

6 July 1999

Larry Seto
Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94507-6577

Subject: Previous Soil Gas Survey Results and Indoor Air Pathway
2855 Mandela Parkway Property
Oakland, California

Dear Mr. Seto:

This brief report has been prepared by Treadwell & Rollo, Inc. on behalf of 2855 Mandela Property, the current owner of the subject property ("the site"). This report is provided in advance of our planned meeting with you and your colleague Madhulla Logan on 6 July 1999. This report presents a summary evaluation of previous soil gas survey results at the site and their implication regarding the indoor air pathway.

As you will recall, previous investigations have detected gasoline and associated benzene, toluene, ethylbenzene, and total xylenes (BTEX) in soil and groundwater at the site, as well as free phase product. The building at the site is currently being used as a warehouse and for other commercial activities by a number of tenants. Subsurface conditions generally consist of approximately four feet of sandy fill material beneath the concrete floor slab, underlain by Bay Mud to a depth of at least 19 feet. The depth to groundwater appears to be on the order of six feet below grade, and we suspect that perched water conditions may be prevalent, as well.

Previous investigations at the site also included two "active" soil gas surveys which are summarized below.

- By ATEC Environmental Consultants ("ATEC") and their subcontractor Optimal Technology Inc, as documented in ATEC's *Subsurface Investigation Report*, dated July 16, 1992. Their survey included seven locations under the building (and additional locations outside the building footprint) focused around the former location of the underground gasoline storage tank. The soil gas samples were obtained using driven probes from approximately five to six feet below grade. The samples were analyzed for Total Volatile Petroleum Hydrocarbons (TVPH), and BTEX.
- By CERES Associates, as documented in their *Phase II Subsurface Investigation Report*, dated September 1, 1998. Their survey included seven locations under the building (and additional locations outside the building footprint) in a grid pattern across the east quadrant of the building, an area that is known to include potentially significant BTEX concentrations in groundwater. The soil gas samples were obtained using driven probes from approximately 1.5 feet below grade at five locations, and from

Larry Seto
6 July 1999
Page 2

Treadwell&Rollo

approximately 3 feet below grade at two locations. The samples were analyzed for BTEX and halogenated volatile organic compounds (HVOCs).

Summary figures and tables of results of each survey are enclosed (the summary figure for the ATEC survey has been revised by us to present benzene results). ATEC's benzene sampling results from under the building ranged from 4.5 ug/L to 20.9 ug/L, while the CERES benzene results were much lower, generally not detected above 1.0 ug/L and with a single detection at 1.1 ug/L. In both cases, generally higher concentrations were detected outside the building footprint than under the building.

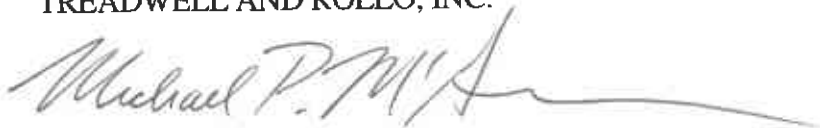
Of the two surveys, we believe that the CERES results are probably the more representative of volatile concentrations currently in soil gas beneath the building because:

- the CERES samples were obtained from a more shallow depth, in the relatively drier and more permeable sandy fill beneath the floor slab (the ATEC samples were obtained in the capillary fringe within the Bay Mud);
- the CERES survey covered a much larger area of the building than the ATEC survey, but still an area known to be contain significant concentrations in groundwater; and
- the CERES results are more recent than the ATEC results by 6 years.

While subsequent groundwater sampling at the site showed that neither soil gas survey was successful in delineating the lateral extent of gasoline constituents in groundwater, the CERES soil gas results do indicate an apparent lack of significant concentrations in shallow soil gas beneath the building and an incomplete indoor air transport pathway.

We look forward to discussing these results and their implications for site remediation in more detail at our meeting. If you have any questions, please call me at (925)253-2683 or contact Faye Beverett of 2855 Mandela Property at (415)398-2266.

Sincerely,
TREADWELL AND ROLLO, INC.



Michael P. McGuire, P.E.
Senior Engineer

Attachment

SUBSURFACE SOIL INVESTIGATION
2855 Cypress Street
Oakland, California

A Report Prepared for
Morgan Stanley and Company, Inc.
24222 Avenida de la Carlota, Suite 275
Laguna Hills, California 92653

July 16, 1992

Report Prepared by
ATEC Environmental consultants
8 Pasteur, Suite 150
Irvine, CA 92718

SOIL VAPOR STUDY RESULTS

**Chromalloy Facility
Oakland, California**

Project #: OTI-060692

Submitted By:

Optimal Technology Inc.

June 21, 1992

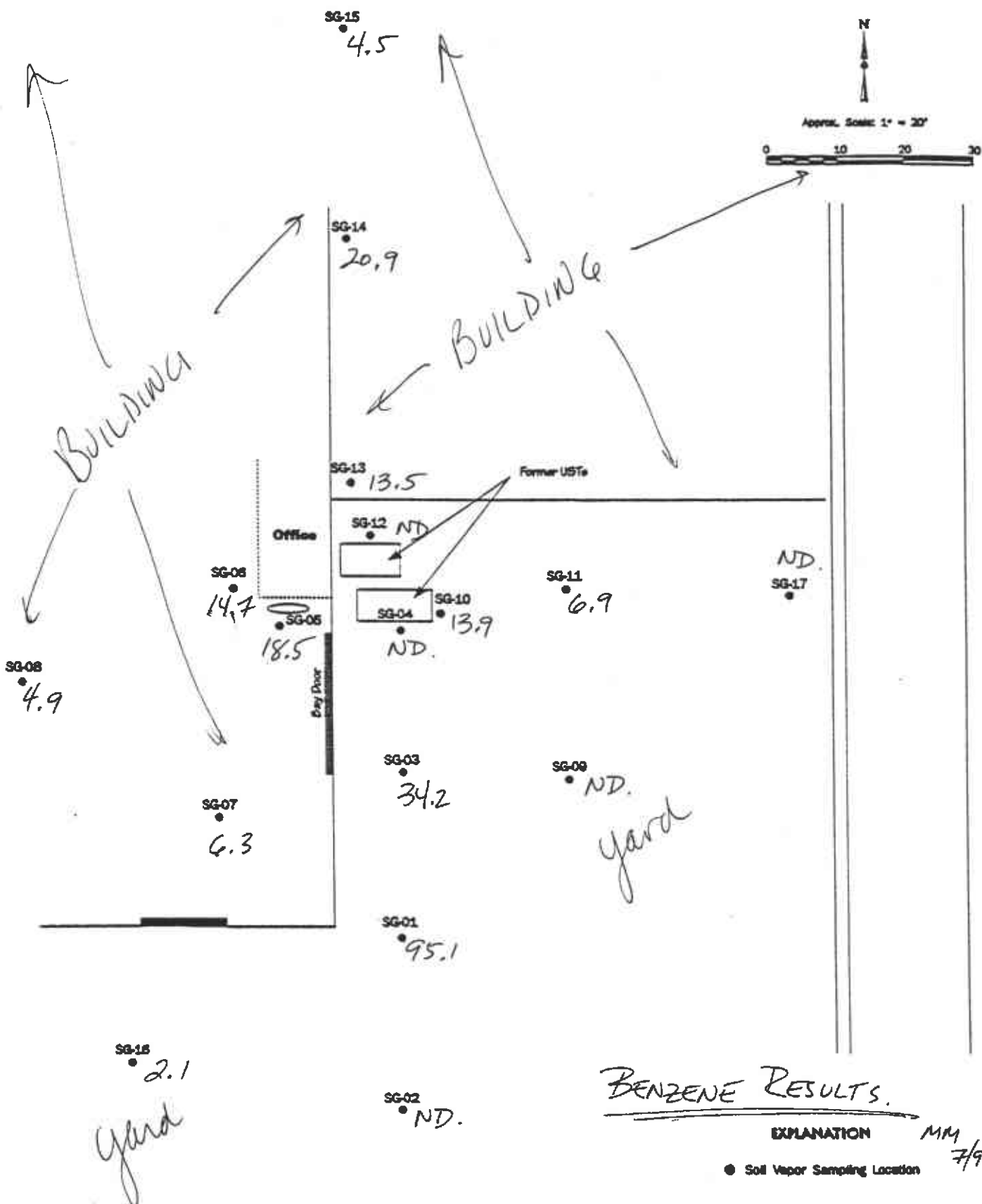
SOIL GAS RESULTS

COMPANY: ATEC Environmental
CONTACT: Mr. Chris Nevison
ADDRESS: 8 Pasteur, Ste # 150
Irvine, CA 92718

PROJECT NAME: Chromalloy
PROJECT NUMBER: OTI-060692
SAMPLE DATES: June 17, 1992
MATRIX TYPE: Air (Soil Vapor)

SAMPLE ID	TVPH (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
SG-01	763	95.1	49.2	2.1	29.1
SG-02	ND	ND	ND	ND	ND
SG-03	286	34.2	23.8	1.6	19.9
SG-04	ND	ND	ND	ND	ND
SG-05	163	18.5	17.2	1.5	22.8
SG-06	123	14.7	12.6	0.9	14.1
SG-07	53	6.3	4.5	ND	4.1
SG-08	38	4.9	2.9	0.2	1.0
SG-09	ND	ND	ND	ND	ND
SG-10	127	13.9	13.0	1.0	16.9
SG-11	66	6.9	7.4	0.6	13.1
SG-12	ND	ND	ND	ND	ND
SG-13	131	13.5	14.9	1.8	26.3
SG-14	178	20.9	18.1	1.4	19.8
SG-15	50	4.5	5.6	0.6	8.7
SG-16	28	2.1	4.1	0.7	12.7
SG-17	ND	ND	ND	ND	ND

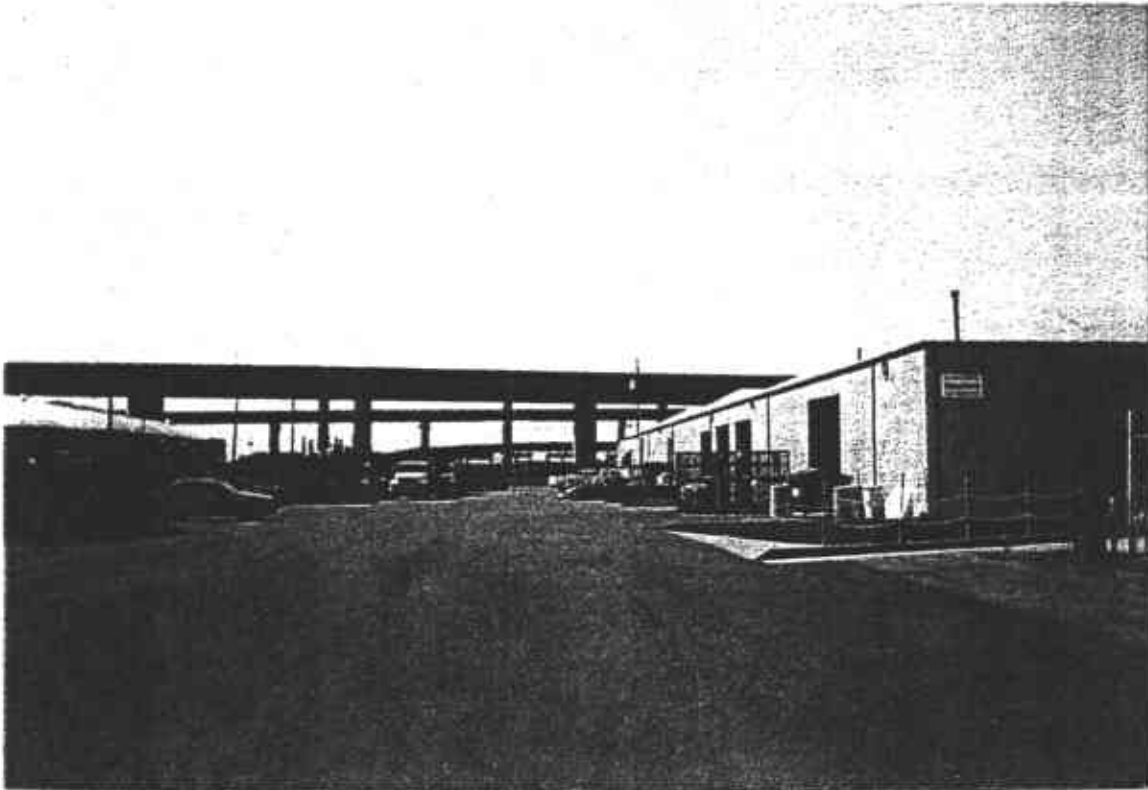
ND = Not Detected at or above reporting limits of: 0.1 ug/L for Benzene, Toluene, Ethylbenzene, Xylenes
1.0 ug/L for TVPH (as Gasoline)



OPTIMAL TECHNOLOGY INC. 6430 Via Real, Suite 6 Carpinteria, CA 93013 Tel: (805) 684-6228 * Fax: (805) 684-1061	DATE: June 18, 1992	PROJECT NO: 071000882	APPROVED BY: T.L.T.	FIGURE 1
	COMPANY: ATEC 4	TITLE: <i>BENZENE RESULTS - ug/L.</i> Soil Vapor Sampling Locations		

PHASE II SUBSURFACE INVESTIGATION REPORT

**Commercial Property
2853-2863 Mandela Parkway
Oakland, California**



5040 Commercial Circle, Suite F
Concord, California 94520
(925) 825-4466 / Fax (925) 825-4441

CERES Project CA268-2
September 1, 1998

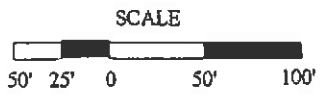
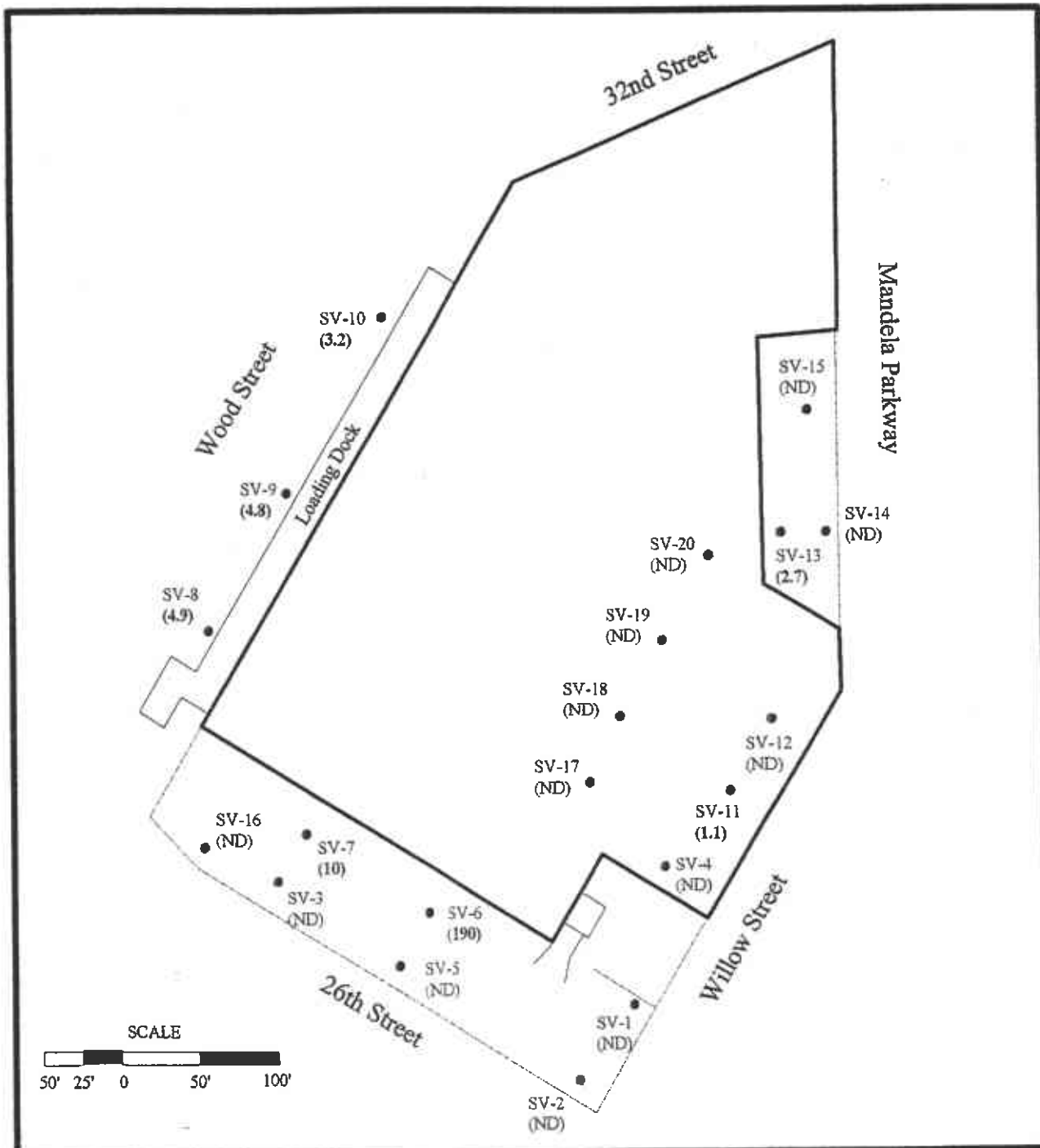
TABLE 3

**SOIL VAPOR SAMPLE RESULTS
(BTEX COMPOUNDS AND MTBE)**

Sample Location	Sample Depth (feet bgs)	Analytical Laboratory Results ($\mu\text{g/l}$)				
		Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
SV-1	3	<1.0	<1.0	<1.0	<1.0	<1.0
SV-2	1	<1.0	<1.0	<1.0	<1.0	<1.0
SV-3	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
SV-4	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
SV-5	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
SV-6	1.5	190	110	190	75	<1.0
SV-7	1.5	10	65	20	15	<1.0
SV-8	1.5	4.9	<1.0	9.2	8.6	<1.0
SV-9	1.5	4.8	<1.0	7.3	5.9	<1.0
SV-10	1.5	3.2	<1.0	5.4	4.5	<1.0
SV-11	1.5	1.1	<1.0	1.6	3.7	<1.0
SV-12	1.5	<1.0	<1.0	1.9	15	<1.0
SV-13	1.5	2.7	18	6.8	6.9	<1.0
SV-14	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
SV-15	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
SV-16	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
SV-17	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
SV-18	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
SV-19	3	<1.0	<1.0	<1.0	<1.0	<1.0
SV-20	3	<1.0	<1.0	<1.0	<1.0	<1.0

Bold type indicates compound reported above laboratory detection limit concentration.

HVOCs were not reported above their respective detection limit concentrations. Detection limit concentrations are presented on the analytical laboratory data sheets provided in Appendix C.



Commercial Property
 2855 Mandela Parkway
 Oakland, California

Project CA268-1



● SV-11 Soil vapor sample location. Benzene concentration
 (1.1) in parts per billion (ppb).
 (ND) Not detected above 1.0 ppb.



**FIGURE 5 - SOIL VAPOR SAMPLE RESULTS
 (Benzene)**