Activities Report Go

CHAPMAN PROPERTY (T0600102062) - MAP THIS SITE

OPEN - SITE ASSESSMENT

1400 53RD ST
EMERYVILLE , CA 94608
ALAMEDA COUNTY

ACTIVITIES REPORT

PUBLIC WEBPAGE

VIEW PRINTABLE CASE SUMMARY FOR THIS SITE

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: 801*
SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: 01-2246*

THIS PROJECT WAS LAST MODIFIED BY ***PARESH KHATRI*** ON 4/22/2010 1:16:11 PM - HISTORY

ACTIVITIES REPORT

ACTIVITY TYPE FILTER: Show All Activities Go

*** INDICATES A REVISED DUE DATE**

SCHEDULE NEW REGULATORY ACTION

SCHEDULE NEW COMPLIANCE RESPONSE / SCHEDULE RECURRING

ACTION TYPE	ACTION	ACTION DATE	RECEIVED / ISSUE DATE	ACTION DESCRIPTION
LEAK ACTION	Leak Reported	10/14/1997		
LEAK ACTION	Leak Discovery	9/5/1996		
LEAK ACTION	Leak Stopped	9/5/1996		

LOGGED IN AS TEENALEKHAN

CONTACT GEOTRACKER HELP

CHAPMAN PROPERTY (T0600102062) - MAP THIS SITE

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CLOSURE REVIEW

THIS VERSION IS IN PROGRESS AS OF 4/22/2010

CLOSURE REVIEW HISTORY

IS THIS CASE READY FOR CLOSURE? ○ YES ◉ NO - VIEW MAXIMUM CONCENTRATIONS REPORT

IMPEDIMENTS TO CLOSURE

Site Assessment Incomplete

- ☐ Incomplete Conceptual Site Model (CSM)
- Pollutant Sources Have Not Been Adequately Identified or Evaluated
- ☑ UST removed from the site. However, analytical data and/or Tank Removal Report not yet received. Further evaluation is pending.
- ☐ Extent of Contamination Has Not Been Determined
- Potential Risks, Threats, And Other Environmental Concerns Have Not Been Adequately Identified And Assessed
- ☑ Analytical data and/or Tank Removal Report not yet received. Further evaluation is pending. Therefore, potential risks and threats have not been fully evaluated.
- ☐ Sensitive Receptor Survey Has Not Been Completed
- ☐ Other

Inadequate Source Control

- ☐ Feasible Source Control Not Performed
- ☐ Remaining Source Poses Threat to Groundwater
- ☐ Other

Plume Instability

- ☐ Groundwater Contamination Plume Not Stable or Decreasing
- ☐ Significant Rebound In Concentrations After Remediation
- ☐ Verification Monitoring Not Complete
- ☐ Other

Groundwater Impacts

- ☐ Groundwater Impacted Above Background
- ☐ Groundwater Impacted Above Other Cleanup Goal
- ☐ Groundwater Will Not Meet Relevant WQOs Before the Beneficial Use of the Groundwater is Needed
- ☐ Other

Well Impacts

- ☐ Municipal Wells Impacted
- ☐ Municipal Wells Potentially Impacted
- ☐ Domestic Wells Impacted
- ☐ Domestic Wells Potentially Impacted
- ☐ Irrigation / Industrial Wells Impacted
- ☐ Irrigation / Industrial Wells Potentially Impacted
- ☐ De-Watering Well / Sump Impacted
- ☐ De-Watering Well / Sump Potentially Impacted
- ☐ Other

Unacceptable Risk

- ☐ Unacceptable Risks to Human Health from Soil
- ☐ Unacceptable Risks to Human Health from Vapor Intrusion
- ☐ Unacceptable Risk from Soil Contaminants Entering Surface Runoff
- ☐ Unacceptable Risk from Contaminated Groundwater Day Lighting to Surface Water
- ☐ Other

Land Use Impediments

- ☐ Proposed Change In Land Use (Need Additional RI and/or Cleanup)
- ☐ Risk Management Measures Need Agency Oversight (eg. Cap Maintenance)
- ☐ Other

Procedural Impediments

- ☐ Non-Responsive and / or Recalcitrant Responsible Party
- ☐ RP Says They Do Not Have Adequate Funds to Initiate or Continue Work at the Site
- ☐ Site Data And Reports Not Uploaded to Geotracker
- ☐ Monitoring Wells Not Yet Abandoned
- ☐ Landowner Objects to Case Closure
- ☐ Regional Water Board Objects to Closure
- ☐ Local Agency Objects to Case Closure
- ☐ Community Objects to Case Closure
- ☐ LOC Suspended
- ☐ Reimbursements Delayed
- ☐ Other

Other Impediments

Currently known and immediately relevant impediments to closure have been identified above in the context of this Closure Review Form. However, the impediments to closure identified above do not comprehensively describe the full scope of work that may be necessary to achieve case closure nor do they necessarily represent the full range of conditions to be evaluated on a site-specific basis during case closure review. In addition, as more information becomes available during progress of the case, additional impediments to closure may become known.

BENEFITS OF ADDITIONAL WORK

- ☐ Fill-in RI Data Gaps
- ☐ Complete CSM and Our Understanding of Hydrogeologic Regime and Fate and Transport of Contaminants
- ☐ Verify Remedial Action Effectiveness
- ☐ Remove / Reduce Source Mass
- ☐ Protect Designated Beneficial Uses
- ☐ Restore Beneficial Uses
- ☐ Protect Existing Water Supply Wells
- ☐ Protect Human Health
- ☐ Protect Ecological Receptors
- ☐ Restore Blighted Property to Productive Use
- ☐ Other

SENSITIVE RECEPTORS LIKELY TO BE IMPACTED AND TIME FRAME FOR IMPACT

Municipal Well	
Domestic Wells	
Groundwater	
Surface Water (Bay, Estuary, Stream, Lake)	
Storm drain (Runoff of contaminated soil)	
Indoor Air (Residential or Commercial)	
Irrigation / Industrial Well	
Other	

NOTES / COMMENTS

The information presented in this Case Closure Review form is limited to the specific topics listed in this form and does not represent all of the factors to be considered for case closure.

SPELL CHECK

Save as In Progress | Save as Final

LOGGED IN AS TEENALEKHAN

CONTACT GEOTRACKER HELP

Facility / Site Address | Go

CHAPMAN PROPERTY (T0600102062) - MAP THIS SITE

OPEN - SITE ASSESSMENT

1400 53RD ST
EMERYVILLE , CA 94608
ALAMEDA COUNTY
VIEW PRINTABLE CASE SUMMARY FOR THIS SITE

ACTIVITIES REPORT
PUBLIC WEBPAGE

CLEANUP OVERSIGHT AGENCIES
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SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: 01-2246*

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FACILITY / SITE ADDRESS

☐ THIS IS A "TEST PROJECT" (WILL BE EXCLUDED FROM PUBLIC SEARCH / REPORTS AND REGULATOR REPORTS)

PROJECT NAME
CHAPMAN PROPERTY

☐ THIS PROJECT IS A RESIDENCE

STREET #: 1400
STREET NAME / LOCATION: 53RD ST
BUILDING #:

CITY: EMERYVILLE
STATE: CA
ZIP: 94608
COUNTY: Alameda

CROSS STREET NAME

FIELDS CALCULATED BASED ON LATITUDE / LONGITUDE

GW BASIN NAME	WATERSHED NAME	COUNTY
Santa Clara Valley - East Bay Plain (2-9.04)	Bay Bridges - Berkeley (20330)	Alameda

SPELL CHECK

LOGGED IN AS TEENALEKHAN

CONTACT GEOTRACKER HELP

Project Information Go

CHAPMAN PROPERTY (T0600102062) - MAP THIS SITE

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PROJECT INFORMATION

PROJECT STATUS HISTORY

SITE TYPE	STATUS	STATUS DATE
LUST Cleanup Site	Open - Site Assessment	10/14/1997

FUNDING FOR CLEANUP	FILE LOCATION	RP IDENTIFICATION	RP ID DATE

HUMAN HEALTH EXPOSURE - INFO		GROUNDWATER MIGRATION - INFO		FINAL REMEDY FOR CLEANUP			
CONTROLLED?	DATE	CONTROLLED?	DATE	SELECTED?	DATE	IMPLEMENTED?	DATE

STAFF NOTES (INTERNAL)

SITE HISTORY (PUBLIC)

CLEANUP OVERSIGHT AGENCIES

CASE NUMBER	CLEANUP OVERSIGHT AGENCY	LEAD	LEAD DATE	END DATE
801	ALAMEDA COUNTY LOP	✔	9/5/1996	
01-2246	SAN FRANCISCO BAY RWQCB (REGION 2)			

LATITUDE/LONGITUDE INFORMATION MUST BE IN THE GEOGRAPHIC NAD83 COORDINATE SYSTEM:

LATITUDE	LONGITUDE	BUFFER (IN FEET)	LAT / LONG SOURCE
37.835852	-122.289044	50	* Historical Geocode - Exact Address Match

CLICK HERE TO RE-POSITION THIS PROJECT ON THE MAP

SPELL CHECK

LOGGED IN AS TEENALEKHAN

CHAPMAN PROPERTY (T0600102062) - MAP THIS SITE

OPEN - SITE ASSESSMENT

1400 53RD ST
EMERYVILLE , CA 94608
ALAMEDA COUNTY

ACTIVITIES REPORT

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CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: 801*
SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: 01-2246*

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PROJECT STATUS HISTORY

PROJECT STATUS	STATUS DATE	DATE UPDATED
Open - Site Assessment	10/14/1997	10/14/1997
Open - Case Begin Date	9/5/1996	9/5/1996

Project Summary Go

CHAPMAN PROPERTY (T0600102062) - MAP THIS SITE

OPEN - SITE ASSESSMENT

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ALAMEDA COUNTY

ACTIVITIES REPORT

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CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: 801*

SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: 01-2246*

THIS PROJECT WAS LAST MODIFIED BY ***PARESH KHATRI*** ON 4/22/2010 1:16:11 PM - HISTORY

PROJECT INFO

SITE TYPE	STATUS	STATUS DATE
LUST CLEANUP SITE	OPEN - SITE ASSESSMENT	10/14/1997

CONTACTS

THERE ARE CURRENTLY NO CONTACTS ASSOCIATED WITH THIS PROJECT

LOGGED IN AS TEENALEKHAN

CONTACT GEOTRACKER HELP

CHAPMAN PROPERTY (T0600102062) - MAP THIS SITE

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RISK INFORMATION

RELEASE TYPE

CONTAMINANT(S) OF CONCERN
GASOLINE

INTERNAL PRIORITY (OPTIONAL)

REDEVELOPMENT PLANNED - INFO
○ YES ○ NO

CURRENT LAND USE
NONE SPECIFIED

BENEFICIAL USE
NONE SPECIFIED

MEDIA OF CONCERN
NONE SPECIFIED

VULNERABILITY BASIS

ADDITIONAL RISK DESCRIPTION (IF NEEDED)

 # IMPACTED DRINKING WATER WELLS

DRINKING WATER SUPPLY SHUT DOWN
○ YES ○ NO

THERE ARE 0 DHS SUPPLY WELLS WITHIN 1/2 MILE OF THIS SITE (INCLUDING SITE BUFFER)

WELL IMPACT DESCRIPTION

REPORT DATE
10/14/1997

RELEASE DESCRIPTION

STOP DATE
9/5/1996

STOP METHOD

STOP DESCRIPTION

DISCHARGE DATE

DISCHARGE CAUSE
UNKNOWN

DISCHARGE SOURCE
UNKNOWN

DISCHARGE DESCRIPTION

DISCOVERED DATE
9/5/1996

HOW DISCOVERED
TANK CLOSURE

HOW DISCOVERED DESCRIPTION

QUANTITY (GALLONS)

HAZMAT INCIDENT FILED WITH OES?

LEAK CONFIRMED AS A VAPOR RELEASE?

SPELL CHECK

GEOTRACKER

LAYERS

- [x] Leaking Underground Tank (LUST) Cleanup Sites
- [x] Other Cleanup Sites
- [x] Land Disposal Sites
- [x] Military Sites
- [ ] Permitted Underground Storage Tank (UST) Facilities
- [x] Monitoring Wells
- [ ] DTSC Cleanup Sites
- [ ] DTSC Haz Waste Permit

CLEANUP STATUS FILTER

All Cleanup Statuses

MAP SIZE

640x480

OPTIONS

- [x] Site List - EXPORT TO EXCEL

1 Sites

SITE LIST

SITE NAME	GLOBAL ID	CLEANUP STATUS	ADDRESS	CITY
CHAPMAN PROPERTY	T0600102062	OPEN - SITE ASSESSMENT	1400 53RD ST	EMERYVILLE

MAP AN ADDRESS: smallxmlpointsreg.asp?xmin=-122.29081392288206&xmax=-122.28738069534302&ymin=37.83467894627253&ymax=37.83671254911153&getsites=,LUFT,SLIC,LANE Go!

FINAL REMOVAL ACTION WORKPLAN APPROVAL RECORD

Site Name: Chiron Corporation Site, Former PG&E/City of Emeryville Property

Site Location: 53rd and Hollis Streets
Emeryville, Alameda County, California

Regional Section: North Coast Cleanup Operations

The undersigned have reviewed the attached final Removal Action Workplan and determined that it meets state and federal statutory, regulatory, policy and technical requirements. Therefore, the removal action workplan is apporved for implementation.

Regional Project Manager — 7/31/96 (Date)

Senior Hazardous Substances Engineer — 7/31/96 (Date)

Branch Chief - North Coast Cleanup Operations — 7/31/96 (Date)

DRAFT REMOVAL ACTION WORKPLAN APPROVAL RECORD

Site Name: Chiron Corporation Site, Former PG&E/City of Emeryville Property

Site Location: 53rd and Hollis Streets
Emeryville, Alameda County, California

Regional Section: North Coast Cleanup Operations

The undersigned have reviewed the attached draft Removal Action Workplan and determined that it meets state and federal statutory, regulatory, policy and technical requirements. Therefore, the draft removal action workplan shall be circulated for public comment and thereafter be revised as deemed appropriate.

Alfred Wong — 6/21/96
Regional Project Manager (Date)

K. M. Tagh — 06/21/96
Senior Hazardous Substances Engineer (Date)

Barbara J. Cook — 6/21/96
Branch Chief North Coast Cleanup Operations (Date)

Erler & Kalinowski, Inc.

Consulting Engineers and Scientists

1730 So. Amphlett Blvd., Suite 320
San Mateo, California 94402
(415) 578-1172
Fax (415) 578-9131

21 June 1996

Mr. Al Wanger
California Environmental Protection Agency
Department of Toxic Substances Control,
Region 2
700 Heinz Avenue, Suite 200
Berkeley, CA 94710-2737

Subject: Removal Action Workplan for the
Ramp Area on the Former PG&E/City of Emeryville
Redevelopment Agency Property,
Chiron Corporation, Emeryville, California
(EKI 930028.23)

Dear Mr. Wanger:

Erler & Kalinowski, Inc. is pleased to present this Removal Work Plan ("RAW") for the "Ramp Area" located along the northwestern edge of the former PG&E/City of Emeryville Redevelopment Agency Property, which is located in Emeryville, California ("Property") (Figure 1). The RAW has been prepared on behalf of Chiron Corporation ("Chiron"), the current owner of the Property.

Polychlorinated biphenyls ("PCBs") were detected by Chiron in the Ramp Area during sampling conducted in November 1994 in connection with the construction of a vehicular ramp on the Property. The ramp was being constructed as part of a temporary parking lot for Chiron's adjacent facility.

On 1 April 1996, Chiron entered into a voluntary cleanup agreement ("VCA") with Department of Toxic Substances Control ("DTSC") to investigate and if necessary, remove PCB-impacted soil in the Ramp Area. This RAW has been prepared pursuant to Task 3 of the Scope of Work of the VCA.

The removal action meets the requirements of Health and Safety Code section 25356.1(h) and has been prepared in accordance with:

(a) Health and Safety Code sections 25323.1 and 25356.1;

(b) DTSC's Memorandum, dated 14 March 1995, regarding Removal Action Workplan; and

(c) the National Contingency Plan ("NCP"), 40 CFR Part 300, as amended.

Please advise us of any NCP or DTSC requirements that are not adequately addressed so that the appropriate revisions can be made. Likewise, if you have any questions please do not hesitate to call.

Very truly yours,

ERLER & KALINOWSKI, INC.

Vera H. Nelson

Vera H. Nelson, P.E.
Project Manager

Michael T Beck

Michael T. Beck, P.E.
Project Engineer

cc: Mr. Ric Notini - Chiron Corporation
Ms. Barbara Cook - Department of Toxic Substances Control
Ms. Karen Toth - Department of Toxic Substances Control
Ms. Susan Hugo - Alameda County Department of Environmental Health
Mr. Sumadhu Arigala - Regional Water Quality Control Board, San Francisco Bay Region
Dr. Ravi Arulanantham - Regional Water Quality Control Board, San Francisco Bay Region
Ms. Mara Feeney - Mara Feeney & Associates

Erler &
Kalinowski, Inc.

REMOVAL ACTION WORKPLAN
FOR THE RAMP AREA ON THE FORMER PG&E/CITY OF EMERYVILLE REDEVELOPMENT AGENCY PROPERTY

Chiron Corporation,
Emeryville, California
(EKI 930028.23)

21 June 1996

REMOVAL ACTION WORKPLAN
FOR THE RAMP AREA ON THE FORMER PG&E/CITY OF EMERYVILLE
REDEVELOPMENT AGENCY PROPERTY

TABLE OF CONTENTS

REMOVAL ACTION WORKPLAN
FOR THE RAMP AREA ON THE FORMER PG&E/CITY OF EMERYVILLE
REDEVELOPMENT AGENCY PROPERTY

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REMOVAL ACTION WORKPLAN
FOR THE RAMP AREA ON THE FORMER PG&E/CITY OF EMERYVILLE
REDEVELOPMENT AGENCY PROPERTY

TABLE OF CONTENTS (cont.)

List of Tables

List of Figures

REMOVAL ACTION WORKPLAN
FOR THE RAMP AREA ON THE FORMER PG&E/CITY OF EMERYVILLE
REDEVELOPMENT AGENCY PROPERTY

TABLE OF CONTENTS (cont.)

List of Attachments

1.0 INTRODUCTION

This Removal Action Work Plan ("RAW") has been prepared by Erler & Kalinowski Inc. ("EKI") on behalf of Chiron Corporation ("Chiron"). The RAW addresses the "Ramp Area" located along the northwestern perimeter of the former PG&E/City of Emeryville Redevelopment Agency Property, which is located in Emeryville, California ("Property") (Figures 1 and 2). Chiron is the current owner of the Property, having purchased it from the City of Emeryville Redevelopment Agency in 1993.

Polychlorinated biphenyls ("PCBs") were detected by Chiron in the Ramp Area during sampling conducted in November 1994 in connection with the construction of a vehicular ramp on the Property. The ramp was being constructed as part of a temporary parking lot for Chiron's adjacent facility.

Upon receipt of the ramp soil sampling results, Chiron notified the San Francisco Bay Region California Regional Water Quality Control Board ("RWQCB"), the Alameda County Department of Environmental Health ("ACDEH"), and Department of Toxic Substances Control ("DTSC") of these results (EKI, 1995b). Soil excavated for the ramp was sampled and disposed off-site. The ramp was paved with asphalt to allow for access to the temporary parking lot (EKI, 1995b).

On 25 October 1995, Chiron submitted a Sampling and Analysis Plan ("SAP") to DTSC for investigation of PCB-impacted soil in Ramp Area (EKI, 1995c). DTSC reviewed the SAP and provided comments to Chiron on 13 March 1996. An amendment to the SAP was prepared and submitted on 21 March 1996.

On 1 April 1996, DTSC verbally approved the amended SAP and Chiron entered into a voluntary cleanup agreement ("VCA") with DTSC to investigate and, if necessary, remove PCB-impacted soil in the Ramp Area.

During April and May 1996, Chiron implemented the SAP and characterized the lateral and vertical extent of PCB-impacted soil in the Ramp Area. The results of these investigations are summarized in EKI's report entitled *Results of the Ramp Area Investigation on the Former PG&E/City of Emeryville Property*, dated 3 June 1996, ("Sampling Report") (EKI, 1996).

This RAW has been prepared on the basis of the results summarized in the Sampling Report and pursuant to Task 3 of the Scope of Work of the VCA. The removal action meets the requirements of Health and Safety Code section 25356.1(h) and has been prepared in accordance with:

(a) Health and Safety Code sections 25323.1 and 25356.1;

(b) DTSC's Memorandum, dated 14 March 1995, regarding Removal Action Workplan; and

(c) the National Contingency Plan ("NCP"), 40 CFR Part 300, as amended.

Further information regarding the background and extent of PCB-impacted soil identified on the Property are presented in Section 2.0 below.

2.0 BACKGROUND

2.1 Site Use History[1]

The Property was formerly part of the Pacific Gas & Electric Company ("PG&E") Materials Distribution Facility. The original PG&E facility extended from Stanford Avenue to 45th Street. PG&E began using the Materials Distribution Facility in the 1920s as a warehouse facility, repair shop, and storage yard for the maintenance of transformers, capacitors, oil circuit breakers, and other electrical equipment. The portion of the original PG&E facility property located north of 53rd Street (i.e., the Property) has not been used by PG&E since the closure of its operations on this parcel in the 1980's. PG&E still owns and operates the portion of the Materials Distribution Facility located south of 53rd Street, with the exception of the small parcel located at the southwest corner of 53rd and Hollis streets, which Chiron owns.

The Property had two primary uses during the time it was owned and operated by PG&E. Between the 1920s and 1950s, PG&E used the Property for wrapping steel pipes with coal tar and asbestos-containing fabric (NUS, 1991). Pipe-wrapping operations occurred along an abandoned railroad track that passes through the center of the PG&E property. Wrapped and unwrapped pipes were stored east and west of the track.

The second major use of the Property began in 1955 when PG&E ceased pipe-wrapping operations. The Property then was utilized for storing transformers, oil circuit breakers, and capacitors (NUS, 1991). Minor repairs of transformers and oil circuit breakers also reportedly were conducted on the PG&E property. Loading of transformers occurred along the railroad tracks, which traverse the mid-section of the Property (NUS, 1991).

A small concrete building was present adjacent to Hollis Street in the central portion of the Property north of 53rd Street. NUS indicated that the building was utilized for storage. HLA indicated that the building may have been associated with a truck scale located adjacent to the building.

---

[1] This summary is based upon reports by NUS Corporation the "NUS Report" (NUS, 1991), Harding Lawson Associates "HLA Report" (HLA, 1991), and Ecology and Environment, Inc. (E&E, 1988a, 1988b, 1989).

Based upon available information, the Property was unpaved up to the mid-1950's. In 1955 and 1960, the existing concrete pads, which flank the former railroad tracks to the east and west, respectively, were constructed. Additionally, it has been reported that oil may have been sprayed on on-site on surface soil in the past as a dust control measure (HLA, 1991).

The Property was sold by PG&E to the City of Emeryville Redevelopment Agency in 1991. Chiron Corporation subsequently purchased the Property from the City of Emeryville Redevelopment Agency in 1993. Since 1991, the property has remained vacant and fenced and access has been restricted. In late 1994, Chiron constructed a temporary parking lot on the western portion of the Property.

2.2 Prior Site Characterization

Three phases of environmental investigations have previously been conducted on the Property. The results of these prior investigations are summarized below. This summary focuses on data previously collected regarding the distribution of PCBs in soil and groundwater.

2.2.1 Historic Investigations

The first phase of investigations were conducted by PG&E with oversight from DTSC. PG&E conducted investigation and remedial activities on the Property as part of closure of their operations on the Property in the 1980's. Consultants for PG&E initially installed ten soil borings and three monitoring wells (MW-1, MW-2, and MW-3) on the Property (see Figure 3). No PCBs were detected in groundwater; however, elevated concentrations of PCBs were detected in soil. PCB concentrations detected in soil on the Property ranged up to 48,000 mg/kg (E&E, 1988a).

DTSC established a clean-up level of 25 mg/kg for soil on the Property (DTSC, 1988) (E&E 1988b). On the basis of this clean-up level, soil containing PCB concentrations greater than 25 mg/kg, which were identified in two distinct areas on the Property, were excavated by PG&E. A total of approximately 1000 cubic yards of soil were removed from these excavation areas and disposed off-site in the 1980s. The approximate locations of the excavation areas are shown on Figures 2 and 3.

Upon completion of these excavations by PG&E, DTSC issued a Remedial Action Certification Form, dated 22 June 1989, indicating that no further action was required on the property.

2.2.2 Preliminary Site Assessments

A second phase of investigations was conducted by the United States Environmental Protection Agency ("USEPA") as part of a Preliminary Site Assessment ("PSA") and by the City of Emeryville and Chiron in connection with pre-purchase evaluations. Each of these are summarized below.

On behalf of USEPA, NUS reviewed data regarding chemical use, storage and releases and previous investigative and remedial work by PG&E. USEPA reviewed the NUS report (NUS, 1991) and concluded that it would not require further work at the Property (HLA, 1991).

Investigations were conducted by Harding Lawson Associates ("HLA") for the City of Emeryville Redevelopment Agency in 1991. The HLA investigations included the installation and collection of samples for laboratory analyses from six soil borings and three groundwater monitoring wells (SB-1 through SB-3 and MW-11 through MW-13) at locations shown on Figure 3. Arsenic and lead were detected in one soil sample (SB-1 at a depth of 1.5 feet) at concentrations above "background". No detectable concentrations of organic chemicals (including PCBs) were reported in soil, with the exception of total oil and grease in two samples (SB-1 at 1.5 feet and SB-2 at 2.0 feet). The oil and grease concentrations at SB-1 and SB-2 were 350 and 4,000 mg/kg, respectively. The 1991 results of groundwater analyses of samples collected from the three wells installed by HLA and the existing two wells (MW-1 and MW-2) indicated that low concentrations of halogenated volatile organic compounds were present only in wells MW-1 and MW-2. No PCBs were detected in groundwater samples collected on the Property.

EKI conducted investigations in 1993 related to the purchase of the Property by Chiron from the City of Emeryville Redevelopment Agency. The EKI investigations included the collection of groundwater samples from five existing monitoring wells (MW-1, MW-2, MW-11, MW-12, and MW-13) and collection of soil samples from twenty-one additional soil borings sampled at three depths (approximately 1.5 to 2.5 feet, 2 to 2.5 feet, and 4.5 to 6 feet). Sampling locations are shown on Figure 3. Soil samples were composited for analysis in groups of three by depth interval. The soil and groundwater samples were analyzed by EPA Method 8240 for volatile organic compounds; by EPA Method 8080 for PCBs; by EPA Method 8015 for total extractable petroleum hydrocarbons; by EPA Method 8015 for total purgeable petroleum hydrocarbons; and for metals. The results of analyses for groundwater samples indicated the presence of detectable, but low

concentrations of VOCs. No other chemicals of concern (including PCBs) were detected in groundwater.

PCBs were detected in soil at concentrations greater than 0.2 ug/l in 9 of the 21 locations sampled by EKI on the Property. None of the composite analyses, however, indicated concentrations of PCBs in soil above 2.1 mg/kg. Total Extractable Petroleum Hydrocarbons (TEPH) were detected in soil at a maximum concentration of 260 mg/kg in the composited sample from C-1, C-2, and C-3.

2.2.3 Ramp Area Sampling and Analysis

The third phase of work regarding PCBs on the Property was conducted by EKI on behalf of Chiron to characterize soil in the vicinity of the new ramp prior to excavation. EKI collected three soil samples from the central area of the planned new ramp at locations P-East, P-Center, and P-West shown on Figure 3. The results of analyses of the sample collected at the western edge of the ramp area (Figure 3) indicated elevated concentrations of PCBs and TEPH (890 mg/kg and 1100 mg/kg, respectively). With the concurrence of the Regional Water Quality Control Board, DTSC and the Alameda County Department of Environmental Health, the ramp excavation was conducted, and the soil stockpiled to the north of the ramp for characterization. The excavated soil was stockpiled into nine separate soil stockpiles. Samples were collected from each of the stockpiles. The concentrations of PCBs in the stockpile soil samples ranged from 12 to 5,400 mg/kg (EKI, 1995b).

On 25 October 1995, Chiron submitted a Sampling and Analysis Plan ("SAP") to DTSC for investigation of PCB-impacted soil in Ramp Area (EKI, 1995c). On 1 April 1996, Chiron entered into a VCA with DTSC to investigate and, if necessary, remove PCB-impacted soil in the Ramp Area (DTSC, 1996). DTSC reviewed and orally approved the SAP with one amendment on 1 April 1996. Chiron completed investigations that characterized PCB-impacted soil to 1 mg/kg in the Ramp Area in April and early May 1996. The results of these investigations are summarized in EKI's report entitled *Results of the Ramp Area Investigation on the Former PG&E/City of Emeryville Property*, dated 3 June 1996, ("Sampling Report") (EKI, 1996). A summary of these findings is presented in Section 2.3 below.

2.3 Recent Ramp Area Investigations

To further characterize the vertical and lateral extent of PCBs in the Ramp Area, recent investigations were completed by EKI pursuant to the SAP. Soil sampling for the recent Ramp Area investigation was conducted from 2 April 1996 to 13 May 1996. Soil Samples were collected at multiple depths from shallow and

deep soil borings from a total of 56 boring locations (Figure 4). Shallow soil borings were completed at 41 locations to a maximum depth of 6 feet bgs and deep soil boring were completed at 15 locations to a maximum depth of 31 feet bgs (Figure 4).

A total of 138 soil samples were collected and analyzed for PCBs in the recent Ramp Area investigations. Two analytical methods were used to measure PCB concentrations: (a) field screening analysis using DTECH(TM) Immunoassay PCB Soil Test Kit ("field test kit") and (b) laboratory analysis using EPA Method 8080. As indicated in the Sampling Report, the performance of field test kits was initially evaluated by comparing the test kit results with the analytical laboratory results for soil samples collected from borings R1, R2, and R3. Once the field test kits were validated, the field test kits were generally used to screen PCB concentrations in soil samples. Selected soil samples were then analyzed in the laboratory for confirmation. At a minimum, all soil samples used to define the lateral extent of soil with PCB concentrations above 1 mg/kg were analyzed by the laboratory.

Results from previous Ramp Area investigations indicated that elevated PCB concentrations are associated with elevated petroleum hydrocarbon concentrations. Selected soil samples collected in this recent investigation were analyzed for TEPH quantified as diesel by EPA Method 8015 Modified. As indicated in the Sampling Report, soil sampling results indicate that a removal action for PCBs will also remove the elevated levels of petroleum hydrocarbons in Ramp Area soil.

2.3.1 Lateral Extent of PCBs in Ramp Area Soil

Soil sampling locations were spaced radially from the ramp in an effort to evaluate the lateral and vertical extent of PCB concentrations in soil that exceed 1 mg/kg in the Ramp Area. The average spacing between samples was approximately 20 feet. PCB concentrations are presented on Figure 5. The highest concentrations of PCBs are associated with two distinct locations within the Ramp Area: (1) in the vicinity of boring R43, located north of the ramp (up to 2,400 mg/kg) and (2) in the vicinity of borings R7 and R10, located on the south west side of the ramp (up to 57 mg/kg). The lateral extent of PCB concentrations above 1 mg/kg is depicted on Figure 6. This area, which defines the extent of the Ramp Area, encompasses approximately 25,000 square feet.

2.3.2 Vertical Extent of PCBs in Ramp Area Soil

Results of the Ramp Area investigation indicate that PCB concentrations greater than 1 mg/kg are generally present in

the shallow soil, i.e., less than 3 to 4 feet bgs (Figure 5). Areas where PCB concentrations exceed 1 mg/kg in deeper soil are (1) in the vicinity of the concrete retaining wall on the western side of the ramp (boring R7 and R10 area) and (2) in the vicinity of boring R43.

The vertical extent of PCB concentrations above 1 mg/kg was defined at all locations in the Ramp Area, except at borings R7, R37, and R52 (Figure 5). Approximately 85 percent of the confirmation soil samples that define the vertical extent of PCB concentrations greater than 1 mg/kg were analyzed using EPA Method 8080 in the analytical laboratory.

At locations R37 and R52, PCB concentrations were 5.5 mg/kg and 1.2 mg/kg in soil samples collected from 3 feet bgs and 4 feet bgs, respectively. It is unlikely that PCB concentrations exceed 1 mg/kg at depths much greater than 4 to 5 feet bgs at locations R37 and R52 because the concentrations detected at 3 to 4 feet bgs at these locations are relatively low and PCB concentrations generally decrease with depth. At location R7, PCBs were detected at a concentration of 53 mg/kg in a sample collected from 20.5 feet bgs. Therefore, further characterization would be required to define the vertical extent of soil with PCB concentrations greater than 1 mg/kg at this location.

2.4 Geology and Hydrogeology

The Property is elevated approximately 3 to 4 feet above the surrounding street grade (i.e., 19 feet above mean sea level ["msl"]) and is underlain by approximately 6 to 9 feet of artificial fill material. The fill is generally composed of brown silt with localized areas of sand and gravel. Fragments of brick and concrete are also randomly encountered in the fill.

The artificial fill is underlain by undifferentiated soil and alluvial material. The alluvial material, deposited in alluvial fan facies, is part of the Alameda Formation. The alluvial fan deposits consist of thick sequences of silty and sandy clay interbedded with thin, discontinuous sand and gravel lenses. The alluvial fan deposits grade laterally into marine facies of the Alameda Formation. (NUS, 1991)

Two aquifer zones have been identified within the upper-most 40 feet of alluvial sediments beneath the Site. These aquifer zones generally consist of silty sand deposits that range from 1 to 10 feet in thickness. The "shallow aquifer zone" generally exists between 10 and 25 feet below ground

surface and the "deeper aquifer" zone exists between 30 and 40 feet bgs.

The groundwater table generally occurs between 10 and 14 feet bgs beneath the Property and groundwater elevations range from 4 to 8 feet msl. The elevation of water table is approximately 7 to 8 feet msl in the vicinity of the Ramp Area. The general direction of the hydraulic gradient in the shallow aquifer zone appears to be to the southwest across the Property (EKI, 1993).

2.5 Property and Surrounding Land Use

The Property is bounded by facilities leased by Chiron to the west and northwest, Hollis Street and a variety of industrial uses to the northeast and east, and 53rd Street to the south. The Property is located within an area proposed by Chiron Corporation for expansion of existing research, development, manufacturing administrative, and support facilities. Chiron plans to expand its campus from about 15 acres to about 25 acres over the next 16 to 30 years. The Property's current General Plan land use designation is for Industrial and Mixed-Use. The site is zoned for Planned Unit Development-Industrial. As part of its campus expansion, Chiron anticipates the construction of an office tower, and several research and development buildings on the Property. The remainder of the Property will have parking, landscaping, and, possibly, commercial facilities.

3.0 REMOVAL ACTION OBJECTIVES

Removal Action Objectives ("RAOs") are goals developed for medium-specific or area-specific protection of human health and the environment. RAOs for protecting public health address both chemical concentrations and potential exposure pathways. Protection can be achieved by either reducing concentrations and/or reducing potential exposures. RAOs for protecting the environment typically seek to minimize impacts on resources by addressing the medium of concern and the target cleanup levels.

As discussed in Section 2.2 above, PCBs have not been detected in groundwater on the Property. Therefore, the RAOs developed below focus on PCB-impacted soil and do not address hypothetical impacts to groundwater.

3.1 Applicable or Relevant and Appropriate Requirements and ``To Be Considered'' Criteria

Removal action objectives should "to the extent practicable considering the exigencies of the situation" be consistent with Applicable or Relevant and Appropriate Requirements ("ARARs"). (40 CFR Section 300.415 (j). The definition of Applicable or Relevant and Appropriate Requirements is derived from the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Section 300.5):

> Applicable Requirements: Cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, remedial action, location, or other circumstance at a site.
>
> Relevant and Appropriate Requirements: Cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a site, address problems or situations sufficiently similar to those encountered at the site that their use is well-suited to the particular site.

ARARs typically are separated into three categories:

> Chemical-specific ARARs: These are health-based or risk-based standards which define the allowable limits of specific chemical compounds found in or discharged to the environment. They can provide cleanup and discharge levels, governing the extent of site remediation. Most of the

chemical-specific ARARs are for groundwater used for drinking water; few are available for ambient air or soil. Maximum contaminant levels ("MCLs") for drinking water are examples of chemical-specific ARARs.

Location-specific ARARs: These requirements apply to natural site features (e.g., wetlands, flood plains, endangered species) and man-made features (e.g., landfills, city zoning, and places of historical or archaeological significance). Location-specific ARARs restrict the types of remedial actions which can be implemented based on the characteristics or location of the site.

Action-specific ARARs: These ARARs are technology-based or activity-based limitations which set performance and design restrictions. They specify permit requirements and engineering controls which must be instituted during site activities, and restrict particular activities.

Federal and state non-promulgated standards, policies, or guidance documents, and local requirements, are not ARARs. However, according to the NCP guidance, these criteria are also to be considered when evaluating and selecting removal actions necessary to protect human health and the environment. These non-promulgated, non-binding criteria are designated "To Be Considered", or "TBCs".

Potential chemical and action specific ARARs and TBCs for PCB-impacted soil are discussed in Sections 3.1.1 and 3.1.2, respectively.

3.1.1 Potential Chemical-Specific ARARs and TBC

Potential chemical-specific ARARs and TBCs for PCB-impacted soil include:

Toxic Substances Control Act ("TSCA"). The TSCA PCB regulations specify treatment, storage, and disposal requirements for PCBs based on their form and concentration (40 CFR Section 761.60 - 761.79, Subpart D: Storage and Disposal). TSCA requirements set forth disposal requirements for materials containing PCBs at concentrations greater than 50 mg/kg. TSCA disposal requirements are an ARAR for Ramp Area soil exceeding 50 mg/kg.

Resource Conservation and Recovery Act ("RCRA"). PCBs are specifically addressed under RCRA in 40 CFR 268, which describes the prohibitions on land disposal of various hazardous wastes. However, RCRA regulations only apply to waste that is considered hazardous under RCRA; i.e., listed in 40 CFR 261.3 or characteristic as described in 40 CFR 261.2 (EPA, 1990).

Available information and analytical results from Ramp Area Soil (see Sections 2.2 and 2.3), indicate that PCB-impacted soil in the Ramp Area is not a hazardous waste under RCRA. Therefore, RCRA prohibitions on land disposal are not an ARAR for Ramp Area soil.

PCB Spill Cleanup Policy Under TSCA. The PCB Spill Cleanup Policy was published in 40 CFR 761.120 - 761.139 on 2 April 1987 and describes the level of cleanup required for PCB spills occurring after 4 May 1987 (the effective date). Although, the Spill Policy is not an ARAR, as a published policy representing substantial scientific and technical evaluation, the PCB Spill Cleanup Policy is a TBC in development of cleanup levels for PCB-impacted soil (EPA, 1990).

The PCB Spill Cleanup Policy requires that:

1. *for spills of low concentration PCBs (50 ppm to 500 ppm) involving less than one pound of PCBs,* excavation of all soil within the spill area plus a 1-foot lateral boundary of soil and other ground media.

2. *for spills of 500 ppm or greater PCBs and spills of low-concentration PCBs of more than 1 lb PCBs by weight*

   (a) *in non-restricted access areas*
   Soil and other similar materials in residential/commercial areas must be cleaned up to 10 ppm PCBs, and a cap of clean materials containing less than 1 ppm PCBs (the average background level for PCBs in soil) equal to a minimum of 10 inches must be placed on top of the excavated area.

   (b) *in Industrial and other restricted access spills*
   EPA believes that cleanup of soil, sand, gravel and other similar materials to 25 ppm would not present unreasonable risks to public health or the environment.

To the extent the Spill Policy applies, its application does not supersede more stringent cleanup standards of other statutory authorities.

EPA Guidance on Remedial Actions for Superfund Sites with PCB Contamination (EPA, 1990). This document was prepared by the Office of Emergency and Remedial Response of the U.S. Environmental Protection Agency in 1990 (EPA, 1990). It

describes the recommended approach for evaluating and remediating Superfund Sites with PCB contamination. It is a guide in the investigation and remedy selection process for PCB-contaminated Superfund Sites and is a TBC in development of cleanup levels for PCB-impacted soil.

This document identifies starting point concentrations (preliminary cleanup goals) to identify areas for which response actions should be considered. These concentrations represent the level above which unrestricted exposure may result in risks exceeding protective levels. The document concludes that preliminary remediation goals should be:

(a) 1 mg/kg for sites in or expected to be in residential areas, and

(b) 10 to 25 mg/kg for sites where non-residential land use is anticipated.

As starting point concentrations, the final cleanup levels must reflect all relevant exposure pathways and be defensible on a site-specific basis.

This document also concludes that:

(a) for contaminated material that is contained and managed in place over the long term, appropriate engineering and institutional controls should be used to ensure protection is maintained over time;

(b) principal threats at the site should be treated, whenever practicable, and that consideration should be given to containment of low-threat material. Principal threats generally include material contaminated at concentrations exceeding 100 ppm for sites in residential areas and concentrations exceeding 500 ppm for sites in industrial areas.

(c) Where concentrations are below 100 ppm, treatment is less likely to be practicable unless the volume of contaminated material is relatively low.

Preliminary Remediation Goals ("PRGs") (EPA, 1995). PRGs published by Region IX U.S. EPA combine current EPA toxicity values with "standard" exposure factors to estimate media-specific concentrations in environmental media (e.g., soil) that are protective of humans including sensitive groups, over a lifetime. Concentrations above PRGs do not automatically trigger a response action; however, exceeding a PRG suggests that further

evaluation of the potential risk that may be posed by site contaminants is appropriate.

PRG concentrations can be used to screen pollutants in environmental media, trigger further investigation, and provide initial cleanup goals if applicable. The Regional IX U.S. EPA PRG for PCBs in soil on industrial sites is 0.34 mg/kg.

This PRG is a TBC for the development of cleanup levels for PCB-impacted soil.

Health and Environmental Risk Assessment for Properties North of 53rd Street ("RA") (EKI, 1995). The RA was prepared by EKI on behalf of Chiron to identify risk-based goals for protection of human health and the environment during and after Chiron's proposed redevelopment of the subject properties north of 53rd Street in Emeryville, California. The subject properties addressed by the RA encompass approximately 12 acres and include the former PG&E/City of Emeryville Property. The RA was submitted to and approved by the Regional Water Quality Control Board ("RWQCB") and the Alameda County Department of Environmental health ("ACDEH").

In this document, health-risk-based remedial goals were calculated for the future hypothetical exposure scenario with the highest estimated risk, (i.e., post-construction on-site maintenance personnel). The remediation goals are established on the basis of cumulative risk resulting from exposure to all chemicals of concern detected in soil and groundwater on the subject properties by all complete exposure pathways.

The remediation goals established in this document will be utilized prior to, and during, site redevelopment by Chiron to guide response actions by construction earthwork contractors. Concentrations of chemicals of concern measured in future soil sampling before and during the proposed redevelopment of the subject properties will be compared to the appropriate risk-based remediation goals. If the new data are greater than the appropriate risk-based remediation goals, then specific response actions will be determined on a case-by case basis in consultation with the RWQCB and ACDEH. Such response actions will depend on the planned land use by Chiron.

The health-risk-based remediation goal for PCBs established in the RA is 1.2 mg/kg.

The RA is a TBC for the development of cleanup levels for PCB-impacted soil in the Ramp Area.

TTLCs/STLCs. Title 22 of the California Code of Regulations ("CCR") lists Total Threshold Limit Concentrations (TTLCs) and Soluble Threshold Limit Concentrations (STLCs) for classification of hazardous and extremely hazardous wastes. A waste is considered hazardous or extremely hazardous in California when laboratory results of representative samples collected from the waste indicate that contaminants exceed their respective TTLC or STLC values.

TTLC and STLC values that characterize PCB-containing materials as a California hazardous waste are 50 mg/kg and 5 mg/l, respectively. TTLCs values that characterizes PCB-containing materials as a California extremely hazardous waste is 5,000 mg/kg.

TTLC and STLC criteria for classification of California hazardous wastes are ARARs for disposal of soil excavated from the Ramp Area that contains PCBs at concentrations greater than 50 mg/kg.

Proposition 65. The Safe Drinking Water and Toxic Enforcement Act of 1986 ("Proposition 65") prohibits the discharge, into a source of drinking water or onto land, of a significant number of chemicals listed in Title 22, CCR, Sec. 12000 et seq., including PCBs. The statute also requires that a reasonable warning be given to those individuals (onsite workers and visitors, potentially affected residents) who may be exposed to these substances at levels that pose a significant risk. Proposition 65 is a TBC for Ramp Area removal actions.

3.1.2 Potential Action-Specific ARARs and TBC

Potential action-specific ARARs and TBCs for PCB-impacted soil include:

CEQA Compliance. According to DTSC guidance, the California Environmental Quality Act ("CEQA") 1970 requires completion of an Environmental Impact Report ("EIR") or a Negative Declaration prior to implementation of removal actions. CEQA requirements for the subject removal action have been satisfied through an EIR that was prepared and certified on 8 August 1995 by the City of Emeryville for Chiron's proposed campus expansion. Chiron's campus expansion encompasses the Ramp Area and such removal actions were contemplated and evaluated in the EIR.

3.2 Removal Action Objective for Ramp Area Soil

The recommended removal action objective ("RAO") for PCB-impacted soil in the Ramp Area is to mitigate the threat to human health and the environment posed by PCB-impacted soil in a manner consistent with planned and potential activities at and future uses of the Property. This RAO can be achieved by removing PCB-

impacted soils with concentrations above certain levels, reducing potential exposures to PCB-impacted soils through physical or institutional constraints, or some combination of these measures.

As described in Section 3.1 above, several different chemical-specific criteria exist for PCB-impacted soil. Under these criteria, cleanup levels for PCB-impacted soil on commercial sites with no institutional constraints potentially range from 25 mg/kg to 0.39 mg/kg. Based on preliminary discussions, DTSC has indicated that deed restrictions may be required for soil remaining in the Ramp Area that contains concentrations of PCBs exceeding 1 mg/kg. Therefore, for purposes of this RAW, 1 mg/kg has been used as the level that would trigger the need for a deed restriction.

Therefore, based on the identified ARARs, TBCs, recent risk-based goal determinations, assumed DTSC requirements, and planned and potential activities at and future uses of the Property, removal action alternatives have been developed to:

(a) remove PCB-impacted soil from the Ramp Area where found at concentrations greater than 1 mg/kg, and/or

(b) control the potential for exposure to PCB-impacted soils in the Ramp Area with concentrations greater than 1 mg/kg through the implementation of physical and/or institutional constraints.

Three removal action alternatives have been developed for the Ramp Area. Further discussion and evaluation of these alternatives are presented in Section 4.0 below.

4.0 REMOVAL ACTION ALTERNATIVE EVALUATION

This section evaluates three removal action alternatives for mitigating the threat to human health and the environment posed by PCB-impacted soil in the Ramp Area, taking into account planned and potential activities at and future uses of the property. These removal action alternatives include capping and/or excavation and off-site disposal of Ramp Area soil. Other potential remedial alternatives or innovative technology applications have not been included because they are unlikely to be timely, implementable, and/or cost effective given the relatively small size of the Ramp Area and requirements for DTSC oversight and approval.

Based on preliminary discussions, DTSC has indicated that deed restrictions may be required for soil remaining in the Ramp Area that contains concentrations of PCBs exceeding 1 mg/kg. Therefore, for purposes of this evaluation, it is assumed that deed restrictions or notices to limit and control site access would be required for alternatives that allow PCB-impacted soil to remain in the Ramp Area at levels exceeding 1 mg/kg. Therefore, costs associated with such institutional constraints have been included in the evaluation of each alternative, as appropriate (see Attachment A).

4.1 Soil Remedial Alternatives

4.1.1 Alternative 1: No Action

Alternative 1 is the "no action" alternative. This alternative would not involve the removal or remediation of PCB-impacted soil from the Ramp Area. It is assumed, however, that to mitigate potential future exposure to PCB-impacted soil, an asphalt cap would be constructed to cover Ramp Area soil containing PCBs at concentrations greater than 1 mg/kg. This area is identified on Figure 6 and has an area of approximately 25,000 square feet. Approximately 9,000 square feet of the Ramp Area is currently paved.

If Alternative 1 is implemented, available data indicate that PCBs would remain at concentrations greater than 1 mg/kg and up to 2,400 mg/kg in Ramp Area soil beneath the asphalt cap.

It is assumed, therefore, that

(a) deed restrictions and notices would be required by DTSC for the asphalt capped portion of the Ramp Area that would restrict disturbance and future use of this area, and

(b) a fence would be required around the perimeter of the asphalt capped area to minimize the potential for exposure to PCB-impacted soil that would remain in this area.

Under Alternative 1, access to the fenced-off Ramp Area would be restricted and planned commercial or industrial redevelopment of the Ramp Area would be precluded.

4.1.2 Alternative 2: Excavate Shallow Ramp Area Soil with PCB Concentrations Exceeding 1 mg/kg

Alternative 2 would consist of excavating shallow Ramp Area soil with PCB concentrations exceeding 1 mg/kg and disposing of this soil at a licensed off-site facility. Under this alternative, the vertical extent of excavated soil would be limited to an elevation of 7 feet above mean sea level ("ft msl") (i.e., approximately 12 feet below the current grade of the former PG&E Property). The PCB-impacted shallow soil excavated under this alternative is located at a depth that would likely be disturbed in the future in connection with planned and potential activities at and future uses of the Property (e.g., building construction, utility installation, and maintenance). For purposes of this removal action alternative evaluation, this zone is defined as the active construction zone. Removal of PCB-impacted soil from this zone would eliminate future exposure of construction and maintenance personnel working on the Property.

By establishing a maximum excavation depth of 7 ft msl, there would be no need to:

(a) excavate soil from below the water table, which exists at approximately 7 ft msl; and

(b) provide shoring for the excavation, because there is sufficient space on-site to adequately slope the sidewalls of the excavation to an elevation of 7 ft msl.

Based on recent Ramp Area soil sampling results, it is estimated that implementing Alternative 2 would require excavating up to 4,300 cubic yards of PCB-impacted soil from the Ramp Area. Of the estimated 4,300 cubic yards that would be excavated under Alternative 2, approximately 3,000 cubic yards (i.e., approximately 65 percent of the soil to be removed) would be excavated from less than 3 feet below the existing site grade. The lateral extent of the

excavation would be approximately 25,000 square feet (see Figure 6). It is also estimated that PCB concentrations in approximately 1,000 cubic yards of soil excavated from the Ramp Area under this alternative would exceed the TTLC for PCBs of 50 mg/kg (see Section 3.1.1) and therefore be classified and disposed of as a California hazardous waste, a TSCA waste, or both.

Recent soil sampling results indicate that if Alternative 2 is implemented, PCB concentrations greater than 1 mg/kg and up to 53 mg/kg would remain in soil at depths below 7 ft msl in one portion of the Ramp Area. This area would be approximately 1,800 square feet in size and is delineated on Figure 8. Based on preliminary discussions, DTSC has indicated that deed restrictions may be required for soil remaining in the Ramp Area that contains concentrations of PCBs exceeding 1 mg/kg. Therefore, it is assumed that deed restrictions or notices would be required by DTSC in this area.

4.1.3 Alternative 3: Excavate Ramp Area Soil with PCB Concentrations Exceeding 1 mg/kg

Alternative 3 would consist of excavating Ramp Area soil with PCB concentrations exceeding 1 mg/kg and disposing of excavated soil at an appropriate off-site facility. Based on recent soil sampling results, it is estimated that implementing this alternative would involve excavating up to 5,500 cubic yards of Ramp Area soil. It is anticipated that approximately 1,600 cubic yards of soil excavated from the Ramp Area under this alternative would exceed the TTLC for PCBs of 50 mg/kg (see Section 3.1.1) and therefore be classified and disposed of as a California hazardous waste, a TSCA waste, or both.

If Alternative 3 is selected, additional investigations would be required to further characterize the vertical extent of Ramp Area soil with PCB concentrations exceeding 1 mg/kg. These investigations would be completed prior to the initiation of excavation activities and would be used to design shoring or develop other excavation methods to remove PCB-impacted soil from below the water table which would be required under this alternative.

It is assumed that no deed restrictions or notices would be required by DTSC if Alternative 3 is implemented.

4.2 Removal Action Alternative Evaluation

As outlined in the Department of Toxic Substances Control ("DTSC") Memorandum, dated 14 March 1995, the evaluation of removal action alternatives should consider the effectiveness, implementability, and cost of each removal alternative. A summary of the effectiveness, implementability, and cost of the proposed removal action alternatives is included in Table 1. These three evaluation criteria are discussed and compared for the three proposed removal action alternatives in Section 4.2.1 below.

4.2.1 Effectiveness

The evaluation of the effectiveness of each alternative is based on:

(a) the reliability and proven history of the alternative with respect to the chemicals and conditions found at the Property; and

(b) the ability of each alternative to meet the RAO (i.e., to mitigate the threat to human heath and the environment posed by PCB-impacted soil in a manner consistent with the planned and potential activities at and future uses of the Property (see Section 3.2).

All three alternatives described in Section 4.1 are proven and reliable methods for effectively mitigating the threat to human health and the environment posed by PCB-impacted soil in the Ramp Area.

Alternative 1 relies on capping and institutional constraints to prevent exposure of individuals to PCB-impacted soil. Because PCB-impacted soil would remain in both shallow and deep soil on the Property and the possibility would exist that institutional constraints would not be fully effective, this alternative is considered the least effective of the proposed alternatives. In addition, Alternative 1 would prevent planned and potential future development of the Ramp Area. Therefore, Alternative 1 is inconsistent with planned and potential activities at and future uses of the Property and is not considered effective because it does not meet the RAO.

Alternative 2 is also effective. However it relies on a combination of excavation and institutional constraints (e.g., deed restrictions and notices) to mitigate the threat to human health and the environment posed by soil containing PCBs at concentrations above 1 mg/kg remaining in soil at

depths below 7 feet msl at one location. If these institutional constraints were inadvertently breached, potential exposure to PCB-impacted soil could occur.

Alternative 3 is effective because, under this alternative, all PCB-impacted soils from the Ramp Area at concentrations greater than 1 mg/kg would be removed and, the potential exposure to PCB-impacted soils above 1 mg/kg would be eliminated.

Alternatives 2 and 3 involve excavation and removal of PCB-impacted soil. These activities could therefore result in temporary increases in risks to workers and nearby personnel from potential exposure to PCBs associated with airborne dust generated during the excavation and removal activities. To minimize potential dust emissions, dust control measures would be implemented during these activities to mitigate these risks and ensure that workers and nearby personnel would be protected.

4.2.2 Implementability

Implementability of a removal alternative is based on the technical and institutional feasibility of implementing the alternative. Technical feasibility includes the availability of necessary equipment and skilled workers to implement the alternative. Institutional feasibility includes obtaining the necessary permits or regulatory concurrence.

All three removal alternatives are likely technically implementable. However, implementation of Alternative 3 would be the most difficult. Implementation of this alternative would require (a) additional investigations to define the vertical extent of soil containing PCBs above 1 mg/kg; (b) excavation soil from below the water table resulting in the need for dewatering and management of dewatering effluent; (c) mobilization of additional equipment capable of deeper excavation; and (d) shoring of excavation side walls to allow for removal of PCB-impacted soil at depth.

As discussed above, Alternative 1 would preclude future development of the Ramp Area by Chiron or future owners of the Property. Therefore, Alternative 1 is inconsistent with planned and potential activities at and future uses of the Property and is not considered institutionally implementable. Alternative 2 may also not be implementable if a deed restriction is required and Chiron is unable to finance the planned development because of the deed restriction.

4.2.3 Cost

The cost of implementing an alternative includes capital and continuing costs. To compare the total cost of implementing each alternative, present values of costs associated with implementing each alternative were calculated. The capital costs, continuing costs, and present values associated with implementing the three alternatives described above are summarized in Table 2. Information regarding the basis for these cost estimates is included in Attachment A.

These costs do not consider diminished property value under Alternative 1 (extensive) and under Alternative 2 (less extensive).

Capital Costs. Capital costs associated with implementing the three alternatives described in Section 4.1 include: construction costs (e.g., constructing an asphalt cap and excavating impacted soil), engineering costs (e.g., preparing plans and specifications and performing construction oversight), reporting costs, and DTSC oversight costs. Estimated capital costs for each alternative are presented in Tables 1-A through 1-C of Attachment A.

Continuing Costs. If deed restrictions and/or notices are imposed by DTSC on the Property, continuing costs would be incurred as a result of these institutional constraints. It is assumed that these costs would likely be incurred during earthwork "events" and result in increased long-term expenses to the property owner. Such events would include building construction or underground utility maintenance in areas with deed restrictions or notices. These events would likely require:

- Notifying DTSC in advance of performing earthwork;
- Preparing appropriate plans for submittal to DTSC including: workplans, health and safety plans, dust control plans, and surface water control plans;
- DTSC document review;
- Using contractors with 40 hour health and safety training to perform earthwork;
- DTSC oversight during the earthwork event;

- Preparing reports summarizing earthwork activities;
- Disposing PCB-impacted soil; and
- Reimbursing DTSC for review and oversight costs.

Estimated costs associated with performing these activities are included as typical "event costs" which occur at a certain frequency based on the magnitude and extent of PCB-impacted soil that remains in the Ramp Area under each alternative. Continuing costs for each alternative are outlined in Attachment A. General assumptions made while developing estimates for continuing costs are listed below:

For Alternative 1:

- Continuing costs will be incurred for annually inspecting and periodically maintaining the asphalt cap proposed as part of this alternative.
- Continuing costs will likely be incurred during earthwork "events" in areas with deed restrictions or notices. Based on the extent and magnitude of PCB concentrations remaining on-site (see Section 4.1) it is assumed that such events will occur at a frequency of approximately one event every 5 years. The actual frequency could vary.

For Alternative 2:

- Future costs will likely be incurred during construction of a new building planned by Chiron in the Ramp Area, assumed to take place during the year 2005 (year 11).
- Continuing costs will be incurred during earthwork "events" in areas and depths with deed restrictions or notices. Based on the extent and magnitude of PCB concentrations remaining on-site (see Section 4.1), it is assumed that (a) one such event will occur sometime in the ten years prior to building construction; and (b) no events will occur subsequent to the construction of the new building.

For Alternative 3:

- It is assumed that no continuing costs will be incurred, because soil with PCB concentrations above 1 mg/kg will be excavated and disposed off-site.

Estimated Present Value Removal Action. Present values of estimated remediation costs for implementing each alternative are calculated based on the sum of capital costs and the present value of the continuing costs. Present values were calculated using a 3 percent effective interest rate. As shown in Table 2, total present values for implementing Alternative 1, Alternative 2, and Alternative 3 are $290,000, $460,000, and $740,000, respectively.

4.3 Removal Action Alternative Recommendation

As discussed in Section 4.2.1, Alternative 1 is the least effective of the proposed alternatives in mitigating the threat to human health and the environment. It would prevent planned and potential future development use of the Ramp Area and therefore does not meet the RAO and is not considered institutionally implementable. Alternative 1, therefore, has been rejected from the selection process.

As discussed in Section 4.2.1, Alternative 2 and Alternative 3 are effective in mitigating the threat to human health and the environment. However, Alternative 3 is significantly more costly than Alternative 2 and, while Alternative 3 might provide some moderate reduction in potential risk, this potential risk reduction would be attained at a higher cost. Assuming that institutional constraints are fully effective under Alternative 2, Alternative 2 and Alternative 3 could be equally effective in protecting human health and the environment.

Therefore, based on consideration of these factors, Alternative 2 (i.e., excavating shallow Ramp Area soil containing PCBs above 1 mg/kg to an elevation of 7 ft msl) is recommended as the removal action alternative for the Ramp Area. The plan for implementing Alternative 2 is described in Section 5.

5.0 PLAN FOR IMPLEMENTING THE PROPOSED REMOVAL ACTION

The recommended removal alternative (i.e., Alternative 2), includes excavating shallow Ramp Area soil (i.e., above 7 ft msl) with PCB concentrations exceeding 1 mg/kg and disposing of this soil at a licensed off-site facility. The following is a description of the implementation plan for this alternative.

5.1 Site Preparation

Prior to beginning field work, the following activities will be performed:

- applicable permits required for performing soil excavation and backfill work will be secured from the appropriate agencies;
- decontamination areas will be set up;
- air monitoring stations will be calibrated and set up along the perimeter of the Ramp Area; and
- work zones will be cordoned off.

5.2 Work Zones

While performing construction activities, unauthorized individuals will be required to remain at least 20 feet away from construction activities. This restricted area will be clearly defined in the field with yellow caution tape, fencing and/or barricades. The restricted area will remain cordoned off until construction activities are complete.

5.3 Excavation

Recent soil sampling results indicate that up to approximately 4,300 cubic yards of PCB-impacted soil will be excavated from the Ramp Area. As discussed in Section 3, extensive soil sampling was performed in the Ramp Area. Soil samples were collected at a horizontal spacing of approximately 20 feet. This relatively close spacing between sampling locations was used to bracket the vertical and lateral extent of Ramp Area soil containing PCB concentrations above 1 mg/kg. The estimated lateral extent of soil containing PCBs concentrations above 1 mg/kg based on these data is designated on Figure 6 (i.e., an area of approximately 25,000 square feet). The estimated vertical extent of Ramp Area soil containing PCB concentrations above 1 mg/kg based on these data is indicated on Figure 8. As

indicated on Figure 5, the vertical extent of soil containing PCB concentrations above 1 mg/kg has been defined at all locations above 7 ft msl, with the exception of soil borings R37 and R47 as discussed in Section 2.3.

An excavation plan was developed on the basis of the data shown on Figure 5. This plan is shown on Figure 8 and will establish the minimum lateral and vertical extent of the excavation in the absence of additional confirmation samples. The vertical extent of the excavation is estimated as 5 feet below current grade and 10 feet below current grade near borings R37 and R47, respectively. The planned vertical extent of the excavation is shown on Figure 8.

As indicated on Figure 8, the vertical extent of excavated soil will not extend below 7 feet above mean sea level ("ft msl") (i.e., approximately 12 feet below the current grade of the former PG&E property).

All existing Ramp Area soil sampling locations have been marked and/or staked. The horizontal locations and ground surface elevations of these soil samples have been surveyed relative to the California Coordinate Grid System. The coordinates of these soil sampling locations will be used to determine the lateral and vertical extent of the Ramp Area excavation as designated on the excavation plan presented on Figure 8.

5.4 Confirmation Soil Sampling

The vertical extent of the excavation near borings R37 and R52 locations will be verified by collecting confirmation soil samples from the excavation floor (i.e., one confirmation soil sample at the approximate location of boring R37 and one confirmation soil sample from the approximate location of boring R52) (Figure 8). These soil samples will be analyzed using field test kits.

In addition, Chiron will collect confirmation samples from the excavation floor at soil boring locations R7, R10 and R31, where PCB-impacted soil is expected to remain at depth (i.e., below 7 ft msl) at concentrations above 1 mg/kg. These soil samples will be sent to and analyzed by a state certified laboratory using EPA Method 8080.

Information regarding the procedures that will be used for collecting and analyzing confirmation soil samples are outlined in Attachment B.

Because recent soil sampling results have bracketed the horizontal and vertical extent of soil containing PCBs at

concentration greater than 1 mg/kg at all locations except borings R37 and R52, collection of other confirmation soil samples to define the excavation extent is not necessary. Chiron may, however, elect to collect additional confirmation soil samples to limit the extent of the excavation in selected locations.

5.5 Soil Disposal

Arrangements for disposal of excavated soil will be made prior to commencing excavation activities. Excavated soil will be loaded directly into trucks upon removal and transported to the appropriate disposal facility.

Based on recent soil sampling results, it is estimated that approximately 1,000 cubic yards of excavated soil will exceed the TTLC for PCBs of 50 mg/kg (see Section 3.1.1) and therefore be classified and disposed of as a California Hazardous Waste. For the purpose of disposal, Chiron may elect to stockpile and sample soil excavated from selected areas where existing data indicate that PCB concentrations could exceed the TTLC for PCBs (i.e., in the vicinity of soil borings R7, R11, and R43). Excavation and stockpiling of soil from these areas would be completed prior to excavation of other ramp area soils. Soil stockpiles from these areas would be placed immediately adjacent to the excavated areas, within the lateral extent of the Ramp Area excavation.

Loading and disposal of soil stockpiles would occur upon receipt of PCB soil sampling analyses results. Soil stockpile samples will be analyzed onsite using field test kits and/or sent to a laboratory for analysis by EPA Method 8080. Laboratory analyses would be performed on a 24 or 48 hour turn-around basis. Additional information regarding the collection and analysis of soil stockpile samples s is included in Attachment B.

If soil is temporarily stockpiled in the Ramp Area, excavated soil will be placed on three layers of 10 mil plastic sheeting and covered with one layer of 10 mil plastic sheeting held in-place by weights. Stockpiled soil will be secured using plastic construction fencing and barricades. After characterization, stockpiled soil will be loaded into trucks for transportation to an appropriate, licensed disposal facility.

5.6 Transportation Plan

Licensed haulers will transport soil excavated from the Ramp Area to the following Class 1 or Class II disposal facilities, as appropriate.

> Class I Disposal Facility: Chemical Waste Management's Kettleman Disposal Facility, in Kettleman City, California
>
> Class II Disposal Facility: Altamount Landfill and Resource Recovery Facility, 10840 Altamount Pass Road, Livermore, California

Trucks transporting excavated soil from the Property will only be allowed to operate between 7 a.m. to 6 p.m. Monday through Saturday. A frequency of 8 to 16 trucks a day is anticipated during the Ramp Area excavation period. Soil loaded onto trucks will be covered with tarps to prevent soil from being dispersed during transport.

Pursuant to City of Emeryville requirements, two potential truck routes through Emeryville have been established. These routes are summarized below.

> Route 1: Trucks will exit the Property onto Stanford Street, turn north on Hollis Street, turn west on Powell Street, and enter onto Interstate 80 at the Powell street on-ramp.
>
> Alternate Route 2: Trucks will exit the Property onto Stanford Street, turn south on Hollis Street, turn west on 40th Street, cross over the 40th Street bridge onto Shellmound Street, take Christie Avenue to Powell Street, and enter onto Interstate 80 at the Powell Street on-ramp.

Trucks will use Route 1 unless traffic is backed-up along Hollis Street or Powell Street near the Property. A flagman will be used to control truck traffic off the Property.

5.7 Backfilling Activities

The excavation will be backfilled using soil from other areas on the Property, where historic soil sampling results indicate that PCB concentrations are less than 1 mg/kg. The final grade of backfill material and the degree of soil compaction will be as required for future site development.

5.8 Dust Control

An effective means of dust control will be utilized to minimize the generation of dust associated with excavation activities, truck traffic onto and off of the Property, and the effects of ambient wind traversing excavated soil while loading transpiration vehicles. Dust control measures utilized at the Property may include the following:

- Keeping vehicle speeds on the Property below 5 miles per hour;
- Misting or spraying water while excavating soil and loading transportation vehicles;
- Controlling excavation activities to minimize dust generation;
- Keeping the drop heights to a minimum, while loading transportation vehicles; and
- Using dust suppressant additives in the water.

Watering to control dust will not be so extensive as to result in ponded water.

If visible dust (i.e., a dust concentration greater than approximately 1,000 ug/m^3) is generated, immediate steps will be taken to eliminate it. These steps will include increasing the intensity of dust control activities. If after increasing dust control activities visible dust is still generated, excavation or loading activities will be stopped until a plan for further dust control measured is developed (see Section 5.8.1).

Suppression of dust to levels below 1,000 ug/^{3} will confirm that air-borne PCB concentrations do not exceed the Permissible Exposure Limit ("PEL") (California Code of Regulations, Title 8) for construction workers performing the Ramp Area excavation. A construction worker exposure assessment for air-borne PCBs is included in Attachment E.

5.9 Air Monitoring

5.9.1 Perimeter Air Monitoring

Perimeter air monitoring will be performed during each day of excavation and/or loading activities to confirm that the

total air-borne dust concentrations along the perimeter of the Ramp Area are below 1,000 ug/m^3, which correspond to "visible dust levels". Dust meters that measure and record the real-time airborne dust concentration will be placed at one upwind and two downwind locations from the Ramp Area. The upwind and downwind locations will be determined each day by the engineer in the field. The dust meters will be equipped with an alarm that will sound when the total air-borne dust concentration exceeds 1,000 ug/m^3.

If air monitoring indicates that air-borne dust is present above 1,000 ug/m^3, dust control activities will be increased. If after increasing dust control activities air monitoring indicates that air-borne dust levels remain above 1,000 ug/m^3, excavation or loading activities will be stopped and a plan for further dust control measured will be developed.

The proposed perimeter air monitoring will confirm that potential exposure to air-borne PCBs associated with dust generated during the Ramp Area excavation will not result in an unacceptable risk (generally accepted as greater than 1×10^{-6}) to Chiron employees, visitors, and off-site residents. A hypothetical health-risk calculation was performed to estimate the potential health risks to off-site residents from exposure to air-borne PCBs during the proposed excavation. This calculation shows that the estimated incremental cancer risk to off-site residents will not exceed 5.8×10^{-8} if dust levels do no exceed 1,000 ug/m^3 (see Attachment E). Therefore, the proposed perimeter air monitoring will verify that potential exposure to air-borne PCBs associated with dust generated during excavation and loading activities will not result in a significant risk to Chiron employees, visitors, and off-site residents.

In addition, perimeter air samples will be collected during the first two days in which excavation and/or loading activities are performed. These additional perimeter air samples will be collected using personal air samplers that will be mounted on poles at three locations along the perimeter of the Ramp Area (i.e., one upwind location and two downwind locations). Samples will be collected over an 8 to 10 hour period.

The perimeter air samples will be analyzed for PCBs by a certified laboratory using NIOSH Method 5503. The results of these additional perimeter air samples will be used to confirm that air-born PCB concentrations are not present at levels that would result in an excess incremental cancer

risk exceeding 1 x 10^{-6} for off-site residents (Attachment E).

5.9.2 Personal Air Monitoring

The excavation contractor performing remedial work at the Property will specify personal air monitoring procedures that will be implemented to monitor potential exposure of construction workers to impacted soil during construction activities. These procedures will be described in the Health and Safety Plan prepared by the selected contractor.

5.10 Decontamination

Prior to beginning work, a decontamination area will be established in the Ramp Area such that dust, debris, and soil are removed from equipment and transportation vehicles leaving the restricted area described in Section 5.2. Decontamination methods may consist of brushing, vacuuming, steam cleaning, high-pressure washing, or combinations of the above. In the event that water is used for decontamination, all decontamination water will be collected and disposed at an appropriate off-site facility. Cleaning solutions will be used as required to thoroughly remove accumulated material from equipment.

At the conclusion of each day, disposable gloves and coveralls will be removed and disposed in labeled containers designated for subsequent characterization and appropriate off-site disposal.

5.11 Stormwater Pollution Prevention Plan

Prior to beginning excavation activities, the excavation contractor will prepare a stormwater pollution prevention plan ("SWPPP") that conforms with the State of California Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activities (NPDES Permit No. CAS000002). The SWPPP will include at a minimum:

- a description of how sediments will be prevented from being carried off-site by rainfall runoff, and
- a map indicating where facilities will be placed to prevent sediments from leaving the Property in rainfall runoff.

The contractor will be prepared to implement its SWPPP immediately, should rainfall occur.

5.12 Health and Safety Plan

A site specific health and safety plan ("H&SP"), dated 27 March 1996 was prepared by Erler & Kalinowski, Inc. ("EKI") and submitted to the California Department of Toxic Substances Control ("DTSC"). This H&SP establishes health and safety protocols for EKI personnel performing sampling and analysis as well as oversight of removal actions in the Ramp Area. This H&SP meets Federal and California Occupational Safety and Health Administration ("OSHA") standards for hazardous waste operations (29 CFR 1910.120 and 8 CCR 5192).

The excavation contractor performing remedial work at the Ramp Area will also prepare a H&SP and submit it to DTSC for review. The excavation contractor's H&SP will establish health and safety protocols for contractor personnel in accordance with Federal and California OSHA standards for hazardous waste operations (29 CFR 1910.120 and 8 CCR 5192).

The H&SP prepared by the excavation contractor will, at a minimum, include the following items:

- level of personal protection that will be used during remedial activities and confirmation soil sampling activities;
- definition of exclusion, contamination reduction, and support zones; and
- air monitoring and decontamination procedures.

5.13 Public Participation Activities

In accordance with Section 3.1 of the VCA and Task 4 of the VCA Scope of Work, public participation activities are being performed in conjunction with the Removal Action. These activities include: (a) preparation of a community assessment, (b) preparation and distribution of a fact sheet, and (c) public notice with a 30 day public comment period on the RAW. These activities are described in more detail in the Community Assessment, dated June 1996.

5.14 Implementation Schedule

The projected schedule for completing activities associated with the removal of PCB-impacted soils from the Ramp area is presented on Figure 9. As shown on Figure 9, excavation and backfill activities in the Ramp Area are projected to take place in August 1996.

5.15 Administrative Record List

An administrative record list is included in Attachment F.

6.0 REFERENCES

(DTSC, 1988) 9 December 1998 Letter from Bernie Edrada and Stephen G. Belluomini of DTSC Approving "Release Sampling Plan, PG&E Materials Distribution Center, Emeryville California" where 25 mg/kg PCB clean-up criteria is established.

(DTSC, 1996) California Department of Toxic Substances Control, 1 April 1996, Voluntary Cleanup Agreement, Docket No. HSA-95/96-059.

(E&E, 1988a) Ecology & Environment, October 1988, *Sample Documentation Report PG&E Materials Distribution Center,* Emeryville, California.

(E&E, 1988b) Ecology & Environment, November 1988, *Release Sampling Plan PG&E Materials Distribution Center,* Emeryville, California.

(E&E, 1989) Ecology & Environment, August 1989, *Final Documentation Report, Post Excavation Sampling, PG&E Materials Distribution Center,* Emeryville, California.

(EKI, 1993) Erler & Kalinowski, Inc., 8 September 1993, *Preliminary Site Investigation Report,* Chiron Corporation, Emeryville, California.

(EKI, 1995a) Erler & Kalinowski, Inc., 10 March 1995, *Final Health and Environmental Risk Assessment Properties North of 53rd Street,* Chiron Corporation, Emeryville, California.

(EKI, 1995b) Erler & Kalinowski, Inc., 17 February 1995. *Sampling and Analysis of Soil Stockpiles Generated During Excavation of the Ramp for the Temporary Parking Lot on the Former PG&E/City of Emeryville Property,* Emeryville, California.

(EKI, 1995c) Erler & Kalinowski, Inc., 25 October 1995, *Sampling Plan for Additional Investigations New Ramp Area of the Temporary Parking Lot, Former PG&E/City of Emeryville Property,* Chiron Corporation, Emeryville, California.

(EKI, 1996) Erler & Kalinowski, Inc., 3 June 1996, *Results of the Ramp Area Investigation on the Former PG&E/City of Emeryville Property.*

(EPA, 1990) Environmental Protection Agency, August 1990, *Guidance on Remedial Actions for Superfund Sites with PCB Contamination.*

(EPA, 1995) Environmental Protection Agency, September 1995, *Region IX Preliminary Remediation Goals (PRGs) Second Half 1995.*

(HLA, 1991) Harding Lawson Associate, 18 October 1991, *Soil and Groundwater Investigation PG&E Materials Distribution Facility 53rd and Hollis Streets*, Emeryville, California.

(NUS, 1991) NUS Corporation, 31 May 1991, *Field Investigation Team Activities at Southern Pacific Railroad Tracks, Hollis at Stanford,* Emeryville, California.

TABLE 1

SCREENING OF RAMP AREA REMEDIAL ALTERNATIVES

Chiron Corporation
Emeryville, California
(EKI 930028.23)

ALTERNATIVE		SCREENING CRITERIA		
Number	Name	Effectiveness	Implementability	Present Value (a)
1	No Action	Not Effective. Does not meet the RAO for Ramp Area soil (see Section 3.2).	Not Implementable. Inconsistent with future development of the site.	$290,000
2	Excavate Soil Exceeding 1 mg/kg (above 7 ft msl)	Effective. Potential exposure to PCBs remaining in Ramp Area soil mitigated by removing soil with concentrations exceeding 1 mg/kg from the active construction zone and use of potential deed restrictions or notices for deeper soil.	Implementable. Excavating soil in the active construction zone with PCB concentrations exceeding 1 mg/kg will likely result in reduced long-term management needs and reduced future DTSC oversight requirements.	$460,000
3	Excavate Soil Exceeding 1 mg/kg	Effective. Only soil with concentrations less than 1 mg/kg will remain in the Ramp Area.	Implementable. Will require (1) additional investigations to define the vertical extent of soil containing PCBs above 1 mg/kg; and (2) excavating soil from below the water table. Long-term management and future DTSC oversight requirements likely not required.	$740,000

Notes:

(a) The costs in this column represent the sum of capital costs and the present value of all future costs associated with implementing each alternative (see Table 2).

TABLE 2

SUMMARY -- ALTERNATIVE REMEDIAL COSTS

Chiron Corporation
Emeryville, California
(EKI 930028.23)

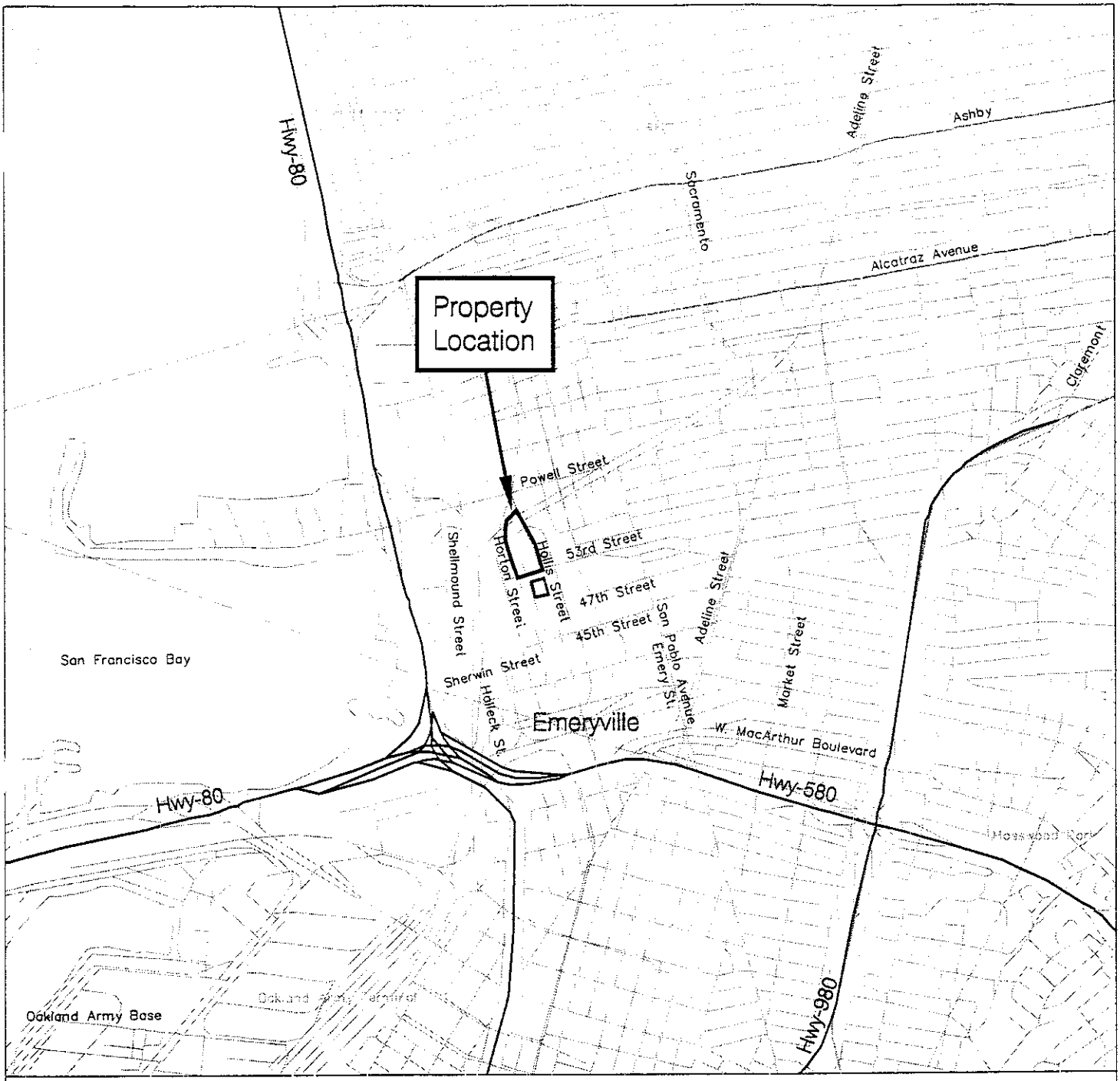
ALTERNATIVE		ESTIMATED IMPLEMENTATION COSTS		
Number	Name	Estimated Capital Cost (a)	Estimated Present Value of Continuing Cost (b)	Present Value (c)
1	No Action	$130,000	$160,000	$290,000
2	Excavate Soil Exceeding 1 mg/kg (above 7 ft msl)	$440,000	$20,000	$460,000
3	Excavate Soil Exceeding 1 mg/kg	$740,000	$0	$740,000

Notes:

(a) A breakdown of capital costs associated with implementing each alternative is included in Attachment A.

(b) A breakdown of continuing costs associated with implementing each alternative is included in Attachment A. The values in this column are based on a present value calculation using an effective annual interest rate of 3 percent.

(c) The costs in this column represent the sum of capital costs and the present value of continuing associated with implementing each alternative.



Erler & Kalinowski, Inc.

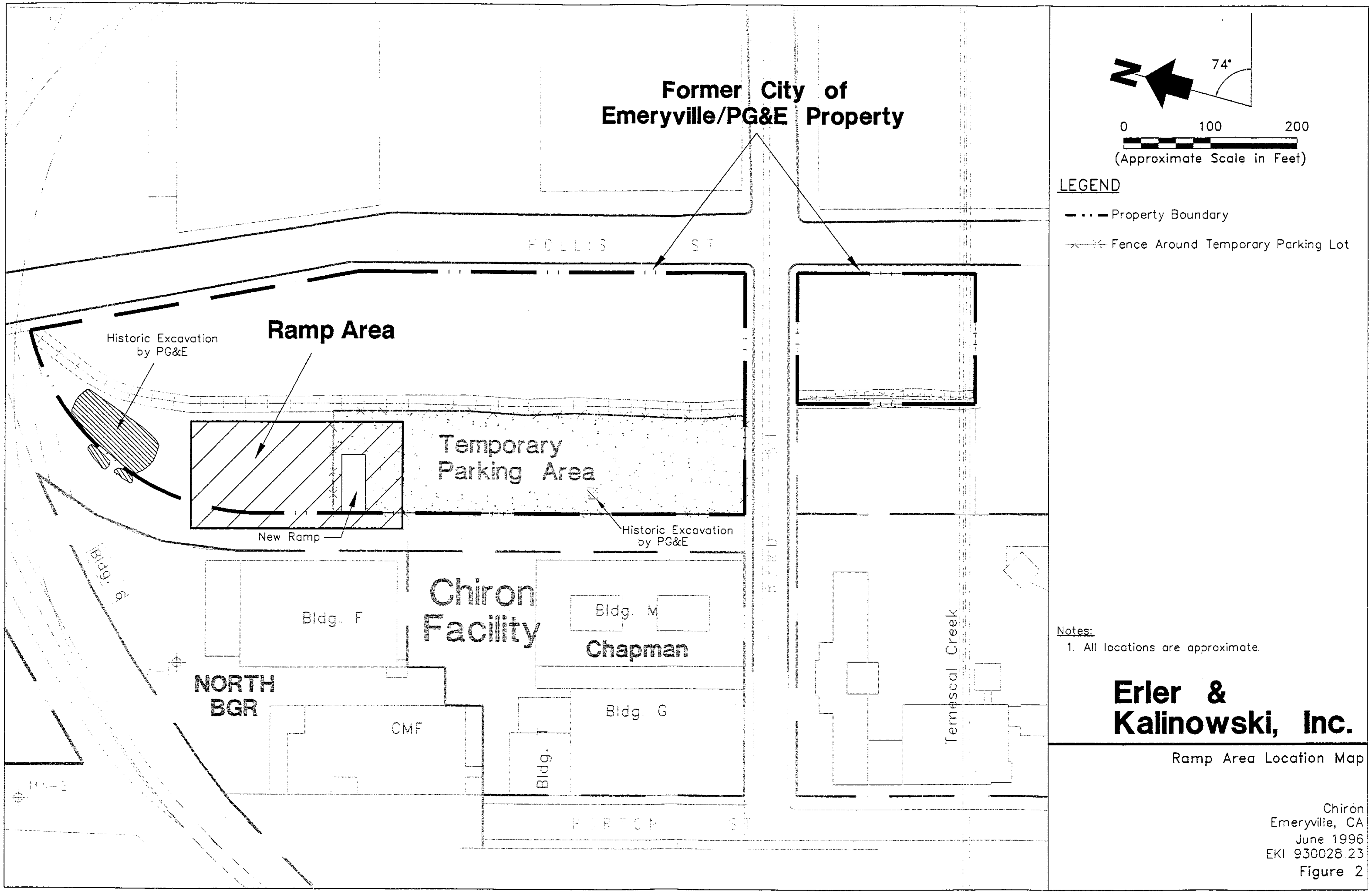
Site Location Map

Chiron
Emeryville, CA
June 1996
EKI 930028.23

Figure 1

Notes:

1. All locations are approximate



Former City of Emeryville/PG&E Property
74°
0
100
200
(Approximate Scale in Feet)
LEGEND
Property Boundary
Fence Around Temporary Parking Lot
H O L L I S ST
Ramp Area
Historic Excavation by PG&E
Temporary Parking Area
New Ramp
Historic Excavation by PG&E
Bldg. 6
Bldg. F
Chiron Facility
Bldg. M
Chapman
NORTH BGR
CMF
Bldg. G
Bldg. I
Temescal Creek
Notes:
1. All locations are approximate.

Erler & Kalinowski, Inc.

Ramp Area Location Map

Chiron
Emeryville, CA
June 1996
EKI 930028.23
Figure 2

96 Jun 04 13:26:46 C:\ACADR13\CHIRON\JUN96-2

Approximately 130 Pre-Excavation Samples,
150 Interim-Excavation Samples, and
31 Post-Excavation Confirmation Samples

Former City of Emeryville/PG&E Property

HOLLIS ST

MW-2 MW-7 MW-4 MW-3 MW-11 MW-12 MW-13 MW-1 MW-2

C-1 C-2 C-3 C-4 C-5 C-6 C-7 C-8 C-9 C-10 C-11 C-12 C-13 C-14 C-15 C-16 C-17 C-18 C-19 C-20 C-21

SB-1 SB-2 SB-3

15 16 17 18 19 22 23 35 36 37

P-Center P-East P-West

New Fence

Temporary Parking Lot

Excavation

New Ramp

5 Post-Excavation Confirmation Samples

SPRR

53RD ST

Bldg. A Bldg. F Bldg. M Bldg. G Bldg.

Chapman

NORTH BGR

CMF

Temescal Creek

HORTON ST

N 74°

0 100 200

(Approximate Scale in Feet)

LEGEND

- Monitoring Well Location by PG&E (1984)
- Soil Boring Location by PG&E (1987)
- Area of Excavation by PG&E (1988)
- Soil Boring Location by City (1991)
- Monitoring Well Location by City (1991)
- Soil Boring Location by Chiron (1993)
- Ramp Soil Sampling Location by Chiron (1994)
- Existing Concrete/Asphalt Area
- Property Boundary
- Fence Around Temporary Parking Lot

Notes:

1. All locations are approximate.

Erler & Kalinowski, Inc.

Historic Soil and Groundwater Sampling Locations

Chiron
Emeryville, CA
June 1996
EKI 930028.23
Figure 3

Former City of Emeryville/PG&E Property

HOLLIS ST.

Ramp

New Temporary Parking Area

Existing Ramp

MW-11

MW-12

MW-1

MW-2

MW-3

MW-4

MW-7

MW-13

SB-2

SB-3

C-1 C-2 C-3 C-4 C-5 C-6 C-7 C-8 C-9 C-10 C-11 C-12 C-13 C-14 C-15 C-16 C-17 C-18 C-19 C-20 C-21

13 15 17 18 20 21 22 23 28 30 37 39 40

TF-1 TF-2 TF-3 TF-4

015 016 018 020 021 022 023

S P R R

53RD

Temescal Creek

Bldg. 6

Bldg. F

Bldg. M

Bldg. G

Bldg. T

CMF

W-1

North BGR

Chapman

HORTON ST.

N 74°

0 100 200

(Approximate Scale in Feet)

LEGEND

- Monitoring Well Location
- Historic Existing Soil Boring Location
- Historic Soil Boring Location by EKI
- Former Area of Excavation by PG&E
- Existing Concrete/Asphalt Area
- Property Boundary
- Fence around Temporary Parking Lot
- Historic Ramp Area Soil Sampling Location by EKI
- Shallow Soil Sampling Location for Ramp Area Investigation
- Shallow and Deep Soil Sampling Location for Ramp Area Investigation

Notes

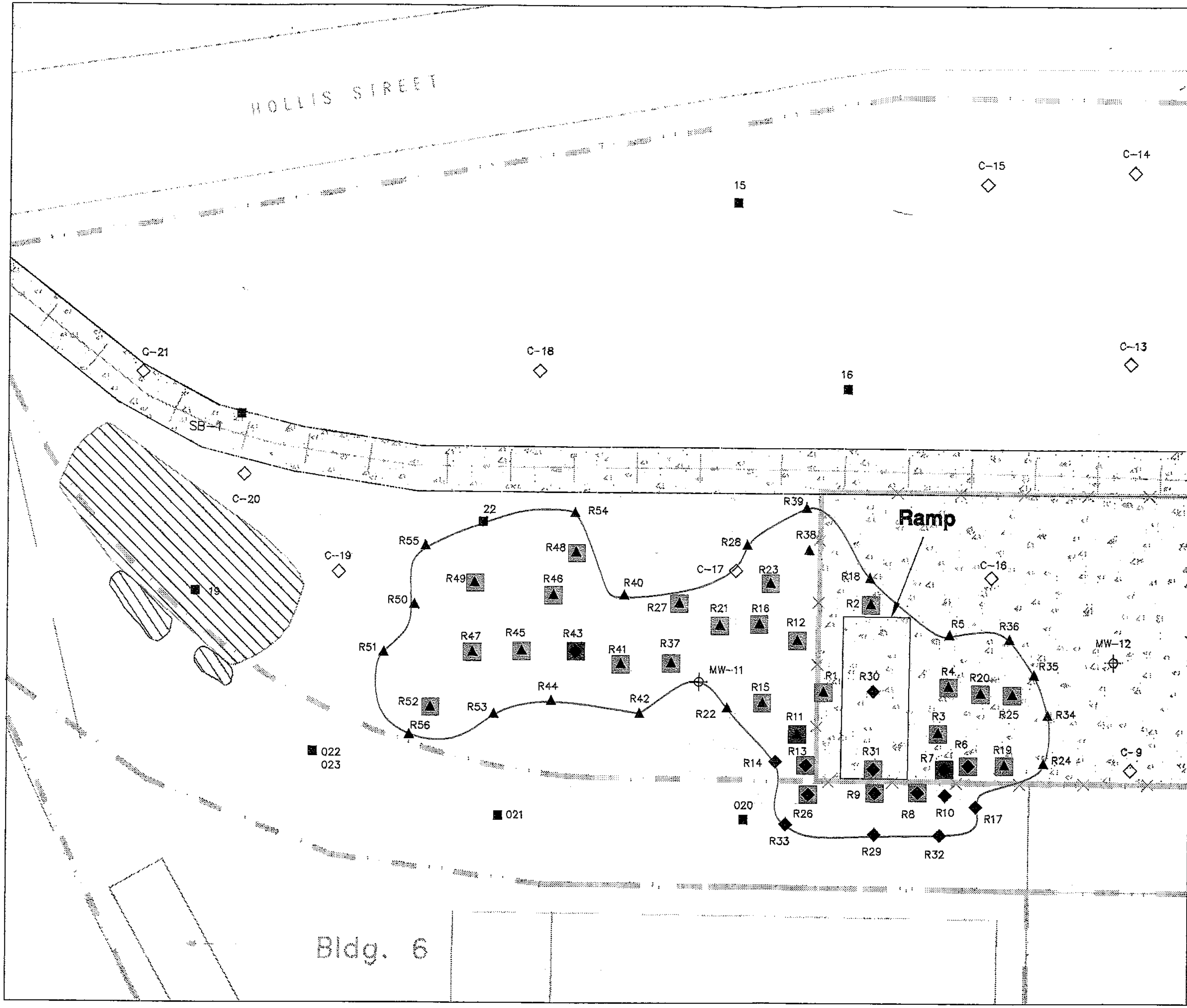
1. All locations are approximate
2. Soil samples for Ramp Investigation were collected as necessary to characterize soils to 1 mg/kg, as requested by DTSC

Erler & Kalinowski, Inc.

Ramp Area Soil Sampling Locations

Chiron Corporation
Emeryville, CA
June 1996
EKI 930028.23
Figure 4

96 May 30 09:14:25 C:\ACADR13\CHIRON\JUN96-4



74°

0 40 80

(Approximate Scale in Feet)

LEGEND

- Historic Monitoring Well Location
- Historic Soil Boring Location
- Historic Soil Boring Location by EKI
- Existing Concrete/Asphalt Area
- Former PG&E Excavation Area
- Property Boundary
- Fence around Temporary Parking Lot
- Shallow Soil Sampling Location for Ramp Investigation
- Shallow and Deep Soil Sampling Location for Ramp Investigation
- Lateral Extent of PCB Concentrations Greater than 1 mg/kg
- PCB Concentration >1 to ≤25 mg/kg
- PCB Concentration >25 to ≤50 mg/kg
- PCB Concentration >50 mg/kg

Notes

1. All locations are approximate.
2. PCB concentrations are less than or equal to 1 mg/kg at locations that are not colored.

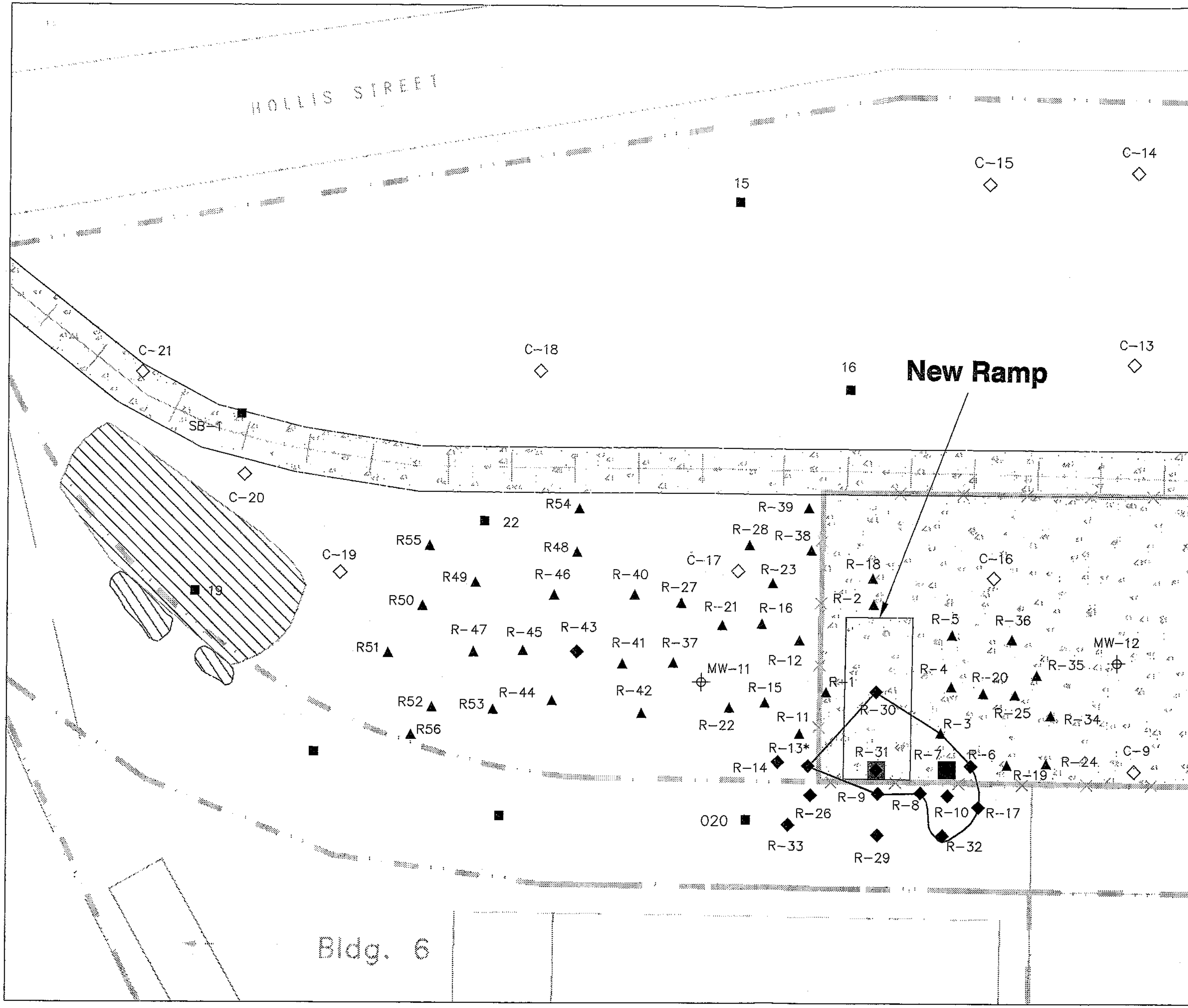
Erler & Kalinowski, Inc.

Lateral Extent of Elevated PCB Concentrations in Shallow Ramp Area Soil (Above 7ft. msl)

Chrion Corporation
Emeryville, CA

June 1996
EKI 930028.23

Figure 6



LEGEND

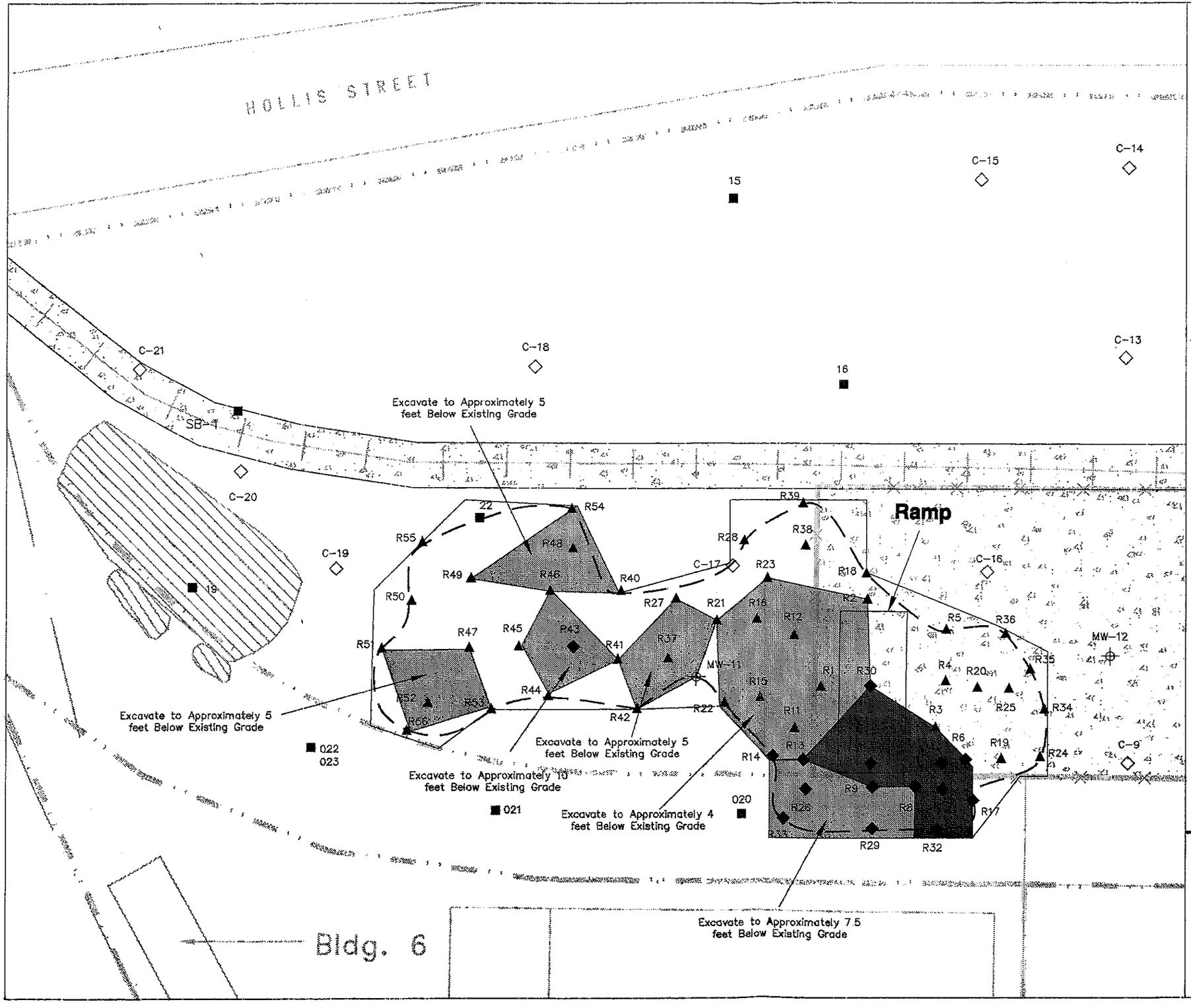
- Monitoring Well Location
- Historic Soil Boring Location
- Historic Soil Boring Location by EKI
- Existing Concrete/Asphalt Area
- Former PG&E Excavation Area
- Property Boundary
- Fence around Temporary Parking Lot
- Shallow Soil Sampling Location for Ramp Area Investigation
- Shallow and Deep Soil Sampling Location for Ramp Area Investigation
- Lateral Extent of PCB Concentrations Greater than 1 mg/kg
- PCB Concentration >1 to ≤25 mg/kg
- PCB Concentration >25 to ≤50 mg/kg
- PCB Concentration >50 mg/kg

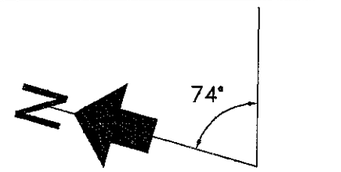
Notes

1. All locations are approximate.
2. PCB concentrations are less than or equal to 1 mg/kg at locations that are not colored.

Erler & Kalinowski, Inc.

Lateral Extent of Elevated PCB Concentrations in Deep Ramp Area Soil (Below 7ft. msl)
Chrion Corporation
Emeryville, CA
June 1996
EKI 930028.23
Figure 7





LEGEND

- Monitoring Well Location
- Historic Soil Boring Location
- Historic Soil Boring Location by EKI
- Existing Concrete/Asphalt Area
- Property Boundary
- Fence around Temporary Parking Lot
- Shallow Soil Sampling Location for Ramp Investigation
- Shallow and Deep Soil Sampling Location for Ramp Investigation
- Lateral Extent of PCB Concentrations Greater than 1 mg/kg
- Extent of Soil that will be Excavated to Approximately 3 Feet Below Existing Grade
- Extent of Soil that will be Excavated to Depths Ranging from Approximately 4 to 10 Feet Below Existing Grade
- Extent of Soil that will be Excavated to Depths Ranging from Approximately 10 to 12 Feet Below Existing Grade Corresponding with 7 ft msl

Notes

1. All locations are approximate.

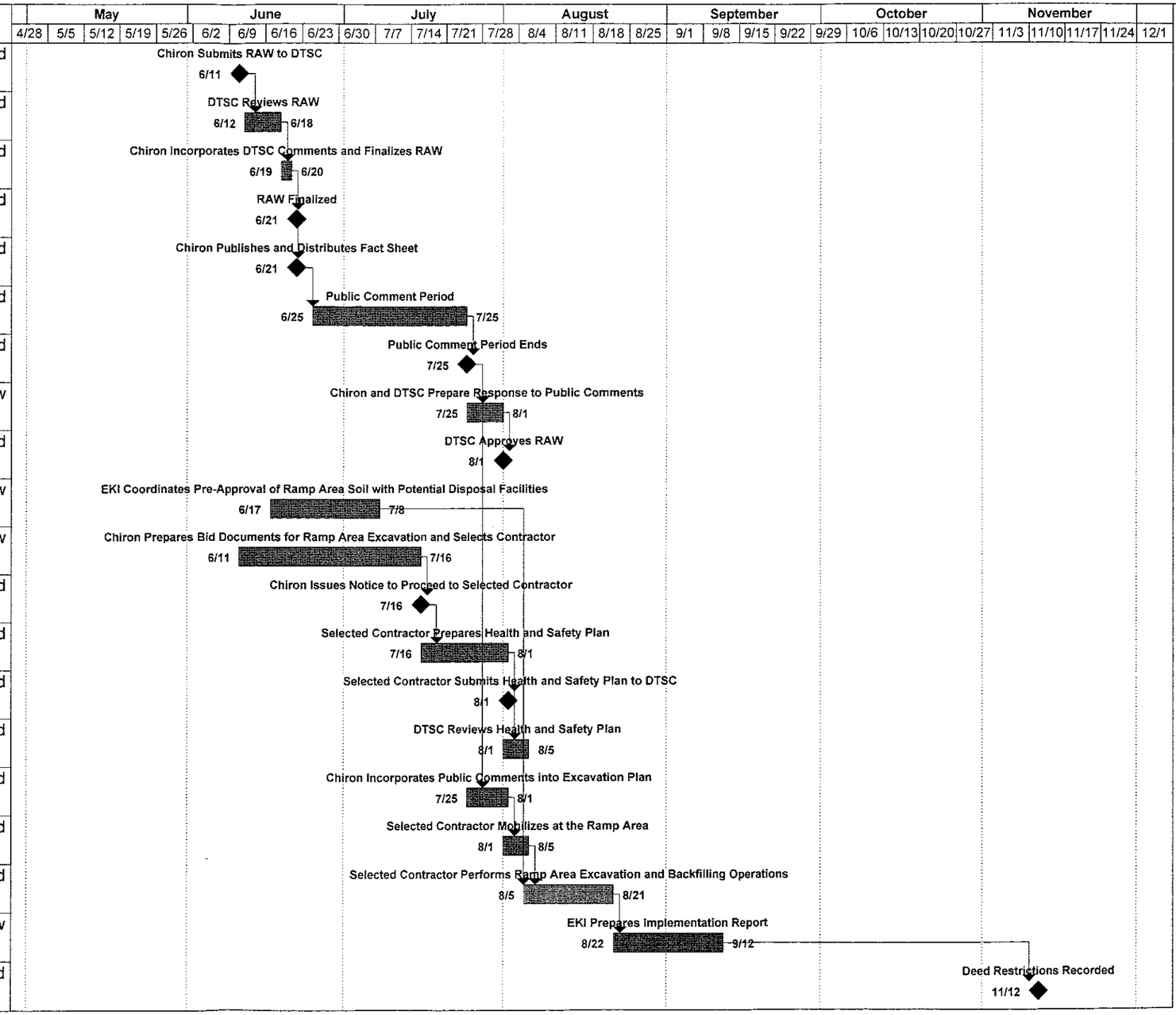
Erler & Kalinowski, Inc.

Excavation Plan

Chrion Corporation
Emeryville, CA
June 1996
EKI 930028.23
Figure 8

FIGURE 9
PROJECTED SCHEDULE FOR REMOVING PCB-IMPACTED SOIL IN THE RAMP AREA

Task Name	Duration
Chiron Submits RAW to DTSC	0d
DTSC Reviews RAW	5d
Chiron Incorporates DTSC Comments and Finalizes RAW	2d
RAW Finalized	0d
Chiron Publishes and Distributes Fact Sheet	0d
Public Comment Period	30ed
Public Comment Period Ends	0d
Chiron and DTSC Prepare Response to Public Comments	1ew
DTSC Approves RAW	0d
EKI Coordinates Pre-Approval of Ramp Area Soil with Potential Disposal Facilities	3ew
Chiron Prepares Bid Documents for Ramp Area Excavation and Selects Contractor	5ew
Chiron Issues Notice to Proceed to Selected Contractor	0d
Selected Contractor Prepares Health and Safety Plan	13d
Selected Contractor Submits Health and Safety Plan to DTSC	0d
DTSC Reviews Health and Safety Plan	3d
Chiron Incorporates Public Comments into Excavation Plan	6d
Selected Contractor Mobilizes at the Ramp Area	3d
Selected Contractor Performs Ramp Area Excavation and Backfilling Operations	13d
EKI Prepares Implementation Report	3ew
Deed Restrictions Recorded	0d



ERLER & KALINOWSKI INC
EKI 930028 23
Date: June 1996

Task Milestone

ATTACHMENT A

COST ESTIMATE BACKUP

TABLE 1-A

Erler & Kalinowski, Inc.

ESTIMATED REMEDIATION COSTS FOR PCB-IMPACTED SOILS
FROM RAMP AREA ON FORMER PG&E PROPERTY

Alternative No 1
No Action

Chiron Corporation, Emeryville, California
(EKI 930028.23)

Capital Costs				
Item	Unit	Quantity	Unit Cost	Cost
I. Construct Asphalt Cap Over Unpaved Section of Ramp Area (2" asphalt, 4" baserock)				
a. Contractor Preparation of Health & Safety and Dust Control Plans	ls	1	$5,000	$5,000
b. Contractor Site Preparation/Grubbing (3)	sq. ft.	16,500	$0.1	$1,650
c. Contractor Baserock/Paving (3)	sq. ft.	16,500	$2.00	$33,000
d. Contractor Install Cap Perimeter Fencing	lin. ft.	800	$15	$12,000
e. Contractor Equipment Decontamination (3,4)	ls	1	$10,000	$10,000
f. Engineering				
1. Prepare Plans and Specifications (5)	ls	1	$8,000	$8,000
2. Capping Operations Oversight (6)	ls	1	$6,000	$6,000
g. Preparation of Closure Report for Submittal to DTSC	ls	1	$15,000	$15,000
h. DTSC Oversight (7)	ls	1	$13,000	$13,000
Subtotal Capital Costs				**$103,650**
Contingency (25%)				**$25,913**
TOTAL CAPITAL COSTS (Rounded to Nearest $10,000)				**$130,000**

Continuing Costs			
Item	Frequency of Event (1)	Cost Per Event (1)	Present Value (2)
II. Estimated Costs for Institutional Constraints (DTSC-Imposed Deed Restriction on Property)			
a. 1996 + (8)	1 Every 5 Years	$8,000	$53,360
III. Asphalt Cap Maintenance			
a. Civil Engineer Inspection	Annual	$1,000	$33,330
b. Asphalt Surface Resealing	1 Every 5 Years	$3,000	$18,810
c. Asphalt Cap Overlay	1 Every 25 Years	$21,000	$19,200
Subtotal Continuing Costs			**$124,700**
Contingency (25%)			**$31,175**
TOTAL CONTINUING COSTS (Rounded to Nearest $10,000)			**$160,000**

Estimated Present Value of Alternative No. 1	
Item	Total Estimated Costs
Capital Costs	$130,000
Continuing Costs	$160,000
TOTAL ESTIMATED COSTS (Rounded to Nearest $10,000)	**$290,000**

TABLE 1-B

ESTIMATED REMEDIATION COSTS FOR PCB-IMPACTED SOILS
FROM RAMP AREA ON FORMER PG&E PROPERTY

Erler & Kalinowski, Inc.

Alternative No. 2
Excavate Soil with PCBs [>1.0 mg/kg] to 7 Feet Above Mean Sea Level
(Approximately 12 Feet Below Existing Ground Surface of Former PG&E Property)

Chiron Corporation, Emeryville California
(EKI 930028 23)

Capital Costs				
Item	Unit	Quantity	Unit Cost	Cost
I. Excavate Soil with PCBs >1.0 mg/kg to 7 ft Above Mean Sea Level (Approximately 12 feet below Existing Ground Surface of Former PG&E Property)				
a. Contractor Preparation of Health & Safety and Dust Control Plans	ls	1	$5,000	$5,000
b. Excavating and Loading (3)	bcyd	4,300	$17	$73,100
c. Transportation and Disposal (3,9)				
Soil (Class I)	bcyd	1,000	$85	$85,000
Soil (Class II)	bcyd	3,300	$25	$82,500
d Regrade and Compact Excavated Area (10)	bcyd	4,300	$7	$30,100
e. Contractor Equipment Decontamination (3 4)	ls	1	$10,000	$10,000
f. Engineering				
1. Prepare Plans and Specifications (5)	ls	1	$15,000	$15,000
2 Excavation Operations Oversight and Confirmation Soil Sampling (11)	ls	1	$15,000	$15,000
g. Preparation of Closure Report for Submittal to DTSC	ls	1	$20,000	$20,000
h. DTSC Oversight (7)	ls	1	$13,000	$13,000
Subtotal Capital Costs				**$348,700**
Contingency (25%)				**$87,175**
TOTAL CAPITAL COSTS (Rounded to Nearest $10,000)				**$440,000**

Continuing Costs			
Item	Frequency of Event (1)	Cost Per Event (1)	Present Value (2)
II Estimated Costs for Institutional Constraints (DTSC-Imposed Deed Restriction)			
a. First 10 Years (1996-2005) (8)	1 Every 10 Years	$8,000	$6,824
b. Year 11 (2006: New building construction) (12)	One Time	$13,000	$9,391
c. Year 12+ (2007+)	0	$0	$0
Subtotal Continuing Costs			**$16,215**
Contingency (25%)			**$4,054**
TOTAL CONTINUING COSTS (Rounded to Nearest $10,000)			**$20,000**

Estimated Present Value of Alternative No. 2	
Item	Total Estimated Costs
Capital Costs	$440,000
Continuing Costs	$20,000
TOTAL ESTIMATED COSTS (Rounded to Nearest $10,000)	**$460,000**

TABLE 1-C

Erler & Kalinowski, Inc.

ESTIMATED REMEDIATION COSTS FOR PCB-IMPACTED SOILS
FROM RAMP AREA ON FORMER PG&E PROPERTY

Alternative No. 3
Excavate All Soil with PCBs >1.0 mg/kg

Chiron Corporation, Emeryville, California
(EKI 930028.23)

Capital Costs				
Item	Unit	Quantity	Unit Cost	Cost
I. Cost for Excavating All Soil with PCBs >1.0 mg/kg				
a. Contractor Preparation of Health & Safety, Dust Control, and Shoring Plans	ls	1	$10,000	$10,000
b. Excavation (3)				
1. Shoring	sq ft	4,300	$25	$107,500
2. Dewatering	gal.	45,000	$0.70	$31,500
3. Excavating and Loading	bcyd	5,500	$17	$93,500
c. Transportation and Disposal (3,9)				
1. Water (Dewatering) (13)	gal	45,000	$0.12	$5,400
2. Soil (Class I)	bcyd	1,600	$85	$136,000
3. Soil (Class II)	bcyd	3,900	$25	$97,500
d. Regrade and Compact Excavated Area (10)				
1. *Backfill and Compact with Onsite Soil and Regrade*	bcyd	5,500	$7	$38,500
2. Import Rock for Bottom of Excavation	ton	350	$15	$5,250
e. Contractor Equipment Decontamination (3,4)	ls	1	$10,000	$10,000
f. Engineering				
1. Additional Environmental Investigation (14)	ls	1	$10,000	$10,000
2. Prepare Plans and Specifications (5)	ls	1	$20,000	$20,000
3. Excavation Operations Oversight and Confirmation Soil Sampling (11)	ls	1	$25,000	$25,000
g. Preparation of Closure Report for Submittal to *DTSC*	ls	1	$25,000	$25,000
h. DTSC Oversight (7)	ls	1	$13,000	$13,000
Subtotal Capital Costs				$590,150
Contingency (25%)				$147,538
TOTAL CAPITAL COSTS (Rounded to Nearest $10,000)				**$740,000**

Continuing Costs			
Item	Frequency of Event (1)	Cost Per Event (1)	Present Value (2)
II. Estimated Costs for Institutional Constraints (DTSC-Imposed Deed Restriction)	0	$0	$0
TOTAL CONTINUING COSTS (Rounded to Nearest $10,000)			**$0**

Estimated Present Value of Alternative No. 3	
Item	Total Estimated Costs
Capital Costs	$740,000
Continuing Costs	$0
TOTAL ESTIMATED COSTS (Rounded to Nearest $10,000)	**$740,000**

ESTIMATED REMEDIATION COSTS FOR PCB-IMPACTED SOILS FROM RAMP AREA ON FORMER PG&E PROPERTY

Chiron Corporation, Emeryville, California
(EKI 930028.23)

mg/kg	Milligrams per kilogram
bcyd	Bank cubic yards
sq. ft.	Square feet
lin. ft.	Lineal Foot
ls	Lump sum
gal.	Gallons

Notes:

1. Event is defined as an activity performed (e.g., landscaping and underground utility maintenance) in an area where PCB contaminated soils (>1 0 mg/kg) will be disturbed. Activities during new building construction may consist of tasks associated with construction of foundation and placement of underground utilities

2. Present value calculated using an effective interest rate of 3% for the time period stated.

3. Incremental environmental costs are included in contractors cost for performing construction activities using health & safety trained personnel.

4. Contractor equipment decontamination costs are estimated as follows:

Decon Area Setup/Break Down	$2,000
Laborers (2)	$4,000
Equipment (Pumps, scrubbers. storage tank)	$2.000
Decon Water Disposal	$2,000
Total Estimated Costs	$10,000

These costs include decontamination of trucks hauling soil offsite and contractors equipment used onsite.

5. Engineering plans and specifications consist of preparing documents detailing contractors requirements for capping or excavation activities.

6. Capping operations oversight assumes field supervision by project level engineer for 3 days at 10 hours/day and office support by supervising engineer.

7. Cost estimated by using DTSC-estimated time (hours) and hourly rate as listed between tasks "Public Participation" and "Certification" in Exhibit E, Cost Estimates Chiron Corporation Site of the Voluntary Site Cleanup Agreement, dated 1 April 1996.

8. Costs associated with a minor event (<2 cyd) into a DTSC-designated deed restriction area are as follows:

Health & Safety Trained Contractor	$500
Notify & Report to DTSC	$2,000
Engineering and Laboratory Analyses	$3,500
Legal	$2,000
Total Estimated Costs	$8 000

9. Disposal costs are based on 8 May 1996 bids from landfills

10. Regrading and compacting of excavated ramp area assumes that soil located on the former PG&E property, outside of (a) the former PG&E excavation area and (b) the Ramp Area will be used for backfilling excavated area.

ESTIMATED REMEDIATION COSTS FOR PCB-IMPACTED SOILS FROM RAMP AREA ON FORMER PG&E PROPERTY

Chiron Corporation, Emeryville, California
(EKI 930028.23)

Notes cont.

11. Excavation operations oversight assumes the following:

Alternative No. 2: Field supervision by project level engineer for 7 days at 12 hours/day and office support by supervising engineer.
Alternative No. 3: Field supervision by project level engineer for 13 days at 12 hours/day and office support by supervising engineer.

Additionally, engineering oversight costs include collection of additional environmental soil samples from stockpiles and/or excavation sidewalls, environmental laboratory analyses, and evaluation of laboratory data. For Alternative No. 3, engineering costs also include completion of East Bay Municipal Utilities District ("EBMUD") groundwater discharge application.

12. Estimated costs for institutional constraints, under Alternative No 2, include anticipated costs associated with new building construction in the Ramp Area in the year 2006 These costs include:

Health & Safety Trained Contractor	$2,000
Notify & Reporting to DTSC	$3,000
DTSC Costs	$1 000
Predrilling and/or Use of Cone Tip Piles for Building Foundation Construction	$5,000
Legal	$2,000
Total Estimated Costs	$13,000

13. Assumes disposal of water into sanitary sewer operated by EBMUD. Unit cost value based on oral communication with EBMUB personnel for one-time groundwater discharge.

14. Additional investigation consists of defining vertical extent of PCBs in soil at boring R-7 and includes permitting, drilling, sampling, and laboratory analysis of soil samples for PCBs.

ATTACHMENT B

PROCEDURES FOR COLLECTION AND ANALYSIS OF SOIL SAMPLES

ATTACHMENT B
PROCEDURES FOR COLLECTION AND ANALYSIS OF SOIL SAMPLES

Chiron Corporation, Emeryville, California
(EKI 930028.23)

Confirmation soil samples will be collected from the floor of the excavation in selected locations where the vertical extent of PCB-impacted soil with concentrations above 1 mg/kg has not been characterized (i.e., boring locations R37 and R52). Confirmation soil samples will also be collected from the excavation floor at soil boring locations R7, R10, and R31, where PCB-impacted soil is expected to remain at depth at concentrations above 1 mg/kg.

Chiron may also elect to stockpile soil and collect additional soil samples to further characterize excavated soil for disposal purposes. Performing additional characterization for disposal purposes would involve temporarily stockpiling soil and collecting and analyzing soil samples from the stockpiles prior to disposal. Procedures for the collecting and analyzing confirmation soil samples and soil stockpile samples are outlined below.

SAMPLE COLLECTION PROCEDURES FOR CONFIRMATION SOIL SAMPLES

For excavations less than 4 feet deep, confirmation soil samples will be collected by entering the excavation, collecting a sample using a clean stainless steel spoon, and transferring the sample into a glass jar. For excavations greater than 4 feet deep, confirmation soil samples will be collected from the appropriate location using a backhoe. The top few inches of soil contained in the backhoe bucket will be scraped away, a sample will be collected with a clean stainless steel spoon, and the sample will be placed in a glass jar.

A sample label will be attached to each liner or jar and the label will include a unique sample identification number, the sample location, and the time and date of sample collection. Sealed jars will be placed in zip-closure plastic bags, then placed on ice in a cooler for temporary storage. Chain-of-custody records will be initiated at the time of sample collection. Confirmation soil samples collected from the excavation floor at boring locations R37 and R52 will be analyzed for PCBs using DTECH^{IM} immunoassay test kits. Confirmation soil samples from the excavation floor at boring locations R7, R10, and R31 will be

transported to the laboratory on ice in a cooler under chain-of-custody. These samples will be analyzed in the laboratory for PCBs by EPA Method 8080.

SAMPLE COLLECTION PROCEDURES FOR SOIL STOCKPILE SAMPLES

The soil stockpile sampling frequency (i.e., the number of samples per volume of soil) will be a minimum of one representative sample per approximately 50 cubic yards ("cy") of material. A representative soil stockpile sample will consist of up to five discrete samples that will be collected with a stainless steel spoon and placed in glass jars.

The volume of soil within each stockpile, at any given time, will be estimated on the basis of either the equipment used to handle the material (e.g., counting backhoe bucket loads) or field measurements of the stockpile dimensions. Stockpiles consisting of greater than 50 cy of soil will be divided into approximately 50 cy sections by means of flagging or some other suitable marking device. Each 50 cy section will be distinctly labeled for subsequent identification. A maximum of five discrete samples will be collected from random locations throughout each 50 cy section.

To collect soil stockpile samples, soil samples will be collected from established stockpiles or from the bucket of the backhoe forming the stockpiles. The samples will be collected by scraping the top few inches of soil from the sampling location or the backhoe bucket, collecting a sample with a clean stainless steel spoon, and transferring the sample to a glass jar.

A sample label will be attached to each jar and the label will include a unique sample identification number, the stockpile number and location, and the time and date that the sample was collected. Sealed liners or jars will be placed in zip-closure plastic bags, then placed on ice in a cooler for chemical analysis. Chain-of-custody records will be initiated at the time of sample collection. Samples will be composited in the field to make a representative sample. Stockpile soil samples will be analyzed for PCBs using DTECH™ immunoassay test kits. If the test kit results indicate that the PCB concentrations in stockpile soil samples are greater than 25 mg/kg, then such samples will be transported to the laboratory on ice in a cooler under chain-of-custody. These samples will be analyzed in the laboratory for PCBs by EPA Method 8080.

ATTACHMENT C

QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

ATTACHMENT C
QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

Chiron Corporation, Emeryville, California
(EKI 930028.23)

The quality assurance and quality control ("QA/QC") program will evaluate chemical analyses based on three types of laboratory control samples (spikes, duplicates, blanks). The definitions of these types of samples are as follows:

1. Spikes: Matrix spike analyses are intended to evaluate the accuracy of laboratory analyses. Performance of the analytical method will be assessed by means of percent recovery for accuracy. Percent recoveries will be assessed against data control limits calculated from laboratory analysis of chemicals of concern.

2. Duplicates: Matrix spike duplicate analyses are intended to evaluate the precision of laboratory analyses. Precision of the analytical method will be assessed by calculating the relative percent difference ("RPD") of matrix spike duplicates. RPDs will be assessed against data control limits calculated from laboratory analysis of chemicals of concern.

3. Blanks: Blanks are intended to evaluate whether the laboratory or field procedures represent a possible source of contamination of field samples.

Field QA/QC Checks

Using currently accepted soil sampling procedures, there are no accurate methods to obtain or produce consistent blanks of soil samples in the field. Therefore, no field soil blanks are planned. Also, due to the heterogeneous nature of soil properties and matrix effects, a true soil duplicate sample cannot be collected in the field.

Laboratory Quality Control Checks

Laboratory quality control checks will be performed by the laboratory in adherence to laboratory QC procedures. The QC procedures listed in the Revision 1 of Chapter 1 (dated July 1992) of SW-846 (USEPA, 1986) will be followed for each laboratory method. The laboratory QC samples will be analyzed at each laboratory for all samples analyzed.

Laboratory QC procedures include the following:

1. One internal laboratory blank will be analyzed for every 20 samples analyzed or one per batch for each EPA Method, whichever is more frequent.

2. One matrix spike/matrix spike duplicate ("MS/MSD") will be analyzed for every 20 samples analyzed or one per batch, for each EPA Method, whichever is more frequent. The MS/MSD will be performed using standard spike compounds for each method specified under SW-846.

Accuracy

MS/MSD samples will be evaluated to determine laboratory accuracy as follows:

1. Tabulate spike sample data and calculate the percent recovery as shown below for each spiked compound:

$$\text{Percent recovery} = \frac{(T - X)}{A} \times 100$$

Where: T = total concentration of compound found in spiked sample

X = original concentration of compound in sample prior to spiking

A = actual spike concentration of compound added to sample

2. Plot the data on the laboratory QC charts.

3. Qualitatively evaluate the significance of data points that fall outside of the laboratory control limits. The lower control limit ("LCL") and upper control limit ("UCL") for the spiked compounds are presented as accuracy goals.

4. If the UCL and/or LCL is exceeded, the engineer will be notified by the laboratory, the data from that period of time will be evaluated for the compound that exceeds the limits, and corrective action will be taken, as appropriate, by the laboratory.

If the accuracy values for MS/MSD analyses repeatedly fall outside the laboratory control limits, then further evaluation of laboratory QA/QC data will be performed. If the evaluation indicates that interference is associated with site specific conditions or a given sample matrix, adjustment of the accuracy goals will be made on the basis of the site specific data.

Precision

MS/MSD samples will be evaluated to determine laboratory precision as follows:

1. Calculate the RPD as shown below for each compound of each duplicate pair:

$$RPD = \frac{(X1-X2)}{X} \times 100$$

Where: X1 = concentration of compound for sample 1 of duplicate

X2 = concentration of compound for sample 2 of duplicate

X = average of samples 1 and 2

2. Calculate the average for the RPDs for all duplicate pairs.

The RPDs calculated for all MS/MSD sample spike analytes will be compared to the precision goals of the laboratory. If the data do not meet these precision goals, then the data will be evaluated and corrective action may be taken by the laboratory. If the RPD values for MS/MSD analyses repeatedly fall outside the established precision goal, then further evaluation of laboratory QA/QC data will be performed. If the evaluation indicates that interference is associated with site specific conditions or a given matrix, adjustment of the goal will be made on the basis of the site specific data.

ATTACHMENT D

DATA MANAGEMENT PROGRAM

ATTACHMENT D
DATA MANAGEMENT PROGRAM

Chiron Corporation, Emeryville, California
(EKI 930028.23)

Soil analytical data will be organized and cataloged in an electronic computer database. The objective of the database is to produce a detailed and accurate database for the project.

Database Overview

The database will consist of four databases. The location and identity of all the unique sampling sites included in the project database will be contained in a LOCATOR HEADER file. The LOCATOR HEADER file is linked to an ANALYTICAL HEADER file. This file contains the basic descriptive data (e.g. important dates, sample identities, depths, etc.) for the actual chemical results which reside in the ANALYTICAL DETAIL file. A fourth file, the QUALITY CONTROL file contains MS/MSD and LCS quality control data and is linked to the ANALYTICAL HEADER file.

Data Entry

Analytical data will be double entered for the former PG&E/City of Emeryville Property database to enhance data integrity. Electronic data deliverables from the analytical laboratory will serve as one of the independent entries. The second entry will be performed using hard-copy laboratory reports. The database files will be compared to the analytical laboratory files, checked and edited to produce interim "consensus" data files.

A second stage of data entry occurs when some of the more general analytical or qualifying data are entered directly into the interim databases from data supplied by the field technician. This includes information that cannot be found on the laboratory reports, such as the identity of QC samples that were submitted to the laboratory blindly, geographic coordinates of sampling locations, field observations, etc.

Data Quality Control

Data quality control is provided by unique document identification, double entry of data, programmed checking of entered data, edit tracking, and technical review.

The programmed checking involves a series of small Foxpro programs which search for and report errors, omissions, inconsistencies and outliers. For example, date variables are checked to make sure they are "legal" (e.g., no February 31's) and internally consistent (e.g., the report date is later than the analysis date which is later than the sampling date).

Summary tables describing the database and the variables therein will be printed prior to incorporating data into the final project database. These tables will be reviewed for accuracy by the Project personnel most familiar with the individual site reports.

Data Security

Database security involves the following:

- computer access control and documentation;
- virus checking; and
- backup and catastrophic loss prevention.

Selected personnel will have password protected, "read-only" access to the database for use with reporting, display or analysis software. Standard PC security software will be used to control and report access as well as routinely check for computer viruses.

The database will be backed up daily on 125 megabyte tapes using the Colorado Memory Systems "JUMBO" tape backup system. Duplicate copies of the tapes will be stored on-site in a fireproof Data Safe.

Data Supplier Specifications

In order to produce a database that is complete, consistent and correct, 1) field geologists will use a consistent convention for sample identification numbers; and 2) the following information must be organized into a spreadsheet for insertion into the database:

- sample identification numbers for all soil samples collected at the former PG&E/City of Emeryville Property;
- locator information;
- location details (such as sample depth or north wall for trench samples);
- matrix;
- sample type;
- date of collection;
- collection method;
- duplicate reference (for a field duplicate, this is the identity of the sample that is being duplicated);
- x and y coordinates of the sample location in the site coordinate system; and
- general remarks and a narrative detailing anything unusual about the soil sample or the chemical analysis.

ATTACHMENT E

HUMAN HEALTH EXPOSURE ASSESSMENT FOR AIRBORNE PCBS

ATTACHMENT E
HUMAN HEALTH EXPOSURE ASSESSMENT FOR AIRBORNE PCBS

Chiron Corporation, Emeryville, California
(EKI 930028.23)

A hypothetical risk calculation was performed to estimate the plausible, worst-case human health risk for exposure of off-site residents to polychlorinated biphenyls ("PCBs") during the proposed excavation in the Ramp Area of the former PG&E/City of Emeryville property. Results of the calculation show that the estimated cancer risk for off-site residents due to inhalation of PCB-containing dust will not exceed 5.8×10^{-8}. This calculation was performed for a hypothetical off-site child, which is more conservative than an adult. In addition, comparison of plausible worst-case PCB concentrations in respirable dust to the Permissible Exposure Limit ("PEL") of 0.5 mg/m^3 (California Code of Regulations, Title 8, Section 5155) shows that the PEL will not be exceeded for construction workers performing the excavation.

RESIDENTIAL EXPOSURE ASSESSMENT

The exposure assumptions used to estimate the plausible, worst-case human health risk for exposure of off-site residents are summarized in Table E-1. As indicated on Table E-1, the excavation is assumed to be performed over 10 days. The respirable dust concentration is assumed to equal 1,000 ug/m^3, which is corresponds to the presence of visible dust clouds, a conservative exposure assumption. In addition, a respirable dust concentration of 1,000 ug/m^3 is the level at which real-time air detectors will alarm and dust control methods will be increased and/or excavation activities will cease. The representative PCB concentration in soil is assumed to equal 29 mg/kg, which is the 95 percent upper confidence limit of the average PCB concentration detected in soil samples from the Ramp Area (U.S. Environmental Protection Agency, 1992). The carcinogenic slope factor for inhalation of PCBs is assumed to equal 7.7 $(mg/kg\text{-}day)^{-1}$ (Office of Environmental Health Hazard Assessment, 1994). Using the assumptions in Table E-1, a PCB concentration of 29 mg/kg, and a slope factor of 7.7 $(mg/kg\text{-}day)^{-1}$, the health risk to off-site child residents due to inhalation of PCB-containing dust is estimated to be 5.8×10^{-8} during the excavation in the Ramp Area.

A risk of 5.8×10^{-8} is significantly lower than a target risk of 10^{-6} for residential populations. Therefore, so long as respirable dust concentrations at the perimeter of

the former PG&E/City of Emeryville property do not exceed 1,000 ug/m^3, the estimated cancer risk for off-site residents due to inhalation of PCB-containing dust will not exceed 5.8×10^{-8}.

CONSTRUCTION WORKER EXPOSURE ASSESSMENT

Assuming, as above, a plausible worst-case airborne dust concentration of 1,000 ug/m^3 generated during construction activities and a representative PCB concentration of 29 mg/kg in soil, the airborne PCB concentration is calculated to be 0.000029 mg/m^3. This airborne PCB concentration is significantly lower than the PEL of 0.5 mg/m^3 for PCBs set by the California Occupational Safety and Health Standards Board (California Code of Regulations, Title 8, Section 5155). Taken together, the available PCB data and the maximum allowable airborne dust concentration indicate that the PEL of 0.5 mg/m^3 will not be exceeded during excavation activities in the Ramp Area.

REFERENCES

California Code of Regulations, Title 8, Section 5155, Table AC-1, Revised 7 April 1995.

Office of Environmental Health Hazard Assessment, 1 November 1994, *California Cancer Potency Factors*, California Environmental Protection Agency, Standards and Criteria Work Group, Sacramento, California.

Department of Toxic Substances Control ("DTSC"), January 1994, *Preliminary Endangerment Assessment Guidance Manual*, California Environmental Protection Agency.

DTSC, July 1992, *Supplemental Guidance for Human Health Multimedia Risk Assessments for Hazardous Waste Sites and Permitted Facilities*, California Environmental Protection Agency, The Office of the Science Advisor.

U.S. Environmental Protection Agency ("EPA"), May 1992, *Supplemental Guidance to RAGS: Calculating the Concentration Term*, Office of Solid Waste and Emergency Response, EPA Publication 9285.7-081.

EPA, March 1991, *Risk Assessment Guidance for Superfund - Volume I: Human Health Evaluation Manual, Supplemental Guidance, "Standard Default Exposure Factors"*, Interim Final, OSWER Directive: 9285.6-03.

EPA, December 1989, *Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Part A)*, OERR, EPA/540/12-89/002.

Table E-1
Summary of Specific Exposure Parameters Used to Estimate Risk
to Off-Site Residents during the Ramp Area Excavation

Chiron Corporation, Emeryville, California
(EKI 930028 23)

Exposure Parameter	Parameter Assumption (a)	Reference
Exposure Frequency	10 days/year	Best Professional Judgment (b)
Exposure Duration	1 year	Best Professional Judgment (b)
Averaging Time	25,550 days	EPA (1989, 1991); DTSC (1992, 1994)
Body Weight	15 kg	EPA (1989, 1991); DTSC (1992, 1994)
Inhalation Rate	10 m^3/day	DTSC (1994)
Dust Concentration	1,000 ug/m^3	Best Professional Judgment (c)

Notes:

(a) Exposure assumptions are compiled from:

- DTSC, January 1994, *Preliminary Endangerment Assessment Guidance Manual*, California Environmental Protection Agency
- DTSC, July 1992, *Supplemental Guidance for Human Health Multimedia Risk Assessments for Hazardous Waste Sites and Permitted Facilities,* California Environmental Protection Agency, The Office of the Science Advisor
- EPA, March 1991, *Risk Assessment Guidance for Superfund - Volume I. Human Health Evaluation Manual, Supplemental Guidance, "Standard Default Exposure Factors",* Interim Final, OSWER Directive: 9285 6-03.
- EPA, December 1989, *Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual (Part A),* OERR, EPA/540/12-89/002

(b) The exposure frequency and exposure duration is based on the estimated time to complete the Ramp Area excavation.

(c) The respirable dust concentration (concentration of dust with particles less than 10 micrometers in diameter) is assumed to equal 1,000 ug/m^3, which is corresponds to the presence of visible dust clouds, a conservative exposure assumption. A respirable dust concentration of 1,000 ug/m^3 is the level at which real-time air detectors will alarm and dust control methods will be increased and/or excavation activities will cease. For comparison, the permissible exposure limit (PEL) for respirable dust is 5,000 ug/m^3 (CCR, Title 8, Section 5155, Table AC-1)

ATTACHMENT F

ADMINISTRATIVE RECORD LIST

ADMINISTRATIVE RECORD LIST - CHIRON CORPORATION SITE
FORMER PG&E/CITY OF EMERYVILLE PROPERTY

STATUTES, REGULATIONS AND GUIDANCE DOCUMENTS

Document Date:	10/88
Document Type:	Guidance
Title/Subject:	Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA
Author/Affiliation:	U.S. EPA
Document Date:	1994/95
Document Type:	Statutes
Title/Subject:	California Health and Safety Code, Division 20, Chapter 6.8
Author/Affiliation:	State of California
Document Date:	1994/95
Document Type:	Regulations
Title/Subject:	California Code of Regulations, Title 22, Division 4, Volume 29
Author/Affiliation:	State of California
Document Date:	6/92
Document Type:	Statutes
Title/Subject:	California Environmental Quality Act
Author/Affiliation:	Governors Office of Planning and Research
Document Date:	12/86
Document Type:	Statutes
Title/Subject:	The Comprehensive Environmental Response, Compensation and Liability Act of 1980 as Amended by the Superfund Amendments and Reauthorization Act of 1986
Author/Affiliation:	U.S. Congress
Document Date:	7/93
Document Type:	Regulations
Title/Subject:	40 Code of Federal Regulations, Parts 300 to 399, National Oil and Hazardous Substances Pollution Contingency Plan
Author/Affiliation:	U.S. Government

ADMINISTRATIVE RECORD LIST - CHIRON CORPORATION SITE
FORMER PG&E/CITY OF EMERYVILLE PROPERTY

Document Date:	8/90
Document Type:	Guidance
Title/Subject:	Guidance on Remedial Actions for Superfund Sites with PCB Contamination
Author/Affiliation:	U.S. EPA

Document Date:	9/95
Document Type:	Guidance
Title/Subject:	Region IX Preliminary Remediation Goals (PRGs) Second Half 1995
Author/Affiliation:	U.S. EPA

Document Date:	10/76
Document Type:	Statute
Title/Subject:	Toxic Substances Control Act
Author/Affiliation:	U.S. Congress

Document Date:	3/14/95
Document Type:	Memorandum
Title/Subject:	Removal Action Workplans - Senate Bill 1706
Author/Affiliation:	Barbara Coler/DTSC
Recipient/Affiliation:	Jim Tjosvold, Barbara Cook, Steve Cimperman, Hamid Saebfar/DTSC

CORRESPONDENCE AND DOCUMENTS

Document Date:	10/88
Document Type:	Report
Title/Subject:	Sample Documentation Report PG&E Materials Distribution Center, Emeryville, California
Author/Affiliation:	Ecology & Environment

Document Date:	11/88
Document Type:	Report
Title/Subject:	Release Sampling Plan PG&E Materials Distribution Center, Emeryville, California
Author/Affiliation:	Ecology & Environment

ADMINISTRATIVE RECORD LIST - CHIRON CORPORATION SITE
FORMER PG&E/CITY OF EMERYVILLE PROPERTY

Document Date:	12/9/88
Document Type:	Letter
Title/Subject:	"Release Sampling Plan, PG&E Materials Distribution Center, Emeryville California"
Author/Affiliation:	Bernie Edrada & Stephen G. Belluomini/ DTSC
Recipient/Affiliation:	Suzanne Chaewsky/PG&E
Document Date:	8/89
Document Type:	Report
Title/Subject:	Final Documentation Report, Post Excavation Sampling, PG&E Materials Distribution Center, Emeryville, California
Author/Affiliation:	Ecology & Environment
Document Date:	5/31/91
Document Type:	Report
Title/Subject:	Field Investigation Team Activities at Southern Pacific Railroad Tracks, Hollis at Stanford, Emeryville, California
Author/Affiliation:	NUS Corporation
Document Date:	10/18/91
Document Type:	Report
Title/Subject:	Soil and Groundwater Investigation PG&E Materials Distribution Facility 53rd and Hollis Streets, Emeryville, California
Author/Affiliation:	Harding Lawson Associates
Document Date:	9/8/93
Document Type:	Report
Title/Subject:	Preliminary Site Investigation Report, Chiron Corporation, Emeryville, California
Author/Affiliation:	Erler & Kalinowski
Document Date:	6/16/94
Document Type:	Letter
Title/Subject:	Addendum to Soil and Concrete Relocation Sampling Plan, 53rd and Hollis Streets, PG&E/Emeryville Site, Emeryville
Author/Affiliation:	Barbara J. Cook/DTSC
Recipient/Affiliation:	Ignacio Dayrit/City of Emeryville

ADMINISTRATIVE RECORD LIST - CHIRON CORPORATION SITE
FORMER PG&E/CITY OF EMERYVILLE PROPERTY

Document Date:	6/16/94
Document Type:	Letter
Title/Subject:	Responses to DTSC Comments on Soil and Concrete Relocation and Sampling Plan, The City of Emeryville, 53rd & Hollis Streets Emeryville, California
Author/Affiliation:	Vera H Nelson and Thomas W. Kalinowski/Erler & Kalinowski
Recipient/Affiliation:	Ignacio Dayrit/City of Emeryville
Document Date:	11/11/94
Document Type:	Letter
Title/Subject:	Temporary Parking Lot on Former PG&E/City of Emeryville Property, Chiron Corporation, Emeryville, California
Author/Affiliation:	Vera H. Nelson and Stephen A. Tarantino/Erler & Kalinowski
Recipient/Affiliation:	Dr Ravi Arulanantham/Regional Water Quality Control Board
Document Date:	2/13/95
Document Type:	Notice
Title/Subject:	Notice of Completion of a Draft Environmental Impact Report for the Chiron Corporation Long-Range Campus Development Plan Proposed to be Developed on a 25 Acre Site on Hollis and Horton Streets in the City of Emeryville
Author/Affiliation:	Gaye Quinn/City of Emeryville
Recipient/Affiliation:	Interested Agencies, Organizations and Individuals
Document Date:	2/17/95
Document Type:	Report
Title/Subject:	Sampling and Analysis of Soil Stockpiles Generated During Excavation of the Ramp for the Temporary Parking Lot on the Former PG&E/City of Emeryville Property, Emeryville, California
Author/Affiliation:	Erler & Kalinowski
Document Date:	3/10/95
Document Type:	Report
Title/Subject:	Final Health and Environmental Risk Assessment, Properties North of 53rd Street, Chiron Corporation, Emeryville, California
Author/Affiliation:	Erler & Kalinowski

ADMINISTRATIVE RECORD LIST - CHIRON CORPORATION SITE
FORMER PG&E/CITY OF EMERYVILLE PROPERTY

Document Date:	3/15/95
Document Type:	Letter
Title/Subject:	Approval of Health and Environmental Risk Assessment Properties North of 53rd Street, Chiron Master Plan Development , Emeryville, California
Author/Affiliation:	Susan L. Hugo and Dr. Ravi Arulanantham/Alameda County Health Care Services Agency
Recipient/Affiliation:	Ric Notini/Chiron Corporation
Document Date:	3/20/95
Document Type:	Letter
Title/Subject:	Approval of Health and Environmental Risk Assessment Properties North of 53rd Street, Chiron Master Plan Development, Emeryville, Alameda County
Author/Affiliation:	Steven R. Ritchie and Stephen I. Morse/Regional Water Quality Control Board
Recipient/Affiliation:	Ric Notini, Chiron Corporation
Document Date:	4/13/95
Document Type:	Letter
Title/Subject:	Draft Environmental Impact Report for the Chiron Corporation Long-Range Campus Development Plan
Author/Affiliation:	Barbara J. Cook/DTSC
Recipient/Affiliation:	Gaye Quinn/City of Emeryville
Document Date:	8/8/95
Document Type:	Report
Title/Subject:	Chiron Development Plan Environmental Impact Report, State Clearinghouse No. 94063005
Author/Affiliation:	City of Emeryville
Document Date:	10/25/95
Document Type:	Report
Title/Subject:	Sampling Plan for Additional Investigations, New Ramp Area of the Temporary Parking Lot, Former PG&E/City of Emeryville Property, Emeryville, California
Author/Affiliation:	Erler & Kalinowski

ADMINISTRATIVE RECORD LIST - CHIRON CORPORATION SITE
FORMER PG&E/CITY OF EMERYVILLE PROPERTY

Document Date:	3/13/96
Document Type:	Letter
Title/Subject:	Chiron Corporation Site, Former Pacific Gas & Electric Property, Emeryville, California - Voluntary Cleanup Agreement and Sampling Plan Comments
Author/Affiliation:	Karen M. Toth/DTSC
Recipient/Affiliation:	Ric Notini/Chiron Corporation
Document Date:	3/21/96
Document Type:	Report
Title/Subject:	Addendum for Additional Investigations, New Ramp Area of the Temporary Parking Lot, Former PG&E/City of Emeryville Property, to the Sampling Plan.
Author/Affiliation:	Erler & Kalinowski
Document Date:	4/1/96
Document Type:	Agreement
Title/Subject:	Voluntary Cleanup Agreement - Chiron Corporation
Author/Affiliation:	DTSC
Recipient/Affiliation:	Chiron Corporation
Document Date:	6/3/96
Document Type:	Report
Title/Subject:	Results of the Ramp Area Investigation on the Former PG&E/City of Emeryville Property, Emeryville, California
Author/Affiliation:	Erler & Kalinowski

CHIRON CORPORATION
RAMP AREA ON THE FORMER PG&E/CITY OF EMERYVILLE PROPERTY
RESPONSIVENESS SUMMARY
PUBLIC COMMENTS RECEIVED ON THE DRAFT REMOVAL ACTION WORKPLAN
JULY 31, 1996

I. Introduction

On June 25, 1996, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), began the public comment period for the draft Removal Action Workplan (RAW) for the Chiron Corporation Ramp Area of the Former PG&E/City of Emeryville Property located at 53rd and Hollis Streets, Emeryville California. The public comment period extended from June 25 through July 24, 1996. A Fact Sheet which discusses the draft RAW and the proposed Site cleanup methods, was mailed out on June 25, 1996. Display advertisements announcing the public comment period were placed in the Oakland Tribune on June 25 and June 26, 1996. Copies of the Fact Sheet and Display advertisements are included in Attachment A.

The draft RAW proposed remediation of soil contaminated with polychlorinated biphenyls (PCBs) by excavating soil containing PCBs above cleanup goals and disposing of the soil at appropriate offsite disposal facilities.

The comments received during the comment period are compiled and included in this Responsiveness Summary. The purpose of this document is to present a written response by DTSC to these comments. This Responsiveness Summary is included in the Final RAW.

This Responsiveness Summary is organized as follows:

- Section I is the Introduction.

- Section II lists the comments received and provides responses to those comments.

- Attachment A provides copies of the Fact Sheet and display advertisements.

- Attachment B provides copies of the written comments received.

A copy of the Final RAW and other site-related documents are available for review at:

Department of Toxic Substances Control
700 Heinz Avenue, 2nd Floor
Berkeley, California 94710
(510) 540-3800
Hours: Monday to Friday, 8 a.m. to 5 p.m.

Oakland Public Library
Golden Gate Branch, Reference Desk
5606 San Pablo Avenue
Oakland, California 94608
(510) 597-5023
Hours: Tues. 11:30a.m. - 7 p.m.
Wed., Thur., and Sat. 10a.m. - 5:30 p.m.
Fri. noon - 5:30 p.m.

SECTION II. COMMENTS AND RESPONSES

Written comments on the draft RAW.

1. From Mr. Steve Holmes, in a letter dated July 12, 1996:

Paraphrased: **Should we shut our windows and doors during the clean-up process; is there a safe way to clean our houses (inside and out) of the contaminated dust; will we have to pay for the cleaning; can our children play outside, can we barbecue outside; will garden vegetables be contaminated; will our firewood be contaminated and produce dioxin when burned; will the local streets be washed to prevent the buildup of dust; should excavation be limited to calm days or morning hours due the variable winds in the area; after the removal is complete will there be lingering problems with dust; should we take a vacation during the removal period?**

Response: All of these questions relate to the movement of PCB-contaminated dust to off-site locations during the course of removal action activities. DTSC has reviewed and approved dust control measures that are part of a health and safety program, developed by a Certified Industrial Hygienist, designed to protect workers and the surrounding community from potential health and safety hazards. DTSC believes that these measures will prevent the generation and offsite migration of contaminated dusts, and will protect onsite workers and offsite residents. Residents in the area near the removal action at Chiron need not restrict their activities or take special precautions.

Dust control measures for the planned removal action are designed to protect public health by preventing the generation and migration of dusts from excavation activities. These measures include: wetting soil and concrete during excavation and loading; covering soil stockpiles with plastic; covering and washing loaded trucks before they leave the site; and suspending work if wind speeds are too high.

Additionally, two types of air monitoring will be conducted.

These include perimeter air monitoring and worker breathing zone monitoring. Perimeter air monitoring involves real time monitoring for respirable dust (dust that can find its way into the lungs) at upwind and downwind locations. These monitors can detect concentrations of dust before they become visible, and allow an immediate evaluation of the effectiveness of onsite dust control measures. The worker breathing zone monitoring will consist of placing small air sampling devices on individual workers to sample air over the entire day. At the end of the day, these devices are sent to a certified laboratory and analyzed for total dust, polychlorinated biphenyls (PCBs) and arsenic. The combination of these two monitoring methods provides an objective measure of the effectiveness of dust control procedures, and helps to prevent any offsite migration of contaminated dusts.

In conclusion, the comments assume that dust contaminated with PCBs will escape from the site and present various opportunities for human exposure. DTSC finds that the dust control measures proposed will keep dust generation to a minimum, prevent off-site migration of contaminated dust, and are adequate to protect on-site workers and nearby residents.

ATTACHMENT A

CalEPA Department of Toxic Substances Control

Chiron Voluntary PCB Cleanup

Former PG&E Property, Emeryville, California

June 1996

Public Comment Period on Proposed PCB Soil Cleanup: June 25-July 24, 1996

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), has prepared this fact sheet to inform community members about the proposed removal of PCB contaminated soil at a former PG&E property recently acquired by Chiron in Emeryville, California.

When excavating a ramp for a temporary parking lot on the property, Chiron discovered a relatively limited area (less than one acre of the five-acre property) of soil contaminated with polychlorinated biphenyls (PCBs), a hazardous substance. Chiron entered into a voluntary cleanup agreement with DTSC to investigate and remediate the soil contamination in that area.

This fact sheet provides a brief site history, describes the nature and extent of PCB contamination found, outlines proposed cleanup activities, announces a public comment period on the proposed cleanup activities, and lists contacts for more information.

Site History

The five-acre former PG&E property is located on the western side of Hollis Street, between 53rd Street and Stanford Avenue in Emeryville. The area surrounding the site is mostly industrial and commercial. However, other land uses in the general vicinity north, east and south of the site include residential and live/work units, small businesses, two schools, a child development center, the temporarily-relocated senior center, and a small neighborhood park. The site is bounded on the west by Chiron property and/or buildings (see location map).

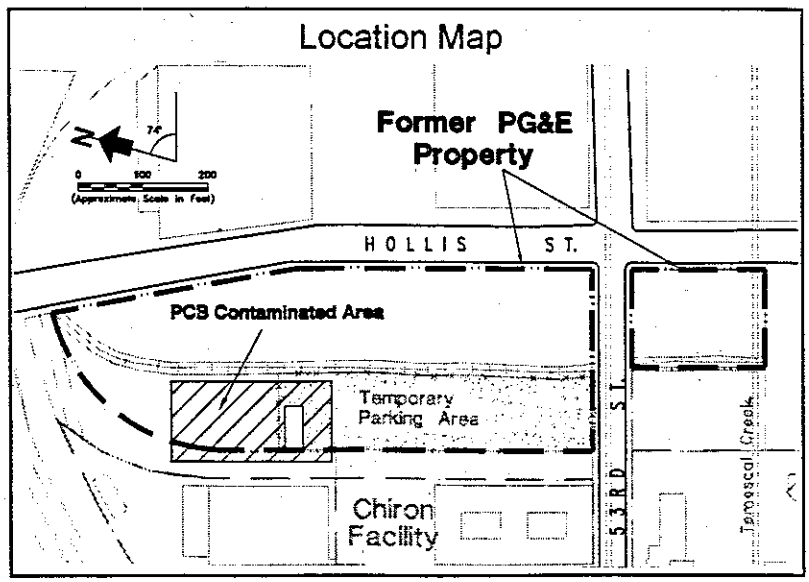
The property was operated by PG&E from the 1920s through the late 1980s. PG&E used the property for a variety of purposes, including the storage and minor repair of electrical transformers and capacitors.

As part of closing its operations on the property in the 1980s, PG&E conducted an environmental investigation, which found two isolated areas of elevated PCB contamination. PCB contamination is often found at sites around the country where electrical transformers or capacitors were stored or repaired.

DTSC established a cleanup level of 25 parts per million (ppm - a unit used to measure concentrations of a chemical) for soil at the property. PG&E removed soil from two isolated areas that tested above the 25 ppm level. DTSC certified the cleanup as completed in June 1989. The City of Emeryville Redevelopment Agency purchased the property in 1991, then sold it to Chiron in 1993. Chiron has used only a portion of the property, as a temporary employee parking lot. Investigations conducted in 1991 and 1993 found no PCB contamination above 2.1 ppm, well below the 25 ppm cleanup level.

In November 1994, when Chiron was performing grading activities to excavate a ramp for the construction of a temporary parking lot on the western portion of the property, some soil containing elevated levels of PCBs was found.

Soil testing revealed PCB concentrations ranging up to 5,400 ppm in the excavation along the western boundary of the property. Further investigations determined that the affected area is limited in extent, consisting of less than one acre of the five-acre property.



Proposed Cleanup

Chiron voluntarily entered into a cleanup agreement with DTSC to investigate and remediate the contaminated soil. DTSC will provide oversight for this investigation and cleanup work.

Chiron proposes to remove soils containing elevated levels of PCBs in the affected area. The removal of contaminants from this area will help protect maintenance and construction personnel, as well as the general public, from potential exposure to PCBs.

Chiron and its contractors will take measures to limit and control noise and dust during the proposed removal of the contaminated soil. These measures will include misting the soil with water, minimizing the height from which soil is dropped into trucks, covering soil stockpiles with plastic, and using construction equipment with sound mufflers.

The contaminated soil will be removed from the property and disposed of in a specially licensed landfill. The removal action is scheduled to begin in late July and should take approximately two weeks to complete. Regular work hours will be 7 am and 6 pm, with any very noisy activities restricted to between 8 am and 5 pm.

Truck traffic normally will exit from the site onto Hollis Street, then turn west on Powell to the I-80 freeway. More details on these proposed cleanup activities are described in the "Removal Action Workplan" (Workplan), which is available now for public review in the information repository noted in "For More Information."

Public Comment Period June 25 - July 24, 1996

DTSC is holding a 30-day public comment period to gather community input on the proposed cleanup activities. In addition to this fact sheet, a public notice has been placed in the *Oakland Tribune* to announce the public comment period. All interested community members are encouraged to submit written comments on the proposed cleanup activities.

Community members may comment on any topic related to the planned cleanup; however, the most useful comments focus on *specific* community needs, suggestions or questions related to the planned cleanup activities. Please mail your written comments to arrive no later than July 24th to:

Alfred Wanger
DTSC Project Manager
700 Heinz Avenue #200
Berkeley, CA 94710-2737
(510) 540-3829

After the comment period, DTSC will prepare a written response to questions or concerns brought up during the public comment period. DTSC will place the responses, along with any revisions to the Workplan, in the information repository for public access and review.

For More Information

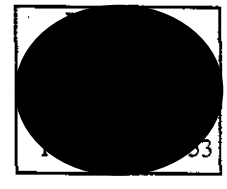
If you would like more information on this proposed Chiron cleanup project, please visit the information repository noted below:

Reference Desk
Oakland Public Library
Golden Gate Branch
5606 San Pablo Avenue, Oakland
Hours: Tues. 11:30 am-7 pm;
Wed., Thur. & Sat. 10 am-5:30 pm;
Fri. noon-5:30 pm
(510) 597-5023

The information repository includes a number of documents for public review, including the Removal Action Workplan, the Sampling Plan and a Community Profile.

If you have questions, or if you would like to meet with DTSC or Chiron representatives to discuss this project, please call Alfred Wanger at (510) 540-3829, or Carol Northrup, DTSC Public Participation Coordinator at (510) 540-3928.

Carol Northrup, Public Participation Coordinator
Department of Toxic Substances Control, Region 2
700 Heinz Avenue, Suite 200
Berkeley, CA 94710-2737



PUBLIC NOTICE

Public Comment Period on Proposed Soil Cleanup
Chiron Facility, Emeryville, California
June 25 - July 24, 1996

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), is holding a 30-day public comment period on a proposed cleanup plan for removal of soil contaminated with polycholorinated biphenyls (PCBs) from a property located on the western side of Hollis Street between 53rd Street and Stanford Avenue in Emeryville, California. The property was formerly owned by PG&E, which stored and repaired electrical transformers and capacitors there. PG&E completed a separate site cleanup in 1989. However, a relatively limited area (less than one acre of the five-acre property) of PCB contamination was recently discovered by Chiron. Chiron has entered into a voluntary cleanup agreement with DTSC to investiage and remove the contamination.

Chiron has documented its plans to clean up the site in a Removal Action Workplan (Workplan). The Workplan is available for public review at the Reference Desk of the Oakland Public Library, Golden Gate Branch, located at 5606 San Pablo Avenue in Oakland. Written comments on the Workplan should be mailed to arrive at the following address no later than July 24, 1996: Alfred Wanger, Project Manager, DTSC Region 2, 700 Heinz Avenue, Suite 200, Berkeley, CA 94710-2737.

After the comments are received, DTSC will prepare written responses and will place these, in addition to any revisions to the Workplan, in the library noted above for public access and review. If you have any questions about this project, please call Carol Northrup, DTSC Public Participation Coordinator, at (510) 540-3928.

ALAMEDA NEWSPAPER GROUP

THE OAKLAND TRIBUNE ☐ THE DAILY REVIEW ☐ TRI-VALLEY HERALD ☐ THE ARGUS
ALAMEDA TIMES-STAR ☐ SAN MATEO COUNTY TIMES

MAIN OFFICE: 116 WEST WINTON AVENUE • P O. BOX 5050 . HAYWARD, CA 94540
MAIN OFFICE: (510) 783-6111 ACCOUNTING OFFICE: (510) 293-2444
SAN MATEO COUNTY TIMES CUSTOMERS PLEASE CALL: (415) 348-4369

INVOICE

AND STATEMENT OF ACCOUNT

PLEASE PAY FROM THIS STATEMENT

ACCOUNT NUMBER	ACCOUNT CONTACT NAME	BILLING ADDRESS	PAGE NO.
033880	MARA FEENEY & AS	SAME	1

PERIOD END/DATE ► 06/30/96 REP ► 807 ADVT CODE ►

INQUIRIES/QUESTIONS PHONE ► 510-293-2444

MARA FEENEY & ASSOCIATES
ATTN: ACCTS PAYABLE
19 BEAVER ST
SAN FRANCISCO, CA 94114

TOTAL BALANCE DUE ~~$0.01~~ 0

PLEASE INDICATE AMOUNT YOU REMIT

TERMS ► DUE UPON RECEIPT BILLING PERIOD: MONTHLY

MAKE CHECK PAYABLE TO: ALAMEDA NEWSPAPER GROUP

RETURN THE REMITTANCE COPY (PINK) WITH YOUR PAYMENT

A LATE PAY CHARGE AT THE RATE OF 1 1/2% PER MONTH WILL BE CHARGED ON AMOUNTS PAST DUE.

TRANSACTION NUMBER / PUBLICATION	DATE	P.O. #, DESCRIPTION OR TAG LINE	RATE	AD SIZE / CONTRACT SIZE	CHARGES / CREDITS	AMOUNT DUE
		BALANCE FORWARD			0.00	
52090363	06/14/96	PAYMENT THANK YOU			507.40-	
960101	06/25/96	INVOICE	50.74	10.00IN	507.40	
T OAKLAND TRIBUNE						
960103	06/26/96	INVOICE	0.0010	10.00IN	0.01	
T OAKLAND TRIBUNE						
				TOTAL DUE		~~$0.01~~ 0

0-30 DAYS	31-60 DAYS	61-90 DAYS	OVER 90
~~$0.01~~ 0	$0.00	$0.00	$0.00

PREVIOUS AMOUNT OWED: $ 0.00
NEW CHARGES THIS PERIOD: $ 507.41
CASH THIS PERIOD: $ 507.40
DEBIT ADJUSTMENTS THIS PERIOD: $ 0.00
CREDIT ADJUSTMENTS THIS PERIOD: $ 0.00

****

YOU MAY NOW CALL RETAIL ACCOUNTING DIRECT WITH ANY PROBLEMS
OR QUESTIONS REGARDING YOUR ADVERTISING INVOICE
OUR DIRECT NUMBER IS 510-293-2444

****

ATTACHMENT B

Alfred Wanger
UTSC Project Manager
700 Heinz Ave. #200
Berkeley, CA 94710-2737

1253 Stanford Ave.
Emeryville, CA 94608
July 12, 1996

Dear Sir:

I am writing regarding the toxic clean-up activities conducted by Chiron at the Hollis St. and Stanford Ave. site in Emeryville. I have several questions regarding this clean-up and the effects it may have on my family and the surrounding neighborhood that lies directly down-wind from the site.

Questions:

1.) Should we shut our windows and doors during the clean-up process?
2.) Is there a safe way to rid our houses, inside or out, of the toxic dust that settles around us?
3.) Will we be expected to pay for the extra house cleaning ourselves?
4.) Can children play outdoors?
5.) What about children's toys left outside?
6.) What about garden vegetables or the soil they grow in? Will they also be contaminated?
7.) Can we BBQ outside?

8.) If dust settles on our firewood supply and then we burn it next winter, does that create the highly toxic dioxin?

9.) Will the surrounding streets be washed to prevent continuous kick-up of the dust? I assume regular street sweeping would not be advised.

10.) Considering the highly toxic nature of PCBs, wouldn't it be best to take a vacation during the removal period? Wouldn't it be fair for Chiron to at least relocate the downwind neighbors to a safer location?

11.) The wind velocity varies greatly in this area. Wouldn't it be best to limit activity to calm days or morning hours when the wind is usually calmer?

12.) After the removal is complete, is there a lingering danger with the dust left behind everywhere? ie. the firewood mentioned above, toys, etc.

13.) I call the telephone numbers Chiron supplies to answer questions (24 hour hotline) but get an answering service and, as of yet, no return response. What good our these numbers? I even said it was an emergency.

14.) It is July 12 and I see huge piles of dirt covered with plastic at the site. Heavy equipment has been removing dirt from the toxic site location and dumping it on the property. Is this part of the clean-up? Is this digging and dumping not a dusty operation? If you want us to believe anything you tell us, why has the clean-up process already started, nearly 2 weeks before the published schedule?

Thank you for answering these questions, although I feel it may be too late already. What good is the information after the work is done?

Sincerely,

Steve Holmes

COUNTY OF ALAMEDA
Assessor's Office
Property Value System

Help

New Query

History | Value | Transfer | Map | Glossary

Parcel Number:**49-1041-48** Inactive:**Y** Lien Date:**01/01/2009** Owner:**BGR ASSOCIATES III**
Property Address: **1403 STANFORD AVE, EMERYVILLE, CA 94608**
Parcel History

Mailing Name		Historical Mailing Address	Document Date	Document Number	Value From Trans Tax	Parcel Count	Use
BGR ASSOCIATES III c/o JERRY HOEKWATER	List Owners	1120 NYE ST , SAN RAFAEL, CA 94901-6102	01/20/1989	1989-15763		6	4200
BGR ASSOCIATES III ETAL c/o JERRY HOEKWATER	List Owners	1400 53RD ST , EMERYVILLE, CA 94608-2919	01/20/1989	1989-15761		5	4200
BGR ASSOCIATES III & MARIN COUNTY EXCHANGE CORP c/o JERRY HOEKWATER	List Owners	1400 53RD ST , EMERYVILLE, CA 94608-2919	01/20/1989	1989-15759		5	4200
CETUS CORPORATION c/o JERRY HOEKWATER	List Owners	1400 53RD ST , EMERYVILLE, CA 94608-2919	12/22/1986	1986-322148		4	4200
CHAPMAN HAROLD B JR c/o JERRY HOEKWATER	List Owners	1403 STANFORD AVE , EMERYVILLE, CA 94608	11/16/1983	1983-215769		4	4200
THOMAS WILLIAM B ENTERPRISES	List Owners	1403 STANFORD AVE , EMERYVILLE, CA 94608	10/20/1979	1979-196682		1	4200
EMERYVILLE ECONOMIC DEVELOPMENT FUND	List Owners	1403 STANFORD AVE , EMERYVILLE, CA 94608	08/25/1977	1977-169971		1	4200
TRUST OF THREE	List Owners	1403 STANFORD AVE , EMERYVILLE, CA 94608	10/09/1973	1973-136288		17	4200

COUNTY OF ALAMEDA

Assessor's Office

Property Value System

Help

New Query

History | Value | Transfer | Map | Glossary

Parcel Number:**49-1041-70** Inactive:**Y** Lien Date:**01/01/2009** Owner:**CHIRON CORPORATION**

Property Address: **HOLLIS ST, EMERYVILLE, CA 94608**

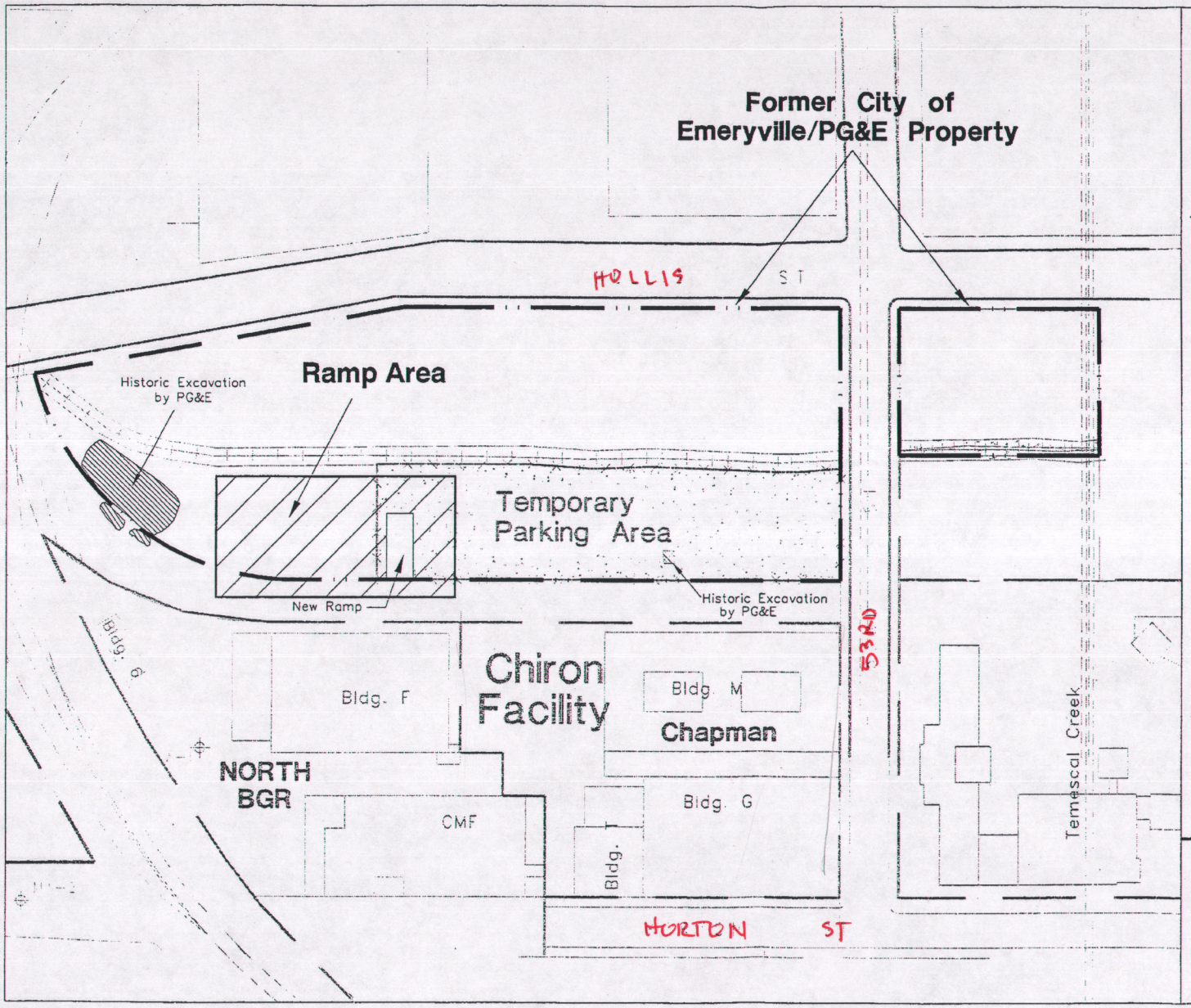
Parcel History

Mailing Name		Historical Mailing Address	Document Date	Document Number	Value From Trans Tax	Parcel Count	Use
CHIRON CORPORATION c/o CHIRON CORP/TAX DEPT	List Owners	4560 HORTON ST , EMERYVILLE, CA 94608-2916	09/12/1996	1996-228812		5	3000

All information on this site is to be assumed accurate for property assessment purposes only, and is based upon the Assessor's knowledge of each property. Caution is advised for use other than its intended purpose.

The Alameda County Intranet site is best viewed in Internet Explorer Version 5.5 or later.
Click here for more information regarding supported browsers.

AE-23



N 74°

0 100 200

(Approximate Scale in Feet)

LEGEND

Property Boundary

Fence Around Temporary Parking Lot

Notes:

1. All locations are approximate.

Erler & Kalinowski, Inc.

Ramp Area Location Map

Chiron
Emeryville, CA
June 1996
EKI 930028.23
Figure 2

96 Jun 04 13:26:46 C:\ACADR13\CHIRON\JUN96-2

AC-23

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

June 13, 1997
STID # 801

Mr. Ric Notini
Manager, Environmental Health & Safety
Chiron Corporation
4560 Horton Street
Emeryville, California 94608-2916

Subject: Removal of Two Bunker Oil Underground Storage Tanks at Building M on the Chapman Property - 1400 53rd Street, Emeryville, California 94608

Dear Mr. Notini:

The Alameda County Department of Environmental Health, Environmental Protection Division has reviewed the Tank Closure Report dated March 7, 1997, prepared and submitted by Erler & Kalinowski, Inc. (EKI) for the above referenced site. Missing (Not in file)

Two 6,800 gallon bunker oil underground storage tanks located on the east side of Building M on the Chapman property were removed on September 5, 1996. The removal of the former tanks were performed by Dillard Environmental Services for Chiron Corporation.

The concentration of contaminants detected in the soil samples collected prior to and during the removal of the former tanks are below the site remediation goals with the exception of Total Extractable Petroleum Hydrocarbon (TEPH). Up to 5,800 ppm TEPH was detected in the soil exceeding the 1,000 ppm TPH site remediation goal for general petroleum hydrocarbons. A grab groundwater sample was collected from the common excavation and analytical results indicated the presence of TEPH (130 ppm) and PCBs (0.75 ppb).

This office concurs with EKI's recommendation that the management of the residual soil and groundwater contamination left at the site should be incorporated in the Risk Management Plan. In addition, the stability of the dissolved TEPH plume should be verified in the future Long-Term Risk Management Plan for the Chiron property.

I have enclosed an Underground Storage Tank Unauthorized Release (Leak)/ Contamination Site Report (ULR) which must be completed and submitted to this office within five working days.

FINAL REMOVAL ACTION WORKPLAN APPROVAL RECORD

Site Name: Chiron Corporation Site, Former PG&E/City of Emeryville Property

Site Location: 53rd and Hollis Streets
Emeryville, Alameda County, California

Regional Section: North Coast Cleanup Operations

The undersigned have reviewed the attached final Removal Action Workplan and determined that it meets state and federal statutory, regulatory, policy and technical requirements. Therefore, the removal action workplan is apporved for implementation.

Clifford Wayne — 7/31/96
Regional Project Manager (Date)

K. M. Roth — 7/31/96
Senior Hazardous Substances Engineer (Date)

Barbara J. Cook — 7/31/96
Branch Chief - North Coast Cleanup Operations (Date)

AC-23

ALAMEDA COUNTY HEALTH CARE SERVICES - ENVIRONMENTAL PROTECTION

MEMORANDUM

DATE: September 6, 1996

TO: Don Atkinson Adams

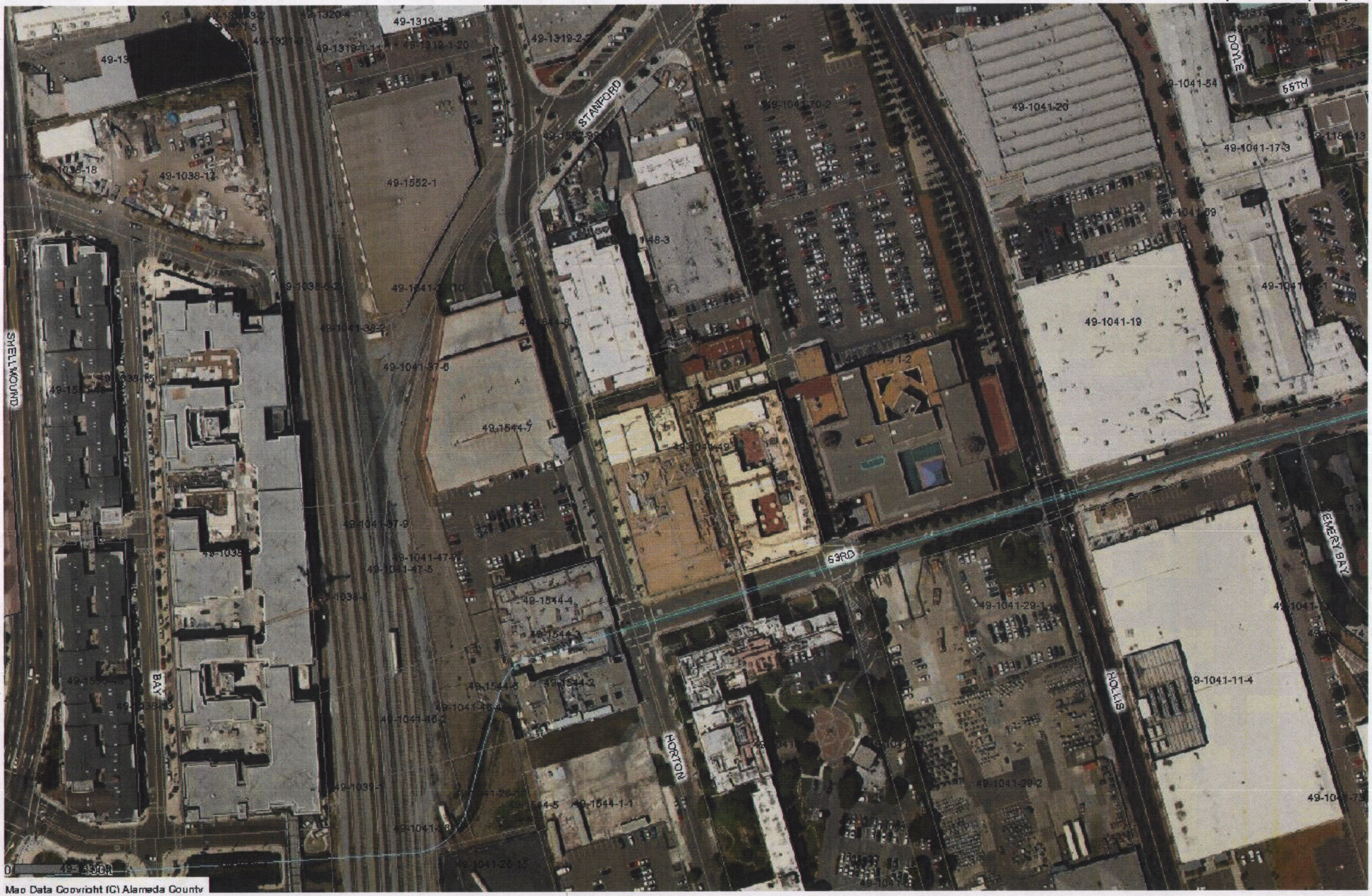
FROM: Susan L. Hugo

SUBJ: Status of CHIRON's USTs

Two 6,800 gallon bunker fuel USTs were removed at Chiron located at 1400 53rd Street in Emeryville yesterday (9/5/96). These two tanks were at the former Chapman property.

Two 688 gallon solvent tanks were removed at Chiron identified at 4595 Horton Street but the correct address is 4560 Horton Street. These solvent tanks were removed in November 1993.

AC-23
Chapman Property



AC-23

Ac-23

For Assessment Use Only

ASSESSOR'S MAP 49

Code Area No. 14-003

WP

L.D.A. 6-1-50

1041

PAGE 3

RANCHOS OF V. & D. PERALTA (Bk. 17 Pg. 12) P.M. 2108 (Bk. 97 Pg. 40)

P.M. 7032 225/35

Scale : 1" = 80'

Rev: 2-27-79 BD 78-1
6-6-88 PB
1-3-90 JH
12-02-91 CSL
4-02-96 CSL
12-17-96 WL
1-17-02 EG
8-27-02 EG
11-19-03 EG

1318

AVE. 425

STANFORD

CLOSED AC-95979

14-006

14-003

So. Ln. Beaudry & Peladeau Tct.

N75°20'30"E

1552

(105 Ac.±)
2.11 Ac.±

RAD. = 754.68

Por. A
48-3
(2.15 Ac.±)
1403 STANFORD AVE.

60

Pg. 6

14-003
14-006

1544

8
49
2.17 Ac.

Former CHAPMAN PROPERTY

2
712
(4.60 Ac.±)
3.65 Ac.±

1041

HOLLIS ST. (Formerly 6th or Green)

Pg. 7

14-003
14-006

60

1448

1410

53RD

1400

(Formerly Santa Fe Ave) ST.

HORTON ST.

1041 PAGE 4

REF: P.M. 5719 187/97

HPN-71

AC-23

For Assessment Use Only

ASSESSOR'S MAP 49

Code Area No. 14-006 14-003

1041

Map of the Ranchos of Vicente and Domingo Peralta. (Bk. 17 Pg. 12)

P.M. 5596 184/42

P.M. 6942 221/85

P.M. 6887 232/76

Scale 1 in = 200 ft.

Pg. 10

Rev. 5-26-77 eM
2-05-86 CSL.
6-27-86 BV
6-6-88 PB
7-14-89 JT
1-8-90 BV
6-13-91 BV
5-8-95 BV
11-30-01 CSL.
01-12-04 CSL.
3-04-06 ZC
9-23-09 ZC
4-02-96 CSL.
4-3-96 PB
5-17-96 CSL.
11-26-96 WL
12-17-96 WL
2-04-97 CSL.
6-23-97 CSL.
2-26-98 CSL.
5-13-99 CSL.
1-17-01 LL
1-18-02 EB
11-18-03 EB

1320 1319 1318 1317 1552 1544 1539 1033 1032

(4TH) Landregan St. (5TH) Palladeau St. (8TH) St. (9TH) St.

STANFORD AVENUE

Doyle Beaudry

55TH St. 53rd St. 47TH St 45TH St

HORTON ST. HOLLIS ST. WATTS STREET

14-003 14-006 14-000

1038 1039 1041

CITY

872-1-17E-20 872-1-17E-19 872-1-17E-36

THIS PORTION IS TRANSF. TO PG. 4

LIBER OF DEEDS 358 PAGE 410, 1111 320, 1799, 2193 309, 2371 186, 2303 128

LIBER 12 PAGE 100 OFFICIAL RECORDS ALL RECORDS OF ALAMEDA CO.

BLK. 617 Pg. 1

266.29 266.29 266.29 240.70 490.29

Hollen St. Hubbard St. Horton St. Holden St. Hollis St.

NOTE: Assessor's Parcels Reassessed.

HPN - 7.5

Ind. 3

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

ENVIROSTOR

PACIFIC GAS & ELECTRIC CO- EMERYVILLE (01490011)

4525 HOLLIS STREET
EMERYVILLE, CA 94608
ALAMEDA COUNTY
SITE TYPE: VOLUNTARY CLEANUP

PROJECT MANAGER: HOMAYUNE ATIQEE
SUPERVISOR: KAREN TOTH
OFFICE: BERKELEY

AREA: CHIRON/NOVARTIS PROPERTY - BACK TO PROJECT WIDE PROFILE REPORT

Site Information

CLEANUP STATUS
ACTIVE AS OF 11/21/2008

SITE TYPE: VOLUNTARY CLEANUP
NATIONAL PRIORITIES LIST: NO
ACRES: 14.7 ACRES
APN: 49-1032-13, 49-1032-14, 49-1041-29-1, 49-1041-29-2, 49-1041-70-2, 49-1041-71-2
CLEANUP OVERSIGHT AGENCIES:
ALAMEDA COUNTY
DTSC - SITE CLEANUP PROGRAM - LEAD

ENVIROSTOR ID: 01490011
SITE CODE: 201830
SPECIAL PROGRAM: VOLUNTARY CLEANUP PROGRAM
FUNDING: SITE PROPONENT
ASSEMBLY DISTRICT: 14
SENATE DISTRICT: 09

Regulatory Profile

PAST USE(S) THAT CAUSED CONTAMINATION
EQUIPMENT/INSTRUMENT REPAIR, TRANSFORMER REPAIR

POTENTIAL CONTAMINANTS OF CONCERN
ARSENIC
LEAD
POLYCHLORINATED BIPHENYLS (PCBS)
TPH-DIESEL
TPH-MOTOR OIL

POTENTIAL MEDIA AFFECTED
SOIL

Area Description

ACRES
6.4 ACRES

DESCRIPTION
This is the portion of the site north of 53rd Street which was purchased by Chiron Corporation (now Novartis) in the early 1990's, and investigated and cleaned up under a Voluntary Cleanup Agreement. This operable unit includes a small area south of 53rd Street located at the intersection of Hollis Street and 53rd Street.

Future Activities

NOTE: THE DUE DATES OF FUTURE ACTIVITIES ARE SUBJECT TO CHANGE BASED ON THE PROGRESS OF CURRENTLY SCHEDULED ACTIVITIES

AREA NAME	SUB-AREA	DOCUMENT TYPE	DUE DATE
Chiron/Novartis Property		5 Year Review Reports	2012

Completed Activities

AREA NAME	SUB-	DOCUMENT	DATE	COMMENTS

	AREA NAME	AREA	TYPE	COMPLETED	COMMENTS
[VIEW DOCS]	Chiron/Novartis Property		Land Use Restriction - Site Inspection/Visit	12/3/2009	DTSC inspected the portions of the asphalt parking lot, landscaped areas, sidewalk and Chiron Way that comprise the Restricted Excavation Area. The area appeared to be in good condition, with no visible signs of significant cracking or damage.
[VIEW DOCS]	Chiron/Novartis Property		Land Use Restriction - Site Inspection/Visit	12/8/2008	The Restricted Excavation Area appeared to be in good condition, with no visible signs of significant cracking or damage.
[VIEW DOCS]	Chiron/Novartis Property		5 Year Review Reports	11/30/2007	Finalized five year review.
[VIEW DOCS]	Chiron/Novartis Property		Site Inspections/Visit (Non LUR)	6/13/2006	
[VIEW DOCS]	Chiron/Novartis Property		Notification of Change of Ownership	5/17/2006	
[VIEW DOCS]	Chiron/Novartis Property		5 Year Review Reports	4/5/2002	
	Chiron/Novartis Property		Certification	11/14/1998	Certified Site.
[VIEW DOCS]	Chiron/Novartis Property		Land Use Restriction	8/26/1998	Recorded Deed Restriction.
[VIEW DOCS]	Chiron/Novartis Property		Removal Action Completion Report	11/6/1996	Removal Action completed. Chiron excavated over 7100 cubic yards of soils containing PCBs which were hauled offsite for disposal.
[VIEW DOCS]	Chiron/Novartis Property		CEQA - Responsible Agency Review	7/31/1996	
[VIEW DOCS]	Chiron/Novartis Property		Removal Action Workplan	7/31/1996	Removal Action Workplan (RAW) approved for excavation of contaminated soils. A Deed Restriction was also required.
[VIEW DOCS]	Chiron/Novartis Property		Voluntary Cleanup Agreement	4/1/1996	Voluntary Cleanup Agreement with Chiron Corporation (property owner) for characterization and cleanup.

7.421875E-02 seconds

AC-23

November 6 , 1996

Cal/EPA

Department of Toxic Substances Control

700 Heinz Avenue, Suite 200 Berkeley, CA 94710-2737

Mr. Ric Notini
Manager, Environmental Health and Safety
Chiron Corporation
4560 Horton Street
Emeryville, California 94608

FILE COPY

Pete Wilson Governor

James M. Strock Secretary for Environmental Protection

Dear Mr. Notini:

CHIRON CORPORATION SITE, FORMER PACIFIC GAS & ELECTRIC PROPERTY, EMERYVILLE, CALIFORNIA -REMOVAL ACTION IMPLEMENTATION REPORT

The Department of Toxic Substances Control has completed its review and approves the Removal Action Implementation Report, submitted October 15, 1996, prepared pursuant to Voluntary Cleanup Agreement Docket No. HSA-95/96-059. No revisions of the document are necessary.

As previously discussed with you, DTSC will work with Chiron to complete a Deed Restriction and new Remedial Action Certification for the Chiron Property. We anticipate forwarding a draft Deed Restriction for your review in the near future.

If you have any questions regarding this letter, please contact Alfred Wanger of my staff at (510) 540-3829.

Sincerely,

Barbara J. Cook

Barbara J. Cook, P.E., Chief
Northern California
Coastal Cleanup Operations

cc: Ms. Susan Sanders
Environmental Services Department
Pacific Gas & Electric Company
77 Beale Street, Room 2439A
San Francisco, California 94105

Hugo, Susan, Public Health, EHS

From: Hugo, Susan, Public Health, EHS
Sent: Monday, March 06, 2000 1:50 PM
To: Peacock, Tom, Public Health, EH
Cc: Weston, Robert, Public Health, EH; Levi, Ariu, Public Health, EH
Subject: Anonymous Complaint Regarding Construction Activities at Chiron in Emeryville

I received an anonymous complaint call (message at 6:39 am) on 2/23/00 regarding construction activities at Chiron (STID# 801) located at 1400 53rd Street in Emeryville. The caller was complaining about stockpiled soil, deep excavation, dewatering and discharge activities into the creek & storm drain.

Our office is not currently involved in any construction activities at the site. The following is a synopsis of activities conducted to follow up the complaint:

2/23/00

Contacted the City of Emeryville (Ignacio Dayrit) to verify if the city knows of the work being done at Chiron. Ignacio informed me that the RWQCB (Mark Johnson) may be overseeing the project.

Contacted Mark Johnson ; tried to leave message but voice mail was full.

Called EKI consultant (I have previously worked with them on some projects in Emeryville). Found out from Michelle King (EKI) that they are Chiron's consultant on this project. Michelle referred me to Vera Nelson (EKI) who is the project manager. According to Vera, Chiron is performing seismic retrofit on the portion of Chiron campus owned by Wareham Development (also known as South BGR property). The project is overseen by Mark Johnson (RWQCB). Per Vera Nelson, Jay Grover is the contact person for Chiron and that she will contact Jay Grover to call me so we can arrange a site visit in the afternoon.

Received a phone call (10:30 am) from Jay Grover and Mark Mammarella of Chiron; they explained the project and the parties involved; I scheduled site visit at 2:30 pm.

On site meeting (2:30 pm) attended by Mark Mammarella & Patty Harris of Chiron ; they provided a copy of the Planned Seismic Retrofit Project (12/16/99) addressed to Mark Johnson of the RWQCB and a copy of EKI's letter of 12/22/99 documenting RWQCB's verbal concurrence.
Kevin Litle of Chiron, Glen Leong of Soma (consultant for Wareham Development) and Ed Hayes of LCI Construction (contractor doing the retrofitting) joined the meeting.

Stockpiled soil (generated from trenching / drilling) appeared to be fully covered with visqueen. Currently working on pile 5 in building R. Trenches appeared to be about 5 feet deep; water was present at bottom of trenches. Dewatering the trenches and discharging into surface soil. Water collecting at bottom of trenches was reported as rain water. Raining for the last few days. Temescal Creek overflow runs beneath the site. Based on pre-drillling activities, groundwater beneath the site is at approximately 13 to 19 feet bgs. Therefore, water at trenches appeared at be rain water. Advised Chiron to :

- contact Mark Johnson (RWQCB) to confirm appropriate dewatering activities at the site
- stockpiled soil should be characterized for proper disposal; must be cover with visqueen & bermed to prevent run-off
- cover trenches to minimize rain water collecting at bottom of the trenches

2/24/00 Phone discussion with Mark Mammarella (Chiron) regarding soil data from deep samples (14 to 18 feet bgs); no data on shallow soils.

Phone discussion with Glen Leong re: soil samples collected at 14 to 18 feet to evaluate potential smearing impact to groundwater during pile driving.

Mark Mammarella reported result of conversation with Mark Johnson (RWQCB); RWQCB concur with Chiron's practice of water (rain) discharge into surface soil.

3/01/00 Discuss with Mark Johnson regarding anonymous complaint; he is aware of Chiron's construction activities & water pumped from trenches & discharge into surface soil is not a problem.

Susan L. Hugo
Hazardous Materials Specialist
Environmental Health Services
(510) 567-6780

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

June 13, 1997
STID # 801

Mr. Ric Notini
Manager, Environmental Health & Safety
Chiron Corporation
4560 Horton Street
Emeryville, California 94608-2916

Subject: Removal of Two Bunker Oil Underground Storage Tanks at Building M on the Chapman Property - 1400 53rd Street, Emeryville, California 94608

Dear Mr. Notini:

The Alameda County Department of Environmental Health, Environmental Protection Division has reviewed the Tank Closure Report dated March 7, 1997, prepared and submitted by Erler & Kalinowski, Inc. (EKI) for the above referenced site.

Two 6,800 gallon bunker oil underground storage tanks located on the east side of Building M on the Chapman property were removed on September 5, 1996. The removal of the former tanks were performed by Dillard Environmental Services for Chiron Corporation.

The concentration of contaminants detected in the soil samples collected prior to and during the removal of the former tanks are below the site remediation goals with the exception of Total Extractable Petroleum Hydrocarbon (TEPH). Up to 5,800 ppm TEPH was detected in the soil exceeding the 1,000 ppm TPH site remediation goal for general petroleum hydrocarbons. A grab groundwater sample was collected from the common excavation and analytical results indicated the presence of TEPH (130 ppm) and PCBs (0.75 ppb).

This office concurs with EKI's recommendation that the management of the residual soil and groundwater contamination left at the site should be incorporated in the Risk Management Plan. In addition, the stability of the dissolved TEPH plume should be verified in the future Long-Term Risk Management Plan for the Chiron property.

I have enclosed an Underground Storage Tank Unauthorized Release (Leak)/ Contamination Site Report (ULR) which must be completed and submitted to this office within five working days.

Alameda County-Environmental Health
1131 Harbor Bay Parkway, #250 , Alameda, CA 94502-6577

BILLING ADJUSTMENT FORM

Date: 9-11-96 File Copy only

STID#: 801

Billing Acct#
☐ Generator....H
☐ HMMP.....L
☐ UST.....T

Caller: _____ Phone: _____

Business Name: Chiron Corp.

Site Address: 1400 53rd St. City Emeryville Zip 94608

REQUESTED CHANGES: Change
Site previously not registered. ~~Remove~~ from "F" to "R" status

Received by: [signature]

[ ] Discontinue billing with explanation and date:

- ☐ Generator _____
- ☐ HMMP (AB2185) _____
- ☐ UST _____

[ ] Continue billing with following changes:

		From:	To:
☐	Change number of EMPLOYEES		
☒	Change number of TANKS	2	0
☐	HMMP (AB2185) - See Attachment		
☐	Updated information below:		

Business Name _____ Phone _____

Site address _____ City _____ Zip _____

Business Owner _____ Phone _____

BILLING address _____ City _____ Zip _____

Specialist: Bru Cle

Date: 1/

[ ] Sent to billing

on _____

Rev August 8, 1996; NA
WP6.0; BILLADJ.FRM

TANKS REMOVED 9/5/96
SH

#8D1

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM A

COMPLETE THIS FORM FOR EACH FACILITY/SITE

MARK ONE ITEM: [X] 1 NEW PERMIT [ ] 2 INTERIM PERMIT [ ] 3 RENEWAL PERMIT [ ] 4 AMENDED PERMIT [ ] 5 CHANGE OF INFORMATION [ ] 6 TEMPORARY SITE CLOSURE [ ] 7 PERMANENTLY CLOSED SITE

I. FACILITY/SITE INFORMATION & ADDRESS - (MUST BE COMPLETED)

DBA OR FACILITY NAME: CHIRON CORPORATION		NAME OF OPERATOR: CHIRON CORPORATION	
ADDRESS: ~~4560 HORTON STREET~~ 1400 53rd ST		NEAREST CROSS STREET: 53RD STREET	PARCEL # (OPTIONAL):
CITY NAME: EMERYVILLE	STATE: CA / ZIP CODE: 94608-2916		SITE PHONE # WITH AREA CODE: 510-601-2484

✓ BOX TO INDICATE: [ ] CORPORATION [ ] INDIVIDUAL [ ] PARTNERSHIP [ ] LOCAL-AGENCY DISTRICTS * [ ] COUNTY-AGENCY * [ ] STATE-AGENCY * [ ] FEDERAL-AGENCY *

* If owner of UST is a public agency, complete the following: name of Supervisor of division, section, or office which operates the UST _____

TYPE OF BUSINESS			IF INDIAN RESERVATION OR TRUST LANDS	# OF TANKS AT SITE	E. P. A. I. D. # (optional)
[ ] 1 GAS STATION [ ] 2 DISTRIBUTOR [ ] 3 FARM [ ] 4 PROCESSOR [X] 5 OTHER			[ ]	0	

EMERGENCY CONTACT PERSON (PRIMARY)		EMERGENCY CONTACT PERSON (SECONDARY) - optional	
DAYS: NAME (LAST, FIRST): TARANTINO, STEPHEN	PHONE # WITH AREA CODE: 415 578 1172	DAYS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE
NIGHTS: NAME (LAST, FIRST): TARANTINO, STEPHEN	PHONE # WITH AREA CODE: 415 587 0728	NIGHTS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE

II. PROPERTY OWNER INFORMATION - (MUST BE COMPLETED)

NAME: HAROLD B. CHAPMAN JR.		CARE OF ADDRESS INFORMATION	
MAILING OR STREET ADDRESS: 2900 MAIN ST.		✓ box to indicate [X] INDIVIDUAL [ ] LOCAL-AGENCY [ ] STATE-AGENCY [ ] CORPORATION [ ] PARTNERSHIP [ ] COUNTY-AGENCY [ ] FEDERAL-AGENCY	
CITY NAME: ALAMEDA	STATE: CA / ZIP CODE: 94501		PHONE # WITH AREA CODE: 510. 522. 7212

III. TANK OWNER INFORMATION - (MUST BE COMPLETED)

NAME OF OWNER: HAROLD B. CHAPMAN JR.		CARE OF ADDRESS INFORMATION	
MAILING OR STREET ADDRESS: 2900 MAIN ST		✓ box to indicate [X] INDIVIDUAL [ ] LOCAL-AGENCY [ ] STATE-AGENCY [ ] CORPORATION [ ] PARTNERSHIP [ ] COUNTY-AGENCY [ ] FEDERAL-AGENCY	
CITY NAME: ALAMEDA	STATE: CA / ZIP CODE: 94501		PHONE # WITH AREA CODE: 510. 522. 7212

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER - Call (916) 322-9669 if questions arise.

TY (TK) HQ 44-037926

V. PETROLEUM UST FINANCIAL RESPONSIBILITY - (MUST BE COMPLETED) – IDENTIFY THE METHOD(S) USED

✓ box to indicate: [ ] 1 SELF-INSURED [ ] 2 GUARANTEE [ ] 3 INSURANCE [ ] 4 SURETY BOND [ ] 5 LETTER OF CREDIT [ ] 6 EXEMPTION [ ] 99 OTHER _____

VI. LEGAL NOTIFICATION AND BILLING ADDRESS

Legal notification and billing will be sent to the tank owner unless box I or II is checked.

CHECK ONE BOX INDICATING WHICH ABOVE ADDRESS SHOULD BE USED FOR LEGAL NOTIFICATIONS AND BILLING: I. [ ] II. [ ] III. [ ]

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

OWNER'S NAME (PRINTED & SIGNED)	OWNER'S TITLE	DATE MONTH/DAY/YEAR
HAROLD B. CHAPMAN JR. H B Chapman	owner	9/10/96

LOCAL AGENCY USE ONLY

COUNTY #	JURISDICTION #	FACILITY #	
01	000	059364	9-11-96

LOCATION CODE - *OPTIONAL*	CENSUS TRACT # - *OPTIONAL*	SUPVISOR - DISTRICT CODE - *OPTIONAL*

THIS FORM MUST BE ACCOMPANIED BY AT LEAST (1) OR MORE PERMIT APPLICATION - FORM B, UNLESS THIS IS A CHANGE OF SITE INFORMATION ONLY.

OWNER MUST FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM.

MARK ONE ITEM
- [X] 1 NEW PERMIT
- [ ] 2 INTERIM PERMIT
- [ ] 3 RENEWAL PERMIT
- [ ] 4 AMENDED PERMIT
- [ ] 5 CHANGE OF INFORMATION
- [ ] 6 TEMPORARY TANK CLOSURE
- [ ] 7 PERMANENTLY CLOSED ON SITE
- [ ] 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED:

I. TANK DESCRIPTION
COMPLETE ALL ITEMS – SPECIFY IF UNKNOWN

A. OWNER'S TANK I. D. # NORTH TANK	B. MANUFACTURED BY: UNKNOWN
C. DATE INSTALLED (MO/DAY/YEAR) UNKNOWN	D. TANK CAPACITY IN GALLONS: 6,800

II. TANK CONTENTS
IF A-1 IS MARKED, COMPLETE ITEM C.

A.
- [ ] 1 MOTOR VEHICLE FUEL
- [X] 2 PETROLEUM
- [ ] 3 CHEMICAL PRODUCT
- [ ] 4 OIL
- [ ] 80 EMPTY
- [ ] 95 UNKNOWN

B.
- [X] 1 PRODUCT
- [ ] 2 WASTE

C.
- [ ] 1a REGULAR UNLEADED
- [ ] 1b PREMIUM UNLEADED
- [ ] 1c MIDGRADE UNLEADED
- [ ] 2 LEADED
- [ ] 3 DIESEL
- [ ] 4 GASAHOL
- [ ] 5 JET FUEL
- [ ] 6 AVIATION GAS
- [ ] 7 METHANOL
- [ ] 8 M85
- [ ] 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED BUNKER FUEL OIL C. A. S. # :

III. TANK CONSTRUCTION
MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM
- [ ] 1 DOUBLE WALL
- [ ] 2 SINGLE WALL
- [ ] 3 SINGLE WALL WITH EXTERIOR LINER
- [ ] 4 SINGLE WALL IN A VAULT
- [ ] 5 INTERNAL BLADDER SYSTEM
- [X] 95 UNKNOWN
- [ ] 99 OTHER

B. TANK MATERIAL (Primary Tank)
- [ ] 1 BARE STEEL
- [ ] 2 STAINLESS STEEL
- [ ] 3 FIBERGLASS
- [ ] 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC
- [ ] 5 CONCRETE
- [ ] 6 POLYVINYL CHLORIDE
- [ ] 7 ALUMINUM
- [ ] 8 100% METHANOL COMPATIBLE W/FRP
- [ ] 9 BRONZE
- [ ] 10 GALVANIZED STEEL
- [X] 95 UNKNOWN
- [ ] 99 OTHER

C. INTERIOR LINING OR COATING
- [ ] 1 RUBBER LINED
- [ ] 2 ALKYD LINING
- [ ] 3 EPOXY LINING
- [ ] 4 PHENOLIC LINING
- [ ] 5 GLASS LINING
- [ ] 6 UNLINED
- [X] 95 UNKNOWN
- [ ] 99 OTHER

IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___

D. EXTERIOR CORROSION PROTECTION
- [ ] 1 POLYETHYLENE WRAP
- [ ] 2 COATING
- [ ] 3 VINYL WRAP
- [ ] 4 FIBERGLASS REINFORCED PLASTIC
- [ ] 5 CATHODIC PROTECTION
- [ ] 91 NONE
- [X] 95 UNKNOWN
- [ ] 99 OTHER

E. SPILL AND OVERFILL, etc. SPILL CONTAINMENT INSTALLED (YEAR) ___ OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) ___
DROP TUBE YES ___ NO ___ STRIKER PLATE YES ___ NO ___ DISPENSER CONTAINMENT YES ___ NO ___

IV. PIPING INFORMATION
CIRCLE **A** IF ABOVE GROUND OR **U** IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE	A U 1 SUCTION	A U 2 PRESSURE	A U 3 GRAVITY	A U 4 FLEXIBLE PIPING	A U 99 OTHER
B. CONSTRUCTION	A U 1 SINGLE WALL	A U 2 DOUBLE WALL	A U 3 LINED TRENCH	A (U) 95 UNKNOWN	A U 99 OTHER
C. MATERIAL AND CORROSION PROTECTION	A U 1 BARE STEEL	A U 2 STAINLESS STEEL	A U 3 POLYVINYL CHLORIDE (PVC)	A U 4 FIBERGLASS PIPE	
	A U 5 ALUMINUM	A U 6 CONCRETE	A U 7 STEEL W/ COATING	A U 8 100% METHANOL COMPATIBLE W/FRP	
	A U 9 GALVANIZED STEEL	A U 10 CATHODIC PROTECTION	A (U) 95 UNKNOWN	A U 99 OTHER	

D. LEAK DETECTION
- [ ] 1 MECHANICAL LINE LEAK DETECTOR
- [ ] 2 LINE TIGHTNESS TESTING
- [ ] 3 CONTINUOUS INTERSTITIAL MONITORING
- [ ] 4 ELECTRONIC LINE LEAK DETECTOR
- [ ] 5 AUTOMATIC PUMP SHUTDOWN
- [ ] 99 OTHER

V. TANK LEAK DETECTION
- [ ] 1 VISUAL CHECK
- [ ] 2 MANUAL INVENTORY RECONCILIATION
- [ ] 3 VADOZE MONITORING
- [ ] 4 AUTOMATIC TANK GAUGING
- [ ] 5 GROUND WATER MONITORING
- [ ] 6 ANNUAL TANK TESTING
- [ ] 7 CONTINUOUS INTERSTITIAL MONITORING
- [ ] 8 SIR
- [ ] 9 WEEKLY MANUAL TANK GAUGING
- [ ] 10 MONTHLY TANK TESTING
- [X] 95 UNKNOWN
- [ ] 99 OTHER

VI. TANK CLOSURE INFORMATION (PERMANENT CLOSURE IN-PLACE)

1. ESTIMATED DATE LAST USED (MO/DAY/YR)	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING	3. WAS TANK FILLED WITH INERT MATERIAL ?
UNKNOWN	UNKNOWN GALLONS	YES [ ] NO [ ]

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE)	DATE
HAROLD B. CHAPMAN JR. H B Chapman Jr.	8/20/96

LOCAL AGENCY USE ONLY
THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.#	COUNTY #	JURISDICTION #	FACILITY #	TANK #

PERMIT NUMBER	PERMIT APPROVED BY/DATE	PERMIT EXPIRATION DATE

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED. FORM C MUST BE COMPLETED FOR INSTALLATIONS. THIS FORM SHOULD BE ACCOMPANIED BY A PLOT PLAN. FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

FORM B (6-95) NOT Previously registered W/ALCO; no tank id

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM.

MARK ONE ITEM: [X] 1 NEW PERMIT; [ ] 2 INTERIM PERMIT; [ ] 3 RENEWAL PERMIT; [ ] 4 AMENDED PERMIT; [ ] 5 CHANGE OF INFORMATION; [ ] 6 TEMPORARY TANK CLOSURE; [ ] 7 PERMANENTLY CLOSED ON SITE; [ ] 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED:

I. TANK DESCRIPTION

COMPLETE ALL ITEMS – SPECIFY IF UNKNOWN

A. OWNER'S TANK I. D. # SOUTH TANK
B. MANUFACTURED BY: UNKNOWN
C. DATE INSTALLED (MO/DAY/YEAR) UNKNOWN
D. TANK CAPACITY IN GALLONS: [redacted] 6,800

II. TANK CONTENTS

IF A-1 IS MARKED, COMPLETE ITEM C.

A. [ ] 1 MOTOR VEHICLE FUEL; [X] 2 PETROLEUM; [ ] 3 CHEMICAL PRODUCT; [ ] 4 OIL; [ ] 80 EMPTY; [ ] 95 UNKNOWN

B. [X] 1 PRODUCT; [ ] 2 WASTE

C. [ ] 1a REGULAR UNLEADED; [ ] 1b PREMIUM UNLEADED; [ ] 1c MIDGRADE UNLEADED; [ ] 2 LEADED; [ ] 3 DIESEL; [ ] 4 GASAHOL; [ ] 5 JET FUEL; [ ] 6 AVIATION GAS; [ ] 7 METHANOL; [ ] 8 M85; [ ] 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED — C. A. S. # :

III. TANK CONSTRUCTION

MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM: [ ] 1 DOUBLE WALL; [ ] 2 SINGLE WALL; [ ] 3 SINGLE WALL WITH EXTERIOR LINER; [ ] 4 SINGLE WALL IN A VAULT; [ ] 5 INTERNAL BLADDER SYSTEM; [X] 95 UNKNOWN; [ ] 99 OTHER

B. TANK MATERIAL (Primary Tank): [ ] 1 BARE STEEL; [ ] 2 STAINLESS STEEL; [ ] 3 FIBERGLASS; [ ] 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC; [ ] 5 CONCRETE; [ ] 6 POLYVINYL CHLORIDE; [ ] 7 ALUMINUM; [ ] 8 100% METHANOL COMPATIBLE W/FRP; [ ] 9 BRONZE; [ ] 10 GALVANIZED STEEL; [X] 95 UNKNOWN; [ ] 99 OTHER

C. INTERIOR LINING OR COATING: [ ] 1 RUBBER LINED; [ ] 2 ALKYD LINING; [ ] 3 EPOXY LINING; [ ] 4 PHENOLIC LINING; [ ] 5 GLASS LINING; [ ] 6 UNLINED; [X] 95 UNKNOWN; [ ] 99 OTHER
IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___

D. EXTERIOR CORROSION PROTECTION: [ ] 1 POLYETHYLENE WRAP; [ ] 2 COATING; [ ] 3 VINYL WRAP; [ ] 4 FIBERGLASS REINFORCED PLASTIC; [ ] 5 CATHODIC PROTECTION; [ ] 91 NONE; [X] 95 UNKNOWN; [ ] 99 OTHER

E. SPILL AND OVERFILL, etc. SPILL CONTAINMENT INSTALLED (YEAR) ___ OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) ___
DROP TUBE YES ___ NO ___ STRIKER PLATE YES ___ NO ___ DISPENSER CONTAINMENT YES ___ NO ___

IV. PIPING INFORMATION

CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE: A U 1 SUCTION; A U 2 PRESSURE; A U 3 GRAVITY; A U 4 FLEXIBLE PIPING; A U 99 OTHER

B. CONSTRUCTION: A U 1 SINGLE WALL; A U 2 DOUBLE WALL; A U 3 LINED TRENCH; A U 95 UNKNOWN; A U 99 OTHER

C. MATERIAL AND CORROSION PROTECTION: A U 1 BARE STEEL; A U 2 STAINLESS STEEL; A U 3 POLYVINYL CHLORIDE (PVC); A U 4 FIBERGLASS PIPE; A U 5 ALUMINUM; A U 6 CONCRETE; A U 7 STEEL W/ COATING; A U 8 100% METHANOL COMPATIBLE W/FRP; A U 9 GALVANIZED STEEL; A U 10 CATHODIC PROTECTION; A U 95 UNKNOWN; A U 99 OTHER

D. LEAK DETECTION: [ ] 1 MECHANICAL LINE LEAK DETECTOR; [ ] 2 LINE TIGHTNESS TESTING; [ ] 3 CONTINUOUS INTERSTITIAL MONITORING; [ ] 4 ELECTRONIC LINE LEAK DETECTOR; [ ] 5 AUTOMATIC PUMP SHUTDOWN; [ ] 99 OTHER

V. TANK LEAK DETECTION

[ ] 1 VISUAL CHECK; [ ] 2 MANUAL INVENTORY RECONCILIATION; [ ] 3 VADOZE MONITORING; [ ] 4 AUTOMATIC TANK GAUGING; [ ] 5 GROUND WATER MONITORING; [ ] 6 ANNUAL TANK TESTING; [ ] 7 CONTINUOUS INTERSTITIAL MONITORING; [ ] 8 SIR; [ ] 9 WEEKLY MANUAL TANK GAUGING; [ ] 10 MONTHLY TANK TESTING; [X] 95 UNKNOWN; [ ] 99 OTHER

VI. TANK CLOSURE INFORMATION (PERMANENT CLOSURE IN-PLACE)

1. ESTIMATED DATE LAST USED (MO/DAY/YR) UNKNOWN
2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING UNKNOWN GALLONS
3. WAS TANK FILLED WITH INERT MATERIAL? YES [ ] NO [ ]

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE) HAROLD B. CHAPMAN JR. H B Chapman
DATE 8/20/96

LOCAL AGENCY USE ONLY

THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.# — COUNTY # | JURISDICTION # | FACILITY # | TANK #

PERMIT NUMBER | PERMIT APPROVED BY/DATE | PERMIT EXPIRATION DATE

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED. FORM C MUST BE COMPLETED FOR INSTALLATIONS. THIS FORM SHOULD BE ACCOMPANIED BY A PLOT PLAN. FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

FORM B (6-95)

NOT PREVIOUSLY registered w/ ALCO ; NO Tank id

ALAMEDA COUNTY HEALTH CARE SERVICES - ENVIRONMENTAL PROTECTION

MEMORANDUM

DATE: September 6, 1996

TO: Don Atkinson Adams

FROM: Susan L. Hugo

SUBJ: Status of CHIRON's USTs

Two 6,800 gallon bunker fuel USTs were removed at Chiron located at 1400 53rd Street in Emeryville yesterday (9/5/96). These two tanks were at the former Chapman property.

Two 688 gallon solvent tanks were removed at Chiron identified at 4595 Horton Street but the correct address is 4560 Horton Street. These solvent tanks were removed in November 1993.

white -env.health
yellow -facility
pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

Hazardous Materials Inspection Form

1131 Harbor Bay Pkwy
Alameda CA 94502
510/567-6700

II, III

Site ID # 801 Site Name Chiron Today's Date 1/4/95

Site Address 1400 53rd ST

City Emeryville Zip 94608 Phone

_____ MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

UST inspection

Inspection Categories:

____ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
____ II. Hazardous Materials Business Plan, Acutely Hazardous Materials
__✓__ III. Underground Storage Tanks

* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

Comments: Investigator of site indicates that there are now no USTs on site being used by CHIRON

Remove from Data Base

→ former tanks removed through Permit this office from Ben Delao or Susan Hugo

1/4/95 V to see if there are any physical files for these.

Ask Brian about Chiron removal

Contact TO FILE

Title

Signature

Insp

Sign

Get back to Norma

1/5 left voice mail for Brian

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, Assistant Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

May 13, 1993

Chevron Corp
1400 53rd St.
Emeryville, CA, 94607

Subject: Application for Permit to Operate Underground Storage
2 Tank(s) at 1400 53rd ST Emeryville

According to our records, you are the owner/operator of the above facility. The following information is needed to complete the application for underground tank(s) permit(s). To complete the process, please forward the following to this office:

given ✓ 1) An accurate and complete plot plan (see attached sheet).
" ✓ 2) A written spill response plan (see attached sheet).
" ✓ 3) A written monitoring plan, indicating the proposed procedure for tank monitoring.
✓ 4) Results of precision tank test(s) (initial/annual).
✓ 5) Results of (original/annual) precision pressure pipeline leak detector tests
✓ 6) A completed form "A" (enclosed).
given ✓ 7) A completed form "B" (enclosed) for each tank, numbered in accordance with the locations shown on the plot plan.
N/A 8) A completed form "C" (enclosed).
— 9) Correct fee should be in the amount of $ Call (check or money order) payable to Alameda County Division of Hazardous Materials, 470 27th St., Oakland, CA 94612 (Fee schedule enclosed).

Other: If the tanks are not to be permitted they must be legally closed. Provide above information or permit for closure of the UST's

Received checklist: date: 5/13/93 Signature: X Eileen Flynn

Note: Please keep checklist in order to facilitate completion. Sign and return second copy to this office indicating receipt of the above checklist.

Further information can be obtained by calling Brian Oliva at (510) 271-4320.

Forms enclosed: 1) Forms A,B,C, plot plan, spill response plan, and fee schedule. Memo on SB 2004 funding (January 9, 1992).
(PERMAPPL BPO 1/92)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

January 31, 1991

Harold B. Chapman, Jr.
196 Caldecott Ln., #314
Oakland, CA 94618

re: 1400 - 53rd St., Emeryville, 94608

FINAL NOTICE OF VIOLATION

Dear Mr. Chapman:

Our records indicate that there are underground tank(s) at your site at the above facility. You have not responded to two previous notices regarding these tanks. Attached are Forms A and B for your submission.

In accordance with the California Code of Regulations, Title 23, Chapter 3, Subchapter 16 Underground Tank Regulations you must perform one of the following actions:

1. Submit a tank closure plan to this Department as required by Article 7, 2670, or
2. Apply for a permit as required by Article 10, 2710.

You are directed to notify this Department within 10 days of your intentions and to obtain the necessary instructions and forms.

Please note that section 25299 of the California Health and Safety Code states that any operator or owner of an underground storage tank is liable for a civil penalty of not less than five hundred dollars or more than five thousand dollars per day for failure to obtain a permit, or failing to properly close an underground storage tank, as required by section 25298.

If you have any questions concerning this matter, please contact this office at 271-4320.

Sincerely,

Thomas F. Peacock, Senior HMS
Hazardous Materials Division

TFP:tfp

cc: Gil Jensen, Alameda County District Attorney, Consumer and Environmental Protection Agency
Lester Feldman, RWQCB

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

December 6, 1990

Harold B. Chapman, Jr.
196 Caldecott Ln., #314
Oakland, CA 94618

Re: 1400 53rd St. Emeryville

SECOND NOTICE OF VIOLATION

Dear Mr. Chapman:

Our records indicate that there are underground tank(s) at your site at the above facility. You have not responded to two previous notices regarding these tanks.

In accordance with the California Code of Regulations, Title 23, Chapter 3, Subchapter 16 Underground Tank Regulations you must perform one of the following actions:

1. Submit a tank closure plan to this Department as required by Article 7, 2670, or
2. Apply for a permit as required by Article 10, 2710.

You are directed to notify this Department within 10 days of your intentions and to obtain the necessary instructions and forms.

Please note that section 25299 of the California Health and Safety Code states that any operator or owner of an underground storage tank is liable for a civil penalty of not less than five hundred dollars or more than five thousand dollars per day for failure to obtain a permit, or failing to properly close an underground storage tank, as required by section 25298.

If you have any questions concerning this matter, please contact this office at 271-4320.

Sincerely,

Thomas F. Peacock, Senior HMS
Hazardous Materials Division

TFP:tfp

cc: Gil Jensen, Alameda County District Attorney, Consumer and Environmental Protection Agency
Lester Feldman, RWQCB

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

November 13, 1989

Harold B. Chapman, Jr.
196 Caldecott Ln., # 314
Oakland, CA 94618

Re: 1400 53rd St., Emeryville

NOTICE OF LEGAL OBLIGATION

Dear Mr. Chapman:

Our records indicate that there are underground tank(s) at your site at the above facility.

In accordance with the California Code of Regulations, Title 23, Chapter 3, Subchapter 16 Underground Tank Regulations you must perform one of the following actions:

1. Submit a tank closure plan to this Department as required by Article 7, 2670, or
2. Apply for a permit as required by Article 10, 2710.

Notify this Department within 10 days of your intentions and to obtain the necessary instructions and forms.

Please note that section 25299 of the California Health and Safety Code states that any operator or owner of an undergound storage tank is liable for a civil penalty of not less than five hundred dollars or more than five thousand dollars per day for failure to obtain a permit, or failing to properly close an undergound storage tank, as required by section 25298.

If you have any questions concerning this matter, please contact this office at 271-4320.

Sincerely,

Thomas F. Peacock, Senior HMS
Hazardous Materials Division

TFP:tfp

cc: Gil Jensen, Alameda County District Attorney, Consumer and Environmental Protection Agency
Lester Feldman, RWQCB