

ALCO  
HAZMAT

94 AUG 26 PM 3:49

August 25, 1994  
SCI 615.006

Ms. Katheryn Kasche  
Dignity Housing  
501 Second Street, Suite 422  
San Francisco, CA 94107

Lead Contaminated  
Soil Remediation  
430 28th Street  
Oakland, California

Dear Ms. Kasche:

This letter summarizes our observations and testing during remediation of lead contaminated soil at the referenced site. The location of the site is shown on the Site Plan, Plate 1.

Subsurface Consultants, Inc. (SCI) previously performed Geotechnical and Environmental Investigations at the site. Our investigations indicated that fill which had previously been stockpiled on the site by others, contained elevated concentrations of lead. Soluble lead concentrations resulted in the soil being characterized as a non-RCRA California Regulated Hazardous Waste. Since development plans require that the site be essentially graded to street level, the lead contaminated soils were remediated by removal and off-site disposal as detailed below.

#### Excavation and Disposal

The remediation involved excavating soils containing soluble lead concentrations in excess of 5 mg/l or total lead concentrations in excess of 50 mg/kg. The soils were stockpiled, loaded to trucks and transported under hazardous waste manifest to Gibson Environmental in Bakersfield, California. Each truck load was weighed as it entered the Gibson facility. Copies of the weight tickets and manifests are to be provided by the contractor under separate cover.

#### Confirmation Soil Sampling and Analysis

Initially, approximately 600 tons of fill were removed. SCI obtained confirmation samples of the soils left in-place. The

■ Subsurface Consultants, Inc.

Ms. Kathryn Kasche  
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confirmation samples were obtained on a horizontal grid at 25 foot spacings as shown on Plate 1. All confirmation samples are labeled with the prefix "C". Soil samples were retained in clean brass liners, sealed with tape and refrigerated on-site. Soil samples remained refrigerated until delivery to the analytical laboratory. Chain-of-Custody documents accompanied the samples to the laboratory.

The soil samples were transmitted to Curtis & Tompkins, Ltd. an analytical laboratory certified by the State of California Department of Health Services. Sixteen confirmation samples were analyzed for soluble lead, EPA 7421 using the Waste Extraction Test (WET) Leachate. Additionally, in order to provide a general screening, two confirmation samples were analyzed for the following:

1. Title 26 Metals, EPA 6000 and 7000 series,
2. Volatile organic chemicals, EPA 8240, and
3. Total recoverable petroleum hydrocarbons (TRPH), EPA 418.1.

The analytical test results indicated that it was necessary to remove additional soil. Additional soil was removed and supplemental confirmation samples were obtained in these areas. Supplemental confirmation samples are labelled with the ending "- 2". The second round of confirmation samples were analyzed for Total lead, EPA 7421. One sample was also analyzed for TRPH. Summaries of the results of the confirmation tests are presented in Tables 1 and 2. Copies of analytical test reports are attached.

### Conclusions

The analytical test results confirm that soils containing lead above California hazardous waste levels were removed and transported under manifest to the Gibson facility. Lead concentrations in the soil remaining are below regulatory levels. The Title 26 metal analyses did not detect other heavy metals at concentrations of regulatory concern.

Volatile organics and recoverable petroleum hydrocarbons were not detected in the two samples analyzed as a general screening of the soils left in-place.

Based on our observations and test results, it is our opinion that

Ms. Kathryn Kasche  
Dignity Housing  
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soil remediation has been completed in accordance with the intent of our recommendations and with project plans and specifications. If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

*Marianne Watada*

Marianne Watada  
Engineer

*R. William Rudolph (jr)*  
R. William Rudolph  
Geotechnical Engineer 741 (expires 12/31/96)

MFW:RWR:sld

4 copies submitted

Attachments: Table 1 - Summary of Confirmation Sample Results  
Table 2 - Title 26 Metal Concentrations in Soil  
Plate 1 - Site Plan  
Analytical Test Reports  
Chain of Custody Records

cc: ✓ Ms. Madhulla Logan  
Alameda County Health  
Care Services Agency  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, California 94502

Mr. Russell Hague  
O.C. Jones & Sons  
1520 Fourth Street  
Berkeley, California 94710

**Table 1.**  
**Summary of Confirmation Sample Results**

<u>Sample ID</u>	<u>Sample Date</u>	<u>Soluble Lead (mg/l)</u>	<u>Total Lead (mg/kg)</u>	<u>TRPH (mg/kg)</u>	<u>VOC (ug/kg)</u>
C-A1-2	08/19/94	--	<5.0	--	--
C-A2	08/10/94	33.0	--	--	--
C-A2-2	08/19/94	--	7.4	--	--
C-A3	08/10/94	17.0	--	--	--
C-A3-2	08/19/94	--	8.0	--	--
C-A4	08/10/94	71.0	--	--	--
C-A4-2	08/19/94	--	13.0	--	--
C-A5	08/10/94	4.1	--	--	--
C-A5-2	08/19/94	--	<5.0	--	--
C-A6	08/10/94	2.6	--	--	--
C-B1	08/10/94	6.8	--	--	--
C-B1-2	08/19/94	--	<5.0	--	--
C-B2	08/10/94	8.7	--	--	--
C-B2-2	08/19/94	--	<5.0	--	--
C-B3	08/10/94	<0.5	--	--	--
C-B4	08/10/94	<0.5	--	--	--
C-B5	08/10/94	17.0	--	230	ND
C-B5-2	08/19/94	--	<5.0	<25	--
C-B6	08/10/94	1.0	--	--	--
C-C2	08/10/94	<0.5	--	<30	ND
C-C3	08/10/94	2.9	--	--	--
C-C4	08/10/94	<0.5	--	--	--
C-C5	08/10/94	5.0	--	--	--
C-C5-2	08/19/94	--	<5.0	--	--
C-C6	08/10/94	9.5	--	--	--
C-C6-2	08/19/94	--	<5.0	--	--

TRPH = Total recoverable petroleum hydrocarbons

VOC = Volatile organic chemicals

mg/l = milligrams per liter

mg/kg = milligrams per kilogram

ug/kg = micrograms per kilogram

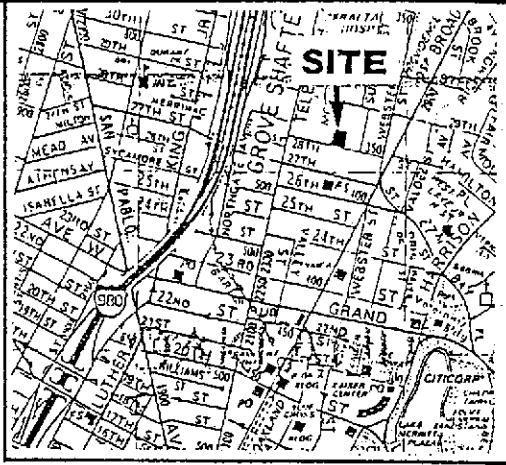
ND = None detected at or above analytical detection limits.

See analytical test reports for individual detection limits.

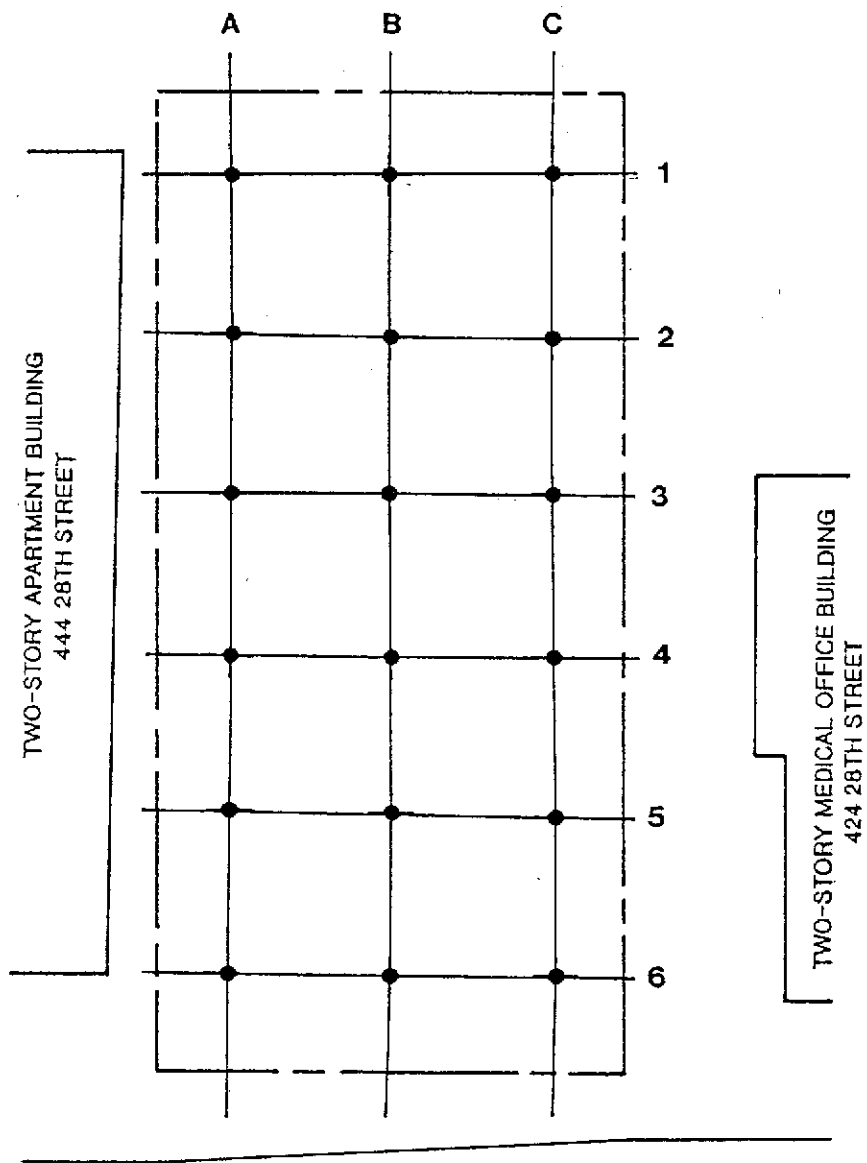
Table 2  
Title 26 Metal Concentrations in Soil

<u>Compound</u>	<u>C-B5</u>	<u>C-B5-2</u>	<u>C-C2</u>
Antimony	<3.0	--	<3.0
Arsenic	4.6	--	2.7
Barium	190	--	120
Beryllium	0.52	--	0.51
Cadmium	<0.25	--	<0.25
Chromium (total)	35	--	29
Cobalt	7.8	--	23
Copper	50	--	19
Lead	260	<5	12
Mercury	0.080	--	0.11
Molybdenum	2.4	--	<1.0
Nickel	34	--	45
Selenium	<2.5	--	<2.5
Silver	<0.5	--	<0.5
Thallium	<2.5	--	<2.5
Vanadium	30	--	21
Zinc	120	--	26

All concentrations are in milligrams per kilogram

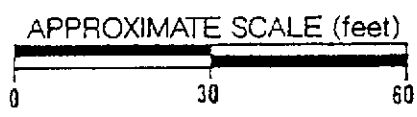


VICINITY MAP



28TH STREET

CONFIRMATION SAMPLE LOCATION



SITE PLAN

Subsurface Consultants

430 28TH STREET - OAKLAND, CA			PLATE
JOB NUMBER	DATE	APPROVED	<b>1</b>
615.006	8/25/94	<i>nm</i>	



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

2323 Fifth Street, Berkeley, CA 94710. Phone (510) 486-0900

A N A L Y T I C A L   R E P O R T

Prepared for:

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

Date: 18-AUG-94  
Lab Job Number: 116793  
Project ID: 615.006  
Location: Dignity Housing

Reviewed by:

Teresa K Morrison

Reviewed by:

Mary Plessner

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LABORATORY NUMBER: 116793  
CLIENT: SUBSURFACE CONSULTANTS  
PROJECT ID: 615.006  
LOCATION: DIGNITY HOUSING

DATE SAMPLED: 08/10/94  
DATE RECEIVED: 08/10/94  
DATE EXTRACTED: 08/12/94  
DATE ANALYZED: 08/12/94  
DATE REPORTED: 08/15/94

EPA 418.1: Total Recoverable Petroleum Hydrocarbons by IR

LAB ID	CLIENT ID	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)
116793-011	CB5	230	30
116793-014	CC2	ND	30
METHOD BLANK		ND	30

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	<1
RECOVERY, %	96



CLIENT: Subsurface Consultants  
 PROJECT ID: 615.006  
 LOCATION: Dignity Housing  
 MATRIX: WET Leachate

DATE REPORTED: 08/15/94

Metals Analytical Report

Lead

Sample ID	Lab ID	Sample Date	Receive Date	Result (ug/L)	Reporting Limit (ug/L)	QC Batch	Method	Analysis Date
CA2	116793-002	08/10/94	08/10/94	33000	500	15670	EPA 7420	08/13/94
CA3	116793-003	08/10/94	08/10/94	17000	500	15670	EPA 7420	08/13/94
CA4	116793-004	08/10/94	08/10/94	71000	1000	15670	EPA 7420	08/13/94
CA5	116793-005	08/10/94	08/10/94	4100	500	15670	EPA 7420	08/13/94
CA6	116793-006	08/10/94	08/10/94	2600	500	15670	EPA 7420	08/13/94
CB1	116793-007	08/10/94	08/10/94	6800	500	15670	EPA 7420	08/13/94
CB2	116793-008	08/10/94	08/10/94	8700	500	15670	EPA 7420	08/13/94
CB3	116793-009	08/10/94	08/10/94	ND	500	15670	EPA 7420	08/13/94
CB4	116793-010	08/10/94	08/10/94	ND	500	15670	EPA 7420	08/13/94
CB5	116793-011	08/10/94	08/10/94	17000	500	15670	EPA 7420	08/13/94
CB6	116793-012	08/10/94	08/10/94	1000	500	15670	EPA 7420	08/13/94
CC2	116793-014	08/10/94	08/10/94	ND	500	15670	EPA 7420	08/13/94
CC3	116793-015	08/10/94	08/10/94	2900	500	15670	EPA 7420	08/13/94
CC4	116793-016	08/10/94	08/10/94	ND	500	15670	EPA 7420	08/13/94
CC5	116793-017	08/10/94	08/10/94	5000	500	15670	EPA 7420	08/13/94
CC6	116793-018	08/10/94	08/10/94	9500	500	15670	EPA 7420	08/13/94

ND = Not detected at or above reporting limit





SAMPLE ID: CB5  
LAB ID: 116793-011  
CLIENT: Subsurface Consultants  
PROJECT ID: 615.006  
LOCATION: Dignity Housing  
MATRIX: Soil

DATE SAMPLED: 08/10/94  
DATE RECEIVED: 08/10/94  
DATE REPORTED: 08/16/94

## California TITLE 26 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
Antimony	ND	3.0	15629	EPA 6010	08/12/94
Arsenic	4.6	2.5	15628	EPA 7060	08/12/94
Barium	190	0.50	15629	EPA 6010	08/12/94
Beryllium	0.52	0.099	15629	EPA 6010	08/12/94
Cadmium	ND	0.25	15629	EPA 6010	08/12/94
Chromium (total)	35	0.50	15629	EPA 6010	08/12/94
Cobalt	7.8	0.99	15629	EPA 6010	08/12/94
Copper	50	0.50	15629	EPA 6010	08/12/94
Lead	260	15	15629	EPA 6010	08/12/94
Mercury	0.080	0.077	15687	EPA 7471	08/15/94
Molybdenum	2.4	0.99	15629	EPA 6010	08/12/94
Nickel	34	0.99	15629	EPA 6010	08/12/94
Selenium	ND	2.5	15628	EPA 7740	08/12/94
Silver	ND	0.50	15629	EPA 6010	08/12/94
Thallium	ND	2.5	15628	EPA 7841	08/12/94
Vanadium	30	0.50	15629	EPA 6010	08/12/94
Zinc	120	0.99	15629	EPA 6010	08/12/94

ND = Not detected at or above reporting limit



SAMPLE ID: CC2  
LAB ID: 116793-014  
CLIENT: Subsurface Consultants  
PROJECT ID: 615.006  
LOCATION: Dignity Housing  
MATRIX: Soil

DATE SAMPLED: 08/10/94  
DATE RECEIVED: 08/10/94  
DATE REPORTED: 08/16/94

California TITLE 26 Metals

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
Antimony	ND	3.0	15629	EPA 6010	08/12/94
Arsenic	2.7	2.5	15628	EPA 7060	08/12/94
Barium	120	0.50	15629	EPA 6010	08/12/94
Beryllium	0.51	0.10	15629	EPA 6010	08/12/94
Cadmium	ND	0.25	15629	EPA 6010	08/12/94
Chromium (total)	29	0.50	15629	EPA 6010	08/12/94
Cobalt	23	1.0	15629	EPA 6010	08/12/94
Copper	19	0.50	15629	EPA 6010	08/12/94
Lead	12	1.5	15628	EPA 7421	08/12/94
Mercury	0.11	0.091	15687	EPA 7471	08/15/94
Molybdenum	ND	1.0	15629	EPA 6010	08/12/94
Nickel	45	1.0	15629	EPA 6010	08/12/94
Selenium	ND	2.5	15628	EPA 7740	08/12/94
Silver	ND	0.50	15629	EPA 6010	08/12/94
Thallium	ND	2.5	15628	EPA 7841	08/12/94
Vanadium	21	0.50	15629	EPA 6010	08/12/94
Zinc	26	1.0	15629	EPA 6010	08/12/94

ND = Not detected at or above reporting limit

CLIENT: Subsurface Consultants  
JOB NUMBER: 116793

DATE REPORTED: 08/16/94

BATCH QC REPORT  
PREP BLANK

Compound	Result	Reporting Limit	Units	QC Batch	Method	Analysis Date
Antimony	ND	3	mg/Kg	15629	EPA 6010	08/12/94
Arsenic	ND	2.5	mg/Kg	15628	EPA 7060	08/12/94
Barium	ND	0.5	mg/Kg	15629	EPA 6010	08/12/94
Beryllium	ND	0.1	mg/Kg	15629	EPA 6010	08/12/94
Cadmium	ND	0.25	mg/Kg	15629	EPA 6010	08/12/94
Chromium (total)	ND	0.5	mg/Kg	15629	EPA 6010	08/12/94
Cobalt	ND	1	mg/Kg	15629	EPA 6010	08/12/94
Copper	ND	0.5	mg/Kg	15629	EPA 6010	08/12/94
Lead	ND	1.5	mg/Kg	15628	EPA 7421	08/12/94
Lead	ND	15	mg/Kg	15629	EPA 6010	08/12/94
Lead	ND	500	ug/L	15670	EPA 7420	08/13/94
Mercury	ND	0.1	mg/Kg	15687	EPA 7471	08/15/94
Molybdenum	ND	1	mg/Kg	15629	EPA 6010	08/12/94
Nickel	ND	1	mg/Kg	15629	EPA 6010	08/12/94
Selenium	ND	2.5	mg/Kg	15628	EPA 7740	08/12/94
Silver	ND	0.5	mg/Kg	15629	EPA 6010	08/12/94
Thallium	ND	2.5	mg/Kg	15628	EPA 7841	08/12/94
Vanadium	ND	0.5	mg/Kg	15629	EPA 6010	08/12/94
Zinc	ND	1	mg/Kg	15629	EPA 6010	08/12/94

ND = Not detected at or above reporting limit



CLIENT: Subsurface Consultants  
 JOB NUMBER: 116793

DATE REPORTED: 08/16/94

BATCH QC REPORT  
 BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS % Recovery	BSD % Recovery	Average Recovery	RPD	QC Batch	Method	Analysis Date
Antimony	500	449.6	420.7	ug/L	90	84	87	7	15629	EPA 6010	08/12/94
Arsenic	40	440.6	447.6	ug/L	110	112	111	2	15628	EPA 7060	08/12/94
Barium	2000	1949	1971	ug/L	98	99	99	1	15629	EPA 6010	08/12/94
Beryllium	50	50.1	49.8	ug/L	100	100	100	1	15629	EPA 6010	08/12/94
Cadmium	50	48.3	48.5	ug/L	97	97	97	0	15629	EPA 6010	08/12/94
Chromium (total)	200	197.3	199.4	ug/L	99	100	100	1	15629	EPA 6010	08/12/94
Cobalt	500	482.1	494.9	ug/L	96	99	98	3	15629	EPA 6010	08/12/94
Copper	250	241.1	246.3	ug/L	96	99	98	2	15629	EPA 6010	08/12/94
Lead	30	316.9	305.6	ug/L	106	102	104	4	15628	EPA 7421	08/12/94
Lead	500	457.5	489.1	ug/L	92	98	95	7	15629	EPA 6010	08/12/94
Lead	2000	1950	1970	ug/L	98	99	99	1	15670	EPA 7420	08/13/94
Mercury	4	3.805	3.843	ug/L	95	96	96	1	15687	EPA 7470	08/15/94
Molybdenum	400	363.3	374.7	ug/L	91	94	93	3	15629	EPA 6010	08/12/94
Nickel	500	465.8	480.7	ug/L	93	96	95	3	15629	EPA 6010	08/12/94
Selenium	30	305.4	284.8	ug/L	102	95	99	7	15628	EPA 7740	08/12/94
Silver	50	48.1	48.1	ug/L	96	96	96	0	15629	EPA 6010	08/12/94
Thallium	40	475.3	442.4	ug/L	119	111	115	7	15628	EPA 7841	08/12/94
Vanadium	500	484	488.8	ug/L	97	98	98	1	15629	EPA 6010	08/12/94
Zinc	500	482.8	480.4	ug/L	97	96	97	1	15629	EPA 6010	08/12/94



LABORATORY NUMBER: 116793-011  
 CLIENT: SUBSURFACE CONSULTANTS  
 PROJECT ID: 615.006  
 LOCATION: DIGNITY HOUSING  
 SAMPLE ID: CB5

DATE SAMPLED: 08/10/94  
 DATE RECEIVED: 08/10/94  
 DATE ANALYZED: 08/15/94  
 DATE REPORTED: 08/18/94

## EPA METHOD 8240: VOLATILE ORGANICS IN SOILS &amp; WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	100 %
Toluene-d8	109 %
Bromofluorobenzene	71 %



LABORATORY NUMBER: 116793-014  
CLIENT: SUBSURFACE CONSULTANTS  
PROJECT ID: 615.006  
LOCATION: DIGNITY HOUSING  
SAMPLE ID: CC2

DATE SAMPLED: 08/10/94  
DATE RECEIVED: 08/10/94  
DATE ANALYZED: 08/12/94  
DATE REPORTED: 08/18/94

## EPA METHOD 8240: VOLATILE ORGANICS IN SOILS &amp; WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: SURROGATE RECOVERIES

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1,2-Dichloroethane-d4	83 %
Toluene-d8	88 %
Bromofluorobenzene	77 %



LABORATORY NUMBER: 116793-METHOD BLANK  
CLIENT: SUBSURFACE CONSULTANTS  
PROJECT ID: 615.006  
LOCATION: DIGNITY HOUSING  
SAMPLE ID: N/A

DATE ANALYZED: 08/11/94  
DATE REPORTED: 08/18/94

## EPA METHOD 8240: VOLATILE ORGANICS IN SOILS &amp; WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	89 %
Toluene-d8	91 %
Bromofluorobenzene	73 %





LABORATORY NUMBER: 116793-METHOD BLANK  
CLIENT: SUBSURFACE CONSULTANTS  
PROJECT ID: 615.006  
LOCATION: DIGNITY HOUSING  
SAMPLE ID: N/A

DATE ANALYZED: 08/15/94  
DATE REPORTED: 08/18/94

## EPA METHOD 8240: VOLATILE ORGANICS IN SOILS &amp; WASTES

COMPOUND	Result (ug/Kg)	Reporting Limit (ug/Kg)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
cis-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	50
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	95 %
Toluene-d8	99 %
Bromofluorobenzene	83 %



## MS/MSD Report

Matrix Sample Number: 116647-001 Date Analyzed: 11-AUG-94  
 Lab No: QC68869 QC68870 Spike File: DDHB15  
 Matrix: SOIL Spike Dup File: DDHB16  
 Batch No: 15613 304223214007 304223220008 304223191003 Analyst: JON

	Instrdg	SpikeAmt	% Rec	Limits
<u>MS RESULTS</u>				
1,1-Dichloroethene	47.4407	50	95 %	59-172%
Trichloroethene	43.3175	50	87 %	62-137%
Benzene	44.9353	50	90 %	66-142%
Toluene	45.5071	50	91 %	59-139%
Chlorobenzene	43.2125	50	86 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	47.1368	50	94 %	70-121%
Toluene-d8	45.8498	50	92 %	84-138%
Bromofluorobenzene	40.5532	50	81 %	59-113%
<u>MSD RESULTS</u>				
1,1-Dichloroethene	48.1534	50	96 %	59-172%
Trichloroethene	43.8127	50	88 %	62-137%
Benzene	45.1623	50	90 %	66-142%
Toluene	45.2846	50	91 %	59-139%
Chlorobenzene	43.5829	50	87 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	45.5523	50	91 %	70-121%
Toluene-d8	44.8639	50	90 %	84-138%
Bromofluorobenzene	39.3361	50	79 %	59-113%
<u>MATRIX RESULTS</u>				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	0			
Toluene	0			
Chlorobenzene	0			
<u>RPD DATA</u>				
1,1-Dichloroethene	1 %			< 22%
Trichloroethene	1 %			< 24%
Benzene	1 %			< 21%
Toluene	0 %			< 21%
Chlorobenzene	1 %			< 21%

Results within Specifications - PASS



## MS/MSD Report

Matrix Sample Number: 116793-011

Date Analyzed: 15-AUG-94

Lab No: QC69179 QC69180

Spike File: &gt;CHF13

Matrix: SOIL

Spike Dup File: &gt;CHF14

Batch No: 15681 424227209013 424227216014 424227202012 Analyst: CW

	Instrdrg	SpikeAmt	% Rec	Limits
<u>MS RESULTS</u>				
1,1-Dichloroethene	40.6	50	81 %	59-172%
Trichloroethene	32.98	50	66 %	62-137%
Benzene	39.74	50	78 %	66-142%
Toluene	41.31	50	83 %	59-139%
Chlorobenzene	33.15	50	66 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	51.06	50	102 %	75-143%
Toluene-d8	57.4	50	115 %	77-134%
Bromofluorobenzene	36.6	50	73 %	65-129%
<u>MSD RESULTS</u>				
1,1-Dichloroethene	49.99	50	100 %	59-172%
Trichloroethene	47.08	50	94 %	62-137%
Benzene	52.66	50	104 %	66-142%
Toluene	57.43	50	115 %	59-139%
Chlorobenzene	49.67	50	99 %	60-133%
Surrogate Recoveries				
1,2-Dichloroethane-d4	52.25	50	105 %	75-143%
Toluene-d8	55.25	50	111 %	77-134%
Bromofluorobenzene	38.51	50	77 %	65-129%
<u>MATRIX RESULTS</u>				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	.576			
Toluene	0			
Chlorobenzene	0			
<u>RPD DATA</u>				
1,1-Dichloroethene	21 %			< 22%
Trichloroethene	35 %			< 24% *
Benzene	28 %			< 21% *
Toluene	33 %			< 21% *
Chlorobenzene	40 %			< 21% *

\*\* Result is out of limits







A N A L Y T I C A L   R E P O R T

Prepared for:

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

Date: 22-AUG-94  
Lab Job Number: 116971  
Project ID: 615.006  
Location: Dignity Housing

Reviewed by:

Reviewed by:

*Mary Plessner*

This package may be reproduced only in its entirety.

CLIENT: Subsurface Consultants  
 PROJECT ID: 615.006  
 LOCATION: Dignity Housing  
 MATRIX: Soil

DATE REPORTED: 08/22/94

P.3

Metals Analytical Report

Lead

Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
CA2-2	116971-001	08/19/94	08/19/94	7.4	4.9	15828	EPA 7420	08/22/94
CA3-2	116971-002	08/19/94	08/19/94	8.0	5.0	15828	EPA 7420	08/22/94
CA4-2	116971-003	08/19/94	08/19/94	13	4.9	15828	EPA 7420	08/22/94
CA5-2	116971-004	08/19/94	08/19/94	ND	5.0	15828	EPA 7420	08/22/94
CB1-2	116971-005	08/19/94	08/19/94	ND	5.0	15828	EPA 7420	08/22/94
CB2-2	116971-006	08/19/94	08/19/94	ND	5.0	15828	EPA 7420	08/22/94
CB5-2	116971-007	08/19/94	08/19/94	ND	5.0	15828	EPA 7420	08/22/94
CC5-2	116971-008	08/19/94	08/19/94	ND	5.0	15828	EPA 7420	08/22/94
CC6-2	116971-009	08/19/94	08/19/94	ND	5.0	15828	EPA 7420	08/22/94
CA1-2	116971-010	08/19/94	08/19/94	ND	5.0	15828	EPA 7420	08/22/94

ND = Not detected at or above reporting limit

AUG 22 '94 19:42 CURTIS & TOMPKINS

BERKELEY



CLIENT: Subsurface Consultants  
JOB NUMBER: 116971

DATE REPORTED: 08/22/94

BATCH QC REPORT  
PREP BLANK

Compound	Result	Reporting Limit	Units	QC Batch	Method	Analysis Date
Lead	ND	5	mg/Kg	15828	EPA 7420	08/22/94

ND = Not detected at or above reporting limit



CLIENT: Subsurface Consultants  
 JOB NUMBER: 116971

DATE REPORTED: 08/22/94

 BATCH QC REPORT  
 BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS % Recovery	BSD % Recovery	Average Recovery	RPD	QC Batch	Method	Analysis Date
Lead	2000	1760	1790	ug/L	88	90	89	2	15828	EPA 7420	08/22/94



LABORATORY NUMBER: 116971  
CLIENT: SUBSURFACE CONSULTANTS  
PROJECT ID: 615.006  
LOCATION: DIGNITY HOUSING

DATE SAMPLED: 08/19/94  
DATE RECEIVED: 08/19/94  
DATE EXTRACTED: 08/22/94  
DATE ANALYZED: 08/22/94  
DATE REPORTED: 08/22/94

EPA 418.1: Total Recoverable Petroleum Hydrocarbons by IR

LAB ID	CLIENT ID	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)
116971-007	CB5-2	ND	25

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	17
RECOVERY, %	114



VERBAL ADDITIONS / CANCELLATIONS TO ANALYSIS REQUEST SHEET

CLIENT: SCI DATE: 8/19/94  
 REQUESTED BY: Mariame Watada TIME: am 4:30 pm  
 RECORDED BY: \_\_\_\_\_

Current Lab ID (Previous Lab ID)	Client ID	Circle matrix	Specify add or cancel	Analysis	Due date
W6971-10	CA1-2	soil water other	+	PB	with rest
( )		soil water other			
( )		soil water other			
( )		soil water other			
( )		soil water other			
( )		soil water other			
( )		soil water other			
( )		soil water other			

Original in job jacket.

Copies to analytical departments.