

ENVIRONMENTAL
PROTECTION
00 MAY 15 AM 9:41



May 10, 2000

Ms. Susan Hugo
Alameda County
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: 6121 Hollis Street
Emeryville, California

Dear Susan:

Enclosed for your review is SOMA's "Interim Report on the Delineation of the Extent of PCBs Contamination and Workplan for Further Investigation" for the above subject site. Upon your review and approval of the proposed additional investigation, SOMA will conduct the field work and prepare a final investigation report.

If you have any questions or comments, please call me at (925) 244-6600.

Sincerely,

Mansour Sepehr, Ph.D., P.E.
Principal

MS/jb

Enclosure

cc: Mr. Gordon Taylor w/enclosure
CBS Corporation

Mr. Rich Robbins w/enclosure
Wareham Property Group

May 10, 2000

**Interim Report on the Delineation of the Extent of PCBs
Contamination and Workplan for Further investigation at the
Heritage Square Property Located at
6121 Hollis Street, Emeryville, California**

INTRODUCTION

This document has been prepared by SOMA Environmental Engineering, Inc. (SOMA) on behalf of CBS Corporation (CBS), successor by corporate name change to Westinghouse Electric Corporation. This report summarizes the results of the current field investigation and proposes additional investigation for further site characterization for delineation of polychlorinated biphenyls (PCB) impacted soils at the Heritage Square property, at 6121 Hollis Street, Emeryville, California (the "Property"). The Property is located immediately north of the former Westinghouse Electric Corporation's site at 5815 Peladeau Street Emeryville, California (see Figure 1). This report has been prepared based on the approved workplan dated December 23, 1999 by the Alameda County Environmental Health Services (ACEHS).

The scope of this investigation was to drill 25 shallow soil borings (up to four feet), and collect soil samples at 0.5 and 4-foot depths in order to delineate the extent of PCB-impacted soils at the Property.

Field Activities

On January 29, 2000 SOMA's field crew initiated the soil investigation activity. However, due to heavy rain only 4 soil borings were drilled and sampled. On February 6, 2000 the remaining soil borings (21 more soil borings) were drilled and sampled. The soil boring locations were based on the review of historical aerial photos from 1931 through 1981. Review of the historical aerial photos

?

indicated stockpiles of unidentified material and ground discoloration at the Heritage Square site during 1931 through 1950. In November 1950, ITT Grinnell Company (ITT) acquired the Heritage Square property. ITT sometimes between 1950 and 1959, paved over the soil discoloration area.

Figure-2 shows the location of the soil borings. The borings were drilled by the hollow stem auger to a total depth of 4-feet below the ground surface (bgs). Two soil samples were collected from each soil boring. One sample was collected immediately below the asphalt pavement, while the other was collected at 3.5-4 feet bgs. The drilling and sampling operation was conducted under the supervision of SOMA's Senior Field Engineer. To avoid cross contamination, the sampling tools were decontaminated after drilling and sampling of each soil boring. A total of 50 soil samples were collected during this investigation.

The soil samples were delivered to DELTA Environmental Laboratories immediately for analysis. The soil samples were analyzed for PCBs using U.S. EPA Method 8080.

Analytical Results

The results of the laboratory analyses on soil samples revealed elevated levels of PCB concentrations beneath the Property. As the analytical results indicated, the PCB concentration at 0.5-foot depth ranged between 1.2 mg/kg at SB-3 and 2,760 mg/kg at SB-14, see Table-1. The concentration of PCB at 4-foot depth ranged between non-detect (ND) at SB-3 and 1,990 mg/kg at SB-5. Appendix A shows the laboratory reports and chain of custody forms.

Figure-3 shows the PCB concentrations at 0.5-foot depth. Figure-4 shows the PCB concentrations at 4-foot depth. A three-dimensional representation of PCB concentration beneath the Property has been shown on Figure 5. As Figure 3 shows, significant concentrations of PCB at 0.5-foot depth was detected at the

northern boundary of the Property next to 62nd Street. At the western boundary of the Property next to the U.S. Post Office, elevated levels of PCB were also detected at 0.5 and 4-foot depths.

As Figure-6 shows, in general, concentration of PCB significantly decreases by depth. The PCB concentrations were detected in limited areas at a 4-foot depth. For instance, the high concentration of PCB at a 4-foot depth was only detected at three soil boring locations of SB-11, SB-5 and SB-6. The SB-11 is located toward the eastern side of the Property, while SB-5 and SB-6 are located at the western Property boundary adjacent to the U.S. Post Office site.

Recommendation For Further Investigation

Although the results of the current investigation revealed the presence of elevated levels of PCB at the property, it failed to delineate the horizontal extent of PCB contamination beneath the site. As it was discussed earlier, elevated levels of PCB were detected at 0.5-foot depth at the western edge of the Property next to the U.S. Post Office. In order to define the aerial extent of PCB contamination within the Heritage Square Parking lot, SOMA proposes to drill eighteen additional soil borings along the western and the central portion of the Property. Figure-6 shows the locations of the proposed soil borings. Like previous soil borings, the new soil borings will be drilled to a maximum 4-foot depth using a hollow-stem auger. Two soil samples will be collected at 0.5 and 3.5-4-foot intervals. The soil samples will be sent to a certified environmental laboratory for analysis using EPA Method 8082.

Based on our discussion with Ms. Susan Hugo of ACEHS, during construction of the U.S. Post Office site, soil samples have been collected and analyzed for PCBs. The results of the laboratory analyses on soil samples from the U.S. Post office are available at the ACEHS offices. After collecting the additional PCB data along the western edge of the Property, data from the U.S. Post office site

will be used to delineate the horizontal extent of PCB contamination in on-site areas.

Upon completion of the fieldwork and delineation of PCB-impacted areas, SOMA will prepare a written report and submit to the ACDEH and the RWQCB for review. The report will include a description of field activities, results of laboratory analyses, figures and tables showing the extent of PCBs impacted areas and proposed remediation procedures.

Figures

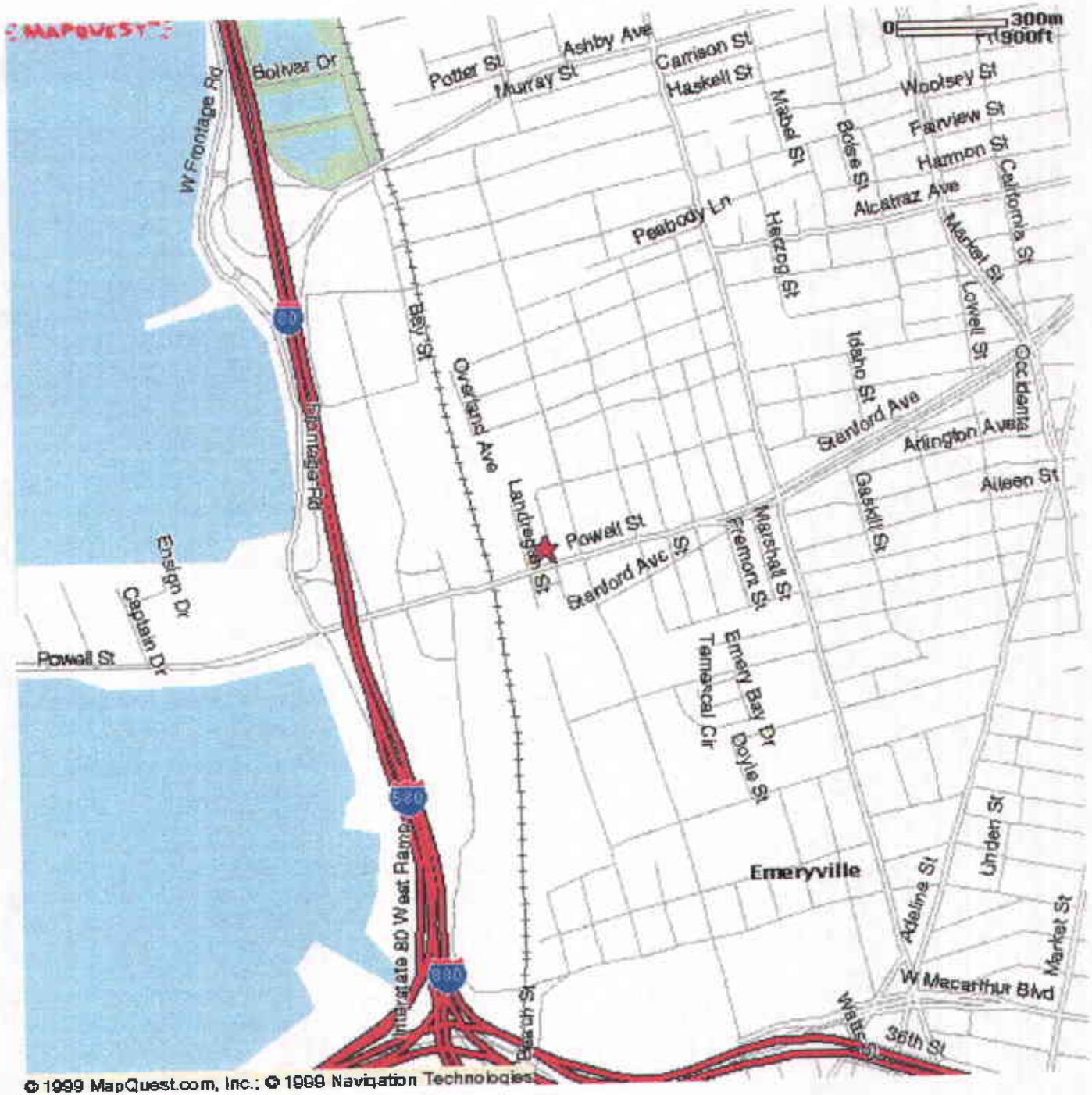


Figure 1: Site Vicinity Map

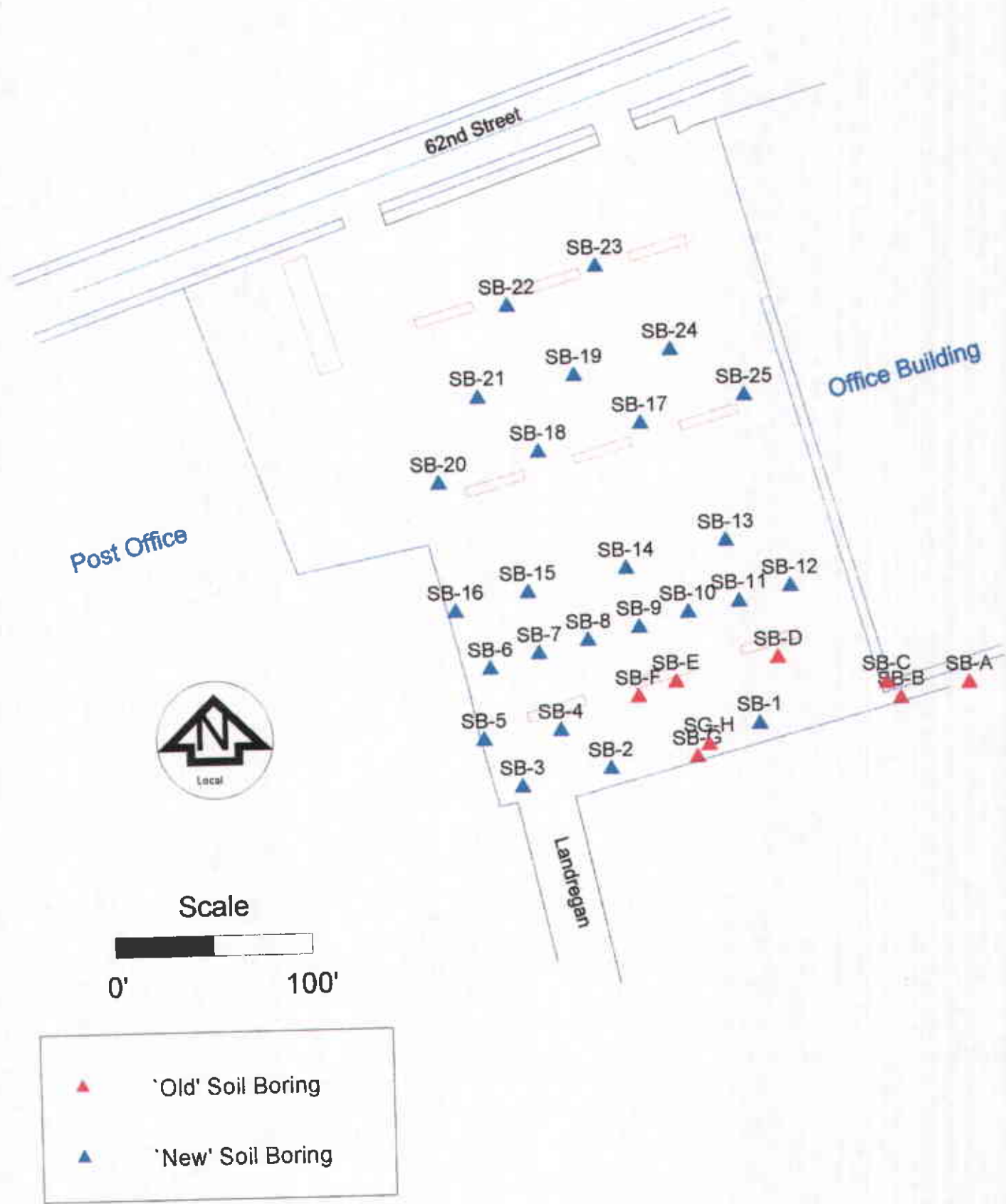


Figure 2: Soil Boring Locations

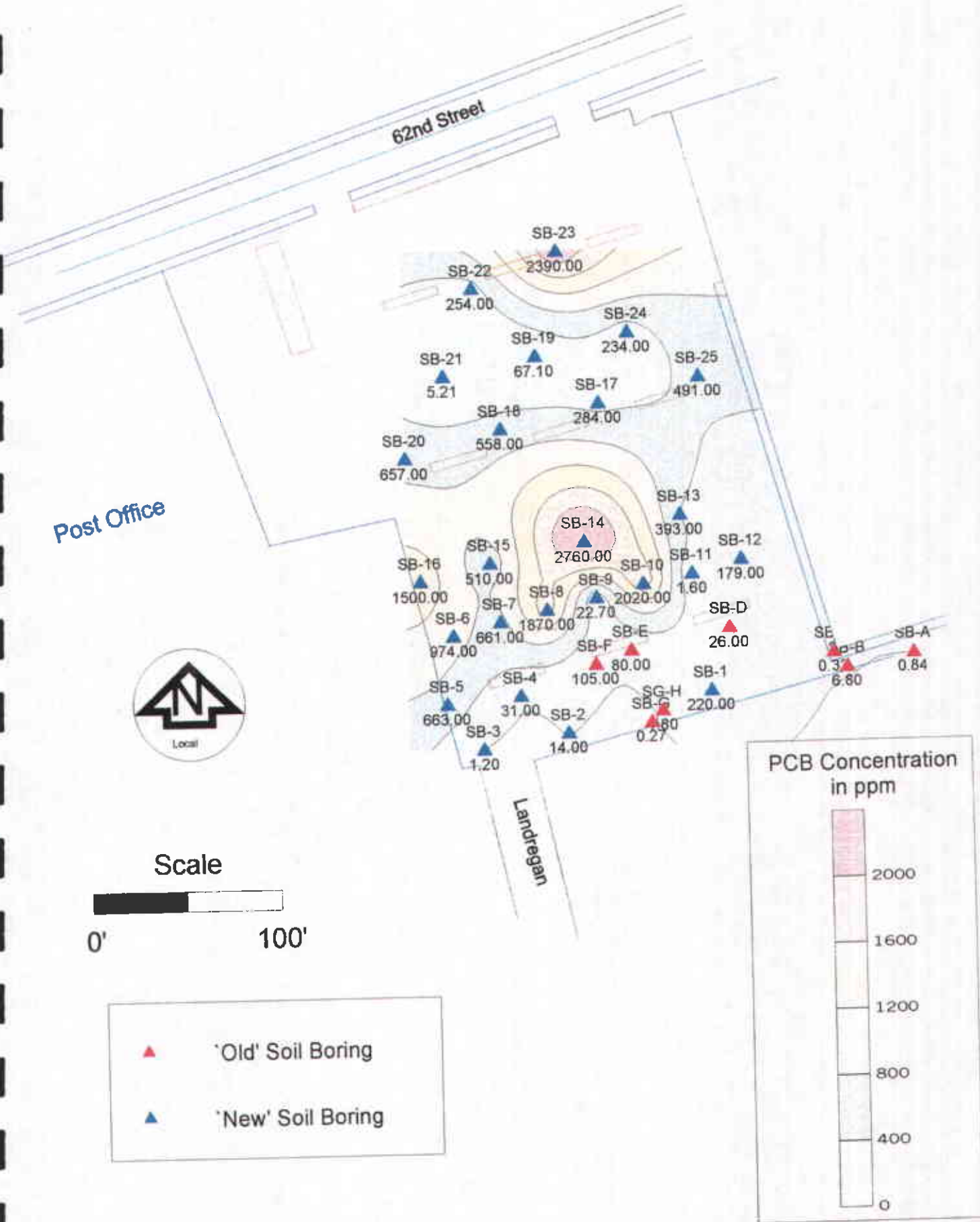


Figure 3: Contour Map of PCB Concentration at 0.5' Depth

62nd Street

Post Office



- ▲ 'Old' Soil Boring
- ▲ 'New' Soil Boring

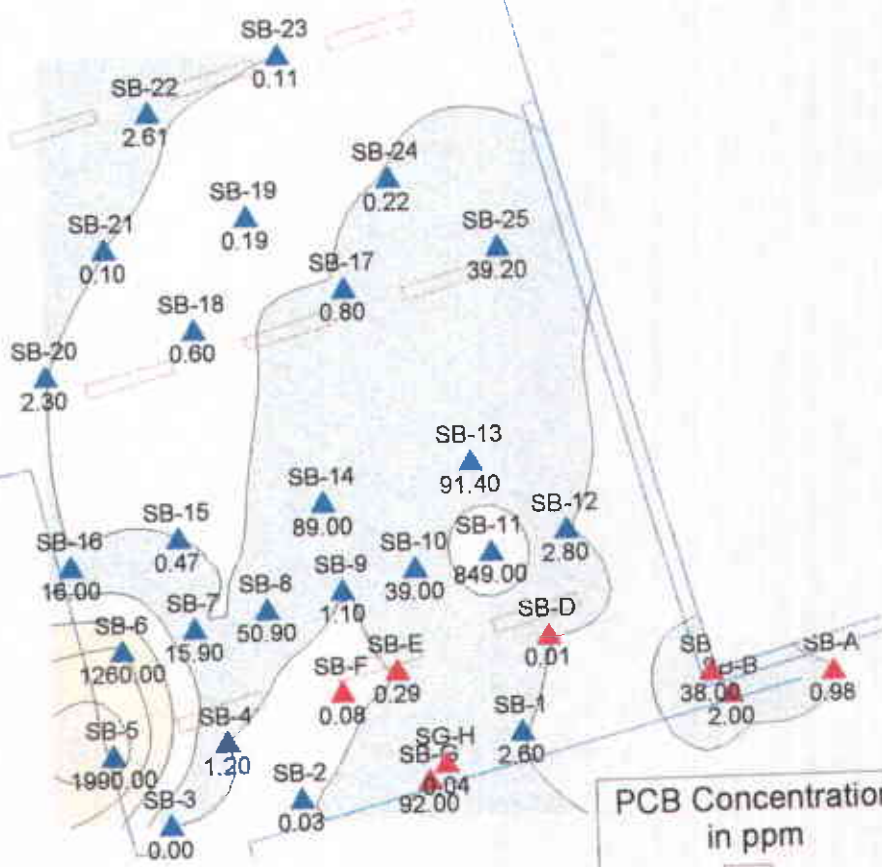
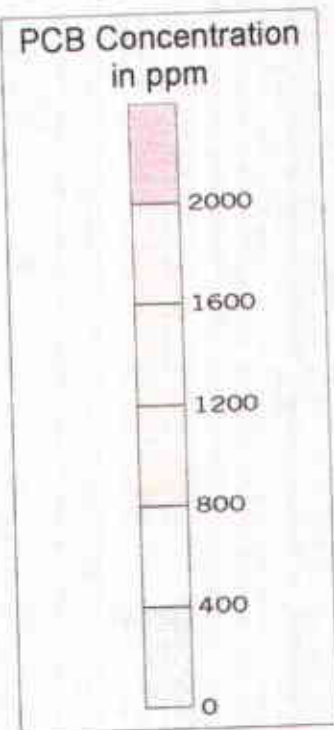
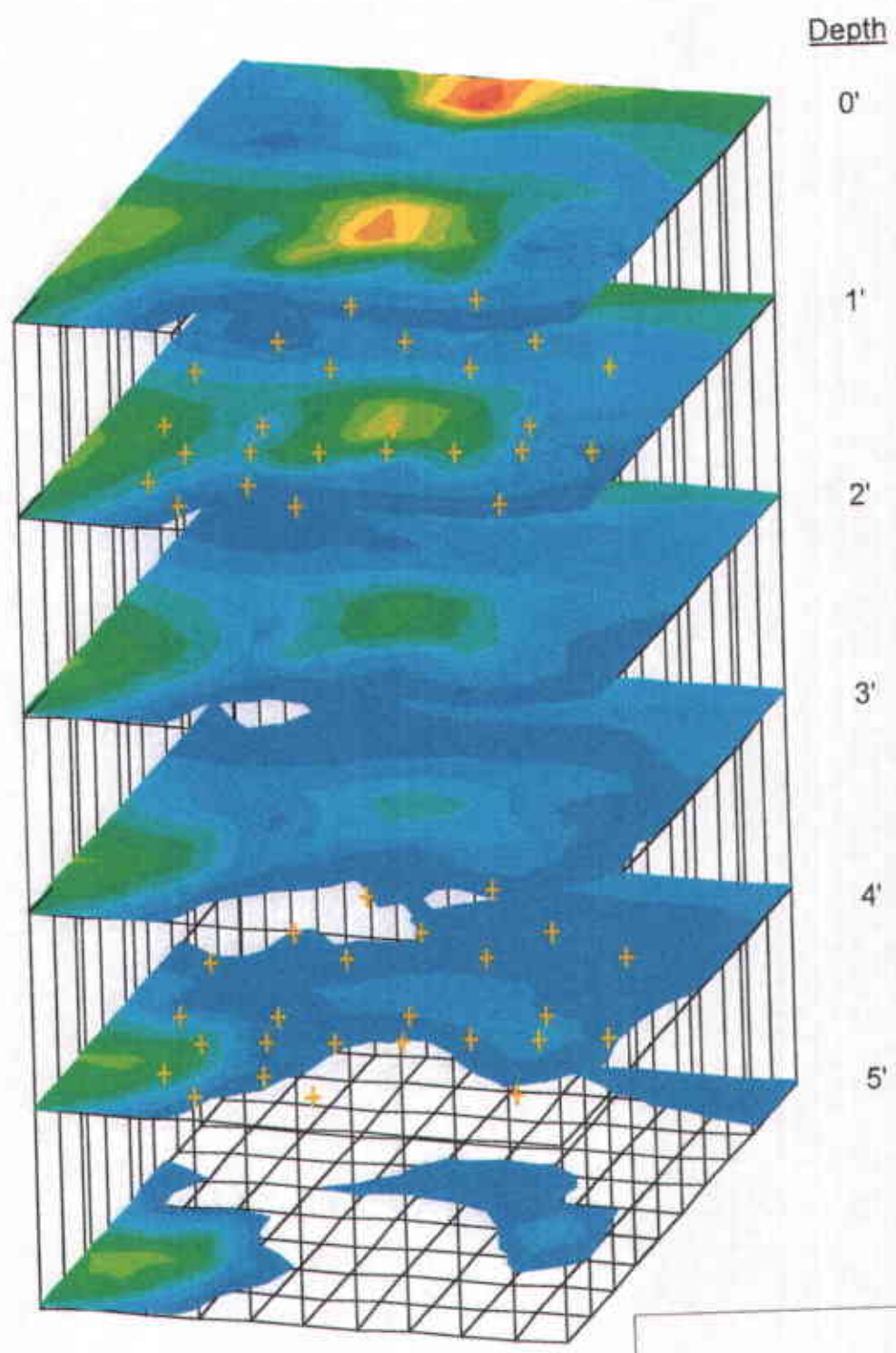
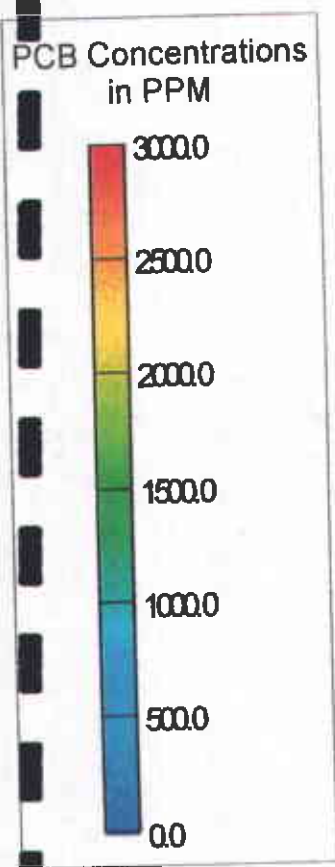


Figure 4: Contour Map of PCB Concentration in Soil at 4' Depth



+ Soil Sample Location

Figure 5: 3 Dimensional Model Showing PCB Concentrations

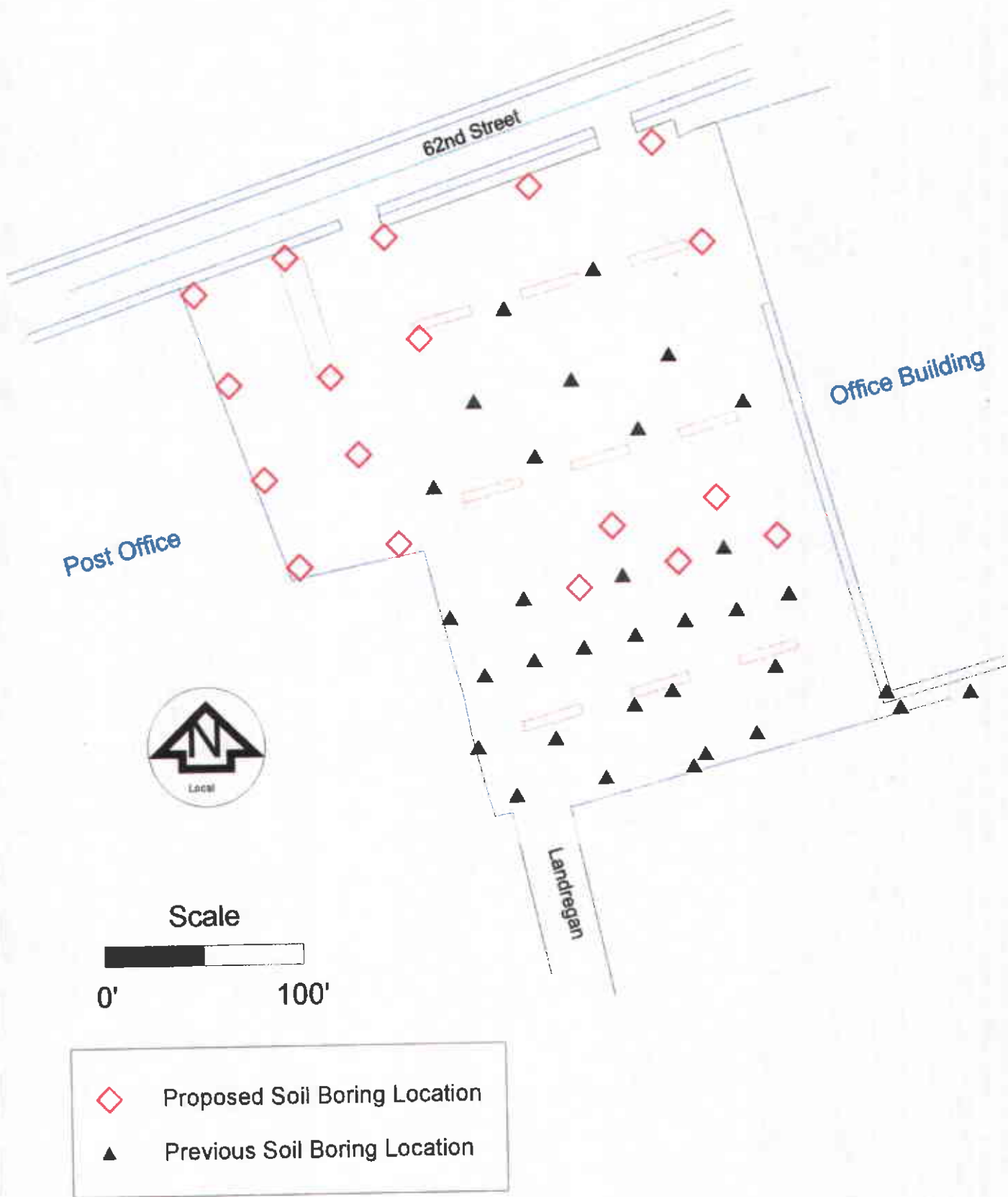


Figure 6: Locations of Proposed Soil Borings

**Table 1: Analytical Results on Soil Samples Collected
From Heritage Square Property**

Soil Boring	Date Collected	PCB Concentration at .5 foot depth in mg/Kg	PCB Concentration at 4 foot depth in mg/Kg
SB-1	30-Jan-00	220.00	2.60
SB-2	30-Jan-00	14.00	0.03
SB-3	30-Jan-00	1.20	0.00
SB-4	06-Feb-00	31.00	1.20
SB-5	06-Feb-00	663.00	1,990.00
SB-6	06-Feb-00	974.00	1,260.00
SB-7	06-Feb-00	661.00	15.90
SB-8	06-Feb-00	1,870.00	50.90
SB-9	06-Feb-00	22.70	1.10
SB-10	06-Feb-00	2,020.00	39.00
SB-11	06-Feb-00	1.60	849.00
SB-12	06-Feb-00	179.00	2.80
SB-13	06-Feb-00	393.00	91.40
SB-14	06-Feb-00	2,760.00	89.00
SB-15	06-Feb-00	510.00	0.47
SB-16	06-Feb-00	1,500.00	16.00
SB-17	06-Feb-00	284.00	0.80
SB-18	06-Feb-00	558.00	0.60
SB-19	06-Feb-00	67.10	0.19
SB-20	06-Feb-00	657.00	2.30
SB-21	06-Feb-00	5.21	0.10
SB-22	06-Feb-00	254.00	2.61
SB-23	06-Feb-00	2,390.00	0.11
SB-24	06-Feb-00	234.00	0.22
SB-25	06-Feb-00	491.00	39.20

APPENDIX A

LABORATORY REPORTS AND CHAIN

OF CUSTODY FORMS

Quality Control Report

Client:

Soma Environmental Eng. Inc
 2680 Bishop Dr., Suite 203
 San Ramon, CA 94583

Ref.: Q4728pcb
 Method: 8080
 Sampled: 2/1/00
 Received: 2/1/00
 Matrix: soil
 Analyzed: 2/12,15/00
 Analyst: DS/LP
 Reported: 2/17/00
 Units: mg/kg

Client Project ID:
 2176
 Off-site CBC
 Heritage Square

Attention : Dr. M. Sepehr

Sample Spiked : SB Blank

Quality Control Report for PCB's
 EPA 8080/8082

Analyte	Detection Limit mg/kg	Sample Result mg/kg	Spike Added mg/kg	% MS Recovery	% MSD Recovery	Relative % Difference RPD	Method
PCB 1260	0.02	ND	0.1	68	66	3.0	8080

Delta Environmental Laboratories



H. Khosh Khoo, PhD.,
 Laboratory Director/President

Qtmp800_pcbsoil

Client:
Soma Environmental Eng. Inc
2680 Bishop Dr., Suite 203
San Ramon, CA 94583

Client Project ID:
2176
Off-site CBC
Parking Lot
Heritage Square

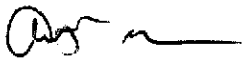
Ref: R4728pcb
Method: 8080
Sampled: 1/30/00
Received: 2/1/00
Matrix: Solid
Analyzed: 2/12-15/00
Reported: 2/17/00
Units: mg/kg

Attention: Dr. Sepehr

Analytical Results for PCBs
EPA 8080

Analyte	Detection Limit mg/kg	Results					
		Sample ID					
		SB1-0.5'	SB1-4.0'	SB2-0.5'	SB2-4.0'	SB3-0.5'	SB3-4.0'
PCBs							
PCB 1016	0.02	ND	ND	ND	ND	ND	ND
PCB 1221	0.08	ND	ND	ND	ND	ND	ND
PCB 1232	0.02	ND	ND	ND	ND	ND	ND
PCB 1242	0.02	ND	ND	ND	ND	ND	ND
PCB 1248	0.02	ND	ND	ND	ND	ND	ND
PCB 1254	0.02	ND	ND	ND	ND	ND	ND
PCB 1260	0.02	220	2.6	14	0.03	1.2	ND

ND:Not Detected(<MDL)



Hossein Khosh Khoo, Ph.D.
Laboratory Director/President

Quality Control Report

Client:

Soma Environmental Eng. Inc
 2680 Bishop Dr., Suite 203
 San Ramon, CA 94583

Ref.: Q4751pcb1
 Method: 8080
 Sampled: 2/6/00
 Received: 2/7/00
 Matrix: soil
 Analyzed: 2/12/17/00
 Analyst: DS/LP
 Reported: 2/17/00
 Units: mg/kg

Client Project ID:
 2176
 Off-site CBC

Attention : Dr. M. Sepehr

Sample Spiked :Blank

Quality Control Report for PCB's
 EPA 8080/8082

Analyte	Detection Limit mg/kg	Sample Result mg/kg	Spike Added mg/kg	% MS Recovery	% MSD Recovery	Relative % Difference RPD	Method
PCB 1260	0.02	ND	0.10	101	99	2.0	8080

Delta Environmental Laboratories

H.Khosh Khoo, PhD.,
 Laboratory Director/President

Qtmp800_pcbsoil

Quality Control Report

Client:

Soma Environmental Eng. Inc
 2680 Bishop Dr., Suite 203
 San Ramon, CA 94583

Ref.: Q4751pcb2
 Method: 8080
 Sampled: 2/6/00
 Received: 2/7/00
 Matrix: soil
 Analyzed: 2/12-18/00
 Analyst: DS/LP
 Reported: 2/18/00
 Units: mg/kg

Client Project ID:
 2176
 Off-site CBC

Attention : Dr. M. Sepehr

Sample Spiked :Blank

Quality Control Report for PCB's
 EPA 8080/8082

Analyte	Detection Limit mg/kg	Sample Result mg/kg	Spike Added mg/kg	% MS Recovery	% MSD Recovery	Relative % Difference RPD	Method
PCB 1260	0.02	ND	0.10	108	119	9.7	8080

Delta Environmental Laboratories

H.Khosh Khoo, PhD.,
 Laboratory Director/President

Qtmp800_pcbsoil

Quality Control Report

Client:

Soma Environmental Eng. Inc
 2680 Bishop Dr., Suite 203
 San Ramon, CA 94583

Ref.: Q4751pcb3
 Method: 8080
 Sampled: 2/6/00
 Received: 2/7/00
 Matrix: soil
 Analyzed: 2/12,18/00
 Analyst: DS/LP
 Reported: 2/18/00
 Units: mg/kg

Client Project ID:
 2176
 Off-site CBC

Attention : Dr. M. Sepehr

Sample Spiked : SB21-4.0

Quality Control Report for PCB's
 EPA 8080/8082

Analyte	Detection Limit mg/kg	Sample Result mg/kg	Spike Added mg/kg	% MS Recovery	% MSD Recovery	Relative % Difference RPD	Method
PCB 1260	0.02	0.1	0.4	86	88	2.3	8080

Delta Environmental Laboratories

H.Khosh Khoo, PhD.,
 Laboratory Director/President

Qtmp800_pcbsoil

Client:
Soma Environmental Eng. Inc
2680 Bishop Dr., Suite 203
San Ramon, CA 94583

Client Project ID:
2176
Off-site CBC
Investigation
Emeryville, CA

Ref: R4751pcb1
Method: 8080
Sampled: 2/6/00
Received: 2/7/00
Matrix: Solid
Analyzed: 2/12-17/00
Reported: 2/17/00
Units: mg/kg

Attention: Dr. Sepehr

Analytical Results for PCBs
EPA 8080

Analyte	Unit mg/kg	Results						
		Analytes						
Detection Limit	mg/kg	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260
		0.02	0.08	0.02	0.02	0.02	0.02	0.02
Sample Name								
SB4-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	31.0
SB4-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	1.20
SB5-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	663
SB5-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	1990
SB6-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	974
SB6-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	1260
SB7-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	661
SB7-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	15.9
SB8-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	1870
SB8-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	50.9
SB9-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	22.7
SB9-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	1.10
SB10-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	2020
SB10-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	39.0
SB11-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	1.60
SB11-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	849
SB12-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	179
SB12-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	2.80
SB13-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	393
SB13-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	91.4
SB14-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	2760
SB14-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	89.0
SB15-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	510
SB15-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	0.47
SB16-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	1500
SB16-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	16.0
SB17-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	284
SB17-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	0.80
SB18-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	558
SB18-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	0.60

ND: Not Detected (<MDL)



Hossein Khosh Khoo, Ph.D.
Laboratory Director/President

Client:
Soma Environmental Eng. Inc
2680 Bishop Dr., Suite 203
San Ramon, CA 94583

Client Project ID:
2176
Off-site CBC
Investigation
Emeryville, CA

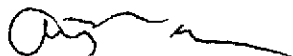
Ref: R4751pcb2
Method: 8080
Sampled: 2/6/00
Received: 2/7/00
Matrix: Solid
Analyzed: 2/12-17/00
Reported: 2/17/00
Units: mg/kg

Attention: Dr. Sepehr

Analytical Results for PCBs
EPA 8080

Analyte	Unit mg/kg	Results						
		Analytes						
Detection Limit	mg/kg	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260
		0.02	0.08	0.02	0.02	0.02	0.02	0.02
Sample Name								
SB19-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	67.1
SB19-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	0.19
SB20-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	657
SB20-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	2.30
SB21-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	5.21
SB21-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	0.10
SB22-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	254
SB22-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	2.61
SB23-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	2390
SB23-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	0.11
SB24-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	234
SB24-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	0.22
SB25-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	491
SB25-4.0'	mg/kg	ND	ND	ND	ND	ND	ND	39.2

ND:Not Detected(<MDL)



Hossein Khosh Khoo, Ph.D.
Laboratory Director/President

Soma Environmental Eng., Inc.
2680 Bishop Dr., Suite 203
San Ramon, CA 94583

Client Project ID:
2176
Off-site CBC
Investigation
Emeryville, CA

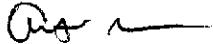
Ref.: R4751pcbW
Method: 8080
Sampled: 2/6/00
Received: 2/7/00
Matrix: Water
Analyzed: 2/16-17/00
Reported: 2/17/00
Units: ug/kg

Attention: Dr. Sepehr

Analytical Results for Pesticides and PCBs

Analyte	Detection Limit ug/kg	Results
		Sample ID
		SBG GW
PCBs		
PCB 1016	0.50	ND
PCB 1221	0.50	ND
PCB 1232	0.50	ND
PCB 1242	0.50	ND
PCB 1248	0.50	ND
PCB 1254	0.50	ND
PCB 1260	0.50	ND

ND: Not Detected (< MDL)



Delta Environmental Laboratories
Hossein Khosh Khoo, Ph.D.

Rtmp800_pcbW

Quality Control Report

ENVIRONMENTAL LABORATORIES, Ltd

Soma Environmental Eng., Inc.
2680 Bishop Dr., Suite 203
San Ramon, CA 94583

Client Project ID:
2176
Off-site CBC
Investigation
Emeryville, CA

Ref.: Q4751pcbW
Method: 8080
Sampled: 2/6/00
Received: 2/7/00
Matrix: Water
Analyzed: 2/16-17/00
Analyst: DS
Reported: 02/17/00
Units: ug/L

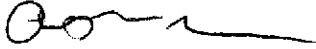
Attention: Dr. Sepehr

Sample Spiked: Blank

Quality Control Report for PCB's
EPA 8080/8082

Analyte	Detection Limit ug/L	Sample Result ug/L	Spike Added ug/L	% MS Recovery	% MSD Recovery	Relative % Difference RPD	Method
PCB 1260	0.5	ND	200	102	104	1.9	8080

Delta Environmental Laboratories



H. Khosh Khoo, PhD.,
Laboratory Director/President

Qtmp800_PCBw

Delta Environmental Laboratories



Chain of Custody (COC) Form

625 Stone Road #11 & 12

Benicia, Ca. 94510

(707) 747-6081, 800-747-6082 FAX (707) 747-6082

Results to: <u>Naser Pakrou</u>
Client Name: <u>SOMA</u>
Address:
City: <u>9LS 2446600</u>
Telephone: <u>925 244 6601</u> Fax: <u>925 244 6601</u>
SAMPLE (signature): <u>[Signature] Naser Pakrou</u>
Turnaround Time: <u>Standard</u>

Project Name: Proj 2176
CBS-OPP-SITE
 LAB ID Investigation
 Ref # Emerville CA

4751 (15)

No. of containers	pH	Temperature	Analysis Requested
		<u>CBS</u>	

Special Instructions:

#	Sample ID	Date	Time	Matrix	1	2	3	4	5	6	7	8	9	10	Comments
1	SB4-0.5'	2/6/00		Soil											
2	SB4-4'														
3	SB5-0.5'														
4	SB5-4'														
5	SB6-0.5'														
6	6-4.0'														
7	7-0.5'														
8	7-4.0'														
9	8-0.5'														
10	8-4.0'														

Requisitioned by: <u>[Signature]</u>	Date: <u>2/7/00</u>	1)
Received by: <u>[Signature]</u>	Date: <u>2/7/00</u>	2)
Requisitioned by:	Date:	3)

- 1) Have all samples received been stored on ice? _____
- 2) Did any VOA samples received have any head space? _____
- 3) Were samples in appropriate containers and packaged properly? _____

Delta Environmental Laboratories



Chain of Custody (COC) Form

685 Stone Road #11 & 12

San Jose, Ca, 95110

(707) 747-6081, 800-747-6082 FAX (707) 747-6082

Results to:	
Client Name	
Address	
City	
Telephone	Fax
SAMPLE (signature)	
Turnaround Time	

No. of containers	Temp	Temperature	Analysis Requested
		PCB's	

Project Name _____

LAB ID _____

Ref # _____

4756

475

Special Instructions:

#	Sample ID	Date	Time	Matrix						Comments
31	SB 19 - 0.5'	2/6/00		Soil	X					
32	19 - 4.0'				X					
33	20 - 0.5'				X					
34	20 - 4.0'				X					
35	21 - 0.5'				X					
36	21 - 4.0'				X					
37	22 - 0.5'				X					
38	22 - 4.0'				X					
39	23 - 0.5'				X					
40	23 - 4.0'				X					

Reinquisitioned by:	Date
Received By:	Date 2/7/00
	Date

- 1) Have all samples received been stored on ice? _____
- 2) Did any VCA samples received have any head space? _____
- 3) Were samples in appropriate containers and packaged properly? _____

