

SHIC 5760

August 9, 2000



Ms. Susan Hugo
Senior Hazardous Material Specialist
Alameda County Health Care Agency
Environmental Health Services
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577

Project No. 2176

Subject: SOMA Environmental Report Entitled "Delineation of the Extent of PCBs Contamination at the Heritage Square Property Located at 6121 Hollis Street, Emeryville, California"

Dear Susan:

A copy of the subject report for your review is enclosed. The report includes a complete delineation of the extent of PCBs impacted soils at the Heritage Square property. The results of extensive field investigation at the site and the soil data for the U.S. Postal Services property, adjacent to the subject site, indicate that the boundaries of the PCBs impacted soils have not extended to the adjacent properties such as U.S. Postal Services site and 62nd Street. As the data indicate the vertical extent of PCBs-impacted soils are quite limited. For instance, at 3.5 feet depths quite few samples have shown elevated levels of PCB concentrations.

Thank you very much for your time and interest that you have expressed on this project. Meanwhile, please do not hesitate to call me at (925) 244-6600, if you have any questions.

Sincerely,

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

09 AUG 10 PM 3:11
ENVIRONMENTAL
ENGINEERING

Ms. Susan Hugo
Alameda County
Page 2 of 2

Attachments:

cc: Dr. Ravi Arulanantham, RWQCB
Mr. Gordon Taylor, Viacom Inc.
Mr. Rich Robbins, Wareham Development Group
Mr. Dan Nourse, Acumen Enterprises

August 8, 2000

**Delineation of the Extent of PCBs
Contamination 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 Viacom inc. (Viacom), successor by corporate name change to CBS Corporation formerly known as Westinghouse Electric Corporation. This report summarizes the results of the current field investigations for further site characterization and 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 workplans dated December 23, 1999 and June 20, 2000 (verbal approval) by the Alameda County Environmental Health Services (ACEHS).

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, sometime between 1950 and 1959, paved over the soil discoloration area.

The scope of the first workplan 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. Upon the execution of the first workplan, elevated levels of PCBs were detected beneath the Site. However, in

order to completely delineate the extent of PCBs in the shallow soils beneath the Site, additional soil borings were needed.

On May 10, 2000, the recommendation for conducting additional investigation in our report entitled "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" was submitted to ACEHS. On June 20, 2000, ACEHS approved SOMA's Workplan for conducting additional investigation at the Site. The current report addresses the distribution of PCBs under the Site based on the results of previous and current investigations approved by ACEHS.

The results of the previous investigation have indicated elevated levels of PCBs at the western boundary of the site adjacent to U.S. Post office property. For complete delineation of the PCB-impacted soils, SOMA has utilized the results of the soil investigation conducted by Harding Lawson Associates (HLA) in 1990.

Field Activities

The initial field investigations were conducted on January 29, 2000. However, on January 29, 2000 due to heavy rain only 4 soil borings were drilled and sampled. On February 6, 2000, an additional 21 soil borings were drilled and sampled. The soil boring locations were based on the review of historical aerial photos from 1931 through 1981. Additional field investigation was conducted on June 24, 2000 for delineation of PCB-impacted soil at the Site. During this period 22 additional soil borings (SB-26 through SB-47) were drilled and sampled.

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 by Enviro Soil Tech Consultants 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 8082.

Analytical Results

The results of the most recent laboratory analyses on soil samples revealed elevated levels of PCB concentrations beneath the Site. As the analytical results indicated, the PCB concentration at 0.5-foot depth ranged between non-detect (ND) and 3,300 mg/kg, see Table-1. The concentration of PCB at 3.5-4-foot depth ranged between non-detect (ND) and 5.5 mg/kg. Appendix A shows the laboratory reports and chain of custody forms.

To delineate the extent of PCB contamination, SOMA utilized the results of the soil investigation conducted by the U.S. Post Office site, located to the west of the Site. The depth of the soil samples collected at the U.S. Post Office site ranged between 0.5 to 9 feet. In the early 1990s, the soil samples were collected by Harding Lawson Associates (HLA) and Lowney Associates from the U.S. Post Office site. The concentration of soil samples collected at the U.S. Post Office site ranged between ND and 52 mg/kg. The maximum concentration of PCB at 52 mg/kg was encountered at 1.2-2 feet bgs at PO-15. However, the results of the laboratory analysis on a duplicate soil sample collected from PO-15 showed only 17 mg/kg PCB at this location, see Table-1.

Figure-3 shows the PCB concentrations at 0.5-foot depth using the results of the current site investigation by SOMA and the previous soil investigation results conducted by HLA and Lowney Associates in the early 1990s. Figure-4 shows the PCB concentrations at a 4-foot depth. A three-dimensional representation of PCB concentration beneath the Property has been shown on Figure 5. 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. However, as the data indicate no significant PCB concentration was detected at the U.S. Post Office site.

The results of the current investigation by SOMA indicate that the presence of PCBs beneath 62nd Street is very limited to non-existent. One significant concentration of PCBs at the 0.5-foot depth was detected in SB-43 at the northern boundary of the property next to 62nd Street. Figure-3 shows the horizontal extent of PCB contamination at 0.5 ft. below ground surface.

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 3.5-4-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.

Conclusion

The results of the current investigation revealed the lateral extent of PCB contamination at 0.5 and 3.5-4 feet bgs beneath the property. As the data indicate, the vertical extent of PCB contamination is quite limited. At about 3.5-4 feet bgs the concentration of PCBs drastically reduces to non-detect levels.

As the data indicate, the majority of near surface soils (0.5 foot depth, just below asphalt) have been impacted heavily by PCBs. For instance 23 out of 47 soil

samples collected from 0.5 depth interval contains more than 50 mg/kg PCBs. However, only 6 out of 47 soil samples collected from 3.5-4-depth contained elevated levels of PCBs (more than 50 mg/kg). As the results of the previous soil investigations revealed, no significant levels of PCBs were present at the U.S Post Office Site. PCB concentrations beneath 62nd Street are very limited to non-existent based upon the most recent sampling along the northern boundary of the property. It appears the majority of the PCB mass beneath the Heritage Square Site has been accumulated in the central portion of where the historical aerial photos showed liquid ponding/white soil discoloration at this location.

TABLES

WEC
 0.5 ppm Leachfield
 2.85 Industrial/Commercial
 5.45 Utility/Residential

RWDGCS RBCA
 0.058 ppm Residential
 0.26 ppm Industrial

Table 1

PCB Concentration Detected in Soils Samples Collected From Heritage Square and U.S. Post Office Site, Emeryville, California

Boring	PCB Concentration in ppm				
	0.5 ft depth	1.5 ft depth	3.5 ft depth	6.5 ft depth	9 ft depth
B-4				<.05	<.05
B-5				<.05	<.05
B-6				<.05	<.05
B-9				* 21.00	<.05
B-10					<.05
PO-10	2.10	2.00			
PO-14	0.41	0.36	<.028		
PO-15	0.03	* 34.50			
PO-16	0.10	<.028	<.028		
PO-17	<.028	<.028	<.028		
SB-1	* 220.00		2.60		
SB-2	14.00		0.03		
SB-3	1.20		<.02		
SB-4	31.00		1.20		
SB-5	* 663.00		* 1,990.00		
SB-6	* 974.00		* 1,260.00		
SB-7	* 661.00		15.90		
SB-8	* 1,870.00		* 50.90		
SB-9	22.70		1.10		
SB-10	* 2,020.00		* 39.00		
SB-11	1.60		* 849.00		
SB-12	* 179.00		2.80		
SB-13	* 393.00		* 91.40		
SB-14	* 2,760.00		* 89.00		
SB-15	* 510.00		0.47		
SB-16	* 1,500.00		* 16.00		
SB-17	* 284.00		0.80		
SB-18	* 558.00		0.60		
SB-19	67.10		0.19		
SB-20	* 657.00		2.30		
SB-21	5.21		0.10		
SB-22	* 254.00		2.61		
SB-23	* 2,390.00		0.11		
SB-24	* 234.00		0.22		
SB-25	* 491.00		* 39.20		
SB-26	<.20		<.20		
SB-27	* 35.40		5.50		
SB-28	* 28.40		1.40		
SB-29	<.20		<.20		
SB-30	* 3,300.00		<.20		
SB-31	<.20		<.20		
SB-32	* 320.00		<.20		
SB-33	0.64		<.20		
SB-34	<.20		<.20		

Table 1

PCB Concentration Detected in Soils Samples Collected From Heritage Square and U.S. Post Office Site, Emeryville, California

Boring	PCB Concentration in ppm				
	0.5 ft depth	1.5 ft depth	3.5 ft depth	6.5 ft depth	9 ft depth
SB-35	<.20		<.20		
SB-36	3.12		<.20		
SB-37	<.20		<.20		
SB-38	2.71		0.35		
SB-39	8.20		0.22		
SB-40	<.20	<.20	<.20		
SB-41	<.20	<.20	<.20		
SB-42	* 83.20		1.32		
SB-43	* 2,440.00		0.26		
SB-44	* 19.70		<.20		
SB-45	1.20		<.20		
SB-46	<.20		<.20		
SB-47	<.20		<.20		
SB-A	0.84		0.98		
SB-B	6.80		2.00		
SB-C	0.33		38.00		
SB-D	* 26.00		0.01		
SB-E	* 80.00		0.29		
SB-F	* 105.00		0.08		
SB-G	0.27		92.00		
SG-H	1.80		0.04		

B are samples by Harding Lawson Associates collected January, 1992, see Appendix A.

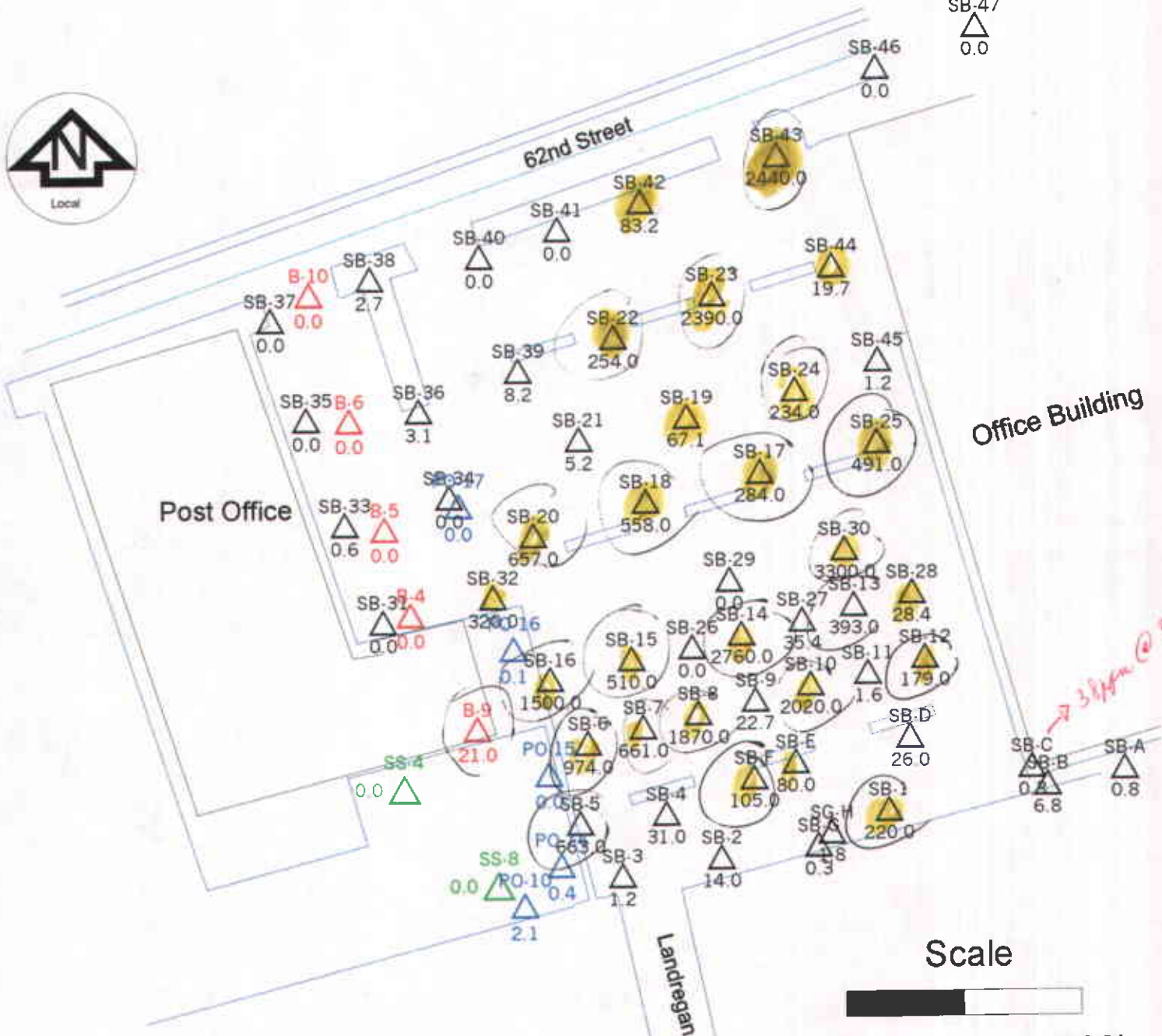
PO are samples by Harding Lawson Associates collected August, 1990, see Appendix A.

SB are samples by SOMA environmental collected April and June, 2000.

FIGURES



SB-47
0.0







-  Soil Boring by Harding Lawson Associates (01-92)
-  Soil Boring by Harding Lawson Associates (08-90)
-  Soil Boring by Lowney Associates (?)
-  Soil Boring by SOMA (4-00 and 6-00)

Figure 1: Soil Boring Data from Previous Contractors



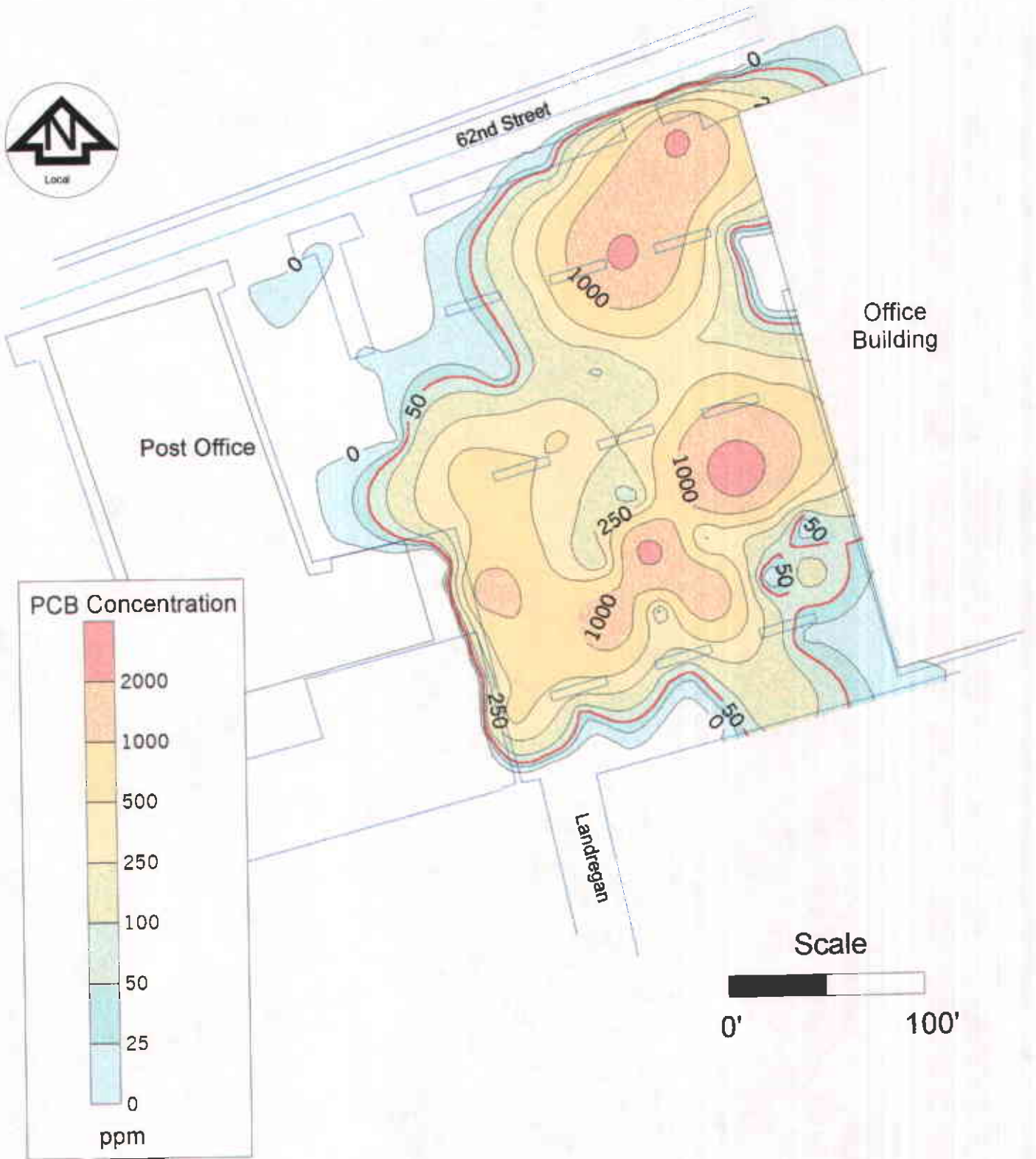


Figure 2: Contour Map of PCB Concentrations (ppm) at 0.5' Depth

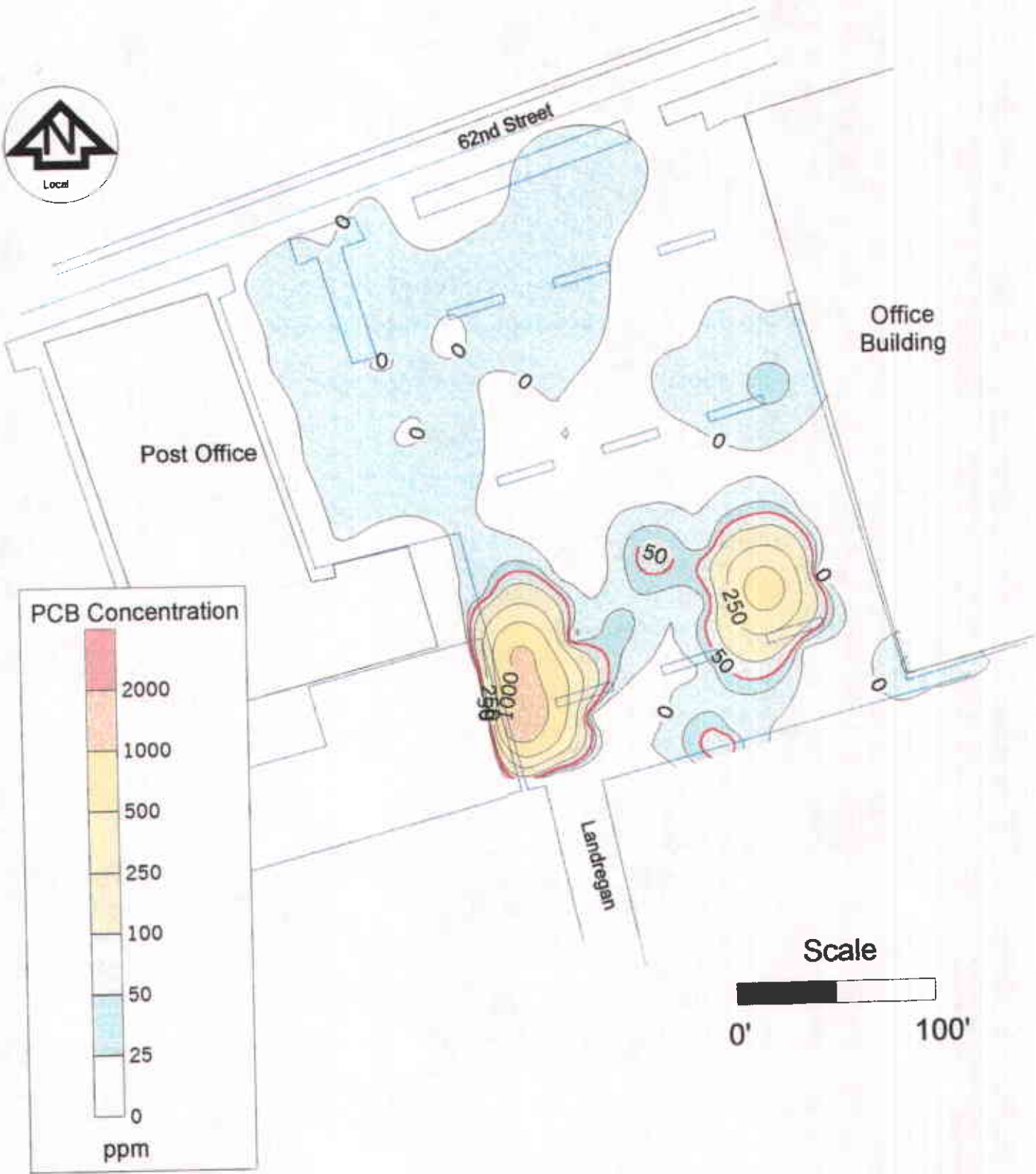


Figure 3: Contour Map of PCB Concentrations (ppm) at 3.5' Depth

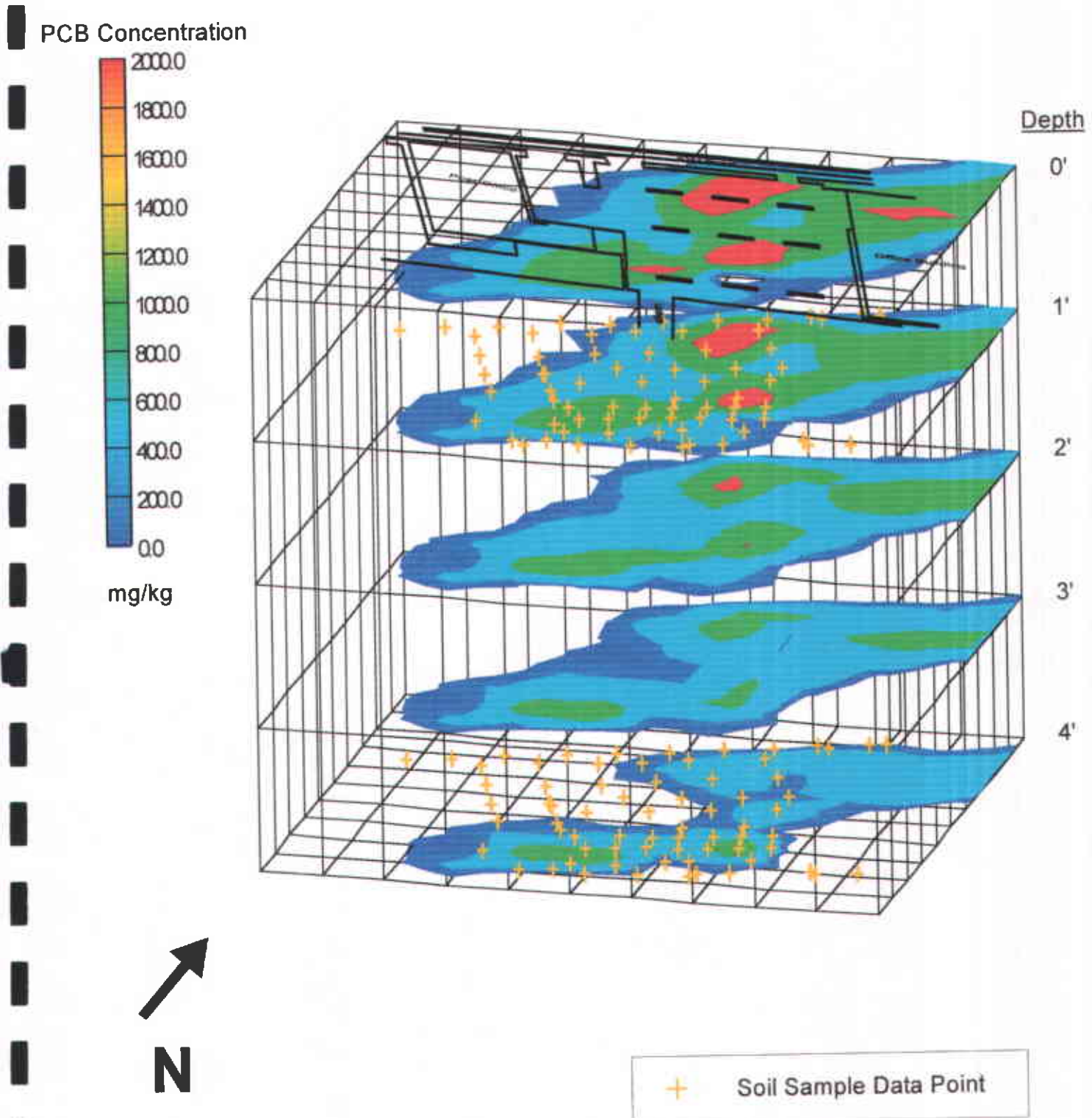


Figure 4: Three-Dimensional Contour Map of PCB Concentrations

APPENDIX A
LABORATORY REPORTS
AND CHAIN OF CUSTODY FORMS

WATER • WASTE WATER • HAZARDOUS WASTE • FUEL • AIR • SOIL

DELTA

ENVIRONMENTAL LABORATORIES, Ltd

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: R5071_pcb_1
Method: 8080
Sampled: 6/24/00
Received: 6/24/00
Matrix: Soil
Analyzed: 7/1-7/00
Reported: 7/10/00
Units: mg/kg

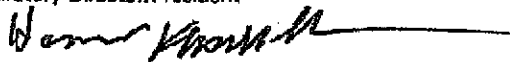
Attention: Dr. Sepehr

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 1246	PCB 1254	PCB 1260
		0.20	0.80	0.20	0.20	0.20	0.20	0.20
Sample Name								
26-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
26-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
27-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	36.4
27-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	5.50
28-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	28.4
28-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	1.4
28-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
29-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
30-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	3300
30-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
31-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
31-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
32-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	320
32-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
33-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	0.64
33-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
34-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
34-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
35-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
35-0.35'	mg/kg	ND	ND	ND	ND	ND	ND	ND
36-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	3.12
36-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
37-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
37-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND

ND: Not Detected (<MDL)

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





WATER • WASTE WATER • HAZARDOUS WASTE • FUEL • AIR • SOIL

ENVIRONMENTAL LABORATORIES, Ltd

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: R5071_pcb_2
Method: 8080
Sampled: 6/24/00
Received: 6/24/00
Matrix: Soil
Analyzed: 7/11-7/00
Reported: 7/10/00
Units: mg/kg

Attention: Dr. Sepsir

Analytical Results for PCBs
EPA 8080

Analyte	Unit mg/kg	Results Analytes						
		PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260
Detection Limit	mg/kg	0.20	0.80	0.20	0.20	0.20	0.20	0.20
Sample Name								
38-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	2.71
38-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	0.35
39-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	8.2
39-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	0.22
40-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
40-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
41-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
41-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
42-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	83.2
42-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	1.32
43-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	2440
43-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	0.26
44-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	19.7
44-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
45-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	1.20
45-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
46-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
46-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
47-0.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND
47-3.5'	mg/kg	ND	ND	ND	ND	ND	ND	ND

ND: Not Detected (< MDL)

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

Delta Environmental Laboratories

Chain of Custody (COC) Form

685 Stone Road #11 & 12
Benicia, Ca, 94510

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

07/11/00 TUE 14:27 FAX 17077476082 D-E-L-T-A

Results to: Naser Park 100

Client Name: SOMA ENV. ENY.

Address: _____

City: _____

Telephone: 925 244 6600 Fax: 925 244 6601

SAMPLER (signature): Naser Park

Turnaround Time: Standard

Project Name

CB5 OPP SITE

Proj. 2176

LAB ID

Emeryville CA.

Ref #

5071

1/5

Analysis Requested

No. of containers

pH

Temperature

PCBS

Special Instructions:

#	Sample ID	Date	Time	Matrix	Analysis Requested		Comments
					No. of containers	Temperature	
1	26-0.5	6/28		Soil	1	✓	
2	26-3.5	✓			1	✓	
3	27-0.5	✓			1	✓	
4	27-3.5	✓			1	✓	
5	28-0.5	✓			1	✓	
6	28-3.5	✓			1	✓	
7	29-0.5	✓			1	✓	
8	29-3.5	✓			1	✓	
9	30-0.5	✓			1	✓	
10	30-3.5	✓			1	✓	

Relinquished by: [Signature] Date: 6/28/00

Received By: [Signature] Date: 6/28/00

Relinquished by: _____ Date: _____

Received By: _____ Date: _____

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? _____

4) Were samples received in good condition? _____

For Lab Use Only:

005
 JUL. 11. 2000 10:42 AM
 PHONE NO. : 510 244 6801

D-E-L-T-A

07/11/00 TUE 14:29 FAX 17077476082

FROM : SOMA ENVIRONMENTAL ENGINEERING

635 Santa Fe Road #11 & 17
 Benicia, Ca, 94510
 (707) 747-6081, 800-747-6082 FAX (707) 747-6082

RESULTS TO: Nabar Paklou
 Client Name SOMA Env. Eng
 Address _____
 City _____
 Telephone 925 244 6600 Fax 925 244 6601
 SAMPLER (signature) [Signature]
 Turnaround Time Standard

Project Name

CBS off-site
Proj 217.6
Emeryville CA.

LAB ID

Ref #

Analysis Requested

No. of containers	
Temperature	PCBS

5071 (2/5)

Special Instructions:

#	Sample ID	Date	Time	Matrix	Comments
11	31 0.5'	6/24		Soil	
12	31 3.5'				
13	32 3.5'				
14	32 0.5'				
15	33 0.5'				
16	33 3.5'				
17	34 0.5'				
18	34 3.5'				
19	35 0.5'				
20	35 3.5'				

Relinquished by: [Signature] Date 6/26
 Received By: _____ Date _____
 Relinquished by: _____ Date _____
 Received By: _____ Date _____

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

For Lab Use Only:

Delta Environmental Laboratories

3/5

Chain of Custody (COC) Form

685 Stone Road #11 & 12
Benicia, Ca, 94510

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

Results to:	Naser Pakrou
Client Name	SOMA
Address	
City	
Telephone	(725) 244-6600 Fax: (925) 244-6601
SAMPLER (signature)	Naser Pakrou
Turnaround Time	Standard

Project Name #2176

Analysis Requested

CBS Offsite

LAB ID Emeryville CA

Ref #

5071

3/5

Special Instructions:

No. of containers

pH

Temperature

PCBS

D-E-L-T-A

#	Sample ID	Date	Time	Matrix														Comments
21	36 0.5'	6/24		Soil	1													
22	36 3.5'				1													
23	36 37 0.5'				1													
24	37 3.5'				1													
25	38 0.5'				1													
26	38 3.5'				1													
27	39 0.5'				1													
28	39 3.5'				1													
29	40 0.5'				1													
30	40 3.5'	6/24		Soil	1													

07/11/00 TUE 14:30 FAX 17077476082

Relinquished by:		Date	6/26
Received By:		Date	6/26/00 P.
Relinquished by:		Date	
Received By:		Date	

- 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? _____
- 4) Were samples received in good condition? _____

For Lab Use Only:

Results to: Naser Pakrou
 Client Name: SOMA ENV. ENG.
 Address: _____
 City: 925 2446600
 Telephone: _____ Fax: 925 2446601
 SAMPLER (signature): Naser Pakrou
 Turnaround Time: Standard

Project Name

CBS OFFSITE
Proj. 2176

LAB ID: Emeryville CA

Ref # _____

5071 4/5

Analysis Requested

No. of containers

PH

Temperature

PCBS

Special Instructions:

Comments

#	Sample ID	Date	Time	Matrix	No. of containers	PH	Temperature	Comments
31	41 0.5'	6/24		Soil	1			
32	41 3.5'	"			1			
33	42 0.5'	"			1			
34	42 3.5'	"			1			
35	43 0.5'	"			1			
36	43 3.5'	"			1			
37	44 3.5'	"			1			
38	44 0.5'	"			1			
39	45 0.5'	"			1			
40	45 3.5'	"			1			
	Relinquished by: <u>[Signature]</u>	Date: <u>6/26</u>			1)			Have all samples received been stored on ice? _____
	Received By: _____	Date: _____			2)			Did any VOA samples received have any head space? _____
	Relinquished by: _____	Date: _____			3)			Were samples in appropriate containers and packaged properly? _____
	Received By: _____	Date: _____			4)			Were samples received in good condition? _____

For Lab Use Only:

Harding Lawson Associates

Transmittal/Memorandum

91 OCT 32 0111:49



STID 4498

To: Susan Hugo
Alameda County Department of Health
80 Swan Way
Room 200
Oakland, California

From: Melissa Wann *MLW*
Date: October 30, 1991
Subject: USPS Site - Emeryville
Job No.: 05525,072.02

Remarks: Enclosed please find a copy of the Shallow Soils Investigation Report dated September 20, 1991 for the property located at 6121 Hollis Street for your review.

As per our telephone ¹⁹⁹⁰ conversation of October 28, 1991, HLA and Mr. Ray Jones of the USPS would like to meet with you on November 5, 1991 at 1:30 pm to discuss additional sampling activities, construction of the Postal Service Station, and remedial activities, if appropriate.

If there is a conflict regarding the meeting, please call me at (415) 899-7344.

Harding Lawson Associates
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September 20, 1990

05525,072.02

United States Postal Service
San Bruno Facility Service Center
850 Cherry Street
San Bruno, California 94099

Attention: Mr. Ray Jones
Design and Construction Branch

Gentlemen:

Shallow Soils Investigation
6121 Hollis Street
Emeryville, California

This report presents the results of a shallow soils investigation conducted by Harding Lawson Associates (HLA) at 6121 Hollis Street, Emeryville, California, for the U.S. Postal Service (USPS). The purpose of this investigation was to assess whether polychlorinated biphenyls (PCBs) are present in shallow onsite soils, and if PCBs were detected, to provide information on cleanup requirements.

SITE DESCRIPTION

The U.S. Postal Service property in Emeryville is situated east of Interstate 80/580, approximately 1 mile north of the Bay Bridge (Plate 1). The site is currently a vacant lot approximately 255 feet by 290 feet. The northern property line is contiguous with 62nd Street. A Southern Pacific Railroad spur is adjacent to the western site border. PCB contamination has been remediated on the property south of the site, which is owned by Westinghouse.

BACKGROUND

Several soil samples collected in the vicinity of the southern site boundary were analyzed for PCBs by the California Department of Health Services (DHS) in February 1981. These samples contained elevated PCB concentrations. This finding prompted IIT Grinnell Corporation, the former owner of the property, to retain CH2M HILL to conduct additional soil sampling and analysis. CH2M HILL's June 1981 report confirmed PCBs to be present in the shallow soil along the southwestern property boundary adjacent to a railroad spur. The sampling locations were not well defined spatially in the DHS or CH2M HILL reports; therefore, the analytical results could not be used to characterize the site.

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In 1985, the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) issued Cleanup and Abatement Order No. 85-006 for the Westinghouse property south of the site asserting that Westinghouse took inadequate action to prevent the movement of PCB-contaminated soil offsite. Following negotiations with state and federal regulatory agencies, a continuous 35-foot-deep slurry wall surrounding PCB-contaminated soils was constructed. Soil outside the wall from certain areas along the northern and eastern boundaries of the site having significant (greater than 50 parts per million [ppm]) PCB contamination was excavated and moved within the wall. These soils were later covered with an engineered cap to reduce surface water infiltration and erosion of the soil.

SOILS INVESTIGATION

On August 2 and 3, 1990, 17 shallow soil borings were drilled at the USPS site using a hand auger. Boring locations are shown on Plate 2. Eleven soil borings (1, 2, 5, 6, 7, 9, 11, 12, 14, 16, and 17) were drilled to a depth of 3.5 feet. Soil samples from these borings were collected at intervals from 0.0 to 1.0, 1.2 to 2.0, and 3.0 to 3.5 feet. Five borings (4, 8, 10, 13, and 15) were drilled to a depth of 2 feet or less because rocky soil or concrete was encountered which prohibited further hand augering. One or two soil samples were collected from each of these borings. Boring 3 was abandoned after drilling through asphalt into concrete.

The soil samples collected were submitted under chain of custody to Curtis & Tompkins Analytical Laboratories, Berkeley, for PCB analysis using EPA Test Method 8080. Six soil samples were also analyzed for total petroleum hydrocarbons (TPH) in addition to PCBs because hydrocarbon odors were detected when the boring was completed.

PCB analytical results are presented in Table 1. Table 2 summarizes analytical results for total petroleum hydrocarbons. Laboratory reports for all of the chemical analyses are presented in Appendix A and the field investigation daily reports are presented in Appendix B.

Of the 41 soil samples analyzed for PCBs, only the sample from Boring 15 at a depth between 1.2 and 2.0 feet contained PCBs at a concentration at or above 5,000 micrograms per kilogram ($\mu\text{g}/\text{kg}$) (5 ppm). This sample contained 52,000 $\mu\text{g}/\text{kg}$ (52 ppm) PCB. The laboratory was contacted to confirm the concentration reported. A second soil sample from the same sample tube was analyzed; 17,000 $\mu\text{g}/\text{kg}$ (17 ppm) of PCBs were detected. The two analyses indicate that PCBs are present; however, the concentrations are not uniform.

The concentrations of PCBs in soil samples collected in the 0- to 1-foot interval are presented on Plate 3. The highest PCB concentration for this depth was 2,100 $\mu\text{g}/\text{kg}$ (2.1 ppm) in Boring 10. Plate 4 shows the PCB concentration detected between 1.2 to 2.0 feet below ground surface (bgs); Boring 15 contains the highest level of PCBs

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measured onsite, 52,000 $\mu\text{g}/\text{kg}$ (52 ppm). Of the 11 soil samples collected from 3.0 to 3.5 feet bgs, only 2 had detectable levels of PCBs (Plate 5).

Three of the six soil samples analyzed for petroleum hydrocarbons had values above the level of detection (Table 2). The 3.0- to 3.5-foot sample from Boring 5 contained 430 milligrams per kilogram (mg/kg, equivalent to ppm) diesel and 51 mg/kg gasoline; the sample from the same depth in Boring 6 contained 260 mg/kg kerosene and 1.2 mg/kg gasoline. The soil sample from Boring 14 at a depth of 0.5 to 1.0 foot had a diesel concentration of 43 mg/kg.

DISPOSAL AND CLEANUP STANDARDS

California and the United States have issued disposal standards for PCBs; and the federal government has also issued cleanup standards for PCB spills.

Disposal Standards

Disposal of wastes containing PCBs is regulated by the federal government under the Toxic Substances Control Act of 1976 (TSCA) and the California government under the Hazardous Waste Management Act of 1986 (HWMA). Nonliquid material contaminated with less than 50 parts per million (ppm) PCBs are not regulated by HWMA; such materials having concentrations above 50 ppm are to be disposed at an EPA-approved land disposal facility, or incinerated.

Cleanup Standards

Federal cleanup standards for PCB spills are presented in 40 CFR 761. The regulatory policy in 40 CFR 761.120(a) establishes criteria the United States Environmental Protection Agency (EPA) is to use to determine the adequacy of the cleanup of a spill resulting from the release of materials containing PCBs at concentrations of 50 ppm or greater. The policy applies to spills that occur after May 4, 1987. Spills that occurred prior to this date are excluded from the scope of this policy for two reasons: 1) this policy is not intended to require additional cleanup where a party has already cleaned a spill in accordance with requirements imposed by EPA through its regional offices; and 2) EPA recognizes that old spills discovered after the effective date of the policy will require site-by-site evaluation because of the likelihood that the site involves more pervasive PCB contamination than fresh spills and because old spills are more difficult to clean up than fresh spills. Therefore, spills that occurred before the effective date of this policy are to be cleaned up to requirements established at the discretion of EPA, usually through its regional offices.

Cleanup standards for outdoor electrical substations are described in 40 CFR 761.125(c)(2); 40 CFR 761.125(c)(2)(ii) states that soil contaminated by the spill in an outdoor electrical substation will be cleaned to 25 ppm PCBs by weight, or to 50 ppm PCBs by weight provided that a label or notice is visibly placed in the area. Specific standards for areas with unrestricted access, which include substations that are

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converted to another use, are described in 40 CFR 761.125(c)(4), in accordance with 40 CFR 761.125(c)(4)(v). Soils that will remain in place following removal of electrical equipment are to be decontaminated to 10 ppm PCBs by weight provided that the soil is excavated to a minimum depth of 10 inches. The excavation can then be filled with clean soil and restored.

It is believed that the USPS site would be considered an old spill site and would therefore be exempt from the requirements listed in 40 CFR 761.125; however, whether any cleanup is required, or to what level the soil must be cleaned, will require negotiations with the EPA.

TOTAL PETROLEUM HYDROCARBONS

Petroleum odors were detected in three soil borings (5, 6, and 14, Plate 2) and TPH analyses were requested for samples from these borings (Table 2). The laboratory reported that soil samples analyzed from Borings 5 and 6 did have concentrations of TPH as diesel and kerosene in excess of 100 mg/kg. Typically, if soil is found to contain TPH above 100 mg/kg, the regulatory agencies require remediation of the soil. For the USPS site, this would require excavation and disposal of the soil at a Class II landfill or treatment to reduce the concentration below 100 mg/kg, which would allow disposal at a Class III landfill.

Additional subsurface information was obtained from a recent geotechnical investigation conducted by Subsurface Consultants (SC). SC drilled 7 borings, 4 of which were completed to a depth of approximately 25 feet below ground surface to obtain information on the required foundation for the structure to be built. Cuttings from three of these borings were reportedly screened by SC using an organic vapor meter; results indicated that volatile compounds were present in the subsurface. It is known that in this general area of Emeryville there are a considerable number of soil and groundwater contamination problems. The shallow soil samples collected by HLA and the data obtained by Subsurface Consultants, indicates that there is soil contamination present and that groundwater beneath the site may contain volatile organic compounds. Further definition of the identified soil contamination and assessment of the possible groundwater contamination will have to be addressed under another work authorization.

RECOMMENDATIONS

The data obtained from shallow soil sampling conducted by HLA indicates that PCBs are present in the soils at the facility, principally in the southern half of the property and generally at concentrations below 5,000 µg/kg (5 ppm). At this concentration the site would be suitable for nonrestricted use, assuming the areas where PCBs were detected are covered with asphalt or the proposed postal facility building. One soil sample analyzed from Boring 15 did indicate that PCBs were present at 52 ppm at a depth of 1.5 to 2.0 feet. Soil at this high concentration may require excavation and

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disposal at an offsite landfill. The EPA will need to be contacted to obtain guidance to assess whether any action needs to be taken for this one area.

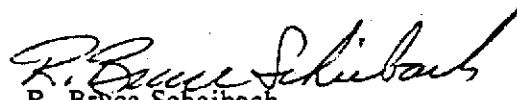
The TPH detected in the soil will require some form of remediation. Again the local regulatory agencies will need to be contacted and a negotiated disposition of the soil will be required.

The above mentioned environmental problems must be addressed prior to construction of the U.S. Postal Service facility planned for the site. If you have any questions, please feel free to contact Bruce Scheibach at 899-7319.

Yours very truly,

HARDING LAWSON ASSOCIATES


Robert W. Hull
Senior Associate Hydrogeologist


R. Bruce Scheibach
Senior Associate Hydrogeologist

EGH/RBS/bag/J13333-H

Attachments:	Table 1	Analytical Results for Polychlorinated Biphenyls
	Table 2	Analytical Results for Total Petroleum Hydrocarbons
	Plate 1	Site Location Map
	Plate 2	Boring Location Map
	Plate 3	PCB Concentrations Between 0.0 and 1.0 foot bgs
	Plate 4	PCB Concentrations Between 1.2 and 2.0 feet bgs
	Plate 5	PCB Concentrations Between 3.0 and 3.5 feet bgs
	Appendix A	Analytical Results
	Appendix B	Field Investigation Daily Reports

Table 1. Analytical Results for Polychlorinated Biphenyls Analyses (EPA Method 8080)

Boring Number	Depth of Sample (ft bgs) ¹	PCB ² Concentration ($\mu\text{g}/\text{kg}$) <i>ppb</i>
1	0.5-1.0	³ ND (<28)
1	1.2-1.7	ND (<28)
1	3.0-3.5	ND (<28)
2	0.0-0.5	320
2	1.5-2.0	ND (<28)
2	3.0-3.5	66
4	0.3-0.8	ND (<28)
4	1.3-1.8	ND (<28)
5	0.4-0.9	ND (<28)
5	1.5-2.0	ND (<28)
5	3.0-3.5	ND (<28)
6	0.0-0.5	120
6	1.5-2.0	ND (<28)
6	3.0-3.5	ND (<28)
7	0.0-0.5	56
7	1.5-2.0	ND (<28)
7	3.0-3.5	ND (<28)
8	0.0-0.5	380
9	0.0-0.5	1,900
9	1.5-2.0	64
9	3.0-3.5	ND (<28)
10	0.0-0.5	2,100
10	1.5-2.0	2,000
11	0.0-0.5	300
11	1.5-2.0	120
11	3.0-3.5	ND (<28)
12	0.0-0.5	68
12	1.5-2.0	ND (<28)
12	3.0-3.5	ND (<28)

¹ ft bgs = feet below ground surface

² PCB as Aroclor 1260

³ ND = Not detected at or above reporting limits, shown in parentheses.

Table 1. Analytical Results for Polychlorinated
Biphenyls Analyses (EPA Method 8080)
(Continued)

Boring Number	Depth of Sample (ft bgs)	PCB Concentration (µg/kg)
13	0.0-0.5	290
14	0.5-1.0	410
14	1.5-2.0	360
14	3.0-3.5	ND (<28)
15	0.3-0.8	29
15	1.5-2.0	52,000/17,000*
16	0.3-0.8	100
16	1.5-2.0	ND (<28)
16	3.0-3.5	ND (<28)
17	0.3-0.8	ND (<28)
17	1.5-2.0	24**
17	3.0-3.5	21**

- * Split Sample
- ** Concentration reported is below the reporting limit

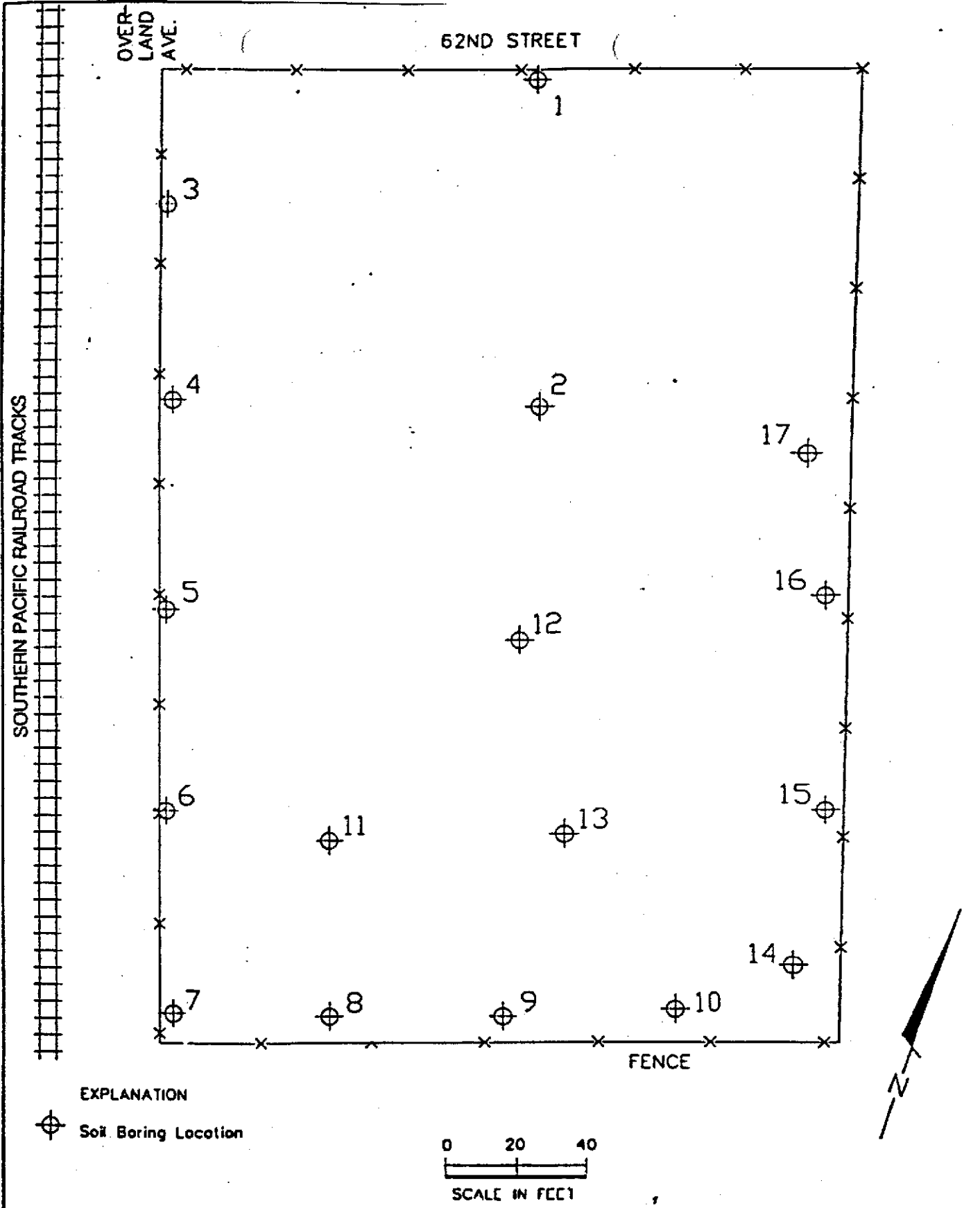
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Table 2. Analytical Results for Total Petroleum Hydrocarbons (CA DHS Method)

Boring Number	Depth of Sample (ft bgs) ¹	TPH ² as kerosene (mg/kg) ³	TPH as Diesel (mg/kg)	TPH as Gasoline (mg/kg)
5	1.5-2.0	ND ⁴	ND	ND
5	3.0-3.5	ND	430	51
6	3.0-3.5	260	ND	1.2
14	0.5-1.0	ND	43	ND
14	1.5-2.0	ND	ND	ND
14	3.0-3.5	ND	ND	ND

- 1 ft bgs feet below ground surface
 2 TPH total petroleum hydrocarbons
 3 mg/kg milligrams per kilogram is equivalent to parts per million
 4 ND not detected at or above the reporting limit



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Site Map
 U.S. Postal Service
 Emeryville, California

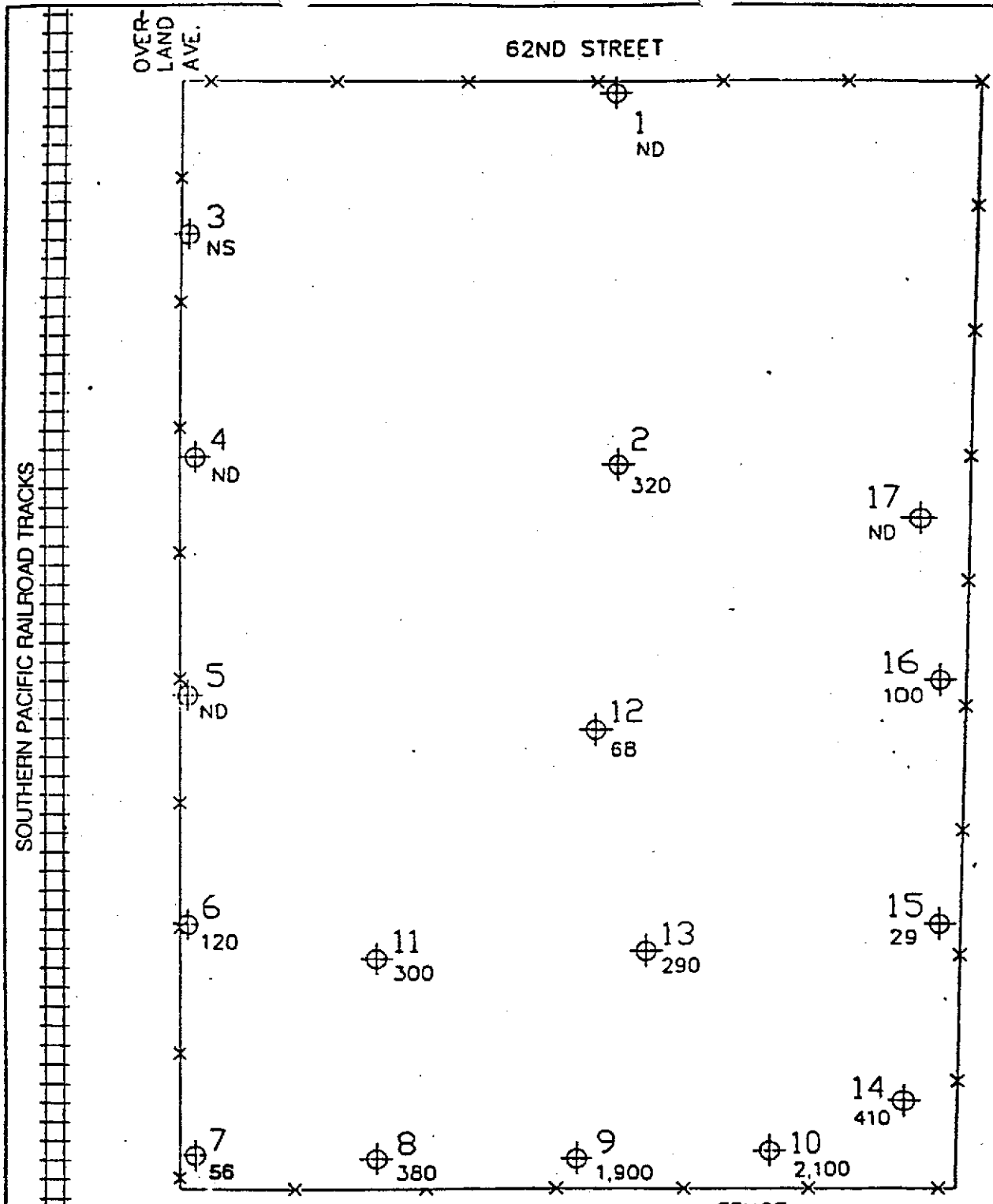
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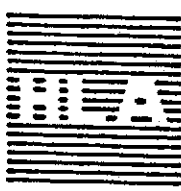
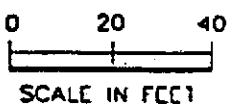
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EXPLANATION

- 320 PCB Concentration $\mu\text{g}/\text{kg}$
- \oplus Soil Boring Location
- ND Not Detected
- NS Not Sampled



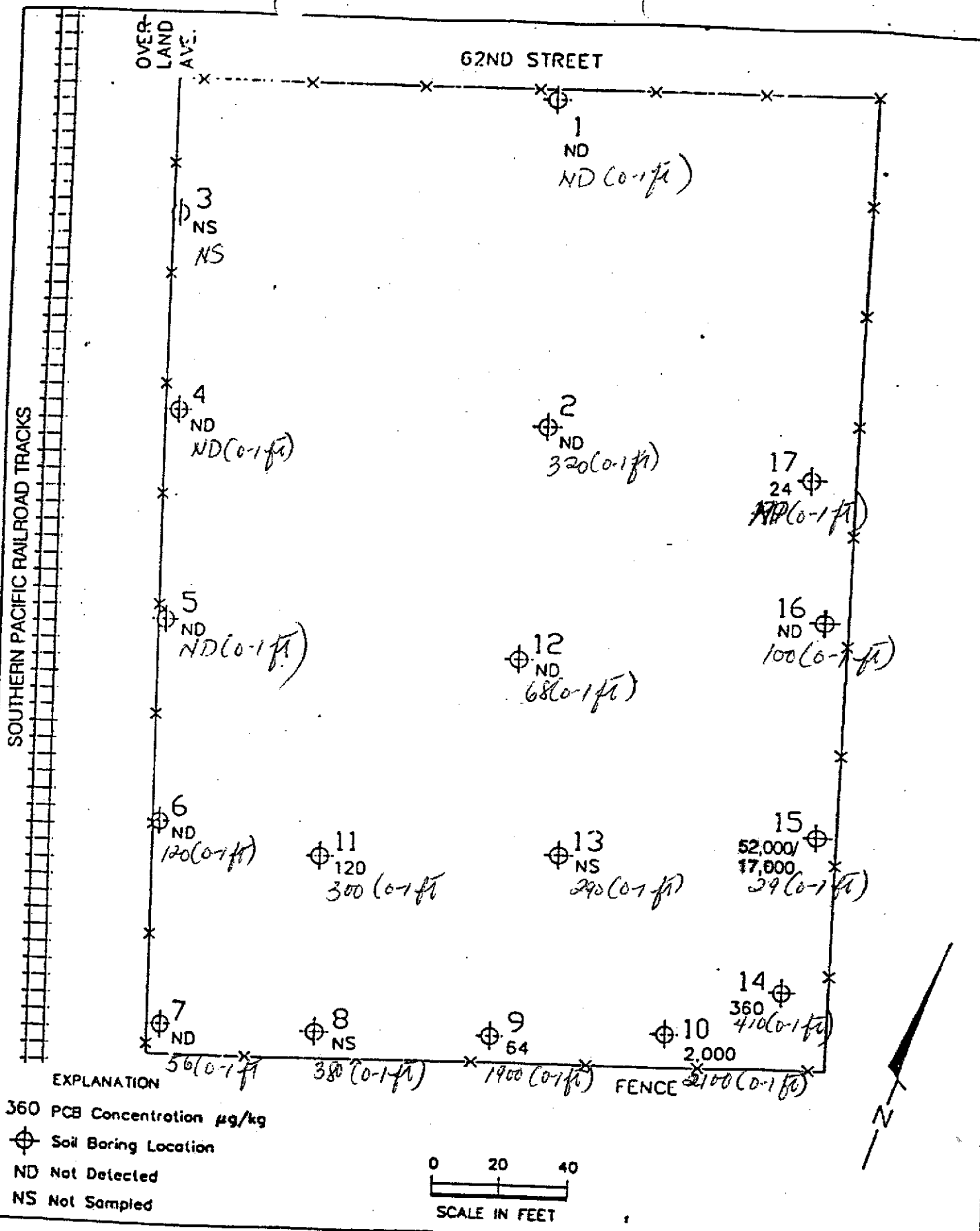
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PCB Concentrations Between 0-1 Feet
Below Ground Surface
U.S. Postal Service
Emeryville, California

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PCB Concentration Between 1.2-2.0 Feet
Below Ground Surface
U.S. Postal Service
Emeryville, California

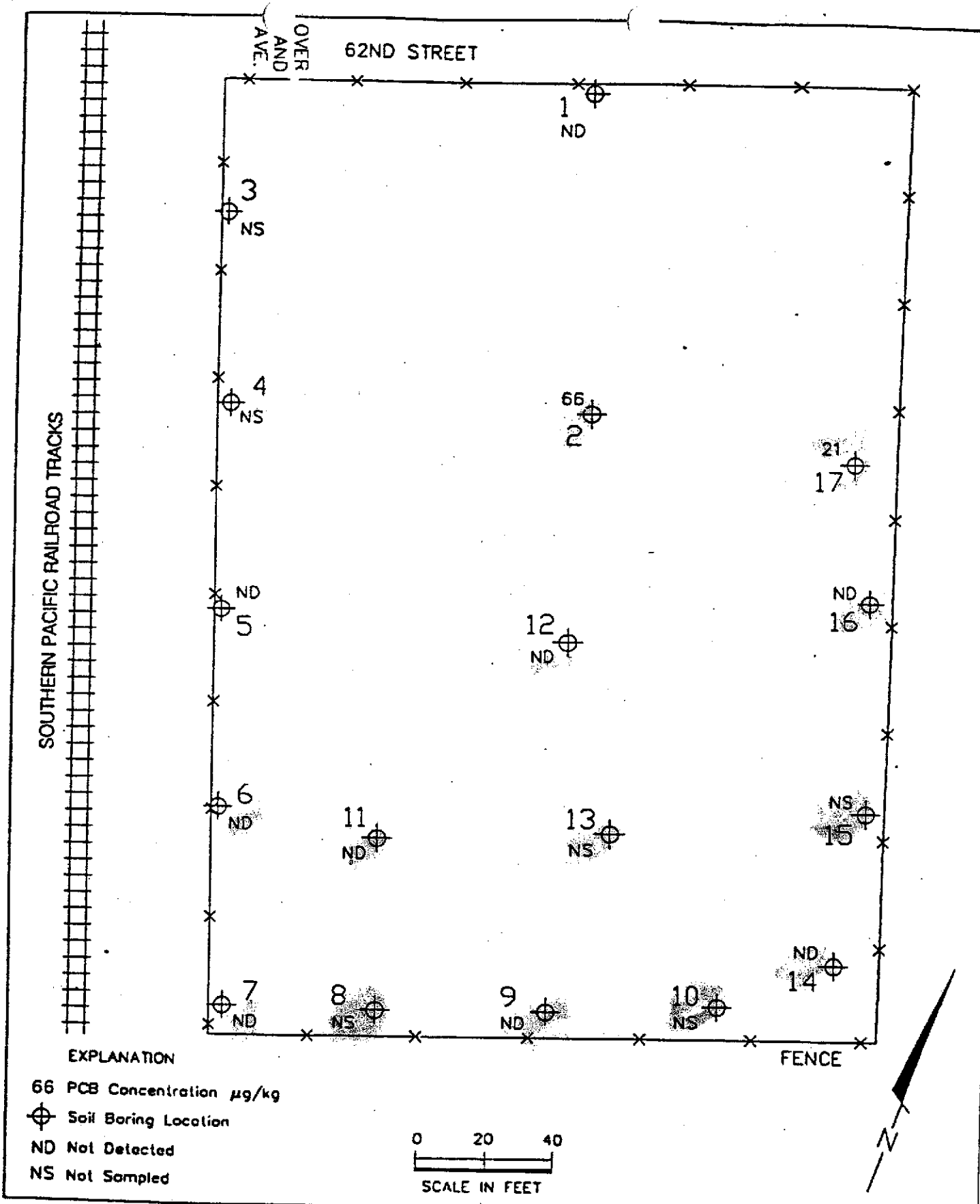
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PROJECT DATE



SOUTHERN PACIFIC RAILROAD TRACKS

OVER AND AVE. 62ND STREET

FENCE



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PCB Concentrations Between 3.0-3.5 Feet Below Ground Surface
U.S. Postal Service
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