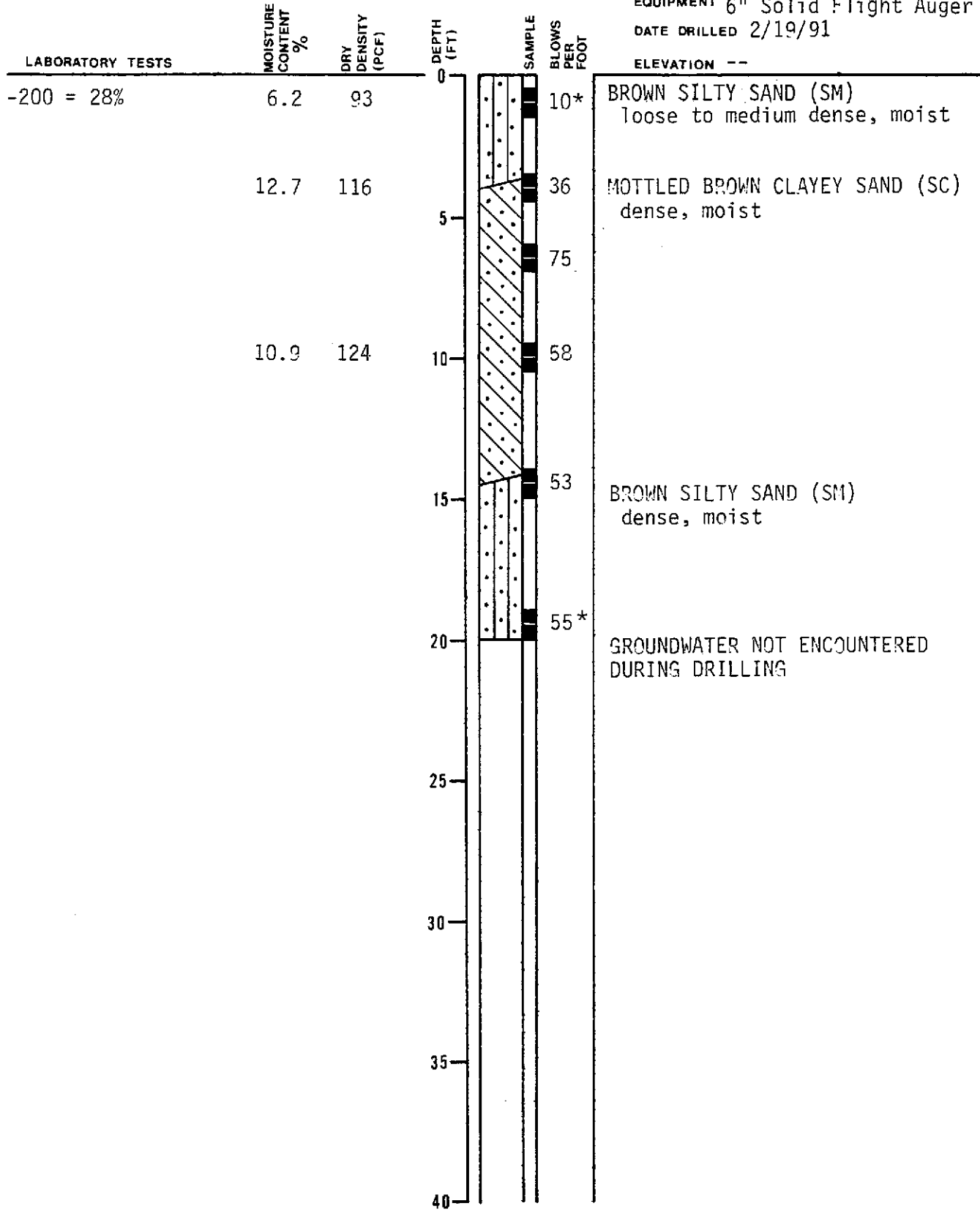
DATE
2/10/91

APPROVED
JVΒ

PLATE
3

LOG OF TEST BORING 2

EQUIPMENT 6" Solid Flight Auger
 DATE DRILLED 2/19/91
 ELEVATION --



Subsurface Consultants

DIGNITY HOUSE WEST - OAKLAND, CA

JOB NUMBER
615.001

DATE
2/20/91

APPROVED
JVB

PLATE

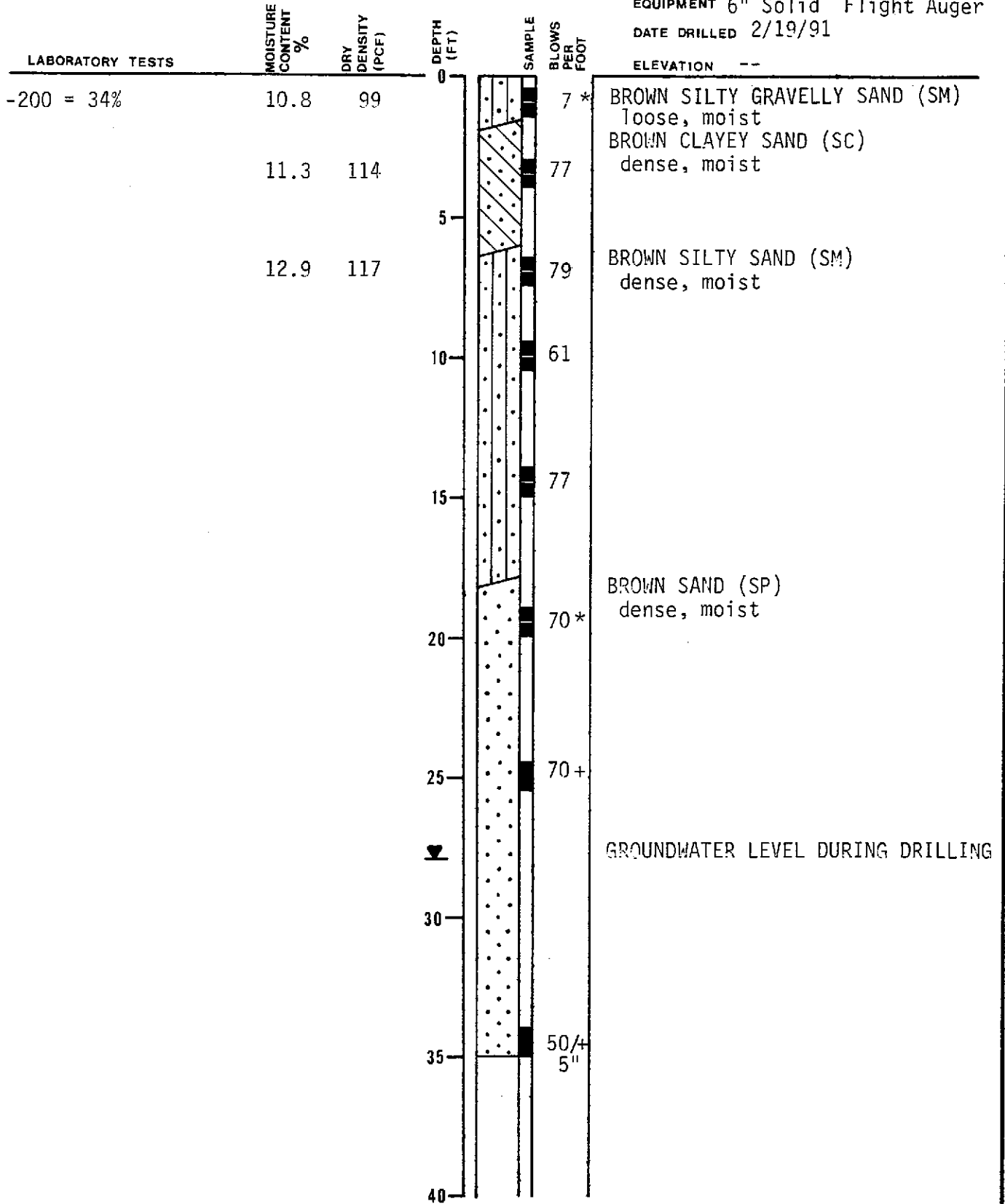
4

LOG OF TEST BORING 3

EQUIPMENT 6" Solid Flight Auger

DATE DRILLED 2/19/91

ELEVATION --



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DIGNITY HOUSING WEST - OAKLAND, CA

PLATE

JOB NUMBER
615.001

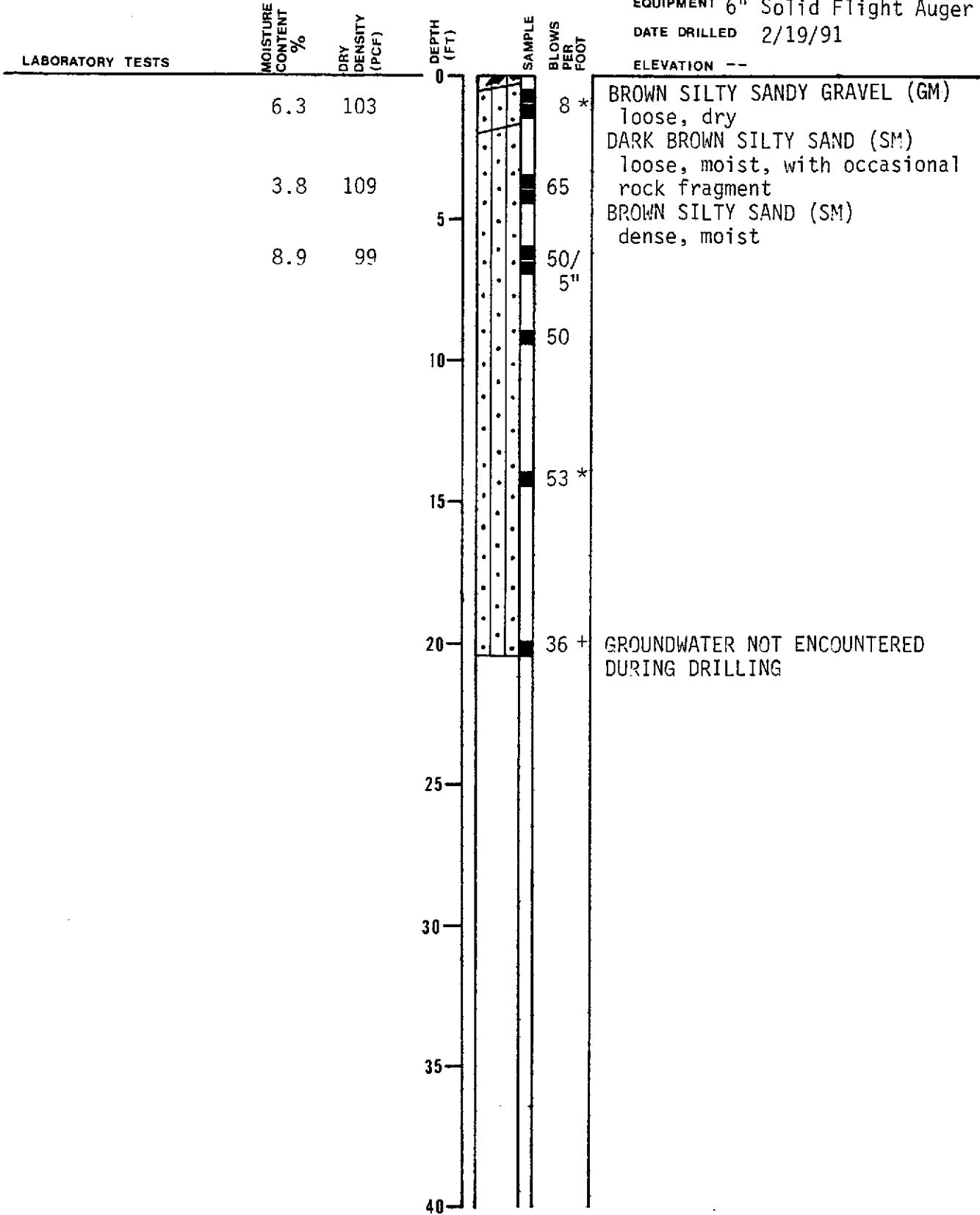
DATE
2/20/91

APPROVED
JVB

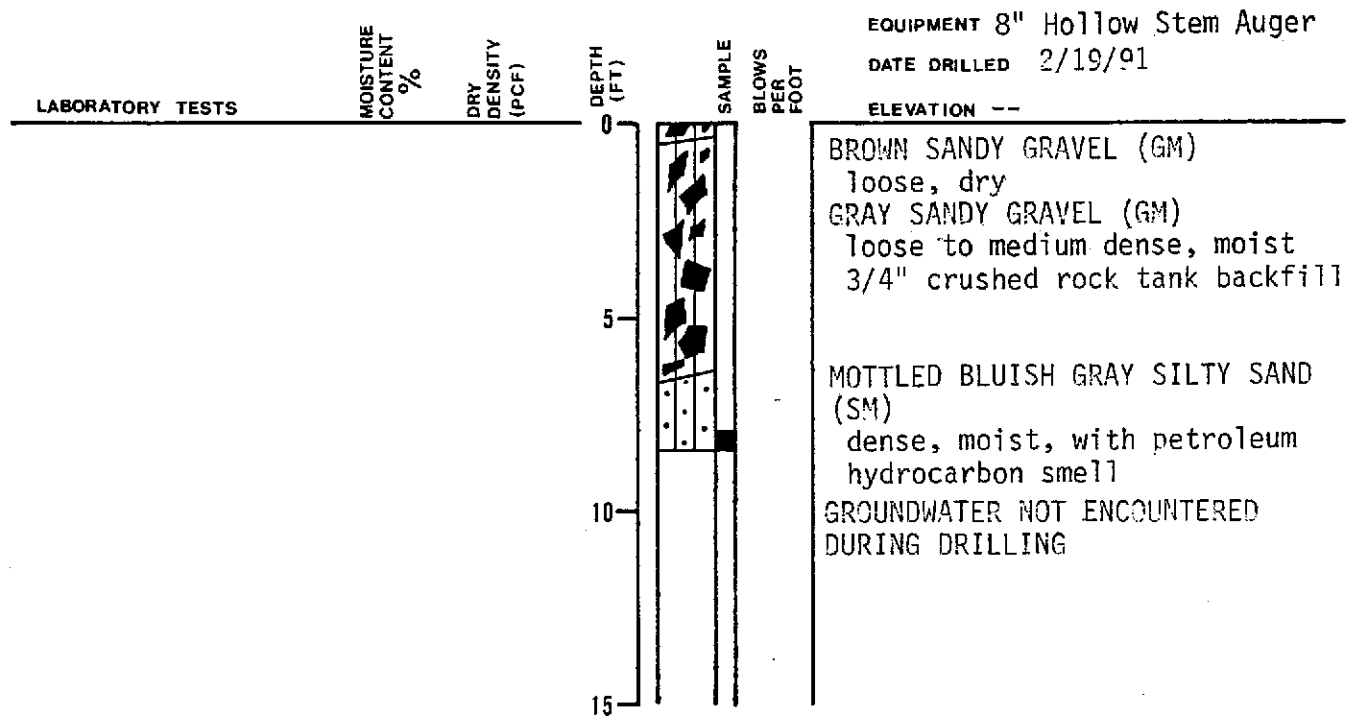
5

LOG OF TEST BORING 4

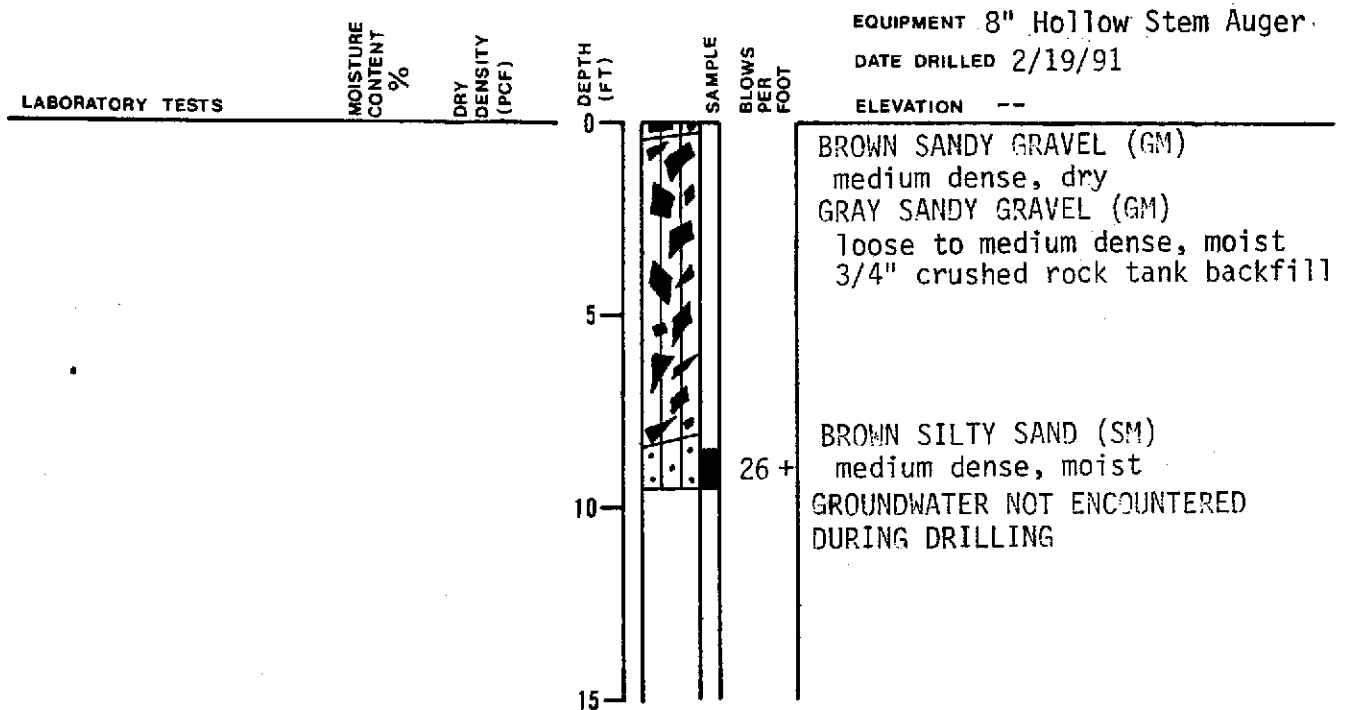
EQUIPMENT 6" Solid Flight Auger
 DATE DRILLED 2/19/91
 ELEVATION --



LOG OF TEST BORING 5



LOG OF TEST BORING 6



Subsurface Consultants

DIGNITY HOUSING WEST - OAKLAND, CA

PLATE

JOB NUMBER
615.001

DATE
2/20/91

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7

LOG OF TEST BORING 7

EQUIPMENT 8" Hollow Stem Auger

DATE DRILLED 2/19/91

ELEVATION --

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	<p>BROWN SANDY GRAVEL (GM) loose, dry DARK BROWN SILTY SAND (SM) medium dense, moist GRAY BROWN SILTY SAND (SM) dense, moist GROUNDWATER NOT ENCOUNTERED DURING DRILLING</p>
			0			
			5			
			10			
			15			

Subsurface Consultants	DIGNITY HOUSING WEST - OAKLAND, CA		PLATE
	JOB NUMBER	DATE	APPROVED
615.001	2/20/91	JVB	

LOG OF TEST BORING 8

EQUIPMENT 8" Hollow Stem Auger

DATE DRILLED 2/19/91

ELEVATION --

LABORATORY TESTS

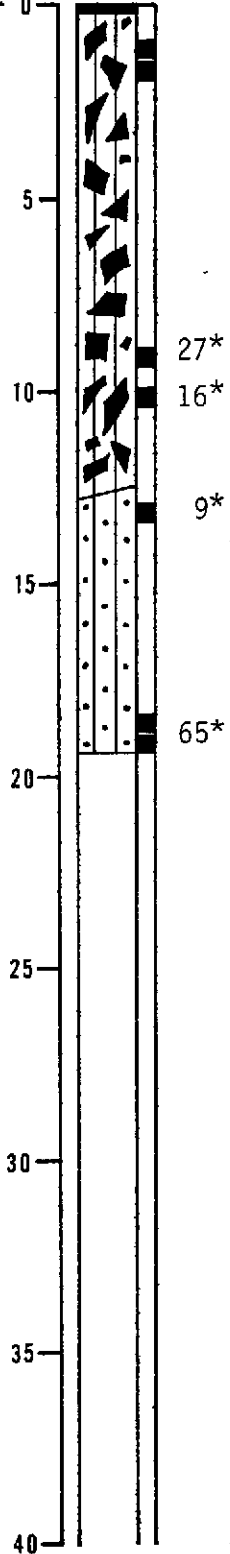
MOISTURE
CONTENT
%

DRY
DENSITY
(PCF)

DEPTH
(FT)

SAMPLE

BLOWS
PER
FOOT



ASPHALTIC CONCRETE - 3" thick
GRAY SANDY GRAVEL (GM)
loose to medium dense, moist
3/4" crushed rock tank backfill

MOTTLED BLUISH GRAY SILTY SAND
(SM)
medium dense, moist, with
petroleum hydrocarbon smell

color change to gray

GROUNDWATER NOT ENCOUNTERED
DURING DRILLING

Subsurface Consultants

DIGNITY HOUSING WEST - OAKLAND, CA

JOB NUMBER
615.001

DATE
2/20/91

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PLATE

9

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		
		Poorly Graded Gravel, Gravel-Sand Mixtures	GP 	Poorly Graded Gravel, Gravel-Sand Mixtures		
		Gravel with more than 12% fines	Silty Gravel, Poorly Graded Gravel-Sand-Silt Mixtures	GM 	Silty Gravel, Poorly Graded Gravel-Sand-Silt Mixtures	
			Clayey Gravel, Poorly Graded Gravel-Sand-Clay 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	Well Graded Sand, Gravelly Sand	SW 	Well Graded Sand, Gravelly Sand	
			Poorly Graded Sand, Gravelly Sand	SP 	Poorly Graded Sand, Gravelly Sand	
		Sand with more than 12% fines	Silty Sand, Poorly Graded Sand-Silt Mixtures	SM 	Silty Sand, Poorly Graded Sand-Silt Mixtures	
			Clayey Sand, Poorly Graded Sand-Clay Mixtures	SC 	Clayey Sand, Poorly Graded Sand-Clay Mixtures	
			SILT AND CLAY Liquid Limit Less than 50%	Inorganic Silt and Very Fine Sand, Rock Flour, Silty or Clayey Fine Sand, or Clayey Silt with Slight Plasticity	ML 	Inorganic Silt and Very Fine Sand, Rock Flour, Silty or Clayey Fine Sand, or Clayey Silt with Slight Plasticity
				Inorganic Clay of Low to Medium Plasticity, Gravelly Clay, Sandy Clay, Silty Clay, Lean Clay	CL 	Inorganic Clay of Low to Medium Plasticity, Gravelly Clay, Sandy Clay, Silty Clay, Lean Clay
SILT AND CLAY Liquid Limit Greater than 50%	Organic Clay and Organic Silty Clay of Low Plasticity	OL 	Organic Clay and Organic Silty Clay of Low Plasticity			
	Inorganic Silt, Micaceous or Diatomaceous Fine Sandy or Silty Soils, Elastic Silt	MH 	Inorganic Silt, Micaceous or Diatomaceous Fine Sandy or Silty Soils, Elastic Silt			
	Inorganic Clay of High Plasticity, Fat Clay	CH 	Inorganic Clay of High Plasticity, Fat Clay			
HIGHLY ORGANIC SOILS	Organic Clay of Medium to High Plasticity, Organic Silt	OH 	Organic Clay of Medium to High Plasticity, Organic Silt			
	Peat and Other Highly Organic Soils	PT 	Peat and Other Highly Organic Soils			

UNIFIED SOIL CLASSIFICATION SYSTEM

Subsurface Consultants

DIGNITY HOUSING WEST - OAKLAND, CA

JOB NUMBER
615.001

DATE
2/20/91

APPROVED
JVB

PLATE

10

STATEMENT OF QUALIFICATIONS
PRELIMINARY ENVIRONMENTAL ASSESSMENTS

I. SERVICES PERFORMED

Environmental assessments are investigations which attempt to identify actual and potential environmental problems through a review of available data (Phase I) and, if necessary, by implementing soil and/or groundwater testing (Phase II). The scope of each phase of the assessment is specifically tailored to the site conditions and the Clients goals. A brief discussion of tasks which SCI typically performs during Phase I and II assessments follows.

Phase I Assessment

A Phase I assessment is a thorough review of historic and current site and neighboring property usage. The review includes, but is not necessarily limited to the following:

1. Available geologic maps and geotechnical reports for sites near the subject area;
2. Available pertinent city, county, state and federal files;
3. Historic aerial photographs and maps;
4. Facility records and plans;
5. Discussing existing hazardous material uses in the area with regulatory agencies;
6. Pertinent environmental cases on file with regulatory agencies for sites within a 2000-foot radius of the site; and
7. Conducting a site reconnaissance.

Based on the results of our research, we will develop conclusions regarding:

1. Past use of the site, and whether there is a significant risk of hazardous substances on the property and/or a risk of known "off-premises" problems that could impact the site;
2. General soil and groundwater conditions; and
3. The recommended scope of subsequent phases of investigation, if necessary.

Phase II Assessment

If the findings of the Phase I study indicate that a significant risk of contamination exists a Phase II assessment will be recommended. The Phase II assessment is directed toward documenting soil and groundwater conditions near the areas of concern identified during Phase I. Typical Phase II studies include, but are not necessary limited to the following:

1. Drilling test borings,
2. Installing groundwater monitoring wells,
3. Obtaining soil and groundwater samples,
4. Obtaining tank and/or sump content samples,
5. Analytically testing samples for contaminants of concern, and
6. Analytically testing samples suspected of being contaminated based on discoloration and/or odors observed in the field.

In most cases the initial sampling and analytical testing program is sufficient to determine the significance of contamination with respect to state and federal criteria. However, if site cleanup is anticipated additional sampling and testing programs are required to define the limits of contamination, and to generate data used to evaluate remediation alternatives. SCI is experienced in overseeing all aspects of remediation including plan preparation, bid solicitation, supervision of contractors and agency interaction.

Reporting

Written reports are prepared after the completion of each phase of the assessment. The reports summarize services performed at the site, document significant findings, and transmit analytical test results.

II. EDUCATION AND REGISTRATION OF KEY STAFF MEMBERS

James P. Bowers - President

BS Civil Engineer, University of California, Berkeley, 1975
MS Geotechnical Engineering, University of California, Berkeley, 1976
Registered Civil Engineer, California, 1978
Registered Geotechnical Engineer, California, 1987

R. William Rudolph - Vice President

BS Civil Engineer, University of California, Berkeley, 1977
MS Geotechnical Engineering, University of California, Berkeley, 1978
Registered Civil Engineer, California, 1980
Registered Geotechnical Engineer, California, 1987
Registered Environmental Assessor (Pending)

Thomas E. Cundey - Senior Engineer

BS Mathematics, Muhlenberg College, Pennsylvania, 1968
MS Geotechnical Engineering, University of California, Berkeley, 1977
Registered Civil Engineer, California, 1983
Registered Geotechnical Engineer, California, 1988

William K. Wikander - Senior Engineer

BS Civil Engineer, University of California, Berkeley, 1976
MS Geotechnical Engineering, Arizona State University, 1979
Registered Civil Engineer, California, 1980
Registered Geotechnical Engineer, California, 1987

John V. Bosche - Senior Engineer

BS Civil Engineer, University of Colorado, Bolder, 1976
MS Geotechnical Engineering, Stanford University, California, 1977
Registered Civil Engineer, California, 1979
Registered Geotechnical Engineer, California, 1987

Jerriann N. Alexander - Senior Engineer

BS Agricultural Engineering, Cal Poly San Luis Obispo, 1983
MS Geotechnical Engineering, University of California, Berkeley, 1984
Registered Civil Engineer, California, 1986
Registered Environmental Assessor (Pending)

III. REPRESENTATIVE LIST OF PROJECTS

Open Doors Family Housing - Los Gatos, California. Researched the past use of 3.4 acres of former agricultural land to be developed with 68-units of new housing. Services included a review of county and state files to identify documented environmental releases in the neighborhood, a review of historic aerial photographs and maps, and a detailed site reconnaissance. Limited soil analyses were conducted to evaluate the presence of contaminants and to document pesticide residuals associated with the sites former use.

Aloha Tower - Honolulu, Hawaii. Conducted a preliminary environmental assessment for the proposed \$700 million redevelopment of the Aloha Tower and adjacent waterfront property. Sources researched included local agencies, port development records and Sanborn Fire insurance maps. A comprehensive soil and groundwater investigation was conducted to document the vertical and lateral extent of heavy metal, petroleum hydrocarbon, cyanide, polynuclear aromatic, arsenic, and chlorinated pesticide contamination and to evaluate groundwater impacts.

City of Oakland Redevelopment Agency - Oakland, California. Researched the historic use of a city block in downtown Oakland. Identified a number of buried fuel oil and gasoline tanks, auto repair facilities, deep water wells, and fire related debris within former basements at the site. Subsequent investigation detected lead and PNA compounds in the fire debris, heavy metal contaminated fills and gasoline contamination in soil and groundwater. Determined the limits of soil and groundwater contamination and implemented remedial actions. Remedial actions have consisted of physical removal, on-site aeration, Class I and III disposal, vacuum extraction and catalytic oxidation.

Citicorp Savings - Oakland, Richmond, Los Angeles and San Diego, California. Performed preliminary environmental assessments of 5 commercially developed parcels in northern and southern California. Historic site use research indicated the existence of gasoline service stations at 4 of the sites. Evaluated subsurface conditions by drilling test borings, installing groundwater monitoring wells, and analyzing soil and groundwater samples. Interpreted field and analytical data and provided Citicorp with conclusions regarding the significance of contaminant levels.

United States Can Company Facility - San Leandro, California. Performed a preliminary environmental assessment of a can manufacturing facility. Reviewed facility files of on-site usage of hazardous materials, and agency files regarding a neighboring contaminated site listed on the State of California 1988 Bond Expenditure Plan. A plume of contaminated groundwater was determined to be extending onto the property from an off-site source(s). Conducted analytical tests on soil and groundwater samples to determine if contamination, as a result of site activities, was a contributing source to the plume.

Representative List of Projects (continued)

10 Acre Parcel - Cloverdale, California. Performed a Phase I environmental assessment for an undeveloped parcel of land adjacent to a State Superfund site. Researched available geologic information, historic site usage and agency files, and evaluated the potential for adjacent properties to contaminate the site.

Vallejo Office Park - Vallejo, California. Performed a preliminary environmental assessment for a vacant 12 acre site proposed for an office development. Historic research indicated that portions of the property were previously occupied by an automobile wrecking yard. Analytical test results indicated that soils within the wrecking yard contained elevated concentrations of heavy metals and petroleum hydrocarbons.

1650 Jackson Street - San Francisco, California. Performed an environmental assessment for a lot which is situated in an area originally developed with residences in the 1800's. Further research indicated that the existing single story structure was built in about 1911 and was historically occupied by automobile repair and parking businesses. Extensive analytical testing revealed that soil and groundwater had been impacted by gasoline and solvent releases. Determined the extent of contamination, and implemented soil remediation and groundwater monitoring.

642 Harrison Street - San Francisco, California. Conducted a Phase I environmental assessment of an existing office building in downtown San Francisco. Historic research indicated that the building was constructed in the early 1930's and was operated as a coffee roasting plant until 1978. Interviews were conducted with past employees and it was revealed that water was the only liquid used in the roasting operation and decaffeination was never performed at the plant. The building was renovated in 1985 to office space. Reviewed current occupancy, the storage method for a lead-acid battery backup power supply, and maintenance records of existing hydraulic lift elevators.

General Foundry - San Leandro, California. Conducted a preliminary environmental assessment of an operating aluminum casting foundry. In addition to historical research of site activities, SCI reviewed current storage and use of hazardous chemicals and methods of waste disposal.

Kieg Ranch - Rutherford, California. Conducted a preliminary environmental assessment of a 300-acre vineyard/ranch in the Napa Valley. Reviewed current use and storage practices for oil, diesel, pesticides, fungicides, herbicides and fertilizer products. Electric transformers were visually inspected for indications of oil leakage. Recommendations were presented for improving methods of handling potential contaminants.

IV. REFERENCE LIST

<u>Client</u>	<u>Contact</u>	<u>Phone</u>
Aloha Tower Associates 841 Bishop Street, #2016 Honolulu, HI 96813	Mr. Eric Smith	(800) 532-1500
Bramalea Pacific 1221 Roadway, #1800 Oakland, CA 94612	Mr. John Esposito	(415) 464-8200
Circuit City Stores 5934 Gibraltar Drive Pleasanton, CA 94566	Mr. George Getgen	(415) 460-0133
City of Oakland 1333 Broadway, #840 Oakland, CA 94612	Mr. Phil Grubstick	(415) 273-3546
Emerald Fund 501 Second Street, #422 San Francisco, CA 94612	Mr. Peter Bosma	(415) 777-2914
Heublein Fine Wine Group P.O. Box 391 St. Helena, CA 94574	Mr. Michael Silacci	(707) 967-3123
John Beery Organization 2326 Mariner Square Dr. Alameda, CA 94501	Mr. Stanley Kintz	(415) 521-2726
Kajima Associates 901 Corporate Center Dr. Third Floor Monterey Park, CA 91754	Mr. Kunio Miyoshi	(213) 269-0020

AIR PHOTOS REVIEWED¹

AV-995-03-12/13	May 19, 1971
AV 253-08-24/25	May 3, 1957
AV 28-13-41/42	April 14, 1950
ALA-C-19B-3	October 5, 1949
ALA-C-19B-2	April 11, 1941

¹ Pacific Aerial Surveys Oakland, California

Regulatory Agency Lists Reviewed

<u>List</u>	<u>Sites Identified Within 2000 Feet Radius</u>
EPA National Priorities List (CERCLIS) Federal Register/Vol 55, No 50, 2/11/91	None
California 1989 Bond Expenditure Plan List. Compiled 1/10/90	None
Hazardous Waste and Substances - Sites List (Cortese's List) 9/88	Chevron 1911 Telegraph Avenue GTE Telephone Company 670 9th Street Bramalea Pacific 12th and Clay Streets City of Oakland Redevelopment Agency 1417 Clay Street Blue Print Service Company 1160 Jefferson Street
Regional Water Quality Control Board Fuel Leak List 3/4/91	Unknown 11th Street Bramalea Pacific 12th and Clay Streets Bramalea Pacific 13th and Jefferson Streets Chevron 1911 Telegraph Avenue Greyhound Bus Lines Terminal 2103 San Pablo Avenue Oakland Community Development 690 15th Street Oakland City Hall 1 City Hall Plaza 5 City Center 1300 Clay Street

Regulatory Agency Lists Reviewed (Continued)

<u>List</u>	<u>Sites Identified Within 2000 Feet Radius</u>
Regional Water Quality Control Board Fuel Leak List 3/4/91 (continued)	City of Oakland 1417 Clay Street Blue Print Service Company 1700 Jefferson Street Oakland Redevelopment Agency 1330 Martin Luther King Jr. Way
Regional Water Quality Control Board Toxics List 3/4/91	Oakland Redevelopment Agency 13th, 14th and Jefferson Streets, and Martin Luther King Jr. Way
California Department of Health Services Abandoned Site List 10/26/89	Oakland Redevelopment Agency 1300 Clay Street Champion Company 610 16th Street Batte Resources Int. 1221 Broadway
California Integrated Waste Management Board, list of Transfer Stations, Closed and Inactive Landfills, and Active Landfills 10/30/90	None

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	FOR LOCAL AGENCY USE ONLY I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25180.7 OF THE HEALTH AND SAFETY CODE.
REPORT DATE _____	CASE # _____	SIGNED _____ DATE _____

REPORTED BY	NAME OF INDIVIDUAL FILING REPORT Leroy C. Rudd	PHONE (707) 554-8282	SIGNATURE 	
	REPRESENTING <input type="checkbox"/> LOCAL AGENCY <input checked="" type="checkbox"/> OWNER/OPERATOR <input type="checkbox"/> REGIONAL BOARD <input type="checkbox"/> LOCAL AGENCY <input checked="" type="checkbox"/> OTHER contractor	COMPANY OR AGENCY NAME L.C. Rudd & Sons, Inc.		
	ADDRESS 2500 Green Island Rd. Vallejo Calif. 94589			

RESPONSIBLE PARTY	NAME Office of Community Development <input type="checkbox"/> UNKNOWN	CONTACT PERSON Michele Davis	PHONE (415) 273-3502
	ADDRESS 1417 Clay St. Oakland Calif. 94612		

SITE LOCATION	FACILITY NAME (IF APPLICABLE)	OPERATOR Office of Community Develop.	PHONE (415) 273-3502	
	ADDRESS 690 - 15TH St. Oakland Alameda County 94612			
	CROSS STREET Castro		TYPE OF AREA <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> RURAL <input type="checkbox"/> RESIDENTIAL <input checked="" type="checkbox"/> OTHER mixed use	

IMPLEMENTING AGENCIES	LOCAL AGENCY AGENCY NAME Alameda County Health Care Services	CONTACT PERSON Storm Goranson	PHONE (415) 874-7233
	REGIONAL BOARD		PHONE ()

SUBSTANCES INVOLVED	(1) NAME Fuel Hydrocarbons	QUANTITY LOST (GALLONS) <input checked="" type="checkbox"/> UNKNOWN
	(2) _____ <input type="checkbox"/> UNKNOWN	

DISCOVERY/ABATEMENT	DATE DISCOVERED 1/11/10 8:07	HOW DISCOVERED <input type="checkbox"/> INVENTORY CONTROL <input type="checkbox"/> SUBSURFACE MONITORING <input type="checkbox"/> NUISANCE CONDITIONS <input type="checkbox"/> TANK TEST <input checked="" type="checkbox"/> TANK REMOVAL <input type="checkbox"/> OTHER		
	DATE DISCHARGE BEGAN <input checked="" type="checkbox"/> UNKNOWN	METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY) <input type="checkbox"/> REMOVE CONTENTS <input type="checkbox"/> REPLACE TANK <input type="checkbox"/> CLOSE TANK <input type="checkbox"/> REPAIR TANK <input type="checkbox"/> REPAIR PIPING <input type="checkbox"/> CHANGE PROCEDURE <input checked="" type="checkbox"/> OTHER remove tank		
	HAS DISCHARGE BEEN STOPPED? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, DATE _____			

SOURCE/CAUSE	SOURCE OF DISCHARGE <input checked="" type="checkbox"/> TANK LEAK <input type="checkbox"/> UNKNOWN <input type="checkbox"/> PIPING LEAK <input type="checkbox"/> OTHER	TANKS ONLY/CAPACITY 2/500 gal. GAL AGE _____ YRS <input checked="" type="checkbox"/> UNKNOWN	MATERIAL <input type="checkbox"/> FIBERGLASS <input checked="" type="checkbox"/> STEEL <input type="checkbox"/> OTHER	CAUSE(S) <input type="checkbox"/> OVERFILL <input type="checkbox"/> RUPTURE/FAILURE <input checked="" type="checkbox"/> CORROSION <input type="checkbox"/> UNKNOWN <input type="checkbox"/> SPILL <input type="checkbox"/> OTHER
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CASE TYPE	CHECK ONE ONLY <input checked="" type="checkbox"/> UNDETERMINED <input type="checkbox"/> SOIL ONLY <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)
-----------	--

CURRENT STATUS	CHECK ONE ONLY <input type="checkbox"/> SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM) <input checked="" type="checkbox"/> CLEANUP IN PROGRESS <input type="checkbox"/> SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY) <input type="checkbox"/> NO ACTION TAKEN <input type="checkbox"/> POST CLEANUP MONITORING IN PROGRESS <input type="checkbox"/> NO FUNDS AVAILABLE TO PROCEED <input type="checkbox"/> EVALUATING CLEANUP ALTERNATIVES
----------------	--

REMEDIAL ACTION	CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)			
<input type="checkbox"/> CAP SITE (CD) <input checked="" type="checkbox"/> EXCAVATE & DISPOSE (ED) <input type="checkbox"/> REMOVE FREE PRODUCT (FP) <input type="checkbox"/> ENHANCED BIO DEGRADATION (EB)		<input type="checkbox"/> CONTAINMENT BARRIER (CB) <input type="checkbox"/> EXCAVATE & TREAT (ET) <input type="checkbox"/> PUMP & TREAT GROUNDWATER (GT) <input type="checkbox"/> REPLACE SUPPLY (RS)		
<input type="checkbox"/> TREATMENT AT HOOKUP (HU) <input type="checkbox"/> NO ACTION REQUIRED (NA) <input type="checkbox"/> OTHER (OT)				

COMMENTS	_____ _____ _____
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UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	FOR LOCAL AGENCY USE ONLY I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25100.2 OF THE HEALTH AND SAFETY CODE. SIGNED: <u>Stam C. Rudd</u> DATE: <u>1/21/88</u>
--	--	--

REPORT DATE M: <u>1</u> D: <u>11</u> Y: <u>88</u>	CASE #: 1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118 1119 1120	SIGNED: <u>Stam C. Rudd</u> DATE: <u>1/21/88</u>
--	---	--

REPORTED BY	NAME OF INDIVIDUAL FILING REPORT Leroy C. Rudd	PHONE (707) 554-8282	SIGNATURE 	
	REPRESENTING <input type="checkbox"/> LOCAL AGENCY <input checked="" type="checkbox"/> OWNER/OPERATOR <input type="checkbox"/> REGIONAL BOARD <input type="checkbox"/> OTHER contractor	COMPANY OR AGENCY NAME L.C. Rudd & Sons, Inc.		
	ADDRESS 2500 Green Island Rd. Vallejo Calif. 94589			

RESPONSIBLE PARTY	NAME Office of Community Development <input type="checkbox"/> UNKNOWN	CONTACT PERSON Michele Davis	PHONE (415) 273-3502
	ADDRESS 1417 Clay St. Oakland Calif. 94612		

SITE LOCATION	FACILITY NAME (IF APPLICABLE)	OPERATOR Office of Community Develop.	PHONE (415) 273-3502	
	ADDRESS 590 - 15TH St. Oakland Alameda 94612			
	CROSS STREET Castro	TYPE OF AREA <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> RURAL <input type="checkbox"/> RESIDENTIAL <input checked="" type="checkbox"/> OTHER mixed use	TYPE OF BUSINESS <input type="checkbox"/> RETAIL FUEL STATION <input type="checkbox"/> FARM <input checked="" type="checkbox"/> OTHER vacant	

IMPLEMENTING AGENCIES	LOCAL AGENCY Alameda County Health Care Services	CONTACT PERSON Storm Goranson	PHONE (415) 374-7233
	REGIONAL BOARD ()		

SUBSTANCES INVOLVED	(1) Fuel Hydrocarbons	QUANTITY LOST (GALLONS) <input checked="" type="checkbox"/> UNKNOWN
	(2)	

DISCOVERY/ABATEMENT	DATE DISCOVERED 1/11/88	HOW DISCOVERED <input type="checkbox"/> INVENTORY CONTROL <input type="checkbox"/> SUBSURFACE MONITORING <input type="checkbox"/> NUISANCE CONDITIONS <input type="checkbox"/> TANK TEST <input checked="" type="checkbox"/> TANK REMOVAL <input type="checkbox"/> OTHER
	DATE DISCHARGE BEGAN <input checked="" type="checkbox"/> UNKNOWN	METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY) <input type="checkbox"/> REMOVE CONTENTS <input type="checkbox"/> REPLACE TANK <input type="checkbox"/> CLOSE TANK <input type="checkbox"/> REPAIR TANK <input type="checkbox"/> REPAIR PIPING <input type="checkbox"/> CHANGE PROCEDURE <input checked="" type="checkbox"/> OTHER remove tank
	HAS DISCHARGE BEEN STOPPED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO. IF YES, DATE:	

SOURCE/CAUSE	SOURCE OF DISCHARGE <input checked="" type="checkbox"/> TANK LEAK <input type="checkbox"/> PIPING LEAK <input type="checkbox"/> OTHER <input type="checkbox"/> UNKNOWN	TANKS ONLY CAPACITY 2/500 gal. GAL	MATERIAL <input type="checkbox"/> FIBERGLASS <input checked="" type="checkbox"/> STEEL <input type="checkbox"/> OTHER	CAUSE(S) <input type="checkbox"/> OVERFILL <input type="checkbox"/> RUPTURE/FAILURE <input checked="" type="checkbox"/> CORROSION <input type="checkbox"/> UNKNOWN <input type="checkbox"/> SPILL <input type="checkbox"/> OTHER
	AGE <input checked="" type="checkbox"/> UNKNOWN			

CASE TYPE	CHECK ONE ONLY <input checked="" type="checkbox"/> UNDETERMINED <input type="checkbox"/> SOIL ONLY <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)
-----------	--

CURRENT STATUS	CHECK ONE ONLY <input type="checkbox"/> SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM) <input checked="" type="checkbox"/> CLEANUP IN PROGRESS <input type="checkbox"/> SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY) <input type="checkbox"/> NO ACTION TAKEN <input type="checkbox"/> POST-CLEANUP MONITORING IN PROGRESS <input type="checkbox"/> NO FUNDS AVAILABLE TO PROCEED <input type="checkbox"/> EVALUATING CLEANUP ALTERNATIVES
----------------	--

REMEDIAL ACTION	CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS) <input type="checkbox"/> CAP SITE (CS) <input checked="" type="checkbox"/> EXCAVATE & DISPOSE (ED) <input type="checkbox"/> REMOVE FREE PRODUCT (FP) <input type="checkbox"/> ENHANCED BIO DEGRADATION (IT) <input type="checkbox"/> CONTAINMENT BARRIER (CB) <input type="checkbox"/> EXCAVATE & TREAT (ET) <input type="checkbox"/> PUMP & TREAT GROUNDWATER (GT) <input type="checkbox"/> REPLACE SUPPLY (RS) <input type="checkbox"/> TREATMENT AT HOOKUP (HU) <input type="checkbox"/> NO ACTION REQUIRED (NA) <input type="checkbox"/> OTHER (OT)
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COMMENTS: *Site was found to be empty (1/10/88) (JR)*

Please print or type. (Form designed for use on elite (dot-matrix) typewriter).

1501

GENERATOR

TRANSPORTER

FACILITY

UNIFORM HAZARDOUS WASTE MANIFEST		Generator's US EPA ID No. <i>CA0000048363</i>	Manifest Document No. <i>16070</i>	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address <i>CITY OF OAKLAND 1417 CLAY ST. OAKLAND, CALIFORNIA</i>			A. State Manifest Document Number <i>87616070</i>		
4. Generator's Phone (415) <i>273-3502</i>			B. State Generator's ID		
5. Transporter 1 Company Name <i>H & H Ship Service</i>		6. US EPA ID Number <i>CA0004771168</i>	C. State Transporter's ID <i>800859</i>		
7. Transporter 2 Company Name		8. US EPA ID Number	D. Transporter's Phone (415) <i>543-4835</i>		
9. Designated Facility Name and Site Address <i>H & H Ship Service 220 CHINA BASIN SAN FRANCISCO, CA.</i>			E. State Transporter's ID		
10. US EPA ID Number <i>CA0004771168</i>			F. Transporter's Phone		
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)			12. Containers	13. Total Quantity	14. Unit Wt/Vol
a. <i>WASTE, HAZARDOUS WASTE NOS DAM-E NA 9189</i>			No. <i>001TT</i>	<i>156</i>	
			Type		I. Waste No.
					State <i>134</i>
					EPA/Other
					State
					EPA/Other
					State
					EPA/Other
					State
					EPA/Other
J. Additional Descriptions for Materials Listed Above <i>TANK Bottom Waste water</i>			K. Handling Codes for Wastes Listed Above		
			a. <i>01</i>	b.	
			c.	d.	
15. Special Handling Instructions and Additional Information <i>Gloves / Goggles</i>					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name <i>A. E. Roy d Rudd</i>		Signature <i>[Signature]</i>		Month Day Year <i>1/11/87</i>	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name <i>Rick Schlapia</i>		Signature <i>[Signature]</i>		Month Day Year <i>1/11/87</i>	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name <i>Cleveland Valley</i>		Signature <i>[Signature]</i>		Month Day Year <i>1/11/87</i>	



BROWN AND CALDWELL LABORATORIES

ANALYTICAL REPORT

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

LOG NO: E87-11-368

Received: 12 NOV 87

Reported: 13 NOV 87

Mr. Leroy Rudd
L. C. Rudd & Son, Inc.
2500 Green Island Road
Vallejo, California 94589

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED	
11-368-1	Pit - West End	12 NOV 87	
11-368-2	Pit - East End	12 NOV 87	
PARAMETER		11-368-1	11-368-2
Total Fuel Hydrocarbons, mg/kg		2400	5600

Linda Black Fox
D. A. McLean, Laboratory Director



BROWN AND CALDWELL LABORATORIES

ANALYTICAL REPORT

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

LOG NO: E87-12-454

Received: 17 DEC 87

Reported: 28 DEC 87

Mr. Leroy Rudd
L. C. Rudd & Son, Inc.
2500 Green Island Road
Vallejo, California 94589

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
E87-454-1	15th and Castro Excavation Water	17 DEC 87
PARAMETER		12-454-1
Benzene, Toluene, Xylene Isomers		
Benzene, mg/L		<0.05
Toluene, mg/L		<0.05
Total Xylene Isomers, mg/L		<0.05
Total Fuel Hydrocarbons, mg/L		<1

Project # U505357
 Fee Paid \$450.00
 Date 1-20-88

Rinda Black FOR
 Steve Fisher, Laboratory Director

12/29

15th and Castro Excavation Water
12/29/87
2005-2502



BROWN AND CALDWELL LABORATORIES

ANALYTICAL REPORT

1255 POWELL STREET EMERYVILLE, CA 94508 • (415) 428-2300

LOG NO: E88-01-302

Received: 15 JAN 88

Reported: 19 JAN 88

Mr. Leroy Rudd
L. C. Rudd & Son, Inc.
2500 Green Island Road
Vallejo, California 94589

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
01-302-1	15th and Castro N End	15 JAN 88
01-302-2	15th and Castro S End	15 JAN 88
01-302-3	15th and Castro E End	15 JAN 88
01-302-4	15th and Castro W End	15 JAN 88
01-302-5	15th and Castro Bottom	15 JAN 88

PARAMETER	01-302-1	01-302-2	01-302-3	01-302-4	01-302-5
Hydrocarbons by IR, mg/kg	<50	<50	<50	<50	760



BROWN AND CALDWELL LABORATORIES

ANALYTICAL REPORT

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

LOG NO: E88-01-302

Received: 15 JAN 88

Reported: 19 JAN 88

Mr. Leroy Rudd
L. C. Rudd & Son, Inc.
2500 Green Island Road
Vallejo, California 94589

REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED		
01-302-6	Pile 1			15 JAN 88
01-302-7	Pile 2			15 JAN 88
01-302-8	Pile 3			15 JAN 88
PARAMETER		01-302-6	01-302-7	01-302-8
hydrocarbons by IR, mg/kg		<50	<50	130

Steve Fisher
Steve Fisher, Laboratory Director



BROWN AND CALDWELL LABORATORIES

ANALYTICAL REPORT

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

LOG NO: E88-02-570

Received: 12 FEB 88

Reported: 24 FEB 88

Mr. Leroy Rudd
L. C. Rudd & Son, Inc.
2500 Green Island Road
Vallejo, California 94589

REPORT OF ANALYTICAL RESULTS

Page 1

NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED	
570-1	15th and Castro N. End	12 FEB 88	
570-2	15th and Castro S. End	12 FEB 88	
PARAMETER		02-570-1	02-570-2
Hydrocarbons by IR, mg/kg		960	490

Linda Black Fox
Linda Black Fox, Laboratory Director

RECEIVED
FEB 24 1988
HAZARDOUS MATERIALS/
WASTE PROGRAM



BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: B88-03-403

Received: 15 MAR 88

Reported: 21 MAR 88

Mr. Leroy Rudd
L. C. Rudd & Son, Inc.
2500 Green Island Road
Vallejo, California 94589

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED	
03-403-1	15th And Castro East End	15 MAR 88	
03-403-2	15th And Castro West End	15 MAR 88	
PARAMETER		03-403-1	03-403-2
Hydrocarbons by IR, mg/kg		<50	89

Verbal results reported 3.18.88 to L.Rudd.

Alinda Brack Fox

Steve Fisher, Laboratory Director

RECEIVED
MAR 21 1988



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

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

DATE RECEIVED: 02/20/91
DATE REPORTED: 02/27/91

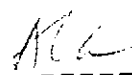
LAB NUMBER: 103045

CLIENT: SUBSURFACE CONSULTANTS

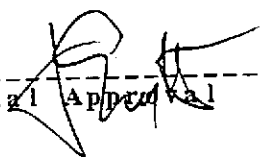
REPORT ON: SEVEN SOIL SAMPLES

PROJECT ID: 615.001
LOCATION: DIGNITY HOUSING WEST (DHW)

RESULTS: SEE ATTACHED



QA/QC Approval



Final Approval



LABORATORY NUMBER: 103045
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 615.001

DATE RECEIVED: 02/20/91
DATE ANALYZED: 02/26/91
DATE REPORTED: 02/27/91

=====
ANALYSIS: CADMIUM
ANALYSIS METHOD: EPA 6010
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
103045-1	1@1.0	ND	mg /Kg	0.5
103045-2	2@1.0	ND	mg /Kg	0.5
103045-3	3@1.0	1.2	mg /Kg	0.5
103045-4	4@1.0	0.6	mg /Kg	0.5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

=====
RPD, % 6
RECOVERY, % 85
=====



LABORATORY NUMBER: 103045
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 615.001

DATE RECEIVED: 02/20/91
DATE ANALYZED: 02/26/91
DATE REPORTED: 02/27/91

=====
ANALYSIS: CHROMIUM
ANALYSIS METHOD: EPA 6010
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
103045-1	1@1.0	17	mg/Kg	0.5
103045-2	2@1.0	20	mg/Kg	0.5
103045-3	3@1.0	29	mg/Kg	0.5
103045-4	4@1.0	24	mg/Kg	0.5

QA/QC SUMMARY

=====
RPD, % 1
RECOVERY, % 89
=====



LABORATORY NUMBER: 103045
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 615.001

DATE RECEIVED: 02/20/91
DATE ANALYZED: 02/26/91
DATE REPORTED: 02/27/91

=====
ANALYSIS: LEAD
ANALYSIS METHOD: EPA 7420
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
103045-1	1@1.0	21	mg /Kg	2.5
103045-2	2@1.0	2.5	mg /Kg	2.5
103045-3	3@1.0	36	mg /Kg	2.5
103045-4	4@1.0	ND	mg /Kg	2.5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

=====
RPD, % 6
RECOVERY, % 81
=====



LABORATORY NUMBER: 103045
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 615.001

DATE RECEIVED: 02/20/91
DATE ANALYZED: 02/26/91
DATE REPORTED: 02/27/91

=====
ANALYSIS: NICKEL
ANALYSIS METHOD: EPA 6010
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
103045-1	1@1.0	5.1	mg / Kg	0.5
103045-2	2@1.0	6.9	mg / Kg	0.5
103045-3	3@1.0	26	mg / Kg	0.5
103045-4	4@1.0	8.7	mg / Kg	0.5

QA/QC SUMMARY

=====
RPD, % <1
RECOVERY, % 84
=====



LABORATORY NUMBER: 103045
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 615.001

DATE RECEIVED: 02/20/91
DATE ANALYZED: 02/26/91
DATE REPORTED: 02/27/91

=====
ANALYSIS: ZINC
ANALYSIS METHOD: EPA 6010
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
103045-1	1@1.0	24	mg/Kg	0.5
103045-2	2@1.0	18	mg/Kg	0.5
103045-3	3@1.0	48	mg/Kg	0.5
103045-4	4@1.0	31	mg/Kg	0.5

QA/QC SUMMARY

=====
RPD, % <1
RECOVERY, % 86
=====



LABORATORY NUMBER: 103045
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 615.001

DATE RECEIVED: 02/20/91
DATE ANALYZED: 02/26/91
DATE REPORTED: 02/27/91

=====
ANALYSIS: CYANIDE
ANALYSIS METHOD: EPA 335.2 (Modified)
=====

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
103045-1	1@1.0	ND	mg/Kg	0.3
103045-2	2@1.0	ND	mg/Kg	0.3
103045-3	3@1.0	ND	mg/Kg	0.3
103045-4	4@1.0	ND	mg/Kg	0.3

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

=====
RPD, % <1
RECOVERY, % 89
=====

LAB NUMBER: 103045
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT #: 615.001

DATE RECEIVED: 02/20/91
 DATE ANALYZED: 02/26/91
 DATE REPORTED: 02/27/91
 DATE REISSUED: 03/01/91

ANALYSIS: HYDROCARBON OIL AND GREASE
 METHOD: SMWW 17:5520 E&F

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
103045-1	1@1.0	ND	mg/Kg	50
103045-2	2@1.0	ND	mg/Kg	50
103045-3	3@1.0	68	mg/Kg	50
103045-4	4@1.0	ND	mg/Kg	50
103045-5	5@7.5	ND	mg/Kg	50
103045-6	8@13	ND	mg/Kg	50
103045-7	8@19.5	ND	mg/Kg	50

ND = Not detected at or above reporting limit

QA/QC SUMMARY

RPD, %	4
RECOVERY, %	86



LABORATORY NUMBER: 103045
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 615.001
JOB LOCATION: DIGNITY HOUSING WEST (DHW)

DATE RECEIVED: 02/20/91
DATE ANALYZED: 02/22/91
DATE REPORTED: 02/26/91
DATE REISSUED: 03/01/91

Total Volatile Hydrocarbons with BTXE in Soils & Wastes
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
103045-5	5@7.5	ND(1.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
103045-6	8@13	750	55	1,300	14,000	38,000
103045-7	8@19.5	25	40	110	170	910

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, %	1
RECOVERY, %	87

LABORATORY NUMBER: 103045
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 615.001
 LOCATION: DIGNITY HOUSING WEST (DHW)

DATE RECEIVED: 02/20/91
 DATE EXTRACTED: 02/22/91
 DATE ANALYZED: 02/25/91
 DATE REPORTED: 02/27/91
 DATE REISSUED: 03/01/91

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

LAB ID	SAMPLE ID	STODDARD SOLVENT (mg/Kg)	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
103045-5	5@7.5	ND	ND	ND	1
103045-6	8@13	720	ND	ND	10
103045-7	8@19.5	58	ND	**	1

ND = Not Detected at or above reporting limit.

*Reporting limit applies to all analytes.

**Diesel range components are present but quantitation is not possible due to interference from the stoddard solvent.

QA/QC SUMMARY

RPD, %	3
RECOVERY, %	116

Subsurface Consultants

CHAIN OF CUSTODY RECORD & ANALYTICAL TEST REQUEST

Project Name: Dignity Housing West (DHW)

SCI Job Number: 615,001

Project Contact at SCI: John Bosche

Sampled By: Tom Tebb

Analytical Laboratory: Curtis & Tompkins

Analytical Turnaround: 2 Weeks (metals etc) / 1 week (hydrocarbons)

Sample ID	Sample Type ¹	Container Type ²	Sampling Date	Hold	Analysis	Analytical Method
1 @ 1.0	S	T	2/19/91		Cd, Cr, Pb, Ni, Zn, TOG	CN, (SMW 5520 F)
2 @ 1.0						
3 @ 1.0						
4 @ 1.0						
A @ 7.5					TVH w/BTEX TEH TOG	
D @ 13						
D @ 19.5						

* * * * *

Released by: _____ Received by: [Signature] Date: 2/20/91

Released by: _____ Received by: _____ Date: _____

Received by Laboratory: Nancy J. White Date: 2/20/91

Released by Laboratory: _____ Date: _____

Released by: _____ Date: _____

¹ Sample Type: W = Water, S = Soil, O = Other (specify)
² 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

Subsurface Consultants

CHAIN OF CUSTODY RECORD & ANALYTICAL TEST REQUEST

Project Name: Dignity Housing West (DHW)

SCI Job Number: 615.001

Project Contact at SCI: John Bosche

Sampled By: Tom Tebb

Analytical Laboratory: Curtis & Tompkins

Analytical Turnaround: 2 Weeks (metals etc) / 1 week (hydrocarbons)

Sample ID	Sample Type ¹	Container Type ²	Sampling Date	Hold	Analysis	Analytical Method
1 @ 1.0	S	T	2/19/91		Cd, Cr, Pb, Ni, Zn, TOC	CN, (SMU-5520 F)
2 @ 1.0						
3 @ 1.0						
4 @ 1.0						
5 @ 7.5					TVH w/ BTEX	TEH TOC
6 @ 13						
7 @ 19.5						

* * * * *

Released by: _____ Received by: [Signature] Date: 2/20/91

Released by: _____ Received by: _____ Date: _____

Received by Laboratory: Nancy Jewell Date: 2/20/91

Released by Laboratory: _____ Date: _____

Released by: _____ Date: _____

Sample Type: W = Water, S = Soil, O = Other (specify)
 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