



ENVIRONMENTAL ENGINEERING, INC  
2680 Bishop Drive, Suite 203, San Ramon, CA 94583  
TEL (510) 244-6600 • FAX (510) 244-6601

# SOMA ENVIRONMENTAL ENGINEERING, INC.

2680 Bishop Drive, Suite 203  
San Ramon, CA 94583  
(510) 244-6600  
FAX # (510) 244-6601

## FAX TRANSMISSION REPORT COVER

DATE: 6/9/98 FAX # 510-<sup>337</sup>~~510~~-9335

TO: Susan Hugo

COMPANY: Alameda County, Environmental Health

FROM: Mansour Sepeh

SUBJECT: Old Work Plan Submitted to RWDCB

NO. OF PAGES INCLUDING COVER: 12

MESSAGE: Susan  
Re, your Request.



April 24, 1998

Dr. Ravi Arulanantham  
California Regional Water Quality Control Board  
2101 Webster St., Suite 500  
Oakland, CA 94612

Subject: Former Westinghouse Electric Corporation Site, 5899 Pedaleau Street,  
Emeryville, California

Dear Dr. Arulanantham:

Thank you very much for your letter dated April 21, in connection with CBS's request for obtaining a closure letter from the California Regional Water Quality Control Board (RWQCB) for the former Westinghouse Electric Corporation property in Emeryville, California.

The results of the health risk assessment document conducted by SOMA Environmental Engineering, Inc. (SOMA) indicate the long term adverse human health risk to future construction workers is insignificant. However, prior to the next phase of construction, CBS will prepare a site-specific health and safety plan, in accordance with 20 CFR 1910.120, for worker protection and management of hydrocarbon and PCB impacted soil or groundwater that may be encountered during construction activities. The health and safety issues during construction of the site will also be addressed in accordance with the applicable requirements of federal and state Occupational Safety and Health Administration (OSHA).

Attached pursuant to previous correspondence and discussions is the Work Plan for Additional Site Characterization relating to offsite sampling around the Westinghouse Emeryville Site. We look forward to receiving your comments. As you are aware the City of Emeryville and Wareham Development are anxious to begin work on development of the property. We would therefore appreciate your immediate attention to this matter and receipt of a Closure Letter if the attached work plan satisfies RWQCB requirements. Once the Closure Letter is issued, Westinghouse and Wareham Development will be able to finalize the sale of the Property. Please let me know if you have any questions or concerns; we will address them immediately. Thank you for your assistance in this matter.

Sincerely;



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

Cc: Mr. Gordon Taylor, CBS Corporation  
Ms. Marlene Jackson, Babst, Calland, Clements and Zornir  
Mr. Alex Tula, ALTA Geosciences

Attachments

# ALTA GEOSCIENCES, Inc.

11711 Northcreek Parkway S., Suite 101  
Bothell, Washington 98011-8224

Phone (425) 485-1053  
Fax (425) 486-7651

April 23, 1998

Dr. Ravi Arulanantham  
California Regional Water Quality Control Board  
2101 Webster St., Suite 500  
Oakland, CA 94612

Re: Work Plan for Additional Site Characterization  
Westinghouse Emeryville Site  
5899 Peladeau Street  
Emeryville, California

Dear Mr. Arulanantham:

This letter presents the Work Plan for supplemental site characterization at the former Westinghouse site at 5899 Peladeau Street in Emeryville, California, as requested in your letter dated April 21, 1998. This letter only represents the Work Plan for supplemental site characterization work. This Work Plan is presented on behalf of CBS Corporation (formerly Westinghouse Electric Corporation).

## PURPOSE OF THIS WORK PLAN

Your letter referenced above indicates that the Board is requesting that CBS conducts an additional investigation along the northern and eastern boundaries of the soil remediation area described in the Completion Report, Site Soil Remediation (ALTA Geosciences, January, 1997). This additional investigation will establish the lateral extent of PCB concentrations in soil, if any. The basis for this work, as described in your letter is a result of some residual concentrations of PCBs in the sidewall samples in these areas as reported in the Completion Report.

The purpose of this Work Plan is to:

1. Describe the rationale for any additional investigation north and east of this area.
2. Describe sample locations, sampling and analytical procedures for the additional investigation.
3. Present a schedule for completion of these activities.

The Health and Safety Plan for the supplemental investigation work will be as contained in the Work Plan, Site Remediation Westinghouse Emeryville Site (ALTA, 1996) and will not be repeated here.

**ALTA GEOSCIENCES, Inc.**

Dr. Ravi Arulanantham

April 22, 1998

Page 2

Pertinent figures from the Completion Report are attached to this work plan as follows:

- Figure 2-2, Confirmation Sampling Grid (showing grid square numbers)
- Figure 2-3, Grid Square Excavation Depths
- Figure 3-1, Excavation Bottom Confirmation Sampling Results
- Figure 3-2, Sidewall Confirmation Sampling results

**RATIONALE FOR SUPPLEMENTAL SITE INVESTIGATION****Background**

Remediation Criteria for the August, 1996 Soil Remediation were determined from the Baseline Human Health Risk Assessment (SOMA Environmental Engineers, February, 1996) as:

1. 0.5 ppm PCBs from the ground surface to a depth of 2 feet (residential criteria).
2. 59.3 ppm PCBs from a depth of 2 feet to a depth of 4 feet (site worker criteria).

Below a depth of 4 feet, the adverse risks to human health were not considered significant and no remediation was required. At the direction of Westinghouse Electric Corporation, the remediation goal of 50.0 ppm was set for the soils between a depth of 2 to 4 feet bgs for conservatism and to ensure that all soils in the upper 4 feet which exceeded remediation criteria were excavated and disposed of.

The soil remediation was performed in August and September, 1996. As described in the Completion Report, remediation goals were met throughout the excavation bottom, either by excavation until confirmation sampling indicated that the excavation bottom was less than the remediation criteria, or by excavation to at least 4 feet bgs. As can be seen on Figure 2-3, excavation in a few grids continued to a depth of 5 or 6 feet bgs. This is deeper than the required excavation depth and was directed by Westinghouse in order to attempt to remove as much of the soil above the remediation goal as practical. Excavation beyond a 6-foot depth was found to be impractical due to groundwater inflow (groundwater was encountered in the excavation at a depth of about 4 feet bgs). As shown on Figure 3-1, a few such grids excavated below groundwater continue to contain PCB concentrations exceeding 59 ppm. However, reference to Figure 2-3 shows that in all such cases

**ALTA GEOSCIENCES, Inc.**

Dr. Ravi Arulanantham

April 22, 1998

Page 3

the excavation in that grid square was continued beyond the 4 foot depth criteria in this effort.

Confirmation soil samples were collected from the North, East and West walls of the excavation. The west wall of the excavation borders the EPA-ordered TSCA containment cell and therefore the sidewall confirmation test results for the west wall will not be further discussed here. The sidewall sample results from the North and East walls are discussed below.

**East boundary**

Sidewall soil confirmation samples along the east boundary of the Site were taken from a depth of 1.0 feet bgs (see Completion Report, Table 3-3, note that the 6.8 ppm result in the northeast grid square is considered a North Wall sample). The 9 sample results ranged from nondetect (less than 0.5 ppm PCBs, 6 samples) to a maximum of 8.2 ppm PCBs. The three samples which exceeded 0.5 ppm were: 0.6 ppm (grid square (GS) 023), 8.2 ppm (GS 069), and 2.2 ppm (GS 161). The mean value of the east boundary sidewall sample results is 1.4 ppm (using 0.25 ppm for nondetect samples). The 0.6 ppm PCB value for GS 023 is considered statistically insignificant and will not be discussed further. The following discussion describes the results for the remaining two grid squares:

- The initial excavation depth for GS 161 was three feet, the excavation bottom sample contained no detectable PCBs, and the east sidewall sample contained 2.2 ppm PCBs at a depth of 1 foot.
- The initial excavation depth for GS 069 was also 3 feet, the excavation bottom sample also contained no detectable PCBs, and the east sidewall sample contained 8.2 ppm PCBs at a depth of 1 foot.

Based on the above, further subsurface sampling east of the eastern boundary of the soil remediation area does not appear warranted because:

1. The two sidewall samples with relevant exceedances are relatively low, and do not exceed site criteria for commercial land use, nor do they exceed commonly applied criteria for limited exposure.
2. Both grid squares reached cleanup criteria on initial excavation, and both bottom confirmation samples contained no detectable PCBs.
3. Both sidewall samples were discrete samples from a specified midpoint depth. Composite depth samples (as performed for excavation bottoms and

**ALTA GEOSCIENCES, Inc.**

Dr. Ravi Arulanantham

April 22, 1998

Page 4

compliance determination) would likely have been lower based on the nondetectable excavation bottom sampling results.

**North Boundary**

Twenty two sidewall samples were taken from the north sidewall of the excavation, all from a depth of 2 feet. Sample results ranged from not detectable (less than 0.5 ppm PCBs) to 18 ppm PCBs. One sidewall sample (Grid Square 209, 18 ppm, 10 to 20 East coordinate) is incorrectly shown, as GS 209 was not excavated. This result should be shown in the grid square immediately south, GS 186. Since GS 209 was not remediated at all, this value is not included in the subsequent discussions. The mean value of the north boundary sidewall sample results is 1.6 ppm (using 0.25 ppm for nondetect samples). It should be noted that the two foot depth corresponds to the transition between the remediation criteria of 50 ppm in the upper 2 feet and 50 ppm from 2 to 4 feet. Therefore the results of the sidewall sampling can be restated as: ~~of the 22 samples~~ 22 samples were less than 0.5 ppm PCBs, and; only one sample exceeded 50 ppm PCBs. In general, the pattern of the values exceeding 0.5 ppm is erratic, with the exception of the area from about Grid Coordinate 120 east to 160 east. Excavation depths along the north boundary ranged from 2 to 5 feet. Excavation bottom samples along the north edge grid squares ranged from non detected to 13 ppm PCBs. Fourteen of the 22 excavation bottom samples contained less than 0.7 ppm PCBs, and only four samples exceeded 10 ppm PCBs. For several grid squares along the northern boundary, several test results are available as the excavation progressed from the initial depth (2 to 3 feet) to the final depth (up to 6 feet).

When all of the above data is considered together, there are ~~two~~ three areas where additional information on lateral extent may be appropriate (expressed as East coordinate range):

1. ~~20 to 60 East~~ Sidewall samples ranged from 1.6 to 4.9 ppm. Excavation depth ranged from 3 to 5 feet, bottom sample results ranged from 1.6 to 18 ppm. This area is of interest because of the depth of excavation needed to meet excavation bottom remediation criteria and the values obtained in the excavation bottoms.
2. ~~20 to 110 East~~ Sidewall samples ranged from non detect (one sample of 4) to 13 ppm. Excavation depth for all grid squares was 4 to 5 feet. Bottom sample confirmation results were quite low (less than 4 ppm), but intermediate samples were as high as 88 ppm. This area is of interest because of the depth needed to reach bottom excavation criteria. The

**ALTA GEOSCIENCES, Inc.**

Dr. Ravi Arulanantham

April 22, 1998

Page 5

relatively low values of the sidewall samples suggest that PCB concentrations will likely decrease rapidly away (north) from the Site.

3. 120 to 160 East. Sidewall samples ranged from 5.7 to 93 ppm. Excavation depth was generally 2 feet. Bottom sample results were all non detect. This area is of interest only because of the values of the sidewall samples. However, the shallow excavation depth and the non-detect bottom samples strongly suggests that any PCBs are likely to decrease rapidly away (north) from the Site.

The area from 200 to 230 East is not considered for further evaluation as an existing building is located less than 20 feet from the already remediated area, precluding further remediation. Additionally, all excavation depths in this area were 2 feet and excavation bottom samples had relatively low PCB concentrations (non-detect to 16 ppm).

**PROPOSED SUPPLEMENTAL INVESTIGATION**

Based on the above discussions, CBS proposes to perform ~~soil~~ soil borings for sampling and analysis north of the north boundary of the Site to better define if there are any PCB impacts in shallow subsurface soils. These borings will be located approximately 10 feet north of the fence line (6 feet north of the adjoining curb and sidewalk). Borings will be located at approximately the following east coordinates: 40 East, 90 East, and 135 East. Each boring will be made using a hollow stem auger and will be continuously sampled from the original ground surface (bogs, below existing pavement and recent subbase material) to a depth of four feet (4 feet bogs). Soil samples will be composited so as to represent the following depth intervals: 0 to 2 feet bogs and 2 to 4 feet bogs. All samples will be analyzed for PCBs by EPA method 8081.

Soil sampling equipment will be decontaminated between samples by washing with phosphate free detergent, rinsing with tap water, and rinsing with distilled water. Downhole drilling equipment will be cleaned between borings and before leaving the site with high pressure hot water spray.

Soil borings will be backfilled to within 0.5 feet of the ground surface with bentonite chips and moistened with tap water. The upper 0.5 feet of each boring will be patched with concrete.

Decontamination water, personal protective equipment, and soil cuttings will be placed in suitable containers and appropriately disposed of.

**ALTA GEOSCIENCES, Inc.**

---

Dr. Ravi Arulanantham

April 22, 1998

Page 6

Samples will be placed in clean, laboratory supplied glass jars with Teflon lined lids, placed in coolers and maintained at 4 degrees C, and promptly transported to the laboratory under Chain of Custody procedures.

**SCHEDULE**

Soil sampling will be performed within 30 days of approval of this Work Plan. The report will be submitted to RWQCB within 60 days of receipt of laboratory test results.

If you have any questions, please call at your earliest convenience.

Sincerely,

**ALTA Geosciences, Inc.**



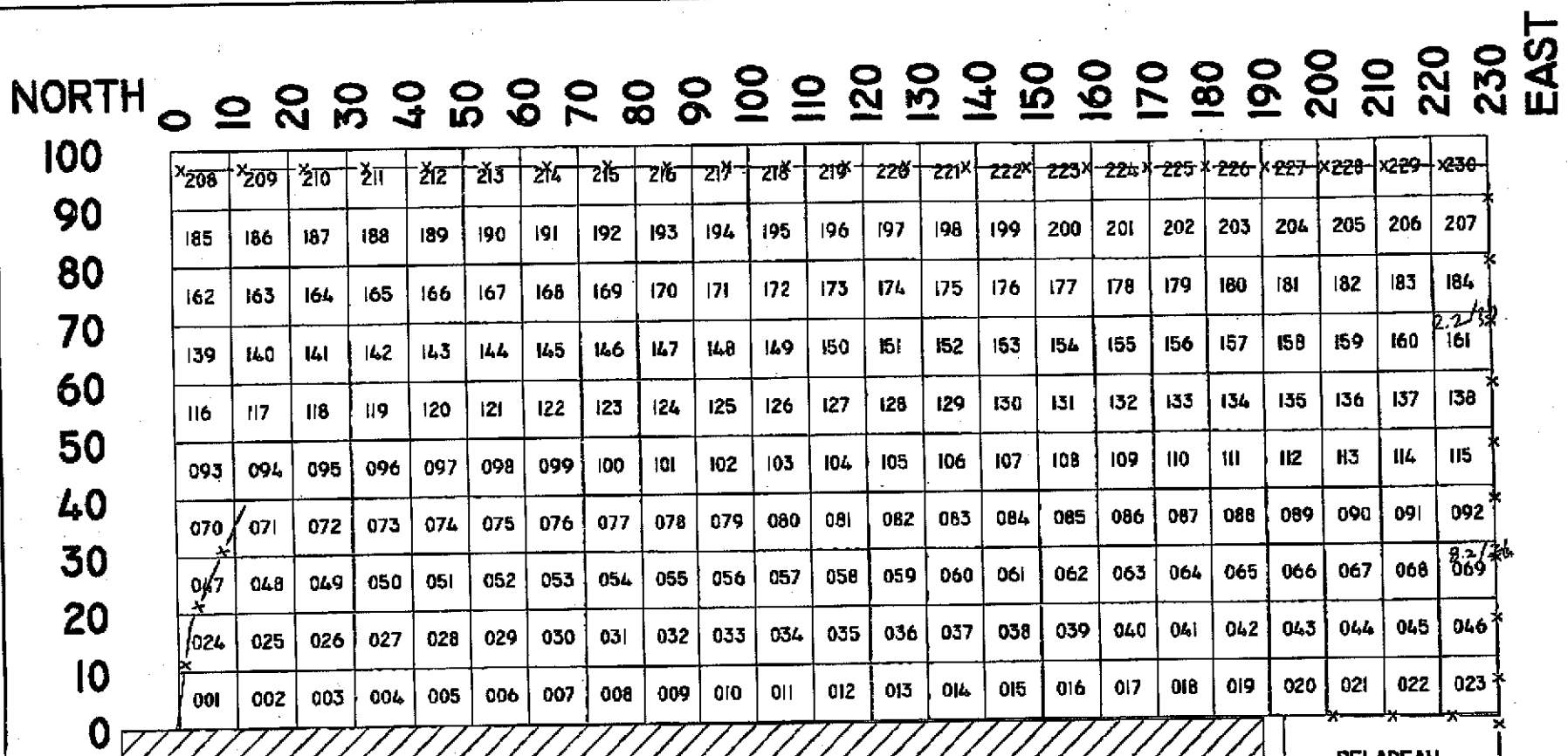
Alex Tula, R.G.

Principal Consultant

enclosures: Figures from Completion Report (2-2, 2-3, 3-1, 3-2)

cc : Gordon Taylor, Westinghouse Electric Corporation  
Yoshiro Tokiwa, U.S. Environmental Protection Agency  
Susan Hugo, Alameda County Environmental Health



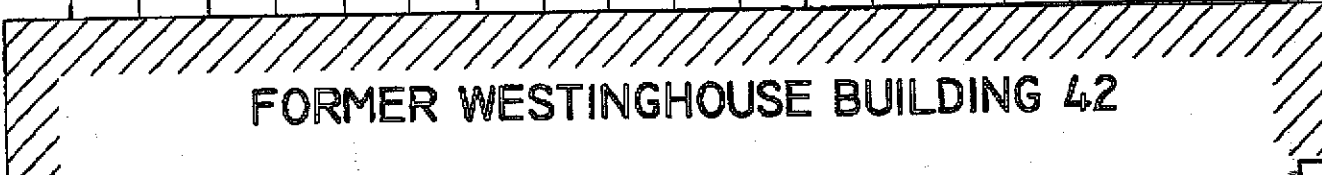


NOTE: SAMPLING GRID SQUARES ARE 10' X 10'  
 NUMBERS SHOWN ARE GRID SQUARE NUMBERS

WESTINGHOUSE ELECTRIC CORPORATION  
 REMEDIAL ACTION CONSTRUCTION  
 CONFIRMATION SAMPLING GRID  
 EMERYVILLE SITE  
 FIGURE 2-2 JANUARY 1997  
**ALTA GEOSCIENCES, INC.**

NORTH 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 EAST

100	x2	x	5	5	4	3	5	4	4	5	5	5	5	2	2	2	2	2	2	2	2	2	2
90	4	4	4	5	3	5	3	4	4	4	5	5	5	2	2	2	2	2	2	2	2	2	2
80	4	4	4	3	3	2	4	4	4	6	5	5	5	2	2	2	2	2	2	2	3	2	
70	4	4	4	4	4	4	3	3	3	5	5	5	3	2	2	2	2	2	2	2	3	3	
60	4	3	4	3	3	3	3	3	4	5	5	5	4	2	2	2	2	2	2	2	3	3	
50	3	4	4	3	3	3	3	3	3	4	6	4	4	2	2	2	2	2	2	2	3	3	
40	4	3	3	3	4	4	2	2	3	5	5	5	4	2	2	2	2	2	2	2	3	3	
30	3	3	3	3	3	2	2	2	2	5	5	5	5	2	2	2	2	2	2	4	2	3	3
20	3	3	4	3	3	3	2	5	4	4	5	5	3	4	2	2	2	2	3	2	2	3	2
10	3	3	3	4	4	3	4	5	4	4	4	3	5	2	4	2	4	2	4	2	2	2	2

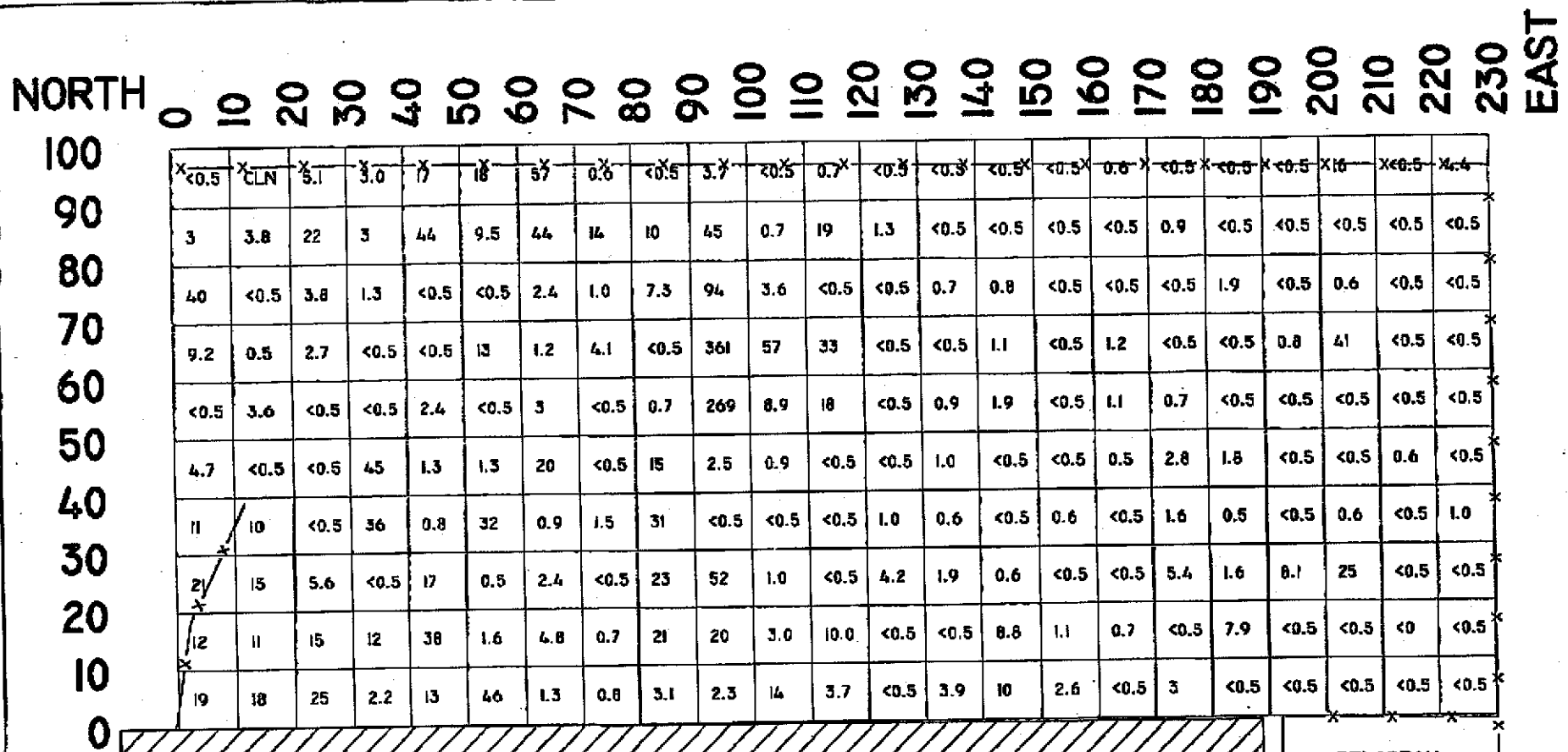


FORMER WESTINGHOUSE BUILDING 42

PELADEAU STREET

NOTE: GRID SQUARES ARE 10' x 10'  
NUMBERS INDICATE AVERAGE EXCAVATION DEPTH IN FEET

WESTINGHOUSE ELECTRIC CORPORATION  
REMEDIAL ACTION CONSTRUCTION  
GRID SQUARE EXCAVATION DEPTHS  
EMERYVILLE SITE  
FIGURE 2-3 JANUARY 1997  
**ALTA GEOSCIENCES, INC.**

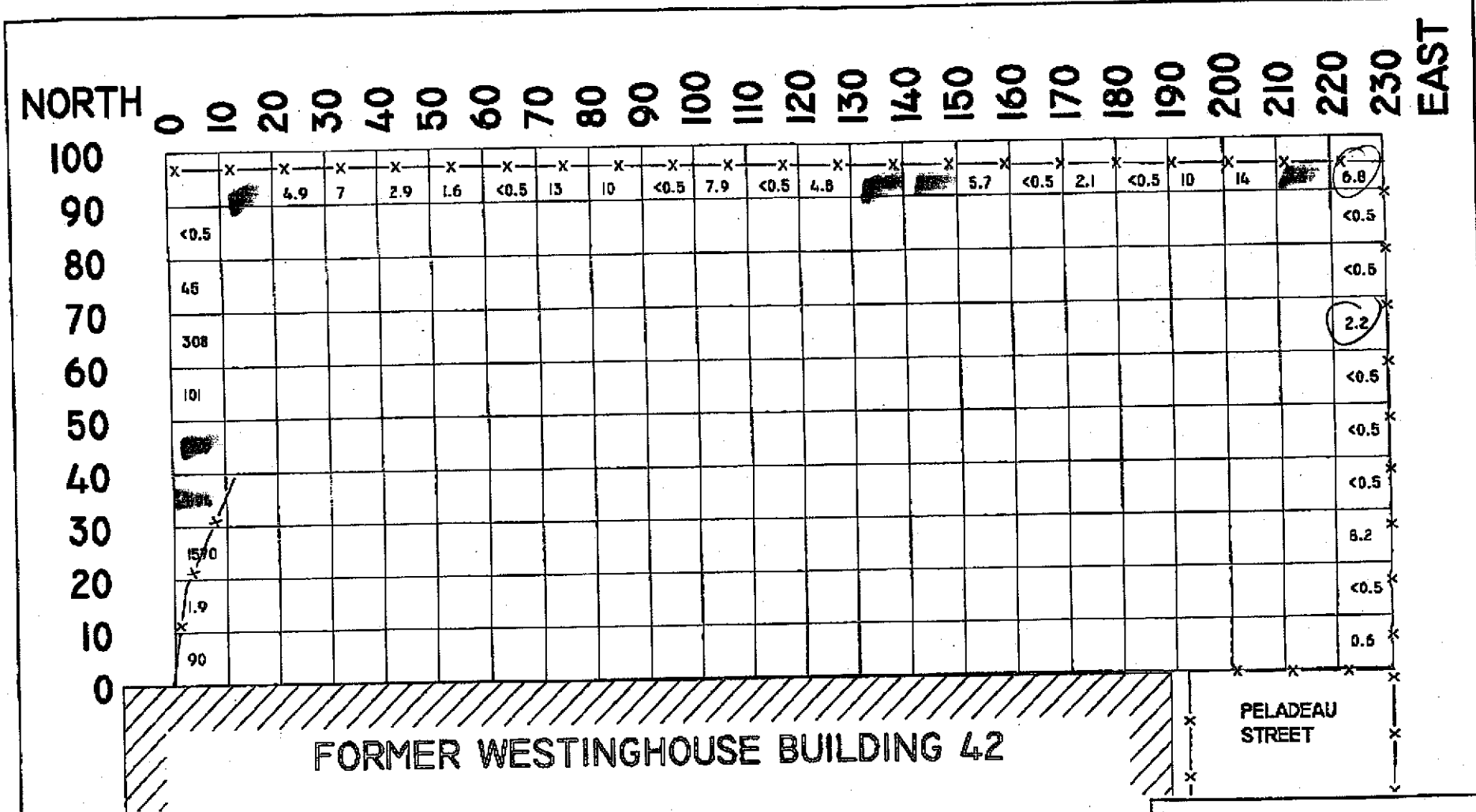


FORMER WESTINGHOUSE BUILDING 42

PELADEAU STREET

NOTE: SAMPLING GRID SQUARES ARE 10' x 10'  
 SAMPLES REPRESENT 0 - 1' BELOW EXCAVATION BOTTOM  
 RESULTS ARE FOR PCBs (METHOD 8080) IN MG/KG

WESTINGHOUSE ELECTRIC CORPORATION  
 REMEDIAL ACTION CONSTRUCTION  
 EXCAVATION BOTTOM CONFIRMATION  
 SAMPLING RESULTS - EMERYVILLE SITE  
 Figure 3-1 JANUARY 1997  
**ALTA GEOSCIENCES, INC.**



NOTE: SAMPLING GRID SQUARES ARE 10' x 10'  
 SAMPLES REPRESENT SIDEWALL COMPOSITE  
 RESULTS ARE FOR PCBs (METHOD 8080) IN MG/KG

WESTINGHOUSE ELECTRIC CORPORATION  
 REMEDIAL ACTION CONSTRUCTION  
 SIDEWALL CONFIRMATION SAMPLING  
 EMERYVILLE SITE  
 Figure 3-2 JANUARY 1997  
**ALTA GEOSCIENCES, INC.**