



CALIFORNIA REGIONAL WATER

MAY 02 1996

QUALITY CONTROL BOARD

11 Stanwix Street  
Pittsburgh Pennsylvania 15222-1384

Westinghouse  
Electric Corporation

May 1, 1996

Mr. Sumadhu Arigala ✓  
California Regional Water Quality Control Board  
2101 Webster Street, Suite 500  
Oakland, CA 94612

**Re: Groundwater Sampling Results  
Westinghouse Emeryville Site, Emeryville, CA**

Dear Mr Arigala:

As we discussed in our recent meeting, Westinghouse Electric Corporation requested their contractor, EMCON, Inc., to install a temporary groundwater monitoring well at the southwest corner of the Westinghouse property in Emeryville, CA. The well was installed and the groundwater sampled and analyzed as described in the attached report from EMCON. No PCBs were detected in the groundwater sample above the reporting limit of 0.1 micrograms per liter (0.1 ug/L). Based on this analysis, Westinghouse has requested that EMCON abandon the well according to the Board's protocol.

Westinghouse believes this resolves the last outstanding issue with respect to the risk assessment for the Emeryville site.

If you have any questions, please feel free to call me at (412) 642-5851 at your convenience.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gordon T. Taylor".

Gordon T. Taylor  
Principal Engineer  
Environmental Remediation  
Law and Environmental Affairs

Attachment



April 18, 1996  
Project 20F88-001.019

Mr. Gordon Taylor  
Westinghouse Electric Corporation  
Gateway Center  
Pittsburgh, Pennsylvania 15222

Re: Well installation report, Emeryville, California

Dear Mr. Taylor:

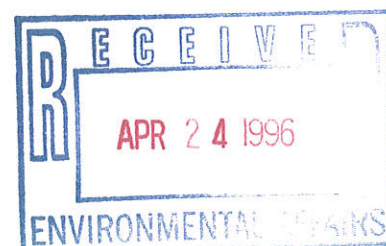
This report documents the installation and sampling of one groundwater monitoring well at the Westinghouse Electric Corporation (WEC) property in Emeryville, California (Figure 1). The installation and sampling of the new well was requested by WEC to evaluate analyte concentrations detected in a grab groundwater sample obtained from Hydropunch® boring TP-6, conducted in July 1995. The field work was conducted in April 1996 in a manner consistent with the proposal approved by WEC dated March 19, 1996.

## **SUMMARY OF FIELD ACTIVITIES**

Before drilling, the site health and safety plan was reviewed to ensure safe work practices at the site. Additionally, a well installation permit was obtained from the Alameda County Flood Control and Water Conservation District (Zone 7).

### **Drilling and Well Installation**

On April 2, 1996, EMCON drilled boring S-9 adjacent to former Hydropunch boring TP-6 in the southwest portion of the property (Figure 2). The boring was drilled to a depth of 20 feet below the ground surface (BGS) using 8-inch-diameter augers. The boring was sampled for lithologic description and field head-space readings at approximate 5-foot depth intervals using a modified California split-spoon sampler. Upon completion of soil sampling, the boring was completed as a temporary groundwater monitoring well by installing 2-inch-diameter polyvinyl chloride (PVC) well screen and casing. A locking cap was provided for the well casing; however, as requested by WEC, a permanent vault box was not installed. Based on the information in this report, this well will be removed and the borehole backfilled to the surface with grout.



A description of the exploratory boring and well installation procedures was previously presented in EMCON's *Well Installation Report* dated September 28, 1995. Similar procedures were used for the installation of well S-9. The exploratory boring log and well construction detail are included in Appendix A.

### **Well Development and Sampling**

On April 5, 1996, well S-9 was developed using a surge block and centrifugal pump. As water was removed from the well, its turbidity, temperature, color, pH, and electrical conductivity were recorded. The well was pumped until the water removed was relatively nonturbid, silt- and sand-free, and had a stable pH.

On April 9, 1996, the water level in well S-9 was gauged. The well was then micro-purged and sampled. The well was micro-purged by lowering a Teflon<sup>®</sup> tube into the well to a depth at the approximate midpoint of the screened interval (about 15 feet BGS). The Teflon tubing was hooked up to a peristaltic pump that was connected to a flow-thru cell. The pumping rate was approximately 100 milliliters per minute. The flow-thru cell was monitored by a YSI in-line analyzer for pH, temperature, conductivity, and oxidation-reduction potential (ORP). Separate turbidity and oxygen meters were also used. The monitoring parameters were consistent after approximately 20 minutes of micro-purging (one gallon of water), and a sample was obtained by pumping groundwater into 40 milliliter vials from Teflon tubing on the discharge end of the pump. Well development and water sampling field data sheets are presented in Appendix B.

### **Disposal of Materials**

Drill cuttings, and decontamination, well development, and purging water generated during site activities were placed in 55-gallon drums and temporarily stored on site. The water will be disposed of at an appropriate facility with the purge water generated during the semiannual groundwater monitoring events. EMCON will base soil disposal options on the soil analytical results from Hydropunch boring TP-6, located adjacent to S-9.

### **LABORATORY ANALYSES**

The groundwater sample was analyzed for PCBs by U.S. Environmental Protection Agency (USEPA) method 8080. The sample was analyzed on a 48-hour turnaround. Copies of the laboratory report and chain-of-custody documentation are presented in Appendix C.


## FINDINGS

Soil conditions consisted of clayey silt, silt, and silty sand similar to the other borings drilled on site. No PCBs were detected above the method reporting limit of 0.1 micrograms per liter in the groundwater sample from S-9 as shown on the laboratory reports in Appendix C.

If you have questions regarding this letter report, please call us.

Sincerely,

EMCON

  
Peter T. Christianson  
Project Geologist

  
Mark Smolley, RG  
Project Supervisor

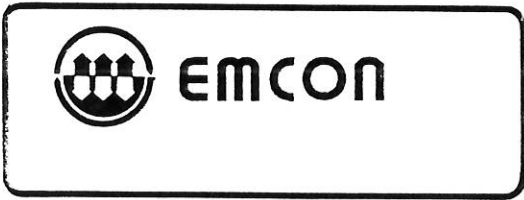
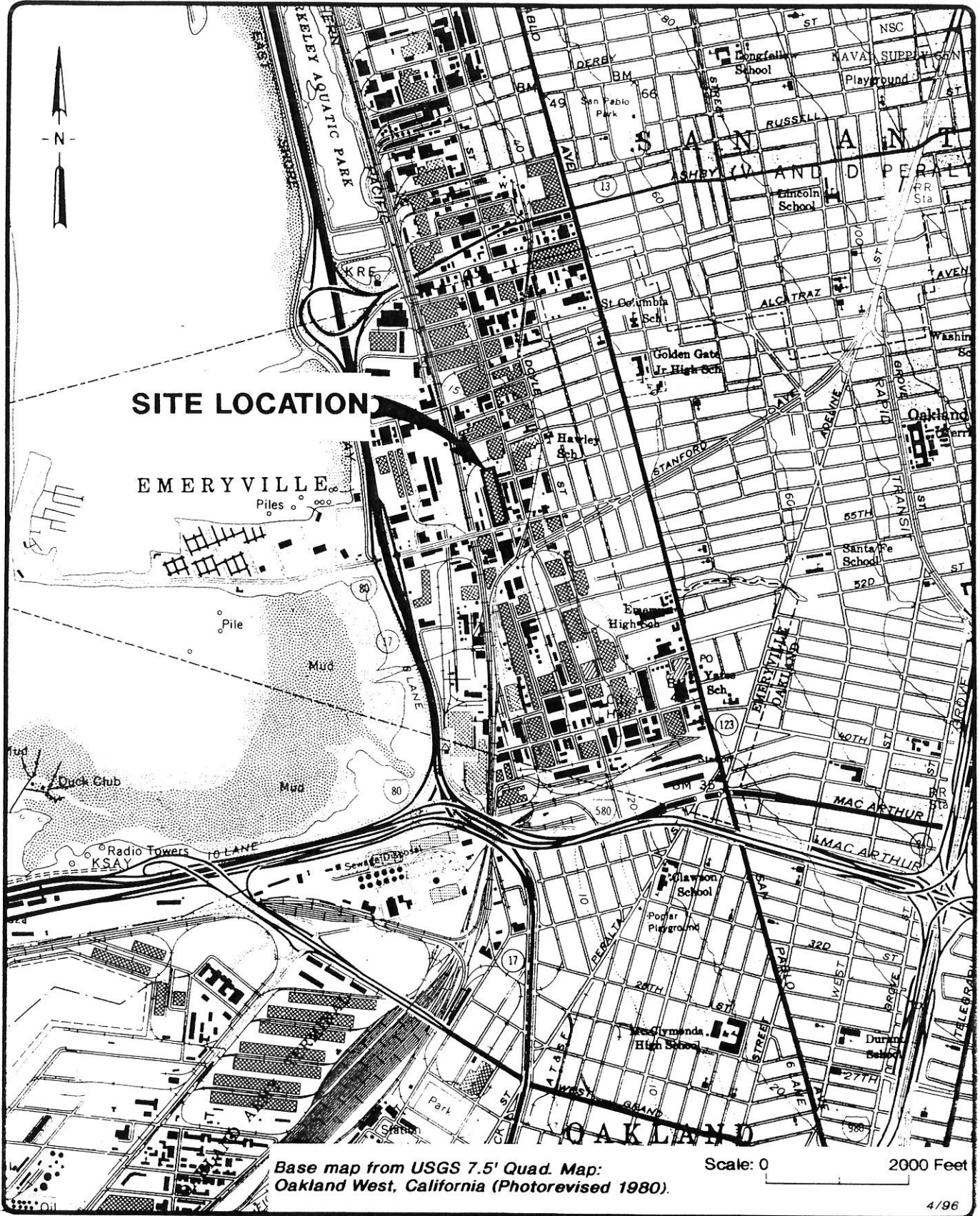
Attachments: Limitations  
Figure 1 - Site Location  
Figure 2 - Site Plan  
Appendix A - Exploratory Boring Log and Well Completion Detail  
Appendix B - Well Development and Water Sampling Field Data Sheets  
Appendix C - Laboratory Report and Chain-of-Custody Documentation

## LIMITATIONS

---

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.



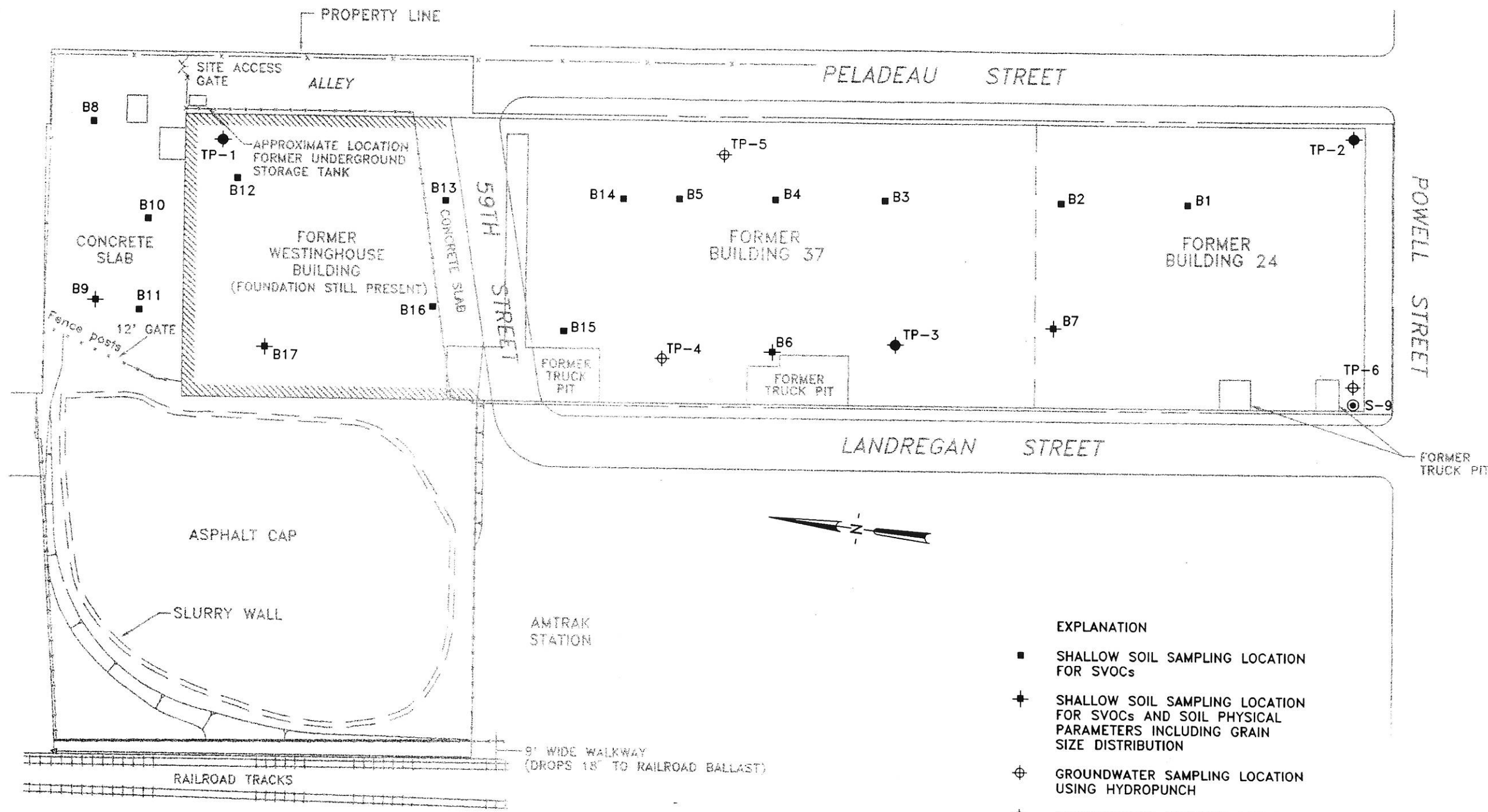
**WESTINGHOUSE ELECTRIC CORPORATION**  
**WELL INSTALLATION REPORT**  
**EMERYVILLE, CALIFORNIA**

---

**SITE LOCATION**

**FIGURE**  
**1**  
 PROJECT NO.  
**F88-01.19**

I:\0001\WELLING\TL Key 0 04/17/96 11:27:49 kmm Du



- EXPLANATION**
- SHALLOW SOIL SAMPLING LOCATION FOR SVOCs
  - ⊕ SHALLOW SOIL SAMPLING LOCATION FOR SVOCs AND SOIL PHYSICAL PARAMETERS INCLUDING GRAIN SIZE DISTRIBUTION
  - ⊕ GROUNDWATER SAMPLING LOCATION USING HYDROPUNCH
  - ◆ GROUNDWATER SAMPLING LOCATION AND SOIL SAMPLING FOR ORGANIC CARBON CONTENT ANALYSIS
  - ⊙ TEMPORARY GROUNDWATER MONITORING WELL



SCALE: 0 80 160 FEET

WESTINGHOUSE ELECTRIC CORPORATION  
WELL INSTALLATION REPORT  
EMERYVILLE, CALIFORNIA

SITE PLAN

FIGURE NO. **2**  
PROJECT NO. F88-001.19

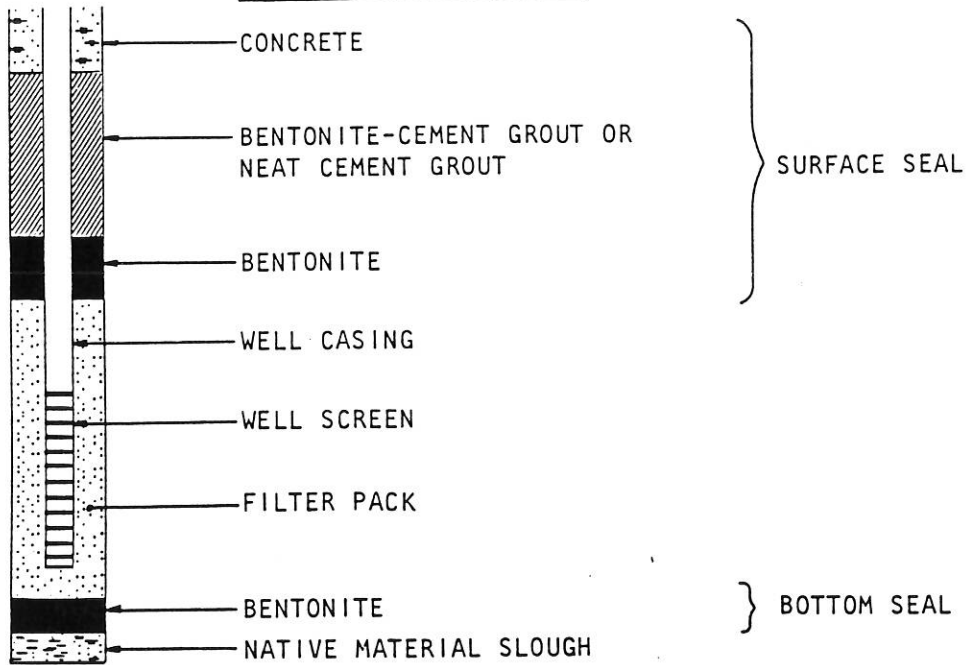
**APPENDIX A**  
**EXPLORATORY BORING LOG AND WELL COMPLETION DETAIL**





# EXPLANATION OF SYMBOLS ON EXPLORATORY BORING LOGS

## Well Details Column



## Sample Column



BAG/BULK SAMPLES

FIVE-FOOT SPLIT BARREL SAMPLER (CONTINUOUS SAMPLER)

MODIFIED CALIFORNIA SPLIT SPOON

OTHER SAMPLERS (SEE REMARKS FOR TYPE AND SIZE)

PITCHER BARREL

ROCK CORE (SEE REMARKS FOR TYPE AND SIZE)

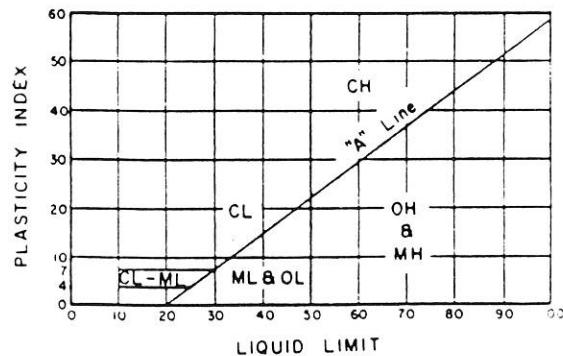
SHELBY TUBE SAMPLER

STANDARD PENETRATION TEST SPLIT SPOON SAMPLER (2" OD)

MAJOR DIVISIONS	SYMBOLS	TYPICAL SOIL DESCRIPTIONS
<b>COARSE GRAINED SOILS</b> (More than 1/2 of soil > no. 200 sieve size)	<b>GRAVELS</b>	
	GW	Well graded gravels or gravel-sand mixtures, little or no fines
	GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
	GM	Silty gravels, gravel-sand-silt mixtures
	GC	Clayey gravels, gravel-sand-clay mixtures
	<b>SANDS</b>	
	SW	Well graded sands or gravelly sands, little or no fines
	SP	Poorly graded sands or gravelly sands, little or no fines
<b>FINE GRAINED SOILS</b> (More than 1/2 of soil < no. 200 sieve size)	<b>SILTS &amp; CLAYS</b>	
	<b>LL &lt; 50</b>	
	SM	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand-clay mixtures
	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
	<b>SILTS &amp; CLAYS</b>	
<b>LL &gt; 50</b>		
MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	
CH	Inorganic clays of high plasticity, fat clays	
OH	Organic clays of medium to high plasticity, organic silty clays, organic silts	
HIGHLY ORGANIC SOILS	Pt	Peat and other highly organic soils

**CLASSIFICATION CHART**  
(Unified Soil Classification System)

CLASSIFICATION	RANGE OF GRAIN SIZES	
	U S Standard Sieve Size	Grain Size in Millimeters
BOULDERS	Above 12"	Above 305
COBBLES	12" to 3"	305 to 76.2
GRAVEL	3" to No. 4	76.2 to 4.76
	coarse 3" to 3/4"	76.2 to 19.1
	fine 3/4" to No. 4	19.1 to 4.76
SAND	No. 4 to No. 200	4.76 to 0.074
	coarse No. 4 to No. 10	4.76 to 2.00
	medium No. 10 to No. 40	2.00 to 0.420
	fine No. 40 to No. 200	0.420 to 0.074
SILT & CLAY	Below No. 200	Below 0.074



**PLASTICITY CHART**

**GRAIN SIZE CHART**

**METHOD OF SOIL CLASSIFICATION**



# LOG OF EXPLORATORY BORING

PROJECT NUMBER: 20F88-001.019

BORING NO.: S-9




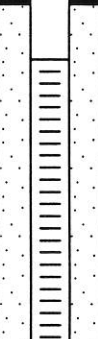
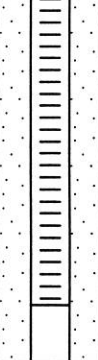

PROJECT NAME: Westinghouse

PAGE: 1 of 1

BY: T. Gyrion

DATE: 4/02/98

SURFACE ELEVATION: NA ft.

RECOVERY (ft/ft)	PID (ppm)	PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
1.0/1.0	0	18	<div style="text-align: center;">  4/02/98   4/05/98                 </div>	5	●●●●●	●●●●●	CONCRETE.  SILTY SAND (SM), reddish brown (5YR, 4/3); 45% low plasticity fines; 55% fine to medium sand, (5:1); abundant iron oxide staining; medium dense; wet.	
1.0/1.0	0	15		10	●●●●●	●●●●●	@9.0': dark greenish gray (5BG, 4/1); 35% low-plasticity fines; 50% fine to coarse sand, (5:1:2); 15% fine to coarse gravel, (1:2), angular clasts; medium dense; wet.  @9.5': dark brown (7.5YR, 4/4); 20% low-plasticity fines; 80% fine to medium sand, (2:1), poorly sorted; medium dense; wet.	
1.0/1.0	0	17		15	●●●●●	●●●●●	CLAYEY SILT (MH), light yellowish brown (10YR, 6/4); 100% medium- to high-plasticity fines; trace fine sand; very stiff; moist.	
1.0/1.0	0	17		20	●●●●●	●●●●●	@20.0': light yellowish brown (10YR, 6/4); 90% medium- to high-plasticity fines; 10% fine to medium sand, (1:1), well rounded; medium dense; moist to wet.  BORING TERMINATED AT 20.0 FEET.	

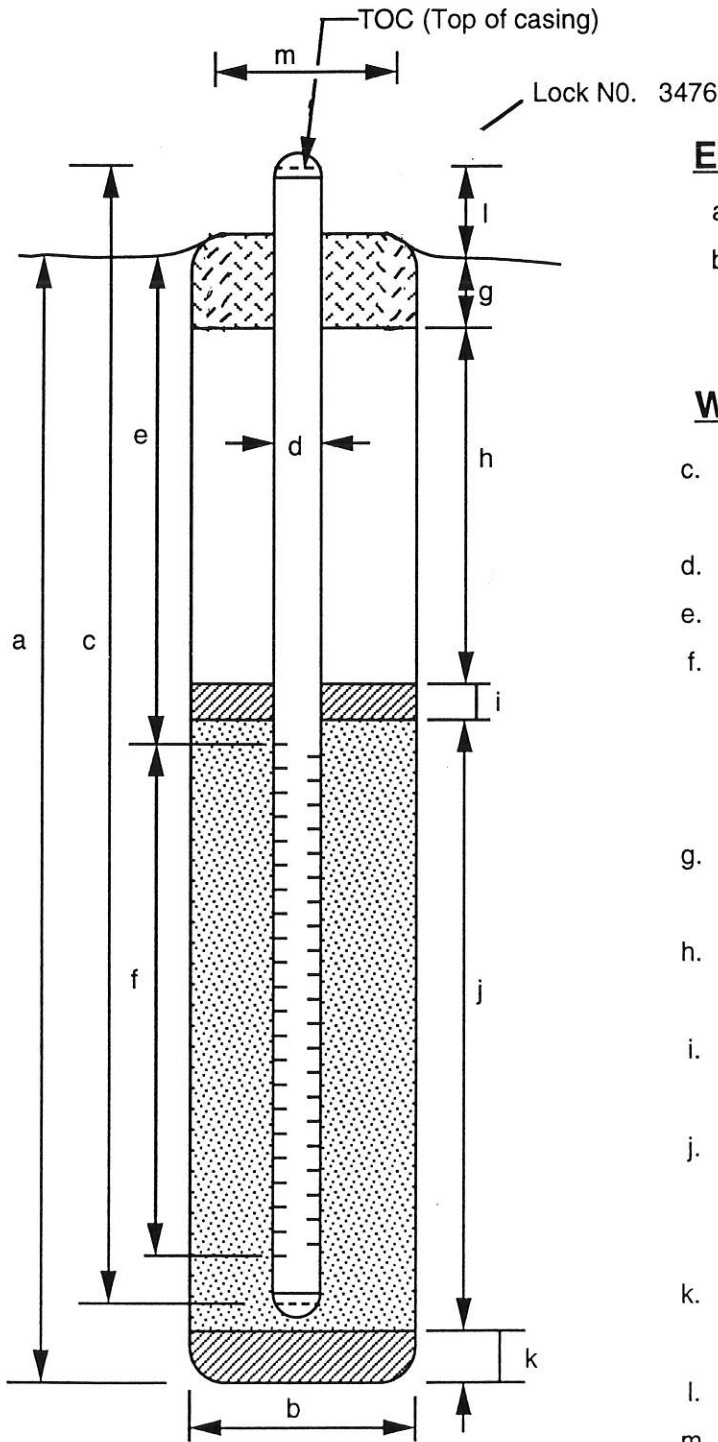
**REMARKS**

Boring drilled with 8-inch-diameter hollow-stem auger drilling equipment. Boring sampled using modified California split-spoon samplers. Boring completed as a 2-inch-diameter PVC monitoring well. Well construction information is presented in Well Details and shown graphically on this log. See explanation sheet for definition of symbols used in Well Detail and sample columns on this log.



# WELL DETAILS

PROJECT NUMBER <u>20F88-001.019</u>	BORING / WELL NO. <u>S-9</u>
PROJECT NAME <u>Westinghouse</u>	TOP OF CASING ELEV. <u>NA</u>
LOCATION <u>Emeryville, CA</u>	GROUND SURFACE ELEV. <u>NA</u>
WELL PERMIT NO. <u>96244</u>	DATUM <u>FT - MSL</u>
	INSTALLATION DATE <u>4/2/96</u>



## EXPLORATORY BORING

a. Total depth 20.0 ft.  
 b. Diameter 8.0 in.  
 Drilling method Hollow-Stem Auger

## WELL CONSTRUCTION

c. Total casing length 20.5 ft.  
 Material Schedule 40 PVC  
 d. Diameter 2.0 in.  
 e. Depth to top perforations 9.4 ft.  
 f. Perforated length 9.2 ft.  
 Perforated interval from 9.4 to 18.6 ft.  
 Perforation type Machine-slotted  
 Perforation size 0.010 in.  
 g. Surface seal na ft.  
 Material na  
 h. Backfill 6.5 ft.  
 Material Cement  
 i. Seal 1.0 ft.  
 Material Bentonite  
 j. Gravel pack 11.5 ft.  
 Gravel pack interval from 8.5 to 20.0 ft.  
 Material #2/16 sand  
 k. Bottom seal/fill na ft.  
 Material na  
 l. Casing stickup na ft.  
 m. Protective casing diameter na in.

Well Constructed by THG

**APPENDIX B**  
**WELL DEVELOPMENT AND WATER SAMPLING FIELD DATA**  
**SHEETS**

EMCON  
ASSOCIATES

## FIELD REPORT

### FIELD SERVICES GROUP

PROJECT NO: 20F88-001,019DATE: 4-9-96CLIENT NAME: WEL- Emeryville, CANAME: M. RossLOCATION: Emeryville, CA

#### SERVICES RENDERED

GROUND WATER WELLS:  Sampling  Development  Maintenance/Repair  Water-Level SurveySOIL SAMPLING:  Excavation  Borings  StockpileOTHER: micro-purging

REMARKS: Well S-9 was micro-purged by using a peristaltic pump at a  $\approx$  rate of 100 ml/min. Teflon tubing was lowered  $\approx$  15' down into the middle of the screen interval. The teflon tubing was hooked up to the peristaltic pump, which was then connected to a flow thru cell. The flow thru cell was being monitored by a in-line analyzer (YSI 3500) for pH, Temp, COND. + ORP. Separate Oxygen and NTU meters where used. Silicon tubing was used ~~to~~ inside peristaltic pump to draw water thru it and to connect teflon tubing to peristaltic pump. After purging for 20 minutes  $\approx$  1 gallon of water was purged, Peristaltic pump was disconnected from flow thru cell, and samples where taken from a short piece of teflon tubing.

SIGNATURE: M. RossPage 1 of 2

## WELL DEVELOPMENT FIELD DATA SHEET

Project Number: 20F88-001.019

Performed By: M. ROSS

Client: WEC - EMERYVILLE

Date: 4-5-96

Location: EMERYVILLE, LA

Well ID: S-9

Casing Diameter:  2 inch  3 inch  4 inch  4.5 inch  6 inch Other \_\_\_\_\_

Depth to Water (feet): Start 6.44 End 6.63

Well Total Depth (feet): Start 19.4 End 19.8

One Casing Volume at Start (gal): 2.11 Total Volume Purged (gal): 80.0

### DEVELOPMENT METHOD

Centrifugal Pump  Bailer (Teflon®)  Surge Block (Swab)  
 Submersible Pump  Bailer (PVC)  Other \_\_\_\_\_

### FIELD INSTRUMENTS

pH, EC, Temp. Meter  NTU Meter  Imhoff Cone  Colorimeter Other \_\_\_\_\_

Purge Water Disposal Method: \_\_\_\_\_

Date	Time	Cumulative Discharge (gal)	Temp. (° F)	E.C. @ 25° C (µmho/cm)	pH (Std)	Turbidity		Color		Odor	Settleable Solids (%)
						Visual	NTU Scale =	Visual	Cobalt Scale =		
4-5-96	1110	10.0	68.4	975	7.80	Heavy	> 1000	BRN	> 500	NONE	53%
	1120	20.0	67.9	921	7.24	Heavy	> 1000	BRN	7500	NONE	37%
	1132	30.0	68.8	876	7.30	Heavy	> 1000	BRN	> 500	NONE	20%
	1144	40.0	68.8	870	7.41	Heavy	> 1000	BRN	> 500	NONE	20%
	1151	50.0	68.7	852	7.35	Heavy	> 1000	BRN	> 500	NONE	19%
	1200	60.0	67.8	834	6.89	Heavy	> 1000	BRN	> 500	NONE	15%
	1213	70.0	65.6	836	6.86	Heavy	> 1000	BRN	7500	NONE	4%
	1221	80.0	65.9	847	6.87	Heavy	> 1000	BRN	7500	NONE	4%

WELL INTEGRITY: GOOD LOCK #: 3476

REMARKS: \_\_\_\_\_

THERE IS NO VAULT BOX AROUND WELL.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SIGNATURE: M. Ross REVIEWED BY: KR Page 2 of 2

# WEC Sampling Operation and Maintenance Field Report

## CALIBRATION

COND → 988  
 pH → 6.96 / 7.00  
 10.00 / 10.00  
 3.98 / 4.00  
 Temp → 21.6

WL (START) → 6.53  
 WL (END) → 6.59  
 Depth of purge → 15 ft

START → 1328  
 Sampling Time → 1405

Time	Temp	COND	pH	ORP (MV)	OXYGEN	NTU
1339	18.2	910	6.74	129	.18	29.0
1341	18.0	1180	6.56	093	.14	27.9
1343	17.9	1070	6.50	086	.16	27.2
1345	17.9	1190	6.47	084	.14	23.0
1347	17.8	1220	6.54	084	.15	23.7
1349	17.8	1220	6.42	083	.16	23.5
1351	17.8	1180	6.40	081	.18	23.4
1353	17.8	1200	6.38	076	.17	22.5
1355	17.7	1190	6.36	070	.16	19.5
1357	17.7	1220	6.34	066	.16	18.8
1359	17.6	1230	6.33	064	.17	18.7

Name M. ROSS

Project Name WEC - EMERYVILLE

Date 4-9-96

Project Number 20F88-001.019





**APPENDIX C**  
**LABORATORY REPORT AND CHAIN-OF-CUSTODY**  
**DOCUMENTATION**



April 15, 1996

Service Request No: S9600580

Mr. Terry Gyrion  
EMCON  
1921 Ringwood Avenue  
San Jose, CA 95131

**Re: Westinghouse-Emeryville/Project No. 208F88-001.019**

Dear Mr. Terry Gyrion:

The following pages contain analytical results for sample(s) received by the laboratory on April 9, 1996. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. Listed above -- to help expedite our service please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 5, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Green", written over a white background.

Steven L. Green  
Project Chemist

SLG/cvr

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** EMCON  
**Project:** Westinghouse-Emeryville/#20F88-001.019  
**Sample Matrix:** Water

**Service Request:** L9602068  
**Date Collected:** 4/9/96  
**Date Received:** 4/9/96  
**Date Extracted:** 4/10/96

Polychlorinated Biphenyls (PCBs)  
EPA Methods 3510/8080  
Units: ug/L (ppb)

**Sample Name:** S-9                      **Method Blank**  
**Lab Code:** L9602068-001            L9602068-MB  
**Date Analyzed:** 4/11/96              4/11/96

Analyte	MRL		
Aroclor 1016	0.1	ND	ND
Aroclor 1221	0.1	ND	ND
Aroclor 1232	0.1	ND	ND
Aroclor 1242	0.1	ND	ND
Aroclor 1248	0.1	ND	ND
Aroclor 1254	0.1	ND	ND
Aroclor 1260	0.1	ND	ND

APPENDIX A

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON  
Project: Westinghouse-Emeryville/#20F88-001.019  
Sample Matrix: Water

Service Request: L9602068  
Date Collected: NA  
Date Received: NA  
Date Extracted: NA  
Date Analyzed: NA

Surrogate Recovery Summary  
Polychlorinated Biphenyls (PCBs)  
EPA Methods 3510/8080

Sample Name	Lab Code	Percent Recovery Tetrachloro- <i>m</i> -xylene
S-9	L9602068-001	54
Method Blank	L9602068-MB	66

CAS Acceptance Limits: 45-140



059 Junction Avenue • San Jose, CA 95131 • (408) 428-1280 • FAX (408) 437-9355

19602068

PROJECT NAME: WESTINGHOUSE - EMERYVILLE 20F880019

PROJECT MGR: CYRION

COMPANY ADDRESS: EMCON

1921 RINGWOOD

SAMPLERS SIGNATURE: Mike Parr

SAMPLE I.D.: S-9

DATE: 4-9-96

TIME: 1405

LAB I.D.: -1

SAMPLE MATRIX: H<sub>2</sub>O

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. 9600580

P.O.#

PAGE 1 OF 1

PRESERVATIVE	ANALYSIS REQUESTED										REMARKS		
	NP	HCl	HCl	HCl	NP	HCl	HCl	HCl	NP	H <sub>2</sub> SO <sub>4</sub>		H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>
Base/Neu/Acid Organics GC/MS 625/8270													<p>PCBs BY 8080</p> <p>Oil and Grease Method</p> <p>Metals (total or dissolved) List Below</p> <p>PH, Cond, Cl, SO<sub>4</sub>, F, TDS, TSS Alk (circle)</p> <p>NH<sub>3</sub>-N, COD, Total-P, TKN, NO<sub>3</sub>/NO<sub>2</sub> (circle)</p> <p>TOC</p> <p>Total Organic Carbon</p> <p>Total Phenols</p>
Volatile Organics GC/MS 624/8240/8260													
Halogenated or Aromatic Volatiles 601/8010 602/8020													
TPH as Gas/BTEX DHS LUFT / 8020													
TPH as Diesel/HBHC DHS LUFT													
TPH - 418.1													
Oil and Grease Method													
Metals (total or dissolved) List Below													
PH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS Alk (circle)													
NH <sub>3</sub> -N, COD, Total-P, TKN, NO <sub>3</sub> /NO <sub>2</sub> (circle)													
TOC													
Total Organic Carbon													
Total Phenols													

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Mike Parr Printed Name: EMCON Firm: EMCON Date/Time: 4-9-96 1550	Signature: Kurt Roby Printed Name: Kurt Roby Firm: CAS Date/Time: 4-9-96 1550	Signature: Kurt Roby Printed Name: Kurt Roby Firm: CAS Date/Time: 4-9-96 1550	Signature: Catherine Haanpa Printed Name: Catherine Haanpa Firm: CAS-CP Date/Time: 4/10/96 900

TURNAROUND REQUIREMENTS	REPORT REQUIREMENTS
24 hr <input checked="" type="checkbox"/> 48 hr <input type="checkbox"/> 3-5 day <input type="checkbox"/>	<input checked="" type="checkbox"/> I. Routine Report <input type="checkbox"/> II. Report (includes DUP, MAS, MSD, as required, may be charged as samples) <input type="checkbox"/> III. Data Validation Report (includes All Raw Data) R#0008 (N/A, I, P, Q, L, TRACE#)

SPECIAL INSTRUCTIONS/COMMENTS:
Circle which metals are to be analyzed: Metals: Al Sb Ba Be B Cd Ca Cr Cu Co Fe Mg Mn Mo Ni K Ag Na Sn V Zn As Pb Se Ti Hg

FEDEX 9702362515 - LLAB