



**ERICKSON Inc.**

255 Parr Boulevard / Richmond, CA 94801 / (510) 235-1393 / Fax (510) 235-3709

September 13, 1992

Steve Slade, General Manager  
Charles Lowe Company  
1400 Park Avenue  
Emeryville, CA 94608-0445

Dear Mr. Slade:

Attached are two copies of the final report for the closure of the Chromex plating facility. Please review the report and contact me if you need to have any changes made.

If no changes are necessary, please send the second copy of the report to the following agency contact:

Brian Oliva, REHS, REA  
Alameda County Health Care Services Agency  
Hazardous Materials Division  
80 Swan Way, Room 200  
Oakland, CA 94621

In order to have a record that you have sent a copy of the report to Alameda County, I suggest that you send the report by certified mail to Mr. Oliva.

Thank you for the opportunity to be of service to you and your company.

Very truly yours,

Mary L. Boyd  
Project Engineer





**ERICKSON, Inc.**

**Industrial Waste Disposal and Cleaning Management Service Since 1942**

**FINAL CLOSURE REPORT  
of the  
CHROMEX PLATING FACILITY**

**FINAL CLOSURE REPORT  
OF THE  
CHROMEX PLATING FACILITY**

Prepared for  
**CHARLES LOWE COMPANY  
1400 PARK AVENUE  
EMERYVILLE, CALIFORNIA 94608-0445**

For submittal to  
**ALAMEDA COUNTY HEALTH AGENCY  
DIVISION OF HAZARDOUS MATERIALS  
80 SWAN WAY, ROOM 200  
OAKLAND, CALIFORNIA 94621**

Prepared by  
**EXCEL TRANS, INC.  
P.O. BOX 866  
290 WEST CHANNEL ROAD  
BENICIA, CALIFORNIA 94510-0866**

NOVEMBER 1, 1992

## TABLE OF CONTENTS

---

SECTION	PAGE
1 INTRODUCTION .....	1
2 PROJECT OVERVIEW .....	1
3 OVERVIEW OF SAMPLING, TESTING, AND DISPOSITION OF WASTE .....	2
TABLE I: CRITERIA FOR CLASSIFICATION OF WASTE .....	3
TABLE II: HAZARDOUS & NONHAZARDOUS DISPOSAL FACILITIES .....	4
4 SITE PREPARATION .....	5
5 REMOVAL AND DISPOSAL OF TANK CONTENTS .....	5
TABLE III: VOLUME, CONSTRUCTION MATERIAL, & CONTENTS OF TANKS .....	6
TABLE IV: MANIFESTS AND SHIPPING DATES FOR TRANSPORT OF TANK CONTENTS AND RINSATE .....	6
6 REMOVAL AND DECONTAMINATION OF PROCESS AND RELATED EQUIPMENT .....	7
7 DECONTAMINATION AND REMOVAL OF STRUCTURAL SURFACES .....	7
8 INSPECTION OF FLOORS AND VAULT FOR CRACKS .....	8
9 REMOVAL OF CONCRETE SURFACES AND THE CONCRETE VAULT .....	8
10 PRESENT STATE AND FUTURE USE OF SITE .....	9

## APPENDICES

---

### APPENDIX A

Area, Vicinity, and Site Maps

### APPENDIX B

ACHA Approval of Workplan

### APPENDIX C

Manifests

### APPENDIX D

Non-hazardous Disposal Receipts

### APPENDIX E

Field Test Results

### APPENDIX F

Analysis of Wood Siding

### APPENDIX G

Analysis of Decontaminated Brick Wall and Windows

### APPENDIX H

Analysis of Concrete Vault

**FINAL CLOSURE REPORT  
OF THE  
CHROMEX PLATING FACILITY**

1400 PARK AVENUE  
EMERYVILLE, CALIFORNIA 94608-0445  
(510) 652-5900

---

**1 INTRODUCTION**

The Chromex plating facility was a hard chrome plating shop located at 1400 Park Avenue, Emeryville, California. An area, vicinity, and site map of the Chromex facility are located in Appendix A. In January 1991 Chromex ceased all chrome plating operations and contracted Excel Trans, Inc. to perform a complete plant closure and facility decommissioning.

Excel Trans prepared and submitted to the Alameda County Health Agency (ACHA) on April 5, 1991 the "Technical Proposal and Workplan for Chromex" (hereafter called workplan) for the closure. Documented in the May 22, 1991 ACHA amendment, ACHA gave verbal approval of the workplan, and Excel Trans began closure activities on April 22, 1991. On April 17, 1992, Excel Trans submitted to ACHA a second amendment which outlined additional work at the site. The additional work commenced on June 19, 1992 and included demolition of the structure and vault. All closure activities at the site have been performed according to the ACHA approved workplan and amendments, and are documented in this report.

**2 PROJECT OVERVIEW**

The Chromex closure was a complete facility decommissioning and closure. Closure included the following activities:

- removal and disposal of tank contents
- removal and decontamination of equipment
- removal and/or decontamination of structural surfaces
- removal of concrete vault
- sampling of decontaminated equipment and surfaces for residue levels

The removal and disposal of tank contents was performed according to all applicable local, state, and federal regulations. Tank contents were transferred to D.O.T. containers, loaded onto registered hazardous waste haulers, and disposed at an EPA permitted treatment facility. After disposal of tank contents, workers commenced decontaminating equipment.

Equipment was washed with high pressure water, field tested for contaminant residue levels, and sorted for proper disposal. Disposition of decontaminated equipment included both nonhazardous and hazardous disposal.

During equipment cleaning, workers began decontaminating the concrete vault, steel structure, and building surfaces. However, cleaning the structure did not bring contaminant residue levels below the specified target limits. As a result, Excel Trans submitted an amendment to ACHA on April 17, 1992 which outlined the necessary steps to demolish the building structure and concrete vault. ACHA approved the amendment, and demolition of the vault began on April 29, 1992.

At present, all Chromex equipment, piping, structural supports, siding, and roofing have been transported from the site and disposed of according to all applicable local, state, and federal regulations. Only two structural surfaces remain at the site: the southern brick wall and 2/3 of the grade-level concrete floor. Analysis of samples of the washed brick wall confirm that the wall was decontaminated to acceptable residue levels (Appendix G). Further, results of a subsurface soil investigation performed in October 1992 will be used to assess the status of the grade-level concrete flooring.

The following sections of this report present details and documentation of closure activities at the site.

### **3 OVERVIEW OF SAMPLING, TESTING, AND DISPOSITION OF WASTE**

Throughout the decontamination and dismantling process, waste was categorized as hazardous or nonhazardous and was accumulated and handled accordingly. Categorizing waste was accomplished by testing residue levels of representative samples to confirm that approved cleaning levels had been achieved.

Testing of samples included both field testing at the site and analyses at a California DHS certified laboratory. Field testing was limited to test strips for pH, chromium, and oxidizer characteristic. Certified chemical laboratory analysis of grab, rinse, and composite samples were tested for metals and pH using EPA test methods.

Testing of residue levels was used as a tool to categorize decontaminated equipment as either hazardous or nonhazardous waste. Both field and analytical tests results were used to classify waste. Residual levels for pH, chrome, and oxidizer characteristic and the corresponding waste category are outlined in Table I.



**TABLE I**  
**CRITERIA FOR CLASSIFICATION**

TEST RESULTS	CLASSIFICATION
chrome: < 2ppm pH: 5 - 10 oxidizer: negative	Target residue levels for cleaned structural surfaces. Acceptable to leave at the site.
chrome: < 5 ppm ph: 5 - 10 oxidizer: negative	Nonhazardous waste for cleaned structural surfaces.
chrome: ≥ 5ppm	Hazardous waste for structural surfaces.

Once waste was classified, it was handled and disposed of according to all applicable local, state, and federal regulations. For example, structural surfaces that met the acceptable residue level of <2ppm chrome were left at the site. In addition, waste that was classified as nonhazardous was disposed of at Class III landfill, wood recycling, or metal reclamation facility. Waste that was classified as hazardous waste was sent to EPA permitted disposal facilities.

Moreover, the disposition of hazardous waste defined as organic and inorganic debris was disposed of at Envirosafe Services of Idaho under the EPA national capacity variance for Third Third debris (55 FR 22556, June 1, 1990 and 55 FR 22650, June 1, 1991).

Documentation of hazardous and nonhazardous waste disposal is located in Appendix C and D respectively. Documentation of the disposal of waste includes the following:

- manifests
- metal reclamation receipts
- wood recycling receipts
- scavenger receipts

A list of disposal facilities and their descriptions is outlined in Table II, page 4.

TABLE II

HAZARDOUS & NONHAZARDOUS DISPOSAL FACILITIES

DISPOSAL FACILITY	FACILITY DESCRIPTION
<p>Norris Environmental Services 5215 So. Boyle Avenue Los Angeles, CA 90058</p>	<p>EPA permitted treatment facility for liquids EPA ID Number CAD097030993</p>
<p>US Ecology Highway 95 Beatty, NV 29003</p>	<p>EPA permitted Class I landfill EPA ID Number NVT330010000</p>
<p>Envirosafe Services of Idaho 10.5 miles Northwest of Grandview Missile Base Road Grandview, ID 83624</p>	<p>EPA permitted Class I landfill EPA ID Number IDD073114654</p>
<p>Aptus 11600 North Aptus Road Aragonite, UT 04029</p>	<p>EPA permitted incinerator EPA ID Number UTD981552177</p>
<p>Forward Landfill 9999 So. Austin Road Stockton, CA 95215</p>	<p>California Permitted Class III landfill CAL EPA ID Number CAD990794133</p>
<p>Sharon Metal San Jose, CA</p>	<p>Scrap recycler for metal reclamation</p>
<p>Oakland Scavenger / Davis Street Transfer Station / Altamont Landfill 2000 Embarcadero, #101 Oakland, CA 94606</p>	<p>Local Class III landfill</p>
<p>Major Salvage Company 3237 Fernside Boulevard Alameda, CA 94501</p>	<p>Wood recyclers</p>

#### **4 SITE PREPARATION**

Prior to the commencement of all work at the Chromex facility, the site was prepared for environmental remediation activities. Site preparation included training employees in project safety procedures, securing the site, and building a contamination reduction zone (CRZ) and temporary berm.

Employee training included hazardous waste worker training and site specific safety training. Excel Trans' employees received 40-hour OSHA training for hazardous waste workers (29 CFR 1910.120) and one hour of safety instructions specific to health and safety concerns at the Chromex facility. Site specific training included instruction in chemical and physical hazards, personal protective equipment, respirator training, hazard mitigation, and general safe work practices. In addition, the Site Safety Officer instructed employees on the routes to the nearest medical clinic and hospital.

After the site safety meeting was given, and before closure work activities began, Excel Trans' employees secured the Chromex site with a chain-link temporary fence. Installation of the fence restricted site access and served as a security measure for on-site storage of remediation equipment.

After the site was secured, an electrician locked-out the power supply, and Excel Trans workers constructed the CRZ and temporary berm. The CRZ was a temporary structure with separate personal protective equipment, shower/decontamination, and clean locker rooms. Site personnel were required to enter and exit through the CRZ.

The temporary berm was constructed simultaneously with the construction of the CRZ. The temporary leak proof berm enclosed the entire inside perimeter of the plating shop. The purpose of the berm was to collect and contain excess rinsate from decontamination of the equipment, piping, and surfaces.

Once the site was prepared for work activities, the workers mobilized equipment and began work activities as described in the workplan and amendments.

#### **5 REMOVAL AND DISPOSAL OF TANK CONTENTS**

Prior to closure, the Chromex facility contained eight aboveground tanks which contained plating, etching, and stripping solutions. Table III lists the volume, construction material, and contents of all eight tanks.

TABLE III

VOLUME, CONSTRUCTION MATERIAL, & CONTENTS OF TANKS

VOLUME (Gallons)	CONSTRUCTION MATERIAL	CONTENTS
3600 Gallons	Steel	Chrome Plating Solution
3200	Steel	Chrome Plating Solution
3200	Steel	Chrome Plating Solution
2800	Steel	Chrome Plating Solution
750	Polyethylene	20% Sodium Hydroxide
120	Polyethylene	20% Hydrochloric Acid
100	Polyethylene	20% Sulfuric Acid
60	Polyethylene	20% Hydrochloric Acid

TABLE IV

MANIFESTS AND SHIPPING DATES FOR TRANSPORT OF TANK CONTENTS  
AND RINSATE

SHIPPING DATE	MANIFEST No.	DESCRIPTION	QUANTITY (GALLONS)
April 1, 1991	89887237	Rinsate	3,800
April 5, 1991	89887229	Chrome plating solution	4,200
April 8, 1991	89924867	Chrome plating solution	4,000
April 24, 1991	89924866	Chrome plating solution	1,000
May 29, 1991	90328817	Stripping solution	880
June 9, 1991	90328916	Chrome plating solution	330
July 12, 1991	90328987	Rinsate	4000
May 5, 1992	91716485	Rinsate	550

Concrete surfaces were not amenable to chemical cleaning. For example, analysis performed after chemical cleaning showed a chrome concentration of 7,200 mg/kg in a concrete vault wall sample (Appendix H). This analysis confirmed that chemical washing was inappropriate, and the original workplan was amended and submitted to ACHA on April 17, 1992.

After approval of the amendment by ACHA, Tank Excavators, Inc. was subcontracted to shore and excavate the vault. Tank Excavators applied for and received City of Emeryville excavation permit number B4301-492 on April 14, 1992. Prior to demolition, Tank Excavator shored the vault with sheetpile. During shoring, approximately 40 yd<sup>3</sup> of soil was excavated. The soil pile was tested for California 17 metals and Volatile Organics by approved EPA methods at a DHS certified laboratory. Analysis of the soil, which was submitted to ACHA in the subsurface investigation workplan, indicated that the soil was neither a state or federally regulated waste. At present, soil has been accepted and assigned approval number 92-245 at Forward Landfill, a Class III landfill. A bill of lading documenting disposal will be submitted to ACHA as soon as the soil is transported to Forward.

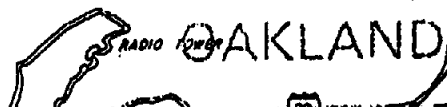
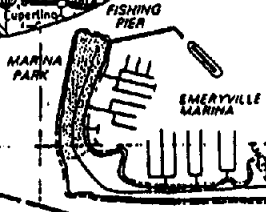
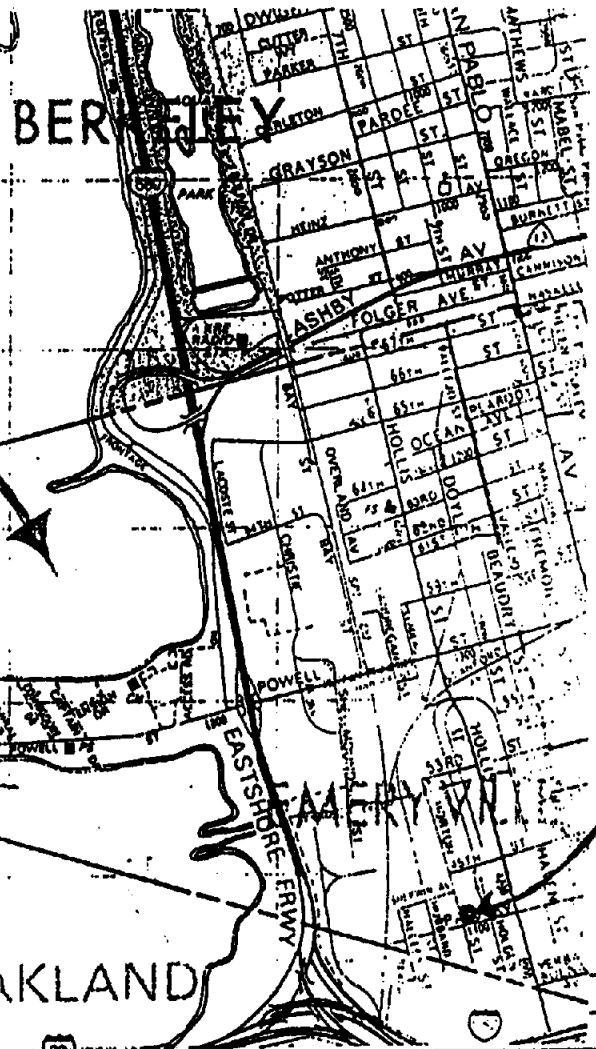
After shoring was completed, the entire concrete vault was excavated and sent to EnviroSAFE Services of Idaho for disposal. In addition to the excavation of the vault, a portion of the concrete floor surrounding the vault was also excavated and sent to Class I landfill. Manifests documenting disposal are located in Appendix C.

## 10 PRESENT STATE AND FUTURE USE OF SITE

At the present time, the entire building structure has been demolished and approximately 30% of the concrete floor has been removed to expose native soil. In addition, a 10 ft deep excavation exists in the location of the former vault. The vault and soil were sampled in October 1992.

A preliminary subsurface investigation of the vault, soil, and groundwater was undertaken at the site on October 1, 1992. A summary of the findings were submitted to ACHA on November 4, 1992. As part of the summary, Excel Trans recommended that the soil in the vault be immediately excavated below the water, and that the excavated hole be refilled with gravel after analysis shows that soil chrome concentrations have dropped below a level of regulatory concern. ACHA has given verbal approval to the recommendations. Work will begin as soon as possible.

Once the pit has been filled, Charles Lowe intends to use the former Chromex site as an outdoor uncovered storage area for large equipment.

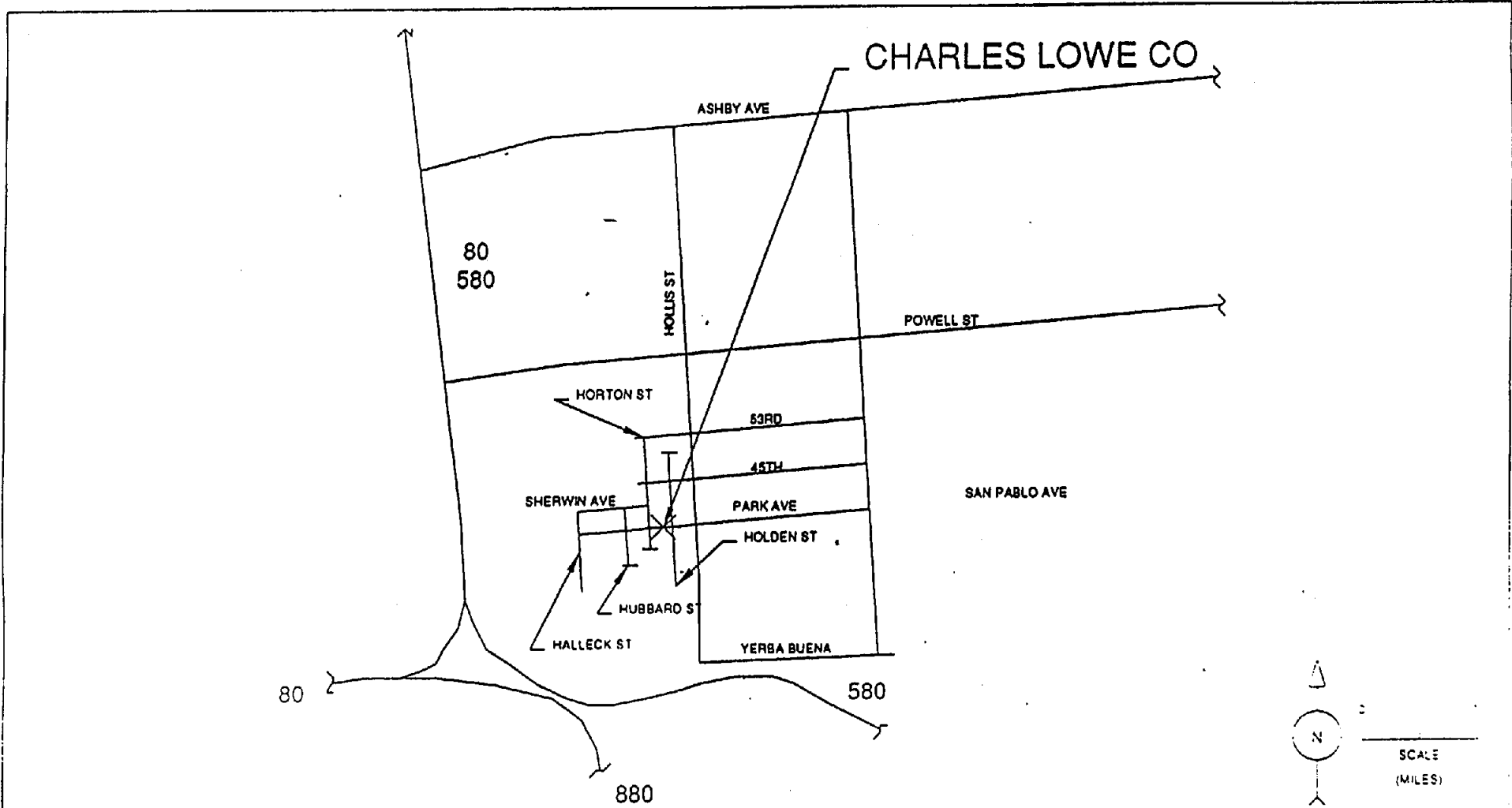


SAN FRANCISCO BAY AREA/ EMERYVILLE

CHARLES LOWE COMPANY

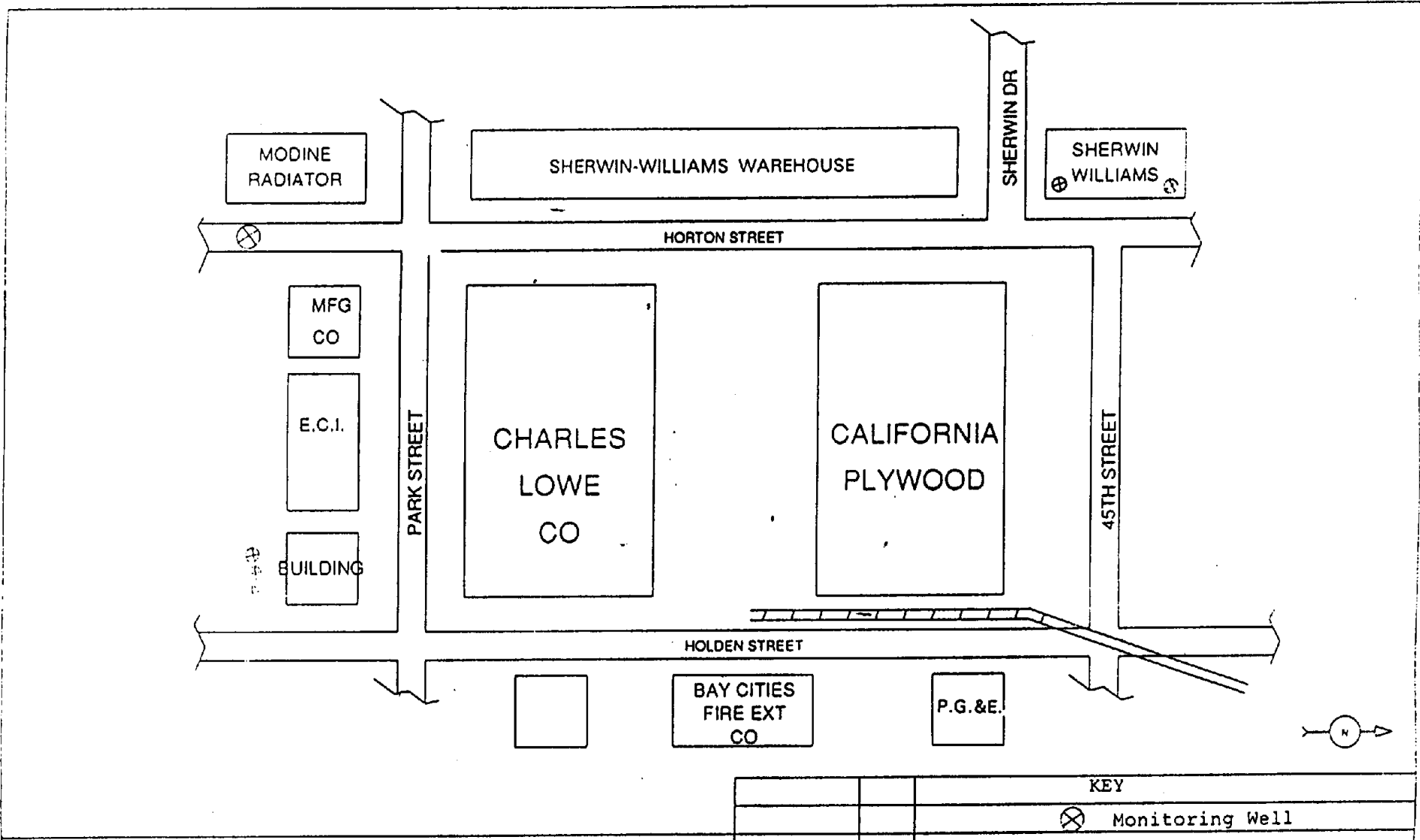
1400 PARK AVE

EMERYVILLE, CA 94608



AREA LAYOUT

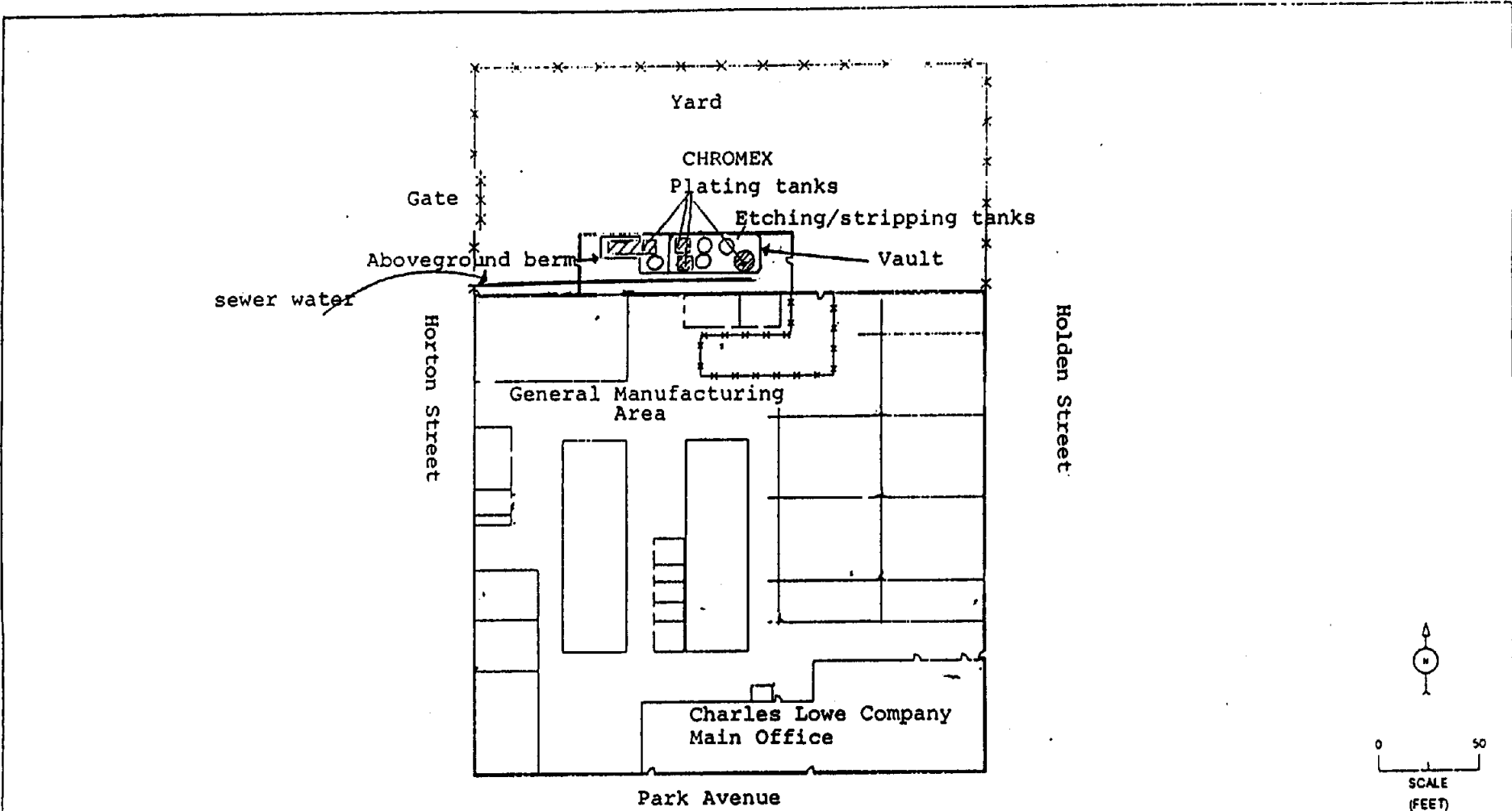
DATE	LTR	DESCRIPTION



KEY		
⊗	Monitoring Well	

VICINITY MAP





SITE MAP									

APPENDIX B

ACHA Approval of Workplan

**ALAMEDA COUNTY  
HEALTH CARE SERVICES****AGENCY**

DAVID J. KEARS, Agency Director



MAY 22, 1991

**DEPARTMENT OF ENVIRONMENTAL HEALTH**  
Hazardous Materials Program  
80 Swan Way, Rm. 200  
Oakland, CA 94621  
(415)Mr. Fred Schappert  
Charles Lowe Company  
1400 Park Avenue  
Emeryville, CA 94608**RE: Workplan For Chromex, Closure of Plating Facility  
1400 Park Avenue, Emeryville, CA 94608**

Dear Mr. Schappert:

The Alameda County Department of Environmental Health, Hazardous Materials Division has received and reviewed the workplan for the closure of the plating facility at the referenced site, as submitted by Excel Trans under cover letter dated April 5, 1991. Through telephone conversation with Mr. David Nielsen of Excel Trans, the closure plan was given a verbal approval and is acceptable subject to the following conditions:

- \* All other Federal, state or local statutes, regulations, ordinances, requirements or limitations which are applicable to your project must be followed.
- \* The Health and Safety Plan consistent with applicable requirements of 29 CFR 1910.120 must be followed and a complete copy must be available at the site during the closure operation.
- \* The on-site storage of any hazardous waste generated by the decontamination activities must not exceed 90 days.
- \* Disposal of waste generated in the closure operation must be supported by analysis by a state certified lab.
- \* Field tests are acceptable as a screening tool but laboratory analysis by a state certified lab are required for verification of the extent of decontamination.
- \* A time schedule for the entire closure activities must be submitted to this department.
- \* A written notification for any changes or deviation in the closure workplan must be submitted and approved by this department.

MAY 28 '91 13:28

4156525387 PAGE.001



