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

F

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

January 17, 2007

Messrs. Mark Gomez and Mark Arniola
City of Oakland
250 Frank Ogawa Plaza, Suite 5301
Oakland, CA 94612

Dear Messrs. Gomez and Arniola:

Subject: Fuel Leak Case RO0000037, City of Oakland Pacific Renaissance Plaza, 1000 Franklin St., Oakland, CA 94607

Alameda County Environmental Health (ACEH) staff has recently received and reviewed the files for the subject site in an effort to complete the closure for this property. Though it may appear that well closure and analysis for MTBE were the only items of concern preventing closure, our office also requests you address the following technical comments and submit the technical report requested below.

TECHNICAL COMMENTS

1. Identification of Property- It is unclear what are the site boundaries for the County's fuel leak case RO000037. Does it include the entire block ie between 9th, 11th, Franklin and Webster Streets or only a portion of this area?

2. Number of Sites and Agency Lead- Because of the uncertainty of the site boundaries, it is unclear how many sites are included in the block. We are aware that at least three UST releases occurred on this block, one in the northeast corner of 11th and Webster Streets, one in the southeast corner of 9th and Webster Streets and one on the sidewalk at the former corner of 10th and Franklin Streets. What agency has/had the oversight for each UST release and what is the status of each release? Did the City receive closure from the Water Board for the north EBMUD parcel? Does the current PRP site consist of both on-site and the sidewalk releases? The prepared County closure for the PRP site describes only the two USTs removed from the sidewalk on Franklin St. near former 10th Street. Did the City receive closure for the onsite tank investigation?

3. Request for Technical Reports- Considerable work was done on both the north parcel, currently the EBMUD building (bounded by Franklin, the former 10th St., 11th and Webster Streets) and the south parcel, currently the Pacific Renaissance Plaza (bounded by Franklin, Webster, 9th and the former 10th Streets). Groundwater injection, extraction and soil excavation is reported to have occurred. Please provide electronic copies of the summary closure reports for this work including soil and groundwater analytical results and figures, summary of groundwater extraction and injection volumes, summary of soil disposition activities, residual concentration maps and summary of monitoring well results.

4. Clarification of sidewalk tank closure- Assuming the County concerns are only that of the former tanks discovered in the sidewalk on Franklin St. please provide the following additional information: a) Figure indicating the location of the former tanks relative to former or existing monitoring, injection and extraction wells b) rose diagram indicating historical groundwater flow directions in the area of these former tanks c) list of activities which have affected groundwater flow and contamination in this area and supporting analytical data.

5. Monitoring Wells- Please provide a figure indicating the locations and status (closed/viable) of the wells (all types) in this City block area. Well closure will be required prior to site closure from our office.

TECHNICAL REPORT REQUEST

Please submit the following reports as soon as possible to expedite site closure:

- Property boundary clarification
- Number, lead agency and status of sites
- Electronic submittal of summary/closure reports for all sites
- Tank closure information
- Monitoring well information

ELECTRONIC SUBMITTAL OF REPORTS

Effective **January 31, 2006**, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

In order to facilitate electronic correspondence, we request that you provide up to date electronic mail addresses for all responsible and interested parties. Please provide current electronic mail addresses and notify us of future changes to electronic mail addresses by sending an electronic mail message to me at barney.chan@acgov.org.

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

If you have any questions, please call me at (510) 567-6765.

Sincerely,

Barney M. Chan

Barney M. Chan
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: files, D. Drogos, A. Levi

1_17_07 1000 Franklin St

RO 37

Chan, Barney, Env. Health

To: marniola@oaklandnet.com

Subject: Pacific Renaissance site, 1000 Franklin St., RO37

Mark: I just wanted to recap our recent conversations regarding the subject site. Prior to closing the site we will need a groundwater sample tested for MTBE, the other oxygenates and lead scavengers. If MW7 still exists then you can sample this well and then close the well, assuming no MTBE issue. If it doesn't exist, you should take a grab groundwater sample adjacent & down-gradient of the former USTs and run for these analytes.

Sincerely.

Barney M. Chan
Hazardous Materials Specialist
Alameda County Environmental Health
510-567-6765

12/13/2006

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

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

March 30, 2001
StID # 4036

Mr. Andrew Clark-Clough
City of Oakland Environmental Services
250 Frank H. Ogawa Plaza, Suite 5301
Oakland CA 94612

Re: Monitoring Wells at Pacific Renaissance Plaza, 1000 Franklin St., Oakland CA 94607

Dear Mr. Clark-Clough:

As you are aware, the investigation of the two former 1000 gallon fuel tanks was closed by the Water Board pending the closure of the monitoring well associated with this site's fuel release, ie MW-7. However, it appears that you may have wanted to keep this well and perhaps others to assist in the evaluation of the 9th and Broadway site. Since the 9th and Broadway site is now closed, please confirm the status of MW-7. If this well has not already been closed, you are required to run a groundwater sample from this well for MTBE per State Water Board requirements. Otherwise, please provide documentation of proper well closure.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files
Wlcl1000Franklin

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

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

April 12, 2000

Mr. Andrew Clark-Clough
1333 Broadway
Suite 330A
Oakland, CA 94612
STID 4036

RE: Pacific Renaissance Plaza, 1000 Franklin Street, Oakland, CA 94607

Dear Mr. Clark-Clough:

A letter dated September 21, 1998 was sent to you requesting an update on the current status of the closure of the monitoring wells at the above site. In addition, a site map was also going to be forwarded to this office that identified which wells were going to be retained to assist in your evaluation of environmental conditions of the property at 9th and Broadway. As of this date, this office has not received this information. Once this information is received, your case can be closed.

If you have any questions, please contact me at (510) 567-6774.

Sincerely,

Larry Seto
Sr. Hazardous Materials Specialist

Cc: Leroy Griffin, City of Oakland Fire Department, 1605 Martin Luther King, Oakland, CA 94612
Files

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

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

September 21, 1998

Mr. Andrew Clark-Clough
1333 Broadway
Suite 330A
Oakland, CA 94612
STID 4036

RE: Pacific Renaissance Plaza, 1000 Franklin Street, Oakland, CA 94607

Dear Mr. Clark-Clough:

In your letter dated February 26, 1998, you mentioned that the City of Oakland would arrange for proper abandonment of the monitoring wells at the above site by July 1, 1998. In addition, you had indicated that the City wanted to retain a few of the wells to assist in your evaluation of environmental conditions of the property at 9th and Broadway. As of this date, this office has not received a letter and a site map identifying which wells will be retained, and which will be closed.

Please submit a letter and a site map indicating the current status of the closure of the monitoring wells at the above site.

If you have any questions, please contact me at (510) 567-6774.

Sincerely,

Larry Seto
Sr. Hazardous Materials Specialist

Cc: Juliet Shin, Environmental Health, LOP
Leroy Griffin, City of Oakland, Fire Department
Files

CITY OF OAKLAND

ENVIRONMENTAL SERVICES • 1333 BROADWAY, SUITE 330A • OAKLAND, CALIFORNIA 94612

Public Works Agency

(510) 238-6688
FAX (510) 238-7286
TDD (510) 238-7644

February 26, 1998

Larry Seto
Alameda County
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

RE: Pacific Renaissance Plaza, 1000 Franklin Street - STID 4036 (93104)

Dear Mr. Seto:

As we discussed on the telephone, the City of Oakland will arrange for the proper abandonment of the monitoring wells at the above site by July 1, 1998.

We plan to retain a few of the wells to assist in our evaluation of environmental conditions of the property at 9th and Broadway. I will provide you with a letter and a site plan showing which wells we intend to retain within the next few weeks.

If you have any questions or require additional information, please call me at 238-6361.

Sincerely,

Andrew Clark-Clough
Environmental Program Supervisor

cc: Donnell Choy, CAO
Lois Butler, CEDA

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)

Certification # P 143 588 414

January 30, 1998

Mr. Andrew Clark-Clough
City of Oakland
Office of Public Works
Environmental Division
1333 Broadway, Suite 330
Oakland, CA 94612
STID 4036

RE: Pacific Rennaissance Plaza, 1000 Franklin Street, Oakland, CA 94607

Dear Mr. Clark-Clough:

A letter from our office dated May 20, 1996 was mailed you, and Mr. Donnell Choy, City Attorney concerning the proper abandonment of the monitoring wells at the above site. Enclosed is a copy of this letter. As of this date, this office has not received a well abandonment letter from the City of Oakland.

Section 2649(b)(9), Title 23, California Underground Storage Tank Regulations states "All borings which are not used for ground water or vadose zone monitoring shall be sealed from the ground surface to the bottom of the boring with an approved grout. All slurry–type grouts used to seal an abandoned boring or an abandoned well shall be emplaced by the tremie method.

Please inform this office within ten days of the receipt of this letter the current status of the monitoring wells at the above site. We would like to close this case and issue you a "Remedial Action Completion Certification".

If you have any questions, please contact me at (510) 567-6774.

Sincerely,

Larry Seto
Sr. Hazardous Materials Specialist

Cc: Donnell Choy, City Attorney, City of Oakland
Files

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

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

April 7, 1997
STID 4036

Attn: Donnell Choy, City Attorney
Oakland Redevelopment Agency
1 City Hall Plaza, 6th Floor
Oakland CA 94612

Attn: Andrew Clark-Clough
City of Oakland
Office of Public Works
Environmental Division
1333 Broadway, Suite 330
Oakland CA 94612

RE: Pacific Rennaissance Plaza site, 1000 Franklin St., Oakland CA 94607

Dear Mr. Choy and Mr. Clark-Clough,

Since my last letter to you, dated 5/20/96, I have been waiting for the City to decide which groundwater monitoring wells they wish to properly abandon, and which they wish to remain open for possible future monitoring and/or sampling. I understand that Mr. Clark-Clough has indicated to me that he has brought this matter to the attention of the Redevelopment Agency several times over the past year. However, the funding has apparently not been secured for the well closure.

The most recent sampling event was reportedly conducted nearly four years ago (June 1993). These wells are apparently no longer in use. Please note that the California Underground Storage Tank Regulations [23 CCR Div. 3, Chapter 16, Section 2649 (b) (9)] specifies that "all borings which are not used for ground water or vadose zone monitoring shall be sealed from the ground surface to the bottom of the boring with an approved grout."

A final Case Closure Letter will be sent to the City as soon as these wells are properly closed. Please contact me by phone at least 2 business days ahead of well closure, so I may arrange to be present onsite if my schedule allows. You are also requested to submit a brief letter report documenting the well closure, including a well destruction permit from Zone 7. Once this is received, the wells will be considered properly closed, and the Case Closure Letter will be signed by our Director and mailed to you. **Please contact me within 60 days to discuss which wells are to be closed and which are to remain open (and if so, for how long).**

Thank you for your cooperation in this matter. If you have any questions regarding this letter, please contact me at (510) 567-6761. **Please contact me by telephone at least 2 business days in advance of well abandonment.**

Attn: Donnell Choy, City Attorney
Attn: Andrew Clark-Clough

Sincerely,

Jennifer Eberle
Hazardous Materials Specialist

cc: Acting Chief/file
Kevin Graves, RWQCB
Subsurface Consultants Inc., 171-12th St, Suite 201 Oakland CA 94607

je.4036-B

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

61-1126

Alameda County CC4580
Environmental Protection Division
1131 Harbor Bay Parkway, Room 250
Alameda CA 94502-6577

May 20, 1996
STID 4036

Attn: Donnell Choy, City Attorney
Oakland Redevelopment Agency
505-14th St., 12th Floor
Oakland CA 94612

Attn: Andrew Clark-Clough
City of Oakland
Office of Public Works
Environmental Division
1333 Broadway, Suite 330
Oakland CA 94612

RE: Pacific Rennaissance Plaza site, 1000 Franklin St., Oakland CA 94607

Dear Mr. Choy and Mr. Clark-Clough,

A Case Closure Summary has been prepared for this site, in regards to the two 1,000-gallon underground storage tanks (USTs) removed on 12/16/91. This Summary was prepared in August 1995, signed off by three in-house Hazardous Materials Specialists in September 1995, as well as Kevin Graves of the Regional Water Quality Control Board (RWQCB) in November 1995.

Since that time, I have been waiting for the City to decide which groundwater monitoring wells they wish to properly abandon, and which they wish to remain open for possible future monitoring and/or sampling. My main contact person has been Mr. Clark-Clough, who I understand has been in communication with the Redevelopment Agency.

When the decision is made, and the wells are properly abandoned (under Zone 7 permit) and a well abandonment letter is submitted to this office, a "Remedial Action Completion Certification," aka case closure letter, will be issued by this office. I believe our mutual goal is the closure of this case. This letter is being sent to you to keep you advised of the progress being made by this office.

If you have any questions regarding this letter, please contact me at (510) 567-6761. **Please contact me by telephone at least 2 business days in advance of well abandonment.**

Very truly yours,

Jennifer Eberle
Hazardous Materials Specialist

cc: Acting Chief/file
Kevin Graves, RWQCB
Subsurface Consultants Inc., 171-12th St, Suite 201 Oakland CA 94607
je.4036-A

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write *"Return Receipt Requested"* on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to: #4036 L. Seto

Mr. Andrew Clark-Clough
City of Oakland
~~Office of Public Works~~
Enviornmental Division
1333 Broadway, Ste. 330
~~Oakland CA 94612~~

4a. Article Number P 143 588 414

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery 2/3/98

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X

PS Form **3811**, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

#4036 P 143 588 414
L. Seto

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to Andrew Clark-Clough	
Street & Number ~~City of Oakland Public Works~~ 1333 Broadway, Ste. 330	
Post Office, State, & ZIP Code Oakland CA 94612	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form **3800**, April 1995

CITY OF OAKLAND

TRANSMITTAL SLIP

DATE 2/23/93

TO: Jennifer Eberle, ACHCSA

FROM: Julie Carver, Office of Public Works

SUBJECT: phoncon of Feb. 22, 1993

ACTION:

- (X) Information
- (X) Review
- ( ) See Me Re This
- ( ) Comment/Recommendation
- ( ) Approval/Signature
- ( ) Forward To _____
- ( ) Return To _____
- ( ) Mail To _____
- ( ) File
- ( ) Investigate/Resolve
- ( ) Investigate and Report To _____
- ( ) Furnish Information For _____ Reply
- ( ) Prepare Reply For _____ Signature
- ( ) Copies To: _____

Date Due N/A

REMARKS:

Jennifer...

Per our phone conversation of Feb. 22, 1993 attached please find:

① the proposed notice for 1000 Franklin Street
and
② the other documents we discussed.

Please feel free to give me a call to discuss!.

Julie Carver
238-6261

400-256 (11/67)

NOTICE OF PRESENCE OF RESIDUAL PETROLEUM HYDROCARBONS IN SOIL

LOCATION: Franklin Street between 9th and 11th Streets

SOURCE: Releases from underground tanks used to store petroleum hydrocarbon fuels. Tanks were located below the sidewalk on the east side of Franklin Street approximately 150 feet south of 11th Street.

MEDIA OF CONCERN:

Soils at depth of 20-35 feet below Franklin Street in this area contain residual petroleum hydrocarbons.

CONTAMINANTS:

Petroleum hydrocarbons at concentrations in soil that may be as high as 3000 parts per million. Individual constituents may include benzene, toluene, ethylbenzene, and xylenes.

HEALTH AND SAFETY CONSIDERATIONS:

Exposure to petroleum hydrocarbons in these soils may result from construction excavation or other intrusive activities in this area. Possible routes of exposure include direct contact with hydrocarbon-bearing soil or water and inhalation of petroleum hydrocarbons vapors generated from exposed soils.

Those anticipating intrusive activities such as excavation in this area should be prepared to protect workers against possible exposures with personal protective equipment (for example, gloves, Tyvex suits, respirators), engineering controls (for samples, fans), or other measures as appropriate.

example

FOR FURTHER INFORMATION CONTACT:

Alameda County Health
Services Agency
Department of Environmental Health
80 Sway Way, Room 200
Oakland, CA 94621
(510) 271-4530

City of Oakland
Office of Public Works
Environmental Affairs Division
1333 Broadway, Suite 800
Oakland, CA 94612
(510) 238-3961

DATE OF THIS NOTICE: February 23, 1993

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

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

February 9, 1993
STID 4036

City of Oakland
City Hall
1333 Broadway
Oakland CA 94612
Attn: Julie Carver

RE: Chinatown Redevelopment Project
Pacific Rennaissance Plaza
1000 Franklin St.
Oakland CA 94607

Dear Ms. Carver,

We are in receipt of your letter dated 1/19/93 regarding further characterization and remediation of soil containing detectable levels of petroleum hydrocarbon constituents. We have reviewed your proposal to implement a warning system within the City of Oakland's permit tracking system, which allows a database search for "flagged" conditions. This approach seems viable, and is acceptable to this agency. I have discussed the contents of your 1/19/93 ~~with~~ letter with Rich Hiett of the RWQCB, and he is also agreeable to your ~~proposal~~.

Sincerely,

Jennifer Eberle
Hazardous Materials Specialist

cc: Donnell Choy, Office of the City Attorney, 505-14th St., 12th Floor, Oakland CA 94612
Peter Chen, City of Oakland, Redevelopment Agency, 1333 Broadway, 9th Floor, Oakland CA 94612
Rich Hiett, RWQCB
David Leland/Larry Friend, Harding Lawson Assoc., 7655 Redwood Blvd., PO Box 578, Novato CA 94948
Pat Collins, Advanced Resources in Construction Services Ltd., 1001 Broadway, Ste 288, Oakland CA 94607
Joe Mazzetti, Perini Construction, 373 9th St., Ste 303, Oakland CA 94607
Lambert Li, C&L Financial, Inc., One Hallidie Plaza, Ste 828, San Francisco CA 94102
James Murad, Esq., Cooper, White & Cooper, 201 California St., 12th Floor, San Francisco CA 94101
Ed Howell/file EDH

je 4036-A

CITY OF OAKLAND

CITY HALL • 1333 BROADWAY • OAKLAND, CALIFORNIA 94612

Office of Public Works

(415) 273-3961
FAX: 273-2233
TDD 839-6451

January 19, 1993

Jennifer Eberle
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

4036

RE: Chinatown Redevelopment Project
Pacific Renaissance Plaza
1000 Franklin Street
Oakland, CA 94607

Dear Ms. Eberle:

This letter is written in response to agreements reached among yourself, Mr. Rich Hiett of the Regional Water Quality Control Board (RWQCB), and representatives of the Oakland Redevelopment Agency (ORA) on December 17, 1992 regarding the disposition of contaminated soil suspected to exist beneath Franklin Street in Oakland in the Chinatown Redevelopment Project Area. I was not present at this meeting, but Mr. Donnell Choy of the Oakland City Attorney's Office has briefed me on salient facts and asked me to follow up with your office.

After discussions between Alameda County Health Care Services Agency (ACHCSA), RWQCB, the ORA, and ORA's consultant, Harding Lawson Associates (HLA), it was agreed that further characterization and remediation of soil containing chemicals released from the tanks found near the intersection of 10th and Franklin Streets will not be necessary. To avoid compromising the health and safety of individuals who might come into contact with this soil, the RWQCB requested that the ORA explore mechanisms for notifying the public and workers of the presence of potentially hazardous materials below the street in this area. The ORA agreed to investigate a means by which people who might come into contact with this soil could be notified.

I have spoken with Mr. Phil Grubstick, the City of Oakland's Engineering Services Manager in the Office of Planning and Building (OPB), about this situation. He stated that the City of Oakland's OPB issues permits for all work performed on or beneath paved streets in Oakland. Four different types of permits, classified as encroachment, excavation, sewer, and sidewalk permits are issued for work beneath or adjacent to the streets. Prior to issuing such a permit, the individuals applying for the permit must fill out an application indicating the location and nature of the work they intend to carry out. This application is entered into the City of Oakland's permit tracking system, allowing a manual and/or computerized search of index-type databases for "flagged" conditions in the vicinity of the site in question.

It appears that flagging the area on Franklin Street between 9th and 11th Streets on the permit tracking system and the street pavement index would accomplish our goal of notifying any individuals who might come into contact with contaminated soil in this area. Since work such as utility trenching, installing monitoring wells, and repairing sidewalks requires City permits, the City can issue a statement with the permit warning of potentially hazardous materials in the permit area. This warning would inform individuals of the types of materials suspected to be present in the subsurface below Franklin Street between 9th and 11th Streets, would urge them to exercise caution, and would also advise them that personal protective equipment may be needed in the area.

Implementation of this warning system has a number of advantages. If acceptable to ACHCSA and RWQCB, the warning statement can start being attached to permits issued for this area in the very near future. Since the City of Oakland is the issuing agency for all permits for work done on or beneath streets in Oakland, changes to the proposed system can be implemented with relative ease. The City inspects and enforces work in the streets, and it is virtually impossible for significant work to be done by individuals or companies who have not obtained permits.

Please feel free to contact me at (510) 238-6361 at your earliest convenience to discuss this proposal. I look forward to speaking with you soon.

Julie Carver
Environmental Programs Supervisor

cc: Joe Abron, OPW Construction
Peter Chen, Office of Economic Development and Employment
Donnell Choy, Office of the City Attorney
Phil Grubstick, Office of Planning and Building
Rich Hiett, RWQCB
David Leland, Harding Lawson Associates
Jim Reinhart, Office of Economic Development and Employment
Harry Schrauth, OPW Administration
Kay Winer, Office of Planning and Building

CITY OF OAKLAND

505-14TH STREET • 12TH FLOOR • OAKLAND, CALIFORNIA 94612

Office of the City Attorney
Jayne W. Williams
City Attorney

TDD 839-6451
(510) 238-3601
FAX (510) 238-6500

November 4, 1992

4036

HAND DELIVERED:

Jennifer Eberle
Hazardous Materials Specialist
Department of Environmental Health
Alameda County
80 Swan Way, Room 200
Oakland, CA 94621

Re: Chinatown Redevelopment Project
Pacific Renaissance Plaza
1000 Franklin Street
Oakland, CA 94607

Dear Ms. Eberle:

This letter responds to your letter dated September 25, 1992 and follows up on our telephone conversation on Monday, October 19, 1992. Your letter disagrees that MW-7 is properly positioned to monitor groundwater conditions downgradient of the soil release area, and suggests instead that MW-7 is actually crossgradient rather than downgradient. Your letter also requested that we submit a workplan which adheres to the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, dated 8/10/90. In our telephone conversation, I invited you to meet with some Agency staff, the Agency's consultant, and myself at the site of the soil release area, but you indicated that you would prefer that I state in writing the Agency's concerns and objections to your letter.

The Site

The "Site" is the Chinatown Redevelopment Project which is a four block area bounded by Broadway, 11th, Webster, and 9th Streets in downtown Oakland. (See Exhibit A, attached) The Site is a designated Action Area under the Central District Urban Renewal Plan, the redevelopment plan for Oakland's downtown area. The Redevelopment Agency of the City of Oakland (the "Agency") previously entered into an agreement with a developer for the development of all four blocks. That developer completed construction of a six-story structure commonly known as the Trans Pacific Centre Building on the block bounded by Broadway, 11th,

Franklin, and 10th streets. However, in January, 1984, the Agency terminated all development rights of that developer to the remaining three blocks in the Site.

In 1987, the Agency entered into separate agreements with the East Bay Municipal Utility District (EBMUD) and Pacific Renaissance Associates II (PRAII), respectively, for the development of the remaining three blocks in the Site. (See Exhibit B, attached) Parcel B-1 of Exhibit B was subdivided and transferred over to EBMUD for the development of a new EBMUD administrative office building. The portion of 10th Street between Franklin and Webster streets was vacated and made a part of Parcel B-2, and Parcel B-2 was transferred to PRAII in 1990 for the development of a major mixed use project known as Pacific Renaissance Plaza, which is currently under construction. The remaining property in the Site is the portion of Franklin Street between 11th and 9th streets and Parcel B-3, which will be transferred from the Agency to PRAII for development when certain conditions precedent under the agreement between the Agency and PRAII are satisfied.

The Agency acquired all property in the Site during the 1970's, **prior** to the adoption of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and related federal laws and regulations and **prior** to the adoption of Chapters 6.5 and 6.7 of Division 20 of the Health and Safety Code. After the Agency acquired the Site, it demolished all previous improvements on the Site and used various portions of the Site as surface parking lots. The Agency's agreement with PRAII requires the Agency to assume responsibility for any hazardous substances on Parcels B-2 and B-3 that may be present on those parcels prior to the date the Agency transfers ownership of each parcel to PRAII.

This doesn't relieve your responsibility

The Tanks

The subject tanks were abandoned by a previous but unknown owner or user of the Site, and their presence was unknown to the Agency, the City, and the developer until they were recently discovered. The tanks were located outside the property line of Parcel B-2 in the vicinity of the former portion of 10th Street where it intersected Franklin Street. PRAII obtained a street encroachment permit from the City of Oakland (City) in connection with its construction of Pacific Renaissance Plaza, and discovered the tanks during the course of construction. Neither the City, the Agency, nor PRAII were "Operators" of the tanks as that term is defined in Health and Safety Code §25281(h).

The tanks were removed in compliance with the requirements of Chapter 6.5 of Division 20 of the Health and Safety Code and §2672(b) of Title 23 of the California Code of Regulations. When it was discovered that a release of hazardous substances from the tanks had occurred, the leak was promptly reported to the appropriate regulatory agencies, but as your September 25, 1992 letter to me correctly points out, a Tank Closure Report has not been submitted.

The reporting requirements of Article 5 of Title 23 of the California Code of Regulations do not apply because neither the Agency, the City, nor the developer were the operators or permittees of the tanks.

Issues

From the Agency's perspective, there are two main issues between the Agency, the Environmental Health Department (the Department), and the Regional Water Quality Control Board (the Board) which need to be resolved.

1. Assuming a worst case scenario based upon the information we now have about the soil release area, would either the Department or the Board order the Agency to clean up any further the hazardous substances released from those tanks. ?

2. Is MW-7 properly positioned downgradient from the soil release area to adequately monitor any migration of the hazardous substances from the former location of the tanks.?

The Groundwater Beneath Oakland's Downtown Cannot Reasonably be Expected to be a Source of Drinking Water

The Agency submits that the shallow groundwater beneath downtown Oakland cannot reasonably be expected to be a source of drinking water, and the appropriate response to the known hazardous substances released from the subject tanks should focus upon other forms of protection against possible human exposure to those substances. These other forms of protection could involve monitoring the possible migration of the contamination, if any, and

evaluating the potential pathways of human exposure to the contaminants.

As you know, and as we hoped to empirically demonstrate at a Site meeting, virtually all of downtown Oakland is fully developed.[1] The records of both the Department and the Board will provide ample documentation of other releases of similar substances into the shallow groundwater throughout downtown Oakland. Even if the Agency were to clean up the hazardous substances known to have been released from the tanks, there remain too many known instances of other releases in the downtown area that have not been completely investigated or cleaned to warrant any reasonable consideration of downtown's shallow groundwater as a potential source of drinking water. Nevertheless, it would appear that the contaminated groundwater throughout downtown Oakland does not pose a significant threat to the public health because the area is completely developed, and the shallow groundwater throughout downtown Oakland is not used as a source of drinking water.

Unless either the Department or the Board intends to order the Agency to conduct further remediation of the hazardous substances released from these tanks, any additional groundwater investigation of the nature proposed in your September 25 letter would not result in useful information. In fact, given the known condition of the groundwater in downtown Oakland, we submit that a clean up order in this instance would result in a wasteful use of public funds. If no clean up order is intended, then an order to do the type of investigation that your September 25 letter suggests would also be a waste of public funds. Would you please advise whether your intend to issue a clean up order to the Agency?

MW-7 Is Properly Positioned to Monitor Any Significant Migration of Hazardous Substances From the Soil Release Area

Prior to the commencement of construction of either the EBMUD administrative office building or the Pacific Renaissance Plaza,

---

[1] I am not here suggesting that downtown is fully developed to its highest and best uses. However, virtually all of downtown is either developed with some type of physical structure or covered by some type of pavement.

the groundwater flow across the Site was in a westerly direction". On the other side of Franklin Street from the soil release area is the Trans Pacific Centre building, which has two stories of parking beneath it. The EBMUD building is now completed, and the core and shell of Pacific Renaissance Plaza is nearing completion. Both the EBMUD building and Pacific Renaissance Plaza have three levels of underground parking. The building foundations of these structures have affected groundwater flow directions at the Site, resulting in a southwesterly flow near the former location of the tanks and the soil release area. The structures just described would force groundwater coming in from the north and northeast to either move west along 11th street or come around the EBMUD building and down Franklin Street. (See Plate 1 of the Report dated June 16, 1992 to Susan Hugo and Rich Hiett from Harding Lawson Associates) MW-7 is located to the southwest of the soil release area. The Agency believes that MW-7 is properly positioned to monitor any migration of hazardous substances, and would like to meet with you, preferably at the Site, to further discuss this matter.

The installation of an additional well in conformance with the Tri-Regional Board Staff Recommendations would pose risks of interruption to the construction activities at Pacific Renaissance Plaza, would disrupt traffic along Franklin Street, and would create risks of damaging major underground utilities in the area. Franklin Street itself is completely pavedn and is a major one-way street in the northerly direction, which in 1985 had an average daily traffic volume of 7300 cars per day.[2] A major underground international telephone line is also situated close to the soil release area, which if damaged could result in significant economic consequences. If one accepts that additional investigation would have little utilitarian value in this instance, then the risks and disruptions that may occur with such investigation appear to be unnecessary.

Any migration of contamination in this area is already substantially contained. One block to the west is Broadway, and one block to the south is 9th Street. BART tunnels run down Broadway, curve across the middle of Parcel B-3, and continue along 9th Street. When the BART tunnels are considered together with the depth of the buildings surrounding the soil release area, it would

---

[2] Draft Environmental Impact Statement/Environmental Impact Report for the Chinatown Redevelopment Project by Jefferson Associates, Inc., dated June 1985.

appear that any migration of hazardous substances from the area would be significantly inhibited by these improvements and is therefore already largely contained.

There Will be Additional Soil and Possibly Groundwater Investigation Within the Site and Downgradient From the Soil Release Area

The Agency plans to begin soil and possibly groundwater investigation in preparation for the development of Parcel B-3. We believe that if any hazardous substances from the soil release area are migrating, it would migrate in the direction of Parcel B-3. We would like the opportunity to explain the scope of the Agency's planned investigation of Parcel B-3 and how that investigation would be useful for monitoring the effects from the soil release area. We therefore once again request a meeting with you, preferably at the Site, to further discuss this matter.

Conclusion

The Agency, like both the Department and the Board, relies upon public funds to operate. The Agency has already spent many millions of dollars investigating and cleaning up numerous contamination problems throughout the downtown area, and these expenditures are seriously impeding the Agency's efforts to carry out its economic development and redevelopment responsibilities. The Agency is also aware that there are numerous other contamination problems in the downtown area that are unrelated to any Agency project. The Agency has never shied away from its responsibilities to investigate and remediate hazardous substances whenever the Agency has encountered them in connection with Agency projects. However, the Agency realizes that it cannot by itself, and it should not be required to clean up all of the contamination problems in downtown Oakland. We urge both the Department and the Board to weigh the public's real need for economic development and redevelopment in downtown Oakland against the public's need to have clean soil under developed areas and drinking water quality groundwater in aquifers which are a highly unlikely source of drinking water throughout downtown Oakland. In light of the foregoing discussion, we submit that the Agency's proposal as set forth in the June 16, 1992 report from Harding Lawson Associates is appropriate and reasonable.

We've not asking for this.

We again request a meeting with you, Rich Hiett, and other appropriate persons from the Board and the Department to further discuss this matter.

Finally, I hereby formally request a copy of any rules or regulations that either the Board or the Department have adopted which prescribe any administrative, appellate procedures that need to be exhausted to appeal any administrative decision or order made in connection with this matter.

Thank you for your cooperation and assistance.

Very truly yours,

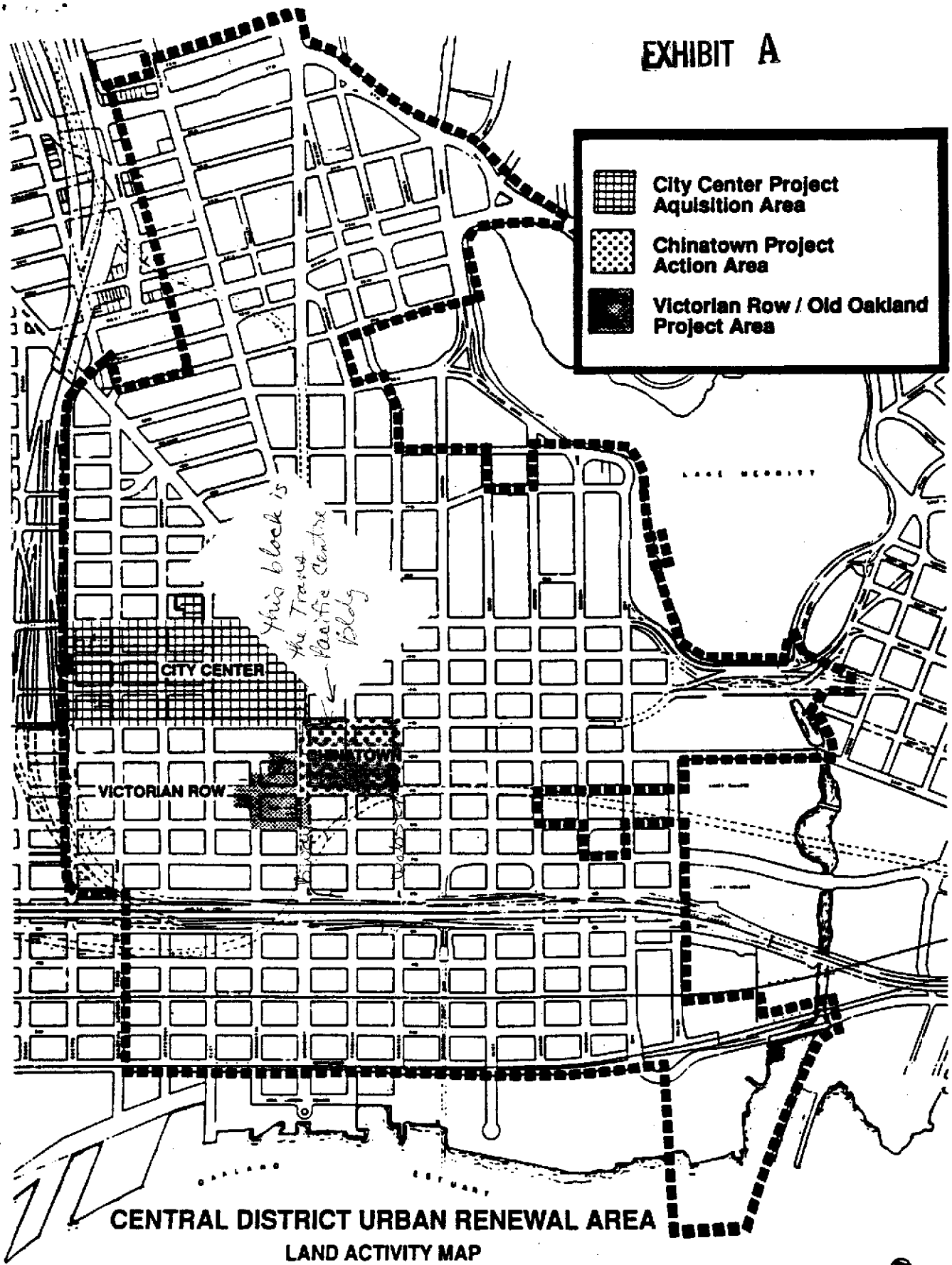
JAYNE W. WILLIAMS,
City Attorney

By
DONNELL W. CHOY,
Deputy City Attorney

cc: (VIA MAIL)

Richard Hiett, SFRWQCG, 2101 Webster St., Suite 500, Oakland, CA 94612
Peter Chen, OEDE
David Leland, Harding Lawson Associates, 7655 Redwood Blvd., P.O. Box 578, Novato, CA 94948
Pat Collins, Advanced Resources in Construction Services, LTD, 1001 Broadway, Suite 288, Oakland, CA 94607
Joe Mazzetti, Perini Construction, 373 9th Street, Suite 303, Oakland, CA 94607
Julie Carver, City of Oakland Environmental Program Supervisor, 1330 Broadway, Suite 1001, Oakland, CA 94612
Lambert Li, Vice President, C&L Financial, Inc., One Hallidie Plaza, Suite 828, San Francisco, CA 94102
James Murad, Esq., Cooper, White & Cooper, 201 California Street, 12th Floor, San Francisco, CA 94101

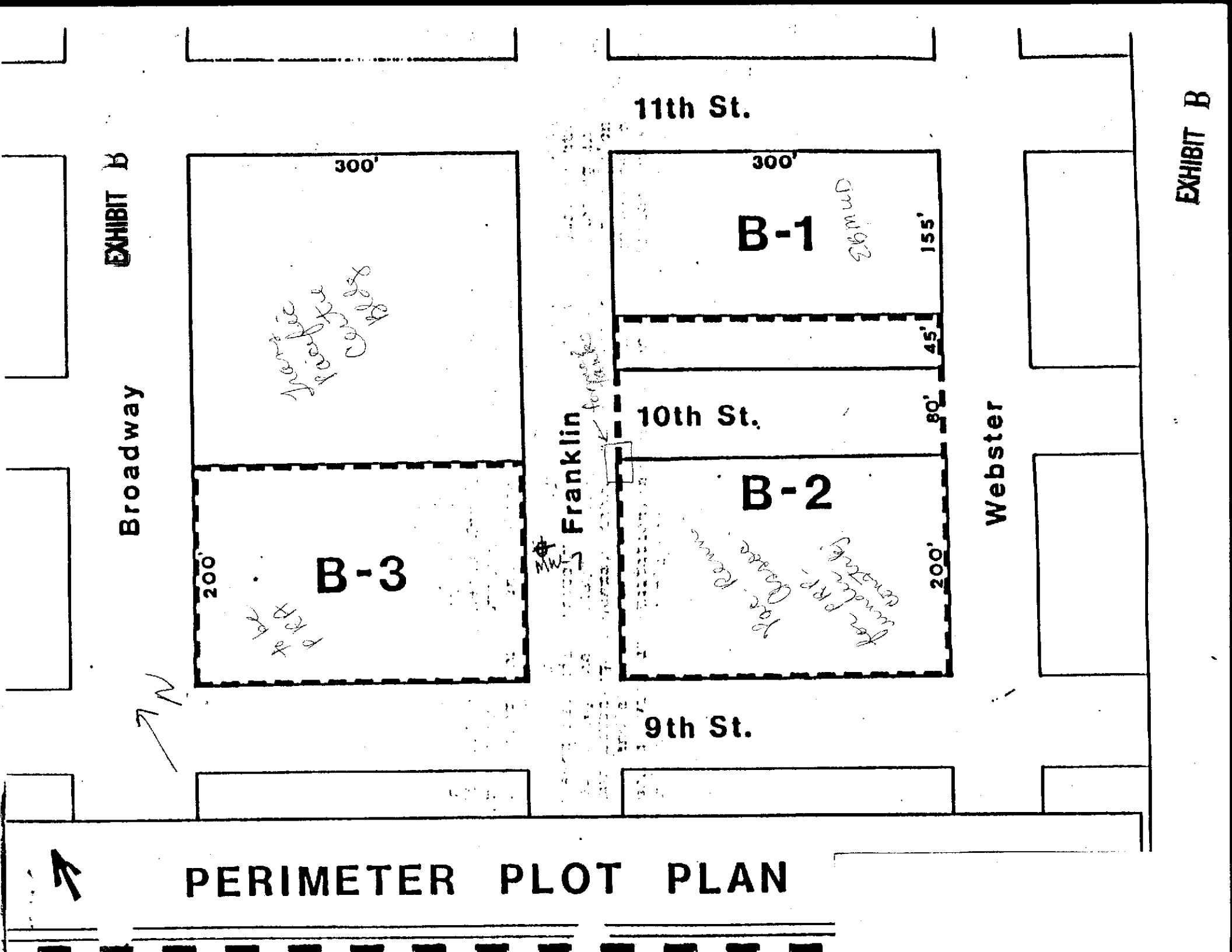
EXHIBIT A



CENTRAL DISTRICT URBAN RENEWAL AREA

LAND ACTIVITY MAP

Redevelopment Agency of the City of Oakland
Neighborhood Development Program Application



PERIMETER PLOT PLAN

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

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

September 25, 1992

STID 4036

City of Oakland
Office of the City Attorney
505-14th St., 12th Floor
Oakland CA 94612
Attn: Donnell Choy

RE: Chinatown Redevelopment Project
Pacific Rennaissance Plaza
1000 Franklin St.
Oakland CA 94607

Dear Mr. Choy,

We are in receipt of a "Response to Request for Work Plan," prepared by Harding Lawson Associates (HLA), dated 6/16/92. This letter report was written in response to an agreement between Paul Smith of this office and David Leland of HLA that a written rationale should be presented stating why monitoring well(s) are not needed in the vicinity of the former underground storage tanks (USTs), if that indeed was HLA's contention. Upon a review of this response, we do not agree with HLA's rationale. Among other things, HLA contends that "MW-7 is properly positioned to monitor groundwater conditions downgradient of the soil release area." MW-7 is actually 100 feet away from the former USTs and appears to be crossgradient rather than downgradient, as per the potentiometric surface data illustrated on Plate 1 of the December 1991 "Report of Groundwater Monitoring," by HLA.

"Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" states that whenever soil contamination in excess of 100 ppm TPH or Oil & Grease has occurred within the first two feet of native soil beneath the tank, a groundwater investigation is required. Further, one monitoring well must be installed within 10 feet of the tank in the verified downgradient direction. As you may recall, initial soil samples at the time of tank removal contained the following concentrations of contaminants: 19,000 ppm TPH-g, 4,100 ppm TPH-d, 53 ppm benzene, 6,300 ppm Oil & Grease, 2,300 ppb naphthalene, 28 ppb TCA, and 50 ppb TCE.

Therefore, we once again request a work plan, including a schedule for implementation, for a groundwater investigation for the two USTs removed on 12/16/91 **within 40 days or by November 4, 1992.** The workplan should adhere to the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, dated 8/10/90.

Upon a review of the file for this site, it was discovered that a Tank Closure Report is not included. A Tank Closure Report is generally required within 60 days of tank removal activities. This report should include as a minimum the following: narrative description of tank removal activities, excavation pit and stockpile sampling, disposition of the stockpiled soil, graphic depictions of sampling points, copies of manifests from tank and/or soil removal, chain of custody, and laboratory results. Therefore, we request that you please submit a Tank Closure Report **within 40 days or by November 4, 1992.**

All reports and documents pertaining to this investigation should also be sent to:

Rich Hiett
San Francisco Bay Region
Regional Water Quality Control Board
2101 Webster St., Ste 500
Oakland CA 94612

The contents of this letter were discussed with and agreed upon by Rich Hiett of the RWQCB on 9/23/92. If you have any questions, please contact me at 510-271-4530.

Sincerely,

Jennifer Eberle
Hazardous Materials Specialist

cc: Peter Chen, City of Oakland, Redevelopment Agency, 1333 Broadway, 9th Floor, Oakland CA 94612
Rich Hiett, RWQCB
David Leland/Larry Friend, Harding Lawson Assoc., 7655 Redwood Blvd., PO Box 578, Novato CA 94948
Pat Collins, Advanced Resources in Construction Services Ltd., 1001 Broadway, Ste 288, Oakland CA 94607
Joe Mazzetti, Perini Construction, 373 9th St., Ste 303, Oakland CA 94607
Julie Carver, City of Oakland Env. Programs Supervisor, 1330 Broadway, Ste 1001, Oakland CA 94612
Lambert Li, C&L Financial, Inc., One Hallidie Plaza, Ste 828, San Francisco CA 94102
James Murad, Esq., Cooper, White & Cooper, 201 California St., 12th Floor, San Francisco CA 94101
Ed Howell/file

je 4036

CITY OF OAKLAND

CITY HALL • ONE CITY HALL PLAZA, • OAKLAND, CALIFORNIA 94612
(415) 273-3601
TTY 839-6451

Office of the City Attorney
Jayne W. Williams
City Attorney

May 28, 1992

VIA FACSIMILE (569-4757) and REGULAR MAIL:

Susan Hugo
Alameda County Department of
Environmental Health
80 Swan Way, Room 210
Oakland, CA 94621

Re: Pacific Renaissance Plaza, 9th & Webster Franklin Street
Oakland, CA 94612

Dear Ms. Hugo:

This letter will confirm that I called and left a message for you requesting another extension of time to respond to your department's January 13, 1992 letter to Henry L. Gardner and Michael Chan. The agreement that I referred to in my May 13 letter to you has now been signed by the developer and is in the process of being signed by both the City of Oakland and the Redevelopment Agency of the City of Oakland.

The Agency has retained Harding Lawson Associates to prepare a technical response to your January 13 letter, and I will transmit that response to you as soon as it has been finalized. I expect the response to be completed within 30 days, and I am therefore requesting an additional 30 days from you. If I do not hear anything to the contrary from you, I will assume that this request has been granted.

Additionally, after I have transmitted the response to you, I would like to invite you to visit the site where the underground tanks were discovered so that you can see the physical surroundings of the site as we discuss our response with you. I will be calling you shortly after I transmit the response to arrange for a convenient time for you to visit the site.

I look forward to meeting you, and once again, thank you for your assistance and cooperation.

Very truly yours,

JAYNE W. WILLIAMS,
City Attorney

By
DONNELL W. CHOY,
Assistant to the City Attorney

cc: Richard Hiett, SFRWQCG, 2101 Webster St., 4th Floor, Oakland, CA 94612
James Murad, Esq., Cooper, White & Cooper, 201 California Street, 12th Floor, San Francisco, CA 94101
Lambert Li, Vice President, C&L Financial, Inc., One Hallidie Plaza, Suite 828, San Francisco, CA 94102
Peter Chen, OEDE
David Leland, Harding Lawson Associates, 7655 Redwood Blvd., P.O. Box 578, Novato, CA 94948
Pat Collins, Advanced Resources i Construction Services, LTD, 1001 Broadway, Suite 288, Oakland, CA 94607
Joe Mazzetti, Perini Construction, 373 9th Street, Suite 303, Oakland, CA 94607
Karen Schreifels, Resna, 41674 Christy St., Fremont, CA 94538
Julie Carver, City of Oakland Environmental Program Supervisor, 1330 Broadway, Suite 1001, Oakland, CA 94612

CITY OF OAKLAND

CITY HALL • ONE CITY HALL PLAZA, • OAKLAND, CALIFORNIA 94612
(415) 273-3601
TTY 839-6451

Office of the City Attorney
Jayne W. Williams
City Attorney

March 16, 1992

VIA FACSIMILE (569-4757) and REGULAR MAIL:

Paul Smith
Hazardous Materials Specialist
Alameda County Department of
Environmental Health
80 Swan Way, Room 210
Oakland, CA 94621

Re: Pacific Renaissance Plaza, Franklin Street
Oakland, CA 94612

Dear Mr. Smith:

I am writing to request an additional 30 day extension of time in which to respond to your letter dated January 13, 1992 addressed to Henry L. Gardner and Michael Chan.

The City, the developer of the project, and the Redevelopment Agency of the City of Oakland have reached conceptual agreement as to their respective responsibilities regarding the discovery of two underground storage tanks beneath the sidewalk adjacent to the above-referenced project. However, the formal agreement has not yet been finalized.

I tried calling you last Thursday, March 12, and again this morning to orally make this request, but you have not been available to receive my calls. I am therefore making this request in writing via facsimile. If I do not hear from you to the contrary, I will assume that this request has been granted.

Please do not hesitate to call me at 238-3493 should you wish to discuss this matter further.

Thank you for your continued cooperation.

Very truly yours,

JAYNE W. WILLIAMS,
City Attorney

By
DONNELL W. CHOY,
Assistant to the City Attorney

cc: Richard Hiett, SFRWQCG, 2101 Webster St., 4th Floor, Oakland, CA 94612
James Murad, Esq., Cooper, White & Cooper, 201 California Street, 12th Floor, San Francisco, CA 94101
Lambert Li, Vice President, C&L Financial, Inc., One Hallidie Plaza, Suite 828, San Francisco, CA 94102
[redacted], OEDE
David Leland, Harding Lawson Associates, 7655 Redwood Blvd., P.O. Box 578, Novato, CA 94948
Pat Collins, Advanced Resources i Construction Services, LTD, 1001 Broadway, Suite 288, Oakland, CA 94607
Joe Mazzetti, Perini Construction, 373 9th Street, Suite 303, Oakland, CA 94607
Karen Schreifels, Resna, 41674 Christy St., Fremont, CA 94538
Julie Carver, City of Oakland Environmental Program Supervisor, 1330 Broadway, Suite 1001, Oakland, CA 94612

Noted E. P. SO. JAN 30 1992

CITY OF OAKLAND

CITY HALL • ONE CITY HALL PLAZA, • OAKLAND, CALIFORNIA 94612
(415) 273-3601
TTY 839-6451

Office of the City Attorney
Jayne W. Williams
City Attorney

CALIFORNIA REGIONAL WATER
JAN 30 1992
QUALITY CONTROL BOARD

January 28, 1992

Paul M. Smith
Hazardous Materials Specialist
Alameda County Department of
Environmental Health
80 Swan Way, Room 210
Oakland, CA 94621

Re: Pacific Renaissance Plaza, Franklin Street,
Oakland, CA 94612

01-1126

Dear Mr. Smith:

This letter will confirm my telephone conversation with you this morning regarding the discovery of two underground storage tanks beneath the sidewalk adjacent to the above-referenced project. I requested a thirty (30) day extension of time to respond to your letter dated January 13, 1992 directing the City and C & L Financial, Inc. to submit a work plan within 45 days of January 13. The reason for the requested extension of time is to allow the City and the developer of the above-named project to sort out their respective responsibilities related to the discovery and your January 13 letter.

You granted the City and the developer until March 17, 1992 to submit a work plan as stated in your January 13 letter.

Thank you for your cooperation and assistance.

Very truly yours,

JAYNE W. WILLIAMS,
City Attorney

By
DONNELL W. CHOY,
Assistant to the City Attorney

cc: Richard Hiett, SFRWQCG, 2101 Webster St., 4th Floor, Oakland, CA 94612

cc: (Cont.)

James Murad, Esq., Cooper, White & Cooper, 201 California Street, 12th Floor, San Francisco, CA 94101
Lambert Li, Vice President, C&L Financial, Inc., One Hallidie Plaza, Suite 828, San Francisco, CA 94102
Peter Chen, OEDE
David Leland, Harding Lawson Associates, 7655 Redwood Blvd., P.O. Box 578, Novato, CA 94948
Pat Collins, Advanced Resources i Construction Services, LTD, 1001 Broadway, Suite 288, Oakland, CA 94607
Joe Mazzetti, Perini Construction, 373 9th Street, Suite 303, Oakland, CA 94607
Karen Schreifels, Resna, 41674 Christy St., Fremont, CA 94538
Julie Carver, City of Oakland Environmental Program Supervisor, 1330 Broadway, Suite 1001, Oakland, CA 94612

Noted P. SO. FEB 3 1992

RESNA
Working to Restore Nature

41674 Christy Street
Fremont, California 94538
Phone: (510) 659-0404
FAX: (510) 651-4677

January 27, 1992

Mr. Paul Smith
Alameda County Health Care Services
80 Swan Way, Rm. 210
Oakland, CA 94621

RE: Remediation at Pacific Renaissance Plaza, Franklin Street, Oakland, CA 94612
RESNA job #35002454

01-1124

Dear Mr. Smith,

I am writing this letter report in response to your letter of January 13, 1992 regarding the above facility. As you are aware, while recently excavating in association with construction of the above facility, two underground storage tanks were discovered. On December 16, 1991, these tanks were removed. Soil samples were collected from beneath each tank. Sampling results indicated elevated levels of various hydrocarbon constituents including 53.0 ppm benzene. In your letter and in previous conversations, you expressed the concern that "the level of benzene reported in the initial soil samples presents a possible exposure issue to workers and the general public" and requested that definitive readings be obtained for benzene encountered within the excavated area in the location of the former underground tanks.

As a result, RESNA was contracted to perform air monitoring in the excavation. On January 3, 1992, Robin Sutherland, a RESNA sampling technician, used a tether to lower a vacuum air sampling pump with a charcoal sorbent tube into the pit. As shown in the attached figure, the pump was positioned approximately 20 feet down from the edge of the excavation and approximately 5 feet from the floor of the pit beneath the former location of one of the underground storage tanks. The location was selected to be within the breathing zone of any workers who would be required to work within the excavation. The pump was run for a total of 6 hours and twenty minutes.

As a quality control measure, a "background" sample was also sent to the laboratory. The background sample consisted of another charcoal sorbent tube placed in a vacuum air sampling pump located well away from the excavation in ambient air. This pump was also run for 6 hours and twenty minutes.

At the end of the sampling period, the sorbent tubes were capped, labeled, put in a plastic zip lock bag, placed in an ice chest filled with ice to minimize volatilization of gases, and sent by overnight mail to D&M Laboratories in Petaluma, California. The samples were analyzed by NIOSH method 1501 for benzene. Neither sample was found to contain

detectable levels of benzene. A copy of the chain of custody and analytical results are attached.

Based on the sample results, it appears that respiratory protection will not be necessary to protect workers against benzene in the excavation. If you have any further questions, feel free to contact me at (510) 659-0404.

Sincerely,

Karin K. Schreifels
Environmental Analyst

cc: Richard Hiett, SFRWQCB, 2101 Webster St., 4th Floor, Oakland, CA 94612
Peter Chen, Redevelopment Agency City of Oakland, 1333 Broadway, 9th Floor, Oakland, CA 94612
David Leland, Harding Lawson Associates, 7655 Redwood Blvd., P.O. Box 578, Novato, CA 94948
Pat Collins, Advanced Resources in Construction Services LTD, 1001 Broadway, Suite 288, Oakland, CA 94607
Joe Mazzetti, Perini Construction, 373 9th Street, Suite 303, Oakland, CA 94607
Jerry Ford, Perini Construction, 373 9th Street, Suite 303, Oakland, CA 94607

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

RAFAT A. SHAHID, Assistant Agency Director

01-1126

DEPARTMENT OF ENVIRONMENTAL HEALTH
80 Swan Way, Rm. 210
Oakland, CA 94621
(415) 271-4300

JAN 14 1992

January 13, 1992

Henry L. Gardiner
Oakland City Manager
One City Hall Plaza, Rm. 318
Oakland, CA 94612

Michael Chan
C&L Financial, Inc.
One Hallidie Plaza, Suite 828
San Francisco, CA 94102

PRP site
UST

Re: Remediation at Pacific Renaissance Plaza, Franklin Street, Oakland CA 94612

Dear Mr. Gardiner and Mr. Chan:

As you are aware, while recently excavating in association with the construction of the above facility two underground storage tanks (usts) were discovered recently. On December 16, 1991 these tanks were removed. Soil samples were collected from beneath each tank. Sampling results indicated Total Petroleum Hydrocarbon as gasoline (TPHg) as high as 19,000 ppm, Total Petroleum Hydrocarbon as diesel (TPHd) as high as 4,100 ppm, benzene contamination as high as 53.0 ppm, napthalene as high as 6.4 ppm. tricholoethane as high as 28 ppb and trichloroethene as high as 50 ppb.

In a meeting which occurred with David Leland of Harding Lawson, Pat Collins of Advanced Resources in Construction Services LTD, Michael Chan with Pacific Renaissance and Associates, Rich Hiett of the San Francisco Regional Water Quality Control Board and myself the need for additional remediation work and concerns regarding worker Health and Safety were expressed by Rich Hiett and myself.

Based upon the analytical results reported above you are required to address the following issues:

1) The level of benzene reported in the initial soil samples presents a possible exposure issue to workers and the general public. You are required to ascertain definitive readings for benzene encountered within the excavated area in the location of the former underground tanks. Because workers will be working within the excavated area to install and service ventilation ducting at some regular frequency, if exposure levels are exceeded, you are required to alert all present and future workers of the exposure issue and take all necessary preventative measures regarding worker safety when entering this area.

2) Regarding the soil contamination encountered when collecting confirmation samples of the over excavated area you are required to analyze for <u>all</u> of the above constituents found when the initial tank samples were collected.

3) **You are required to submit a work plan to this office within 45 days outlining proposed measures to define the lateral and vertical extent of the soil contamination and to investigate whether groundwater has been impacted.**

As per the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Storage Tank Sites, August 1990, you are required to install a groundwater monitoring well within 10 feet in the verified down gradient direction of the contaminated area.

Should you have any questions regarding any of the above issues please feel free to contact me at 510/ 271-4320.

Sincerely,

Paul M. Smith
Hazardous Materials Specialist

cc:
Richard Hiett, SFRWQCB, 2101 Webster St., 4th Floor, Oakland, CA 94612
Peter Chen, Redevelopment Agency City of Oakland, 1333 Broadway, 9th Floor, Oakland, CA 94612
David Leland, Harding Lawson Associates, 7655 Redwood Blvd., P.O. Box 578, Novato, CA 94948
Pat Collins, Advanced Resources in Construction Services LTD, 1001 Broadway, Suite 288, Oakland, CA 94607
Joe Mazzetti, Perini Construction, 373 9th St., Suite 303, Oakland, CA 94607
Karen Schreifels, Resna, 41674 Christy St., Fremont, CA 94538

PACIFIC RENAISSANCE
9th ST & WEBSTER

EXISTING/FILE
UST
#01-1126

ENVIRONMENTAL AND INDUSTRIAL HYGIENE SERVICES

3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

Karin Schreifels
Resna/Exceltech
41674 Christy St.
Fremont, CA 94538

Client Code: RESNA2
Contract/PO # 25481
Survey # PERINI CONSTR.
Project/Release # 3-50024-54

L A B O R A T O R Y R E S U L T S

Laboratory Job No.: 920021
Date Collected: 01/03/91
Date Received: 01/06/92
Date Analyzed: 01/06/92
Date Reported: 01/08/92

ASSAY: BENZENE (NIOSH 1501)
MATRIX: CCT

LABNO	SMPLNO-ID	AIR(L)	FRONT(mg)	BACK(mg)	TOTAL(mg)	mg/m3	PPM
147	AS-1						
	BENZENE	8.17	<0.0032	<0.0032	<0.0032	<0.39	<0.12
148	AS-2						
	BENZENE	7.98	<0.0032	<0.0032	<0.0032	<0.40	<0.13

THIS REPORT HAS BEEN REVIEWED
AND APPROVED FOR RELEASE.

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME	TEST REQUESTED	P.O. #
350024-54	Perini Construction	NIOSH 1501 Benzene	LAB
SAMPLERS (Signature)	[signature]		TURN AROUND TIME

NO.	DATE	TIME	SAMPLE DESCRIPTION	NIOSH 1501 Benzene						REMARKS
AS-1	1-3-92	14:00	Charcoal sorbent Tube 1	X						Pump#2: 6hr 20min @ 21.5 ml/min
AS-2	"	"	" " " 2	X						Blank: 6hrs 20min @ 21.0 ml/min

92 JAN -6 AM 9:19

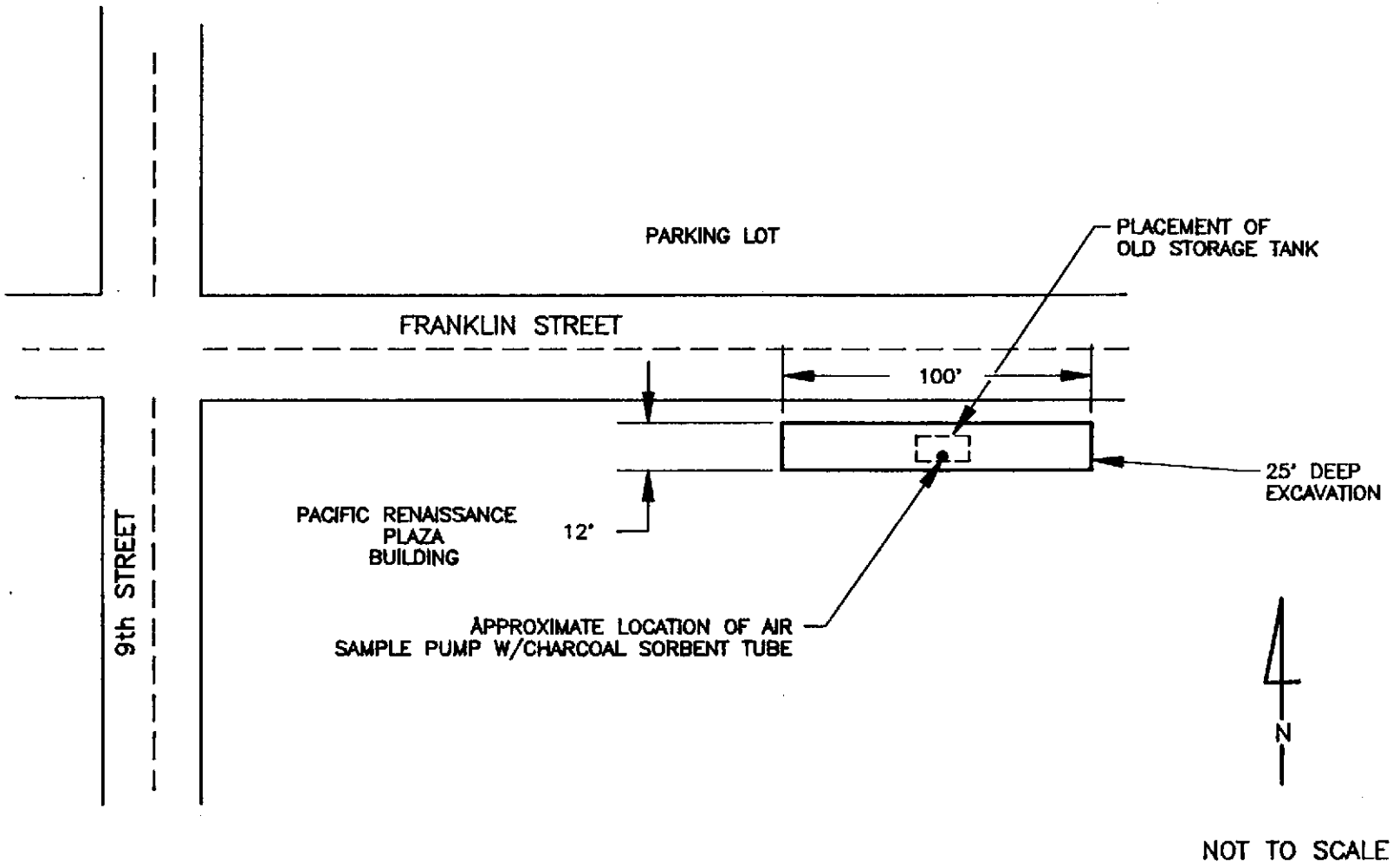
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
[signature]	1/3/92	2:50pm	Karin K. Schreifels				P. Girardi
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:

REMARKS:

REPORT TO: Karin Schreifels

EXCELTECH
41674 Christy Street
Fremont, C.A. 94538-3114
(415) 659-0404
Fax (415) 651-4677
Contr. Lic. No. 550205

FORM DATED 3-27-90



REVIEWED BY:	**AIR SAMPLING LOCATION**		
	PERINI CONSTRUCTION		
APPROVED BY:	FRANKLIN AND 9th STREETS	JOB #: 350024--54	DRAWN BY: J.D.S.
	OAKLAND, CALIFORNIA	DATE: 1/28/92	DRAWING #: FIG. 1

Case # 01-1126

Noted E. P. SO. DEC 27 1991

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☒ NO

HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED ? ☐ YES ☒ NO

REPORT DATE 12/24/91

CASE #

FOR LOCAL AGENCY USE ONLY
I HEREBY CERTIFY THAT I HAVE DISTRIBUTED THIS INFORMATION ACCORDING TO THE DISTRIBUTION SHOWN ON THE INSTRUCTION SHEET ON THE BACK PAGE OF THIS FORM.
SIGNED Paul M. Smith DATE

RECEIVED DEC 27 1991 QUALITY CONTROL BOARD

REPORTED BY

NAME OF INDIVIDUAL FILING REPORT: Paul Smith
PHONE: (510) 271-4320
SIGNATURE: Paul M. Smith
REPRESENTING ☐ OWNER/OPERATOR ☐ REGIONAL BOARD ☒ LOCAL AGENCY ☐ OTHER
COMPANY OR AGENCY NAME: Alameda Co. Env. Health, Haz. Mat. Div.
ADDRESS: 80 Swan Way STREET Rm. 200 CITY Oakland STATE CA ZIP 94621

RESPONSIBLE PARTY

NAME: City of Oakland ☐ UNKNOWN
CONTACT PERSON: Henry Gardiner
PHONE: ( )
ADDRESS: 1 City Hall Plaza STREET CITY Oakland STATE CA ZIP 94612

SITE LOCATION

FACILITY NAME (IF APPLICABLE): Pacific Renaissance Plaza
OPERATOR:
PHONE: ( )
ADDRESS: Corner of Former 10th & Franklin Streets STREET CITY Oakland COUNTY Alameda ZIP 94612
CROSS STREET: 10th & Franklin

IMPLEMENTING AGENCIES

LOCAL AGENCY AGENCY NAME: Alameda Co. Env. Health, Haz Mat Div
CONTACT PERSON: Paul M. Smith
PHONE: (510) 271-4320
REGIONAL BOARD: ~~Rich Hiett~~ San Francisco Regional Water Quality Control Board
CONTACT PERSON: Rich Hiett
PHONE: (510)

SUBSTANCES INVOLVED

(1) NAME: 2 approx 750 gal USTs removed 12/16/91 QUANTITY LOST (GALLONS): ☒ UNKNOWN
(2) ☐ UNKNOWN

DISCOVERY/ABATEMENT

DATE DISCOVERED: 12/16/91
HOW DISCOVERED ☐ TANK TEST ☐ INVENTORY CONTROL ☐ TANK REMOVAL ☐ SUBSURFACE MONITORING ☐ OTHER Sampling beneath both tanks ☐ NUISANCE CONDITIONS
DATE DISCHARGE BEGAN ☒ UNKNOWN
HAS DISCHARGE BEEN STOPPED ? ☒ YES ☐ NO IF YES, DATE
METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY)
☐ REMOVE CONTENTS ☒ CLOSE TANK & REMOVE ☐ REPAIR PIPING
☐ REPAIR TANK ☐ CLOSE TANK & FILL IN PLACE ☐ CHANGE PROCEDURE
☐ REPLACE TANK ☐ OTHER

SOURCE/CAUSE

SOURCE OF DISCHARGE: ☐ TANK LEAK ☒ UNKNOWN ☐ PIPING LEAK ☐ OTHER
CAUSE(S): ☐ OVERFILL ☐ RUPTURE/FAILURE ☐ SPILL ☐ CORROSION ☒ UNKNOWN ☐ OTHER

CASE TYPE

CHECK ONE ONLY
☒ UNDETERMINED ☐ SOIL ONLY ☐ GROUNDWATER ☐ DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS

CHECK ONE ONLY
☐ NO ACTION TAKEN ☐ PRELIMINARY SITE ASSESSMENT WORKPLAN SUBMITTED ☒ POLLUTION CHARACTERIZATION
☐ LEAK BEING CONFIRMED ☐ PRELIMINARY SITE ASSESSMENT UNDERWAY ☐ POST CLEANUP MONITORING IN PROGRESS
☐ REMEDIATION PLAN ☐ CASE CLOSED (CLEANUP COMPLETED OR UNNECESSARY) ☐ CLEANUP UNDERWAY

REMEDIAL ACTION

CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
☐ CAP SITE (CD) ☐ CONTAINMENT BARRIER (CB) ☐ VACUUM EXTRACT (VE)
☐ EXCAVATE & DISPOSE (ED) ☐ EXCAVATE & TREAT (ET) ☐ NO ACTION REQUIRED (NA) ☐ OTHER (OT)
☐ REMOVE FREE PRODUCT (FP) ☐ PUMP & TREAT GROUNDWATER (GT) ☐ TREATMENT AT HOOKUP (HU)
☐ ENHANCED BIO DEGRADATION (IT) ☐ REPLACE SUPPLY (RS) ☐ VENT SOIL (VS)

COMMENTS

laboratory results of samples collected on 12/16/91 revealed soil contamination as high as 19,000 ppm TPHg, 4,100 ppm ~~benzene~~ TPHd and 53,000 ppb benzene

HSC 05 (8/90)

INSTRUCTIONS

EMERGENCY
Indicate whether emergency response personnel and equipment were involved at any time. If so, a Hazardous Material Incident Report should be filed with the State Office of Emergency Services (OES) at 2800 Meadowview Road, Sacramento, CA 95832. Copies of the OES report form may be obtained at your local underground storage tank permitting agency. Indicate whether the OES report has been filed as of the date of this report.

LOCAL AGENCY ONLY
To avoid duplicate notification pursuant to Health and Safety code Section 25180.5, a government employee should sign and date the form in this block. A signature here does not mean that the leak has been determined to pose a significant threat to human health or safety, only that notification procedures have been followed if required.

REPORTED BY
Enter your name, telephone number, and address. Indicate which party you represent and provide company or agency name.

RESPONSIBLE PARTY
Enter name, telephone number, contact person, and address of the party responsible for the leak. The responsible party would normally be the tank owner.

SITE LOCATION
Enter information regarding the tank facility. At a minimum, you must provide the facility name and full address.

IMPLEMENTING AGENCIES
Enter names of the local agency and Regional Water Quality Control Board involved.

SUBSTANCES INVOLVED
Enter the name and quantity lost of the hazardous substance involved. Room is provided for information on two substances if appropriate. If more than two substances leaked, list the two of most concern for cleanup.

DISCOVERY/ABATEMENT
Provide information regarding the discovery and abatement of the leak.

SOURCE/CAUSE
Indicate source(s) of leak. Check box(es) indicating cause of leak.

CASE TYPE
Indicate the case type category for this leak. Check one box only. Case type is based on the most sensitive resource affected. For example, if both soil and ground water have been affected, case type will be "Ground Water". Indicate "Drinking Water" only if one or more municipal or domestic water wells have actually been affected. A "Ground Water" designation does not imply that the affected water cannot be, or is not, used for drinking water, but only that water wells have not yet been affected. It is understood that case type may change upon further investigation.

CURRENT STATUS
Indicate the category which best describes the current status of the case. Check one box only. The response should be relative to the case type. For example, if case type is "Ground Water", then "Current Status" should refer to the status of the ground water investigation or cleanup, as opposed to that of soil. Descriptions of options follow:

No Action Taken - No action has been taken by responsible party beyond initial report of leak.
Leak Being Confirmed - Leak suspected at site, but has not been confirmed.
Preliminary Site Assessment Workplan Submitted - workplan/proposal requested of/submitted by responsible party to determine whether ground water has been, or will be, impacted as a result of the release.
Preliminary Site Assessment Underway - implementation of workplan.
Pollution Characterization - responsible party is in the process of fully defining the extent of contamination in soil and ground water and assessing impacts on surface and/or ground water.
Remediation Plan - remediation plan submitted evaluating long term remediation options. Proposal and implementation schedule for appropriate remediation options also submitted.
Cleanup Underway - implementation of remediation plan.
Post Cleanup Monitoring in Progress - periodic ground water or other monitoring at site, as necessary, to verify and/or evaluate effectiveness of remedial activities.
Case Closed - regional board and local agency in concurrence that no further work is necessary at the site.

IMPORTANT: THE INFORMATION PROVIDED ON THIS FORM IS INTENDED FOR GENERAL STATISTICAL PURPOSES ONLY AND IS NOT TO BE CONSTRUED AS REPRESENTING THE OFFICIAL POSITION OF ANY GOVERNMENTAL AGENCY

REMEDIAL ACTION
Indicate which action have been used to cleanup or remediate the leak. Descriptions of options follow:

Cap Site - install horizontal impermeable layer to reduce rainfall infiltration.
Containment Barrier - install vertical dike to block horizontal movement of contaminant.
Excavate and Dispose - remove contaminated soil and dispose in approved site.
Excavate and Treat - remove contaminated soil and treat (includes spreading or land farming).
Remove Free Product - remove floating product from water table.
Pump and Treat Groundwater - generally employed to remove dissolved contaminants.
Enhanced Biodegradation - use of any available technology to promote bacterial decomposition of contaminants.
Replace Supply - provide alternative water supply to affected parties.
Treatment at Hookup - install water treatment devices at each dwelling or other place of use.
Vacuum Extract - use pumps or blowers to draw air through soil.
Vent Soil - bore holes in soil to allow volatilization of contaminants.
No Action Required - incident is minor, requiring no remedial action.

COMMENTS - Use this space to elaborate on any aspects of the incident.

SIGNATURE - Sign the form in the space provided.

DISTRIBUTION
If the form is completed by the tank owner or his agent, retain the last copy and forward the remaining copies intact to your local tank permitting agency for distribution.
1. Original - Local Tank Permitting Agency
2. State Water Resources Control Board, Division of Clean Water Programs, Underground Storage Tank Program, P.O. Box 944212, Sacramento, CA 94244-2120
3. Regional Water Quality Control Board
4. Local Health Officer and County Board of Supervisors or their designee to receive Proposition 65 notifications.
5. Owner/responsible party.

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 415/271-4320

Project Specialist (print) Paul M. Smith 12/12/91

ACCEPTED

DEPARTMENT OF ENVIRONMENTAL HEALTH
470 - 27th Street, Third Floor
Oakland, CA 94612
Telephone: (415) 874-7237

These plans have been reviewed and found to be acceptable and essentially meet the requirements of State and local health laws. Changes to your plans indicated by this Department are to assure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction.

One copy of these accepted plans must be on the job site and available to all contractors and craftsmen involved with the removal.

Any change or alterations of these plans and specifications must be submitted to this Department and to the Fire and Building Inspection Department to determine if such changes meet the requirements of State and local laws. Notify this Department at least 48 hours prior to the following required inspections:

X Removal of Tank and Piping
X Sampling
Final Inspection

Issuance of a permit to operate is dependent on compliance with accepted plans and all applicable laws and regulations.

THERE IS A FINANCIAL PENALTY FOR NOT OBTAINING THESE INSPECTIONS.

UNDERGROUND TANK CLOSURE PLAN
*** * * Complete according to attached instructions * * ***

1. Business Name PACIFIC RENAISSANCE PLAZA
   Business Owner PACIFIC RENAISSANCE
2. Site Address 1000 Franklyn ST.
   City OAKLAND Zip 94607 Phone 510-452-9201 (ART COLLINS)
3. Mailing Address #1 HALLIDIE PLAZA
   City SAN FRANCISCO Zip 94102 Phone 510/452-9201
4. Land Owner City of OAKLAND (HENRY GARDNER) 510-238-3302
   Address 475 14th St City, State OAKLAND Zip 94607
5. Generator name under which tank will be manifested
   City of OAKLAND
   EPA I.D. No. under which tank will be manifested CAC 000701800

rev 12/90

6. Contractor DEES EXCAVATION

Address 3045 LEAFWOOD CIR.

City ANTIOCH, CA. Phone 510-757-7712

License Type A with Haz. Sub. Removal ID# 613027

7. Consultant HARDING LAWSON & ASSOCIATES

Address P.O. BOX 578

City NOVATO, CA. 94948 Phone 415-892-0821

8. Contact Person for Investigation

Name MIKE SIEMBIEDA Title PROJ. GEOLOGIST

Phone 415-892-0821

9. Number of tanks being closed under this plan 1

Length of piping being removed under this plan 0

Total number of tanks at facility 1

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

** Underground tanks are hazardous waste and must be handled ** as hazardous waste

a) Product/Residual Sludge/Rinsate Transporter

Name H&H ENVIRONMENTAL EPA I.D. No. CAD004771168

Hauler License No. 0334 License Exp. Date 1-31-92

Address 220 CHINA BASIN.

City SAN FRANCISCO State CA Zip 94107

b) Product/Residual Sludge/Rinsate Disposal Site

Name H&H ENVIRONMENTAL EPA I.D. No. CAD004771168

Address 220 CHINA BASIN.

City SAN FRANCISCO State CA Zip 94107

c) Tank and Piping Transporter

Name H&H Environmental EPA I.D. No. CAD 004771168

Hauler License No. 0334 License Exp. Date 1-31-92

Address 220 China Basin

City San Francisco State CA. Zip 94107

d) Tank and Piping Disposal Site

Name H&H Environmental EPA I.D. No. CAD004771168

Address 220 China Basin

City San Francisco State CA Zip 94107

11. Experienced Sample Collector

Name David Whelan

Company Harding Lawson & Associates

Address P.O. Box 578

City Novato State CA Zip 94948 Phone 415 892-0321

12. Laboratory

Name NET

Address 435 Tesconi Cir.

City Santa Rosa State CA. Zip 95401

State Certification No. 178

13. Have tanks or pipes leaked in the past? Yes [ ] No [X]

If yes, describe. _____

14. Describe methods to be used for rendering tank inert

TANK IS WET & DRY.
1000 LBS DRY ICE WILL BE INSERTED INTO TANK.
WHEN LEL METER IS BELOW 10, TANK WILL BE REMOVED

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be plugged.

The Bay Area Air Quality Management District (771-6000), along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of explosion proof combustible gas meters to verify tank inertness. **It is the contractor's responsibility to bring a working combustible gas meter on site to verify tank inertness.**

15. Tank History and Sampling Information

Tank		Material to be sampled (tank contents, soil, groundwater, etc.)	Location and Depth of Samples
Capacity	Use History (see instructions)		
1000 GAL	UNKNOWN TANK WAS FOUND WHEN EXCAVATING TO LAY CONDUIT. TESTING IN AREA SINCE 1988 SHOWS POSSIBLE FUEL OIL TANK.	SOIL BENEATH TANK	2 SAMPLES FROM EACH END OF TANK 1' BELOW TANKS

One soil sample must be collected for every 20 feet of piping that is removed. A ground water sample must be collected should any ground water be present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (Estimated)	Sampling Plan Composit Sample For Every ~~Five~~ 20 YARDS, if soil will be returned to excavation. IF Soil is to be hauled offsite sample minimum of 1/50yds from 4 samples ~~collected~~ composited into one in the lab.

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

16. Chemical methods and associated detection limits to be used for analyzing samples

    The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed. See attached Table 2.

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Method Number	Method Detection Limit
Waste and Used Oil or Unknown (All analyses must be completed and submitted)	TPH G TPH D TPH AND BTX&E 8260 O & G BTX&E CL HC	GCFID(5030) GCFID(3550) 5520 D & F 8020 or 8240 8010 or 8240	
	~~ICAP or AA TO DETECT METALS: Cd, Cr, Pb, Zn, Ni~~ METHOD 8270 FOR SOIL PCB* PCP* PNA CREOSOTE		

17. Submit Site Health and Safety Plan (See Instructions)

    Attached

rev 12/90

18. Submit Worker's Compensation Certificate copy

Name of Insurer STATE FUND # 1243740

19. Submit Plot Plan (See Instructions) Attached

20. Enclose Deposit (See Instructions)

21. **Report any leaks or contamination to this office within 5 days of discovery.** The report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report form. (see Instructions)

22. Submit a closure report to this office within 60 days of the tank removal. This report must contain all the information listed in item 22 of the instructions.

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true.

I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

Signature of Contractor

Name (please type) FRED R. BOURRET

Signature Fred R. Bourret

Date 12-16-91

Signature of Site Owner or Operator

Name (please type) PRA II, Permittee Under Oakland City Council Resolution No. 66671, Oct-17, 1989

Signature Michael Chan

Date 12-16-91

rev 12/90

HEALTH & SAFETY PLAN
SITE SPECIFIC

SITE NAME & ADDRESS:
Pacific Renaissance Plaza
1000 Franklin St.
Oakland, Ca. [illegible]

HEALTH & SAFETY OFFICER:
Craig Wright
Responsible for Implementation of Safety

PROJECT SUPERVISOR:
Cliff Dees
Responsible for Implementation of Safety and Health plan at the job site.

COMMUNICATIONS:
Portable telephone will be on site during working hours.
510-918-4284 or 510-918-44[illegible]

EMERGENCY TELE. NUMBER:
911
Fire Department, Ambulance, and Police.
Providence Hospital or Kaiser

HEALTH HAZARDS:

1. Hydrocarbon Vapors from fuel oil storage tank. (Possible waste oil). This can occur upon removal of the if it has leaked into the soil or is ruptured. (MSDS SHEETS ATTACHED). Effects are irritation to eyes, nose, and throat. Dizziness, and Difficulty in breathing.
2. Explosion:
   Tank will be rendered inert before final excavation and removal. Use LEL meter before removal.

PERSONAL PROTECTIVE EQUIPMENT:

Level D
- A. Coveralls (fire resistant)
- B. Boots: Shoes(Safety or Chemical resistant)
- C. Safety glasses or safety goggles
- D. Gloves
- E. 1/2 face air-purifying respirator with organic-cartridge to be kept on job site for possible use if the total vapor reading goes between 0 ppm and 5 ppm above background.

AIR MONITORING:
OVA/OVM For direct reading will be used to check excavation during project working hours for Hydrocarbons present. If levels go above 5 ppm work should cease until level goes down or move to

level C protection up to 100 ppm.

BASIC SAFETY:

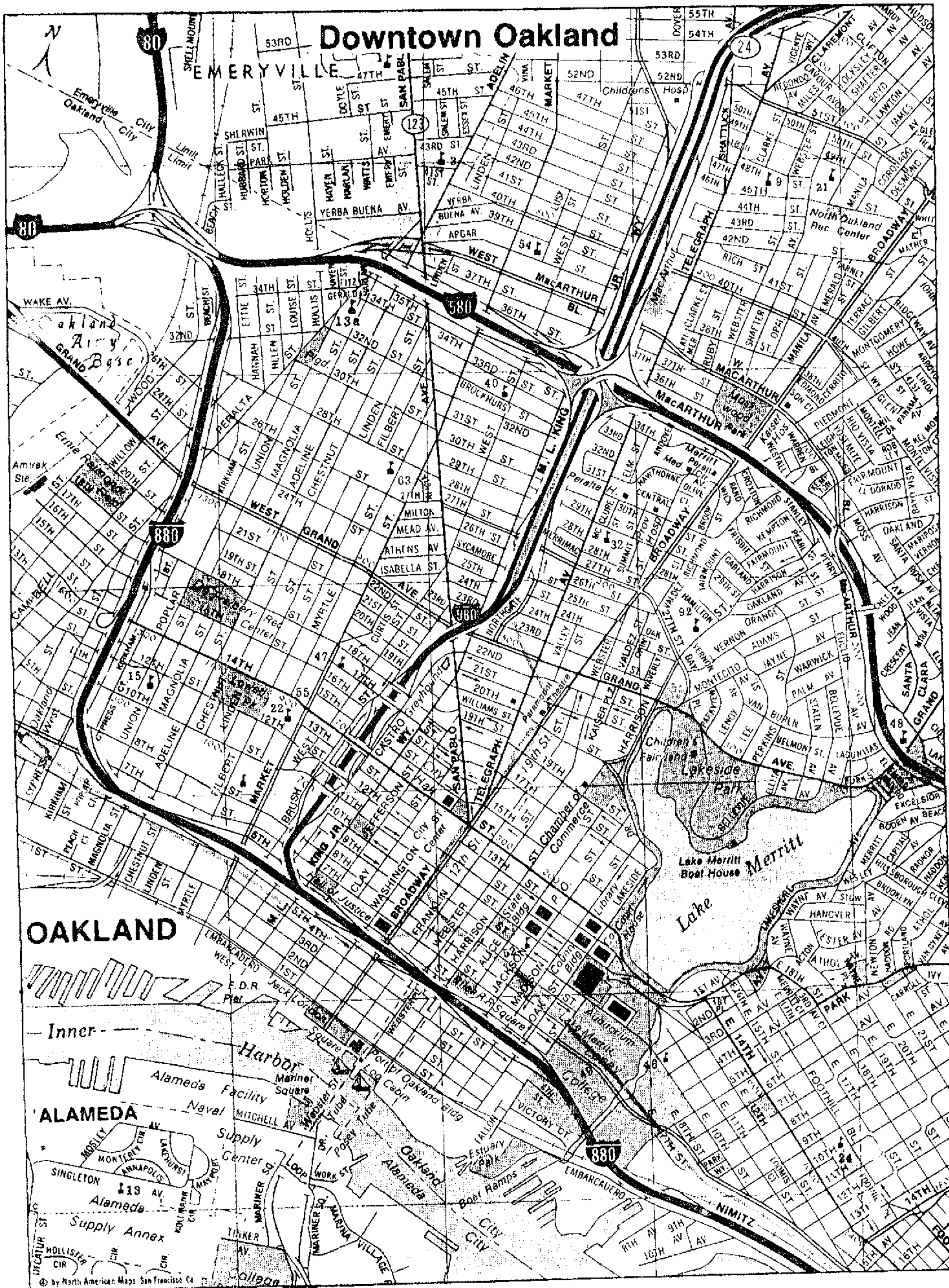
A. no eating, dr4inking, chewing gum, or tobacco, or taking medication is permitted in work area.
B. No smoking except in designed areas.
C. Wash race nd hands before eating, drinking or smoking.
D. Fire Extinguisher in work area shall be inspected daily before working.
E. All employees shall be clean shaven around the seal of a respirator.
F. Report any unusual physical symptoms to supervisor.

DECONTAMINATION:

A. Equipment will be wiped down with damp rags if contamination is found. Rags will be shipped with contaminated soil to disposal site.
b. personal protecrtive equipment will be cleaned or disposed of with waste to disposal site. This includes cartridges from respirator.

tAILGATE SAFETY MEETING:

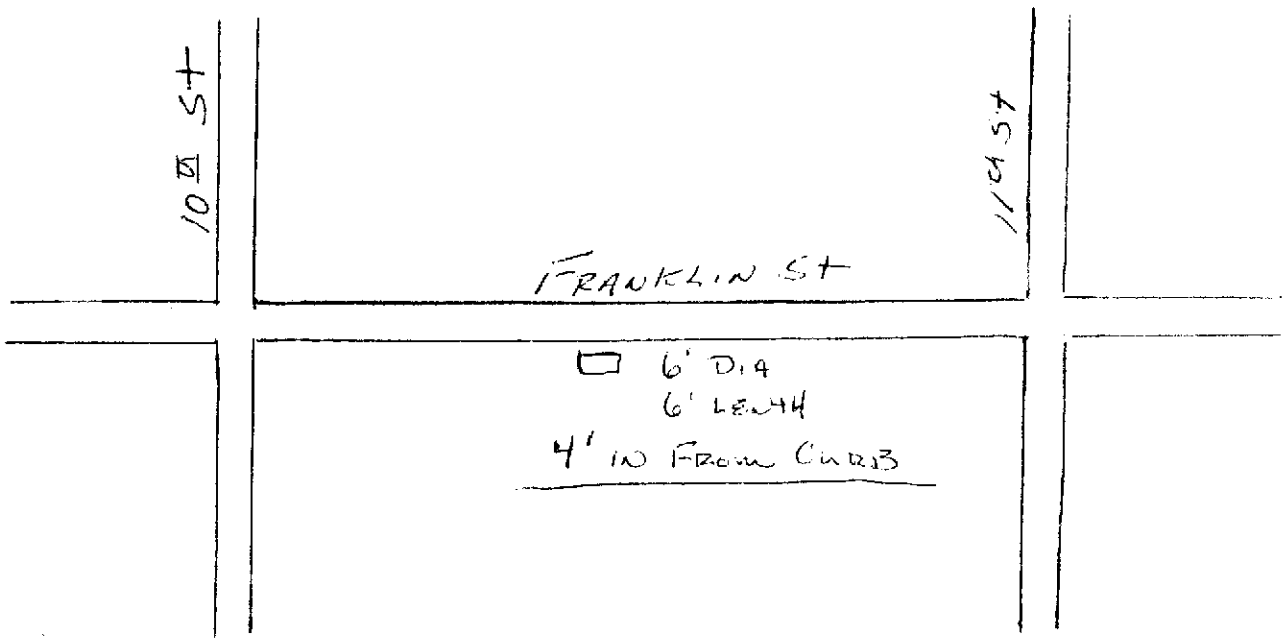
ALL PERSONNEL WILL READ THIS SAFETY PLAN AND SIGN IT PRIOR TO STARTING EACH DAY.

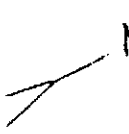

Downtown Oakland
EMERYVILLE
OAKLAND
ALAMEDA
Lake Merritt
Lakeside Park
Inner Harbor
Alameda Naval Supply Center
Alameda Supply Annex
Oakland Army Base
Estuary Park
Jack London Square
West Grand Ave.
MacArthur Bl.
Broadway
Telegraph
San Pablo
Nimitz
Embarcadero
© by North American Maps San Francisco Ca

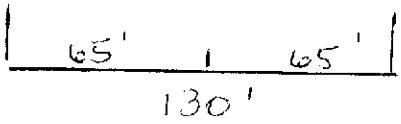
DEES
EXCAVATION
AN ENVIRONMENTAL COMPANY
3645 Leafwood Circle, Antioch, Ca. 94509
510-757-7712

TANK LOCATION

Tank is located on Franklin St. Exactly between 10th and 11th sts. It is directly Beneath where side walk existed next to street pavement.







Craig Wright

California State University, Sacramento
B.A. PreMed (Human Biology/Chemistry) 1975
Masters Physiology (Pathology/Toxicology) 1978
U.C. Davis, Certificate Hazardous Materials Management 1987
California Registered Environmental Assessor, #00554

Craig Wright has 15 years experience in Chemistry, Toxicology, Hazardous Materials Management and Consulting. His experience includes overall planning, compilation and management of all aspects in the environmental spectrum. His specialties include Regulatory Compliance Consultation, Appraisal and Assessments and Technical Instruction in Hazardous Materials (HAZMAT) handling.

- Mr. Wright compiled and presently instructs 40 hour classes to meet 29 CFR 1910.120 (OSHA)
- Mr. Wright has currently written a Waste Management Plan for the U.S. Navy Remedial Investigation/Feasibility Study.
- Mr. Wright is responsible for writing an Operations Plan for Mendocino County DHS pesticide remediation.
- Mr. Wright has performed Assessments and wrote Operational Remediation Plans in San Joaquin, Solano, Sacramento and Sonoma Counties.
- Mr. Wright was involved with operations management of 35-45 chemists at a DHS certified laboratory on California Class I TSDF. He was responsible for Hazardous Waste Analyses classifications for 3000+ industrial waste streams (NPDES Discharge Parameters thru Extremely Hazardous Toxicants).
- Mr. Wright was chemical addition treatability supervisor. He was directly responsible for the total peroxidation of reactives, phenolics, amenable pesticides: precipitation and extraction of restricted metals: Acid/Base neutralization; and Incinerator POHG compliance.
- Mr. Wright, as a Regulations Specialist, was responsible for interaction with Agency representatives; EPA, DHS, RWQCB, ARQCB, etc. for client and corporate mitigation. He handled Part B permit applications and innovative technology (TTU) permit applications.
- Mr. Wright, as an Analytical Chemist, has full knowledge of Wet, Organic and Inorganic methodologies according to Water/Wastewater Standard Methods and EPA (SW846) solid waste methods.
- Mr. Wright was Executive and Technical Recruiter, developing and marketing Industry/Client Interactions specializing in Aerospace composite materials engineering and Environmental Remediation Engineering firms.

State of California

Contractors State License Board

Pursuant to Chapter 9 of Division 3 of the Business and Professions Code
and the Rules and Regulations of the Contractors State License Board,
the Registrar of Contractors does hereby issue this license to:

DEES EXCAVATION

to engage in the business or act in the capacity of a contractor
in the following classification(s):

A - General Engineering Contractor
HAZ - Hazardous Substances Removal

DEPARTMENT OF Consumer Affairs

Witness my hand and seal this day,

March 14, 1991

Issued February 19, 1991

Signature of Licensee

Signature of License Qualifier

David R Phillips

Registrar of Contractors

613027

License Number

This license is the property of the Registrar of Contractors, is not transferrable, and shall be returned to the Registrar upon demand when suspended, revoked, or invalidated for any reason. It becomes void if not renewed.

13L-24 (REV. 1-89)

№ 287528

STATE OF CALIFORNIA
STATE AND CONSUMER SERVICES AGENCY
DEPARTMENT OF Consumer Affairs

CONTRACTORS STATE LICENSE BOARD

Building Quality

HAZARDOUS SUBSTANCES REMOVAL AND REMEDIAL ACTIONS CERTIFICATION

Pursuant to the provisions of Section 7058.7 of the Business and Professions Code, the Registrar of Contractors does hereby certify that the following qualifying person has successfully completed the hazardous substances removal and remedial actions examination.

DEPARTMENT OF CONSUMER AFFAIRS
REGISTRAR OF CONTRACTORS
STATE OF CALIFORNIA

Qualifier: CLIFTON H. DEES

License No.: 613027

Namestyle: DEES EXCAVATION

WITNESS *my hand and official seal this*
19TH *day of* FEBRUARY, 1991

Registrar of Contractors

13L-36 (7-88)

This certification is the property of the Registrar of Contractors, is not transferable, and shall be returned to the Registrar upon demand when suspended, revoked, or invalidated for any reason.

A3777

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF HEALTH SERVICES
TOXIC SUBSTANCES CONTROL DIVISION
5850 SHELL MOUND STREET
EMERYVILLE, CA 94608

June 17, 1988

CERTIFIED MAIL

H&H Ship Service
220 China Basin
San Francisco, CA 94107

EPA ID No. CAD004771168

Dear Sir:

This is to confirm that H&H Ship Service now has an Interim Status Document, CAD004771168, to receive, store, treat, and recycle used and unused petroleum products, bilge water, and underground tanks.

Very Truly Yours,

D. S. Krause

Douglas S. Krause, C.I.H., Chief
Surveillance and Enforcement Unit
North Coast California Section
Toxic Substances Control Division

Cert. Mail No. P692236678

DK:ch

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
NON-TRANSFERABLE LICENSE

LICENSE NUMBER	ISSUE DATE	EFFECTIVE DATE	EXPIRATION DATE
44817	4/16/91	----------	4/30/92

CHP CARRIER NUMBER	LOCATION		
CA- 457		☐ Initial	XXX Renewal

LICENSEE NAME AND ADDRESS (ONLY IF DIFFERENT FROM BELOW)

The person or firm named has been licensed pursuant to the California Vehicle Code for:

OPERATION OF:

☐ Emergency Ambulances ☐ Armored Cars ☐ (IMS) Inspection and Maintenance Station

HAZARDOUS MATERIALS TRANSPORTATION

☐ (HMX) Explosives subject to Division 14, Vehicle Code, Materials subject to Section 31302, Vehicle Code, and other hazardous materials

XXX (HMO) Other Hazardous Materials.

☐ (HMW) Hazardous materials in certified waste hauler vehicles only (fee exempt); registration number:

☐

LICENSEE NAME AND MAILING ADDRESS

88477

H & H Ship Service Company, Inc.
220 China Basin Street
San Francisco, CA 94107

360 (Rev 4-86) OPI 061

88 85060

NOTICE

This license must be duplicated and carried in each vehicle transporting hazardous materials (Title 13, California Code of Regulations, Section 1160.4(g)(2): The original valid license shall be kept at the licensee's place of business as indicated on the license and a legible copy shall be carried in any vehicle or combination of vehicles transporting hazardous materials and shall be presented to any traffic officer upon request.)

066-13 (1/91)

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY Pete Wilson, Governor

DEPARTMENT OF HEALTH SERVICES
714/744 P STREET
P.O. BOX 942732
SACRAMENTO, CA 94234-7320

(916) 324-2430

*** HAZARDOUS WASTE HAULER REGISTRATION ***

NAME AND ADDRESS OF REGISTERED HAULER:

H & H Ship Service Company
220 China Basin Street
San Francisco, CA 94107

HAULER REGISTRATION NO: 0334

EXPIRATION DATE: January 31, 1992

THIS IS TO CERTIFY THAT THE FIRM NAMED ABOVE IS DULY REGISTERED TO HAUL HAZARDOUS WASTE IN THE STATE OF CALIFORNIA IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 6.5, DIVISION 20 OF THE HEALTH AND SAFETY CODE AND CHAPTER 30, DIVISION 4, TITLE 22 OF THE CALIFORNIA CODE OF REGULATIONS.

THIS REGISTRATION CERTIFICATE MUST BE USED IN CONJUNCTION WITH VEHICLES AND/OR CONTAINERS WHICH HAVE BEEN CERTIFIED PURSUANT TO SECTION 25169.1, HEALTH AND SAFETY CODE, OR A VARIANCE ISSUED BY THE DEPARTMENT OF HEALTH SERVICES FOR HIGHWAY TRANSPORT WITH THE EXCEPTIONS OF TRANSPORT SOLELY BY WATER, RAIL OR AIR.

THIS REGISTRATION CERTIFICATE MUST BE CARRIED IN THE VEHICLE USED TO TRANSPORT HAZARDOUS WASTE.

Lloyd A. Bethune
(AUTHORIZED SIGNATURE)

JAN 17 1991
(Date)

DEES
EXCAVATION
AN ENVIROMENTAL COMPANY
3645 Leafwood Circle, Antioch, Ca. 94509
415-757-7712

APRIL 12, 1991

Subject: Medical Fitness
Employee training 29 CFR 1910.

TRAINING

All personnel that will be assigned or work on this project have received the required 40 hour OSHA trainig and the 8 hour refresher training if their training was more than a year ago. In addition all drivers have received their 24 hour DOT training. This includes all subcontractors who will work on this project, KVS transportation, Erickson Trucking, and Craig Wright who presently instructs the course. Under no circumstance will any person work on this project who has not received this training.

MEDICAL

All personnel for Dees Excavation, KVS transportation, and Erickson trucking have received thier pre-placement as well as their annual examinations and meet all requirements as well as all recommentdations for occupational health monitoring. This also includes drug screening.

(23) EVALUATION CRITERIA FOR PRE-EMPLOYMENT EXAM

1. Experience In Providing Pre-employment Screening.

A. History and Scope

Occupational Medicine Associates, which is a DBA for the occupational medicine practice component of the Sun Valley Medical Group, has extensive experience in the provision of pre-employment screening. We also have broad-based experience in developing, implementing and monitoring pre-placement screening programs as well as Functional Capacity Assessment and Return to Work programs for both small and large clients.

We provide a variety of pre-placement screening evaluations for our clients based upon their needs. This often requires us to perform several types of physicals for a single client based upon different job categorizations and tasks. Our experience has shown us that the best possible pre-placement screening can be performed when our clients and the providers of our medical group have a clear, concise, mutual understanding of specific job task requirements for each category of employee.

We conduct screening programs in a manner that complies with legal, ethical, invasion of privacy and medical considerations. These include Title VII of Civil Rights Act of 1964, applicable state laws, the Federal Rehabilitation Act of 1973 and the recently enacted Americans With Disabilities Act.

B. Provider Expertise

Our primary providers have been specifically designated by a number of entities who only utilize select, experienced providers and clinics to provide their screening evaluations. This list includes:

Lucky Stores
United States Postal Service
Federal Aviation Administration
California Highway Patrol
Department of Rehabilitation
San Francisco Board of Pilots
U.S. Nuclear Regulatory Commission
OCCUMED
City of Moraga
City of Pleasant Hill
City of Walnut Creek

These relationships require Occupational Medicine Associates and its primary providers to be experienced in providing screening in a tightly structured and controlled system that follows specific medical qualifications, standards, and procedures to ensure fair and consistent application of the program.

As noted above, we are providers to the highly structured OCCUMED medical screening program. We are the only East Bay providers for the San Francisco Board of Pilots detailed medical program. We are one of the highest volume providers of medical screening for the FAA in the East Bay. Additionally, we are one of only a few designated non-FAA employed physicians to provide pre-placement and annual medical screening for Air Traffic Controllers. We do extensive work for the Department of Transportation and interpret their Motor Carrier Safety Regulations. We are familiar with the federal government's extensive interpretations of these regulations and utilize them as well as our own internal network of physicians and the Oakland, Concord and Sacramento offices of the Department of Motor Vehicles Driver Safety Divisions. We have frequently participated in the exacting process of determining fitness under these regulations as a part of the DMV appeal process initiated after an employer has reported a disqualified driver to the DMV as required by California Vehicle Code 14606 B.

C. <u>Special Projects Expertise</u>

Occupational Medicine Associates and Dr. Shoop have developed a pre-placement medical evaluation program that is very similar to the medical evaluation requirements of Alameda County's Class II medical evaluations. This project requires administrating up to 8,000 pre-placement evaluations annually throughout Northern California. The program has included providing over 100 physical evaluations per month at our San Leandro clinic. We have identified more than twenty other medical providers throughout Northern California to include in the program based upon their experience and ability to provide appropriate medical screening in a timely manner. The project is administered and controlled from our San Leandro clinic. The two physicians are the program Medical Review Officers and review every physical evaluations performed for thoroughness, completeness and appropriateness of the fitness

determination and are responsible for the medical quality of the project.

D. Systems Development

The project described above required us to develop systems, protocols and quality assurance systems to handle a high volume of pre-placement screens with two days' notice of the needed appointment as well as the requirement for prompt determinations and communication of results with a minimum of paperwork. This program also has necessitated the development of systems for identifying pre-existing medical conditions and making prompt specific determinations. This requires the ability to quickly and thoroughly communicate with many private physicians so that Occupational Medicine Associates providers have any and all additional medical information necessary to make a well-informed determination based on objective medical data.

This large program also involves pre-placement drug screening of each applicant. We act as the program administrator as well as functioning as the Medical Review Officer, utilizing our expertise in administrating such programs.

E. Hazardous Exposure Screening

Occupational Medicine Associates has experience and expertise in the provision of pre-employment screening for individuals who may, in the course of their work, be exposed to biologically and chemically hazardous materials. We have developed programs for a variety of employers that meet all OSHA and SARA requirements. This includes the performance of medical surveillance evaluations for asbestosis, respirator fitness, formaldehyde and lead standards, as examples.

In addition to providing these types of surveillance examinations, we also act in the capacity of the Medical Review Officer and medical consultant to a regional firm and an international firm, providing medical control for their surveillance programs.

F. Federally Mandated Drug Screening Programs

Occupational Medicine Associates physicians also serve as formally designated Medical Review Officers for a variety of companies required tc

test for substances of abuse by the Department of Transportation. This includes implementation and interpretation of drug testing programs required by the Federal Aviation Administration, Urban Mass Transit Authority and the Federal Highways Administration. Part of this project requires us to perform fitness evaluations as part of the mandated return to work fitness evaluation program.

Dr Shoop is a licensed physician with the knowledge of substance abuse disorders who has appropriate medical training to interpret the value of positive urine drug and alcohol test results. Dr. Shoop has been a practicing physician since 1970. His primary practice until 1984 consisted primarily of the practice of Emergency Medicine which required knowledge regarding substance abuse disorders and their treatment and interpretations. He has been practicing full time Occupational Medicine since 1984 and has been serving as a Medical Review Officer formally since 1986. He has attended courses regularly presented by a variety of medical education providers on this subject including the American College of Occupational Medicine. He has extensive experience in performing fitness evaluations of individuals in all aspects of Occupational Medicine. This includes the evaluating of individuals who have suffered from substance abuse disorders. This requires making determinations regarding their medical fitness to perform their required job tasks.

In order to assure a high level of understanding on the part of our providers, Dr.Shoop has developed, organized, and presented seminars concerning the D.O.T required drug testing program. A major component of these continuing education seminars has been the specific role of the MRO.

Dr. Shoop has broad-based clinical experience in the field of Occupational Medicine. His practice consists of providing care for Workers Compensation illnesses and injuries, pre-placement and annual evaluations, return to work evaluations, and function capacity assessments. This clinical experience is augmented by his role as Managing Partner of the Sun Valley Medical Group and Occupational Medicine Associates where he has developed treatment guidelines and protocols and quality assurance programs. He also manages a large project involving over 25 medical clinics in a pre-placement medical evaluation project throughout Northern California. This project includes MRO responsibilities. Dr. Shoop performs fitness evaluations as required under the Department of Transportation regulations for it's various agencies under the federal Drug Free Workplace Act. Dr. Shoop has attended formally presented programs for Medical Review Officers presented by the Federal Aviation Administration and the Department of Transportation. Dr. Shoop is board certified in Emergency Medicine.

Dr. Shoop has knowledge of the medical use of prescription drugs and the pharmacology and toxicology of illicit drugs based on sixteen years in clinical practice. In addition, continuing education classes and focused review of medical literature have provided knowledge of the pharmacology and toxicology of the illicit drugs that will be tested for by this project.

SPILL CONTROL/CONTINGENCY PLAN

1. Work Included. DE shall develop, implement, maintain, supervise, and be responsible for this spill control plan during work activities.

   DE shall provide methods, means, and facilities required to prevent contamination of soil, water, atmosphere, uncontaminated structures, equipment or material by the discharge of any waste from spills due to UE's operations.

   UE shall provide equipment and personnel to perform emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage. This collected spill material shall be properly containerized and disposed of.

   UE shall provide equipment and personnel to perform decontamination measures that may be required to remove spillage from previously uncontaminated structures, equipment, or material. Decontaminated residues must be containerized and disposed of.

2. Actions to be taken. If a spill occurs, the following actions shall be taken by DE

   a) Notify the Company Representative immediately.

   b) Evaluate the possible hazards to human health or to the environment that may result or take actions described in paragraph e.

   c) Implement the appropriate containment procedures as specified in Section 3.

   d) Implement the proper cleanup procedures as described in Sections 3, 4, 6.

   e) Take immediate measures to control and contain the spill within the site boundries. This shall include the following:

      - Keep unnecessary people away; isolate hazardous area and deny entry.
      - Do not allow anyone to touch spilled material.
      - Stay upwind; keep out of low areas.
      - Allow no flares, smoking, or flames in hazardous area.
      - Keep combustibles or incompatibles away from the spilled material.
      - Other actions as needed.

   f) Ensure that all personnel involved in spill cleanup are at the appropriate level of personnel protection unless otherwise determined by the dispatcher.

3. Small Spill Control Actions. UE shall implement the following spill control actions:

° Small dry spills: Shovel contaminated materials into dry containers and cover; label container as to contents and dispose of properly as soon as possible.

° Small liquid spills: Absorb with noncombustible, nonorganic absorbent material. Place contaminated soil in a container; cover, label, and dispose of properly.

° Document spill on UE's copy of the daily quality control report or Site Safety Plan and provide to the site Representative at the completion of work.

° For small spills within the confines of the facility during normal working hours, personnel who are trained in spill cleanup procedures shall immediately contain all free-flowing liquids with "Speedy-Dry", a highly absorbent compound or other product especially designed to absorb and retain the chemicals with which it comes in contact. Special attention shall be given to the possibility of spilled material reaching navigable waters, and appropriate cations, such as sealing off or diking storm drains, will be taken. Following containment, cleanup procedures shall begin commensurate with the type of contaminated surface. The following cleanup techniques shall be used at the facility:

- Free Flowing Liquid - All free-flowing liquid shall be absorbed and removed with " Speedy-Dry" or product suited to absorb on neutralize spill. After the initial application of absorbent is swept, a second application of the absorbent is to be spread over the contaminated surface and swept/brushed with stiff brooms to remove the residue that may remain. All materials and equipment used in the cleanup procedure will either be cleaned for disposal in accordance with established EPA regulations.

- Contaminated Spoils - All contaminated solids shall be removed until there is no visible evidence of contamination. The removed contaminated solids shall be placed in approved containers for disposal in accordance with established EPA regulations.

4. Large Spill Control Actions. For large spills, UE shall implement the following actions:

° On solids, mobilize the front loader to contain and channel spills into appropriate tarped waste hauling bins.

° For liquids, use berms or booms to contain, and then remove liquid using a vacuum truck, or an equivalent device.

° Document all spills.

5. Decontamination Procedures. Decontamination procedures will be required after cleanup to eliminate traces of the substance spilled or to reduce it to an acceptable level. Complete cleanup shall require removal of contaminated liquids and solid waste. Personnel protective equipment, including respirators, safety glasses, hard hats, and gloves shall be decontaminated by appropriate cleaning methods. Washing facilities shall be provided for personal decontamination. All contaminated materials including disposable clothing, solvents, cloth, soil, wood, etc., that cannot be decontaminated will be containerized, labeled, and disposed of properly. All wastes will be disposed of.

6. Spill Report. DEES or its on-site representative will file a written report. For spills which migrate off-site, a spill report must be filed with the California Department of Health Services, State Water Resources Control Board, or the Environmental Protection Agency. The National Response Center should also be notified by telephone immediately.

Addresses:

California Department of Health Services
Northern California Section
Toxic Substances Control Division
4250 Power Inn Road
Sacramento, California 95826

State Water Resources Control Board
Paul R. Bonderson Building
901 P Street
P.O. Box 100
Sacramento, California 95801

Environmental Protection Agency
Region 1X
215 Fremont Street
San Francisco, California 94105

Telephone Numbers:

National Response Center
800-424-8802

California Office of Emergency Response
800-852-7550

The report shall consist of the following information:

- Name of the facility
- Name of the owner or operator of the facility
- Location of the facility
- Date of the spill incident
- Quantities and types of material in spill

- Description of the facility including maps, flow diagrams, and topographical maps
- The cause(s) of such spill including a failure of system or subsystem in which the failure occurred
- The correcting actions and/or countermeasures taken including an adequate description of equipment repairs and/or replacement
- Additional preventative measures taken or considered to minimize the possibility of recurrence

EMERGENCY RESPONSE

The following are typical features of DOE's emergency response plan which will be utilized to minimize or eliminate possible hazards or releases from potentially dangerous scenarios.

1. General Emergency Procedures. In case of an emergency or hazardous situation as described in these sections, the team member that observes this condition shall immediately give the alarm or take other appropriate measures.

    1. All unnecessary communications will cease and the member giving the alarm will proceed to give the foreman and/or the dispatcher all pertinent information.
    2. Actions to be taken will be dictated by the emergency.
    3. Power equipment will be shut down and operators will stand by for instruction.
    4. Injured personnel will be processed to the Personnel Decontamination Trailer (PDT) (Reference 3).
    5. In case of fire, explosion or hazard alarm, individuals will proceed immediately to assigned contingency stations or predesignated safe sites.
    6. Upon arrival at safe site, a complete head count will be given to the Project Supervisor and individuals at the safe site will stay until the area is secured.
    7. The foreman will act as the on-scene coordinator for emergencies occuring during normal working hours.

2. Site Emergency Warning System. Several warning systems may be utilized depending on the worksite conditions or emergency involved.

    1. Verbal communications.
    2. Radio communications.
    3. Verbal communications assisted with a bull horn.
    4. Portable hand-held compressed gas horns.

Radio communications are used on site to give instructions and directions. Emergency radio communications are prefixed, and have priority over operational communications. Horn signals are used to signify an emergency warning.

One long blast is used on-site to signify emergency evacuation of the immediate work area to a predetermined location upwind, where a head count will be taken and further information given.

Repeated short blasts are used to signify evacuation of all personnel from the site to a predetermined location upwind where further instructions will be given after a head count is taken.

3. Personal Injury.

   1. If an injury occurs, the foreman or dispatcher will be immediately notified. All injuries will be reported. Any injury which requires hospitalization must be reported to Cal-OSHA.

   2. The foreman or dispatcher will be given all pertinent information concerning the nature of the injury so that treatment preparations and/or medical attention can be initiated. The cause of the injury will also be reported, or determined, so necessary changes in work procedures can be implemented.

   3. The injured person will be transported, when appropriate, to the Personnel Decontamination Trailer where decontamination and first aid treatment can begin.

   4. If the injured person is unable to be moved due to the nature or extent of injury then medical attention will be directed to the injured. Contamination of responding personnel and equipment will be minimized and decontaminated when necessary.

   5. When an injury requires medical attention, the closest clinic shall be notified. When necessary, the injured party will be transferred to a private ambulance service and taken to a local hospital.

4. Fire Suppression.

   1. The potential for fire will be minimized be eliminating fire hazards.

   2. Dry chemical fire extinguishers and the Urea or Alcohol foam kits will be used to suppress fires at the earliest stage. This will be determined by the type of chemical involved.

TRICHLOROETHANE

TCE

Common Synonyms	Watery liquid	Colorless	Sweet odor
1,1,1-Trichloroethane Methylchloroform Aerothene Chloroform	Sinks in water. Irritating vapor is produced.		

Stop discharge if possible. Keep people away.
Avoid contact with liquid and vapor.
Call fire department.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

Combustible.
POISONOUS GASES ARE PRODUCED IN FIRE.
Wear goggles and self-contained breathing apparatus.
Extinguish with dry chemical, carbon dioxide or foam.

Exposure

CALL FOR MEDICAL AID.
VAPOR
Irritating to eyes, nose and throat.
If inhaled, will cause dizziness or difficult breathing.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.
LIQUID
Irritating to skin and eyes.
If swallowed, may produce nausea.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting.
IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.

Water Pollution

Effect of low concentrations on aquatic life is unknown.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)
Should be removed.
Chemical and physical treatment.

2. LABEL

2.1 Category: None
2.2 Class: Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Halogenated hydrocarbon
3.2 Formula: CH_3CCl_3
3.3 IMO/UN Designations: Not listed
3.4 DOT ID No.: 2831
3.5 CAS Registry No.: 71-55-6

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Colorless
4.3 Odor: Chloroform-like, sweetish

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Organic vapor-acid gas canister, self-contained breathing apparatus for emergencies, neoprene or polyvinyl-alcohol-type gloves, chemical safety goggles and face shield; neoprene safety shoes (or leather safety shoes plus neoprene footwear); neoprene or polyvinyl alcohol suit or apron for splash protection.
5.2 Symptoms Following Exposure: INHALATION: symptoms range from loss of equilibrium and incoordination to loss of consciousness; high concentration can be fatal due to simple asphyxiation combined with loss of consciousness. INGESTION: produces effects similar to inhalation and may cause some feeling of nausea. EYES: slightly irritating and tachymotory. SKIN: defatting action may cause dermatitis.
5.3 Treatment of Exposure: Get medical attention for all eye exposures and any other serious overexposures. Do NOT administer adrenalin or epinephrine; otherwise, treatment is symptomatic. INHALATION: remove victim to fresh air; if necessary, apply artificial respiration and/or administer oxygen. INGESTION: have victim drink water and induce vomiting. EYES: flush thoroughly with water. SKIN: remove contaminated clothing and wash exposed area thoroughly with soap and warm water.
5.4 Threshold Limit Value: 350 ppm
5.5 Short Term Inhalation Limits: 1,000 ppm for 60 min. in man
5.6 Toxicity by Ingestion: Grade 1; LD_{50} = 5 to 15 g/kg (rat, mouse, rabbit, guinea pig)
5.7 Late Toxicity: Data not available
5.8 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
5.9 Liquid or Solid Irritant Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
5.10 Odor Threshold: 100 ppm
5.11 IDLH Value: 1,000 ppm

6. FIRE HAZARDS

6.1 Flash Point: Data not available
6.2 Flammable Limits in Air: 7%-16%
6.3 Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide
6.4 Fire Extinguishing Agents Not to be Used: Not pertinent
6.5 Special Hazards of Combustion Products: Toxic and irritating gases are generated in fires.
6.6 Behavior in Fire: Not pertinent
6.7 Ignition Temperature: 832°F
6.8 Electrical Hazard: Not pertinent
6.9 Burning Rate: (est.) 2.9 mm/min.
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: Reacts slowly, releasing corrosive hydrochloric acid
7.2 Reactivity with Common Materials: Corrodes aluminum, but reaction is not hazardous.
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 36

8. WATER POLLUTION

8.1 Aquatic Toxicity:
75-150 ppm/*/pinfish/TL_/salt water
*Time period not specified.
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD): Data not available
8.4 Food Chain Concentration Potential: None

9. SHIPPING INFORMATION

9.1 Grades of Purity: Uninhibited; inhibited; industrial inhibited; white room; cold cleaning
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Pressure-vacuum

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)
A-X-Y

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations:
ORM-A
11.2 NAS Hazard Rating for Bulk Water Transportation:

Category	Rating
Fire	1
Health	
Vapor Irritant	1
Liquid or Solid Irritant	1
Poisons	2
Water Pollution	
Human Toxicity	1
Aquatic Toxicity	3
Aesthetic Effect	2
Reactivity	
Other Chemicals	1
Water	0
Self Reaction	0

11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	2
Flammability (Red)	1
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.2 Molecular Weight: 133.41
12.3 Boiling Point at 1 atm: 165°F = 74°C = 347°K
12.4 Freezing Point: <−38°F = <−39°C = <234°K
12.5 Critical Temperature: Not pertinent
12.6 Critical Pressure: Not pertinent
12.7 Specific Gravity: 1.31 at 20°C (liquid)
12.8 Liquid Surface Tension: 25.4 dynes/cm = 0.0254 N/m at 20°C
12.9 Liquid Water Interfacial Tension: (est.) 46 dynes/cm = 0.046 N/m at 20°C
12.10 Vapor (Gas) Specific Gravity: 4.6
12.11 Ratio of Specific Heats of Vapor (Gas): 1.104
12.12 Latent Heat of Vaporization: 100 Btu/lb = 56 cal/g = 2.4 X 10^4 J/kg
12.13 Heat of Combustion: (est.) 4700 Btu/lb = 2600 cal/g = 110 X 10^4 J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.17 Heat of Fusion: Data not available
12.18 Limiting Value: Data not available
12.19 Reid Vapor Pressure: 4.6 psia

NOTES

JUNE 1985

TRICHLOROFLUOROMETHANE

TCF

Common Synonyms	Liquid	Colorless	Odorless
F-11, Freon 11 Genetron 11 Arcton 9 Isotron 11; Eskimon 11 Frigen 11 Isotron 11; Ucon 11	Sinks in water. Harmful vapor is produced. Boiling point is 75°F.		

Stop discharge if possible. Keep people away.
Avoid contact with liquid.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

Not flammable.
POISONOUS GASES MAY BE PRODUCED IN FIRE.
Wear goggles and self-contained breathing apparatus.

Exposure

CALL FOR MEDICAL AID.

VAPOR
If inhaled, will cause dizziness or difficult breathing.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
Not harmful.

Water Pollution

Not harmful to aquatic life.
May be dangerous if it enters water intakes.

Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Should be removed.
Chemical and physical treatment.

2. LABEL

2.1 Category: None
2.2 Class: Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Not listed
3.2 Formula: $CFCl_3$
3.3 IMO/UN Designation: Not listed
3.4 DOT ID No.: Data not available
3.5 CAS Registry No.: 75-69-4

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Colorless
4.3 Odor: Odorless, weak chlorinated solvent

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Air line respirator, rubber gloves, monogoggles
5.2 Symptoms Following Exposure: Breathing concentrations approaching 10% in air will cause dizziness and drowsiness. Contact with liquid may cause frostbite.
5.3 Treatment of Exposure: INHALATION: remove victim to non-contaminated area and apply artificial respiration if breathing has stopped, call a physician immediately; oxygen inhalation may be utilized. SKIN: If frostbite has occurred, flush areas with warm water.
5.4 Threshold Limit Value: 1000 ppm
5.5 Short Term Inhalation Limits: Data not available
5.6 Toxicity by Ingestion: Data not available
5.7 Late Toxicity: Data not available
5.8 Vapor (Gas) Irritant Characteristics: Non-irritating
5.9 Liquid or Solid Irritant Characteristics: May cause frostbite
5.10 Odor Threshold: Data not available
5.11 IDLH Value: Data not available

6. FIRE HAZARDS

6.1 Flash Point: Not flammable
6.2 Flammable Limits in Air: Not flammable
6.3 Fire Extinguishing Agents: Not pertinent
6.4 Fire Extinguishing Agents Not to be Used: Not pertinent
6.5 Special Hazards of Combustion Products: Produces irritating and toxic products when heated to decomposition temperatures
6.6 Behavior in Fire: Not pertinent
6.7 Ignition Temperature: Not flammable
6.8 Electrical Hazard: Not pertinent
6.9 Burning Rate: Not flammable
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: Data not available

8. WATER POLLUTION

8.1 Aquatic Toxicity: None
8.2 Waterfowl Toxicity: None
8.3 Biological Oxygen Demand (BOD): None
8.4 Food Chain Concentration Potential: None

9. SHIPPING INFORMATION

9.1 Grades of Purity: Technical
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Safety relief

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-C-I-J

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: Not listed
11.2 NAS Hazard Rating for Bulk Water Transportation: Data not available
11.3 NFPA Hazard Classification: Data not available

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Data not available
12.2 Molecular Weight: Data not available
12.3 Boiling Point at 1 atm: Data not available
12.4 Freezing Point: Data not available
12.5 Critical Temperature: Data not available
12.6 Critical Pressure: Data not available
12.7 Specific Gravity: Data not available
12.8 Liquid Surface Tension: Data not available
12.9 Liquid Water Interfacial Tension: Data not available
12.10 Vapor (Gas) Specific Gravity: Data not available
12.11 Ratio of Specific Heats of Vapor (Gas): Data not available
12.12 Latent Heat of Vaporization: Data not available
12.13 Heat of Combustion: Data not available
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.17 Heat of Fusion: Data not available
12.18 Limiting Value: Data not available
12.19 Reid Vapor Pressure: Data not available

NOTES

TETRACHLOROETHANE

TEC

Common Synonyms	Liquid	Colorless to pale yellow	Sweet odor
1, 1, 2, 2-Tetrachloroethane Acetylene tetrachloride	Sinks in water		

AVOID CONTACT WITH LIQUID AND VAPOR. KEEP PEOPLE AWAY.
Wear rubber overclothing (including gloves).
Stop discharge if possible.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

Not flammable.
Poisonous gases may be produced when heated.

Exposure

CALL FOR MEDICAL AID.

VAPOR
Irritating to eyes, nose and throat.
Harmful if inhaled.
If in eyes, hold eyelids open and flush with plenty of water.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.
Irritating to skin and eyes.
If swallowed will cause nausea and vomiting.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
If in EYES, hold eyelids open and flush with plenty of water.
If SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.
If SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.

Water Pollution

Effect at low concentrations on aquatic life is unknown.
May be dangerous if it enters water intakes.

Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Issue warning-poison, air contaminant
Restrict access
Should be removed
Chemical and physical treatment

2. LABEL

2.1 Category: None
2.2 Class: Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Halogenated Hydrocarbon
3.2 Formula: $Cl_2CHCHCl_2$
3.3 IMO/UN Designation: Not listed
3.4 DOT ID No.: 1702
3.5 CAS Registry No.: 1796-60-7

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Colorless
yellowish green
4.3 Odor: Chloroform-like, pleasant, like carbon tetrachloride, mild, overpowering, similar to several other chlorinated hydrocarbons.

5. HEALTH HAZARDS

5.1 Personnel Protective Equipment: Chemical safety goggles, plastic face shield, air- or oxygen-supplied mask, safety hat with brim, solvent-proof apron, synthetic rubber gloves.
5.2 Symptoms Following Exposure: Compound is a powerful narcotic and liver poison, may also cause changes in blood composition and neurological disturbances. Repeated exposure by inhalation can be fatal. Ingestion causes vomiting, diarrhea, severe mucosal injury, liver involved, cyanosis, unconsciousness, loss of reflexes, and death. Contact with eyes causes irritation and lachrymation. Can be absorbed through the skin and may produce severe skin lesions.
5.3 Treatment of Exposure: INHALATION: remove victim from exposure, begin artificial respiration if breathing has ceased. INGESTION: induce vomiting, call a physician. EYES: irrigate with water for 15 min. SKIN: remove clothing, wash skin thoroughly with warm water and soap.
5.4 Threshold Limit Value: 1 ppm
5.5 Short Term Inhalation Limits: 10 ppm, 30 min.
5.6 Toxicity by Ingestion: Grade 3; oral LD_{50} = 200 mg/kg (rat)
5.7 Late Toxicity: Liver poisoning, nervous disorders
5.8 Vapor (Gas) Irritant Characteristics: Vapor is moderately irritating such that personnel will not usually tolerate moderate or high vapor concentrations.
5.9 Liquid or Solid Irritant Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
5.10 Odor Threshold: 0.8 ppm
5.11 IDLH Value: 150 ppm

6. FIRE HAZARDS

6.1 Flash Point: Not flammable
6.2 Flammable Limits in Air: Not flammable
6.3 Fire Extinguishing Agents: Not pertinent
6.4 Fire Extinguishing Agents Not to be Used: Not pertinent
6.5 Special Hazards of Combustion Products: Irritating hydrogen chloride vapor may form in fire.
6.6 Behavior in Fire: Data not available
6.7 Ignition Temperature: Not pertinent
6.8 Electrical Hazard: Not pertinent
6.9 Burning Rate: Not pertinent
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: May attack some forms of plastics
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 36

8. WATER POLLUTION

8.1 Aquatic Toxicity: Data not available
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD): Data not available
8.4 Food Chain Concentration Potential: Data not available

9. SHIPPING INFORMATION

9.1 Grades of Purity: Technical, 98%
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Open

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-X

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: CFM-A
11.2 NAS Hazard Rating for Bulk Water Transportation: Not listed
11.3 NFPA Hazard Classification: Not listed

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.2 Molecular Weight: 167.85
12.3 Boiling Point at 1 atm:
296.3°F = 146.3°C = 419.5°K
12.4 Freezing Point:
−46.8°F = −43.8°C = 229.4°K
12.5 Critical Temperature: Data not available
12.6 Critical Pressure: Data not available
12.7 Specific Gravity:
1.595 at 20°C (liquid)
12.8 Liquid Surface Tension:
37.66 dynes/cm = 0.03765 N/m at 20°C
12.9 Liquid Water Interfacial Tension: Data not available
12.10 Vapor (Gas) Specific Gravity: 5.79
12.11 Ratio of Specific Heats of Vapor (Gas): 1.080 at 25°C
12.12 Latent Heat of Vaporization:
90.2 Btu/lb = 50.1 cal/g = 2.30×10^5 J/kg
12.13 Heat of Combustion: Not pertinent
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.17 Heat of Fusion: Data not available
12.18 Limiting Value: Data not available
12.19 Reid Vapor Pressure: 0.8 psia

NOTES

1,1-DICHLOROETHANE

DCH

Common Synonyms	Oily liquid	Colorless	Chloroform like ethereal
Ethylidene chloride Ethylidene dichloride Chlorinated hydrochloric ether	Sinks and mixes with water		

Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves)
Stop discharge if possible. Keep people away
Shut off ignition sources and call fire department
Avoid contact with liquid
Isolate and remove discharged material
Notify local health and pollution control agencies

Fire

Flammable
POISONOUS GAS MAY BE PRODUCED IN FIRE OR WHEN HEATED
Containers may explode in fire.
Wear goggles and self-contained breathing apparatus.
Extinguish with alcohol foam, carbon dioxide, or dry chemical
Water may be ineffective on fire

Exposure

CALL FOR MEDICAL AID

LIQUID
If swallowed may cause nausea, vomiting and faintness.
Irritating to skin and eyes.
Flush affected areas with plenty of water
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS have victim drink water or milk and induce vomiting

Water Pollution

Dangerous to aquatic life in high concentrations
May be dangerous if it enters water intakes

Notify local health and wildlife officials
Notify operators of nearby water intakes

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Issue warning-high flammability.
Restrict access.
Chemical and physical treatment.

2. LABEL

2.1 Category: None
2.2 Class: Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Halogenated hydrocarbon
3.2 Formula: $C_2H_4Cl_2$
3.3 IMO/UN Designation: Not listed
3.4 DOT ID No.: 2362
3.5 CAS Registry No.: 75-34-3

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Oily liquid
4.2 Color: Colorless
4.3 Odor: Chloroform

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: In areas of poor ventilation or high concentration, a self-contained breathing apparatus with full face mask should be worn. Chemical workers goggles, rubber gloves, and protective clothing should be worn.

5.2 Symptoms Following Exposure: INHALATION: Irritation of respiratory tract, Salivation, sneezing, coughing, dizziness, nausea, and vomiting. EYES: Irritation, lacrimation, and reddening of conjunctiva. SKIN: Irritation. Prolonged or repeated skin contact can produce a slight burn. INGESTION: Ingestion incidental to industrial handling is not considered to be a problem. Swallowing of substantial amounts could cause nausea, vomiting, faintness, drowsiness, unconsciousness, and circulatory failure

5.3 Treatment of Exposure: Call a doctor. INHALATION: Remove from contaminated area, keep warm and quiet. If breathing has stopped, give artificial respiration. Administer oxygen. EYES: Flush with large amounts of water. Remove contaminated clothing. INGESTION: Attempt to empty stomach, dilute by administering fluids (two water, soapy water, salt water, or milk).

5.4 Threshold Limit Value: 200 ppm

5.5 Short Term Inhalation Limits: 250 ppm

5.6 Toxicity by Ingestion: Grade 2; LD_{50} = 0.5 to 5 g/kg (rat)

5.7 Late Toxicity: Chronic exposure may cause liver damage and dermatitis. Animal experimentation has shown this compound to be slightly embryo-toxic and to retard fetal development.

5.8 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.

5.9 Liquid or Solid Irritant Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of skin.

5.10 Odor Threshold: Data not available

5.11 IDLH Value: 4,000 ppm

6. FIRE HAZARDS

6.1 Flash Point: 57°F O.C. = 22°F C.C.
6.2 Flammable Limits in Air: 5.6% to 11.4%
6.3 Fire Extinguishing Agents: Alcohol foam, water, foam, CO_2, dry chemical, carbon tetrachloride
6.4 Fire Extinguishing Agents Not to be Used: Water may be ineffective
6.5 Special Hazards of Combustion Products: When heated to decomposition emits highly toxic fumes to phosgene
6.6 Behavior in Fire: Explosion hazard
6.7 Ignition Temperature: 856°F
6.8 Electrical Hazard: Data not available
6.9 Burning Rate: Data not available
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: Data not available
7.3 Stability During Transport: Data not available
7.4 Neutralizing Agents for Acids and Caustics: Data not available
7.5 Polymerization: Data not available
7.6 Inhibitor of Polymerization: Data not available
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 26

8. WATER POLLUTION

8.1 Aquatic Toxicity:
TL_m (Marine pinperch) 250 to 275 mg/l
24-hour TL_m Brine shrimp: 320 mg/l
24-hour TL_m Pinperch: 180 mg/l
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD): Percent, 0.05 g/g for 10 days Percent, 0.002 g/g for 5 days
8.4 Food Chain Concentration Potential: Data not available

9. SHIPPING INFORMATION

9.1 Grades of Purity: Data not available
9.2 Storage Temperature: Cool
9.3 Inert Atmosphere: Data not available
9.4 Venting: Data not available

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-P-O-R-S

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: Not listed
11.2 MAS Hazard Rating for Bulk Water Transportation: Not listed
11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	2
Flammability (Red)	3
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 18°C and 1 atm: Liquid
12.2 Molecular Weight: 98.97
12.3 Boiling Point at 1 atm: 135.14°F = 57.3°C = 330.5°K
12.4 Freezing Point: −143.32°F = −97.4°C = 175.75°K
12.5 Critical Temperature: 602.7°F = 261.5°C = 534.65°K
12.6 Critical Pressure: 734.8 psia = 50 atm = 5.065 MN/m²
12.7 Specific Gravity: 1.174 at 20°C
12.8 Liquid Surface Tension: 24.75 dynes/cm = 0.02475 N/m at 20°C
12.9 Liquid Water Interfacial Tension: Data not available
12.10 Vapor (Gas) Specific Gravity: 3.42
12.11 Ratio of Specific Heats of Vapor (Gas): 1.138 at 20°C (68°F)
12.12 Latent Heat of Vaporization: 131.8 Btu/lb = 73.1 cal/g = 3.06 X 10⁵ J/kg
12.13 Heat of Combustion: −4,774 Btu/lb = −2,652 cal/g = −111 X 10⁵ J/kg
12.14 Heat of Decomposition: Data not available
12.15 Heat of Solution: Data not available
12.16 Heat of Polymerization: Data not available
12.35 Heat of Fusion: Data not available
12.36 Limiting Value: Data not available
12.37 Reid Vapor Pressure: 7.35 psia

NOTES

NAPHTHALENE

NTM

Common Synonyms	Solid	Colorless	Mothballs odor
Naphthalin Tar camphor	Solidifies and floats or sinks in water		

Stop discharge if possible. Keep people away.
Call fire department.
Avoid contact with liquid and solid.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

Combustible.
Wear goggles and self-contained breathing apparatus.
Extinguish with water foam, dry chemical or carbon dioxide.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

SOLID OR LIQUID.
Irritating to skin and eyes.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.

Water Pollution

HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.
Fouling to shorelines.
May be dangerous if it enters water intakes.

Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Should be removed.
Chemical and physical treatment.

2. LABEL

2.1 Category: None
2.2 Class: Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Aromatic Hydrocarbon
3.2 Formula: $C_{10}H_8$
3.3 IMO/UN Designation: 4.1/2304
3.4 DOT ID No.: 2304
3.5 CAS Registry No.: 91-20-3

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Molten solid
4.2 Color: Colorless
4.3 Odor: Coal tar, moth balls

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: U.S. Bureau of Mines approved organic vapor canister unit (USBM Type B), rubber gloves, chemical safety goggles, face shield, coveralls and/or rubber apron, rubber shoes or boots.

5.2 Symptoms Following Exposure: Vapors or fumes are irritating to eyes, nose, and throat and may cause headaches, dizziness, nausea, etc. Solid may be irritating to skin.

5.3 Treatment of Exposure: INHALATION: remove to fresh air. SKIN OR EYES: flush immediately with plenty of water for at least 15 min. Remove contaminated clothing immediately. Call a physician.

5.4 Threshold Limit Value: 10 ppm

5.5 Short Term Inhalation Limits: 15 ppm for 5 min

5.6 Toxicity by Ingestion: Grade 2, oral rat LD_{50} = 1780 mg/kg

5.7 Late Toxicity: Data not available

5.8 Vapor (Gas) Irritant Characteristics: Vapors cause moderate irritation such that personnel will find high concentrations unpleasant. The effect is temporary.

5.9 Liquid or Solid Irritant Characteristics: Hot liquid can cause severe burn. The solid may irritate the skin.

5.10 Odor Threshold: Data not available

5.11 IDLH Value: 500 ppm

6. FIRE HAZARDS

6.1 Flash Point: 174°F C.C., 190°F O.C.
6.2 Flammable Limits in Air: 0.9%-5.9%
6.3 Fire Extinguishing Agents: Water fog, carbon dioxide, dry chemical or foam
6.4 Fire Extinguishing Agents Not to be Used: Not pertinent
6.5 Special Hazards of Combustion Products: Toxic vapors given off in a fire.
6.6 Behavior in Fire: Not pertinent
6.7 Ignition Temperature: 979°F
6.8 Electrical Hazard: Not pertinent
6.9 Burning Rate: 4.3 mm/min.
6.10 Autoignition Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: Molten naphthalene sputters and foams in contact with water. No chemical reaction is involved.
7.2 Reactivity with Common Materials: None
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 32

8. WATER POLLUTION

8.1 Aquatic Toxicity:
150 mg/l/96 hr/sunfish/TL_m/fresh water
1.8 ppm/72 hr/fingerling salmon/aerated/ salt water
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD): (Theor.) 68.5%, 5 days
8.4 Food Chain Concentration Potential: None

9. SHIPPING INFORMATION

9.1 Grades of Purity: Pure, crude 95% Pure: mp = 176°F Crude: mp = 165—178°F
9.2 Storage Temperature: Elevated
9.3 Inert Atmosphere: No requirement
9.4 Venting: Open (flame arrester) or pressure-vacuum

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-T-U-X

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: ORM-A
11.2 NAS Hazard Rating for Bulk Water Transportation:

Category	Rating
Fire	1
Health	
Vapor Irritant	2
Liquid or Solid Irritant	1
Poisons	2
Water Pollution	
Human Toxicity	1
Aquatic Toxicity	3
Aesthetic Effect	3
Reactivity	
Other Chemicals	1
Water	0
Self Reaction	0

11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	2
Flammability (Red)	3
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Solid
12.2 Molecular Weight: 128.16
12.3 Boiling Point at 1 atm: 424°F = 218°C = 491°K
12.4 Freezing Point: 176.4°F = 80.2°C = 353.4°K
12.5 Critical Temperature: 887.4°F = 475.2°C = 748.4°K
12.6 Critical Pressure: 568 psia = 40.0 atm = 4.05 MN/m²
12.7 Specific Gravity: 1.145 at 20°C (solid)
12.8 Liquid Surface Tension: 31.8 dynes/cm = 0.0318 N/m at 100°C
12.9 Liquid-Water Interfacial Tension: Data not available
12.10 Vapor (Gas) Specific Gravity: Not pertinent
12.11 Ratio of Specific Heats of Vapor (Gas): 1.064
12.12 Latent Heat of Vaporization: 145 Btu/lb = 80.7 cal/g = 3.38 X 10^5 J/kg
12.13 Heat of Combustion: −18 720 Btu/lb = −9797 cal/g = −388.9 X 10^5 J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.17 Heat of Fusion: 35.06 cal/g
12.18 Limiting Value: Data not available
12.19 Reid Vapor Pressure: Low

NOTES

DIBUTYL PHTHALATE

DPA

Common Synonyms	Oily liquid	Colorless	Odorless
DBP Butyl phthalate Phthalic acid, dibutyl ester RC Plasticizer DBP Witcizer 300	Sinks slowly in water.		

Stop discharge if possible
Call fire department
Isolate and remove discharged material
Notify local health and pollution control agencies

Fire

Combustible.
Extinguish with dry chemical, foam, or carbon dioxide

Exposure

LIQUID
No appreciable harm.

Water Pollution

Dangerous to aquatic life in high concentrations.
Fouling to shoreline.
May be dangerous if it enters water intakes.

Notify local health and pollution control officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)
Mechanical containment
Should be removed
Chemical and physical treatment

2. LABEL

2.1 Category: None
2.2 Class: Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Ester
3.2 Formula: $O\text{-}C_6H_4[COO(CH_2)_3CH_3]_2$
3.3 IMO/UN Designation: Not listed
3.4 DOT ID No.: 9095
3.5 CAS Registry No.: 84-74-2

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Colorless
4.3 Odor: Slight characteristic ester odor, mild, practically none, slightly aromatic

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Eye protection.
5.2 Symptoms Following Exposure: Vapors from very hot material may irritate eyes and produce headache, drowsiness, and convulsions.
5.3 Treatment of Exposure: Remove to fresh air. Wash affected skin areas with water. Flush eyes with water.
5.4 Threshold Limit Value: 5 mg/m³
5.5 Short Term Inhalation Limits: Not pertinent
5.6 Toxicity by Ingestion: Grade 1: LD_{50} = 5 to 15 g/kg (rat)
5.7 Long Toxicity: Birth defects in rats, polyneuritis in humans
5.8 Vapor (Gas) Irritant Characteristics: Not pertinent
5.9 Liquid or Solid Irritant Characteristics: No appreciable hazard. Practically harmless to the skin.
5.10 Odor Threshold: Data not available
5.11 IDLH Value: 9,300 mg/m³

6. FIRE HAZARDS

6.1 Flash Point: 350°F O.C.; 315°F C.C.
6.2 Flammable Limits in Air: 0.5%-2.5% (calculated)
6.3 Fire Extinguishing Agents: Dry powder, carbon dioxide, foam
6.4 Fire Extinguishing Agents Not to be Used: Water or foam may cause boiling.
6.5 Special Hazards of Combustion Products: Not pertinent
6.6 Behavior in Fire: Not pertinent
6.7 Ignition Temperature: 757°F
6.8 Electrical Hazard: Not pertinent
6.9 Burning Rate: Data not available
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 34

8. WATER POLLUTION

8.1 Aquatic Toxicity: 1230 ppm/24 hr/bluegill/TL_/fresh water
8.2 Waterfowl Toxicity: LC_{50} > 5000 ppm
8.3 Biological Oxygen Demand (BOD_5): 0.43lb/lb, 5 days
8.4 Food Chain Concentration Potential: None

9. SHIPPING INFORMATION

9.1 Grades of Purity: 99.6%
9.2 Storage Temperature: Data not available
9.3 Inert Atmosphere: Data not available
9.4 Venting: Data not available

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)
A-T-U-X-Y

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: Not listed
11.2 NAS Hazard Rating for Bulk Water Transportation:

Category	Rating
Fire	1
Health	
Vapor Irritant	0
Liquid or Solid Irritant	0
Poisons	0
Water Pollution	
Human Toxicity	1
Aquatic Toxicity	0
Aesthetic Effect	1
Reactivity	
Other Chemicals	3
Water	1
Self Reaction	0

11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	0
Flammability (Red)	1
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 16°C and 1 atm: Liquid
12.2 Molecular Weight: 278.35
12.3 Boiling Point at 1 atm: 644°F = 340°C = 613°K
12.4 Freezing Point: −31°F = −35°C = 238°K
12.5 Critical Temperature: 932°F = 500°C = 773°K
12.6 Critical Pressure: 350 psia = 17 atm = 1.7 MN/m²
12.7 Specific Gravity: 1.048 at 20°C (liquid)
12.8 Liquid Surface Tension: 34 dynes/cm = 0.034 N/m at 20°C
12.9 Liquid Water Interfacial Tension: 27 dynes/cm = 0.027 N/m at 22.7°C
12.10 Vapor (Gas) Specific Gravity: Not pertinent
12.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
12.12 Latent Heat of Vaporization: Not pertinent
12.13 Heat of Combustion: −13,300 Btu/lb = −7400 cal/g = −310 X 10³ J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.35 Heat of Fusion: Data not available
12.36 Limiting Value: Data not available
12.37 Reid Vapor Pressure: Data not available

NOTES

CREOSOTE, COAL TAR

CCT

Common Synonyms	Liquid	Yellow to black	Tarry odor
Creosote oil Dead oil	May float or sink in water.		

Stop discharge if possible
Call fire department
Isolate and remove discharged material
Notify local health and pollution control agencies

Fire

Combustible.
Extinguish with dry chemicals, foam or carbon dioxide
Water may be ineffective on fire

Exposure

CALL FOR MEDICAL AID

LIQUID
Irritating to skin and eyes.
Harmful if swallowed.
Remove contaminated clothing and shoes
Flush affected areas with plenty of water
IF IN EYES, hold eyelids open and flush with plenty of water
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting
IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing, except keep victim warm

Water Pollution

Effect of low concentrations on aquatic life is unknown.
Fouling to shoreline
May be dangerous if it enters water intakes.

Notify local health and wildlife officials
Notify operators of nearby water intakes

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Issue warning-water contaminant
Mechanical containment
Should be removed
Chemical and physical treatment

2. LABEL

2.1 Category: None
2.2 Class: Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Phenols, creosols
3.2 Formula: Mixture
3.3 IMO/UN Designation: 9/1883
3.4 DOT ID No.: 1883
3.5 CAS Registry No.: 8001-58-9

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Yellow to brown to black
4.3 Odor: Creosote or tarry, aromatic

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: All-service canister mask, rubber gloves, chemical safety goggles and/or face shield, overalls or a neoprene apron, barrier creams.

5.2 Symptoms Following Exposure: Vapors cause moderate irritation of nose and throat. Liquid causes severe burns of eyes and reddening and itching of skin. Prolonged contact with skin can cause burns. Ingestion causes salivation, vomiting, respiratory difficulties, thready pulse, vertigo, headache, loss of pupillary reflexes, hypothermia, cyanosis, mild convulsions.

5.3 Treatment of Exposure: INHALATION: remove victim to fresh air, if he is not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen; call a physician. EYES: flush immediately with plenty of water for at least 15 min. and call a physician. SKIN: wipe with vegetable oil or margarine, then wash with soap and water. INGESTION: have victim drink water or milk, do NOT induce vomiting

5.4 Threshold Limit Value: 0.2 mg/m³

5.5 Short Term Inhalation Limits: Data not available

5.6 Toxicity by Ingestion: Grade 2, LD_{50} = 0.5 to 5 g/kg

5.7 Late Toxicity: Repeated exposures may cause cancer of skin.

5.8 Vapor (Gas) Irritant Characteristics: Vapors cause moderate irritation such that personnel will find high concentrations unpleasant. The effect is temporary.

5.9 Liquid or Solid Irritant Characteristics: Fairly severe skin irritant. May cause pain and second-degree burns after a few minutes' contact.

5.10 Odor Threshold: Data not available

5.11 IDLH Value: 400 mg/m³

6. FIRE HAZARDS

6.1 Flash Point: > 160°F C.C.
6.2 Flammable Limits in Air: Not pertinent
6.3 Fire Extinguishing Agents: Dry chemical, carbon dioxide or foam
6.4 Fire Extinguishing Agents Not to be Used: Water may be ineffective
6.5 Special Hazards of Combustion Products: Data not available
6.6 Behavior in Fire: Heavy, irritating black smoke is formed.
6.7 Ignition Temperature: 637°F
6.8 Electrical Hazard: Not pertinent
6.9 Burning Rate: Data not available
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 21

8. WATER POLLUTION

8.1 Aquatic Toxicity: Data not available
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD): Data not available
8.4 Food Chain Concentration Potential: None

9. SHIPPING INFORMATION

9.1 Grades of Purity: Whole creosote or various fractions, depending on boiling point. All have similar properties.
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Open (flame arrester)

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-T-U-X-Y

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: Combustible liquid

11.2 NAS Hazard Rating for Bulk Water Transportation:

Category	Rating
Fire	1
Health	
Vapor Irritant	2
Liquid or Solid Irritant	3
Poisons	2
Water Pollution	
Human Toxicity	2
Aquatic Toxicity	3
Aesthetic Effect	4
Reactivity	
Other Chemicals	1
Water	0
Self Reaction	0

11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	2
Flammability (Red)	2
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.2 Molecular Weight: Mixture
12.3 Boiling Point at 1 atm: > 356°F = > 180°C = > 353°K
12.4 Freezing Point: Not pertinent
12.5 Critical Temperature: Not pertinent
12.6 Critical Pressure: Not pertinent
12.7 Specific Gravity: 1.05-1.09 at 15°C (liquid)
12.8 Liquid Surface Tension: (est.) 15 dynes/cm = 0.015 N/m at 20°C
12.9 Liquid Water Interfacial Tension: (est.) 20 dynes/cm = 0.020 N/m at 60°C
12.10 Vapor (Gas) Specific Gravity: Not pertinent
12.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
12.12 Latent Heat of Vaporization: Not pertinent
12.13 Heat of Combustion: (est.) —12,500 Btu/lb = —6,900 cal/g = —290 X 10³ J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.17 Heat of Fusion: Data not available
12.18 Limiting Value: Data not available
12.19 Reid Vapor Pressure: Low

NOTES

p-XYLENE

XLP

Common Synonyms	Watery liquid	Colorless	Sweet odor
1,4-Dimethylbenzene Xylol	Floats on water. Flammable, irritating vapor is produced. Freezing point is 64°F		

Stop discharge if possible. Keep people away.
Call fire department.
Avoid contact with liquid and vapor.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

FLAMMABLE
Flashback along vapor trail may occur.
Vapor may explode if ignited in an enclosed area.
Wear self-contained breathing apparatus.
Extinguish with foam, dry chemical, or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.
VAPOR
Irritating to eyes, nose and throat.
If inhaled, will cause dizziness, difficult breathing, or loss of consciousness.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.
LIQUID
Irritating to skin and eyes.
If swallowed, will cause nausea, vomiting, loss of consciousness.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.
DO NOT INDUCE VOMITING.

Water Pollution

HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS
Fouling to shoreline.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)
Issue warning-high flammability.
Evacuate area.
Should be removed.
Chemical and physical treatment.

2. LABEL

2.1 Category: Flammable liquid
2.2 Class: 3

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Aromatic Hydrocarbon
3.2 Formula: $p\text{-}C_6H_4(CH_3)_2$
3.3 IMO/UN Designation: 3.2/1307
3.4 DOT ID No.: 1307
3.5 CAS Registry No.: 106-42-3

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Colorless
4.3 Odor: Like benzene; characteristic aromatic

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Approved canister or air-supplied mask, goggles or face shield, plastic gloves and boots.
5.2 Symptoms Following Exposure: Vapors cause headache and dizziness. Liquid irritates eyes and skin. If taken into lungs, causes severe coughing, distress, and rapidly developing pulmonary edema. If ingested, causes nausea, vomiting, cramps, headache, and coma. Can be fatal. Kidney and liver damage can occur.
5.3 Treatment of Exposure: INHALATION: remove to fresh air, administer artificial respiration and oxygen if required, call a doctor. INGESTION: do NOT induce vomiting, call a doctor. EYES: flush with water for at least 15 min. SKIN: wipe off, wash with soap and water.
5.4 Threshold Limit Value: 100 ppm
5.5 Short Term Inhalation Limits: 300 ppm for 30 min.
5.6 Toxicity by Ingestion: Grade 3, LD_{Lo} = 50 to 500 mg/kg
5.7 Late Toxicity: Kidney and liver damage.
5.8 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
5.9 Liquid or Solid Irritant Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
5.10 Odor Threshold: 0.05 ppm
5.11 IDLH Value: 10,000 ppm

6. FIRE HAZARDS

6.1 Flash Point: 81°F C.C.
6.2 Flammable Limits in Air: 1.1%-6.6%
6.3 Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide
6.4 Fire Extinguishing Agents Not to be Used: Water may be ineffective.
6.5 Special Hazards of Combustion Products: Not pertinent
6.6 Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back.
6.7 Ignition Temperature: 870°F
6.8 Electrical Hazard: Class I, Group D
6.9 Burning Rate: 5.8 mm/min.
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 32

8. WATER POLLUTION

8.1 Aquatic Toxicity:
22 ppm/96 hr/bluegill/TL_m/fresh water
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD):
0 lb/lb in 5 days
8.4 Food Chain Concentration Potential: Data not available

9. SHIPPING INFORMATION

9.1 Grades of Purity: Research: 99.99%, Pure: 99.6%, Technical: 99.0%
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Open (flame arrester) or pressure-vacuum

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)
A-T-U

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: Flammable liquid
11.2 NAS Hazard Rating for Bulk Water Transportation:

Category	Rating
Fire	3
Health	
Vapor Irritant	1
Liquid or Solid Irritant	1
Poisons	2
Water Pollution	
Human Toxicity	1
Aquatic Toxicity	3
Aesthetic Effect	2
Reactivity	
Other Chemicals	1
Water	0
Self Reaction	0

11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	2
Flammability (Red)	3
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.3 Molecular Weight: 106.16
12.3 Boiling Point at 1 atm: 280.9°F = 138.3°C = 411.5°K
12.4 Freezing Point: 55.9°F = 13.3°C = 286.5°K
12.5 Critical Temperature: 649.4°F = 343.0°C = 616.2°K
12.6 Critical Pressure: 508.4 atm = 34.65 psia = 3,510 kPa/m²
12.7 Specific Gravity: 0.861 at 20°C (liquid)
12.8 Liquid Surface Tension: 28.3 dynes/cm = 0.0283 N/m at 20°C
12.9 Liquid Water Interfacial Tension: 37.8 dynes/cm = 0.0378 N/m at 20°C
12.10 Vapor (Gas) Specific Gravity: Not pertinent
12.11 Ratio of Specific Heats of Vapor (Gas): 1.071
12.12 Latent Heat of Vaporization: 150 Btu/lb = 81 cal/g = 3.4×10^5 J/kg
12.13 Heat of Combustion: −17,558 Btu/lb = −9754.7 cal/g = -408.41×10^5 J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.17 Heat of Fusion: 37.83 cal/g
12.18 Limiting Value: Data not available
12.27 Reid Vapor Pressure: 0.34 psia

NOTES

JUNE 1985

o-XYLENE

XLO

Common Synonyms	Watery liquid	Colorless	Sweet odor
1,2-Dimethylbenzene Xylol	Floats on water. Flammable. Irritating vapor is produced.		

Stop discharge if possible. Keep people away.
Call fire department.
Avoid contact with liquid and vapor.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

FLAMMABLE
Flashback along vapor trail may occur.
Vapor may explode if ignited in an enclosed area.
Wear self-contained breathing apparatus.
Extinguish with foam, dry chemical, or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID

VAPOR
Irritating to eyes, nose and throat.
If inhaled, will cause headache, difficult breathing, or loss of consciousness.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
Irritating to skin and eyes.
If swallowed, will cause nausea, vomiting, or loss of consciousness.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.
DO NOT INDUCE VOMITING.

Water Pollution

Dangerous to aquatic life in high concentrations.
Fouling to shoreline.
May be dangerous if it enters water intakes.

Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)
Isolate—warning-high flammability
Evacuate area
Should be removed
Chemical and physical treatment

2. LABEL

2.1 Category: Flammable liquid
2.2 Class: 3

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Aromatic Hydrocarbon
3.2 Formula: $o\text{-}C_6H_4(CH_3)_2$
3.3 IMO/UN Designation: 3.2/1307
3.4 DOT ID No.: 1307
3.5 CAS Registry No.: 95-47-6

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Colorless
4.3 Odor: Benzene-like, characteristic aromatic

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Approved canister or air-supplied mask; goggles or face shield; plastic gloves and boots.
5.2 Symptoms Following Exposure: Vapors cause headache and dizziness. Liquid irritates eyes and skin. If taken into lungs, causes severe coughing, distress, and rapidly developing pulmonary edema. If ingested, causes nausea, vomiting, cramps, headache, and coma. Can be fatal. Kidney and liver damage can occur.
5.3 Treatment of Exposure: INHALATION: remove to fresh air; administer artificial respiration and oxygen if required; call a doctor. INGESTION: do NOT induce vomiting; call a doctor. EYES: flush with water for at least 15 min. SKIN: wipe off, wash with soap and water.
5.4 Threshold Limit Value: 100 ppm
5.5 Short Term Inhalation Limits: 300 ppm for 30 min
5.6 Toxicity by Ingestion: Grade 2; LD_{50} = 50 to 500 mg/kg
5.7 Late Toxicity: Kidney and liver damage
5.8 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
5.9 Liquid or Solid Irritant Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
5.10 Odor Threshold: 0.05 ppm
5.11 IDLH Value: 10,000 ppm

6. FIRE HAZARDS

6.1 Flash Point: 63°F C.C.; 75°F O.C.
6.2 Flammable Limits in Air: 1.1%-7.0%
6.3 Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide
6.4 Fire Extinguishing Agents Not to be Used: Water may be ineffective
6.5 Special Hazards of Combustion Products: Not pertinent
6.6 Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back.
6.7 Ignition Temperature: 865°F
6.8 Electrical Hazard: Class I, Group D
6.9 Burning Rate: 6.8 mm/min
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 32

8. WATER POLLUTION

8.1 Aquatic Toxicity: >100 mg/l/96 hr/D. magna/TL$_m$/fresh water
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD): 0 lb/lb, 5 days, 2.5% (theor.), 8 days
8.4 Food Chain Concentration Potential: Data not available

9. SHIPPING INFORMATION

9.1 Grades of Purity: Research: 99.99%; Pure: 99.7%; Commercial: 98 + %
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No reaction
9.4 Venting: Open (flame arrester) or pressure-vacuum

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)
A-T-U

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: Flammable liquid
11.2 NAS Hazard Rating for Bulk Water Transportation:

Category	Rating
Fire	3
Health	
Vapor Irritant	1
Liquid or Solid Irritant	1
Poisons	2
Water Pollution	
Human Toxicity	1
Aquatic Toxicity	3
Aesthetic Effect	3
Reactivity	
Other Chemicals	1
Water	0
Self Reaction	0

11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	2
Flammability (Red)	3
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.2 Molecular Weight: 106.16
12.3 Boiling Point at 1 atm: 291.9°F = 144.4°C = 417.6°K
12.4 Freezing Point: −13.3°F = −25.2°C = 248.0°K
12.5 Critical Temperature: 674.8°F = 357.1°C = 630.2°K
12.6 Critical Pressure: 541.5 atm = 36.84 psia = 3.732 MN/m^2
12.7 Specific Gravity: 0.880 at 20°C (liquid)
12.8 Liquid Surface Tension: 30.53 dynes/cm = 0.03053 N/m at 18.8°C
12.9 Liquid Water Interfacial Tension: 36.06 dynes/cm = 0.03606 N/m at 20°C
12.10 Vapor (Gas) Specific Gravity: Not pertinent
12.11 Ratio of Specific Heats of Vapor (Gas): 1.094
12.12 Latent Heat of Vaporization: 148 Btu/lb = 82.8 cal/g = 3.47 X 10^4 J/kg
12.13 Heat of Combustion: −17,556 Btu/lb = −9764.7 cal/g = −408.41 X 10^4 J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.17 Heat of Fusion: 30.84 cal/g
12.18 Limiting Value: Data not available
12.19 Reid Vapor Pressure: 0.26 psia

NOTES

m-XYLENE

XLM

Common Synonyms	Watery liquid	Colorless	Sweet odor
1, 3-Dimethylbenzene Xylol	Floats on water. Flammable, irritating vapor is produced.		

Stop discharge if possible. Keep people away.
Call fire department.
Avoid contact with liquid and vapor.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

FLAMMABLE
Flashback along vapor trail may occur.
Vapor may explode if ignited in an enclosed area.
Wear self-contained breathing apparatus.
Extinguish with foam, dry chemical, or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID

VAPOR
Irritating to eyes, nose, and throat.
If inhaled, will cause headache, difficult breathing, or loss of consciousness.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
Irritating to skin and eyes.
If swallowed, will cause nausea, vomiting, or loss of consciousness.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.
DO NOT INDUCE VOMITING.

Water Pollution

HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.
If boiling is shortened.
May be dangerous if it enters water intakes.

Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Issue warning-high flammability.
Evacuate area.
[illegible]ld be removed.
Chemical and physical treatment.

2. LABEL

2.1 Category: Flammable liquid
2.2 Class: 3

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Aromatic Hydrocarbon
3.2 Formula: m-$C_6H_4(CH_3)_2$
3.3 IMO/UN Designation: 3.2/1307
3.4 DOT ID No.: 1307
3.5 CAS Registry No.: 108-38-3

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Colorless
4.3 Odor: Like benzene; characteristic aromatic

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Approved canister or air-supplied mask, goggles or face shield, plastic gloves and boots
5.2 Symptoms Following Exposure: Vapors cause headache and dizziness. Liquid irritates eyes and skin. If taken into lungs, causes severe coughing, distress, and rapidly developing pulmonary edema. If ingested, causes nausea, vomiting, cramps, headache, and coma; can be fatal. Kidney and liver damage can occur.
5.3 Treatment of Exposure: INHALATION: remove to fresh air, administer artificial respiration and oxygen if required, call a doctor. INGESTION: do NOT induce vomiting; call a doctor. EYES: flush with water for at least 15 min. SKIN: wipe off, wash with soap and water.
5.4 Threshold Limit Value: 100 ppm
5.5 Short Term Inhalation Limits: 300 ppm for 30 min
5.6 Toxicity by Ingestion: Grade 3, LD_{50} = 50 to 500 g/kg
5.7 Late Toxicity: Kidney and liver damage
5.8 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
5.9 Liquid or Solid Irritant Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
5.10 Odor Threshold: 0.05 ppm
5.11 IDLH Value: 10,000 ppm

6. FIRE HAZARDS

6.1 Flash Point: 84°F C.C.
6.2 Flammable Limits in Air: 1.1%-6.4%
6.3 Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide
6.4 Fire Extinguishing Agents Not to be Used: Water may be ineffective
6.5 Special Hazards of Combustion Products: Not pertinent
6.6 Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back.
6.7 Ignition Temperature: 986°F
6.8 Electrical Hazard: Class I, Group D
6.9 Burning Rate: 5.8 mm/min.
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 32

8. WATER POLLUTION

8.1 Aquatic Toxicity:
22 ppm/96 hr/bluegill/TL_m/fresh water
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD):
0 lb/lb, 5 days; 0% (theor.), 5 days
8.4 Food Chain Concentration Potential: Data not available

9. SHIPPING INFORMATION

9.1 Grades of Purity: Research, 99.99%; Pure, 99.9%; Technical, 99.2%
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Open (flame arrester) or pressure-vacuum

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-T-U

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations:
Flammable liquid
11.2 NAS Hazard Rating for Bulk Water Transportation:

Category	Rating
Fire	3
Health	
Vapor Irrant	1
Liquid or Solid Irritant	1
Poisons	2
Water Pollution	
Human Toxicity	1
Aquatic Toxicity	3
Aesthetic Effect	2
Reactivity	
Other Chemicals	1
Water	0
Self Reaction	0

11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	2
Flammability (Red)	3
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.2 Molecular Weight: 106.16
12.3 Boiling Point at 1 atm:
282.4°F = 139.8°C = 405.1°K
12.4 Freezing Point:
−54.2°F = −47.8°C = 225.3°K
12.5 Critical Temperature:
650.8°F = 343.8°C = 617.0°K
12.6 Critical Pressure:
513.8 atm = 34.95 psia = 3,540 kN/m²
12.7 Specific Gravity:
0.864 at 20°C (liquid)
12.8 Liquid Surface Tension:
28.6 dynes/cm = 0.0286 N/m at 20°C
12.9 Liquid Water Interfacial Tension:
36.4 dynes/cm = 0.0364 N/m at 20°C
12.10 Vapor (Gas) Specific Gravity:
Not pertinent
12.11 Ratio of Specific Heats of Vapor (Gas):
1.071
12.12 Latent Heat of Vaporization:
147 Btu/lb = 81.8 cal/g = 2.43 X 10^4 J/kg
12.13 Heat of Combustion: −17,554 Btu/lb = −9752.4 cal/g = −408.31 X 10^4 J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.25 Heat of Fusion: 26.01 cal/g
12.26 Limiting Value: Data not available
12.27 Reid Vapor Pressure: 0.24 psia

NOTES

TOLUENE

TOL

Common Synonyms	Watery liquid	Colorless	Pleasant odor
Toluol Methylbenzene Methylbenzol	Floats on water. Flammable, irritating vapor is produced.		

Stop discharge if possible. Keep people away.
Shut off ignition sources and call fire department.
Stay upwind and use water spray to "knock down" vapor.
Avoid contact with liquid and vapor.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

FLAMMABLE.
Flashback along vapor trail may occur.
Vapor may explode if ignited in an enclosed area.
Wear goggles and self-contained breathing apparatus.
Extinguish with dry chemical, foam, or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

VAPOR
Irritating to eyes, nose and throat.
If inhaled, will cause nausea, vomiting, headache, dizziness, difficult breathing or loss of consciousness.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing difficult, give oxygen.

LIQUID
Irritating to skin and eyes.
If swallowed, will cause nausea, vomiting or loss of consciousness.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.
DO NOT INDUCE VOMITING.

Water Pollution

Dangerous to aquatic life in high concentrations.
Fouling to shoreline.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Issue warning-high flammability.
Evacuate area.

2. LABEL

2.1 Category: Flammable liquid
2.2 Class: 3

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Aromatic Hydrocarbon
3.2 Formula: $C_6H_5CH_3$
3.3 IMO/UN Designation: 3.2/1294
3.4 DOT ID No.: 1294
3.5 CAS Registry No.: 108-88-3

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Colorless
4.3 Odor: Pungent, aromatic, benzene-like, distinct, pleasant

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Air-supplied mask, goggles or face shield, plastic gloves
5.2 Symptoms Following Exposure: Vapors irritate eyes and upper respiratory tract, cause dizziness, headache, anesthesia, respiratory arrest. Liquid irritates eyes and causes drying of skin. If aspirated, causes coughing, gagging, distress, and rapidly developing pulmonary edema. If injested causes vomiting, griping, diarrhea, depressed respiration.
5.3 Treatment of Exposure: INHALATION: remove to fresh air, give artificial respiration and oxygen if needed, call a doctor. INGESTION: do NOT induce vomiting, call a doctor. EYES: flush with water for at least 15 min. SKIN: wipe off, wash with soap and water.
5.4 Threshold Limit Value: 100 ppm
5.5 Short Term Inhalation Limits: 600 ppm for 30 min.
5.6 Toxicity by Ingestion: Grade 2; LD_{50} = 0.8 to 5 g/kg
5.7 Late Toxicity: Kidney and liver damage may follow ingestion.
5.8 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
5.9 Liquid or Solid Irritant Characteristics: Minimum hazard if spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
5.10 Odor Threshold: 0.17 ppm
5.11 IDLH Value: 2,000 ppm

6. FIRE HAZARDS

6.1 Flash Point: 40°F C.C.; 85°F O.C.
6.2 Flammable Limits in Air: 1.27%-7%
6.3 Fire Extinguishing Agents: Carbon dioxide or dry chemical for small fires, ordinary foam for large fires.
6.4 Fire Extinguishing Agents Not to be Used: Water may be ineffective.
6.5 Special Hazards of Combustion Products: Not pertinent.
6.6 Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back.
6.7 Ignition Temperature: 897°F
6.8 Electrical Hazard: Class I, Group D
6.9 Burning Rate: 0.7 mm/min.
6.10 Adiabatic Flame Temperature: Data not available.

(Continued)

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent.
7.5 Polymerization: Not pertinent.
7.6 Inhibitor of Polymerization: Not pertinent.
7.7 Molar Ratio (Reactant to Product): Data not available.
7.8 Reactivity Group: 37

8. WATER POLLUTION

8.1 Aquatic Toxicity: 1180 mg/l/96 hr/sunfish/TL_m/fresh water
8.2 Waterfowl Toxicity: Data not available.
8.3 Biological Oxygen Demand (BOD): 0%, 5 days, 36% (Theor), 8 days
8.4 Food Chain Concentration Potential: None

9. SHIPPING INFORMATION

9.1 Grades of Purity: Research, reagent, nitration-all 99.8 + %, industrial containing 94 + %, with 5% xylene and small amounts of benzene and nonaromatic hydrocarbons; 80/120 less pure than industrial.
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Open (flame arrester) or pressure-vacuum

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-T-U

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: Flammable liquid
11.2 NAS Hazard Rating for Bulk Water Transportation:

Category	Rating
Fire	3
Health	
Vapor Irritant	1
Liquid or Solid Irritant	1
Poisons	2
Water Pollution	
Human Toxicity	1
Aquatic Toxicity	3
Aesthetic Effect	2
Reactivity	
Other Chemicals	1
Water	0
Self Reaction	0

11.3 NFPA Hazard Classification:

Category	Class/Rankion
Health Hazard (Blue)	2
Flammability (Red)	3
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.2 Molecular Weight: 92.14
12.3 Boiling Point at 1 atm: 231.1°F = 110.6°C = 383.8°K
12.4 Freezing Point: −139°F = −95.0°C = 178.2°K
12.5 Critical Temperature: 605.4°F = 318.6°C = 591.8°K
12.6 Critical Pressure: 596.1 psia = 40.56 atm = 4.109 MN/m²
12.7 Specific Gravity: 0.867 at 20°C (liquid)
12.8 Liquid Surface Tension: 28.0 dynes/cm = 0.0280 N/m at 20°C
12.9 Liquid-Water Interfacial Tension: 36.1 dynes/cm = 0.0361 N/m at 25°C
12.10 Vapor (Gas) Specific Gravity: Not pertinent
12.11 Ratio of Specific Heats of Vapor (Gas): 1.089
12.12 Latent Heat of Vaporization: 155 Btu/lb = 86.1 cal/g = 3.81 X 10⁵ J/kg
12.13 Heat of Combustion: −17,430 Btu/lb = −9686 cal/g = −405.5 X 10⁵ J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.26 Heat of Fusion: 17.12 cal/g
12.28 Limiting Value: Data not available
12.27 Reid Vapor Pressure: 1.1 psia

6. FIRE HAZARDS (Continued)

6.11 Stoichiometric Air to Fuel Ratio: Data not available.
6.12 Flame Temperature: Data not available.

BENZENE

BNZ

Common Synonyms	Watery liquid	Colorless	Gasoline-like odor
Benzol Benzole	Floats on water. Flammable, irritating vapor is produced. Freezing point is 42°F.		

Avoid contact with liquid and vapor. Keep people away.
Wear goggles and self-contained breathing apparatus.
Shut off ignition sources and call fire department.
Stop discharge if possible.
Stay upwind and use water spray to knock down vapor.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

FLAMMABLE
Flashback along vapor trail may occur.
Vapor may explode if ignited in an enclosed area.
Wear goggles and self-contained breathing apparatus.
Extinguish with dry chemical, foam, or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID

VAPOR
Irritating to eyes, nose and throat.
If inhaled, will cause headache, difficult breathing, or loss of consciousness.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
Irritating to skin and eyes.
Harmful if swallowed.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
If SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.

Water Pollution

HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS
May be dangerous if it enters water intakes.

Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Recommended Methods Handbook)

Have working high flammability.

Protect access.

2. LABEL

2.1 Category: Flammable liquid
2.2 Class: 3

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Aromatic hydrocarbon
3.2 Formula: C_6H_6
3.3 IMO/UN Designation: 3.2/1114
3.4 DOT ID No.: 1114
3.5 CAS Registry No.: 71-43-2

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid
4.2 Color: Colorless
4.3 Odor: Aromatic, rather pleasant aromatic odor; characteristic odor

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Hydrocarbon vapor canister, supplied air or a hose mask; hydrocarbon-impervious rubber or plastic gloves; chemical goggles or face splash shield; hydrocarbon-insoluble apron such as neoprene.
5.2 Symptoms Following Exposure: Dizziness, excitation, pallor, followed by flushing, weakness, headache, breathlessness, chest constriction. Coma and possible death.
5.3 Treatment of Exposure: SKIN: flush with water followed by soap and water; remove contaminated clothing and wash skin. EYES: flush with plenty of water until irritation subsides. INHALATION: remove from exposure immediately. Call a physician. If breathing is irregular or stopped, start resuscitation; administer oxygen.
5.4 Threshold Limit Value: 10 ppm
5.5 Short Term Inhalation Limits: 75 ppm for 30 min
5.6 Toxicity by Ingestion: Grade 3, LD_{50} = 50 to 500 mg/kg
5.7 Late Toxicity: Leukemia
5.8 Vapor (Gas) Irritant Characteristics: If present in high concentrations, vapors may cause irritation of eyes or respiratory system. The effect is temporary.
5.9 Liquid or Solid Irritant Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
5.10 Odor Threshold: 4.68 ppm
5.11 IDLH Value: 2,000 ppm

6. FIRE HAZARDS

6.1 Flash Point: 12°F C.C.
6.2 Flammable Limits in Air: 1.3% 7.9%
6.3 Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide
6.4 Fire Extinguishing Agents Not to be Used: Water may be ineffective
6.5 Special Hazards of Combustion Products: Not pertinent
6.6 Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back.
6.7 Ignition Temperature: 1097°F
6.8 Electrical Hazard: Class I, Group D
6.9 Burning Rate: 6.0 mm/min
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: 32

8. WATER POLLUTION

8.1 Aquatic Toxicity:
5 ppm/6 hr/minnow/lethal/distilled water
20 ppm/24 hr/fourbush/TL$_m$/tap water
8.2 Waterfowl Toxicity: Data not available
8.3 Biological Oxygen Demand (BOD): 1.2 lb/lb, 10 days
8.4 Food Chain Concentration Potential: None

9. SHIPPING INFORMATION

9.1 Grades of Purity:
Industrial pure ... 99+ %
Thiophene-free ... 99+ %
Nitration ... 99+ %
Industrial 90% ... 85+ %
Reagent ... 99+ %
9.2 Storage Temperature: Open
9.3 Inert Atmosphere: No requirement
9.4 Venting: Pressure-vacuum

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

A-T-U-V-W

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations:
Flammable liquid
11.2 NAS Hazard Rating for Bulk Water Transportation:

Category	Rating
Fire	3
Health	
Vapor Irritant	1
Liquid or Solid Irritant	1
Poisons	3
Water Pollution	
Human Toxicity	3
Aquatic Toxicity	1
Aesthetic Effect	3
Reactivity	
Other Chemicals	2
Water	1
Self Reaction	0

11.3 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	2
Flammability (Red)	3
Reactivity (Yellow)	0

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Liquid
12.2 Molecular Weight: 78.11
12.3 Boiling Point at 1 atm: 176°F = 80.1°C = 353.3°K
12.4 Freezing Point: 42.0°F = 5.5°C = 278.7°K
12.5 Critical Temperature: 552.0°F = 288.8°C = 562.1°K
12.6 Critical Pressure: 710 psia = 48.3 atm = 4.89 MN/m²
12.7 Specific Gravity: 0.879 at 20°C (liquid)
12.8 Liquid Surface Tension: 28.8 dynes/cm = 0.0288 N/m at 20°C
12.9 Liquid Water Interfacial Tension: 35.0 dynes/cm = 0.035 N/m at 20°C
12.10 Vapor (Gas) Specific Gravity: 2.7
12.11 Ratio of Specific Heats of Vapor (Gas): 1.081
12.12 Latent Heat of Vaporization: 169 Btu/lb = 94.1 cal/g = 3.94 X 10⁵ J/kg
12.13 Heat of Combustion: −17,460 Btu/lb = −9698 cal/g = −406.0 X 10⁵ J/kg
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.17 Heat of Fusion: 30.45 cal/g
12.20 Limiting Value: Data not available
12.21 Reid Vapor Pressure: 3.22 psia

NOTES

SYNONYMS: PCBS
CHLORODIPHENYL (__ % CL)
CHLORINATED BIPHENYL
POLYCHLORINATED BIPHENYL
CHLORINATED BIPHENYLS
(APPROX. __ % CL)

TRADE NAMES:(COMMONLY USED MONSANTO PRODUCTS)

ASKAREL**
AROCLOR 1 SERIES 1016, 1221, 1232, 1242, 1248, 1254, 1260 THERMINOL FR SERIES

CAS NO.: 001336363, 053469219, 012672296, 011097691, 011096825 AND OTHERS

WARNING STATEMENTS

FEDERAL REGULATIONS UNDER THE TOXIC SUBSTANCE CONTROL ACT REQUIRE PCB'S AND PCB ITEMS TO BE MARKED. (CHECK REGULATIONS FOR DETAILS.*)

C A U T I O N CONTAINS PCBS (POLYCHLORINATED BIPHENYLS)

A TOXIC ENVIRONMENTAL CONTAMINANT REQUIRING SPECIAL HANDLING AND DISPOSAL IN ACCORDANCE WITH U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATIONS 40CFR 761. FOR DISPOSAL INFORMATION CONTACT THE NEAREST U.S. EPA OFFICE.

IN CASE OF ACCIDENT OR SPILL CALL TOLL FREE THE U.S. COAST GUARD NATIONAL RESPONSE CENTER 800-424-8802
ALSO CONTACT
TEL. NO.

C A U T I O N - CONTAINS PCBS (POLYCHLORINATED BIPHENYLS) FOR PROPER DISPOSAL INFORMATION CONTACT U.S. ENVIRONMENTAL PROTECTION AGENCY

PRECAUTIONARY MEASURES

CARE SHOULD BE TAKEN TO PREVENT ENTRY INTO THE ENVIRONMENT THROUGH SPILLS, LEAKAGE, USE, VAPORIZATION, OR DISPOSAL OF LIQUID OR CONTAINERS. AVOID PROLONGED BREATHING OF VAPORS OR MISTS. AVOID CONTACT WITH EYES OR PROLONGED CONTACT WITH SKIN. IF SKIN CONTACT OCCURS, REMOVE BY WASHING WITH SOAP AND WATER. FOLLOWING EYE CNTACT, FLUSH WITH WATER. IN CASE OF SPILLAGE ONTO CLOTHING, THE CLOTHING SHOULD BE REMOVED AS SOON AS PRACTICAL, SKIN WASHED, AND CLOTHING LAUNDERED. COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CONSULT A PHYSICIAN. DO NOT INDUCE VOMITING OR GIVE ANY OILY LAXATIVES. NOTE TO PHYSICIAN: IF LARGE

AMOUNTS ARE INGESTED, GASTRIC LAVAGE IS SUGGESTED.

SKIN: IF LIQUID OR SOLID PCBS ARE SPLASHED OR SPILLED ON SKIN, CONTAMINATED CLOTHING SHOULD BE REMOVED AND THE SKIN WASHED THOROUGHLY WITH SOAP AND WATER. NOTE TO PHYSICIAN: HOT PCBS MAY CAUSE THERMAL BURNS.

EYES: EYES SHOULD BE IRRIGATED IMMEDIATELY WITH COPIOUS QUANTITIES OF RUNNING WATER FOR AT LEAST 15 MINUTES IF LIQUID OR SOLID PCBS GET INTO THEM. A PETROLATUM-BASED OPHTHALMIC OINTMENT MAY BE APPLIED TO THE EYE TO RELIEVE THE IRRITATING EFFECTS OF PCBS.

INHALATION: REMOVE TO FRESH AIR. IF SKIN RASH OR RESPIRATORY IRRITATION PERSIST, CONSULT A PHYSICIAN. NOTE TO PHYSICIAN: IF ELECTRICAL EQUIPMENT ARCS OVER, PCBS OR OTHER CHLORINATED HYDROCARBON DIELECTRIC FLUIDS MAY DECOMPOSE TO PRODUCE HCL, HYDROCHLORIC ACID, A RESPIRATORY IRRITANT.

OCCUPATIONAL CONTROL PROCEDURES

EYE PROTECTION: WEAR CHEMICAL SPLASH GOGGLES AND HAVE EYE BATHS AVAILABLE WHERE THERE IS SIGNIFICANT POTENTIAL FOR EYE CONTACT.

SKIN PROTECTION: WEAR APPROPRIATE PROTECTIVE GLOVES AND PROTECTIVE CLOTHING THAT PROVIDE A BARRIER TO PREVENT SKIN CONTACT. CONSULT GLOVE MANUFACTURER TO DETERMINE APPROPRIATE TYPE GLOVE FOR GIVEN APPLICATION. WEAR CHEMICAL SAFETY GOGGLES AND A FACE SHIELD AND A PROTECTIVE APRON THAT PROVIDES A BARRIER WHEN SPLASHING IS LIKELY WASH IMMEDIATELY IF SKIN IS CONTAMINATED. REMOVE CONTAMINATED CLOTHING PROMPTLY AND LAUNDER BEFORE REUSE. CLEAN PROTECTIVE EQUIPMENT BEFORE REUSE. PROVIDE A SAFETY SHOWER AT ANY LOCATION WHERE SKIN CONTACT CAN OCCUR. WASH THOROUGHLY AFTER HANDLING.
ATTENTION: REPEATED OR PROLONGED CONTACT MAY CAUSE CHLORACNE IN SOME PEOPLE.

RESPIRATORY PROTECTION: AVOID BREATHING VAPOR OR MIST. USE NIOSH/MSHA APPROVED EQUIPMENT WHEN AIRBORNE EXPOSURE LIMITS ARE EXCEEDED. FULL FACEPIECE EQUIPMENT IS RECOMMENDED AND, IF USED, REPLACES NEED FOR FACE SHIELD AND/OR CHEMICAL SPLASH GOGGLES. CONSULT RESPIRATOR MANUFACTURER TO DETERMINE TYPE EQUIPMENT FOR GIVEN APPLICATION. THE RESPIRATOR USE LIMITATIONS SPECIFIED BY NIOSH/MSHA OR THE MANUFACTURER MUST BE OBSERVED. HIGH AIRBORNE CONCENTRATIONS MAY REQUIRE USE OF SELF-CONTAINED BREATHING APPARATUS OR SUPPLIED AIR RESPIRATOR. RESPIRATORY PROTECTION PROGRAMS MUST BE IN COMPLIANCE WITH 29 CFR PART 1910.134.

VENTILATION: PROVIDE VENTILATION TO CONTROL EXPOSURE LEVELS BELOW

AIRBORNE EXPOSURE LIMITS. USE LOCAL MECHANICAL EXHAUST VENTILATION AT SOURCES OF AIR CONTAMINATION SUCH AS OPEN PROCESS EQUIPMENT.

AIRBORNE EXPOSURE LIMITS: CHLORINATED BIPHENYL (APPROXIMATELY 42% CHLORINE)

OSHA PEL: 1 MG/M3 8-HR TIME-WEIGHTED AVERAGE - SKIN*
ACGIH TLV: 1 MG/M3 8-HR TIME-WEIGHTED AVERAGE - SKIN*
2 MG/M3 SHORT-TERM EXPOSURE LIMIT - SKIN

CHLORINATED BIPHENYL (APPROXIMATELY 54% CHLORINE)

OSHA PEL: 0.5 MG/M3 8-HR TIME-WEIGHTED AVERAGE - SKIN*
ACGIH TLV: 0.5 MG/M3 8-HR TIME-WEIGHTED AVERAGE -SKIN*
1 MG/M3 SHORT-TERM EXPOSURE LIMIT - SKIN*

* SKIN NOTATION MEANS THAT SKIN ABSORPTION OF THIS MATERIAL MAY ADD TO THE OVERALL EXPOSURE. AVOID SKIN CONTACT.

FIRE PROTECTION INFORMATION

FIRE AND EXPLOSION: PCBS ARE FIRE-RESISTANT COMPOUNDS. THEY MAY DECOMPOSE TO FORM CO, CO2, HCL, PHENOLICS, ALDEHYDES AND OTHER TOXIC COMBUSTION PRODUCTS UNDER SEVERE CONDITIONS SUCH AS EXPOSURE TO FLAME OR HOT SURFACES.

AT TEMPERATURES IN THE RANGE OF 600-650C IN THE PRESENCE OF EXCESS OXYGEN PCBS MAY FORM POLYCHLORINATED DIBENZOFURANS (PCDFS). LABORATORY STUDIES UNDER SIMILAR CONDITIONS HAVE DEMONSTRATED THAT PCBS DO NOT PRODUCE POLYCHLORINATED DIBENZO-P-DIOXINS (PCDDS).

PCBS IN ELECTRICAL EQUIPMENT HAVE BEEN REPORTED TO PRODUCE BOTH CHLORINATED DIOXINS (PCDDS) AND FURANS DURING FIRE SITUATIONS. THESE COMBUSTION PRODUCTS MAY RESULT ALL, OR IN PART, FROM NON-PCB COMPONENTS OF THE

DIELECTRIC FLUIDS OR OTHER COMBUSTED MATERIALS. CONSULT THE EQUIPMENT MANUFACTURER FOR INFORMATION REGARDING COMPOSITION OF THE DIELECTRIC FLUIDS IN ELECTRICAL APPARATUS.

STANDARD FIRE FIGHTING WEARING APPAREL AND SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN WHEN FIGHTING FIRES THAT INVOLVE POSSIBLE EXPOSURE TO CHEMICAL COMBUSTION PRODUCTS. FIRE FIGHTING EQUIPMENT SHOULD BE THOROUGHLY CLEANED AND DECONTAMINATED AFTER USE.

IF A PCB TRANSFORMER IS INVOLVED IN A FIRE-RELATED INCIDENT, THE OWNER OF THE TRANSFORMER MAY BE REQUIRED TO REPORT THE INCIDENT. CONSULT AND FOLLOW APPROPRIATE FEDERAL, STATE, AND LOCAL REGULATIONS.

HEALTH EFFECTS SUMMARY

SKIN CONTACT: PCBS CAN BE ABSORBED THROUGH INTACT SKIN. LOCAL ACTION ON SKIN IS SIMILAR TO THAT OF COMMON ORGANIC SOLVENTS WHERE CONTACT LEADS TO REMOVAL OF NATURAL FATS AND OILS WITH SUBSEQUENT DRYING AND CRACKING OF THE SKIN. A POTENTIAL EXISTS FOR THE CONTRACTING OF CHLORACNE.

EYE CONTACT: THE LIQUID PRODUCTS AND THEIR VAPORS ARE MODERATELY IRRITATING TO EYE TISSUES.

INGESTION: THE ACUTE ORAL TOXICITIES OF THE UNDILUTED COMPOUNDS ARE: LD50 RATS - 8.65 GM/KG FOR 42% CHLORINATED, AND 11.9 GM/KG FOR 54% CHLORINATED - "SLIGHTLY TOXIC."

INHALATION: ANIMAL EXPERIMENTS OF VARYING DURATION AND AT DIFFERENT AIR CONCENTRATIONS SHOW THAT FOR SIMILAR EXPOSURE CONDITIONS, THE 54% CHLORINATED MATERIAL PRODUCES MORE LIVER INJURY THAN THE 42% CHLORINATED MATERIAL.

OTHER: THERE ARE LITERATURE REPORTS THAT PCBS CAN IMPAIR REPRODUCTIVE FUNCTIONS IN MONKEYS. A STUDY REPORTED IN THE LITERATURE WITH FEMALE RATS USING AROCLOR 1260 STATED THAT AROCLOR 1260 CAUSED LIVER CANCERS. MONSANTO SPONSORED ANIMAL FEEDING STUDIES OF AROCLOR 1242 1254 AND 1260. THESE COMPOUNDS, FED TO BOTH SEXES OF RATS, DID NOT PRODUCE CANCERS. THE NATIONAL CANCER INSTITUTE PERFORMED A STUDY IN 1977 USING AROCLOR 1254 WITH BOTH SEXES OF RATS. NCI STATED THAT THE PCB, AROCLOR 1254, WAS NOT CARCINOGENIC UNDER THE CONDITION OF THEIR BIOASSAY.

THE CONSISTENT FINDING IN ANIMAL STUDIES PCBS IS THAT THEY PRODUCE LIVER INJURY FOLLOWING PROLONGED AND REPEATED EXPOSURE BY ANY ROUTE, IF THE EXPOSURE IS OF SUFFICIENT DEGREE AND DURATION. LIVER INJURY IS PRODUCED FIRST, AND BY EXPOSURES THAT ARE LESS THAN THOSE REPORTED TO CAUSE CANCER IN RODENTS. THEREFORE, EXPOSURE BY ALL ROUTES SHOULD BE KEPT SUFFICIENTLY LOW TO PREVENT LIVER INJURY.

NUMEROUS EPIDEMIOLOGICAL STUDIES OF HUMANS, BOTH OCCUPATIONALLY EXPOSED AND NONWORKER ENVIRONMENTALLY EXPOSED POPULATIONS, HAVE NOT DEMONSTRATED ANY STATISTICALLY SIGNIFICANT CASUAL RELATIONSHIP BETWEEN PCB EXPOSURES AND CHRONIC HUMAN ILLNESSES SUCH AS CANCER OR NEUROLOGICAL OR CARDIOVASCULAR EFFECTS. NOR WAS THERE ANY INCREASE IN OVERALL CANCER MORTALITY AS A RESULT OF PCB EXPOSURE. PCBS CAN CAUSE DERMATOLOGICAL SYMPTOMS; HOWEVER, THESE ARE REVERSIBLE UPON REMOVAL OF EXPOSURE SOURCE.

PCBS ARE IDENTIFIED AS HAZARDOUS CHEMICALS UNDER CRITERIA OF THE OSHA HAZARD COMMUNICATION STANDARD (29

CFR PART 1910.1200). THE STANDARD REQUIRES THAT THIS DOCUMENT MENTION THAT PCBS HAVE BEEN LISTED IN THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) MONOGRAPHS (1982)-GROUP 2B AND IN THE NATIONAL TOXICOLOGY PROGRAM (NTP) ANNUAL REPORT ON CARCINOGENS (THIRD).

PHYSICAL DATA

TABLE 1 - PROPERTIES OF SELECTED AROCLORS

PROPERTY	1016	1221	1232	1242
COLOR (APHA)	40	100	100	100
PHYSICAL STATE	MOBILE OIL	MOBILE OIL	MOBILE OIL	MOBILE OIL
STABILITY	INERT	INERT	INERT	INERT
DENSITY (LB/GAL 25C)	11.40	9.85	10.55	11.50
SPECIFIC GRAVITY X/15.5C	1.36-1.37 X-25	1.18-1.19 X-25	1.27-1.28 X-25	1.30-1.39 X-25
DISTILLATION RANGE (C)	323-356	275-320	290-325	325-366
ACIDITY MG KOH/G, MAXIMUM	.010	.014	0.14	.015
FIRE POINT (C)	NONE TO BOILING POINT	176	238	NONE TO BOILING POINT
FLASH POINT (C)	170	141-150	152-154	176-180
VAPOR PRESSURE (MM HG @ 100F)	NA	NA	0.005	0.001
VISCOSITY (SAYBOLT UNIV. SEC. @ 100F)	71-81	38-41	44-51	82-92

TABLE 1 - PROPERTIES OF SELECTED AROCLORS (CONT.)

PROPERTY	1248	1254	1260
COLOR (APHA)	100	100	150
PHYSICAL STATE	MOBILE OIL	VISCOUS LIQUID	STICKY RESIN
STABILITY	INERT	INERT	INERT

DENSITY (LB/GAL 25C)	12.04	12.82	13.50
SPECIFIC GRAVITY X/15.5C	1.40-1.41 X-65	1.49-1.50 X-65	1.55-1.56 X-90
DISTILLATION RANGE (C)	340-375	365-390	385-420
ACIDITY MG KOH/G, MAXIMUM	.010	.010	.014
FIRE POINT (C)	NONE TO BOILING POINT	NONE TO BOILING POINT	NONE TO BOILING POINT
FLASH POINT	193-196	NONE	NONE
VAPOR PRESSURE (MM HG @ 100F)	0.00037	0.00006	NA
VISCOSITY (SAYBOLT UNIV. SEC. @ 100 F)	185-240	1800-2500	-

NA - NOT AVAILABLE

REACTIVITY DATA

PCB'S ARE VERY STABLE, FIRE-RESISTANT COMPOUNDS.

SPILL, LEAK AND DISPOSAL INFORMATION

DISPOSAL OF LIQUID PCBS AND OTHER PCB ITEMS IS STRICTLY REGULATED BY THE FEDERAL GOVERNMENT. THE REGULATIONS ARE FOUND AT 40 CFR PART 761. CONSULT TEESE REGULATIONS AS WELL AS APPLICABLE STATE AND LOCAL REGULATIONS PRIOR TO ANY DISPOSAL OF PCBS, PCB ITEMS, OR PCB-CONTAMINATED ITEMS.

IF PCBS LEAK OR ARE SPILLED, THE FOLLOWING STEPS SHOULD BE TAKEN IMMEDIATELY:

ALL NON-ESSENTIAL PERSONNEL SHOULD LEAVE THE LEAK OR SPILL AREA.

THE AREA SHOULD BE ADEQUATELY VENTILATED TO PREVENT THE ACCUMULATION OF VAPORS.

THE SPILL/LEAK SHOULD BE CONTAINED. LOSS TO SEWER SYSTEMS, NAVIGABLE WATERWAYS AND STREAMS SHOULD BE PREVENTED. SPILLS/LEAKS SHOULD BE REMOVED PROMPTLY BY MEANS OF ABSORPTIVE MATERIAL, SUCH AS SAWDUST, VERMICULITE, DRY SAND, CLAY, DIRT OR OTHER SIMILAR MATERIALS, OR TRAPPED AND REMOVED BY PUMPING OR OTHER SUITABLE MEANS (TRAPS, DRIP PANS, TRAYS, ETC.).

PERSONNEL ENTERING THE SPILL OR LEAK AREA SHOULD BE FURNISHED WITH APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING AS NEEDED. SEE OCCUPATIONAL CONTROL PROCEDURES SECTION OF THIS MSDS.

PERSONNEL TRAINED IN THE EMERGENCY PROCEDURES AND PROTECTED AGAINST THE ATTENDANT HAZARDS SHOULD SHUT OFF SOURCES OF PCBS, CLEAN UP SPILLS, CONTROL AND REPAIR LEAKS AND FIGHT FIRES IN PCB AREAS.

ALL WASTES AND RESIDUES CONTAINING PCBS (E.G., WIPING CLOTHS, ABSORBENT MATERIAL, USED DISPOSABLE PROTECTIVE GLOVES, CLOTHING, ETC.) SHOULD BE COLLECTED, PLACED IN PROPER CONTAINERS, MARKED AND DISPOSED OF IN THE MANNER PRESCRIBED BY EPA REGULATIONS (40 CFR PART 761) AND APPLICABLE STATE AND LOCAL REGULATIONS.

VARIOUS FEDERAL, STATE, AND LOCAL REGULATIONS MAY REQUIRE REPORTING OF PCB SPILLS AND MAY ALSO DEFINE SPILL CLEAN-UP LEVELS. CONSULT YOUR ATTORNEY OR APPROPRIATE REGULATORY OFFICIALS FOR INFORMATION RELATING TO SPILL REPORTING AND SPILL CLEAN-UP.

ADDITIONAL COMMENTS

POLYCHLORINATED BIPHENYLS

FOR REGULATORY PURPOSES, UNDER THE TOXIC SUBSTANCES CONTROL ACT THE TERM "PCB'S" REFERS TO A CHEMICAL SUBSTANCE LIMITED TO THE BIPHENYL MOLECULE THAT HAS BEEN CHLORINATED TO VARYING DEGREES OR ANY COMBINATION OF SUBSTANCES WHICH CONTAIN SUCH SUBSTANCE (40 CFR PART 761).

CHEMICALLY, COMMERCIAL PCBS ARE DEFINED AS A SERIES OF TECHNICAL MIXTURES, CONSISTING OF MANY ISOMERS AND COMPOUNDS THAT VARY FROM MOBILE OILY LIQUIDS TO WHITE CRYSTALLINE SOLIDS AND HARD NON-CRYSTALLINE RESINS. TECHNICAL PRODUCTS VARY IN COMPOSITION, IN THE DEGREE OF CHLORINATION AND POSSIBLY ACCORDING TO BATCH.

THE MIXTURE GENERALLY USED CONTAINS AN AVERAGE OF 3 ATOMS CHLORINE PER MOLECULE (42% CHLORINE) TO 5 ATOMS OF CHLORINE PER MOLECULE (54% CHLORINE). THEY ARE USED AS COMPONENTS OF DIELECTRIC FLUIDS IN TRANSFORMERS AND CAPACITORS. PRIOR TO 1972, PCB APPLICATIONS INCLUDED HEAT TRANSFER MEDIA, HYDRAULIC AND OTHER INDUSTRIAL FLUIDS, PLASTICIZERS, CARBONLESS

PAPER, PAINTS, INKS AND ADHESIVES. FEDERAL REGULATIONS SPECIFY THAT NON-TOTALLY ENCLOSED PCB ACTIVITIES ARE PERMITTED ONLY IF SPECIFICALLY EXEMPTED OR AUTHORIZED. (40 CFR PART 761).

CAS NO. 001336363: FOR GENERAL CLASS OF COMPOUNDS

TRADE NAMES/COMMON NAMES

**ASKAREL - GENERIC NAME FOR A BROAD CLASS OF FIRE-RESISTANT SYNTHETIC CHLORINATED HYDROCARBONS AND MIXTURES USED AS DIELECTRIC FLUIDS THAT COMMONLY CONTAINED ABOUT 30-70% PCBS. SOME ASKAREL FLUIDS CONTAINED 99% OR GREATER PCBS.

PYRANOL AND INERTEEN ARE TRADEMARKS FOR COMMONLY USED DIELECTRIC FLUIDS THAT MAY HAVE CONTAINED VARYING RATIOS OF

PCBS. SOME ASKAREL FLUIDS CONTAINED 99% OR GREATER PCBS.

PYRANOL AND INERTEEN ARE TRADEMARKS FOR COMMONLY USED DIELECTRIC FLUIDS THAT MAY HAVE CONTAINED VARYING RATIOS OF PCBS AS WELL AS OTHER COMPONENTS INCLUDING CHLORINATED BENZENES.

THIS LIST OF TRADE NAMES IS REPRESENTATIVE OF SEVERAL COMMONLY USED MONSANTO PRODUCTS (OR FORMULATED WITH MONSANTO PRODUCTS). OTHER TRADEMARKED PCB PRODUCTS WERE MARKETED BY MONSANTO AND OTHER MANUFACTURERS. PCBS WERE ALSO MANUFACTURED AND SOLD BY SEVERAL EUROPEAN AND JAPANESE COMPANIES. CONTACT THE MANUFACTURER OF THE TRADEMARKED PRODUCT DIRECTLY, IF NOT IN TEIS LISTING, TO DETERMINE IF THE FORMULATION CONTAINED PCBS AND ITS COMPOSITION.

DATE: 10/15/85

MSDS NUMBER: S00010793

----------FOR PRODUCT AND SALES INFORMATION----------

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE

----------PRODUCT IDENTIFICATION----------

PRODUCT NAME: CREOSOTE
COMMON NAMES/SYNONYMS: NONE

CAS NO.: UNASSIGNED
VW&R CODE: P5803

FORMULA: MIXTURE
HAZARD RATING (NFPA 704 CRITERIA)
HEALTH: 1
FIRE: 2
REACTIVITY: 0
SPECIAL: NONE

DATE ISSUED: 08/88
SUPERCEDES: NONE
HAZARD RATING SCALE:
0=MINIMAL 3=SERIOUS
1=SLIGHT 4=SEVERE
2=MODERATE

----------HAZARDOUS INGREDIENTS----------

COMPONENT	CAS NO.	%	EXPOSURE LIMITS, PPM OSHA PEL	ACGIH TLV	OTHER LIMIT	HAZARD
1-NAPHTHONITRILE	86-53-3	<0.5	NONE	NONE	NONE	NONE
3-METHYLDIPHENYLENE	UNREPORTED	>0.5 <3.0	NONE	NONE	NONE	NONE
2-NAPHTHONITRILE	613-46-7	<0.5	NONE	NONE	NONE	NONE
9-10 DIHYDRO-ANTHRACENE	UNREPORTED	>0.5 <3.0	NONE	NONE	NONE	NONE
2-METHYLFLUORENE	UNREPORTED	>0.5 <3.0	NONE	NONE	NONE	NONE
DIPHENYLENE SULFIDE	132-65-0	>0.5 <3.0	NONE	NONE	NONE	NONE
PHENANTHRENE	85-01-8	>5.0	NONE	NONE	NONE	NONE
ANTHRACENE	UNREPORTED	>3.0 <5.0	NONE	NONE	NONE	NONE
ACRIDENE	260-94-6	<0.5	NONE	NONE	NONE	NONE
3-METHYLPHENAN-THRENE	UNREPORTED	>0.5 <3.0	NONE	NONE	NONE	NONE
CARBAZOLE	86-74-8	>0.5 <3.0	NONE	NONE	NONE	NONE
4,5 METHYLENEPHEN-ANTHRENE	UNREPORTED	>0.5 <3.0	NONE	NONE	NONE	NONE
2-METHYLANTHRA-CENE	UNREPORTED	<0.5	NONE	NONE	NONE	NONE
9-METHYLANTHRA-CENE	779-02-2	>0.5 <3.0	NONE	NONE	NONE	NONE
2-METHYLCARBAZOLE	UNREPORTED	>0.5 <3.0	NONE	NONE	NONE	NONE
FLUORANTHENE	206-44-0	<5.0	NONE	NONE	NONE	NONE
1,2 BENZODIPHENY-LENE	UNREPORTED	>0.5 <3.0	NONE	NONE	NONE	NONE
PYRENE	129-00-0	>0.5 <3.0	NONE	NONE	NONE	NONE
BENZOFLUORENE	UNREPORTED	>0.5 <3.0	NONE	NONE	NONE	NONE
CHRYSENE	2-18-01-9	>0.5	NONE	NONE	NONE	NONE

UNIDENTIFIED COMPOUND IN DISTILLATE	UNREPORTED	<3.0 <5.0	NONE	NONE	NONE	NONE

PHYSICAL PROPERTIES

BOILING POINT, DEG F: 410-797
MELTING POINT, DEG F: NOT APPLICABLE
SPECIFIC GRAVITY (WATER=1): 1.03-1.18
VAPOR PRESSURE, MM HG/20 DEG C: 80
VAPOR DENSITY (AIR=1): >1
WATER SOLUBILITY, %: INSOLUBLE

APPEARANCE AND ODOR: DARK BROWN LIQUID WITH A PENETRATING SMOKEY ODOR AND A BURNING CAUSTIC TASTE.
EVAPORATION RATE (BUTYL ACETATE=1): <1

FIRST AID MEASURES

IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF SKIN CONTACT: IMMEDIATELY WASH SKIN WITH LOTS OF SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET MEDICAL ATTENTION IF IRRITATION PERSISTS AFTER WASHING.

IF SWALLOWED: IF CONSCIOUS, IMMEDIATELY INDUCE VOMITING BY GIVING 2 GLASSES OF WATER AND STICKING A FINGER DOWN THE THROAT. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

HEALTH HAZARD INFORMATION

PRIMARY ROUTES OF EXPOSURE: SKIN OR EYE CONTACT, INHALATION.

SIGNS AND SYMPTOMS OF EXPOSURE
INHALATION: BREATHING VAPOR MAY IRRITATE THE NOSE AND THROAT AND CAUSE COUGHING AND CHEST DISCOMFORT. PROLONGED EXPOSURE CAN RESULT IN ACUTE TOXIC EFFECTS SUCH AS RESPIRATORY DIFFICULTY, CONVULSIONS AND POSSIBLE CARDIOVASCULAR COLLAPSE.

EYE CONTACT: VAPORS WILL IRRITATE THE EYES. LIQUID AND MISTS WILL IRRITATE AND MAY BURN THE EYES.

SKIN CONTACT: NO IRRITATION IS LIKELY AFTER BRIEF CONTACT BUT MAY BE IRRITATING AFTER PROLONGED CONTACT.

SWALLOWED: IRRITATION OF THE GASTRO INTESTINAL TRACT FOLLOWED BY NAUSEA AND VOMITING, ABDOMINAL DISCOMFORT, RAPID PULSE, CARDIOVASCULAR COLLAPSE MAY OCCUR. FATAL DOSE IS APPROXIMATELY 0.1 G/KG OF BODY WEIGHT.

CHRONIC EFFECTS OF EXPOSURE: PROLONGED AND REPEATED SKIN EXPOSURE MAY LEAD TO CHANGES IN SKIN PIGMENTATION, BENIGN SKIN GROWTHS AND MAY IN SOME CASES, RESULTS IN SKIN CANCER.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE REPORTED.

TOXICITY DATA

ORAL: NO DATA FOUND

DERMAL: NO DATA FOUND

INHALATION: NO DATA FOUND

CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.

OTHER DATA: NONE

PERSONAL PROTECTION

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MINIMIZING EMISSIONS AT THE POINT OF USE.

RESPIRATORY PROTECTION: WEAR A NIOSH-APPROVED RESPIRATOR APPROPRIATE

FOR THE VAPOR OR MIST CONCENTRATION AT THE POINT OF USE. APPROPRIATE RESPIRATORS MAY BE A FULL FACEPIECE OR A HALF MASK AIR-PURIFYING CARTRIDGE RESPIRATOR EQUIPPED FOR ORGANIC VAPORS/MISTS, A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE, OR A SUPPLIED-AIR RESPIRATOR.

EYE PROTECTION: CHEMICAL GOGGLES AND FULL FACE SHIELD. IT IS GENERALLY RECOGNIZED THAT CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS BECAUSE CONTACT LENSES MAY CONTRIBUTE TO THE SEVERITY OF AN EYE INJURY.

PROTECTIVE CLOTHING: LONG-SLEEVED SHIRT, TROUSERS, SAFETY SHOES, RUBBER GLOVES, AND RUBBER APRON.

OTHER PROTECTIVE MEASURES: AN EYEWASH AND SAFETY SHOWER SHOULD BE NEARBY AND READY FOR USE.

FIRE AND EXPLOSION INFORMATION

FLASH POINT, DEG F: 158
METHOD USED: CC

FLAMMABLE LIMITS IN AIR, %
LOWER: N/D UPPER: N/D

EXTINGUISHING MEDIA: USE WATER SPRAY, DRY CHEMICAL, CO2, OR ALCOHOL FOAM. DO NOT USE A DIRECT WATER STREAM.

SPECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE.

UNUSUAL FIRE AND EXPLOSION HAZARDS: EXTINGUISH ALL NEARBY SOURCES OF IGNITION.

HAZARDOUS REACTIVITY

STABILITY: STABLE
POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: HEAT, SPARKS, AND OPEN FLAMES.

MATERIALS TO AVOID: STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: MAY LIBERATE CARBON MONOXIDE AND CARBON DIOXIDE.

----------SPILL, LEAK, AND DISPOSAL PROCEDURES----------

ACTION TO TAKE FOR SPILLS OR LEAKS: WEAR PROTECTIVE EQUIPMENT INCLUDING RUBBER BOOTS, RUBBER GLOVES, RUBBER APRON, AND A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE OR A SUPPLIED-AIR RESPIRATOR. IF THE SPILL OR LEAK IS SMALL, A FULL FACEPIECE AIR-PURIFYING CARTRIDGE RESPIRATOR EQUIPPED FOR ORGANIC VAPORS MAY BE SATISFACTORY. IN ANY EVENT, ALWAYS WEAR EYE PROTECTION. EXTINGUISH ALL IGNITION SOURCES AND ENSURE THAT ALL HANDLING EQUIPMENT IS ELECTRICALLY GROUNDED. FOR SMALL SPILLS OR DRIPS, MOP OR WIPE UP AND DISPOSE OF IN DOT-APPROVED WASTE CONTAINERS. FOR LARGE SPILLS, CONTAIN BY DIKING WITH SOIL OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIALS AND THEN PUMP INTO DOT-APPROVED WASTE CONTAINERS; OR ABSORB WITH NON-COMBUSTIBLE SORBENT MATERIAL, PLACE RESIDUE IN DOT-APPROVED WASTE CONTAINERS. KEEP OUT OF SEWERS, STORM DRAINS, SURFACE WATERS, AND SOIL.
COMPLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS ON SPILL REPORTING, AND HANDLING AND DISPOSAL OF WASTE.

DISPOSAL METHODS: DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED IN CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO ASCERTAIN PROPER DISPOSAL PROCEDURES.

NOTE: EMPTY CONTAINERS CAN HAVE RESIDUES, GASES AND MISTS AND ARE SUBJECT TO PROPER WASTE DISPOSAL, AS ABOVE.

----------SPECIAL PRECAUTIONS----------

HANDLING AND STORAGE PRECAUTIONS: KEEP AWAY FROM HEAT, SPARKS, AND FLAMES. STORE IN A COOL, DRY, WELL-VENTILATED PLACE AWAY FROM INCOMPATIBLE MATERIALS. VENT CONTAINER FREQUENTLY, AND MORE OFTEN IN WARM WEATHER, TO RELIEVE PRESSURE. ELECTRICALLY GROUND ALL EQUIPMENT WHEN HANDLING THIS PRODUCT AND USE ONLY NON-SPARKING TOOLS. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT USE PRESSURE TO EMPTY CONTAINER. WASH THOROUGHLY AFTER HANDLING. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING.

REPAIR AND MAINTENANCE PRECAUTIONS: DO NOT CUT, GRIND, WELD, OR DRILL ON OR NEAR THIS CONTAINER.

OTHER PRECAUTIONS: CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL RETAIN PRODUCT RESIDUE AND VAPORS. ALWAYS OBEY HAZARD WARNINGS AND HANDLE EMPTY CONTAINERS AS IF THEY WERE FULL.

----------PREPARATION INFORMATION----------

CONTACT MSDS CO-ORDINATOR, VAN WATERS & ROGERS INC.
DURING BUSINESS HOURS, PACIFIC TIME (408)435-8700

----------NOTICE----------

**VAN WATERS & ROGERS LTD. EXPRESSLY DISCLAIMS ALL EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WITH

STATE COMPENSATION INSURANCE FUND

P.O. BOX 807, SAN FRANCISCO, CA 94101-0807

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

MAY 1, 1991

POLICY NUMBER: 1243740-91
CERTIFICATE EXPIRES: 4-23-92

ALAMEDA COUNTY HEALTH
ATTN: DENNIS BYRNE
80 SWAN WAY ROOM 200
OAKLAND, CA 94621

This is to certify that we have issued a valid Workers' Compensation insurance policy in a form approved by the California Insurance Commissioner to the employer named below for the policy period indicated.

This policy is not subject to cancellation by the Fund except upon ten days' advance written notice to the employer.

We will also give you TEN days' advance notice should this policy be cancelled prior to its normal expiration.

This certificate of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

FAX: 916-678-6128

PRESIDENT

EMPLOYER

CLIFTON DEES & FRED BOURRET
DBA: DEES EXCAVATION
3645 LEAFWOOD CIRCLE
ANTIOCH, CA 94509

ACORD. **CERTIFICATE OF INSURANCE** Incept

ISSUE DATE (MM/DD/YY) 6/10/91

PRODUCER
ROBIS-INT'L INS. BROKERS, INC.

KIRCHICK INSURANCE
90 GREAT OAKS BLVD
SAN JOSE CA 95119

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A: PALISADES NAT'L INS
COMPANY LETTER B:
COMPANY LETTER C:
COMPANY LETTER D:
COMPANY LETTER E:

INSURED
WESTERN ROAD HAULERS ASSN.
DEES EXCAVATING
3645 LEAFWOOD CIR
ANTIOCH CA 94509

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
GENERAL LIABILITY	SA07242	5/14/91	5/14/92	GENERAL AGGREGATE	$
X COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OP AGG.	$
CLAIMS MADE OCCUR				PERSONAL & ADV. INJURY	$
OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE	$ 1,000,000
				FIRE DAMAGE (Any one fire)	$
				MED. EXPENSE (Any one person)	$
AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$
ANY AUTO					
ALL OWNED AUTOS				BODILY INJURY (Per person)	$
SCHEDULED AUTOS					
HIRED AUTOS				BODILY INJURY (Per accident)	$
NON-OWNED AUTOS					
GARAGE LIABILITY				PROPERTY DAMAGE	$
EXCESS LIABILITY				EACH OCCURRENCE	$
UMBRELLA FORM				AGGREGATE	$
OTHER THAN UMBRELLA FORM					
WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY LIMITS	
				EACH ACCIDENT	$
				DISEASE—POLICY LIMIT	$
				DISEASE—EACH EMPLOYEE	$
OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

A) INCL CONTRACTUAL BROADFORM PROPERTY DAMAGE
ER TERMS AND CONDITIONS OF POLICY

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 10 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

PA

ACORD 25-S (7/90)

Harding Lawson Associates

November 14, 1991

09382,040.02

California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Attention: Mr. Richard Hiett

Dear Mr. Hiett:

Groundwater Monitoring Plan
Chinatown Redevelopment Project Area
Oakland, California

This letter documents agreements reached in a meeting held Friday, November 8, 1991, and attended by Lester Feldman and Richard Hiett of the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), Peter Chen of the Redevelopment Agency of the City of Oakland (Agency) and David Leland of Harding Lawson Associates. The meeting was called to discuss continued groundwater monitoring activities in the Chinatown Redevelopment Project Area of Oakland.

The following summarizes agreements reached:

- Samples of groundwater from Wells MW-18, MW-19, and MW-23 will be analyzed quarterly for three quarters (December 1991, March 1992, and June 1992). Although not discussed in the meeting, it is proposed that samples from each well be analyzed for the gasoline constituents benzene, toluene, ethylbenzene, and xylenes. In addition, samples from Well MW-19 be analyzed for TPH as gasoline, and water levels will be monitored at the 11 wells in the Chinatown Project Area network.

- The need for further activity will be reassessed after completion of the June 1992 round. If the trend of concentrations at these wells does not show deterioration in water quality, the RWQCB anticipates that no further action would be required with regard to the presence of gasoline constituents in groundwater.

- Results will be reported to the RWQCB quarterly, and directed to the attention of Mr. Hiett.

The Agency appreciates the opportunity to discuss monitoring activities with you. If you have any questions regarding this summary, please call Peter Chen at 273-3692 or David Leland at (415) 899-7352.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Leland, P.E.
Associate Engineer

DFL/jc20664-oakland

cc: Lowell Miller, Alameda County Department of Environmental Health
Peter Chen, Agency
Donnell Choy, City Attorney's Office

Harding Lawson Associates

91 OCT 15 [illegible]

October 11, 1991

09382,040.02

California Regional Water
Quality Control Board
San Francisco Bay Region
2101 Webster Street
Oakland, California 94612

Attention: Mr. Don Dalke

Dear Mr. Dalke:

Report of Monitoring: September 1991
Chinatown Redevelopment Project Area
Oakland, California

This letter transmits a report titled *Report of Groundwater Monitoring, September 1991, Chinatown Redevelopment Project Area, Oakland, California*, dated October 11, 1991. The report was prepared by Harding Lawson Associates (HLA) on behalf of the Redevelopment Agency of the City of Oakland (Agency).

We look forward to meeting with you on November 1 to discuss the results of recent monitoring and recommendations for continued monitoring of groundwater levels and chemistry in the Chinatown area. Please call me at 899-7352 or Peter Chen of the Agency at 273-3692 if you have any questions.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Leland, P.E.
Associate Engineer

DFL/jc20044-oakland

Attachment: *Report of Groundwater Monitoring, September 1991, Chinatown Redevelopment Project Area, Oakland, California*

cc: Lester Feldman, RWQCB
Richard Hiett, RWQCB (without attachment)
Lowell Miller, Alameda County
Peter Chen, Agency (2)

SLL

Harding Lawson Associates

HLA

9

SEP

September 25, 1990

09382,040.02

California Region Water Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, California 94612

Attention: Mr. Donald Dalke

Dear Mr. Dalke:

Update on Site Activities
Pacific Renaissance Plaza
Oakland, California

9th + Webster

Harding Lawson Associates' (HLA) letter to you dated September 12, 1990, indicated that soils from Pacific Renaissance Plaza (PRP) site in Oakland might be directed to Knapp Excavators in Berkeley or the West Contra Costa Sanitary Landfill in Richmond. An agreement has recently been reached with the City of Berkeley that will result in the disposal at the City of Berkeley Landfill of all soils meeting Berkeley standards. Thus, at the present time, no soils are planned for unrestricted uses.

On another PRP matter, installation, development, and sampling of the three monitoring wells proposed in HLA's *Investigation Plan, Hydrocarbons in Offsite Groundwater, Chinatown Redevelopment Project Area, Oakland, California*, dated June 8, 1990, are now complete. Laboratory analytical results do not indicate the presence of gasoline compounds in any of the samples collected from the three wells; several chlorinated organic compounds were detected at one or more of the wells. Results of field activities, including boring logs, well completion details, and analytical data, will be transmitted to you in a letter report currently in preparation and expected to be completed in early October.

Please call David Leland at 899-7352 or Bruce Scheibach at 899-7319 if you have any questions.

Very truly yours,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

R. Bruce Scheibach
Senior Associate Hydrogeologist

cc: Peter Chen, Redevelopment Agency
Donnell Choy, City Attorney's Office
Fred Warren, Perini Corporation
Doug Grant, Pacific Renaissance Associates II

DFL/jj/dfl074#2

STATE OF CALIFORNIA

OFFICE MEMO

STD. 100 (REV. 10/87)
87 46331

DATE: 8/30/90

TO:
~~1.~~
2. SCL
3. DDD

ROOM/STA. NO.

FROM: DDD

PHONE NUMBER | ATSS ☐

ROOM/STA. NO.

SUBJECT: PRP [illegible] investigation

I need a status briefing either in writing or verbally. Please provide [illegible] 4/11 [illegible] meeting

Steve: Please prepare one page Internal Memo to file on this issue - Route to LF/DDD/File.

Thanks.
[initials]
8/30/90

Left msg with David 9/6/90

Put your thoughts to work. Submit a **MERIT AWARD SUGGESTION.**

Harding Lawson Associates

September 12, 1990

09382,040.02

California Regional Water Quality Control Board
San Francisco Bay Region
1800 Harrison Street, 7th Floor
Oakland, California 94612

Attention: Mr. Donald Dalke

Dear Mr. Dalke:

Update to Summary of August 20, 1990 Meeting
Soil Monitoring and Disposal
Pacific Renaissance Plaza
Oakland, California

This letter updates several items discussed at the August 20, 1990 meeting, as summarized in a letter dated August 29, 1990 from Harding Lawson Associates (HLA) to the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). First, in conversations with RWQCB staff subsequent to transmittal of the August 29 letter, it was clarified that soils to a depth of 20 feet below ground surface will be classified as construction waste in areas where available data do not indicate contamination to be present. This is a change from the depth of 10 feet cited in the August 29 letter. Areas of construction waste at depths of 15 and 20 feet below ground surface are presented in the attached Plates 4 and 5.

Second, the excavation contractor for the project has identified two possible destinations for construction waste. Knapp Excavators will accept up to 60,000 cubic yards of soil that would subsequently be used as needed primarily for trench backfill, but might also be used for building pads. Particular locations where these soils would be used are not known at this time. The second possible destination is the West Contra Costa Sanitary Landfill in Richmond for use as daily landfill cover. We understand that the 1,000 cubic yard verification sampling frequency would not apply to soils directed to this landfill because the soil would be subject to the landfill's own sampling and verification requirements.

Excavation is currently scheduled to begin Monday, September 17. If additional information regarding potential soil destinations becomes available, we will provide it to you. If you have any questions, please call David Leland of HLA at 899-7352.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

R. Bruce Scheibach
Senior Associate Hydrogeologist

DFL/kcf/df1070#2

Attachments: Plate 1 Site Plan
Plate 2 Construction Waste at 5 feet Below Ground Surface
Plate 3 Construction Waste at 5 feet Below Ground Surface
Plate 4 Construction Waste at 15 feet Below Ground Surface
Plate 5 Construction Waste at 20 feet Below Ground Surface

cc: Steve Luquire, RWQCB
Peter Chen, Redevelopment Agency
Donnell Choy, Oakland City Attorney's Office

3291 5721

DRAFT 9-2-88

EB-1

B-1 NA

DW-1

MW-3

MW-5

10th Street

MW-7

Franklin Street

B-2 NA

B-3 NA

B-22 NA

PB-6

B-4 NA

B-5 NA

B-8 ND

B-6 NA

B-7 ND

EB-2

MW-9

NA B-10

B-12 ND

PB-5

B-14 NA

B-16 NA

B-13 NA

B-17 NA

EB-4

NA MW-11 (B-18)

B-19 NA

B-20 NA

EB-3

NA MW-10 (B-21)

PB-19

Webster Street

9th Street

PB-18

EXPLANATION

- Approximate Location of HLA Monitoring Well
- Approximate Location of HLA Boring
- Appproximate Location of Previous Boring
- Approximate Location of Previous Piezometer
- Approximate Former Location of Gas Station

TPH Light in Soils at 5 feet

* No hits

N

0 50 100

SCALE IN FEET

109463

Harding Lawson Associates
Engineers and Geoscientists

Site Plan
Pacific Renaissance Plaza
City of Oakland
Chinatown Redevelopment Area
Oakland, California

PLATE 1

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,030.02				

DRAFT

3291 5721

MW-3

EB-1

B-1 NA

DW-1

MW-5

10th Street

MW-7

Franklin Street

B-2 NA

B-3 NA

B-22 NA

PB-6

B-4 NA

B-5 ND

B-8 NA

NA B-10

MW-9

B-6 NA

B-7 ND

EB-2

B-12 NA

PB-5

B-13 NA

B-14 ND

B-16 NA

B-17 NA

EB-4

NA MW-11 (B-18)

B-19 ND

B-20 NA

EB-3

NA MW-10 (B-21)

PB-19

Webster Street

9th Street

PB-18

EXPLANATION

- Approximate Location of HLA Monitoring Well
- Approximate Location of HLA Boring
- Appproximate Location of Previous Boring
- Approximate Location of Previous Piezometer
- Approximate Former Location of Gas Station

TPH Light in Soils at 10 feet
* No Lits

N

0 50 100

SCALE IN FEET

109483

Harding Lawson Associates
Engineers and Geoscientists

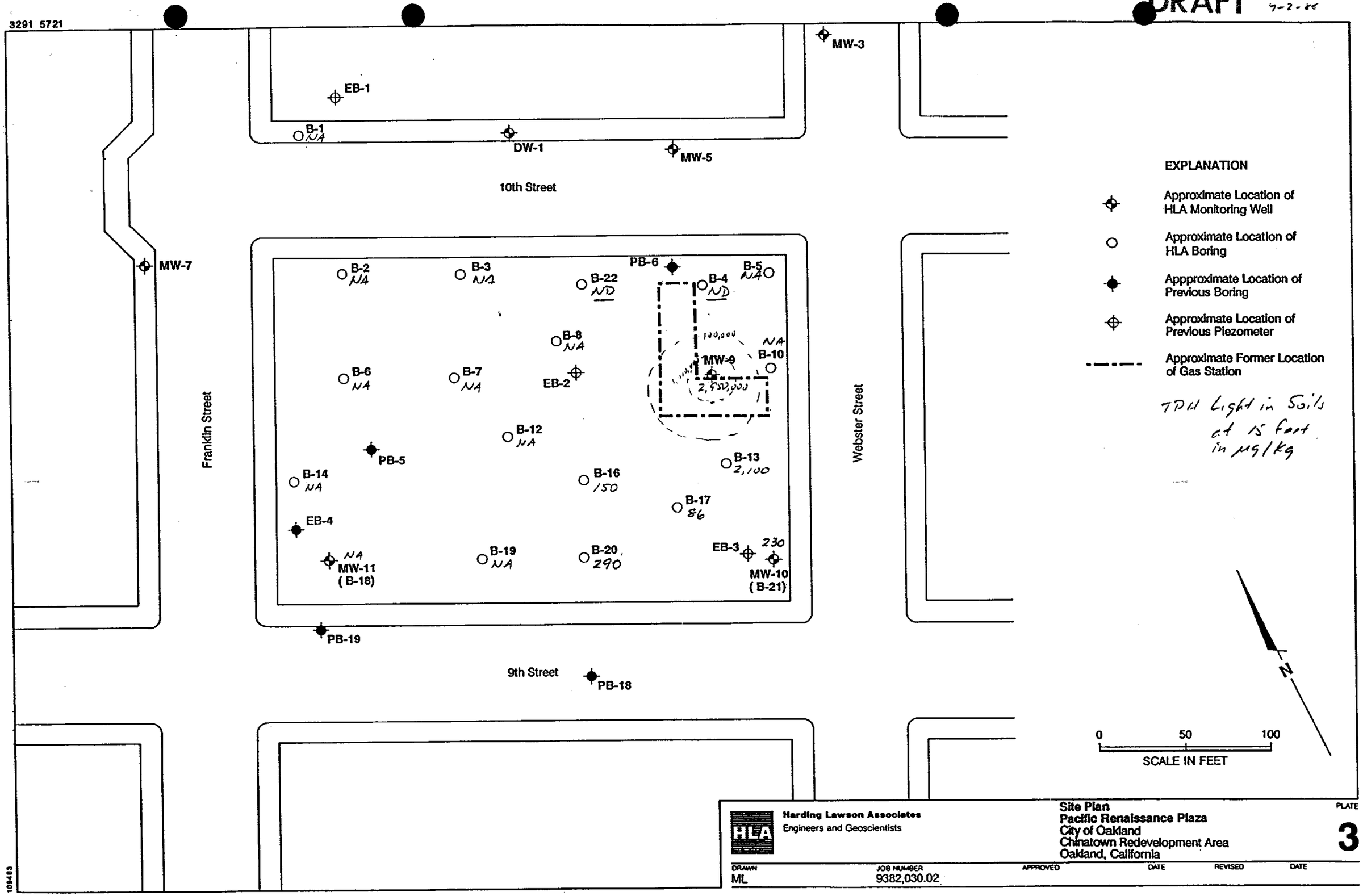
Site Plan
Pacific Renaissance Plaza
City of Oakland
Chinatown Redevelopment Area
Oakland, California

PLATE **2**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,030.02				

DRAFT 9-2-88

3291 5721



109463

Harding Lawson Associates
Engineers and Geoscientists

Site Plan
Pacific Renaissance Plaza
City of Oakland
Chinatown Redevelopment Area
Oakland, California

PLATE 3

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,030.02				

DRAFT 4-2-88

3291 5721

MW-3

EB-1

B-1 NA

DW-1

MW-5

10th Street

MW-7

Franklin Street

B-2 NA

B-3 NA

B-22 NA

PB-6

B-4 NA

B-5 NA

B-8 NA

ND MW-9

NA B-10

B-6 NA

B-7 NA

EB-2

B-12 NA

PB-5

B-14 NA

B-16 NA (2,000,000)

100,000

B-13 470,000

B-17 430

EB-4

200,000

EB-3

NA MW-11 (B-18)

B-19 120

B-20 210

MW-10 (B-21)

PB-19

9th Street

PB-18

Webster Street

EXPLANATION

- Approximate Location of HLA Monitoring Well
- Approximate Location of HLA Boring
- Appproximate Location of Previous Boring
- Approximate Location of Previous Piezometer
- Approximate Former Location of Gas Station

TPH Light in Soil at 20 Feet in mg/Kg

N

0 50 100

SCALE IN FEET

109463

Harding Lawson Associates
Engineers and Geoscientists

Site Plan
Pacific Renaissance Plaza
City of Oakland
Chinatown Redevelopment Area
Oakland, California

PLATE 4

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,030.02				

DRAFT TIAS 9-2-88

3291 5721

EB-1

B-1 NA

DW-1

MW-3

MW-5

10th Street

MW-7

Franklin Street

Webster Street

B-2 NA

B-3 490

PB-6

B-22 14,000

B-4 NA

B-5 NA

B-8 14,000

6,370 NA

MW-9

B-10

B-6 ND

B-7 NA

EB-2

B-12 3,000,000

PB-5

B-13 4,600,000

B-14 ND

B-16 4,500,000

B-17 650,000

EB-4

100 / 100,000

B-19 960,000

B-20 55,000

EB-3 16,000

MW-11 (B-18)

MW-10 (B-21)

PB-19

9th Street

PB-18

EXPLANATION

- Approximate Location of HLA Monitoring Well
- Approximate Location of HLA Boring
- Appproximate Location of Previous Boring
- Approximate Location of Previous Piezometer
- Approximate Former Location of Gas Station

TPH Light in Soil at 25 feet in mg/Kg

N

0 50 100

SCALE IN FEET

109463

Harding Lawson Associates
Engineers and Geoscientists

Site Plan
Pacific Renaissance Plaza
City of Oakland
Chinatown Redevelopment Area
Oakland, California

PLATE **5**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,030.02				

DRAFT RAS 9-2-88

3291 5721

MW-3

EB-1

B-1 2,500,000

DW-1

MW-5

10th Street

MW-7

Franklin Street

B-2 ND

B-3 NA

B-22 180

PB-6

B-4 NA

B-5 NA

B-8 89

NA

730

MW-9

B-10

B-6 NA

B-7 190

EB-2

B-12 7,700

PB-5

B-13 11,000

B-14 NA

B-16 3,000

B-17 NA (400,000)

EB-4

100,000

160,000

MW-11 (B-18)

B-19 NA (500,000)

B-20 NA

EB-3 ND

MW-10 (B-21)

PB-19

Webster Street

9th Street

PB-18

TPH Light in Soil at 30 feet in µg/kg

EXPLANATION

- Approximate Location of HLA Monitoring Well
- Approximate Location of HLA Boring
- Appproximate Location of Previous Boring
- Approximate Location of Previous Piezometer
- Approximate Former Location of Gas Station

N

0 50 100

SCALE IN FEET

109463

Harding Lawson Associates
Engineers and Geoscientists

Site Plan
Pacific Renaissance Plaza
City of Oakland
Chinatown Redevelopment Area
Oakland, California

PLATE **6**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,030.02				

DRAFT 7/25 9-2-88

3291 5721

MW-3

EB-1

B-1 ND

DW-1

MW-5

10th Street

MW-7

Franklin Street

B-2 NA

B-3 NA

B-22 NA

PB-6

B-4 NA

B-5 NA

B-8 ND

B-6 NA

B-7 ND

EB-2

MW-9 NA

ND B-10

B-12 ND

PB-5

B-14 NA

B-16 120

B-13 320

B-17 ND

EB-4

NA MW-11 (B-18)

B-19 160

B-20 NA

EB-3

NA MW-10 (B-21)

PB-19

9th Street

PB-18

Webster Street

EXPLANATION

- Approximate Location of HLA Monitoring Well
- Approximate Location of HLA Boring
- Appproximate Location of Previous Boring
- Approximate Location of Previous Piezometer
- Approximate Former Location of Gas Station

TPH in Soils at 35 feet in mg/kg

N

0 50 100

SCALE IN FEET

Harding Lawson Associates
Engineers and Geoscientists

Site Plan
Pacific Renaissance Plaza
City of Oakland
Chinatown Redevelopment Area
Oakland, California

PLATE 7

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
ML	9382,030.02				

109463

00000 LF 94

Site

San Francisco Bay Regional Water Quality Control Board

INTERNAL MEMORANDUM

Subject PRP site - three additional wells

By SLL Date 9/6/90 File UST FILE PRP SITE

David Leland has informed me that the three groundwater monitoring wells requested by the Board have been installed and sampled. The locations of the wells were approved by Board staff and construction details were similar to wells previously installed at the PRP site. David said he just got the sampling results and would send us a report in a week to 10 days.

Harding Lawson Associates

August 29, 1990

09382,040.02

California Regional Water
Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, California 94612

Attention: Mr. Don Dalke

Dear Mr. Dalke:

Summary of August 20, 1990 Meeting
Soil Monitoring and Disposal
Pacific Renaissance Plaza
Oakland, California

This letter summarizes results of a meeting held August 20, 1990 among representatives of the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), the Redevelopment Agency of the City of Oakland (Agency), and Harding Lawson Associates (HLA) to discuss the monitoring and disposal of soils classified as construction waste and scheduled for excavation from the Pacific Renaissance Plaza (PRP) site at 9th and Webster streets, Oakland, California (Plate 1). Areas of the PRP site where soils are proposed for classification as construction waste by the Agency were identified in a letter dated August 2, 1990 from HLA to the RWQCB.

During the August 20, 1990 meeting, the following agreements regarding definitions, monitoring, and disposal of construction waste were reached:

- Soils to a depth of 10 feet below ground surface that are located in areas where available data do not indicate contamination to be present will be classified as construction waste, if analysis of confirmation samples show concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) below the lowest non-zero drinking water standards, as presented in Table 1 of HLA's August 2 letter. The limits of construction waste areas at depths of 5 feet and 10 feet are presented on Plates 2 and 3. The limits are slightly modified from the limits presented in the August 2 letter, to aid field definition and monitoring of construction waste areas.

File

- To assess the chemical quality of soil classified as construction waste, samples will be collected and analyzed for total petroleum hydrocarbons (TPH) by EPA Test Method 8015 and BTEX by EPA Test Method 8020 at a frequency of one composite sample per 1000 cubic yards (cy). The sampling frequency is initially intended to apply to soils from ground surface to depths of 10 feet; based on the results obtained, the sampling frequency may be adjusted during the excavation process.

- Soils meeting the above definition of construction waste may be disposed at the discretion of the excavation contractor, with the stipulation that disposal not occur in or be able to enter the surface waters of the State of California.

- Disposal locations identified by the PRP general contractor or excavation contractor for soils exhibiting BTEX concentrations greater than drinking water standards or TPH concentrations greater than 10 parts per million (ppm) will be evaluated by the RWQCB individually. The Agency and HLA will provide to the RWQCB information regarding site specific conditions at these proposed disposal locations as soon as it becomes available.

As discussed in the meeting, HLA on behalf of the Agency will maintain a field geologist, designated as the Site Monitoring Officer (SMO), onsite at all times during the excavation process. SMO responsibilities will include:

- Monitoring soils for chemical contamination using an Organic Vapor Monitor (OVM) and sensory cues of discoloration and odor. Soils outside areas of known contamination that exhibit OVM readings greater than 10 ppm above background (to be determined in field), odors indicative of hydrocarbon contamination, and discoloration will be segregated; samples of these soils will be collected and analyzed prior to reaching a decision regarding disposal.

- Identifying and marking areas of known contamination.

- Collecting samples for laboratory analysis.

- Evaluating results of analysis of confirmation samples, in coordination with other qualified HLA staff and the Agency.

- Directing the excavation contractor regarding acceptable disposal locations, based on available chemical data, including confirmation sample results.

Additional SMO responsibilities, relating primarily to health and safety concerns, are described in Appendix A of HLA's *Excavation Monitoring Plan, Pacific Renaissance Plaza, Oakland, California* dated April 27, 1990.

If you have any questions regarding this summary please call David Leland of HLA at 899-7352 or Peter Chen of the Agency at 273-3692. Most recent information from the general contractor indicates that excavation will begin either in very late August or early September.

Very truly yours,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

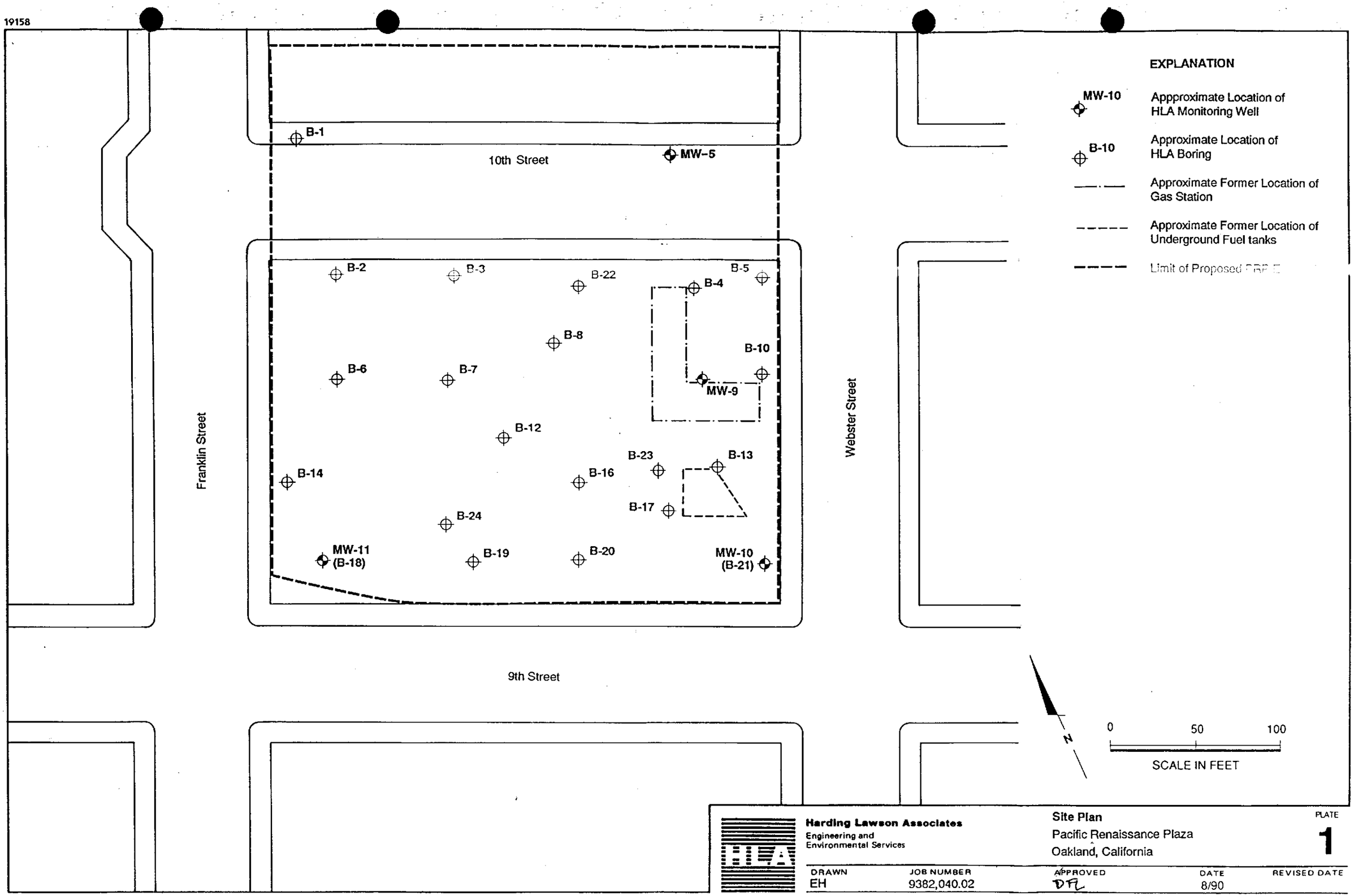
R. Bruce Scheibach
Senior Associate Hydrogeologist

Attachments: Plate 1 Site Plan
Plate 2 Construction Waste at 5 Feet Below Ground Surface
Plate 3 Construction Waste at 10 Feet Below Ground Surface

cc: Steve Luquire, RWQCB
Peter Chen, Agency
Donnell Choy, City Attorney's Office

DFL/klc/dfl065#2

19158



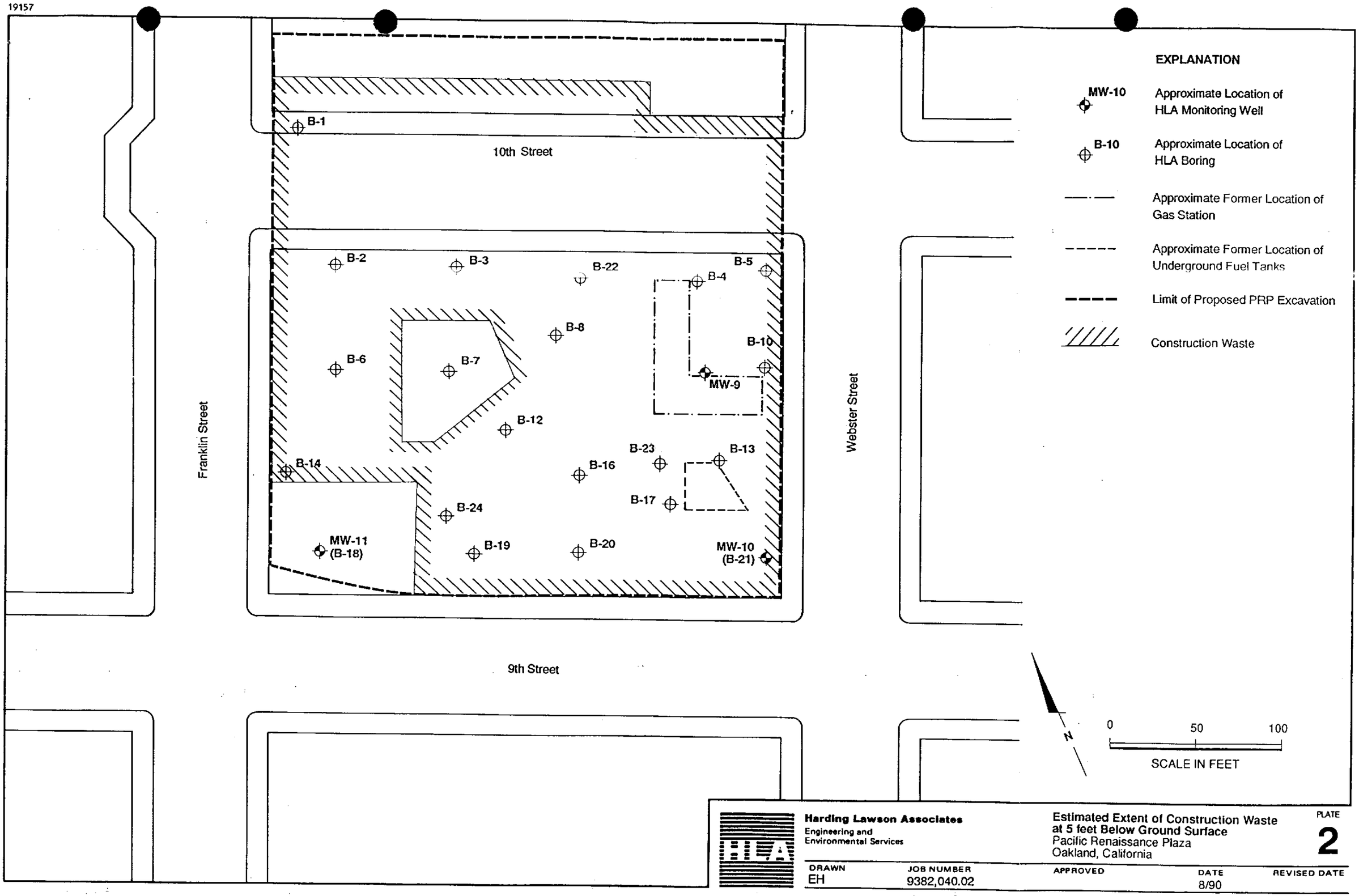
Harding Lawson Associates
Engineering and Environmental Services

Site Plan
Pacific Renaissance Plaza
Oakland, California

PLATE **1**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
EH	9382,040.02	DFL	8/90	

19157

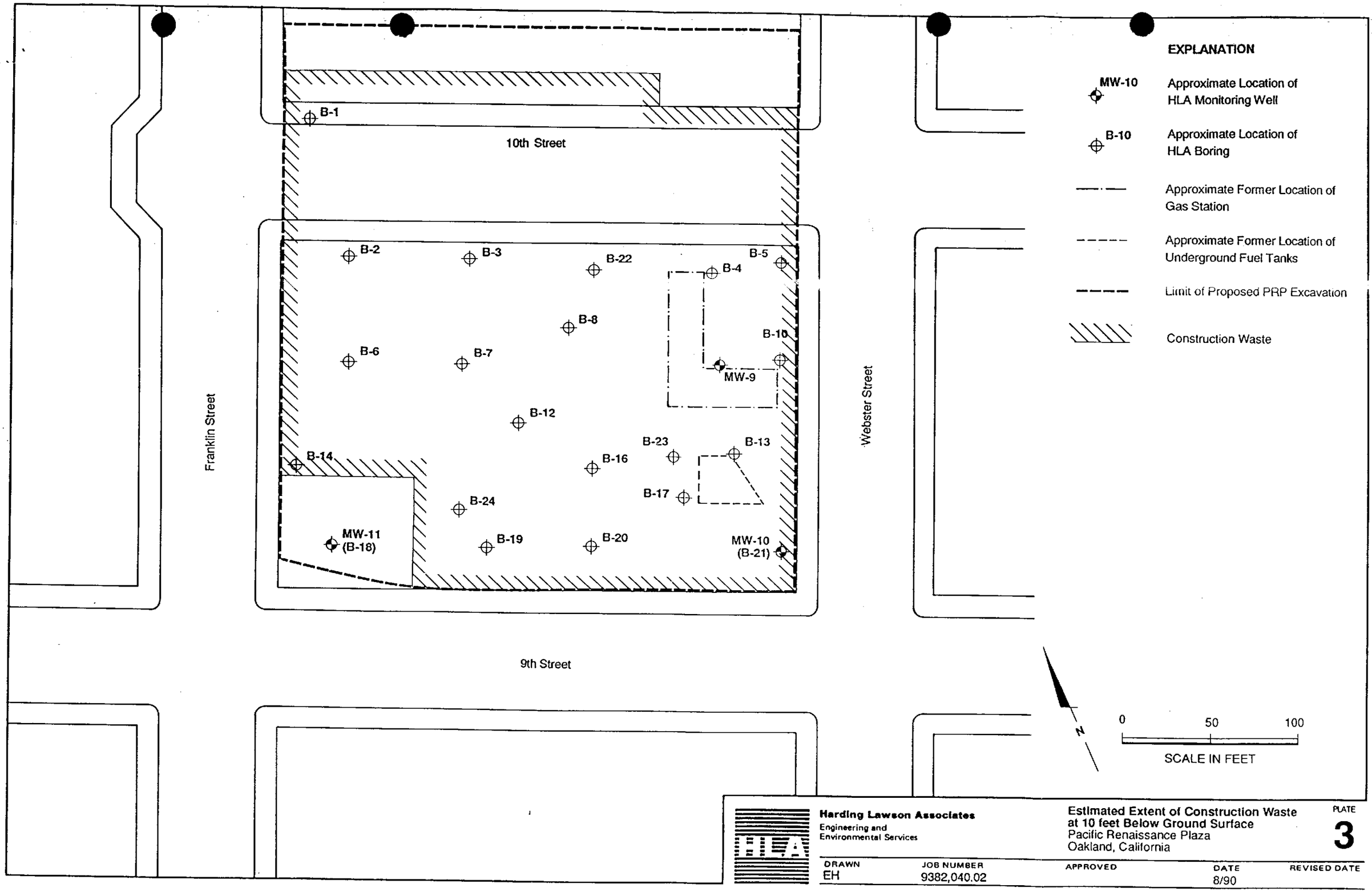


Harding Lawson Associates
Engineering and Environmental Services

Estimated Extent of Construction Waste at 5 feet Below Ground Surface
Pacific Renaissance Plaza
Oakland, California

PLATE **2**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
EH	9382,040.02		8/90	



Harding Lawson Associates
Engineering and Environmental Services

Estimated Extent of Construction Waste at 10 feet Below Ground Surface
Pacific Renaissance Plaza
Oakland, California

PLATE **3**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
EH	9382,040.02		8/90	

SIGN IN

8/20/90 HLA/City of Oakland/RWQCB MTG

Steven Luquire	RWQCB	415-464-4222
Lester Feldman	RWQCB	464-1332
David Leland	HLA	899-7352
Peter Cad	OEDS	273-3692
Bruce Schubach	HLA	899-7319
Donald Dalke	RWQCB	464-0833

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1800 HARRISON STREET, SUITE 700
OAKLAND, CA 94612

Phone: Area Code 415
464-1255

July 25, 1990
UST (SLL)

Peter Chen
City of Oakland
Redevelopment Agency
One City Hall Plaza
Oakland, California 94612

RE: HLA INVESTIGATION PLAN HYDROCARBONS IN OFFSITE GROUNDWATER CHINATOWN REDEVELOPMENT PROJECT AREA OAKLAND, CALIFORNIA, DATED 6/8/90

Dear Mr. Chin:

Board staff have no objection to the locations proposed in the subject workplan for groundwater monitoring wells 21, 22, and 23. Please provide Board staff with the details of construction and installation of these monitoring wells for technical review.

The monitoring wells described above will help define the extent of off-site migration of pollution from the subject site. They will also serve to aid in determining the effects of the proposed site dewatering.

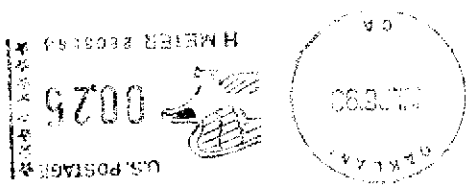
If you have any questions in this matter please contact Steven LuQuire at 415-464-4222

Sincerely,

Donald D. Dalke
Chief, Toxics Cleanup Division

cc: David Leland, HLA
Dannell Choy, City of Oakland
Gil Jensen, ACDA
Alameda County Health Department

Alameda County Health Care Services
Bureau of Environmental Health
Planning
470 27th Street
Oakland, CA 94612



90 JUL 31 AM 10:35

CSF

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Governo

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1800 HARRISON STREET, SUITE 700
OAKLAND, CA 94612

Phone: Area Code 415
464-1255

Effluent discharge case

JUN 08 1990

File No. 2199.9253 (CSF)

David F. Leland
Harding Lawson Associates
P.O. Box 578
Novato, CA 94948

Subject: Chinatown Redevelopment Project
Groundwater treatment system modifications

Dear Mr. Leland:

We have reviewed your proposal to use alternative extraction wells and change the location of your discharge to the storm sewer at the above referenced site covered by Order No. 88-119. Based on the information provided (reports dated May 21 and May 22, 1990), I have no objections to the modifications, provided that the following start-up procedure is followed:

During start-up after the modifications are completed, sampling of the influent and effluent must occur on the first and third day of operation. On the first day of the start-up, the system shall be allowed to run for at least two hours or until stabilized; then, influent and effluent shall be sampled and submitted for analysis. Prior to receipt of the results of the initial samples, all effluent shall be discharged into a holding tank (that is, contained, not discharged into the storm drain) until the results of the analyses show the discharge to be within the effluent limits established in the NPDES Permit. If the results of the analyses show the discharge to be in violation, the effluent shall be disposed in accord with the provisions of Subchapter 15, Title 23, California Administrative Code.

Analyses results of the third day samples must be received and reviewed by the discharger within 48 hours of the time samples are taken. Discharge to the storm drain can continue as long as there are no violations. If a violation should occur, the discharge shall be directed to a holding tank and contained, or the system shall be shut down.

If the system is shut down more than 48 hours during the start-up procedure (awaiting analyses results, etc.), the start-up procedures and sampling must be repeated again. After the start-up period, monthly monitoring will resume.

Analyses of the system influent and effluent should include all

constituents listed in Table 1 of the NPDES permit's Self-Monitoring Program for the site. The analyses should also be conducted utilizing the methods listed in Table 1.

Per your request, the NPDES permit Self-Monitoring Program is modified to require self-monitoring report submittal on a quarterly basis by the fifteenth day of January, April, July and October. Please be aware that the Regional Board staff must be notified immediately of any discharge violation.

If you have any questions regarding this letter, please contact Cecilio Felix of my staff at (415) 464-1249.

Sincerely,

Lawrence P. Kolb
for
Steve R. Ritchie
Executive Officer

cc: Peter Chen, City of Oakland Redevelopment Agency
Lowell Miller, Alameda County Department of Environmental Health

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1800 HARRISON STREET, SUITE 700
OAKLAND, CA 94612

Phone: Area Code 415
464-1255

JUN 07 1990

UST (SLL)

Peter Chen
City of Oakland
Redevelopment Agency
One City Hall Plaza
Oakland, California 94612

RE: REQUEST FOR SUBMITTAL OF TECHNICAL REPORT

Dear Mr. Chen:

The purpose of this letter is to document the discussions that took place at the 5/14/90 meeting and to clarify my position in respect to the Pacific Renaissance Plaza site. The following are highlights of the meeting:

Investigation of the TCE plume: Harding Lawson Associates (HLA) stated they had sufficient data to demonstrate to the Board staff satisfaction that the TCE plume is indeed originating from an off-site source. Steven LuQuire (RWQCB staff) indicated this is probably true and HLA should submit to Board staff a report specifically addressing this issue.

TPH/BTXE contamination: HLA stated that soil on site will be removed to a depth of forty feet, thus removing the source of the contamination. HLA further stated they felt any plumes that the site may have caused would be removed when the site is dewatered for the construction activities. HLA also stated they felt the present groundwater monitoring (GWM) system was adequate to define the plumes of contamination that may have existed at the time the extraction/injection system was installed.

Steven LuQuire stated that additional wells would be needed for the GWM system in the southwest corner of the site for the system to be adequate. HLA reiterated that they felt the wells already installed had defined the extent of contamination and that any pollution that had migrated off-site would be removed by the dewatering system. HLA also stated that they had previous difficulties in locating wells on 9th street due to the BART tube underlaying the street, and previous attempts to drill away from the tube had to be terminated due to the discovery of some unknown concrete structures during drilling operations. HLA stated their reluctance to site a well on Franklin street was due

HLA will be expected to submit a plan with these modifications to Board staff prior to implementation of the plan.

One major aspect of the site that was not discussed was the area in the vicinity of GWM well 19. I believe that the plume has not been defined in this area or in the area southwest of the site. If difficulties are encountered in finding locations for additional wells I suggest that you consider bracketing the plume(s) as a method of defining the extent of contamination. In any case, it is necessary that you conduct an investigation which includes the installation of additional GWM wells until the plume(s) have been defined. I believe this is necessary to confirm that any contamination that is present is remediated by the dewatering activities and/or additional remedial measures. The investigation proposal will be due on June 9, 1990, the deadline set in the Regional Board staff letter of May 9, 1990.

If you have any questions regarding this letter or other matters pertaining to this site please contact Steven LuQuire at 415-464-4222.

Sincerely,

Donald D. Dalke
Chief, Toxics Cleanup Division

cc: David Leland, HLA
Dannell Choy, City of Oakland
Gil Jensen, ACDA
Alameda County Health Department

SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD
INTERNAL MEMORANDUM

June 26, 1990
UST FILE (SLL)

FROM: STEVEN LUQUIRE, ES III
TO: LESTER FELDMAN, SECTION LEADER
DONALD D. DALKE, DIVISION CHIEF, TOXICS CLEANUP DIVISION

REF: PACIFIC RENAISSANCE CENTER SITE; OAKLAND, ALAMEDA COUNTY

PURPOSE: The purpose of this memo is to present Regional Board staff's analysis of the water quality consideration in respect to the upcoming phase of construction activities planned for the PRP site. Recommendations that will minimize the possibility of a threat to water quality will also be presented.

BACKGROUND: The PRP site is a development of a high-rise commercial and retail buildings. Currently the site is a vacant lot. Records indicate that the site has had a variety of uses including residential, wholesale plumbing supplier, blacksmith, iron fence works, hand laundry, auto parking and a service station (Chevron). Aerial photograph indicate that the station was built between 1963 and 1966.

Tanks were located in the southeastern corner of the site, with the stations pump islands and service area located in the northern section. The City of Oakland purchased the property in 1978 and the station was subsequently demolished in 1980.

Several subsurface investigations have been conducted at this site. These investigations have indicated soil and groundwater contamination throughout most of the site. The main pollutants identified to date are TPH, BTXE, and chlorinated compounds. The depth to groundwater is shallow (approximately 20 feet) with the direction of groundwater flow to the southwest.

The current phase of the development includes installation of a retaining/slurry wall, dewatering operations and soil excavation to 40 feet in depth. These construction activities are scheduled for the summer of 1990.

DISCUSSION: Laboratory analysis of the extracted groundwater from this site has shown levels of contamination to be of concern. Harding Lawson (HLA) has assured me that the extracted groundwater will be treated and discharged in accordance with the NPDES permit issued for this site. HLA has applied to change the point of discharge in the permit in order to accommodate the location of the dewatering well. This would be an appropriate disposal option.

The disposal of the excavated soil is more complex. It is complicated by the fact a major portion of the soil in the northern section of the site has not been characterized. Groundwater monitoring wells have been installed and have shown to have been contaminated by chlorinated compounds, consequently in absence of data to the contrary I must conclude the soil is also contaminated and should be handled in an appropriate manner. For the section of the site that was characterized by soil borings significant problems exist with the laboratory data which must be considered when evaluating those sections of the site. These included detection limits are set much higher some cases than those allowed by the Tri-Regional Recommendation (500 ppb vs 5 ppb). HLA has discounted the presence of Methylene Chloride and Chloroform in the sample results as laboratory contaminates, however, the QA/QC blank for chlorinated compounds showed non-detect for these compounds. This fact does not support HLA's assertion

Soil contaminated with some chlorinated compounds (i.e. TCE) are a RCRA waste, which presents some additional complications when considering disposal options. The South Bay Division has been allowing soil with 1 ppm TCE to remain in place at a site however, soil that is being disposed of must be treated to non-detectable levels (1.5 ppb).

The following represent acceptable options for the disposition of the contaminated soil.

1. Disposal at a permitted landfill
2. Disposal at a site with WDR's
3. Retained in a permitted depository

The first option has the advantage of being a permitted site complete with groundwater monitoring and established Board oversight. Consistent with past Board actions I recommend the Board allow the landfill facility to set the method and standards for wastestream characterization. This might result in some characterization cost saving for the Discharger would certainly be the most expeditious deposal option.

The second option would require the Board to adopt WDR for a site. This would require a detailed geologic and hydrologic description of the site, a complete characterization of the wastestream and a workplan for the disposal of the waste (runoff prevention, etc.).

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1800 HARRISON STREET, SUITE 700
OAKLAND, CA 94612

Phone: Area Code 415
464-1255

JUN 07 1990

UST (SLL)

Peter Chen
City of Oakland
Redevelopment Agency
One City Hall Plaza
Oakland, California 94612

RE: REQUEST FOR SUBMITTAL OF TECHNICAL REPORT

Dear Mr. Chen:

The purpose of this letter is to document the discussions that took place at the 5/14/90 meeting and to clarify my position in respect to the Pacific Renaissance Plaza site. The following are highlights of the meeting:

Investigation of the TCE plume: Harding Lawson Associates (HLA) stated they had sufficient data to demonstrate to the Board staff satisfaction that the TCE plume is indeed originating from an off-site source. Steven LuQuire (RWQCB staff) indicated this is probably true and HLA should submit to Board staff a report specifically addressing this issue.

TPH/BTXE contamination: HLA stated that soil on site will be removed to a depth of forty feet, thus removing the source of the contamination. HLA further stated they felt any plumes that the site may have caused would be removed when the site is dewatered for the construction activities. HLA also stated they felt the present groundwater monitoring (GWM) system was adequate to define the plumes of contamination that may have existed at the time the extraction/injection system was installed.

Steven LuQuire stated that additional wells would be needed for the GWM system in the southwest corner of the site for the system to be adequate. HLA reiterated that they felt the wells already installed had defined the extent of contamination and that any pollution that had migrated off-site would be removed by the dewatering system. HLA also stated that they had previous difficulties in locating wells on 9th street due to the BART tube underlaying the street, and previous attempts to drill away from the tube had to be terminated due to the discovery of some unknown concrete structures during drilling operations. HLA stated their reluctance to site a well on Franklin street was due

to concerns that the well might be detecting contamination migrating from a nearby service station.

HLA asked if they presented the information already developed in a technical report (i.e. dewatering activities, TCE migration from an off-site source) would fulfill the requirement stated in Regional Board staff letter dated 5/9/90 (WC section 13267 letter). Steven LuQuire stated a technical report submitted without any additional GWM wells proposed could be submitted but the Discharger (Oakland Redevelopment Agency) would be taking a chance that the report would be considered inadequate and therefore not fulfill the requirements of the 5/9/90 letter. Steven LuQuire also indicated that another possible scenario would be that Board staff would approve the report with modification that included installation of additional wells.

The Excavation Monitoring Plan dated 4/30/90 was also discussed.

1. The proposed sampling and analysis methods are adequate for field screening only. The appropriate laboratory analysis and sample methodology shall be utilized during verification sampling.

2. The characterization of excavated material will depend on location of disposal:

    A. If excavated material is disposed of at a landfill, the landfill will establish the number and method of sampling necessary.

    B. For disposal on-site or any location except a landfill the excavated material shall be characterized by one of the following methods:

        A. EPA solid waste characterization methods, SW846;

        B. SFRWQCB staff draft letter to LIA's dated 1/11/90 (attachment II - staff recommendations for stockpile characterization).

    C. For temporary storage at another location for treatment purposes (i.e. aeration) characterization will not be necessary. However, Waste Discharge Requirements are required under the Water Code for this activity.

3. It is the Discharger's responsibility to obtain all necessary permits and authorizations from other appropriate agencies.

Pacific Ren. Plaza Site

~~1 - DDD~~ Info
2 - SLL
3 - LP

Harding Lawson Associates

May 30, 1990

Mr. Stephen Ritchie, Executive Director
California Regional Water Quality Control Board
San Francisco Bay Region
1800 Harrison St., #700
Oakland, CA 94612

CALIFORNIA REGIONAL WATER
MAY 31 1990
QUALITY CONTROL BOARD

Dear Steve:

Harding Lawson Associates (HLA) is pleased to announce it has received national recognition for its use of in situ bioremediation to clean up a contaminated site in Oakland, California. The project, conducted for the Redevelopment Agency of the City of Oakland, clears the way for building a commercial and residential complex. HLA's innovative treatment system will save the client about $2 million by allowing the excavated soil to be managed as nonhazardous material.

In one of the largest in situ bioremediation projects in the nation, approximately 10,000 cubic yards of soil and associated groundwater have been treated simultaneously to depths reaching 30 feet. Soils were contaminated with gasoline in concentrations of up to 5000 parts per million (ppm). HLA designed and constructed a system of 36 injection and extraction wells and 10 infiltration basins to circulate nutrient- and oxygen-enriched water through the soil. The nutrients enhance the growth of naturally occurring microorganisms that consume the gasoline. Groundwater was extracted, placed in surface bioreactors and passed through an activated carbon treatment system before being reinjected. Cleanup is nearing completion less than two years after contamination at the site was first identified. Monitoring results indicate that gasoline concentrations in soil have been reduced to the target concentration of 100 ppm.

The project has won awards for engineering excellence from the American Consulting Engineers Council, the American Academy of Environmental Engineers, and the Consulting Engineers Association of California.

Enclosed are several documents about the project and HLA's bioremediation services: a brochure describing the Oakland project in detail, an article about the project from *The Oakland Tribune*, and a flyer explaining HLA's bioremediation program. If you wish more information about the Oakland project, the applicability of bioremediation for other sites or HLA's remedial engineering capabilities, please call me or return the enclosed card.

Sincerely,

HARDING LAWSON ASSOCIATES

James C. Davies
Consulting Principal Engineer

01

CONTROL REGISTER
FOR
PRIORITY CORRESPONDENCE

I. SUBJECT/ITEM: Pacific Renaissance Plaza File No. UST (SLL)

II. RATIONALE/REASON FOR ACTION AND ADDITIONAL NOTES:

Board staff have spent a considerable amount of time negotiating with HLA to install off-site wells to define plumes originating from this site. These discussions have not been successful and a 13267 letter was sent on May 9, 1990. On May 14, 1990 a meeting was held between myself, the Discharger and HLA. The highlights of the meeting are provided in this letter. Some confusion has been created because I mistakenly indicated HLA could perform the investigation after the dewater operation. I discussed the matter with Lester Feldman who clarified the Board position of wanting the investigation to start immediately. I have telephoned HLA and informed them that they are to submit an investigation proposal by June 9TH. This letter provides written clarification of Board staff position on PRP.

III. DRAFT PREPARATION/REVIEW/APPROVAL

PREPARED BY Steven Ferguiere DATE 5/25/90

REVIEWED/APPROVED BY [signature] DATE 5/25/90

REVIEWED/APPROVED BY [signature] DATE

REVIEWED/APPROVED BY _____ DATE _____

REVIEWED/APPROVED BY _____ DATE _____

IV. CLERICAL PROCESSING

TYPED BY _____ DATE _____

PROOFED WITH _____ DATE _____

V. ORIGINATORS FINAL REVIEW FOR COMPLETENESS & ACCURACY

BY _____ DATE _____

VI. DATE MAILED 6/7/90

Note: never really defined plume, found source etc. Now bldg is up so possibility of investig. is small

Bramalea Pacific 1111 Broadway

construction site near Hyatt

Discovered tank near N side prop. 420 - 990 ppm diesel in soil

also tank punctured ~~by~~ during excavation process → leaked some diesel fuel onto the ground

Not on 1111 Broadway parcel, occured during 12th St improvement project 1987

Also tank (?) investigation on MLK btwn 13 & 14th

Drilled 5 MWs 12/21/88 24 ppm found

soil samp. found 260 ppm @ 11' 220 @ 9' 300 @ 2' & 41 @ 0'

(elevations cited → street level =38') highest = 4500 ppm

so 41 ppm @ 38' below street level

started up GW treatment site for dewatering 1/27/89

Effluent discharged to sanitary sewer

by February influent down to 3ppm

by April influent down to 200ppb

dewatering no longer needed in November

soil → max found = 4500 ppm near SE end of parcel/

only HC remaining beneath mat is small patch of 0.5 ppm oil

Elevated TPH may remain beneath Hyatt loading dock

possible high conc. @ SE end of parcel under street

gravelly sand @ -52' ele

21' Excavation to place 8' thick concrete mat foundation for bldg

soil profile = sandy clays, silty clays, clayey sand & some gravel & sand lenses

Midland-Ross Corporation
Superstrut Division
PO Box 857, Oakland, CA 94604
415/839-9690
FAX: 415/839-5391

Dick Krieger
Plant Superintendent

MIDLAND ROSS

Pacific Ren. Plaza

CITY OF OAKLAND

CITY HALL • ONE CITY HALL PLAZA, • OAKLAND, CALIFORNIA 94612
(415) 273-3601
TTY 839-6451

Office of the City Attorney
Jayne W. Williams
City Attorney

May 23, 1990

CALIFORNIA REGIONAL WATER
MAY 25 1990
QUALITY CONTROL BOARD

Mr. Donald Dalke
California Regional Water Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, California 94612

Dear Mr. Dalke:

This letter summarizes issues discussed in our meeting of Monday, May 14, 1990, regarding activities associated with the Pacific Renaissance Plaza (PRP) and East Bay Municipal Utility District (EBMUD) sites in Oakland's Chinatown Redevelopment Project Area. The meeting was held at the Offices of the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), and was attended by Steven Luquire, RWQCB; Peter Mote and David Leland, Harding Lawson Associates (HLA); Peter Chen, Redevelopment Agency of the City of Oakland; and Donnell Choy, Oakland City Attorney's Office. Two main topics were discussed: (1) the issue of elevated concentrations of trichloroethylene (TCE) and petroleum hydro-carbons in groundwater, and (2) the plan for monitoring soil excavation and disposition activities at the PRP site, as presented in HLA's report "Excavation Monitoring Plan, Pacific Renaissance Plaza, Oakland, California," dated April 27, 1990.

Because the issue of characterization of the nature and extent of TCE and petroleum hydrocarbons is the subject of a letter dated May 9, 1990 from the RWQCB to the Redevelopment Agency, requiring submittal of a technical report by June 9, 1990, this issue was discussed first. HLA presented the outline of a response to the RWQCB requirement that contained the following elements:

* A discussion of the rationale for the interpretation presented in earlier HLA reports to the RWQCB that elevated concentrations of TCE in groundwater in this area are associated with an offsite upgradient source. The discussion will be supported with a reorganization and presentation of previously collected and reported data.

* A discussion of the dewatering plan proposed by the developer of the PRP project, and how this will function as an interim remedial measure for groundwater cleanup and hydraulic control of any contaminated water in the vicinity of the site through groundwater pumping and treating.

* A proposed monitoring program for existing offsite wells during the dewatering period, currently scheduled to begin in June, 1990 and to continue for eight months.

HLA noted that the report may include a proposal for additional monitoring wells if warranted. If no additional wells are proposed, a rationale for this recommendation will be presented. Mr. Luquire agreed that a letter presenting the foregoing conceptual approach discussed by HLA would satisfy the administrative requirement for a technical report as described in the RWQCB letter of May 9, 1990.

With regard to the PRP soil excavation plan, Mr. Luquire indicated concern with the following aspects of the plan as described in HLA's April 27, 1990 report:

* The polybag technique described in the HLA report as a method for characterizing concentrations of petroleum hydrocarbons in soil is not a method approved by the U.S. Environmental Protection Agency or the California Department of Health Services, and is not adequate for making decisions regarding disposition of contaminated soils.

* Sections of the HLA report addressing characterization of soils that would be aerated at a location not currently permitted for waste treatment or disposal are not adequate because the proposed sampling and analysis frequency is not consistent with the requirements for soil characterization set forth in the RWQCB memo of January 11, 1990 regarding onsite disposal of contaminated soils excavated during underground storage tank investigations and cleanups.

* If an unpermitted offsite location is used for soil aeration, the location needs to be identified and Waste Discharge Requirements for the location and activity need

to be issued by the RWQCB prior to soil aeration. Mr. Luquire confirmed that soil disposed at permitted landfills need only comply with the landfill's requirements for accepting soil.

* It will be necessary to sample the bottom of the excavation to confirm removal of contaminated soil.

The Agency and HLA requested at the meeting, and reiterate the request here, that the RWQCB consider the suitability of the polybag technique for characterization of site soils for disposal as proposed in the HLA plan; that is, in a manner that establishes a site-specific correlation between polybag results and approved laboratory analytical methods.

Mr. Luquire agreed to follow up on several additional items of interest:

* The regulatory citation that addressed the required use of analytical methods approved by EPA or DHS for soil characterization prior to disposal (at the request of Mr. Choy).

* RWQCB standards for construction dewatering discharge water quality, particularly with regard to total suspended solids.

In closing, the Redevelopment Agency wishes to reinforce with the RWQCB that, as part of the Chinatown Redevelopment Project, including both the EBMUD and PRP sites, the Agency has endeavored diligently to identify contamination problems on Agency property and to manage any problems identified in accordance with regulations and guidance of the RWQCB and other agencies with jurisdiction, and in a manner that will mitigate potential adverse effects of contamination on human health and the environment. It is the Agency's belief that activities conducted by or on behalf of the Agency to address contamination problems at these sites have resulted in a significant environmental benefit, the value of which appears at times to be overlooked or minimized by the RWQCB. The Agency has been, and continues to be, willing to work together with

the RWQCB on these issues, and hopes to maintain and encourage a cooperative and positive working relationship with the RWQCB with regard to the EBMUD and PRP sites and other sites in Oakland.

Very truly yours,

JAYNE W. WILLIAMS,
City Attorney

DONNELL W. CHOY,
Assistant to the City Attorney

cc: Steven Luquire, RWQCB
Gil Jensen, ACDA
Peter Chen, OEDE
Peter Mote, HLA
David Leland, HLA

Harding Lawson Associates

May 14, 1990

09382,040.02

California Regional Water Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, California 94612

Attention: Mr. Donald Dalke

Gentlemen:

Monthly Groundwater Sample Analytical Results
Soil Treatment System
Pacific Renaissance Plaza
Oakland, California

This letter transmits updated summaries of laboratory analytical results of groundwater samples collected from extraction wells and monitoring wells at the Pacific Renaissance Plaza (PRP) site in Oakland, California. Monitoring is being conducted in conjunction with bioremediation of soil containing elevated levels of petroleum hydrocarbons.

On April 11, 1990 samples were collected from Extraction Wells EW-6, EW-15, and EW-22, and from Monitoring Wells MW-7, MW-12, MW-18, MW-19, and MW-20. Samples were analyzed for petroleum hydrocarbons by EPA Test Method 8015 and for benzene, toluene, ethylbenzene and xylenes by EPA Test Method 8020 by Pace Laboratories, Inc., a state-certified laboratory in Novato, California. Analytical results are included in the attached Table 1.

If you have any questions regarding these results, please call David Leland at 899-7352 or Pete Mote at 899-7397.

Very truly yours,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

Attachment: Table 1, Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

cc: Steven Luquire, RWQCB
Lowell Miller, Alameda County Department of Environmental Health
Peter Chen, Redevelopment Agency
Pete Mote

DFL/klc/df1041#1

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
MW-5						
	03-May-89	ND	ND	ND	0.029	ND
	06-Jun-89	ND	ND	ND	ND	ND
MW-7						
	04-Apr-89	ND	0.0007	0.0010	0.0012	ND
	03-May-89	ND	0.0012	0.0018	0.0048	0.27
	06-Jun-89	0.001	0.001	0.0022	0.0011	0.4
	07-Jul-89	0.0002	0.001	0.00034	0.0059	0.56
	02-Aug-89	ND	0.00152	0.0054	0.0059	0.7
	07-Sep-89	ND	ND	ND	0.0015	0.59
	05-Oct-89	ND	0.0011	0.0006	0.0013	0.73
	02-Nov-89	0.0002	0.001	0.0055	0.0036	0.63
	06-Dec-89	0.0006	0.0087	0.0059	0.0036	0.32
	03-Jan-90	0.0007	0.0007	0.0006	0.0013	0.18
	01-Feb-90	ND	0.0009	ND	0.0003	ND
	28-Feb-90	ND	0.0006	0.0004	0.0052	0.09
	11-Apr-90	ND	0.0007	0.0033	0.0029	0.130
MW-9						
	02-Mar-89	NT	NT	NT	NT	1.2
	04-Apr-89	0.19	0.35	0.041	0.36	1.5
	01-May-89	0.43	0.60	0.033	0.64	4.6
	06-Jun-89	0.36	0.106	0.110	0.10	1.6
	06-Jul-89	0.16	0.084	0.052	1.8	5.2
	02-Aug-89	0.032	0.034	0.012	1.6	4.9
	06-Sep-89	0.007	0.022	ND	0.36	1.5
	04-Oct-89	LT 0.025	0.08	LT 0.025	1.3	4.1
	01-Nov-89	0.0012/0.0007	0.014/0.015	ND/ND	0.67/0.69	3.1/2.9
	05-Dec-89	LT 0.0010	0.006	LT 0.0010	0.39	1.9
	02-Jan-90	0.011	0.041	0.0060	0.22	2.2
	31-Jan-90	0.0048	0.0026	LT 0.0010	0.12	1.0
	28-Feb-90	0.0013	0.0015	0.0003	0.10	0.69
MW-10						
	02-Mar-89	NT	NT	NT	NT	2.8
	04-Apr-89	1.6	0.76	0.13	0.68	4.2
	01-May-89	1.2	0.67	0.16	0.67	3.4
	06-Jun-89 @	0.66/0.64	0.14/0.14	0.11/0.10	0.24/0.14	4.8/4.3
	06-Jul-89	2.0	2.2	0.54	1.8	12
	02-Aug-89 @	8.8/8.6	1.7/1.7	0.36/0.34	1.5/1.5	19/20
	06-Sep-89 @	8.1/11	5.2/6.3	0.82/0.93	5.5/6.1	36/34
	04-Oct-89	40	79	11	94	620
	01-Nov-89	21	10	2.0	12	95
	05-Dec-89	21	14	2.6	17	90
	03-Jan-90	17	2.2	2.4	9.1	70
	31-Jan-90	8.1	1.2	0.51	1.6	25

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOQ	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
	28-Feb-90	2.5	0.13	0.029	0.7	4.9
MW-11						
	02-Mar-89	NT	NT	NT	NT	15
	04-Apr-89	2.5	3.8	0.17	2.4	10
	19-Apr-89	3.8	2.8	ND	5.7	14
	01-May-89	1.3	1.7	0.069	1.7	5.2
	07-Jun-89	0.082	0.097	0.045	0.167	12
	06-Jul-89 @	2.1/2.3	2.5/2.8	0.14/0.16	2.6/3.0	15/15
	02-Aug-89	7.2	7.5	0.26	7.1	37
	06-Sep-89	5.0	6.5	0.41	5.2	47
	04-Oct-89	3.3	2.8	0.15	2.5	11
	01-Nov-89	2.1	2.8	0.11	1.8	13
	05-Dec-89	1.3	1.5	0.084	1.3	7.6
	03-Jan-90	0.11	0.27	0.017	0.53	2.7
	31-Jan-90	0.072	0.18	0.0052	0.31	1.7
	28-Feb-90	0.17	0.43	0.014	0.48	1.8
MW-12						
	15-Feb-89	ND	ND	ND	ND	ND
	03-Mar-89	NT	NT	NT	NT	ND
	05-Apr-89	0.0014	0.0023	ND	0.0054	ND
	02-May-89	0.026	0.0033	ND	0.0063	0.10
	07-Jun-89	0.034	0.0037	ND	0.012	0.18
	06-Jul-89	0.029	0.0025	ND	0.0059	0.12
	02-Aug-89	0.023	0.002	ND	0.005	ND
	07-Sep-89 @	0.051/0.059	0.0016/0.0022	ND/ND	0.0049/0.0058	ND/ND
	05-Oct-89 @	0.037/0.040	0.0032/0.0031	ND/ND	0.0086/0.0094	ND/ND
	02-Nov-89	0.0056	0.0011	ND	0.0019	0.071
	06-Dec-89	0.0062	0.0012	ND	0.0017	0.06
	03-Jan-90	0.0086	0.0010	ND	0.0012	0.09
	01-Feb-90	0.0018/0.0024	0.0010/0.0004	ND/ND	0.0005/0.0004	ND/ND
	01-Mar-90	0.0016	0.0014	ND	0.0003	ND
	11-Apr-90	0.0066	0.0174	0.0015	0.0116	0.147
MW-13						
	02-Mar-89	NT	NT	NT	NT	1.4
	04-Apr-89	0.041	0.039	0.0038	0.28	0.71
	01-May-89	0.048	0.049	0.013	0.13	0.34
	07-Jun-89	0.051	0.037	0.02	0.082	0.98
	06-Jul-89	0.210	0.054	0.013	0.109	0.76
	02-Aug-89	0.098	0.011	0.0005	0.031	0.27
	07-Sep-89	0.039	0.0020	ND	0.0050	ND
	04-Oct-89	4.0	1.6	0.20	1.5	9.2
	01-Nov-89	1.7	0.086	0.091	0.37	5.6
	06-Dec-89 @	1.2/1.1	0.15/0.14	0.21/0.19	0.46/0.42	5.1/4.4
	03-Jan-90	0.92	0.13	0.20	0.38	3.7

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
	31-Jan-90	0.029	0.029	0.037	0.062	0.81
	01-Mar-90	0.042	0.0033	0.010	0.014	2.5
MW-14						
	02-Mar-89	NT	NT	NT	NT	ND
	04-Apr-89	0.44	0.063	ND	0.27	1.4
	01-May-89	0.35	0.011	ND	0.094	0.94
	07-Jun-89 @	0.057/ND	0.0022/ND	0.0005/ND	0.043/ND	1.1/0.64
	06-Jul-89	3.0	1.7	0.050	3.6	14
	01-Aug-89	0.49	0.084	ND	0.84	4.5
	06-Sep-89	1.0	0.090	ND	1.4	4.9
	04-Oct-89	0.70	0.015	ND	0.75	3.1
	01-Nov-89	0.36	0.0058	ND	0.24	1.4
	05-Dec-89	0.35	0.0065	LT 0.0010	0.25	1.3
	02-Jan-90	0.080	0.0017	ND	0.091	0.63
	31-Jan-90	0.094	0.047	0.0061	0.10	0.42
	28-Feb-90	0.13	0.0007	ND	0.014	0.22
MW-15						
	03-Mar-89	NT	NT	NT	NT	3.9
	04-Apr-89	0.88	0.97	0.11	0.93	3.7
	02-May-89	1.5	1.1	0.086	0.74	2.7
	07-Jun-89	5.7	4.3	0.3	2.4	22
	05-Jul-89	2.0	3.0	0.26	2.0	12
	03-Aug-89	2.6	2.8	0.75	3.8	24
	06-Sep-89	1.1	1.4	0.23	1.3	7.3
	04-Oct-89	0.59	1.1	0.076	0.59	3.7
	01-Nov-89	1.6	2.3	0.23	1.7	9.7
	05-Dec-89	1.7	2.6	0.22	1.3	10
	02-Jan-90	0.37	0.65	0.053	0.35	2.6
	31-Jan-90	0.45	0.65	0.080	0.17	3.7
	01-Mar-90	0.78	1.1	0.085	0.49	3.2
MW-16						
	02-Mar-89	NT	NT	NT	NT	2.1
	04-Apr-89	2.1	2.2	0.18	1.4	6.7
	02-May-89	0.74	0.94	0.11	0.95	2.7
	07-Jun-89	0.37	0.56	0.51	0.35	14
	05-Jul-89	1.9	2.7	1.8	4.5	16
	03-Aug-89 @	1.8/1.9	2.6/2.6	0.18/0.19	5.7/6.0	17/17
	06-Sep-89	0.96	3.3	0.26	1.3	8.9
	04-Oct-89	0.72	2.1	0.16	1.3	5.4
	02-Nov-89	0.74	2.8	0.37	2.4	11
	05-Dec-89	0.38	0.79	0.087	0.75	3.6
	02-Jan-90	0.25	0.39	0.037	0.36	1.9
	31-Jan-90	1.2	2.0	0.21	1.5	7.1
	01-Mar-90	1.9	3.0	0.26	1.8	9.7

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
MW-17						
	04-Apr-89	3.1	2.9	0.27	3.9	12
	02-May-89	1.2	1.0	0.11	1.4	3.9
	07-Jun-89	1.2	1.2	ND	1.3	6.3
	05-Jul-89	3.0	3.3	2.7	3.9	18
	02-Aug-89	4.8	9.5	0.63	14	47
	03-Aug-89	5.1	6.1	0.73	12	NT
	06-Sep-89	2.8	4.5	0.32	8.4	21
	04-Oct-89	0.47	0.092	0.018	1.0	2.8
	01-Nov-89	0.19	0.011	0.11	0.18	0.93
	05-Dec-89	0.16	0.036	0.0071	0.13	0.76
	03-Jan-90	0.056	0.0030	0.0010	0.022	0.25
	31-Jan-90	0.13	0.013	0.0014	0.050	0.30
	01-Mar-90	0.25/0.24	0.073/0.071	0.0069/0.0066	0.069/0.065	0.59/0.56
MW-18						
	15-Feb-89	ND	ND	ND	ND	ND
	03-Mar-89	NT	NT	NT	NT	ND
	05-Apr-89	ND	ND	ND	ND	ND
	02-May-89	ND	ND	ND	ND	ND
	07-Jun-89	ND	ND	ND	ND	ND
	06-Jul-89	ND	ND	ND	ND	ND
	02-Aug-89	ND	ND	ND	ND	ND
	06-Sep-89	ND	ND	ND	ND	ND
	05-Oct-89	ND	ND	ND	ND	ND
	01-Nov-89	ND	ND	ND	ND	ND
	06-Dec-89	ND	0.0009	ND	0.0013	ND
	02-Jan-90	0.016	0.0080	0.0014	0.0098	0.10
	01-Feb-90	ND	ND	ND	ND	ND
	01-Mar-90	0.0003	ND	ND	0.0002	ND
	11-Apr-90	0.0004	0.0006	0.0005	0.0003	ND
MW-19						
	15-Dec-89	5.0	0.30	0.078	0.61	12
	03-Jan-90	3.0	0.46	0.12	1.1	13
	01-Feb-90	1.1	0.022 LT	0.0040	0.032	1.9
	01-Mar-90	4.2	0.92	0.24	0.82	9.2
	11-Apr-90	3.8	1.1	0.82	0.34	10
MW-20						
	15-Dec-89	ND	ND	ND	ND	ND
	03-Jan-90	0.0004	0.0004	ND	0.0008	ND
	01-Feb-90	ND	0.0014	ND	0.0005	ND
	28-Feb-90	ND	ND	ND	0.0005	ND
	11-Apr-90	0.0028	0.0110	0.0011	0.0066	ND
EW-1						
	04-Apr-89	1.6	1.0	0.087	1.8	5.9

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
	01-May-89	3.2	1.2	0.15	1.4	6.3
	05-Jun-89	7.7	5.0	0.2	3.5	24
	05-Jul-89	4.4	5.1	0.32	3.8	24
	02-Aug-89	3.1	4.0	0.4	2.9	23
	06-Sep-89	3.0	3.7	0.26	3.0	11
	05-Oct-89	1.3	1.7	LT 0.10	0.3	7.3
	02-Nov-89	2.4	4.0	0.23	2.1	19
	05-Dec-89	1.3	2.2	0.016	1.3	7.5
	04-Jan-90	1.7	3.2	0.25	1.7	13.0
	01-Feb-90	1.2	1.8	0.073	1.1	7.6
	01-Mar-90	1.2	1.4	0.037	1.0	4.7
EW-4						
	04-Apr-89	NT	NT	NT	NT	2.5
	01-May-89	0.56	0.28	0.034	0.72	2.0
	05-Jun-89	0.4	0.2	ND	0.6	3.1
	05-Jul-89	0.29	0.15	0.021	1.2	4.3
	02-Aug-89	0.23	0.1	0.023	1.1	6.3
	06-Sep-89	0.17	0.038	LT 0.0005	0.80	3.0
	02-Nov-89	0.12	0.089	0.009	0.48	5.3
	05-Dec-89	0.17	0.029	0.011	0.62	3.5
	04-Jan-90	0.17/0.2	0.027/0.0085	0.0085/0.0027	0.19/0.21	1.4/1.7
	01-Feb-90	0.38	0.035	0.0080	0.38	1.6
	01-Mar-90	0.0039	0.0019	0.0008	0.0040	0.33
EW-6						
	02-Nov-89	20	22	0.54	12	100
	05-Dec-89	20	24	1.3	13	93
	04-Jan-90	25	34	2.0	16	160
	01-Feb-90	26	49	3.1	22	120
	01-Mar-90	29	38	2.2	14	120
	11-Apr-90	6.3	8.1	0.51	13	28
EW-7						
	05-Jul-89	18	16	0.67	10	74
	05-Oct-89	38	46	LT 0.50	11	210
	02-Nov-89	30	39	1.8	15	170
	05-Dec-89	27	36	1.9	17	130
	04-Jan-90	11	11	0.36	7.0	59
	01-Feb-90	9.4	8.2	0.19	4.4	38
	01-Mar-90	4.0	1.5	LT 0.5	6.7	19
EW-8						
	01-May-89	1.1	0.49	0.021	0.30	2.3
	05-Jun-89	2.5	2.0	ND	1.4	8.3
	05-Jul-89	3.3	2.9	0.22	3.1	19
	02-Aug-89	5.7	5.6	0.33	5.8	37
	06-Sep-89	5.7	5.5	0.19	10	38

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE		ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *			0.0005/0.0002 *		0.25/0.05**
	05-Oct-89	13	4.6	LT	0.25	7.0	71
	02-Nov-89	8.1	8.6		0.21	6.2	56
	05-Dec-89	8.8	0.51		0.037	3.0	8.8
	04-Jan-90	2.3	2.0		0.078	1.8	14
	01-Feb-90	4.0	3.8		0.020	5.3	15
	01-Mar-90	0.0038	0.0012		0.0005	0.33	1.1
EW-9							
	21-Nov-89	ND	ND		ND	ND	ND
	05-Dec-89	4.5	6.7		0.35	5.7	27
	04-Jan-90	3.0	3.5		0.17	2.9	17
	02-Feb-90	2.0	2.9		0.17	2.4	14
	01-Mar-90	2.2	3.0		0.22	3.5	12
EW-10							
	07-Sep-89	8.1	7.4		0.80	9.2	42
	05-Oct-89	6.1	4.6		0.20	7.0	19
	02-Nov-89	1.7	1.2		0.048	3.3	14
EW-11							
	07-Sep-89	7.7	8.0		0.52	5.3	25
EW-12							
	01-May-89	1.8	0.66		0.048	0.62	3.6
	05-Jun-89	25	20		0.8	11	71
	05-Jul-89	5.2	5.6		0.38	3.4	25
	02-Aug-89	4.5	5.4		0.39	3.3	25
	07-Sep-89	2.2	1.8		0.059	2.2	9.9
	05-Oct-89	4.4	5.5	LT	0.10	2.0	21
	05-Dec-89	3.2	4.7		0.20	2.3	17
	04-Jan-90	1.8	2.4		0.10	1.7	9.1
	02-Feb-90	4.8	6.6		3.9	4.5	17
	01-Mar-90	1.7	2.5		0.15	1.8	9.3
EW-13							
	19-Apr-89	0.068	0.0064		ND	0.20	0.79
	07-Sep-89	3.3	3.2		1.8	0.026	15
EW-14							
	05-Jul-89	1.8	1.7		0.08	1.1	8.7
	07-Sep-89	4.1	3.5		0.20	3.7	16
	05-Oct-89	4.3	5.2	LT	0.10	0.74	24
EW-15							
	19-Apr-89 #	13080	61000		16000	140000	660000
	05-Jul-89	2.0	2.8		0.26	2.9	19
	02-Aug-89	1.7	3.4		0.68	2.5	15
	07-Sep-89	8.4	7.6		0.20	6.3	37
	05-Oct-89	2.6	1.7	LT	0.10	0.62	12
	02-Nov-89	ND	0.0014		ND	0.0029	0.16
	05-Dec-89	3.1	4.1		0.32	3.0	19

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
	04-Jan-90	0.72	0.69	0.026	0.43	3.5
	02-Feb-90	2.7	3.9	0.19	2.4	16
	01-Mar-90 ##	--	--	--	--	--
	11-Apr-90	3.0	2.3	1.3	16	44
EW-16						
	04-Apr-89 @	2.8/3.3	2.0/2.6	0.10/0.14	0.99/1.2	8.9/8.8
	19-Apr-89	0.002	0.0027	ND	0.0021	0.57
	01-May-89	5.0	4.6	0.34	2.5	12
	05-Jun-89	2.5	2.6	ND	1.8	9.5
	05-Jul-89	2.8	3.6	0.28	1.8	16
	02-Aug-89	1.1	1.2	0.86	1.2	6.6
	07-Sep-89	2.6	2.7	0.21	1.9	11
	05-Oct-89	3.6	2.9	0.15	2.4	16
	02-Nov-89	1.8	1.7	0.82	0.33	11
EW-19						
	01-May-89	1.4	1.2	0.068	0.77	3.4
	05-Jun-89	0.9	0.6	ND	0.6	2.9
	05-Jul-89 @	2.2/1.4	0.62/0.71	0.041/0.043	0.72/0.8	4.8/5.3
	02-Aug-89	1.7	1.1	0.039	0.95	7.4
	07-Sep-89	2.5	2.1	0.15	1.5	9.1
	05-Oct-89	5.1	3.7	0.048	3.0	13
	02-Nov-89	0.35	0.29	0.028	0.31	3.2
	05-Dec-89	1.2	0.84	0.092	0.92	5.3
	04-Jan-90	1.0	1.5	0.082	0.9	5.3
	02-Feb-90	0.56	0.47	0.044	0.64	2.1
	01-Mar-90 ##	--	--	--	--	--
EW-20						
	04-Jan-90	1.3	11.0	0.83	8.4	36.0
EW-21						
	05-Jun-89	ND	ND	ND	0.3	3.2
	05-Jul-89	0.0026	0.015	0.017	0.095	1.1
	02-Aug-89	0.0027	0.012	0.0054	0.031	0.48
	07-Sep-89	0.0060	0.0095	0.0020	0.0026	0.34
	05-Oct-89	0.0009	0.0098	0.0012	0.0093	0.50
	02-Nov-89	0.002	0.028	0.0068	0.14	0.88
	05-Dec-89	0.0034	0.064	0.019	0.14	0.97
	04-Jan-90	0.004	0.10	0.041	0.35	1.8
	02-Feb-90	0.0053	0.33	0.13	0.84	3.6
	01-Mar-90	0.0029	0.23	0.052	0.48	1.5
EW-22						
	21-Nov-89	0.056	0.015 LT	0.005	0.12	6.1
	02-Feb-90	2.1	17	1.1	13	43
	01-Mar-90	2.2	16	1.1	11	42
BLANK						

Table 6. Results of Organic Chemical Analyses of Groundwater Samples from Monitoring and System Wells

Purgeable Aromatics (EPA Method 8020)
Petroleum Hydrocarbons (EPA Method 8015)

WELL	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES, TOTAL	TPH AS GASOLINE
LOD	(mg/l)	0.0005/0.0002 *		0.0005/0.0002 *		0.25/0.05**
	05-Apr-89	0.5	ND	ND	ND	ND
	01-May-89	ND	ND	ND	ND	ND
	06-Jun-89	ND	ND	ND	ND	ND
	06-Jul-89	ND	ND	ND	ND	ND
	01-Aug-89	ND	ND	ND	ND	ND
	02-Aug-89	ND	ND	ND	ND	ND
	03-Aug-89	ND	ND	ND	ND	ND
	06-Sep-89	ND	ND	ND	ND	ND
	07-Sep-89	ND	ND	ND	ND	ND
	04-Oct-89	ND	ND	ND	ND	ND
	02-Nov-89	ND	ND	ND	ND	ND
	05-Dec-89	ND	ND	ND	ND	ND
	03-Jan-90	ND	0.0006	ND	0.0017	ND
EW COMPOSITE						
	01-Feb-90	0.16	0.045	0.0009	0.38	0.64

NOTES:

LOD: Limit of Detection.
ND: Not detected at or above LOD.
NT: Not tested.
*: LOD Changed to 0.0002 on 01-May-89
**: LOD Changed to 0.05 on 01-May-89
@: Two values indicate results of duplicate analyses.
LT: Less than the concentration indicated.
--: Results not available.
#: Free product observed in well.
##: For these samples, laboratory internal duplicate analyses were not consistent with one another.

Organic constituents reported in milligrams per liter.
Analyses performed by PACE Laboratories, Inc.

CITY OF OAKLAND

CITY HALL • ONE CITY HALL PLAZA, • OAKLAND, CALIFORNIA 94612
(415) 273-3601
TTY 839-6451

Office of the City Attorney
Jayne W. Williams
City Attorney

File Pacific Ren. Plaza

May 11, 1990

Donald Dalke
Division Chief, North Bay Toxics
California Regional Water Quality
Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, CA 94612

Re: Request for Submittal of Technical Report

Dear Mr. Dalke:

This letter responds to your letter dated May 9, 1990 to Peter Chen.

I was also present at the April 27th meeting with the Regional Board staff, and I came away from that meeting with a distinctly different impression than your letter indicates of what the Board's staff was asking of the Redevelopment Agency. Indeed, I very much appreciated the opportunity to meet with the Board's staff, and I found the meeting to be very amicable and informative. However, I neither heard staff request a technical report from the Redevelopment Agency by June 9 nor heard any admonition that the Agency's failure to submit such a report by June 9 would result in fines up to $1000 per day. What I heard was concern that the pollution plume needed to be better defined and that the Agency would attempt to set up a meeting between your staff and the Agency's technical consultants to discuss the extent of any additional investigation that may be necessary to further define that plume. I am informed that prior to the Agency's receipt of your letter, such a meeting was already set for Monday morning, May 14, 1990 in the Board's offices.

At the meeting, we informed the Board's staff that the Agency's consultants believed the source of the trichloroethene was outside the PRP project site. We understood that (1) the source of the trichloroethene and (2) the scope of any additional investigation needed to define the plume of any pollution emanating from the PRP site would be the subjects of our May 14 meeting.

Had we known that the Board wanted a written technical report from the Agency by June 9, we would have directed the Agency's consultants to begin preparing one immediately. In fact, the Agency's consultants will be prepared to present a verbal report to the Boards's staff on May 14. If, however, the Board intends to require a written technical report in addition to the report that will be presented at the May 14 meeting, please make that clear to us.

I assure you that the Agency wishes to maintain an amicable relationship and cooperate with the Board and its staff, and the Agency intends to fulfill its responsibilities with respect to any pollution emanating from the PRP project site to the extent required by law.

Very truly yours,

JAYNE W. WILLIAMS,
City Attorney

By

DONNELL W. CHOY,
Assistant to the City Attorney

cc: Gil Jensen, ACDA
Peter Chen, OEDE
Peter Mote, HLA

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1800 HARRISON STREET, SUITE 700
OAKLAND, CA 94612

Phone: Area Code 415
484-1255

01

May 9, 1990
UST File (RCH)

Pacific Renaissance Plaza

Peter Chen
City of Oakland
Redevelopment Agency
One City Hall Plaza
Oakland, California 94612

Subject: Request for submittal of Technical report

Dear Mr. Chen,

In the April 27th meeting Regional Board staff reiterated concern regarding the trichloroethene and petroleum hydrocarbon plume outside of the Pacific Renaissance Plaza. At that meeting staff again requested the submittal of a technical report to define the extent of the pollution plume emanating from the PRP project site. Staff have informed me that we are still awaiting your submittal.

Therefore, pursuant to the Regional Board's authority under Section 13267 of the California Water Code, you are hereby required to submit a technical report describing a plan for defining the extent of pollution including an implementation schedule by June 9, 1990. You should be aware that failure to submit or late submittal may result in fines up to $1000 per day of delinquency.

If you have any questions regarding the contents of this letter, please call Steven Luquire at (415)464-4222.

Sincerely,

Donald Dalke

Donald Dalke
Division Chief,
North Bay Toxics

cc: Donnell Choy, City of Oakland
Gil Jensen, ACDA

Harding Lawson Associates

April 30, 1990

09382,047.02

California Regional Water Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, California 94612

Attention: Mr. Don Dalke

Gentlemen:

Excavation Monitoring Plan
Pacific Renaissance Plaza
Oakland, California

This letter transmits Harding Lawson Associates' (HLA) *Excavation Monitoring Plan, Pacific Renaissance Plaza, Oakland, California* describing the plan for monitoring, characterization, and disposition of soil excavated as part of the construction of the Pacific Renaissance Plaza (PRP) in Oakland's Chinatown Redevelopment Project Area.

We would be pleased to discuss the plan with you, and will call after you have received it to discuss the need to meet and arrange a mutually agreeable time. If you have any questions, please call David Leland of HLA at 899-7352, Pete Mote of HLA at 899-7397, or Peter Chen of the Redevelopment Agency at 273-3692.

Very truly yours,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

Attachment: *Excavation Monitoring Plan, Pacific Renaissance Plaza, Oakland, California*

cc: Peter Chen, Agency (2)
Donnell Choy, City Attorney's Office (without attachment)
Richard Hiett, RWQCB (without attachment)
Lowell Miller, Alameda County Health Department (1)
Pete Mote

DFL/klc/df1036#1

RH

Harding Lawson Associates

CALIFORNIA REGIONAL WATER

FEB 27 1990

QUALITY CONTROL BOARD

February 23, 1990

09382,040.02

California Regional Water
Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, California 94607

Attention: Mr. Donald Dalke

Gentlemen:

NPDES Permit Reporting Requirements
Dewatering Effluent Treatment System
Chinatown Redevelopment Project Area
Oakland, California

This letter transmits Harding Lawson Associates' (HLA) *Report of System Monitoring, January 1990, Dewatering Effluent Treatment System, Chinatown Redevelopment Project Area, Oakland, California* describing the operations and monitoring of the carbon adsorption system for ground-water treatment at 10th and Webster Streets in Oakland.

This letter also requests approval of the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) for a modification of NPDES Permit CA0029394 from monthly reporting to quarterly reporting. Monthly sampling and analysis will continue in accordance with permit requirements. We would be pleased to report to you verbally each month regarding sampling and analysis results. Quarterly reporting is proposed to streamline reporting and permit compliance efforts without jeopardizing the effectiveness of the system in meeting permitted effluent limitations.

If you have any questions regarding this request, please call David Leland at (415) 899-7352 or Pete Mote at (415) 899-7397.

Very truly yours,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

Peter A. Mote
Principal Geologist

DFL/PAM/dc/dfl031#1

Attachment: *Report of System Monitoring, January 1990, Dewatering Effluent Treatment System, Chinatown Redevelopment Project Area, Oakland, California*

cc: Peter Chen, Agency (with 2 copies of attachment)
Lowell Miller, Alameda County (with attachment)
Richard Hiett, RWQCB (without attachment)
Cecil Felix, RWQCB (without attachment)

Harding Lawson Associates

7655 Redwood Boulevard
P.O. Box 578
Novato, CA 94948

California Regional Water Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, California 94607

Attention: Mr. Richard Hiett

Concur DAM
2-14-91

TO: 1. Dennis Mishek 2. Donald Dalke 3. John Jang 4. Files 01

FROM: John Jang

DATE: February 14, 1990

good work
DDD

SELF-MONITORING REPORT VIOLATION SUMMARY

Chinatown redevelopment 4th Quarter 1990

1. City of Oakland Redevelopment Agency (11th and Webster)

Ethylene dibromide effluent violations on 11/26/90 (0.11 and 0.10 ppb but influent had none detected) and on 12/4/90 (.23 and none detected).

Because of the discrepancies in the analytical results (influent none detected while effluent show violations and one duplicate sample show a violation while the other one show none detected) I recommend no further action by the Board at this time. Previous samples did not exceed permit limit. If the next round of results show more violations, we could send a warning letter to the discharger.

2. Southland Corp. (5778 Redwood Highway, Ignacio, Marin Co.)

One effluent pH violation in December 1990 (pH 8.60). This is a minor violation of the 6.5 to 8.5 limit. I recommend no further action by the Board.

3. Southland Corp. [redacted]

Effluent TPH-gasoline violation on 9/28/90 (260 ppb vs. permit limit of 50 ppb). Confirmation sample on 10/6/90 was 37 ppb. Southland decided to immediately replace both carbon canisters on 10/12/90.

I recommend no further action by the Board because Southland corrected the problem immediately.

4. Texaco USA (377 Mowry Ave., Fremont)

Effluent violations of lead (13 ppb) and copper (24 ppb) on 9/7/90. Reconfirmation samples on 9/27/90 show no violations (<5 ppb for lead and <20 ppb for copper). I recommend no further action by the Board at this time.

5. Texaco USA (4004 Mowry Ave., Fremont)

2-14-91

01

TO: 1. Dennis Mishek 2. Donald Dalke 3. John Jang 4. Files

FROM: John Jang

DATE: February 14, 1990

excellent summary report DPD

SUBJECT: Status of NPDES Permit Holders Who Has Not Started Discharging or Has Shutdown Recently

1. Bank of California (San Mateo), permit issued 3/90: Owner is in process of hiring consultant to put in the treatment system. Construction expected to start next month.

2. Chevron (2710 Story Road, San Jose), permit issued 8/90: Try to start up on January 16, 1991. Free product storage tank prove to be much too small. Chevron have not decided on solution yet. If they go with temporary storage facility, will take several more weeks before starting up. If they go with permanent storage facility, will take even longer before starting up.

3. Chevron (Milpitas), permit issued 6/90: There are some disagreement between Chevron and the property owner on what needs to be done. They are getting close to resolving their disagreements. Full resolution expected in about 3 or 4 months.

4. ~~City of Oakland Redevelopment Agency~~: Treatment system restarted right after Thanksgiving 1990.

5. Fass Metals (Richmond), permit issued 4/89: Treatment system has not been able to meet permit limit for nickel (effluent concentration at 35 ppb vs. permit limit of 7.1 ppb). Fass Metals looking at several options now: upgrading treatment to meet nickel limit, discharging to adjacent land (WDR), or annexation and going to POTW.

6. Mission Trail Oil Co., Rotten Robbie #33 (Santa Clara), permit issued 4/90: Treatment system has started up but cannot meet permit limit for TPH-diesel. Treatment system consist of fixed film bioreactor followed by carbon canisters. They will sent me a written summary of what has been done to date and will request a meeting with us.

7. Ms. Margaret Debarnardi, formerly Wolco (Sunnyvale): Treatment system has restarted in January 1991.

8. P.I.E. Nationwide (Emeryville): Effluent has been going to EBMUD sanitary sewer since startup. P.I.E. recently declared bankruptcy and the treatment system has been shut down since 6/90. P.I.E. does not plan to restart the treatment system.

9. Reid-Hillview Airport (San Jose), permit issued 8/89: The treatment system is in place but the airport uses extraction

trenches and because of the drought, the groundwater table is too low to pump out appreciable amount of groundwater.

10. Shell Oil Co. (Union City): System restarted on October 20, 1990. Discharge is to Union Sanitary District.

11. Southland Corp. (San Jose), permit issued 7/88: Will start pulling out underground tanks this Friday. Once this is finished, it will take about 6 - 8 weeks to install the treatment system.

12. Southland Corp. (Los Gatos), permit issued 8/90: Treatment system installed except piping to storm drain. Southland wants to put in a 3 or 4 inch diameter discharge pipe while the City wants them to install a 12 inch pipe. Neither side appears willing to bulge at this point.

13. Texaco (San Jose): System has been down since 12/28/90 due to excessive scaling downstream of the air stripper. Consulting firm will meet with Texaco within two weeks to decide on what to do.

14. UNOCAL (Santa Clara): System has been down since Oct. 1990 due to low groundwater levels (from the drought) below the level of the extraction wells. Several new and deeper wells has been installed and pump test is scheduled for Feb. 26, 1991. Treatment system expected to be restarted within two weeks of the pump test.

15. Viking Materials (San Jose), permit issued 1/90: Treatment system being installed this month. Expected to start up within three weeks.

SUMMARY: Except for those circled in green, all of the above NPDES permit holders have restarted their treatment systems or is making reasonable effort toward installing and starting up their treatment system. I will call these NPDES permit holders every three months to see if progress continues to be reasonable.

For those NPDES permit holders circled in green, I will send memos to the appropriate section leaders and request that they send letters to the LIA or to the permit holders to get them moving.

Due to the amount of time necessary to prepare the required site information as well as the time needed for technical report review this option does not appear to be a timely. However, the Discharger could prepare an interim plan for storage of the waste at a site while the necessary information is being developed.

The third option is probably the least timely of all. This is due to the fact that the depository would be permitted through the Land Disposal Division and would not be able to justify as a high priority for that Division.

There is two small areas contained on-site surrounding B-2 and B-5 that does not appear to be contaminated. The Discharger should after some verification sampling be able to dispose of this material as a construction waste.

After the completion of soil excavation the Discharger should be required to perform verification sampling of the site.

RECOMMENDATION:

1. The disposal method proposed by HLA for the extracted groundwater is appropriate and should be allowed.

2. I recommend the following for the disposition of the extracted soil:

    A. Disposal at a permitted landfill. I recommend this as the preferred option. As stated previously the wastestream characterization should be designated by the permitted facility.

    B. Disposal at a site with WDR's

        1. Soil should be characterized in the following manner:

            a. Samples taken every 20 cubic yards for 15 feet-40 feet and every 60 cubic yards for soil ground surface to 15 feet. The samples shall be analyzed by a state certified laboratory. All soil in excess of the following levels will be considered to be contaminated: 10 ppm TPH, 5 ppb BTXE*, and 1.5 ppb chlorinated compounds**. In addition to the above mentioned samples, any "hot spots" detected by field screening equipment and not already sampled will be sampled.

*5 ppb total for all constituents
** 1.5 ppb per constituent

b. Duplicate samples will be provided to Regional Board staff upon request.

2. The following shall apply to a site with WDR's:

a. No soil in excess of 1000 ppm TPH shall of disposed of at this site. All soils above 100 ppm TPH shall require further treatment prior to disposal (i.e. aeration). No soil with detectable levels of chlorinated Soils may be treated on-site to achieve non-detectable levels.

b. Site geology and hydrology shall be characterized in accordance with the request for Waste Discharge Requirements. The Discharger should be allowed to temporarily store the excavated soil on-site if an adequate plan is submitted.

C. Retention at a permitted depository:

1. Refinery wastes have been allowed to be handled in this manner and this option should be open to the Discharger contingent on the approval from the Land Disposal Division.

3. The PRP site should have verification sampling performed in accordance with SW846. This will be necessary for any future site certifications. The Regional Board should be provided with duplicate samples of all verification samples.

I also recommend that Regional Board staff be present during sampling activities to provide regulatory oversight and to accept duplicate samples.

RH

01-1126

Harding Lawson Associates

February 7, 1990

09382,040.02

California Regional Water
Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, California 94607

Attention: Mr. Donald Dalke

Dear Mr. Dalke:

We have discovered an error in the injection rate table (Table 2) and the associated text (page 8) of the recently submitted *Report of System Monitoring, December 1989, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California.*

The flow rate for injection wells located south of 10th Street (Wells IW-1 through IW-9 and IW-12 through IW-14) was about 21.5 gpm instead of the 13.3 gpm reported. The rates for IW-12 through IW-14 were inadvertently left off. The total flow into all injection wells and infiltration basins, calculated as a monthly average, was about 25.1 gpm not the reported 16.9 gpm. The average extraction rates exceeded the average injection/infiltration rates by about 1.3 gpm in December. Enclosed are revisions of page 8 and Table 2.

Also, HLA is modifying the operation of the biotreatment system as summarized below:

- Discontinue injecting into 4 of the least effective interior injection wells south of 10th Street.
- Inject only treated water, without added nutrients or hydrogen peroxide, into 4 interior injection wells south of 10th Street. The purpose of this is to maintain a hydraulic pressure gradient toward the extraction wells while reducing the requirement for nutrients and hydrogen peroxide.
- Reduce nutrient concentrations in the injected water by half. The existing concentrations in ground water exceed microbial requirements and, therefore, reducing injection concentrations will not impact the effectiveness of the system.
- Reduce monitoring for organic compounds by about 20%. As we approach the end of operation, the need for performance monitoring is reduced. All monitoring wells exterior to the extraction well ring south of 10th Street will continue to be sampled. Wells proposed for deletion include MW-9, MW-16, MW-17 and several extraction wells.
- Reduce inorganic monitoring by about 50% for reasons cited immediately above. Monitoring will be conducted monthly instead of twice monthly.

If you have any questions or comments on the above, please call David Leland at 899-7352 or Pete Mote at 899-7397.

Very truly yours,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

Peter A. Mote
Principal Geologist

PAM/dc/pam140#2

cc: Peter Chen
Donnell Choy
Richard Hiett

4.0 RESULTS

4.1 Hydraulic Analysis

Flow rates for wells and infiltration basins installed by HLA were calculated based on readings from the flowmeters on the wellheads. Average injection and extraction rates for December are presented in Tables 2 and 3. From December 4 to January 2, the total flow rate for all injection wells was about 13.5 gallons per minute (gpm). The flow rate for injection wells located south of 10th Street, (Wells IW-1 to IW-9, and IW-12 to IW-14) was about 21.5 gpm. The average flow rate into Basins BA-1 to BA-7 was about 2.0 gpm from December 4 to January 2; the average flow rate into Basins BA-8 and BA-9 was about 0.6 gpm and into BA-10 about 0.8 gpm (Table 2). All the influent to these covered basins is assumed to infiltrate. Total flow into all injection wells and infiltration basins, calculated as a monthly average, was about 25.1 gpm.

During this monitoring period, the total flow rate for all extraction wells was 26.4 gpm. The flow rate for Wells EW-1 through EW-20 was about 25.5 gpm, and for Well EW-21 and Well EW-22 was about 0.9 gpm (Table 3). The average extraction rates exceeded the average injection/infiltration rates by about 1.3 gpm in December.

Table 4 presents measurements of depth to water in monitoring wells and calculated water-level elevations from January 3, 1989 to January 2, 1990. Ground-water elevations on January 2, 1990 are shown on Plate 2 and represent conditions approximately 304 days after system startup. Contours of ground-water elevations simulated using the numerical model are also presented on Plate 2. In some cases, locations of injection and extraction points used in the model differ slightly from actual well locations because of the nature of discretization of the modeled area.

Table 2. Injection Well and Infiltration Basin Flow Rates - December 1989

Injection Well Flow Rates

Meter No.	02-Jan-90 Totalizer Reading	04-Dec-89 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
IW-1	1483895	1403390	40340	2.00
IW-2	1402463	1314088	40340	2.19
IW-3	1189260	1113220	40340	1.88
IW-4	1382119	1290757	40340	2.26
IW-5	446781	411668	40340	0.87
IW-6	657623	622190	40340	0.88
IW-7	1578566	1472840	40340	2.62
IW-8	528229	502894	40340	0.63
IW-9	836898	836898	40340	0.00
IW-10	104914	104054	40340	0.02
IW-11	557179	551596	40340	0.14
IW-12	143863	12365	40340	3.26
IW-13	119442	21030	40340	2.44
IW-14	121807	23270	40340	2.44
Total (1-9,12-14)	9890946	9024610	40340	21.48
Total (10,11)	662093	655650	40340	0.16
Total (1-14)	10553039	9680260	40340	21.64

Note: Totalizer readings in gallons.

Infiltration Basin Flow Rates

Meter No.	02-Jan-90 Totalizer Reading	04-Dec-89 Totalizer Reading	Elapsed Time (min)	Average Flow Rate (gpm)
BA-1	219990	201193	40340	0.47
BA-2	123442	106951	40340	0.41
BA-3	175619	157385	40340	0.45
BA-4	115548	103084	40340	0.31
BA-5	380205	380204	40340	0.00
BA-6 **	2909	2909	40340	0.00
BA-7	143206	127161	40340	0.40
BA-8	136713	115453	40340	0.53
BA-9	53011	48856	40340	0.10
BA-10	71731	40380	40340	0.78
Total (1-7)	1160919	1078887	40340	2.03
Total (8,9)	189724	164309	40340	0.63
Total (1-10)	1422374	1283576	40340	3.44

Note: Totalizer readings in gallons.

**: Basin flow rate is included in BA-5

Harding Lawson Associates

December 5, 1989

09382,040.02

California Regional Water
Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, California 94612

Attention: Mr. Donald Dalke

Gentlemen:

Response to Letter Dated November 20, 1989
Soil Treatment System
Pacific Renaissance Plaza
Oakland, California

This letter transmits the *Report of System Monitoring, October 1989, Soil Treatment System, Pacific Renaissance Plaza, Oakland, California,* which describes the operations and monitoring of the in situ biotreatment system at the Pacific Renaissance Plaza (PRP) site in Oakland. The report was prepared by Harding Lawson Associates (HLA) on behalf of the Redevelopment Agency of the City of Oakland (Agency). This letter also addresses the comments regarding results presented in HLA's Report of System Monitoring, August 1989, as discussed in the November 10, 1989 meeting attended by representatives of the Agency, HLA, and California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) representatives at the RWQCB offices and reiterated in a letter dated November 20, 1989 from Mr. Donald Dalke of the RWQCB to Mr. Peter Chen of the Agency.

To address the RWQCB concern of possible petroleum hydrocarbon migration beyond the PRP site, HLA has scheduled the installation of two new monitoring wells (near MW-10 and MW-12) during the week of December 11, 1989. Monitoring of ground-water conditions in these two locations will help clarify if hydrocarbons are migrating beyond the site.

HLA's response to RWQCB concerns about the discrepancies between simulated and actual water levels and illustration of real flow paths will be discussed in HLA's quarterly Report of System Monitoring, September through November 1989, scheduled for completion in either the last week of December or the first week of January. A new water-level elevation contour map constructed from actual water levels will be prepared for this report. This map will be used in the assessment of hydraulic control.

The RWQCB has expressed concerns regarding system extraction rate and injection/infiltration rate balance. System balance has been regularly evaluated and reported by HLA since the start

of operations. Results of these evaluations have been used to adjust the operation of the system in an effort to maintain extraction rates slightly greater that injection/infiltration rates. HLA is continuing to assess the performance of extraction and injection wells and adjusting the system to increase our confidence in hydraulic control. Results for November indicate that total extraction rate is exceeding the total injection/infiltration rate. A summary of November results will be presented and assessed in the quarterly report.

The RWQCB also had comments regarding the presence of chemicals in ground water in the area northeast of the East Bay Municipal Utility District (EBMUD) building. As we discussed in our November 10 meeting, the available ground-water gradient data suggest that elevated concentrations of trichloroethene and petroleum hydrocarbons in ground water northeast of the EBMUD building are migrating from an off-site source and are not associated with any known source at either the EBMUD or the PRP property. HLA is continuing to evaluate both the chemistry, as it relates to our carbon treatment system, and ground-water gradient data in this area.

Please call either David Leland at 899-7352, Pete Mote at 899-7397, or Peter Chen of the Agency at 273-3692 if you have any questions regarding these issues. We would be pleased to discuss any aspect of the system with you.

Very truly yours,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

Peter A. Mote
Principal Geologist

JDS/DFL/PAM/dc/dfl020#1

Attachment: Report of System Monitoring, October, 1989
Soil Treatment System, Pacific Renaissance Plaza, Oakland, California

cc: Steven Ritchie, RWQCB, (without attachment)
Peter Chen, Agency
Donnell Choy, (without attachment)
Lowell Miller, Alameda County Health Department
Richart Hiett, RWQCB (without attachment)

CSF

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1800 HARRISON STREET, SUITE 700
OAKLAND, CA 94612

Phone: Area Code 415
464-1255

November 28, 1989
File No. 2199.9253 (CSF)

David F. Leland
Harding Lawson Associates
7655 Redwood Boulevard
P.O. Box 578
Novato, CA 94948

Subject: Modification to NPDES Self-Monitoring Plan
Chinatown Redevelopment Project, Oakland

Dear Mr. Leland:

We have received your proposal to modify the NPDES Self-Monitoring Plan for the above-referenced site. I understand that you propose to analyze only for benzene, toluene, ethylbenzene, and xylenes using EPA method 8020. Analyses of the four chlorobenzene compounds would be deleted.

Because the four compounds would continue to be monitored by EPA test method 8010, and because none of the chlorobenzene compounds have been detected in any of the influent samples since May 1988, we have no objection to the modification as proposed. You may proceed to implement the modification immediately.

If you have any questions regarding this letter, please contact Cecilio Felix of my staff at (415) 464-1249.

Sincerely,

Steven R. Ritchie
Executive Officer

Lowell Miller, Alameda County Health Department
Peter Chen, City of Oakland

UST

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1800 HARRISON STREET, SUITE 700
OAKLAND, CA 94612

Phone: Area Code 415
464-1255

July 25, 1990
UST (SLL)

Peter Chen
City of Oakland
Redevelopment Agency
One City Hall Plaza
Oakland, California 94612

01

RE: HLA INVESTIGATION PLAN HYDROCARBONS IN OFFSITE GROUNDWATER CHINATOWN REDEVELOPMENT PROJECT AREA OAKLAND, CALIFORNIA, DATED 6/8/90

Dear Mr. Chin:

Board staff have no objection to the locations proposed in the subject workplan for groundwater monitoring wells 21, 22, and 23. Please provide Board staff with the details of construction and installation of these monitoring wells for technical review.

The monitoring wells described above will help define the extent of off-site migration of pollution from the subject site. They will also serve to aid in determining the effects of the proposed site dewatering.

If you have any questions in this matter please contact Steven LuQuire at 415-464-4222

Sincerely,

Donald D. Dalke
Chief, Toxics Cleanup Division

cc: David Leland, HLA
Dannell Choy, City of Oakland
Gil Jensen, ACDA
Alameda County Health Department

STATE OF CALIFORNIA GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1800 HARRISON STREET, SUITE 700
OAKLAND, CA 94612

Phone: Area Code 415
464-1255

November 20, 1989

Peter Chen
City of Oakland
Redevelopment Agency
One City Hall Plaza
Oakland, California 94612

Sitename = Pacific Renaissance Plaza @ 9th & Webster

RE: Response to 10/2/1989 HLA report

Dear Mr.Chen,

As per our meeting on 11/10/1989 this letter reiterates some concerns, from the October 2nd report, which need to be allayed by further explanation and remediation action at Pacific Renaissance Plaza (PRP) on your part.

One concern is the possibility of contaminant migration beyond the PRP site. Increasing TPH and BTX&E levels at MW-10 for September 6th, specifically benzene at 10ppm and changes in MW-12 from ND benzene levels to 50 ppb suggest contamination migration beyond the extraction well flow net. What are the boundaries of the dissolved plume? Our agreement for the expedient installation of two new monitoring wells (near MW-10 and MW-12) outside our present perimeter may help clarify if contaminants are migrating beyond the site.

Another concern, allowing one to two foot discrepancies between simulated and actual water levels, and not illustrating vertical gradients around the BART tube area to illustrate real flow paths, does not accurately depict the hydraulic conditions at this site. A new gradient map with plotted flow paths, drawn from actual water level data, might define this area better.

An explanation is also needed as to why extraction and injection well rates are held equal instead of allowing greater extraction rates to provide additional containment of contaminants.

Once we have defined the PRP area further we need to answer questions regarding the water quality beyond the site. What about the existing plume, near the East Bay MUD building, with unacceptable TCE (>14ppm) and TPH levels? Does the City of Oakland need to continue extraction?

Answers to these questions are still needed before we can consider your request to allow untreated water to be injected as clean-up enhancement. Please submit a response to the above including proposals for additional work required.

If you have any questions regarding this letter please feel free to contact Rich Hiett from my staff at (415) 464-4359.

Sincerely,

Donald D. Dalke
Division Chief
Toxics Cleanup Division

cc: Mr. David F. Leland, Harding Lawson Associates
Mr. Donnell Choy, City of Oakland
Mr. Lowell Miller, ACHD

INTRAOFFICE SPILL/COMPLAINT REPORTS

Office Notification
DATE: 6/12/89
TIME: 0935hr
RCVD BY: MHE
REPTD BY: David
AGENCY: _____
PHONE: _____

849 7352

REPORT ROUTING:

SEQ / CC	POSI	Person's Initials	DATE	
	Field			
	SL			
	DC			
	AEO			
	EO			
	other			

PROP. 65 NOTIFICATION: Y N

☐ Spill ☐ Complaint ☐ Other
☐ Oil ☐ Chem ☐ Sewage

INCIDENT INFORMATION:

Incident date: 6/11/89 Time: P.M Previous occurrence: Y N
Material: Untreated Sewage Water Volume: 4000
Location/Source: EBMUD Address: 10th Webster St.
Phone number: _____ City/County: Oakland, Al
Description of incident: Overflow of storage tank - a clogged line caused (TSS = 70 PPM) the overflow. Violation of NPDES Permit. Referred to Toxic Div.

Water impacted: stormdrain Creek (_____) Bay (_____) soils groundwater unknown other (_____)
Extent of Impact: (unknown) or _____
First Response Agencies:
USCG CDFG County Health Local FD Local PD Other: _____
Other Agencies Notified:
USCG CDFG County Health Local FD Local PD Other: _____

PHONE CONTACTS AVAILABLE AND/OR MADE DURING INVESTIGATION:

			Contacted
Name: David LeLaw	Affiliation: HSL	Phone: 849-7352	(Y) N
Name: _____	Affiliation: _____	Phone: _____	Y N
Name: _____	Affiliation: _____	Phone: _____	Y N

RESOLUTION OF INVESTIGATION:

Initials of Investigator: MHE FILE NO. 223.09

Form S-18 (11/87)

1. DC - File

Harding Lawson Associates

ALA COUNTY

February 22, 1989

09382,040.02

California Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 6000
Oakland, California 94607

Attention: Ms. Lisa McCann

01

Dear Lisa:

Soil Treatment Plan Amendments
Application for Waste Discharge Requirements —
Pacific Renaissance Plaza
Oakland, California

This letter has been prepared by Harding Lawson Associates (HLA) for the City of Oakland Redevelopment Agency (Agency) to clarify several aspects of the soil treatment plan proposed for the Pacific Renaissance Plaza (PRP) site in Oakland and described in a report prepared by HLA titled *Report of Waste Discharge, Pacific Renaissance Plaza* dated February 3, 1989 and included with the Agency's application for Waste Discharge Requirements. The PRP site is bounded by 9th, Franklin, and Webster streets and the East Bay Municipal Utility District property line north of 10th Street. Specific items discussed in this letter include the use of untreated ground water for reinjection, and verification sampling of site soils during and after treatment.

<u>Injection Water</u>

The Report of Waste Discharge (ROWD) proposes the use of potable water for injection during system startup and the use of ground water recycled and treated by carbon adsorption during system operations. By this letter, we are proposing to amend the application to include the use of untreated ground water for reinjection. Use of recycled ground water has several advantages over use of potable water, as described in Section 2.2 of the ROWD. Use of untreated ground water has an additional advantage over use of treated ground water because it maximizes the microbial population reintroduced to the subsurface, which maximizes the efficiency of the bioremediation process and and minimizes the time required to complete the treatment. Our nutrient and oxygen distribution system is designed as a closed system, intended to capture all reinjected fluids.

Verification Sampling

Two rounds of soil sampling are currently anticipated to verify the progress of the soil treatment system. The first round is tentatively scheduled for 4 months after startup, or after passage of approximately 3 pore volumes through the treatment area. The second round is scheduled for 6 months after startup, equivalent to passage of approximately 5 pore volumes through the treatment area. Each round will consist of a minimum of 3 borings located in areas and at depths where soil samples collected during site characterization activities (*HLA, 1988*) showed highest measured total petroleum hydrocarbon values. We anticipate collecting samples from approximately 25 feet below ground surface in the area west of the former location of the underground tanks.

We request that these clarifications to the ROWD be considered as part of the Agency's permit application. If you have any questions on these or any other aspects of the application, please call David Leland at 899-7352, Peter Mote at 899-7397 or Peter Chen of the Agency at 273-3692.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

Peter A. Mote
Principal Geologist

DFL/PAM/njv/C7764-CT

cc: Peter Chen, Agency
Donnell Choy, City of Oakland
Lowell Miller, Alameda County

References

Harding Lawson Associates, 1988. *Site Characterization, Pacific Renaissance Plaza, Chinatown Redevelopment Project Area, Oakland, California.* December 22.

Harding Lawson Associates, 1989. *Report of Waste Discharge, Pacific Renaissance Plaza, Chinatown Redevelopment Project Area, Oakland, California.* February 3.

Meeting to Discuss Soil Treatment System at DRP 2/15/89

Name	Organization	Phone #
Lisa McCann	RWQCB	464-1287
Pete Mote	HLA	899-7397
Peter Choy	City of Oakland	273-3692
Donnell Choy	" " "	273-3601
Scott Hugenberger	RWQCB	464 4222
Dyan Whyte	RWQCB	464-0915
David Leland	HLA	899-7352
Donald R Smallbeck	HLA	899-8804
Donald Dalke	RWQCB	464-0503
Gil Wistar	Ala. Co. Dept. Env. Hlth	271-4320

Harding Lawson Associates

Transmittal/Memorandum

To: Alameda County Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Attention: Mr. Lowell Miller

From: David Leland
Date: December 28, 1988
Subject: Site Characterization, Pacific Renaissance Plaza
Job No.: 9382,030.02

Remarks: Please find enclosed a copy of the report entitled "*Site Characterization, Pacific Renaissance Plaza, Chinatown Redevelopment Project Area, Oakland, California*".

cb/DL/002

cc:

released from storage bank

NC

Harding Lawson Associates

HLA

DEC 27 1988

QUALITY CONTROL BOARD

December 21, 1988

09382,018.02

California Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 600
Oakland, California 94607

Attention: Ms. Lisa McCann

existing file

Dear Ms. McCann:

Report of Noncompliance
~~Dewatering Effluent Treatment System~~
Chinatown Redevelopment Project Area
Oakland, California

City of Oakland

This letter reports on an incident of release of water produced from dewatering wells operating at the block bounded by 10th, 11th, Webster and Franklin streets in Oakland, California (site), prior to passage of the water through the dewatering effluent treatment system located at the site. The treatment system is operated by Harding Lawson Associates (HLA) on behalf of the City of Oakland Redevelopment Agency (Agency).

This release occurred on the morning of December 14, 1988 sporadically over a period of approximately 4 hours. It is estimated that 1000 gallons of untreated water were released during this period. Based on laboratory analysis of treatment system samples collected during November, the released water is estimated to have contained total petroleum hydrocarbons (TPH) at less than 50 μg/l (micrograms per liter), and a total concentration of compounds measured by EPA Test Method 601 of less than 300 μg/l. At the present time, the primary priority pollutant in the influent to the system is trichloroethene (TCE).

The spillage occurred from tanks used to store dewatering water prior to passage through the liquid carbon adsorption (treatment) facility. Intermediate storage of dewatering water is accomplished in five 21,000 gallon Baker tanks which are located next to the facility. The tanks provide over 100,000 gallon storage capacity prior to processing through the facility. The purposes of this storage capacity are to reduce suspended solids levels in water prior to passage through the treatment system, to hold water while conducting repairs and maintenance, and to safely contain influent in the event of a system breakdown.

Engineers and Geoscientists | 7655 Redwood Blvd. P.O. Box 578 Novato, CA 94948 | Telephone 415/892-0821 Telex 340523 | Arizona Alaska California | Colorado Hawaii Nevada | Texas Telecopy 415/892-0831

The tanks are connected in series with inflow to the upstream tank and withdrawal accomplished by an electronically-activated submersible pump in the last downstream tank. The submersible pump transfers water into treatment system holding tank "T-1." The tank system can safely store approximately 36 hours of accumulated dewatering well production in the event of breakdown.

The December 14, 1988, spill occurred because of failure of the submersible pump. Our daily visual check of the Baker water level was accomplished in pre-dawn hours December 13. Because of limited visibility, our inspector did not note the rising water levels the day before the spill. At the same time we were also experiencing difficulties with electric motor controls for the pumps which are part of the carbon treatment system. We were aware that more water had accumulated in the Baker tanks than we normally allow, and were attempting to accelerate the flow rate through the treatment system when the submersible pump burned out, thus causing the spill.

As of December 15, 1988, treatment system motor controls and thermal breakers have been cleaned and serviced, and the Baker tank submersible pump and level controls completely replaced. We have performed a check of all the pumps on the system and will continue to check them as part of our daily maintenance routine.

Neither the release nor the mechanism of release in any way affected the operational integrity of the carbon adsorption vessels or the ability of the system to remove organic compounds from the dewatering effluent prior to discharge to the storm drain.

If you have any questions regarding this report or any other aspects of the operations of the treatment system, please call David Leland or Sam Collins at 415/892-0821.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Leland

David F. Leland
Associate Hydrologist

DFL/njv/C6595-CT

cc: Peter Chen, Agency
Peter Mote
Sam Collins
Chuck Myrick

FUELLEAK CASE FORM

Review Date 2 / 6 / 89
Rev Status C

Site Name Pacific Renaissance Plaza
Streetnumber 6
Street 9th & Webster
City Oakland
County Number 01

Priority B3
Rank

Division LPC
Lead Agency @ L

Primary Substance 8006610.

Secondary Substance

Waste Oil

Case Type (U) G D
Status F

Well Status NW

Soil Affected (Y) U
Max. Soil Conc. (ppm) 4800
Max. Residual Soil (ppm)
Soil Status

Groundwater Affected Y (U)
Max. Groundwater Impact
Groundwater Status
Depth to Groundwater

Drinking Water Affected Y (U)
Drinking Water Status

Remedial Action NT
Proof Action Needed ST

Date of Last Corr 10 / 11 / 88
Date Case Recieved 10 / 11 / 88

Case Evaluated By DRC
Consultant HLA Lab

File NC
11th St, WEBSTER

CONTROL REGISTER
FOR
PRIORITY CORRESPONDENCE

I. SUBJECT/ITEM: City of Oakland, Chinatown Redevelopment Project

FILE NO. 2199.9253

II. RATIONALE/REASON FOR ACTION AND ADDITIONAL NOTES:

This letter gives the responsible party authorization to change the frequency of sampling from weekly to monthly for the self-monitoring program in compliance with their NPDES permit.

The responsibility party requested a modification in the frequency of sampling (weekly) established in the self-monitoring program of their NPDES permit. They requested authorization to sample monthly. I reviewed the data submitted in their self-monitoring program reports and recommend that we grant this authorization for the following reasons:

1) Sufficient data (weekly sampling for a six month period) has been submitted to demonstrate effectiveness of their treatment system,

2) The treatment system has effectively removed all constituents of concern (effluent samples generally ND) even though the influent concentrations have varied from ND to 620 ppb,

3) There was only one minor exceedance since May; causes were immediately evaluated and concluded to be sampling cross-contamination or lab procedures and not system operation,

4) The treatment system consists of two carbon modules (each with two carbon vessels) in series; the system was designed so that each module can independently treat the effluent; the effluent is receiving two rounds of treatment.

III. DRAFT PREPARATION/REVIEW/APPROVAL

PREPARED BY: LHM	DATE: 12/01/88
REVIEWED/APPROVED BY:	DATE:
REVIEWED/APPROVED BY:	DATE:
REVIEWED/APPROVED BY:	DATE:
REVIEWED/APPROVED BY:	DATE:

IV. CLERICAL PROCESSING

TYPED BY: DATE:

*Review of WQ Data for Evaluating Sampling Frequency

11/30/88
LHM

NPDES Permit No. 88-119
Chinatown Redevelopment Project
City of Oakland

Permit Limits:

All constits	5.0 ug/l
except:	
DDB	0.01
T	0.5
TPH	50
lead	5.6
Cl	0.0

max flow = 150 gpm Inf Cntn ≈ 1.5 ppm or mg/l
Carbon consumption = 43#/day

Influent (May): B 4.8-83, T 1-95, ClB 1.7-7.1, X ND-55, TPH 70-720

June

Influent:

	May	June	July	Aug	Sept	Oct
B	4.8-83	0.9-83	ND-7.0	ND-7.0	ND-[illegible]	ND-5.0
T	1-95	ND-95	ND-13.0	ND-13.0	[illegible]	ND-1.5
ClB	1.7-7.1	ND-7.1	ND-2.0	ND	ND	ND
X	ND-55	ND-55	ND-4.2	ND-4.2	ND-.30	ND-3.0
TPH	70-720	80-720	50-140	ND-140	ND-[illegible]	ND-20
1,2 DCA	16-42	3.8-42	ND-20	ND-19	ND-[illegible]	ND-10
TCA	160-620	~~[illegible]~~-620	52-600	ND-[illegible]	[illegible]	160-[illegible]
EDA				0.03-0.30	ND-0.35	

Effluent:

	May	June	July	Aug	Sept	Oct
B	ND	ND	ND	ND	ND	ND
T	0.9	0.9	ND-2.1 *	0.8-2.1	ND	ND
ClB	ND	ND	ND	ND	ND	
X	ND	ND	ND	ND	ND	ND
TPH	ND	ND	ND	ND	ND	ND
1,2 DCA	0.8-1.8	0.8-1.8	ND	0.5	ND-1.4	ND-1.4
TCA	ND	11 *	11**	ND	ND-8.0	ND-[illegible]

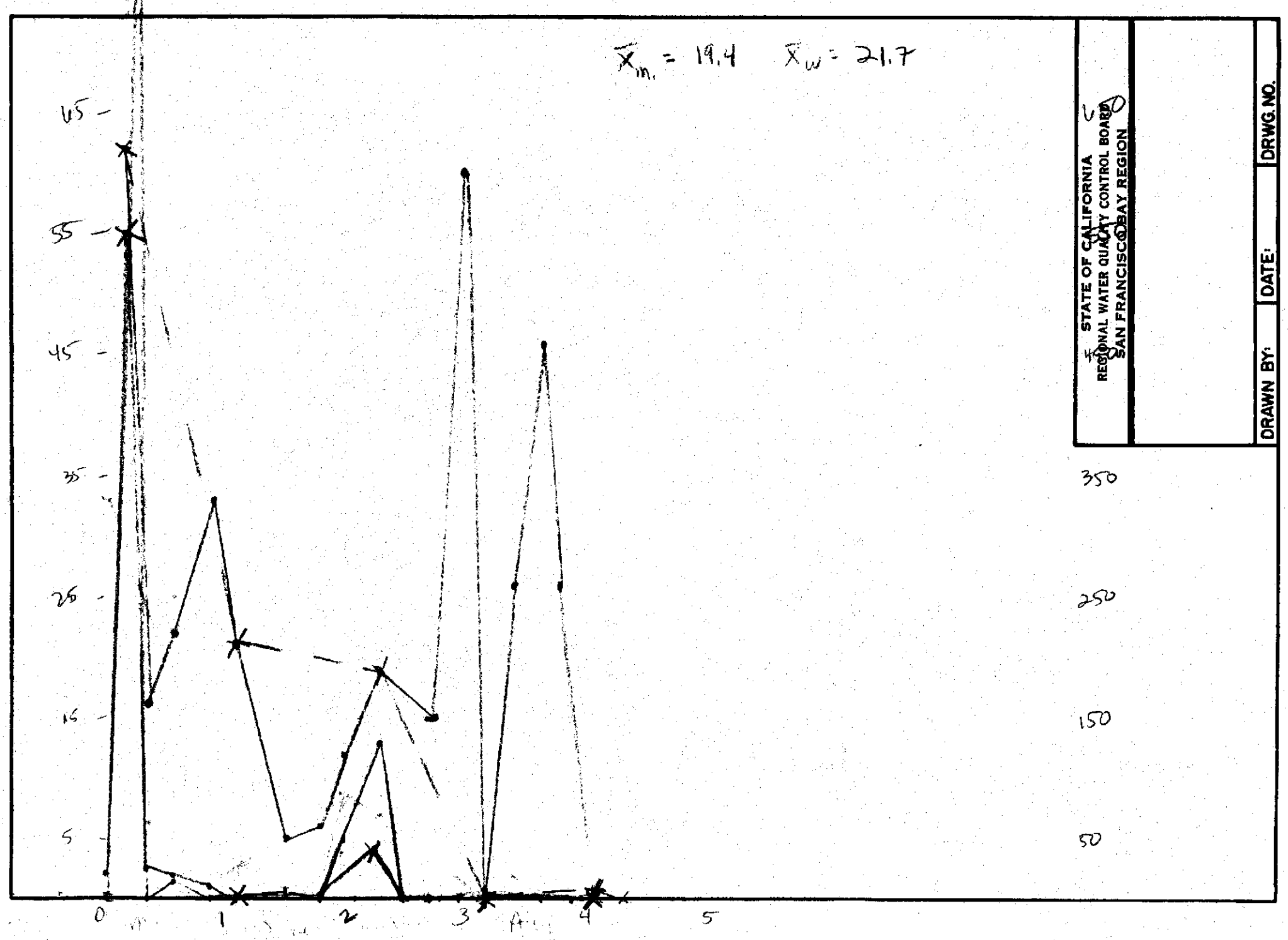
* verbal from lab, exceedance, may change

6/20

* Exceedance - [illegible]
** Confirmed [illegible]
[illegible]

CITY NAME, CONTACT ADDRESS & PHONE NUMBER	CRD. BEFORE 01-01-84	COUNTY NAME	ADMIN. AGENCY
***** SAN CARLOS *****	Y	SAN MATEO	CI
JIM BUTERA FIRE INSPECTOR SO. COUNTY FIRE AUTHORITY 666 ELM STREET SAN CARLOS 94070 415 593-8011			
***** SAN JOSE *****	Y	SANTA CLARA	CI
JOSEPH AFONG ENVIRONMENTAL SCIENTIST CITY OF SAN JOSE 4 N. 2ND ST. SUITE 1100 SAN JOSE 95110 408 277-4659			
***** SAN LEANDRO *****	Y	ALAMEDA	CI
ROBERT NOLAN FIRE INSPECTOR SAN LEANDRO FIRE DEPT 835 E. 14TH STREET SAN LEANDRO 94577 415 577-3318			
***** SAN LUIS OBISPO *****	Y	SAN LUIS OBISPO	CI
RANDY MILLER UNDERGROUND TANK INSPECTOR CITY FIRE DEPARTMENT 748 PISMO STREET SAN LUIS OBISPO 93401 805 549-7381			
***** SANTA ANA *****	Y	ORANGE	CI
BOB HONISH UGT COORDINATOR SANTA ANA FIRE DEPT. 1439 S. BROADWAY SANTA ANA 92707 714 647-5700			
***** SANTA CLARA *****	Y	SANTA CLARA	CI
LARRY MONETTE, PH.D. CHEMICAL SPECIALIST SANTA CLARA FIRE DEPT. 777 BENTON STREET SANTA CLARA 95050 408 984-3084			

$\bar{X}_m = 19.4$ $\bar{X}_w = 21.7$



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

DRAWN BY: | DATE: | DRWG. NO.

1) ~~Influent samples results.~~ Concentrations of Chemicals in samples of influent have varied from ND - 620 ppm. system successfully removing all constits.

2) There was only one exceedance since ~~May~~, ~~which was~~ causes were evaluated and believed attributable to sampling cross-contam or lab procedures

3) The treatment system has ~~is set up such that~~ two modules placed in series. Each module has two carbon vessels in parallel. Each module can independently treat ~~the range of chemical concentrations found in the influent, conc~~ a liquid stream ~~for~~ at ~~the average~~ range of flow rates that have been maintained and that contains the range of chemical concentrations ~~found in the~~

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
INTERNAL MEMORANDUM

TO: PWJ DATE: 7/5/88

FROM: LHM SIGNATURE: LHM

SUBJECT: TEXACO, 377 MOWRY AVE., FREMONT; REQUEST FOR REVISION IN FREQUENCY OF GROUND WATER SAMPLING AND MONITORING

The consultant for this site requested a revision in their sampling and monitoring schedule in a letter to our office dated June 17, 1988. They recommend reducing to monthly sampling for three months, followed by further reduction to quarterly sampling. This request is based on a statement made in a letter from our office dated June 4, 1987 which states that biweekly ground water monitoring and sampling should be initiated and that this frequency would be reevaluated once sufficient data has been collected. This letter from our office appears to be one of our 'kick letters' which was never followed up on. Texaco has been monitoring and sampling bimonthly (although their letter says its biweekly) for several months. Their latest quarterly update report includes a summary of sampling results for November 1987 through May 1988. An NPDES permit was issued for this site on May 31, 1988. This request is not to change the conditions established by the permit.

I recommend we allow Texaco to reduce its monitoring as requested. They are no longer in an investigation phase but are beginning remediation in accordance with the NPDES permit. I am not familiar with sampling and monitoring requirements for existing monitoring wells pursuant to an NPDES permit. They have recently installed a recovery well so monitoring and sampling around this new well may need to occur more frequently or continue monthly for a longer period than three months.

I have attached a copy of the letter from Texaco's consultant, a copy of the June 4, 1987 letter, a site map, and the summary of data that was included in the latest quarterly update report.

Verification Sampling

Two rounds of soil sampling are currently anticipated to verify the progress of the soil treatment system. The first round is tentatively scheduled for 4 months after startup, or after passage of approximately 3 pore volumes through the treatment area. The second round is scheduled for 6 months after startup, equivalent to passage of approximately 5 pore volumes through the treatment area. Each round will consist of a minimum of 3 borings located in areas and at depths where soil samples collected during site characterization activities (*HLA, 1988*) showed highest measured total petroleum hydrocarbon values. We anticipate collecting samples from approximately 25 feet below ground surface in the area west of the former location of the underground tanks.

We request that these clarifications to the ROWD be considered as part of the Agency's permit application. If you have any questions on these or any other aspects of the application, please call David Leland at 899-7352, Peter Mote at 899-7397 or Peter Chen of the Agency at 273-3692.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

Peter A. Mote
Principal Geologist

DFL/PAM/njv/C7764-CT

cc: Peter Chen, Agency
Donnell Choy, City of Oakland
Lowell Miller, Alameda County

References

Harding Lawson Associates, 1988. *Site Characterization, Pacific Renaissance Plaza, Chinatown Redevelopment Project Area, Oakland, California.* December 22.

Harding Lawson Associates, 1989. *Report of Waste Discharge, Pacific Renaissance Plaza, Chinatown Redevelopment Project Area, Oakland, California.* February 3.

February 7, 1989

9382,040.02

Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 6000
Oakland, California 94607

Attention: Ms. Lisa McCann

Ladies and Gentlemen:

Application for Waste Discharge Requirements
Pacific Renaissance Plaza
Chinatown Redevelopment Project Area
Oakland, California

This letter transmits an application from the City of Oakland Redevelopment Agency (Agency) to the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) for Waste Discharge Requirements to recycle treated water as part of an in situ biological treatment system to treat soils showing elevated levels of petroleum hydrocarbons (gasoline). The project site is bounded by Franklin, Webster, and Ninth streets and the East Bay Municipal Utility District (EBMUD) property line north of Tenth Street. The site is the proposed location for the Pacific Renaissance Plaza, scheduled to begin construction in the fall of 1989. This letter has been prepared by Harding Lawson Associates (HLA) on behalf of the Agency.

The application package consists of the following materials:

- Application for Facility Permit/Waste Discharge
- A check for the permit application fee of $1,000, made out to the State Water Resources Control Board
- A report entitled *Report of Waste Discharge* prepared by HLA, dated February 3, 1989, which provides the information requested in the RWQCB letter to the Agency dated January 12, 1989 (File No. 2199.9253-LHM).

As discussed in the Report of Waste Discharge, the Agency proposes a microbiological treatment for soil, using a system of injection and extraction wells that recycles ground water extracted and treated by carbon adsorption. It is the Agency's understanding that the use of potable water for injection does not

necessitate Waste Discharge Requirements. Accordingly, the Agency also requests interim authorization from the RWQCB to use potable water for testing, startup, and interim operation of the system while the acceptability of recycling treated water is being evaluated.

We will be pleased to answer any questions you may have on this application, and look forward to discussing it with you. Please feel free to call David Leland at (415) 899-7352, Peter Mote at (415) 899-7397, or Peter Chen of the Agency at 273-3692.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

Peter A. Mote
Principal Geologist

Attachments

cc: L. Miller, Alameda County
P. Chen, Agency
D. Choy, Office of the City Attorney

DFL/PAM/ljc/B7472-CT

File NC

Harding Lawson Associates

November 9, 1988

9382,018.02

California Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 6000
Oakland, California 94607

Attention: Ms. Lisa McCann

11th & WEBSTER

Dear Lisa:

Self-Monitoring Program
NPDES Permit No. 88-119
Dewatering Effluent Treatment System
Chinatown Redevelopment Project Area
Oakland, California

This letter concerns the Part B self-monitoring program established for the dewatering effluent treatment system located at Tenth and Webster streets in Oakland, California. The system is operated and monitored by Harding Lawson Associates (HLA) on behalf of the City of Oakland Redevelopment Agency (Agency) under authority of NPDES Permit No. 88-119.

The influent and effluent to the treatment system are currently sampled and analyzed on a weekly basis for constituents identified by EPA Test Methods 8015, 601, 602, and 504. Samples have been collected and analyzed on a weekly basis from May to the present time. Results of sample analysis, as presented in monthly reports submitted to the RWQCB and prepared by HLA, indicate that:

- The operation of the system has been consistent and predictable, as evidenced by analytical results of effluent samples
- The system has generally removed target organic compounds to non-detectable levels
- There were no confirmed exceedences of effluent limitations for organic compounds in July, August, or September. (Toluene was detected at 2.1 and 0.9 lg/l in effluent samples collected on July 22 and August 5, respectively, but was not identified in duplicate effluent samples collected on those dates.)

Exceedance June 30 TCE in. - 330 ug/L
inter. - 350 ug/L
eff. - 11 ug/L

Engineers and Geoscientists | 7655 Redwood Blvd. P.O. Box 578 Novato, CA 94948 | Telephone 415/892-0821 Telex 340523 | Arizona Alaska California | Colorado Hawaii Nevada | Texas Telecopy 415/892-0831

Based on the proven reliability and performance of the system, a modification of sampling frequency to once per month is requested. We would like to make this modification as soon as possible and respectfully request a response from you at your earliest convenience.

Please call if you have any questions.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Leland
Associate Hydrologist

Peter A. Mote
Principal Geologist

cc: P. Chen, Agency
S. Goranson, Alameda County Department of Environmental Health

DFL/ljc/B6182-CT

~~NPDES~~

INTRAOFFICE SPILL/COMPLAINT REPORTS

~~[illegible]~~
① LHM
② ~~File~~ Chinatown City of Oakland 10th + Webster

Office Notification
DATE: 9-8-88
TIME: 2:00
RCVD BY: TJC
REPTD BY: Dave Leland
AGENCY: City of OAK
PHONE: 892-0821

REPORT ROUTING:

SEQ / CC	POSI	Person's Initials	DATE	
	Field			
	SL			
	DC			
	AEO			
	EO			
	other			

PROP. 65 NOTIFICATION: Y N

☐ Spill ☐ Complaint ☐ Other
☐ Oil ☐ Chem ☐ Sewage

INCIDENT INFORMATION:

Incident date: 9-8-88 Time: ~9:00 am Previous occurrence: Y N
Material: Untreated effluent Volume: 500 gal
Location/Source: City of OAK Address: 10 & Webster St
Phone number: Peter Chin - 273 3692 City/County: OAKland / Ala
Description of incident: valve broke - untreated effluent went to street and storm drain

Water impacted: (stormdrain) Creek (_____) Bay (_____) soils groundwater
unknown other (_____)
Extent of Impact: (unknown) or _____
First Response Agencies:
USCG CDFG County Health Local FD Local PD Other: _____
Other Agencies Notified:
USCG CDFG County Health Local FD Local PD Other: _____

PHONE CONTACTS AVAILABLE AND/OR MADE DURING INVESTIGATION:

			Contacted
Name: _____	Affiliation: _____	Phone: _____	Y N
Name: _____	Affiliation: _____	Phone: _____	Y N
Name: _____	Affiliation: _____	Phone: _____	Y N

RESOLUTION OF INVESTIGATION:

NPDES CA0029394 - [redacted] July 20, 1988
(+CE => 200 - 300 ppb)

Initials of Investigator: _____ FILE NO. _____
Form S-18 (11/87)

LHM, Please contact D. Leland. Request written report on reason for occurrence, plan of correction and plan for 5-day start-up program. PWJ 9/8/88

→

9/8/88 LHM

Discussed w/ PWJ — 5 day restart not necessary but be sure report complete — includes restatement of what happened vol. lost, concentrations, where discharge occurred, etc. Requested it be sent in 5 days.

↓

also location of valve and why ~~cause~~ rest of system functioning properly.

FILE L#M

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

ORDER NO. 88-119
NPDES NO. CA 0029394

WASTE DISCHARGE REQUIREMENTS FOR:
CITY OF OAKLAND REDEVELOPMENT AGENCY
11th AND WEBSTER STREETS
OAKLAND, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. The City of Oakland Redevelopment Agency (hereinafter called the discharger) owned the property bounded by 10th, 11th, Webster and Franklin Streets in Oakland, California. In 1987, underground fuel tanks were removed from the property, and soil contamination was noted at that time. Monitoring wells drilled subsequent to tank removal revealed that the groundwater had also been contaminated by the fuel, the constituents of which include benzene, toluene, xylenes and ethylbenzene.

2. Recently, the City of Oakland sold the property to the East Bay Municipal Utility District (EBMUD), which is now engaged in construction and dewatering activities on the site. The effluent from the dewatering system was originally discharged, after treatment with carbon filters, to the sanitary sewer under a Temporary Wastewater Discharge Permit issued by EBMUD. By application dated February 1, 1988, the discharger had applied for issuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES). In April, the Executive Officer of the Board authorized approval of interim discharge prior to permit adoption after a review of the effluent data showed that the concentrations being discharged were within the limits that would be established in this permit.

3. EBMUD is operating a groundwater extraction system to dewater this site during construction of a building below grade. The City of Oakland operates the treatment system used to treat the polluted water prior to discharge. Operation of the dewatering system beyond the construction period, or operation of another

groundwater cleanup system, may be required to contain and cleanup polluted groundwater.

4. Based upon the data from the groundwater investigation thus far, it is not clear that the current cleanup system will contain and remediate all polluted groundwater, as the extent of the pollution has not yet been defined. Additional investigation is needed to determine the extent of the groundwater pollution. The performance of the groundwater cleanup system will be evaluated subsequent to pollution definition to determine the need, for addtional extraction wells.

5. Waste 001 may consist of a maximum flow of 216,000 gallons per day (gpd) and an average flow of 72,000 gpd, according to the permit application. The average flow for the month of May, 1988, was approximately 27,000 gpd. The polluted groundwater is pumped from extraction wells, treated using carbon filtration, and discharged into a storm drain on Webster Street. This storm drain discharges into the Oakland Inner Harbor and the San Francisco Bay.

6. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for San Francisco Bay and contains discharge prohibitions applicable to shallow water discharges in these areas.

7. The existing and potential beneficial uses of San Francisco Bay include:

-Industrial service and process supply
-Contact and non-contact recreation
-Navigation
-Commercial and sport fishing
-Preservation of rare and endangered species
-Fish spawning and migration
-Wildlife habitat
-Shellfish harvesting
-Estuarine habitat

8. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin." The discharger's dewatering and treatment system and associated operation, maintenance, and monitoring plan constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.

9. Effluent limitations of this Order are based on the Basin Plan, State Plans and Policies, and best engineering judgement.

10. The issuance of waste discharge requirements for the

discharge is exempt from the provisions of Chapter 3, (commencing with Section 15000), Division 6, Title 14 (Natural Resources) of the California Administrative Code (CEQA) pursuant to Section 13389 of the California Water Code.

11. The issuance of waste discharge requirements for the discharge is categorically exempt from the provisions of Chapter 3, (commencing with Section 15000), Division 6, Title 14 (Natural Resources) of the California Administrative Code (CEQA) pursuant to Section 15107 of that Chapter (Class 7: Actions by Regulatory Agencies for Protection of the Environment).

12. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and Guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. The effluent at the point of discharge to the Webster Street storm drain shall not contain constituents in excess of the following limit:

Constituent	Unit	Instantaneous Maximum
Chlorobenzene	ug/l	5.0
1,2-Dichloroethane	ug/l	5.0
1,2-Dichloropropane	ug/l	5.0
Ethylene Dibromide	ug/l	0.01
Trichloroethylene	ug/l	5.0
1,1,2-Trichloroethane	ug/l	5.0
Benzene	ug/l	5.0
Toluene	ug/l	0.5
Xylenes	ug/l	5.0
Ethylbenzene	ug/l	5.0
Total Petroleum Hydrocarbons identified as gasoline	ug/l	50
Lead	ug/l	5.6
Total Residual Chlorine	ug/l	0.0

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.

3. Toxicity: The survival of test fishes in 96-hour static renewal bioassays of the discharge of waste 001 shall be a median of 90 percent survival and a 90 percentile value of not less than 70 percent survival. The bioassays shall be performed using either rainbow trout or fathead minnow.

B. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

a. Floating, suspended, or deposited macroscopic particulate matter or foam;

b. Bottom deposits or aquatic growths;

c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating, suspended, or deposited oil or other products of petroleum origin:

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or water fowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.

b. Un-ionized Ammonia: The concentration of un-ionized ammonia shall not exceed a maximum at any time of 0.4 mg/l as N and an annual median of 0.025 mg/l as N.

c. Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause lesser concentrations (s) than specified above, the discharge shall not cause further reduction in the concentration of dissolved oxygen.

3. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

Provisions

1. The discharger shall comply with all sections of this Order immediately upon discharge.

2. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

3. The discharger shall notify the Regional Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.

4. The discharger shall submit an operation and maintenance plan acceptable to the Executive Officer if chemical additions are added to the waste stream for the control of scaling or biological growth.

5. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements" dated December 1986, except items B.2, B.3, C.8, and C.11, and the effluent limit for lead. The effluent limit for lead shall be complied with immediately or, within thirty days of a discovery of non-compliance, the discharger will submit a proposal for development of an alternate effluent limit for lead. This proposal should address receiving water quality impacts, source control options, and development of a rationale for the alternate limit based upon this rationale. During the period between the discovery of non-compliance and Regional Board consideration of an alternate limit, the discharge shall not contain lead in excess of 10 ppb.

6. This Order expires July 20, 1993 and the discharger must file a report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

7. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act, or amendments thereto, and shall become effective at

the end of ten days from date of hearing provided the Regional Administrator, U.S. Environmental Protection Agency, has no objection.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on July 20, 1988.

STEVEN R. RITCHIE
Executive Officer

Attachments: Standard Provisions & Reporting Requirements, December 1986.
Self-Monitoring Program
Location Map

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF MONITORING PROGRAM, PART B, FOR:

CITY OF OAKLAND REDEVELOPMENT AGENCY
11TH AND WEBSTER STREETS
OAKLAND, ALAMEDA COUNTY

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Station

I-1	At a point in the groundwater extraction/ treatment system immediately prior to any treatment.

B. Effluent

Station

E-1	At a point in the groundwater extraction/ treatment system immediately following treatment at a point before discharging into the storm drain.

C. RECEIVING WATER

Station

C-1	At a point in the Oakland Inner Harbor at least 100 feet but no more than 200 feet from the point the storm drain discharges into the Oakland Inner Harbor.

II. MISCELLANEOUS REPORTING

At least 30 days before any chemicals are utilized in or added to the treatment system, they shall be reported to the Executive Officer for review and approval.

III. START-UP PHASE REPORTING

During the start-up phase for a continuous flow-through system, sampling must occur daily for the first five days. All samples must be submitted to a certified laboratory for 24 hour analyses. On the first day of the start-up phase, the system should be allowed to run for two hours or until stabilized; then, the influent and effluent should be sampled, and these samples should be submitted for analyses within 24 hours. Prior to receipt of

the results of the initial samples, any effluent should be discharged into a holding tank (ie, batched; not discharged into the storm drain) until the results of the analyses show the discharge to be within the effluent limits established in the NPDES permit. Discharge into the storm drain can only commence after confirmation that the discharge is in compliance with the NPDES discharge limitations. The discharge can continue UNLESS any lab results indicate a violation, in which case the discharge should be batched or the system should be turned off, the problem corrected, and in some cases a new start-up phase of daily sampling (for 5 days) using 24 hour turn around should be initiated.

After the five day start-up phase a report shall be submitted to the RWQCB that presents the results of the lab analyses, flow rates, chain of custody forms, and describes any changes or modifications of the treatment system. This report should be submitted to the RWQCB no more than fifteen days after the end of the start-up phase.

IV. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be that given in Table 1 (attached).

V. SHUT DOWN PROCEDURES

The discharge must be stopped or routed to a holding tank (not discharged into the storm drain) immediately upon laboratory verification that the discharge is in violation of any of the discharge limitations established in the NPDES permit. A report should be submitted within 15 days of the date of any violation to the RWQCB that describes the violation, the estimated volume of water that was discharged in violation of discharge limits, what corrective action was taken or is planned, and how the discharger will verify, or has verified, that future discharges will not impact or threaten to impact waters of the State.

VI. MODIFICATIONS TO PART A

All items of Self Monitoring Part A, dated December 1986 and as modified January 1987 shall be complied with except for the following modifications:

A. Delete Sections D.2.d, D.2.g, E.1., E.2, E.3 and E.4.

B. Add the following as Section F.4:

4. A tabulation shall be maintained showing the total quarterly volume of spent activated carbon (in cubic feet) from each treatment unit and the disposal site location.

C. Section G.4.b shall be changed to read as follows:

Compliance Evaluation Summary

"Each report shall be accompanied by a compliance evaluation summary sheet prepared by the discharger. The report format will be prepared similar to the example shown in APPENDIX A (attached). The discharger will prepare the format substituting for the example parameters those parameters and requirement limits for influent, effluent and receiving water constituents specified in the permit."

D. The first paragraph of Section G.4.d. shall be changed to read as follows:

"Each report shall include tabulations of the results from each required analysis specified in Part B by date, time, type of sample, detection limit, station, and shall be signed by the laboratory director. The report format will be prepared similar to the examples shown in APPENDIX B, substituting those parameters specified in the permit for the parameters given in the example."

E. Information requested under Section G.4.e shall be prepared in a format similar to EPA Form 3320-1 and shall be submitted only to the Regional Board.

F. Section G.5 shall be modified to read as follows:

Annual Reporting

By January 30 of each year, the discharger shall submit in place of the end of the year monthly report, an annual report to the Regional Board covering the previous calender year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the report shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements. The report format will be prepared by the discharger using the examples shown in APPENDIX C (attached) substituting those parameters specified in the permit for the parameters given in the example and should be maintained and submitted with each regular self-monitoring report."

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharger requirements established in Regional Board Order No. 88-119.

2. Was adopted by the Board on July 20, 1988.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer or Regional Board.

Steven R. Ritchie
Executive Officer

Attachments: Table 1
Appendices: A,B,C,D,E

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF MONITORING PROGRAM PART B, TABLE 1, FOR:

CITY OF OAKLAND REDEVELOPMENT AGENCY
11TH AND WEBSTER STREETS
OAKLAND, ALAMEDA COUNTY

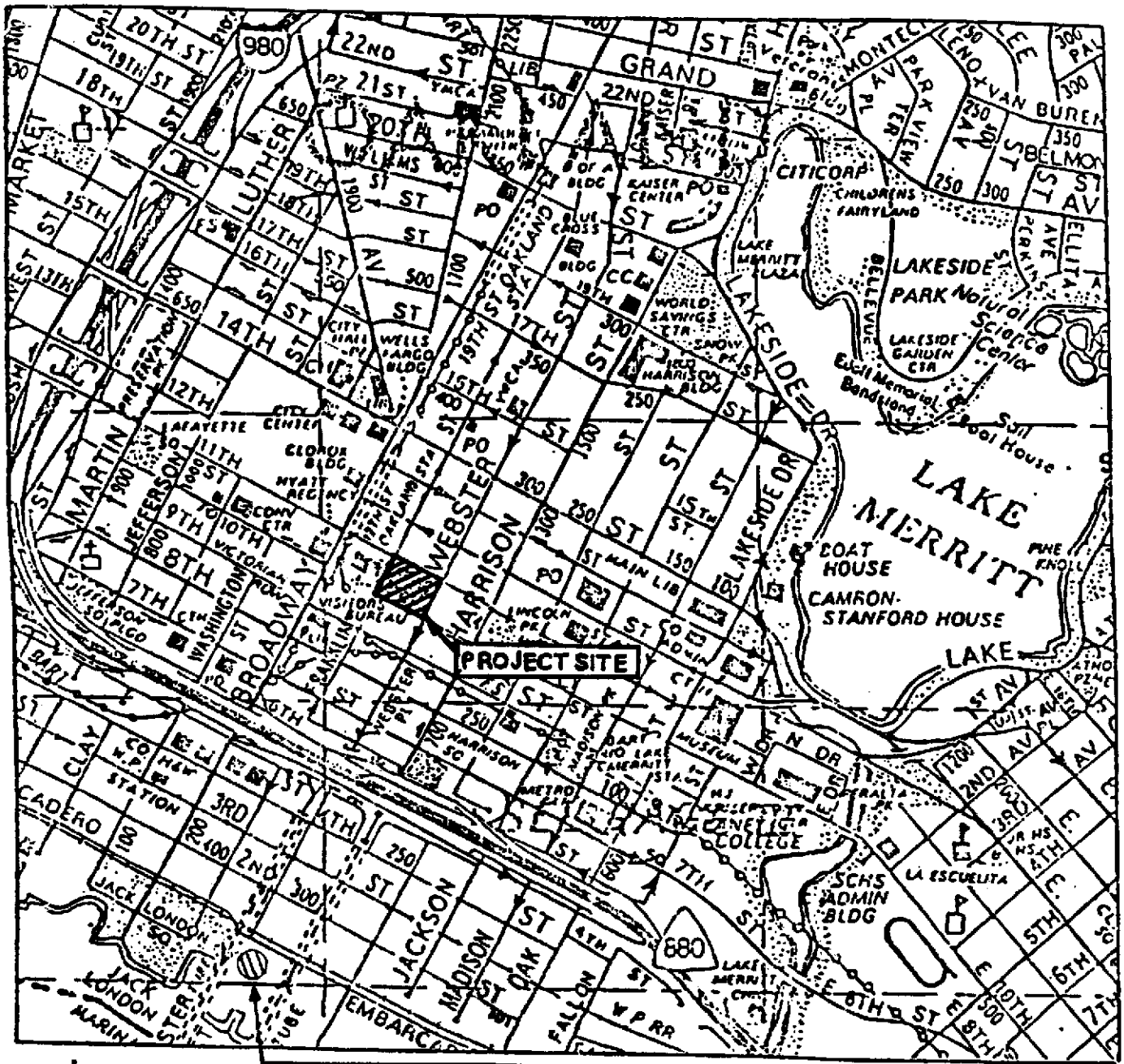
TABLE 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

SAMPLING STATION >>>>	I-1	E-1	C-1	
TYPE OF SAMPLE	G	G	G	
Flow Rate (gal/day)		C		
pH (units)	D/M	D/M		
Temperature (deg. C)	D/M	D/M		
Dissolved Oxygen (mg/l and % saturation)	D/M	D/M		
Electrical Conductivity	D/M	D/M		
Priority Pollutant Metals	BA	BA		
EPA 504, 601 AND 602 (1)	D/W/ BW/M	D/W/ BW/M		
Modified EPA 8015 for Total Petroleum Hydrocarbons as per SF Bay RWQCB Fuel Leak Guidelines	D/W/ BW/M	D/W/ BW/M		
Total Residual Chlorine	D/W/ BW/M	D/W/ BW/M		
Toxicity		A		

LEGEND FOR TABLE 1

G = grab sample
C = continuos flow readings; report average daily flow based on weekly total
M = once each month
D/W/BW/M = daily for five days during system startup; weekly thereafter until sufficient data, as determined by the Executive Officer, is collected to demonstrate that less frequent sampling (biweekly (BW) or monthly (M)) is appropriate.
D/M= daily for five days during system startup; monthly thereafter.
BA= once during first day of operation; biannually thereafter.
A= once during first week of operation; annually thereafter.

(1) The ten largest peaks in the chromatogram, other than the priority pollutants listed in the method, shall be identified.



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

LOCATION MAP

City of Oakland Redevelopment Agency
11th and Webster Streets, Oakland

DRAWN BY: DATE: DRWG NO. 001

Harding Lawson Associates

November 9, 1988

9382,030.02

Project # U528747
Fee Paid $750.00
Date 11/10/88

DCA. 28 ltr (LM)

Alameda County
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Attention: Mr. Rafat A. Shahid, Chief
Hazardous Materials Division

Gentlemen:

Pacific Renaissance Plaza
Ninth and Webster Streets
Oakland, California 94612

Enclosed please find the deposit of $750.00 that you requested for the evaluation of the subject project activities to be conducted by your division. As you indicated in our October 20, 1988 meeting, a full accounting of any expenditures of this deposit by your staff will accompany any request for additional deposit, and at the time the project is complete any of this deposit not expended will be returned to HLA.

We are looking forward to a smooth and cooperative association with your division on this project.

Yours very truly,

HARDING LAWSON ASSOCIATES

Peter A. Mote
Principal Geologist

cc: P. Chen, Redevelopment Agency
L. Miller, DEH
L. McCann, RWQCB
D. Leland, HLA

PAM/ljc/B6183-CT

RECEIVED
NOV 10 1988
HAZARDOUS MATERIALS
WASTE PROGRAM

Engineers and Geoscientists
7655 Redwood Blvd.
P.O. Box 578
Novato, CA 94948
Telephone 415/892-0821
Telex 340523
Arizona Alaska California Colorado Hawaii Nevada Texas
Telecopy 415/892-0831

Harding Lawson Associates

November 9, 1988

9382,030.02

Alameda County
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Attention: Mr. Rafat A. Shahid, Chief
Hazardous Materials Division

Gentlemen:

Pacific Renaissance Plaza
Ninth and Webster Streets
Oakland, California

Enclosed please find the deposit of $750.00 that you requested for the evaluation of the subject project activities to be conducted by your division. As you indicated in our October 20, 1988 meeting, a full accounting of any expenditures of this deposit by your staff will accompany any request for additional deposit, and at the time the project is complete any of this deposit not expended will be returned to HLA.

We are looking forward to a smooth and cooperative association with your division on this project.

Yours very truly,

HARDING LAWSON ASSOCIATES

Peter A. Mote
Principal Geologist

cc: P. Chen, Redevelopment Agency
L. Miller, DEH
L. McCann, RWQCB
D. Leland, HLA

PAM/ljc/B6183-CT

Fill

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1111 JACKSON STREET, ROOM 6040
OAKLAND 94607

Phone: Area Code 415
464-1255

October 28, 1988
File No. 2199.9253(LHM)

01

Peter Chen
City of Oakland
Redevelopment Agency
One City Hall Plaza
Oakland, CA 94612

Subject: Effluent data reporting for xylene for NPDES Permit No. 88-119, City of Oakland Chinatown Redevelopment Project, 11th and Webster Streets, Oakland

Dear Mr. Chen:

Based on staff review of the analytical methods for xylene, a change in the reporting requirements for the above referenced permit is necessary. The limit set forth in the permit is 0.5 ug/l for "xylene". Gasoline products contain three isomers of xylene; the laboratory detection limit for each individual isomer is 0.5 ug/l. Hence, the detection limit achievable in the laboratory for total xylenes is 1.5 ug/l. However, the effluent limit of 0.5 ug/l applies to each individual isomer of xylene and not to total xylenes.

From now on, all xylene data submitted in compliance with your NPDES permit should specify each individual isomer of xylene. The effluent limit of 0.5 ug/l for xylene set forth in the permit will be met as long as no individual isomer of xylene exceeds 0.5 ug/l.

Please make the necessary changes in your reporting format prior to submitting effluent data. If you have any questions, please call Lisa McCann at (415)464-1287.

Sincerely,

Steven Ritchie
Executive Officer

file: Pacific Renaissance Plaza
9th & Webster
Oakland

cc's to all

Meeting w/ HLA / City 10/20/88

Name	Representing	#
Peter Johnson	RWQCB	464-1382
Chris Smith	HLA	892-0221
Peter Mote	HLA	"
Peter Chow	ECDC	273.3692
DAVID LELAND	HLA	892-0824
Lisa McCann	RWQCB	464-1287
Lowell Miller	Alameda County Dept. of Health	271-4320
RAFAT A. SHAIKH	ACCO	271-4320

Doris -

This needs to go into a new file called Pacific Renaissance Plaza, 9th + Webster, Oakland.

Thanks, Lisa

Action Plan

10/20/88
PWJ

HLA 1. Site characterization report + proposal for site cleanup. GW scans, EDB soils. (EDB)
Within 60 days.

HLA 2. Closure form + $ 45days

ACHD 3. Letter from ACHD re: $ 30 days

RWQCB 4. ϕ WDR re: bio + steam 14 days

RWQCB 5. Provide ~~site~~ aeration/treatment 14 days
regts.

~~An We are awaiting y~~
~~I received your letter~~
Response to letter Dated December 8th, 1989
Soil Treatment System
Pacific Renaissance Plaza
Oakland, CA.

We are awaiting HLA's quarterly Report of System Monitoring which will hopefully address ref. 14.C migration beyond the PRP site, as well as ~~present~~ Present, ~~EBMUD~~ City of Oakland extraction and a new H_2O level elev. contour map from actual water levels data.

~~Unfortunately~~ you still need to address

You state in your letter that you have adjusted your system to ~~allow~~ "maintain extraction rates slightly greater ~~than~~ that (than) injection/infiltration rates", yet monthly average ~~flow~~ injection rates including infiltration basins, are still greater than total extraction rates with monthly averages 24.5 gpm & 24.2 gpm respectively ~~HLA~~ (pg 7 of 12, HLA Report of sys. monitoring October 1989). ~~Once again, the could you explain~~ Once again, Please explain.

Also you stated "that the levels of TCE & THC in GW are not associated with any known source," it will be need to expand the investigation around the EBMUD building to address the TCE the plume. period.

File PACIFIC RENAISSANCE PLAZA
9th & Webster
Oakland

OFFICE MEMO

SAN FRANCISCO BAY REGION

ROUTING: 1. LHM
2.
3.
4.

FROM: PWJ

DATE: 10/17/88

SUBJECT: ACHD UST Program - Assistance w/ City of Oakland Site

I discussed our concerns with R. Shahid - his intention to have a fully coordinated program with us has never changed. He has already spoken with his staff regarding cooperative working relationships, etc. I will assume for now that things will get better... (Lowell Miller will be our contact for this case).

I have a call in to Dave Leland and plan to let him know you'll be setting up a meeting, and the ACHD will be providing lead staff. ~~I don't anticipate Lowell preparing an agenda, so you may have to prepare~~

If you need any assistance let me know.

P.S. When you have time, please make up copies of the TLC seminar material for: PWJ, LCF, Dyan, Scott. Thanks!! I'd also like to sit in on your discussion w/ LCF on this topic.

File: Pacific Renaissance Plaza
10th + Webster
Oakland

OFFICE MEMO

SAN FRANCISCO BAY REGION

ROUTING: 1. ~~LHM~~
2. ~~PWJ~~
3. ~~LHM~~
4. ~~PWJ~~

FROM: PWJ

DATE: 10/3/88

SUBJECT: Dave Leland - HLA Call re: City of Oakland Site

The City of Oakland is planning to continue development of the Webster St. area, adjacent to the known fuel site (under construction) at 10th and Webster. Preliminary investigation revealed pollution at the new site. HLA would like to avoid a rerun of the previous site's problems, and have a meeting to discuss issues regarding cleanup, oversight, etc. I suggested that Dave prepare a cover letter and include a site plan, plume map(s), soil results, and cross-sections, along with a brief explanation of HLA's plan for investigation and cleanup. I indicated that ACHD would probably work on the site w/ our assistance and we would be glad to meet w/ HLA and ACHD. Please coordinate w/ me when letter arrives.

LHM,

Contact ACHD and arrange a meeting to discuss their program, and this case. PWJ 10/12/88

PWJ, ACHD, Lowell Miller, not responsive to discussing their program. Unclear whether they will accept lead on this case. We need to get back to HLA [illegible] meeting. LHM 10/17/88

File: Pacific Renaissance Plan
9th & Webster
Oakland

Harding Lawson Associates

October 7, 1988

09382,030.02

California Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 6000
Oakland, California 94607

Attention: Ms. Lisa McCann

Ladies and Gentlemen:

Site Activities Update
Ninth and Webster Streets
Chinatown Redevelopment Project Area
Oakland, California

This letter has been prepared by Harding Lawson Associates (HLA) on behalf of the City of Oakland Redevelopment Agency (Agency) to update the Regional Water Quality Control Board (RWQCB) on activities associated with the area of Oakland planned for construction and development of Pacific Renaissance Plaza. The area is bounded by Franklin, Ninth, and Webster streets, and the East Bay Municipal Utility District (EBMUD) administration building north of Tenth Street (Plate 1). The EBMUD administration building is currently under construction in the adjacent block, which is bounded by Tenth, Franklin, Eleventh and Webster streets.

At the present time, the developers of the property, Pacific Renaissance Associates (PRA), plan to start construction of Pacific Renaissance Plaza on or about June 1, 1989. The Agency is the current owner of the property. HLA is working with the Agency to identify and characterize the extent of the organic and inorganic chemicals present at elevated levels in soil and ground water at the site, and to develop methods for handling, treating, and disposing soil and ground water during excavation activities.

A filling station formerly occupied the southwestern corner at the Tenth and Webster streets intersection. As part of an investigation associated with the adjacent EBMUD site, HLA completed one monitoring well in the filling station area. Results of analysis of soil samples from the well boring indicated the presence of petroleum hydrocarbons. During July and August 1988, HLA drilled 19 soil borings on the property to characterize the horizontal and vertical extent of chemicals within the area to be excavated. Soil and ground-water samples were analyzed for volatile organics by EPA Test Methods 8010 and 8020, base neutral/acid extractable compounds by EPA Test Method 8270, total petroleum

hydrocarbons (TPH) by EPA Test Method 3550/8015, and lead. Results of laboratory analysis indicate that elevated levels of chemicals associated with gasoline exist in both soil and ground water. Elevated levels of petroleum hydrocarbons in soil extend in a generally westerly direction from the location of the former filling station with reported TPH values ranging up to 4,800 parts per million (ppm). TPH values in soils as a function of depth are presented on Plates 2 through 7.

As indicated on Plates 2 through 7, HLA's preliminary characterization of the site suggests that petroleum hydrocarbons in soils and ground water extend laterally beyond the site boundaries. The Agency remains committed to working with the RWQCB and the Alameda County Department of Environmental Health on the issue of long-term cleanup. In the meantime, because of PRA's construction schedule, the Agency is focusing on the proper handling, treatment, and disposal of soils and ground water within the area scheduled for excavation in June 1989.

With regard to ground water within the area to be excavated, because it will be necessary to dewater the site prior to and during excavation, and because it is expected that dewatering effluent will contain elevated levels of petroleum hydrocarbons, the Agency anticipates treating the effluent to reduce concentrations of organic chemicals to acceptable levels prior to discharge. Because the petroleum hydrocarbons identified at the site are similar to those identified in ground water at the EBMUD site just north of the property, the Agency proposes to use the existing carbon adsorption treatment system for dewatering effluent treatment and will request a modification to the Agency's existing NPDES permit for this purpose.

With regard to soil to be excavated at this site, the Agency is prepared to monitor soil chemical characteristics during excavation, to the extent needed to ensure compliance with standards required by regulatory bodies for the proper treatment, handling, and disposal of hazardous materials. This monitoring will include, without limitation, visual and olfactory observations, field assessment of the presence of volatile organics using an organic vapor analyzer or similar instrumentation, and confirmatory analysis of soils by a state-certified laboratory. Results of the excavation monitoring program will be used to segregate soils for proper handling and disposal. The procedures to be used will be similar to those used by HLA during excavation for the EBMUD administration building.

To minimize the volumes of soils requiring segregation during excavation activities and to reduce costs of subsequent disposal at Class I or Class II landfills, the Agency proposes to reduce the concentrations of petroleum hydrocarbons in soils *in*

situ prior to June 1989. The Agency and HLA are in the process of evaluating potential methods for accomplishing this goal, including the following:

- Soil venting
- Biological treatment
- Steam injection/recovery

The Agency requests a meeting of the RWQCB, County, Agency, and HLA representatives to:

- ✓ Present preliminary results of site characterization;
- ✓ Discuss the evaluation of candidate methods for reducing petroleum hydrocarbon levels in soils prior to excavation;
- ✓ Define regulatory and permitting requirements and procedures;
- ✓ Identify agency concerns that may affect the viability of methods under consideration for achieving the goal of a clean site by June 1, 1989; and
- ✓ Discuss long-term cleanup of petroleum hydrocarbons in soil and ground water at this location.

A meeting is requested at your earliest convenience during the week of October 10 to discuss these items. Please feel free to call David Leland or Peter Mote at (415) 892-0821 or Peter Chen of the Agency at (415) 273-3692 if you have any questions.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Leland
Senior Hydrologist

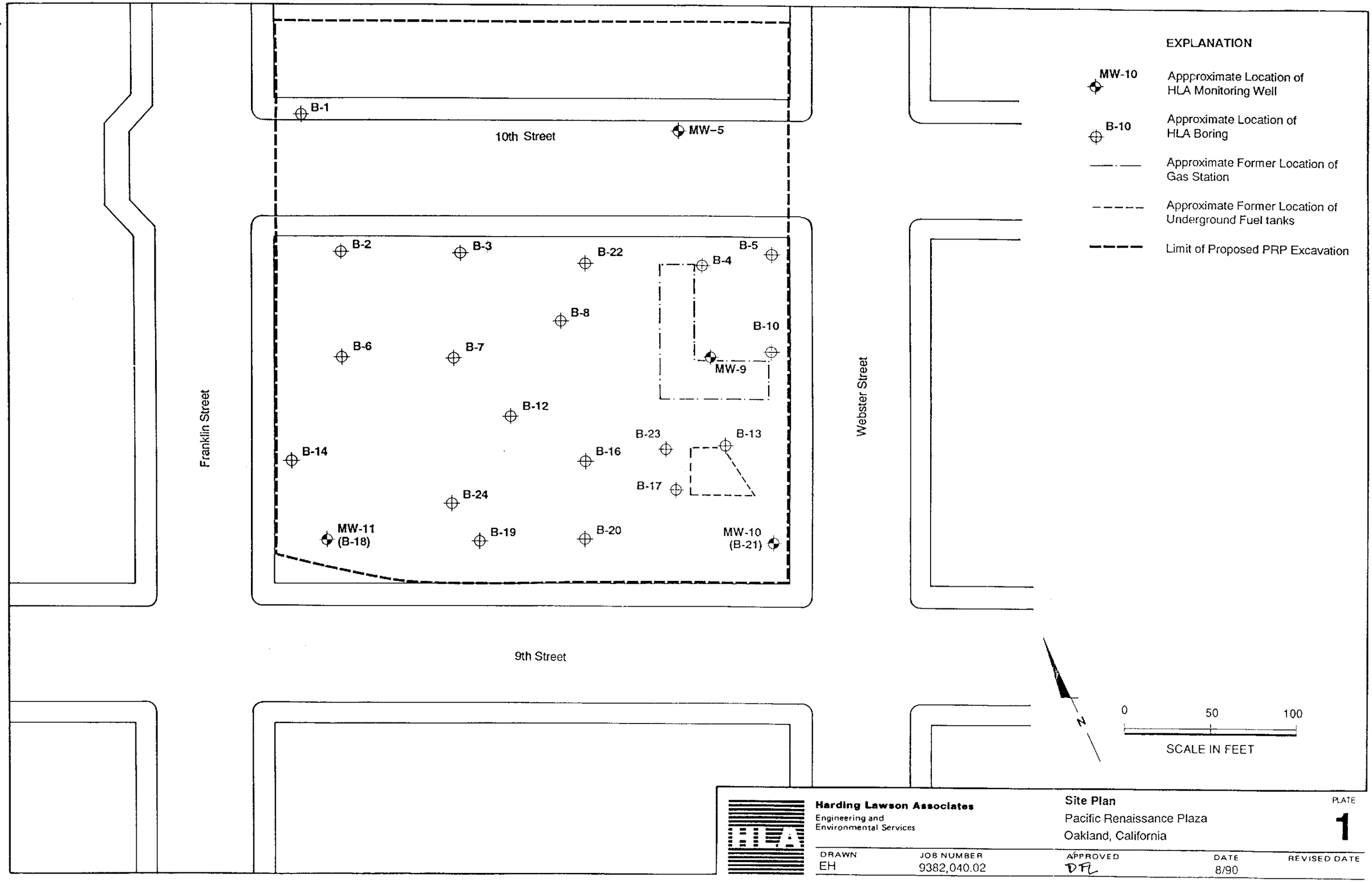
Peter A. Mote
Principal Geologist

DFL/PAM/dj/H6046-CT

Illustrations
Plate 1 Site Plan
Plate 2 TPH (light) Concentrations in Soils at a Depth of 5 Feet
Plate 3 TPH (light) Concentrations in Soils at a Depth of 10 Feet
Plate 4 TPH (light) Concentrations in Soils at a Depth of 15 Feet
Plate 5 TPH (light) Concentrations in Soils at a Depth of 20 Feet
Plate 6 TPH (light) Concentrations in Soils at a Depth of 25 Feet
Plate 7 TPH (light) Concentrations in Soils at a Depth of 30 Feet
Plate 8 TPH (light) Concentrations in Soils at a Depth of 35 Feet

cc: R. Shahid, County
S. Goranson, County
P. Chen, Agency
P. Johnson, RWQCB
C. Smith

19422



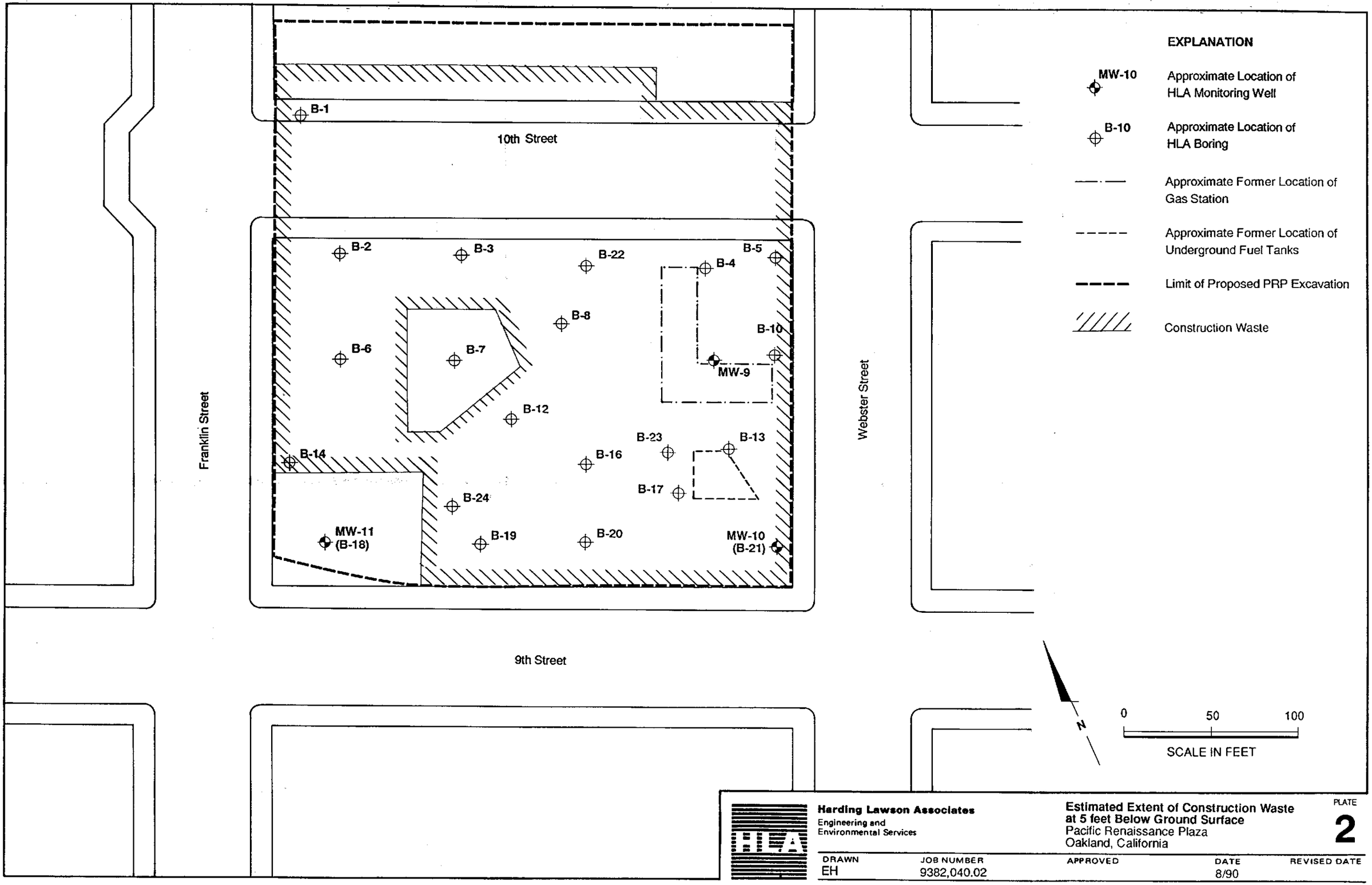
Harding Lawson Associates
Engineering and Environmental Services

Site Plan
Pacific Renaissance Plaza
Oakland, California

PLATE **1**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
EH	9382,040.02	DFL	8/90	

19423



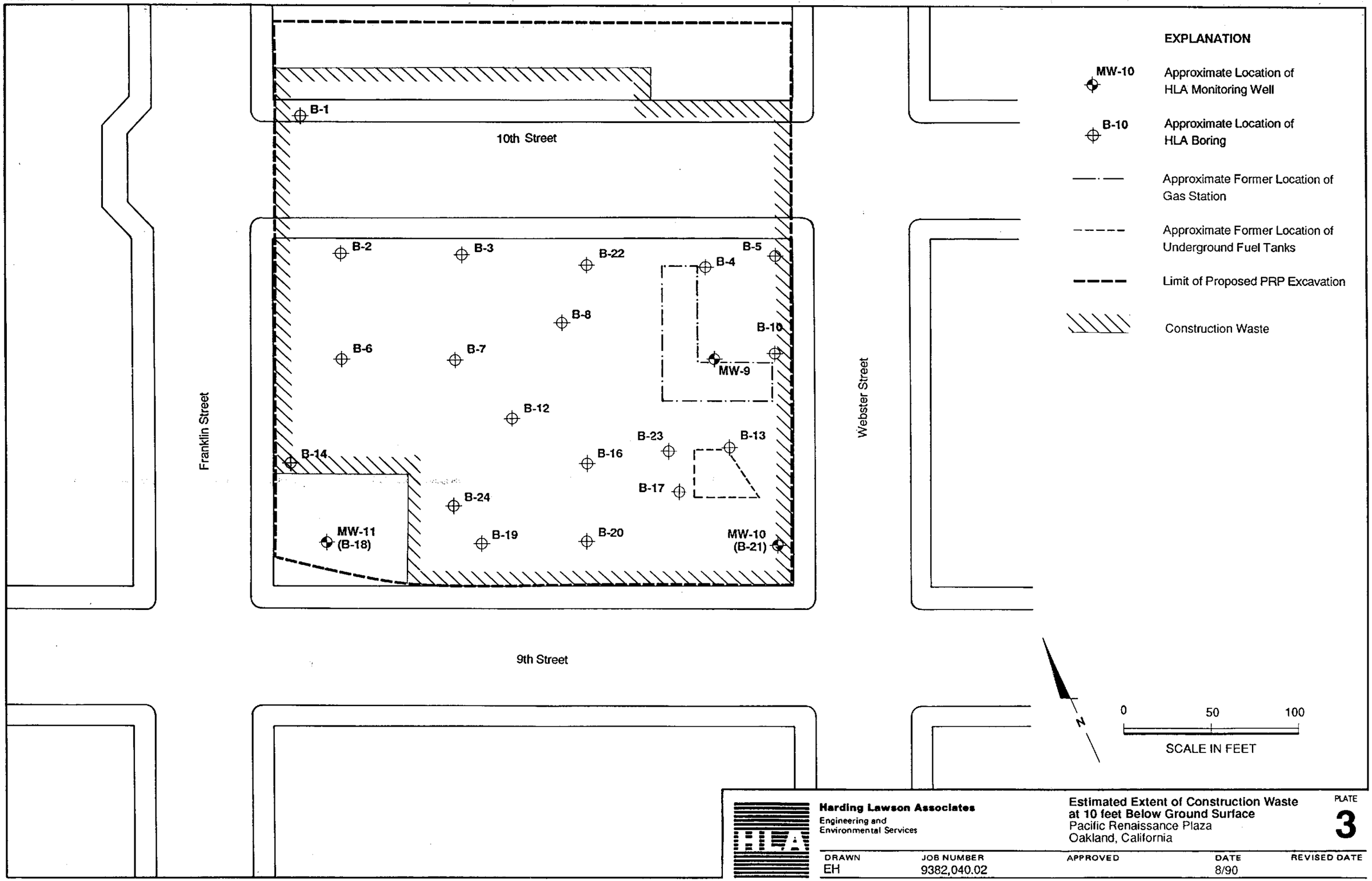
Harding Lawson Associates
Engineering and Environmental Services

Estimated Extent of Construction Waste at 5 feet Below Ground Surface
Pacific Renaissance Plaza
Oakland, California

PLATE **2**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
EH	9382,040.02		8/90	

19424



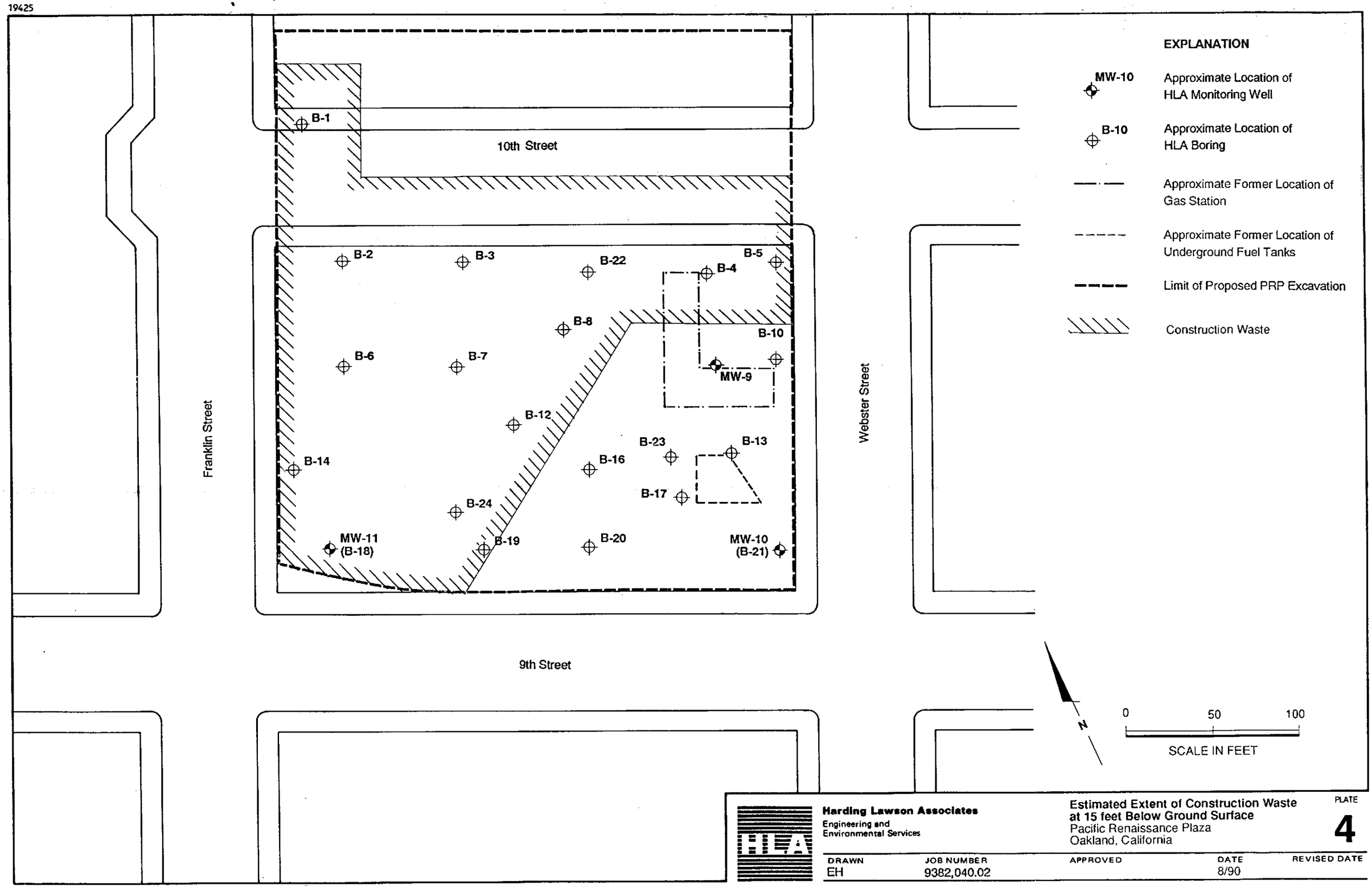
Harding Lawson Associates
Engineering and Environmental Services

Estimated Extent of Construction Waste at 10 feet Below Ground Surface
Pacific Renaissance Plaza
Oakland, California

PLATE **3**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
EH	9382,040.02		8/90	

19425



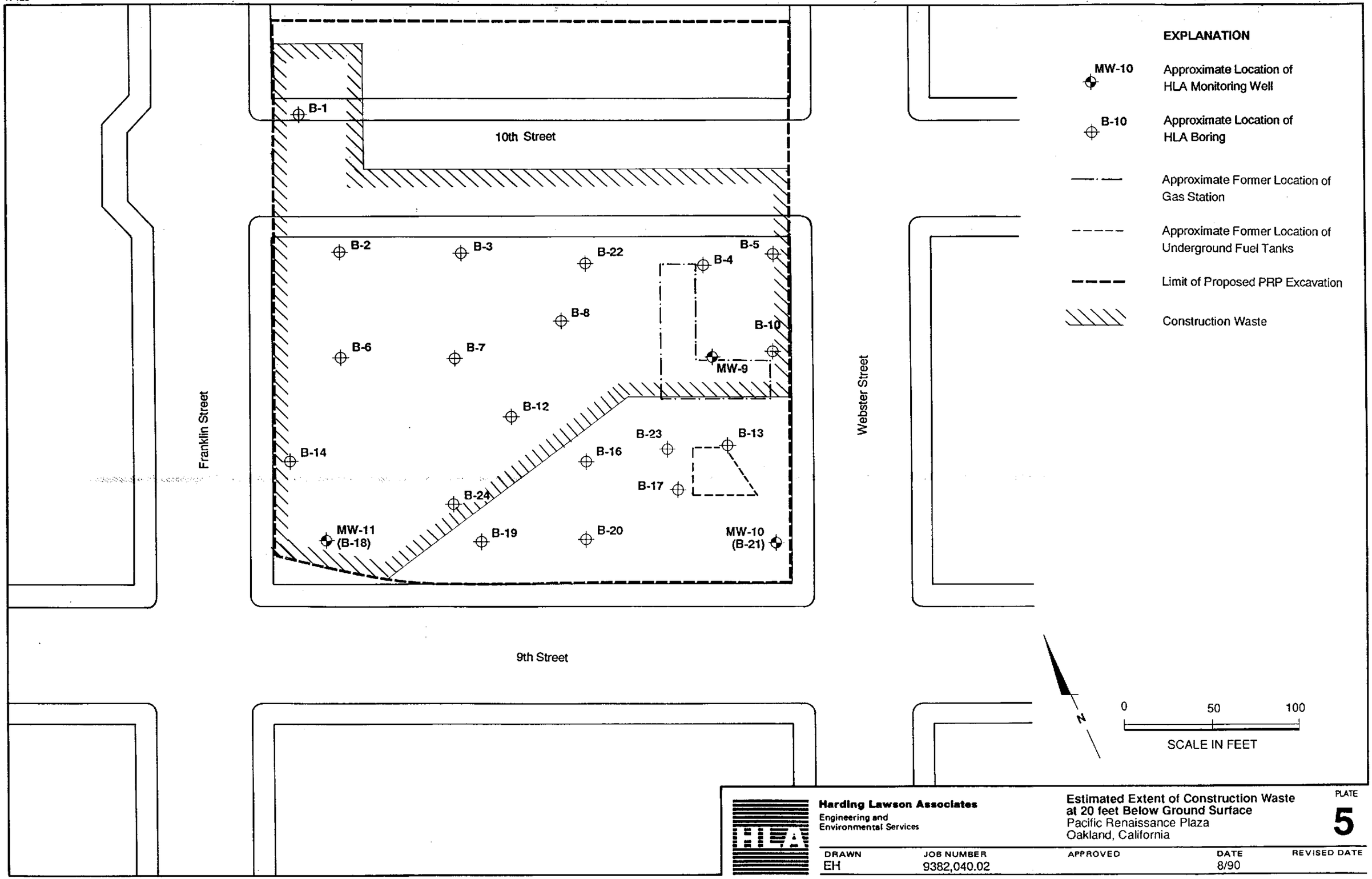
Harding Lawson Associates
Engineering and Environmental Services

Estimated Extent of Construction Waste at 15 feet Below Ground Surface
Pacific Renaissance Plaza
Oakland, California

PLATE **4**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
EH	9382,040.02		8/90	

19426



Harding Lawson Associates
Engineering and Environmental Services

Estimated Extent of Construction Waste at 20 feet Below Ground Surface
Pacific Renaissance Plaza
Oakland, California

PLATE **5**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
EH	9382,040.02		8/90	

Release from file

File NC

Harding Lawson Associates

HLA

SEP 15 1988

QUALITY CONTROL

September 14, 1988

09382,018.02

California Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 600
Oakland, California 94607

Attention: Mr. Peter Johnson

~~City of Oakland~~
Chinatown Redevelopment
11th & Webster

Dear Mr. Johnson:

Report of Noncompliance
Dewatering Effluent Treatment System
Chinatown Redevelopment Project Area
Oakland, California

This letter reports on a second incident of release of water produced from dewatering wells operating at the block bounded by 10th, 11th, Webster and Franklin streets in Oakland, California (site), prior to passage of the water through the dewatering effluent treatment system located at the site. The treatment system is operated by Harding Lawson Associates (HLA) on behalf of the City of Oakland Redevelopment Agency (Agency).

This release occurred on September 8, 1988 at about 9:55 a.m. for a duration of approximately 15 minutes. It is estimated that 250 gallons of untreated water were released during this period. Based on laboratory analysis of treatment system samples collected September 1 the released water is estimated to have contained total petroleum hydrocarbons (TPH) at 80 μg/l (micrograms per liter), and a total concentration of compounds measured by EPA Test Method 601 of 402 μg/l, primarily trichloroethene (TCE). Samples were also collected on September 9, after repair of the system. Results of analysis of these samples are not yet available.

The release originated from a pipe failure in the trailer mounted treatment system. The failure occurred in a short section of 1/2-inch diameter pipe Schedule 80 PVC which serves as a sampling port. The pipe, joints and fittings in this system are all rated in excess of 125 psi (pounds per square inch). Our system operates at 20 psi normally, and not more than 40 psi in the extreme. For these reasons we are confident the pipe failure did not occur because of overpressurization of the system. Because of the nature of the fracture at the break point in the pipe we have concluded that the sampling port assembly at some earlier time received a blow from causes unknown which partially cracked the pipe inside the junction with a "T" section at a location where the break would be unnoticed and not leak

initially. With time, we believe this fracture grew until it failed on September 8. The sampling port is located in such a way that it does not get a lot of exposure to an accidental blow by persons operating and maintaining the system. Repairs were made the same day and the system reactivated at 5:00 p.m.

We have performed a check of all piping in the system and will continue to check those joints that are susceptible to this kind of damage.

Neither release or the mechanism of release in any way affected the operational integrity of the carbon adsorption vessels or the ability of the system to remove organic compounds from the dewatering effluent prior to discharge to the storm drain.

If you have any questions regarding this report or any other aspects of the operations of the treatment system, please call David Leland or Sam Collins at 892-0821.

Yours very truly,

HARDING LAWSON ASSOCIATES

David F. Leland

David F. Leland
Senior Hydrologist

DFL/njv/C4530-CT

cc: Peter Chen, Agency
Peter Mote
Sam Collins
Chuck Myrick

~~NPDES~~ ~~[illegible]~~

INTRAOFFICE SPILL/COMPLAINT REPORTS

~~① LHM~~
~~② File~~
CHINATOWN City of Oakland 10th + Webster

Office Notification

DATE: 9-9-00
TIME: [illegible]
RCVD BY: [illegible]
REPTD BY: [illegible]
AGENCY: City of Oak
PHONE: 892-0821

REPORT ROUTING:

SEQ / CC	POSI	Person's Initials	DATE	
	Field			
	SL			
	DC			
	AEO			
	EO			
	other			

PROP. 65 NOTIFICATION: Y N

☐ Spill ☐ Complaint ☐ Other
☐ Oil ☐ Chem ☐ Sewage

INCIDENT INFORMATION:

Incident date: 9-9-00 Time: ~9 am Previous occurrence: Y N
Material: Untreated effluent Volume: 500 gal
Location/Source: City of Oak Address: 10 & Webster St
Phone number: Eten Chin - 273 3692 City/County: Oakland / Ala
Description of incident: valve broke - untreated effluent [illegible] street and storm drain

Water impacted: stormdrain Creek (____) Bay (____) soils groundwater
unknown other (____)
Extent of Impact: (unknown) or ____
First Response Agencies:
USCG CDFG County Health Local FD Local PD Other: ____
Other Agencies Notified:
USCG CDFG County Health Local FD Local PD Other: ____

PHONE CONTACTS AVAILABLE AND/OR MADE DURING INVESTIGATION:

Name	Affiliation	Phone	Contacted
			Y N
			Y N
			Y N

RESOLUTION OF INVESTIGATION:

See CA0029394 - [redacted] July 20 [illegible]
(TCE = 200 - 300 ppb)

Initials of Investigator: ____ FILE NO. ____

Form S-18 (11/87)

LHM, Please contact D. Leland. Request written report on reason for occurrence, plan of correction and plan for 5-day start-up program. [illegible] 9/8/00 →

INTRAOFFICE SPILL/COMPLAINT REPORTS

Office Notification
DATE: 6/12/89
TIME: 0935hr
RCVD BY: MHL
REPTD BY: David
AGENCY:

PHONE:

899
7352
7352

REPORT ROUTING:

SEQ / CC	POS1	Person's Initials	DATE	
	Field			
	SL			
	DC			
	AEO			
	EO			
	other			

☐ Spill ☐ Complaint ☐ Other
☐ Oil ☐ Chem ☐ Sewage

PROP. 65 NOTIFICATION: Y N

INCIDENT INFORMATION:

Incident date: 6/11/89 Time: P.M Previous occurrence: Y N

Material: untreated ground water Volume: 4000

Location/Source: EBMUD Address: 10th Webster St.

Phone number: City/County: Oakland, Al

Description of incident: Overflow of storage tank - a clogged line caused (TPH = 70ppb) the overflow. violation of NPDES Permit. Referred to Toxic Div.

Water impacted: stormdrain Creek ( ) Bay ( ) soils groundwater
unknown other ( )

Extent of Impact: (unknown) or

First Response Agencies:

USCG CDFG County Health Local FD Local PD Other:

Other Agencies Notified:

USCG CDFG County Health Local FD Local PD Other:

PHONE CONTACTS AVAILABLE AND/OR MADE DURING INVESTIGATION:

Name	Affiliation	Phone	Contacted
David Leland	H3L	899-7352	(Y) N
			Y N
			Y N

RESOLUTION OF INVESTIGATION:

Initials of Investigator: MHL

FILE NO. 2223.09

Form S-18 (11/87)

FILE OR PER NO. 1528747 ENVELOPE LM No. ____ of ____

☐ OWNER PACIFIC RENNAISANCE PLAZA

Address 9th & Webster

94612 Phone

☐ Contractor Harding Lawson

Address 7655 Redwood Rd.

Novato Phone

☐ OTHER (Specify)

Address

Phone 892-0821

☒ CONTACT FOR INVESTIGATION PETER MOTE

PLAN REVIEW	By	Date
$ 750.00 Rec'd.		
No. Plans Rec'd.		
Plans Approved		
Layout Made		
Rejected		
Applicant Notified		
Plans Returned		
Permit Issued		

CONSTRUCTION PROGRESS ACCEPTANCE		
FOOD Pre-Plaster/drywall		
Pre-Final		
Final		

XR

REMARKS

Date	By	

REM

Date	By	