50448

EPA FINAL COPY

PRELIMINARY ASSESSMENT

SUBMITTED TO: Rachel Loftin, Site Assessment Manager, EPA Region IX

PREPARED BY: William C. Perry and Vance Fong

THROUGH: Elizabeth Galvez, Acting Team Leader, Office of Hazard Evaluation and Emergency Response (HEER), Department of Health (DOH)

Steven Armann, Acting Manager, HEER, DOH

DATE: February 1994

FACILITY: Factory Street "Lead" Site
2003 North King Street
Honolulu, Hawaii 96812

EPA ID#: HI0000049775

TABLE OF CONTENTS

1.0 Introduction

The U.S. Environmental Protection Agency (EPA), Region IX, under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA) has tasked Hawaii Department of Health to conduct a Preliminary Assessment (PA) at the Factory Street "Lead" site in Kalihi subdivision, City and County of Honolulu, Hawaii.

The purpose of the PA is to review existing information on the site and its environs to assess the threat(s), if any, posed to public health, welfare, or the environment and to determine if further investigation under CERCLA/SARA is warranted. The scope of the PA includes the review of information available from Federal, State, and local agencies, and performance of an on-site reconnaissance visit.

Using these sources of information, the site is then evaluated using EPA's Hazard Ranking System (HRS) criteria to assess the relative threat associated with actual or potential releases of hazardous substances at the site. The HRS has been adopted by the EPA to help set priorities for further evaluation and eventual remedial action at hazardous waste sites. The HRS is the primary method of determining a site's eligibility for placement on EPA's National Priorities List (NPL). The NPL identifies sites at which EPA may conduct remedial response actions. This report summarizes the findings of these preliminary investigative activities.

The Factory Street "Lead" site was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) on November 10, 1993 (HI0000049775). The site was entered into CERCLIS as a result of a public "Lead" screening conducted by the Department of Health's Lead Program, which identified children having lead levels in their blood which exceeded the Center for Disease Control's (CDC's) blood lead threshold level of concern of 10 micrograms per deciliter (μg/dl).

1.1 Apparent Problem

- Children's Exposure to lead: Two children residing at 2003 Factory Street, Apartment H, had high blood lead levels (above 20 μg/dl) (Ref 1).

- Area-wide contamination: Soil samples collected within a four block radius from 2003 Factory Street indicate the presence of lead ranging from 168 parts per million (ppm) to 342,000 ppm (composite samples) and 336 ppm to 323,000 ppm grab samples (Refs 2-5).

- Hot Spot Sampling: Soil samples collected from four hot spots located along 2003 Factory Street show concentrations of total lead varying from 23,700 ppm to 121,000 ppm or 2.3% to 12.1% total lead (Ref 6).

2.0 Site Description

2.1 Location

The Factory Street "Lead Site" is located in the general area of King Street and Factory Street. The address is 2003 North King Street, Kalihi Subdivision, City and County of Honolulu, Island of Oahu, Hawaii. The geographic coordinates of the site are 21° 19' 34.0" N latitude and 157°52'15.3" W longitude (Ref 7). The location of the site is shown in Figure 1.

2.2 Site Description

The site encompasses approximately four city blocks and is estimated to be 51,750 square feet based on the available surface sampling information. Land use within the site and surrounding the site is predominantly residential mixed with small business and light industrial shops. The site layout is shown in Figure 2. St. Anthony School and Mokauea Mini Park are located within the site. In addition, numerous schools such as Farrington High School, Kalakaua Intermediate School, Kalihi Kai Elementary School, St. John School, Kalihi Waena Elementary School and Fern Elementary School are located within a 1/2 mile to 1 mile radius of the site. The site is unsecured having no physical barriers or fences with the exception of the hot spot areas which have been temporarily stabilized with an asphalt cover.

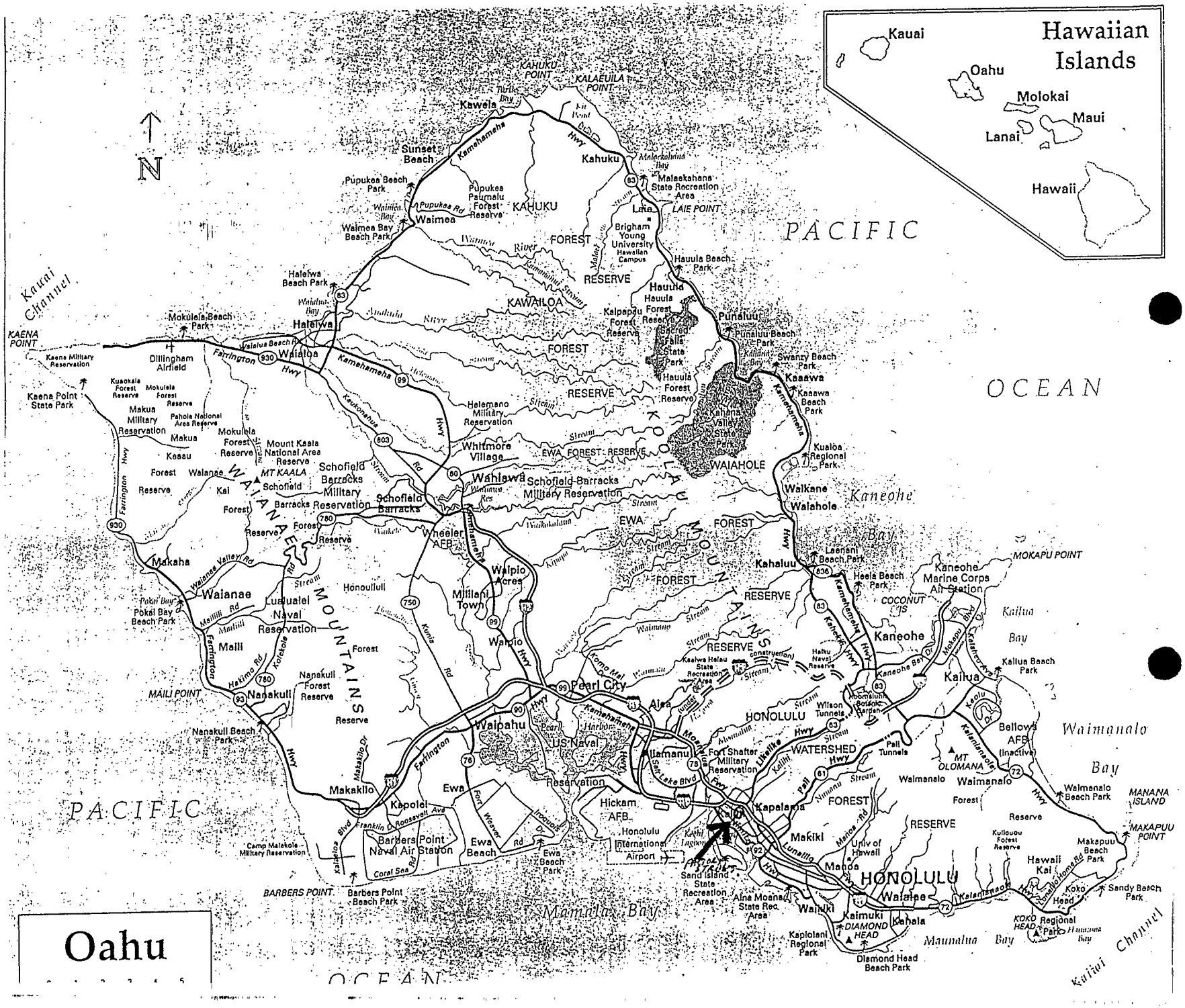

Figure 1. SITE LOCATION

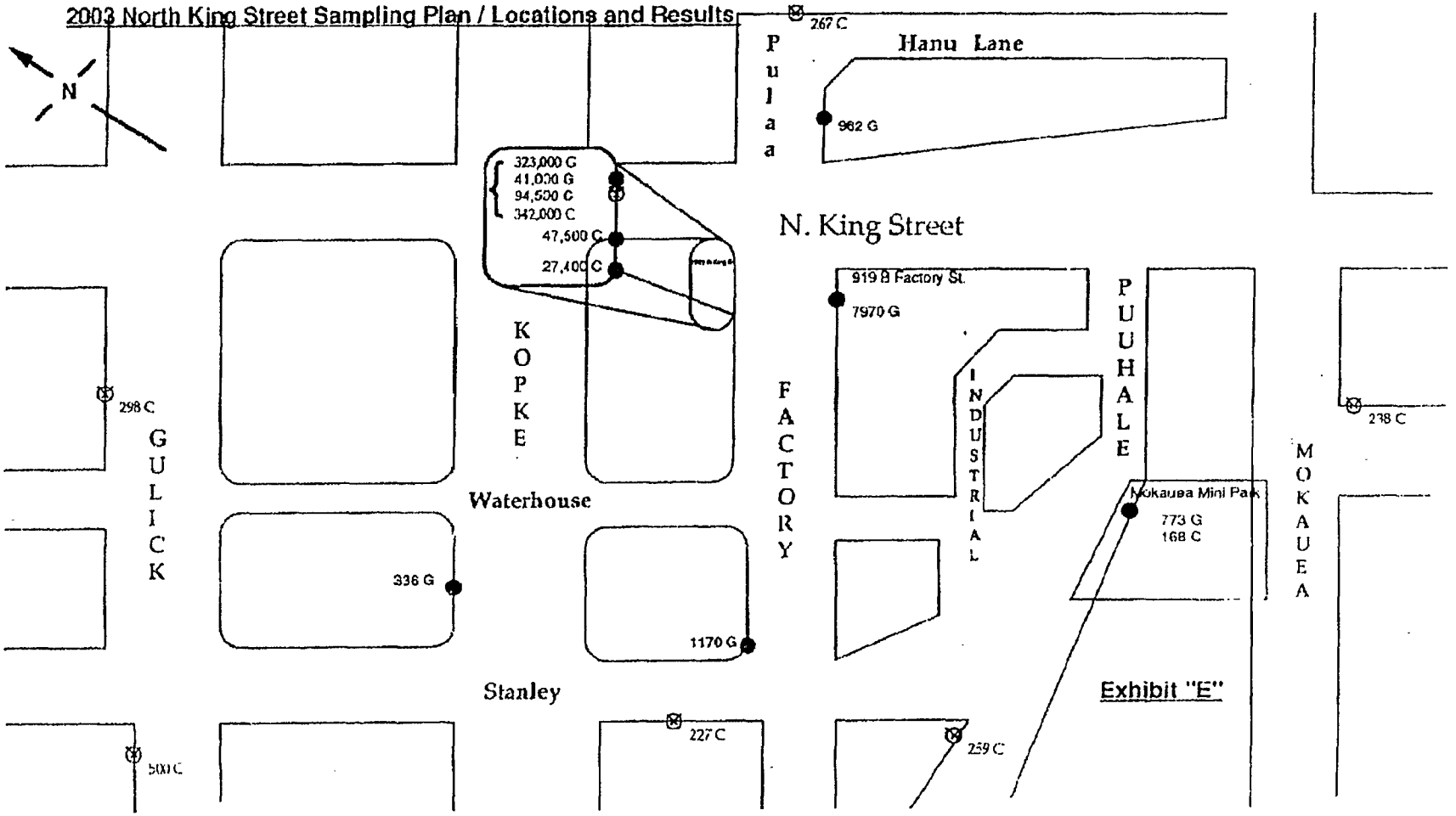

Figure 2. Site Layout

2.3 Operational History

Historically, the four block area encompassing the site was used residentially. Currently, there are residential as well as small business and industrial shops. The hot spot areas within the site are presently owned by Mr. Merton S.C. Lau, who acquired the property on December 24, 1986. The following commercial tenants identified as having managed, used, stored, and potentially disposed of spent chemicals occupied the corner of the building located at the corner of 2003 Factory Street and King Street are: 1) Dr. Joseph M. Yamamoto and Dr. Joseph H. Yamamoto who owned/operated a dental office; 2) Grace Bautista and Romeo Ramolete who operated a sign printing shop; and, 3) Vivian Yamamoto and Sarah Saito who owned Kalihi Fishing Supply. (Ref 8)

In addition, a witness who lived near the hot spot areas, indicated that between 1955-1966, ash containing lead was dumped and spread on site. The witness would scavenge through the piles of ash to salvage large chunks of lead to smelt into fishing weights.(Ref 9) Potential source of the lead may have been lead electrodes extracted from old/disabled automotive batteries, drained, and discarded.

2.4 Regulatory Involvement

2.4.1 U.S. Environmental Protection Agency (EPA)

On November 10, 1993, the site was entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS).

The site is not listed in the Resource Conservation and Recovery Information System (RCRIS) database as of October 28, 1993.

2.4.2 Hawaii State Department of Health (DOH)

On April 28, 1993, the Department of Health conducted lead sampling at 2003 North King Street facility based upon a notification by a physician that during a routine medical exam, two children were identified as having elevated lead levels in blood.

Analytical results of soil samples taken around the apartments where the children frequently played indicated up to 323,000 ppm of lead. This level exceeds the protective level of 400 ppm established by the DOH.

Subsequent soil sampling conducted on June 8, July 8, and July 15, 1993 from the facility and down gradient from the facility indicated the presence of lead varying from 336 ppm to 342,000 ppm.

On July 23, 1993, a Hawaii State "Letter of Interest" was issued to Mr. Merton S.C. Lau under the authority of Chapter 128D, Hawaii Revised Statutes. This letter notified Mr. Lau that there has been a release of a hazardous substances on his property and provided him with the opportunity to undertake appropriate response actions to mitigate the hazards. The letter also confirms the State of Hawaii's interest in the characterization and remediation of the site. (Ref 10) Mr. Lau refused to sign the letter pending an attorney's review and consequently necessitated the issuance of an enforceable order by the Director of the DOH.

On August 24, 1993, Mr. Lau was served the Director of Health's "Order" which prompted the immediate removal of lead contaminated soils from the hot spot areas to stabilize the site and minimize direct exposure (Ref 11). The hot spot areas are shown in Figure 3.

On August 30, 1993, as required by the DOH, Mr. Lau submitted a work plan and health and safety plan for emergency soil removal activities (Refs 12,13).

On September 24, 1993, a letter was sent to Mr. Lau indicating that he has fully complied with the DOH Director's order after Mr. Lau paved the hot spot areas (Ref 14).

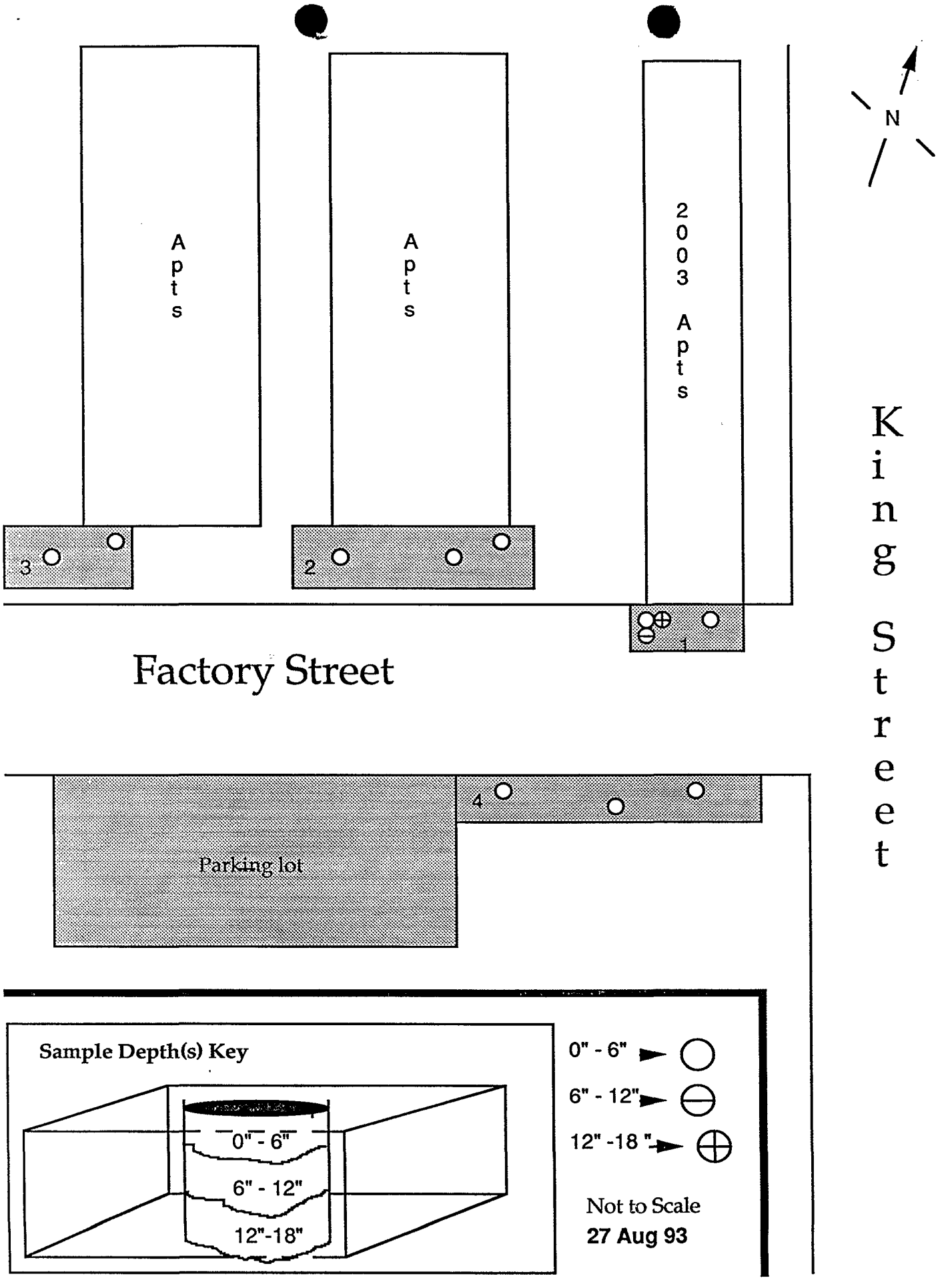

Figure 3. Hot Spots

3.0 Hazard Ranking System Factors

3.1 Sources of Contamination

The Factory Street site appears to have several hazardous substance sources:

- Lead-contaminated soils in hot spot areas.
- Lead-contaminated soils in sporadic areas throughout the site.

3.2 Groundwater Pathway

3.2.1 Hydrogeologic Setting

Topographically, upper and lower Kalihi aquifers lie between the Ko'olau Mountain range and the south shore (Pacific Ocean) of Oahu. Both aquifers have a direct recharge rate from natural infiltration which is directly related to rainfall. The upper Kalihi aquifer is ecologically important but is not currently used as a primary drinking water source. Depth to ground water is approximately 9 feet below ground surface (bgs). (Ref 15)

The lower aquifer, used as a primary drinking water source, is basal with a hydraulic conductivity in excess of 1000 feet per day on a regional scale. Depth to the basal aquifer is approximately 128 feet below ground surface. (Ref 16)

3.2.2 Groundwater Targets

Kalihi, a subdivision of Honolulu, is supplied with drinking water by various municipal wells. There are three drinking water wells that are approximately 1/2 to 1 mile from the site. They are Kalihi Pump Station (Well# 1952-06), Kalihi Shaft well (Well #2052-09), and Jonathan Springs well (Well #2052-12). (Ref 16) The total population served by the wells is approximately 68,685 people.

3.2.3 Groundwater Pathway Conclusion

A release of lead to the upper Kalihi aquifer is suspected due to the shallow depth to aquifer (9 ft bgs). This may eventually impact water quality in the lower Kalihi aquifer which is the primary drinking water source of Oahu. There are three drinking water wells that serve a population of approximately 68,685 people.

3.3 Surface Water Pathway

3.3.1 Hydrogeologic Setting

The topography of the immediate area of the site is such that the site drains into Kalihi Stream, which is approximately 2000 feet to the south, which drains into Keehi Lagoon.

3.3.2 Surface Water Targets

There are no drinking water intakes within 15 miles downstream of the site. There are two surface water bodies, Kalihi Stream and Keehi Lagoon, that are located within 15 miles downstream of the site. Kalihi Stream is a State designated area for protection or maintenance of aquatic life. Keehi Lagoon serves as a commercial fishery, with approximately 2,000 pounds of marine life (fish, seaweed, etc.) caught per year (Ref 17). In addition, Keehi Lagoon is used as feeding and resting areas for the federally endangered Hawaiian Stilt (*Himantopus mexicanus knudseni*) and the Hawaiian owl (*Asio flammeus sandwichensis*), which is listed by the State of Hawaii as endangered on Oahu (Ref 18).

3.3.3 Surface Water Pathway Conclusion

There are no drinking water intakes within 15 miles downstream of the site. A commercial fishery lies within 15 miles downstream of the site. Sensitive environments are within 4 miles of the site.

3.4 Soil Exposure and Air Pathway

3.4.1 Physical Conditions

The site is unsecured having no physical barriers or fences with the exception of the

hot spot areas which have been temporarily stabilized with an asphalt cover.

3.4.2 Soil and Air Targets

Kalihi is a densely populated subdivision, with an estimated population between 3,000 to 10,000 people within 1 mile of the site. St. Anthony School and Mokauea Mini Park which is a recreational area, are located within the site. In addition, numerous schools such as Farrington High School, Kalakaua Intermediate School, Kalihi Kai Elementary School, St. John School, Kalihi Waena Elementary School and Fern Elementary School are located within a 1/2 mile to 1 mile radius of the site.

3.4.3 Soil Exposure and Air Pathway Conclusions

On-site soil sampling reveal elevated levels of lead. The site is unsecured having no physical barriers or fences with the exception of the hot spot areas which have been temporarily stabilized with an asphalt cover. Between 3,000 to 10,000 people reside within 1 mile of the site and schools are located on-site and within 1 mile of the site.

4.0 Emergency Response Considerations

The National Contingency Plan [40 CFR 300.415(b) (2)] authorizes the Environmental Protection Agency to consider emergency response actions at those sites which pose

an imminent threat to human health or the environment. For the following reasons a referral to Region IX's Emergency Response Section does not appear to be necessary:

- Hot spot areas have been stabilized with an asphalt cover.

5.0 Summary

The Factory Street "Lead" Site is located in the general area of King Street and Factory Street. The address is 2003 King Street, Kalihi Subdivision, City and County of Honolulu, Island of Oahu, Hawaii. Land use within the site and surrounding the site is predominantly residential mixed with small business and light industrial shops.

The site was entered into CERCLIS as a result of the Department of Health's Lead screening program. Children residing in an apartment at 2003 Factory Street were identified as having lead levels in blood above 20 micrograms per deciliter which exceeds the Center for Disease Control's blood lead level of concern of 10 micrograms per deciliter.

Historical use of the site is predominantly residential with a few businesses such as a dentist office, a fishing supply store, and a sign print shop that managed, used, stored, and potentially disposed of spent chemicals. In addition, a witness who lived near the

hot spot areas, indicated that between 1955 - 1966, ash containing lead was dumped and spread on site; source of the lead may have been lead electrodes extracted from old/disabled automotive batteries.

Soil samples collected within a four block radius from 2003 Factory Street indicate the presence of lead up to 342,000 parts per million. Under the direction of the Hawaii State Department of Health and the oversight of a State On-Scene Coordinator, immediate removal of lead contaminated soils from the hot spot areas was conducted to minimize direct exposure. In addition, the hot spot areas have been temporarily stabilized with an asphalt cover.

The Factory Street site appears to have several hazardous substance sources. Lead-contaminated hot spot areas as well as lead-contaminated soils in sporadic areas throughout the site have been identified.

The pertinent Hazard Ranking System factors for the site are:

- There are three known drinking water wells less than 1 mile away that serve a population of approximately 68,685 people.
- There is a school located on site.
- The site is unsecured with the exception of the hot spot areas which have been temporarily stabilized with an asphalt cover.

- There are endangered species located within 4 miles of the site.
- There is a commercial fishery located within 15 miles downstream of the site.

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IX

Site Name: Factory Street "Lead" Site **EPA ID#:** HI0000049775

Alias Site Names:

City: Honolulu **County or Parish:** Honolulu **State:** Hawaii

Refer to Report Dated: February 1994 **Report type:** Preliminary Assessment

Report developed by: William C. Perry and Vance Fong

DECISION:

| | **1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:**

| | 1a. Site does not qualify for further remedial site assessment under CERCLA (Site Evaluation Accomplished - SEA)

| | 1b. Site may qualify for further action, but is deferred to: | | RCRA | | NRC

|✓| **2. Further Assessment Needed Under CERCLA:** 2a. (optional) Priority: |✓| Higher | | Lower

2b. Activity Type: | | PA | | ESI | |✓| SI | | HRS evaluation

| | Other:

DISCUSSION/RATIONALE:

Site sampling will occur at the site inspection level of evaluation in coordination with the Emergency Response Programs of EPA & HI DOH

Report Reviewed and Approved by: Signature: Date:

Site Decision Made by: Signature: Date: 5-25-95

EPA Form # 9100-3

APPENDIX A

REFERENCE LIST

Site: Factory Street "Lead" Site

1. Lewin, John, C., State of Hawaii, Department of Health, Letter to The Honorable Representative Emilio Alcon, Hawaii House of Representatives, regarding lead problem found at 2003 North King Street, September 7, 1993.

2. Brewer Environmental Report, Laboratory Analysis Report, Job Number 0112, May 13, 1993.

3. Brewer Environmental Report, Laboratory Analysis Report, Job Number 0375, June 17, 1993.

4. Brewer Environmental Report, Laboratory Analysis Report, Job Number 0581, July 12, 1993.

5. Brewer Environmental Report, Laboratory Analysis Report, Job Number 0635, July 19, 1993.

6. Environmental Laboratory of the Pacific (ELP), Laboratory Report, ELP Project No.: 5144, September 1, 1993.

7. Geographical Information System, 1993.

8. Lau, Merton S.C., Letter to William Perry, State of Hawaii, Department of Health, regarding History of owners and tenants of 2003 North King Street, October 12, 1993.

9. Ahina, Ronald, Telephone conversation recorded on Contact Report by Steven Armann, State of Hawaii, Department of Health, August 26, 1993.

10. State of Hawaii, Department of Health, "Notice of Interest in a Release or Threatened Release of Hazardous Substances", to Merton Lau for 2003 North King Street, Honolulu, Hawaii, July 23, 1993.

11. State of Hawaii, Department of Health, "Director's Determination of Imminent and Substantial Endangerment to Public Health, Welfare, or the Environment because of Actual or Threatened Release of Hazardous Substances; Order to Protect Public Health, Welfare, and the Environment; Certificate of Service," Docket No. SF 93-2, August 24, 1993.

12. Lau, Merton S.C., Letter to William C. Perry, State of Hawaii, Department of Health, regarding Proposed Scope of Work for Mitigating Lead Contaminated Soil - 2003 North King Street, Honolulu, Hawaii, August 10, 1993.

13. Lau, Merton S.C., Letter to William C. Perry, State of Hawaii, Department of Health, regarding Site Safety Plan and Emergency Removal Plan for 2003 North King Street, August 31, 1993.

14. Armann, Steven, State of Hawaii, Department of Health, Letter to Merton S.C. Lau, regarding Compliance with Director's Order, October 12, 1993.

15. Mink, John F. and Lau, L. Stephen, "Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii." Water Resources Research Center, University of Hawaii at Manoa, Technical Report No. 179, February 1990, revised.

16. Department of Land and Natural Resources Well Log, State of Hawaii, Division of Water and Land Development, Ground Water Index, Oahu Code, August 13, 1987.

17. Hawaii Department of Transportation, Harbors Division, Harbor Master of Keehi Lagoon.

18. Environmental Center, "Ecologically Sensitive Wetlands on Oahu: Groundwater Protection Strategy for Hawaii." Technical Report No. 184, December 1989.

APPENDIX B

CONTACT REPORT

AGENCY/AFFILIATION:

DEPARTMENT:

ADDRESS/CITY: P. O. Box 1113

COUNTY/STATE/ZIP: Kihei, Maui County, Hawaii 96753

CONTACT	**TITLE**	**PHONE**
Ronald Ahina		(808) 879-9953

HEER PERSON MAKING CONTACT:	**DATE**
Steven Armann	August 26, 1993

SUBJECT: Dumping of Lead Ash

SITE NAME: Factory Street "Lead" Site **EPA ID#:** HI0000049775

Ronald Ahina called. He visited 2003 North King Street this morning and identified this site as the place where lead ash was dumped from a fishing supply store located where Kalihi Pawn Shop is now. As a child, he would rummage through the ash to get the big pieces of lead in order to make his own sinkers. He believes the name of the fishing supply store was "Kalihi Fishing Supply".

The practice of dumping the ash went on from at least 1955 to 1966. Mr. Ahina remembers that at age eight he began to scavenge through the lead ash.

Reference 1

JOHN WAIHEE
GOVERNOR OF HAWAII

JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:
File:

September 7, 1993

The Honorable Representative Emilio Alcon
House of Representatives
State Office Tower, Room 1303
Honolulu, Hawaii 96813

Dear Representative Alcon:

This is in response to your inquiry regarding the lead problem found at 2003 North King Street. The historical account of the facts are as follows:

Date	Action
4/28/93	Hazardous Evaluation and Emergency Response (HEER) and Maternal Child Health, Human Services Branch, Community Lead Program conduct lead sampling at 2033 North King St. Apartments, including family interviews. Samples of wall paint, vacuum cleaner bag dust, and drinking water from Apt. H, (Fernandez residence) taken to identify source. Soil samples around the apartment also taken. Dr. Myra Valin, Pediatrician of Mrs. E. Fernandez's two daughters notified Dr. P. Heu of Department of Health (DOH), Human Services Branch of high lead levels in the children just prior to visit.
4/29/93	Community Lead Program and Drinking Water Personnel made joint home visit for assessment. Teaching and counseling on managing the environment to decrease lead exposure to children was also provided to the family and their Hana Like case worker.
4/30/93	Blood lead levels of children retested.
5/7/93	Notification of water samples result negative.
5/13/93	Soil sample from 4/28/93 analysis returned as positive.

Date	Action
5/17/93	High lead level found in soil sample and vacuum cleaner dust. HEER reports further testing needed to adequately assess source of lead.
5/21/93	Pediatrician told of environmental results by Dr. Pat Heu. With confirmation of blood lead results, Pediatrician advised moving out of the building. Blood lead levels of children retested.
6/1/93	Family relocated. DOH continues to monitor the blood lead results and provides consultation to the Pediatrician and to Hana Like who works closely with the family.
6/8/93	Further verification sampling conducted. Six (6) additional soil samples obtained from within two city blocks radius from previous soil sampling location.
6/17/93	Results returned.
7/7/93	Meeting between the Community Lead Program and HEER to discuss continued high lead level in soil and options for consideration. Subsequent meetings held to plan for door to door campaign and clinic efforts.
7/8/93	Soil and paint samples from five (5) sites taken.
7/12/93	Sample analysis returned.
7/15/93	Seven (7) soil and composite samples taken.
7/16/93	Blood lead levels of children retested.
7/19/93	Analysis of samples returned.
8/10/93	Response from Mr. Lau regarding the mitigation of the lead contaminated soil.
8/23/93	Press release on high levels of lead and door to door campaign announced from August 25-28, 1993.
8/24/93	Emergency Response Order issued (see attached)
8/26/93	Phone call from citizen saying that he remembers a fishing supply store dumping lead ash between 1955-1966 in the area.

Date	Action
8/27/93	Four (4) sites samples taken, each of different levels and at different times.

Much effort and time from our two programs in Community Lead and Hazard Evaluation and Emergency Response has been taken to resolve this public health problem. Problems such as these require epidemiology study and analysis.

I hope this historical perspective on the problem meets your expectations. If you wish to review in more detail the entire process of the analysis, we would be happy to show it to you.

Very truly yours,

JOHN C. LEWIN, M.D.
Director of Health

Reference 2

BREWER ENVIRONMENTAL INDUSTRIES, INC.

LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: HAWAII STATE DEPT. OF HEALTH
HAZARD EVALUATION & EMERGENCY RESPONSE OFFICE
5 WATERFRONT PLAZA, SUITE 250C
500 ALA MOANA BLVD
HONOLULU, HAWAII 96813

ATTN: BILL PERRY

JOB NUMBER: 0112

DATE: MAY 13, 1993

SAMPLE LOCATION: 2003 N. KING STREET
JOB #930428

Date/Time Sampled: 04/28/93 @ as noted
Date/Time Received: 05/03/93 @ 0805

Matrix: PAINT CHIPS/DUST/SOIL

METHOD #: 6010

SAMPLE ID#	TIME SAMPLED	TOTAL LEAD RESULT mg/kg	REPORTING LIMIT mg/kg	ANALYSIS DATE
#1 PAINT CHIPS BEDROOM WALL	1006	BRL	24.4	05/07/93
#2 PAINT CHIPS BEDROOM STUD BOLTS	1010	304	28.2	05/07/93
#3 DUST VACUUM CLEANER BAG	1018	6400	10.0	05/07/93
#4 SOIL OUTSIDE GUTTER AREA	1037	* 323000	10.0	05/11/93

Exhibit "A"

BRL - BELOW REPORTING LIMITS

BREWER ENVIRONMENTAL LABORATORIES
PO BOX 552
PAHOA, HI 96778
PHONE (808) 964-5622
FAX (808) 964-5309

Approved by D. Brewer

TOTAL P.01

Reference 3

RECD JUN 2 9 1993

BREWER ENVIRONMENTAL INDUSTRIES, INC.
A C. BREWER company

LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: STATE DEPT. OF HEALTH HEER OFFICE
5 WATERFRONT PLAZA SUITE 250
500 ALA MOANA BLVD
HONOLULU, HAWAII 96813

ATTN: BILL PERRY

JOB NUMBER: 0375

DATE: JUNE 17, 1993

SAMPLE LOCATION: DOH
LEAD PROGRAM

Date/Time Sampled: 06/08/93 @ as noted
Date/Time Received: 06/09/93 @ 0745
DATE ANALYZED: 06/16/93

Matrix: SOIL
METHOD #: 6010

SAMPLE ID#	TIME SAMPLED	TOTAL LEAD RESULT mg/kg	REPORTING LIMIT mg/kg
MOKAUEA ST MINI PARK	1139	773	10.0
2003 N. KING ST. APTS.	1204	41000	10.0
919 B FACTORY ST	1211	7970	10.0
FACTORY & STANLEY ST "800"	1221	1170	10.0
814 KOPKE ST (BY POLE)	1231	336	10.0
1011 PULAA ST (BY 3 MAIL BXS.)	1240	982	10.0

Exhibit "B"

BREWER ENVIRONMENTAL LABORATORIES
PO BOX 552
PAPAIKOU HI 96781
PHONE (808) 964 5522

Approved by [illegible]

Reference 4

BREWER ENVIRONMENTAL INDUSTRIES, INC.

LABORATORY ANALYSIS REPORT

Environmental Laboratories Division

CLIENT: DEPARTMENT OF HEALTH
HAZARD EVALUATION AND EMERGENCY RESPONSE
5 WATERFRONT PLAZA, SUITE 250C
500 ALA MOANA BLVD
HONOLULU, HAWAII 96813

ATTN: BILL PERRY

JOB NUMBER: 0581

DATE: JULY 12, 1993

SAMPLE LOCATION: N/A N. KING ST. APTS.
JOB #920708

Date/Time Sampled: 07/08/93 @ as noted
Date/Time Received: 07/09/93 @ 0745
DATE ANALYZED: 07/12/93

Matrix: SOIL/PAINT DUST
METHOD #: 6010

SAMPLE ID#	TIME SAMPLED	TOTAL LEAD RESULT mg/kg	REPORTING LIMIT mg/kg
#1 2003 N. KING (SOIL) (COMPOSITE)	1258	27400	10.0
#2 2003 N. KING ST. (SOIL) (COMPOSITE)	1300	47500	10.0
#3 2003 N. KING ST (SOIL) (COMPOSITE)	1304	94500	10.0
#4 2003 N. KING ST (SWIPE) PAINT CHIPS/DUST (TOTAL)	1320	1240	10.0
#5 MOKAUEA MINI PARK (COMPOSITE)	1333	168	10.0

Exhibit "C"

BREWER ENVIRONMENTAL LABORATORIES
P.O. BOX 552
PAPUKOLI HI 9615
PHONE (808) 684-6852
FAX (808) 964-5702

Approved by: ____________

Reference 5

BREWER ENVIRONMENTAL INDUSTRIES, INC.

LABORATORY ANALYSIS REPORT

Environmental Laboratories Division

CLIENT: DEPARTMENT OF HEALTH
HAZARD EVALUATION AND EMERGENCY
RESPONSE OFFICE
5 WATERFRONT PLAZA, SUITE 250
500 ALA MOANA BLVD
HONOLULU, HAWAII 96813

ATTN: BILL PERRY

JOB NUMBER: 0635

DATE: JULY 19, 1993

SAMPLE LOCATION: N. KING STREET
JOB #930715

Date/Time Sampled: 07/15/93 @ as noted
Date/Time Received: 07/16/93 @ 0745
DATE ANALYZED: 07/16/93

Matrix: SOIL
METHOD #: 6010

SAMPLE ID#	TIME SAMPLED	TOTAL LEAD RESULT mg/kg	REPORTING LIMIT mg/kg
804 GULICK (COMPOSITE)	0955	298	10.0
754 GULICK (COMPOSITE)	1004	500	10.0
2005 STANLEY ST (COMPOSITE)	1011	227	10.0
744 PUUHALE ST (COMPOSITE)	1017	259	10.0
841 MOKAUEA ST (COMPOSITE)	1027	238	10.0
2000 HANI + PULAA (COMPOSITE)	1041	267	10.0
2003 N. KING STREET (COMPOSITE)	1047	342000	10.0

Exhibit "D"

BREWER ENVIRONMENTAL LABORATORIES
P.O. BOX 559
PAPAIKOU, HI 96781
PHONE (808) 964-5322
FAX (808) 964-5308

Approved by: _____

TOTAL P.01

Reference 6

E.L. Pacific
Environmental Laboratory of the Pacific

A Full Service Laboratory for the Environmental Professional
930 Mapunapuna Street, Suite 100 • Honolulu, Hawaii 96819
Telephone: (808) 833-5663 Facsimile: (808) 833-7399

Laboratory Report

Client: Department of Health
5 Waterfront Plaza, 500 Ala Moana Blvd., Suite 2506
Honolulu, HI 96813
Attention: William Perry

ELP Project No.: 5144
Report Date: 01-Sep-93

Client Job No.: 930827
Sample Description: Samples from 2003 N. King Street.
Sample Matrix: Soil

Date Collected: 27-Aug-93
Date Received: 31-Aug-93

		Client ID:				1-6"	1-12"	1-18"
		Matrix:				soil	soil	soil
		Lab ID:			Method Blank	083193-03	083193-04	083193-05
Date	**Analysis**	**Method**	**Units**	**MRL**	**Results**	**Results**	**Results**	**Results**
	Total Metals							
31-Aug-93	Metals Digestion	EPA 3050						
01-Sep-93	Lead	EPA 6010	mg/Kg (ppm)	20	ND	121,000	28,700	17,900

		Client ID:				1-D-6"	2-6"	2-D-6"
		Matrix:				soil	soil	soil
		Lab ID:				083193-06	083193-07	083193-08
Date	**Analysis**	**Method**	**Units**	**MRL**		**Results**	**Results**	**Results**
	Total Metals							
31-Aug-93	Metals Digestion	EPA 3050						
01-Sep-93	Lead	EPA 6010	mg/Kg (ppm)	20		36,800	20,700	23,700

		Client ID:			3-6"	3-D-6"	4-6"	4-D-6"
		Matrix:			soil	soil	soil	soil
		Lab ID:			083193-09	083193-10	083193-11	083193-12
Date	**Analysis**	**Method**	**Units**	**MRL**	**Results**	**Results**	**Results**	**Results**
	Total Metals							
31-Aug-93	Metals Digestion	EPA 3050						
01-Sep-93	Lead	EPA 6010	mg/Kg (ppm)	20	11,400	14,200	75,800	51,100

Approved by: _____
Janet Jones, Laboratory Manager

Approved by: _____
Dirk Koeppenkastrop, PhD, Laboratory Director

ELP Project No.: 5144
Report Date: 01-Sep-93

Quality Control Data

			SPIKES					
		Lab ID:	LCS1	LCS2		MS	MSD	
		Units:	%R	%R	RPD	%R	%R	RPD
Lab ID	**Analysis**	**Method**	**Results**	**Results**	**Results**	**Results**	**Results**	**Results**
	Total Metals							
083193-12	Lead	EPA 6010	89	89	0	*	*	*

*Native analyte greater than 4 times the spike added, therefore recovery not calculable.

Approved by: _____
Janet Jones, Laboratory Manager

Approved by: _____
Dirk Koeppenkastrop, PhD, Laboratory Director

Definitions

D	Duplicate
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MRL	Method Reporting Limit
NA	Not Applicable
ND	Not Detected
NR	Not Requested
OS	Original Sample
%R	Percent Recovery
PDS	Post Digestion Spike
RPD	Relative Percent Difference

Approved by: _____
Janet Jones, Laboratory Manager

Approved by: _____
Dirk Koeppenkastrop, PhD, Laboratory Director

Reference 8

MERTON S. C. LAU
1164 BISHOP STREET, SUITE 1111
HONOLULU, HAWAII 96813-2810
TELEPHONE (808) 548-5190

October 12, 1993 at 6:45 a.m

FAX TRANSMITTAL MEMO TO: William Perry (OSC)
HEER Office
Hawaii Department of Health

FAX No. 586-4370

FROM: Merton Lau
FAX 524-4455

RE: 2003 No. King Street
History of Owners and Tenants

REMARKS:

I have researched the ownership and tenancies of subject property. The ownership history is as follows:

1. December 24, 1986 property was purchased by Merton S. C. Lau as a result of a Court ordered partition action.

2. August 28, 1959: James H. Yamamoto
Beverly F. Tanemura
Joseph M. Yamamoto
Shigeo Yamamoto

3. June 22, 1956: Hirouemon Yamamoto and wife, Toki Yamamoto

The commercial tenants occupying subject building since I took possession on 12/24/86 are listed by address because there exists five (5) different commercial spaces.

2003: Dr. Joseph M. Yamamoto and
2007: son, Dr. Joseph H. Yamamoto from 12/24/86 to 3/1/88 (dental office)

2003: After 3/1/88, tenants were as follows:

1. Grace Bautista and Romeo Ramolete (sign painting)
2. Fred Williams, Etevise Williams and Edna Williams (travel agency)
3. Karen Ngo (pawn shop)

2007: After 3/1/88, tenants were as follows:

1. Virginia Ganac and Alexander Macalma (garment manufacturing)
2. Duong Trieu Ly (dress shop)
3. Van Chi Dang (luggage)
4. Raymond Wong (grocery store)
5. Diana Cantu & Larry Tran (grocery store)

2011: After 12/24/86, tenants were all operating a Korean style barbecue restaurant as follows:

1. In Wan Choi and Jung Hee Choi
2. Han Gu Kim and Hui Ok Kim
3. Jung Ja and Albert Izuka
4. Sun Ah and Sang Wook Kim
5. Michu Conlee
6. So Cha and Richard Hashimoto
7. Sun Ah and Sang Wook Kim and Jeanne Sol Kim
8. Samuel K. Chong and Kathy S. Chong

2013:

1. from 12/24/86 to 7/1/87 Vivian Yamamoto and Sarah Saito (Kalihi Fishing Supply)
2. Norma Tanele & Anna Bower (florist)
3. Jack Dalton (key shop)

2015: After 12/24/86:

1. Han Gu Kim and Hui Ok Kim (grocery store)
2. Victoria Rumbawa (grocery store)
3. Luzviminda B. Oliveira and Louis R. Oliveira, Jr. (grocery store)

Based on the above owners and/or tenants, it is my opinion that the possible sources for causing a release would be the following:

1. Dr. Joseph M. Yamamoto and Dr. Joseph H. Yamamoto - dental office
2. Grace Bautista and Romeo Ramolete - sign painting
3. Vivian Yamamoto and Sarah Saito - fishing supply store

Please call me at 548-5190 if there are any questions.

ML:js

Total number of page(s) being faxed: 3, including cover memo.
If you have not received the entire page(s) as noted, please call me at 548-5190.

Reference 10

JOHN WAIHEE
GOVERNOR OF HAWAII

JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:
HEER OFFICE

* NOTICE OF INTEREST IN A RELEASE OR THREATENED RELEASE OF *
HAZARDOUS SUBSTANCES

Name: MERTON LAU
Address: 1164 BISHOP STREET, SUITE 1111 HONOLULU, HI. 96813
Date/time: JULY 23, 1993, 1435
Location (facility) at or from which release has occurred or is threatened to occur:
("LEAD IN SOIL") 2003 N. KING STREET, HONOLULU, HI. 96817

You are hereby notified that a release or threat of a release of a hazardous substance, as defined in section 128D-1, Hawaii Revised Statutes (hereafter also refered to as HRS), has occurred or is threatened to occur at the above described facility of which you are believed to be the owner or operator and that pursuant to chapter 128D, HRS, the Director of Health of the State of Hawaii has an interest in the release or threatened release.

Pursuant to chapter 128D, HRS, the Director may take a number of actions which include issuing an order directing you to take appropriate response measures concerning the release. Failure to obey such an order may subject you to fines and penalties and an obligation to repay the State for any expenditure of its funds if the State is required to provide the response measures.

However, if before such an order is issued you demonstrate to the satisfaction of the Director of Health or his designee a willingness and the ability to undertake appropriate response measures and actually undertake such response measures within a reasonable period of time, the activity of the State will be limited to monitoring the progress of your actions and providing guidance as necessary.

You are also advised that if the Director determines that your response actions are, in whole or in part, unsatisfactory, a notice of improper action will be issued.

You ~~are~~ further notified that the Director of Health has designated William C. PERRY of the staff of the Office of Hazard Evaluation and Emergency Response (HEER) of the Department of Health as the State On-Scene Coordinator (SOSC). The SOSC may be contacted at the Office of Hazard Evaluation and Emergency Response, Hawaii Department of Health, 5 Waterfront Plaza, 500 Ala Moana Blvd, Suite 250C, Honolulu, Hi 96813, Phone: (808) 586-4249.

Done at Honolulu, Hawaii this 23RD day of JULY.

(State On-scene Coordinator)

Received and Acknowledged :

Name (Please print) Date: Time:

Signature Witness

Note: Did not sign, refer for legal review first.

Reference 8

MERTON S. C. LAU
1164 BISHOP STREET, SUITE 1111
HONOLULU, HAWAII 96813-2810
TELEPHONE (808) 548-5190

October 12, 1993 at 6:45 a.m

FAX TRANSMITTAL MEMO TO: William Perry (OSC)
HEER Office
Hawaii Department of Health

FAX No. 586-4370

FROM: Merton Lau
FAX 524-4455

RE: 2003 No. King Street
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REMARKS:

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Please call me at 548-5190 if there are any questions.

ML:js

Total number of page(s) being faxed: 3, including cover memo. If you have not received the entire page(s) as noted, please call me at 548-5190.

Reference 10

JOHN WAIHEE
GOVERNOR OF HAWAII

JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:
HEER OFFICE

* NOTICE OF INTEREST IN A RELEASE OR THREATENED RELEASE OF * HAZARDOUS SUBSTANCES

Name: MERTON LAU
Address: 1164 BISHOP STREET, SUITE 1111 HONOLULU, HI. 96813
Date/time: JULY 23, 1993, 1435
Location (facility) at or from which release has occurred or is threatened to occur:
("LEAD IN SOIL") 2003 N. KING STREET, HONOLULU, HI. 96821

You are hereby notified that a release or threat of a release of a hazardous substance, as defined in section 128D-1, Hawaii Revised Statutes (hereafter also refered to as HRS), has occurred or is threatened to occur at the above described facility of which you are believed to be the owner or operator and that pursuant to chapter 128D, HRS, the Director of Health of the State of Hawaii has an interest in the release or threatened release.

Pursuant to chapter 128D, HRS, the Director may take a number of actions which include issuing an order directing you to take appropriate response measures concerning the release. Failure to obey such an order may subject you to fines and penalties and an obligation to repay the State for any expenditure of its funds if the State is required to provide the response measures.

However, if before such an order is issued you demonstrate to the satisfaction of the Director of Health or his designee a willingness and the ability to undertake appropriate response measures and actually undertake such response measures within a reasonable period of time, the activity of the State will be limited to monitoring the progress of your actions and providing guidance as necessary.

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You ~~are~~ further notified that the Director of Health has designated William C. Perry of the staff of the Office of Hazard Evaluation and Emergency Response (HEER) of the Department of Health as the State On-Scene Coordinator (SOSC). The SOSC may be contacted at the Office of Hazard Evaluation and Emergency Response, Hawaii Department of Health, 5 Waterfront Plaza, 500 Ala Moana Blvd, Suite 250C, Honolulu, Hi 96813, Phone: (808) 586-4249.

Done at Honolulu, Hawaii this 23rd day of July.

(State On-scene Coordinator)

Received and Acknowledged :

Name (Please print) Date: Time:

Signature Witness

Note: Did not sign. refer for legal review first.

Reference 11

DEPARTMENT OF HEALTH
STATE OF HAWAII

In the matter of: Merton S.C. Lau 2003 N. King Street Honolulu, HI 96819 Respondent	Docket No. SF 93-2 DIRECTOR'S DETERMINATION OF IMMINENT AND SUBSTANTIAL ENDANGERMENT TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT BECAUSE OF ACTUAL OR THREATENED RELEASE OF HAZARDOUS SUBSTANCES; ORDER TO PROTECT PUBLIC HEALTH, WELFARE, AND THE ENVIRONMENT; CERTIFICATE OF SERVICE

I.

DIRECTOR'S DETERMINATION OF IMMINENT AND SUBSTANTIAL ENDANGERMENT TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT BECAUSE OF ACTUAL OR THREATENED RELEASE OF HAZARDOUS SUBSTANCES

Section 128D-4(a) (2), Hawaii Revised Statutes (HRS), provides that the Director of Health, State of Hawaii, upon determining that there may be an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance, may issue without a hearing such orders as may be necessary to protect the public health, welfare, and the environment. Based upon investigations and evaluations made by the Department of Health in this matter in response to complaints and notification received by he Department, the Director of Health makes and issues the following findings of fact, conclusions of law, determinations, and order.

A. Findings of Fact

Respondent, Merton S. C. Lau, Owns and Operates the apartment building located at 2003 North King Street, Honolulu, Hawaii (hereinafter "facility"). The facility is approximately 11,337 square feet (Tax Map Key : Zone 1, Section 2, Plat 11, parcel # 1) in size, and is bordered on the south by an inoperable "Aloha" gasoline service station, small businesses and independent residences, and to the north by an apartment building (approximately 25 units). To the east of the facility is North King Street and to the south are independent residences.

"Lead" is a naturally occurring bluish-gray metal found in small amounts originally from the earths crust. It has no characteristic taste or smell and is not miscible in water. Lead is commonly found in the manufacturing of batteries, as gasoline additives, solders, pipes, and paints. The amount of lead added to products has been drastically reduced in recent years because of the adverse health and environmental harm it causes to humans and animals. Most of the lead dispersed through the environment is due to human activities, vehicle emissions, industrial processes and burning solid waste. Lead is present at various amounts in air, soil, and water. It clings or binds to soil and does not migrate readily. Usually an acidic transporter (rainwater) is needed to break fine particles free and move lead in a flow.

Humans are exposed to low levels of lead usually through inhalation, ingestion and absorption during normal daily

routines. Breathing in dusts or swallowing dirt are usually how humans become exposed to lead. Children, especially preschool age, are frequently exposed to lead because of playing habits. They tend to ingest lead contaminated soils, dusts, non food items, paint chips, by placing their hands, toys, and many things into their mouths. Lead behaves the same once it enters the body no matter what the route of exposure. It travels in the blood and targets "soft tissues," (such as the liver, kidneys, lungs, brain, spleen, muscles and heart). Usually after several weeks most of the lead moves into bones and teeth. The human body is incapable of changing lead into any other chemical. Once lead is taken in and distributed throughout human organs any unretained lead is excreted through urine or feces. In children, approximately 73% of lead is stored in their teeth or bones the rest remains in their blood and organs. The Center for Disease Control considers "Lead Poisoning" in children to exist if the amount of lead is at least twenty-five (25) micrograms per deciliter (μg/dl) in blood. Lead levels in blood higher than 25 μg/dl suggests that adverse and damaging health affects may occur.

On April 28, 1993, the Department of Health conducted lead sampling at the respondent's facility. Mrs. Eunice Fernandez and her two daughters ages one (1) and two (2) were residing in apartment "H" at the facility. During a routine medical exam of the children, elevated levels of lead were detected. The one (1) year old had a blood lead level of 33 μg/dl and the two (2) year old had a blood lead level of 22 μg/dl. These levels are high

enough to cause the Department of Health to conduct further medical and environmental investigations.

Mrs. Pat Heu, PhD of the departments' Health and Human Services Branch was notified of the elevated blood levels by the family physician. Family interviews were completed by the Health and Human Services Branch, including residential lead sampling conducted by the HEER Office. Wall paint chips, vacuum cleaner bag dust, and drinking water samples were obtained from apartment "H" in an attempt to locate a lead source. Samples were also taken from soils around the apartments where the children frequently played. Analytical results indicated three hundred and twenty three thousand (323,000) parts per million (ppm) of lead in soil. This level is extremely high and exceeds the protective level of four hundred (400) ppm established by the Department of Health. See Exhibit "A"and "E".

On June 8, July 8 and July 15, 1993 samples were taken from the facility. Laboratory analysis of the soil samples taken adjacent to the 2003 North King Street apartment building reveled lead levels of 41,000 ppm, 94,500 ppm, and 342,000 ppm. Extremely high levels of lead were also detected down gradient from the facility, south to Waterfront Street, at 47,500 ppm and 27,400 ppm. These levels are above the departments clean up goals of 400 ppm. See Exhibits "B", "C","D" and "E".

During HEER investigation, three (3) suspect and potentially contributing sources of lead were observed which may have contaminated the facility soils. First, Located on, attached, and positioned vertically, was a rainwater drain pipe, to the

south wall. Rainwater which accumulated on the facilities roof passes down through the downspout and spills into the soils before shedding over the street. The drain pipe was constructed from cast metal pipe made up of three sections which were held together by (poured) lead. Pieces of lead solder were observed in the soil near this source. Second, the exterior south wall paint indicated a "lead" base was used. Third, an automotive 12 volt battery was observed upside down, top covers off, and empty of its liquid contents (electrolyte).

A preliminary risk assessment was conducted by Barbara Brooks, PhD, to evaluate the potential adverse health effects from exposure to the lead contaminated soil at the respondent's facility. A linear pharmacokinetic model was used to predict the blood lead levels in children associated with exposure to the lead contaminated soil. Recent research has indicated that blood lead levels in the range of 10 to 15 µg/dl are associated with serious health effects. Currently the Environmental Protection Agency and the Hawaii Department of Health are using a blood lead level of 10 µg/dl as the threshold level of concern.

Results of the preliminary health risk assessment indicated that exposure to the elevated soil lead levels at the respondent's facility would result in dangerously high blood lead levels in children. The model predicts that exposure to the detected lead levels found in the contaminated soil would cause elevated levels of lead in the blood. Therefore exposure to the soil at the respondent's facility constitutes an extreme health hazard.

B. Conclusion of Law

Respondent is an "owner" or "operator" as defined by section 128D-1, HRS.

Lead is a "hazardous substances" as defined by section 128D-1, HRS and 40 C.F.R. Section 300.5.

The spilling, leaking, pouring, emitting, discharging, or escaping of lead (a hazardous substance) by the respondent constitutes a "release" as defined by section 128D-1, HRS and 40 C.F.R. section 300.5.

The physical concentration of lead originating from the buildings downspout drain pipe and exterior paint constitute a "threat of release" as defined by section 128D-1, HRS and 40 C.F.R. section 300.5.

Respondent has "released or threatened a release of hazardous substances" lead as defined by section 128D-1, H.R.S. and 40 C.F.R. section 300.5.

Respondent's facility presents an "imminent and substantial endangerment to public health, welfare, or the environment" (release) within the meaning of Chapter 128D, HRS, because of an observed release of a hazardous substance that has already taken place at or from Respondents' facility and the potential for further releases, exists.

This order is consistent with the National Contingency Plan, 40 C.F.R. part 300, which pursuant to section 128D-7(e), HRS, serves as the state contingency plan until a state contingency plan is adopted.

This Order is necessary to protect the public health,

welfare and the environment.

Based upon the foregoing Findings of Fact and Conclusions of Law, the Director of Health makes the following determinations:

C. Determinations

The actual or threatened release of a hazardous substance from or at Respondent's facility may present an imminent and substantial endangerment to the public health, welfare, or the environment. In order to prevent the immediate and significant risk of harm to human health, welfare or the environment, it is necessary that response actions by the Respondents be taken to contain and prevent the past and future release of hazardous substances, pollutants, or contaminants from Respondents' facility.

II.

ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law, and Determinations, the Director of Health orders the Respondent to implement the following response actions under the direction of the HEER State On-Scene Coordinator (OSCs).

A. No later than 48 hours or two (2) working day's from the date of receipt of this Order, Respondent shall develop, complete and submit to the Department of Health, HEER Office, a "Letter of Intent" describing the emergency response action to be instituted by the respondent to stabilize and control the hazardous substance lead contaminated soils at Respondent's facility.

B. No later than one (1) week from date of receipt of this Order, Respondent shall develop, complete, and submit a detailed, written, site safety and health plan to the Department of Health, HEER Office, for its review and approval.

C. No later than one (1) week from the date of receipt of this order, Respondent shall develop, complete, and submit a detailed, written emergency removal work plan to the Department of Health, HEER Office for its review and approval.

D. No later than ten (10) days from the date of approval of the site safety health plan and workplan, Respondents shall implement the plan including effectuation of the physical isolation, segregation and/or relocation of (lead contaminated) hazardous substances at the facility.

E. Within two (2) days of receipt of written comments from the Department of Health, if any, on any plan or submittal by the Respondent, Respondent shall modify and re-submit such plans in accordance with the comments of the Department of Health.

F. No later than fourteen (14) days after the completion of the emergency removal operation, Respondent shall submit a final report containing all response, disposal or removal action data, analytical data, and any as-built designs, complimented by finalized drawings, to the HEER office of the Department of Health.

G. Respondent shall implement all plans approved by the Department of Health. Such plans shall be considered incorporated into this order and enforceable under the terms of this order.

Respondent shall comply with all applicable federal, state and local laws and regulations in carrying out the terms of this order, including laws relating to the removal of hazardous substances. The Director of Health, hereby designates William C. Perry as the State On-Scene Coordinator (OSC) for purposes of overseeing Respondents' compliance with this Order. Communications with the OSC can be directed to:

William C. Perry (OSC)
Hazard Evaluation and Emergency Response Office
Hawaii State Department of Health
Five Waterfront Plaza, Suite 250C
500 Ala Moana Boulevard
Honolulu, Hawaii 969813
Phone: (808) 586-4249

All submittals and notifications to the Director required by this order or any approved proposal under this order shall be made to the Director through the OSC. The Respondent shall allow inspection of Respondent's facility by the OSC and other representatives of the Department of Health. Nothing in this order limits any access rights that the Department of Health or other agencies may have pursuant to law. If the Director determines that actions or circumstances, related or unrelated to this Order, present a substantial endangerment to human health, welfare or the environment, the Director may order the Respondent to halt further implementation of this Order until the endangerment is abated.

Modifications

Any modification of this Order must be in writing and signed by the Director of Health. A conference does not alter the

effective date of this Order. This Order shall apply to and is binding upon the Respondent, its officers, directors, agents, employees, contractors, successors, and assigns.

Notice of the Director of Health's Authority to Undertake Response Actions

Pursuant to section 128D-4(a), HRS, the Director of Health may take over any or all of the above-described response actions at the facility or undertake such other response actions, upon determining that the Respondent is not taking appropriate actions and that it is necessary for the State to act in order to protect the public health, welfare, or the environment. Under section 128D-5(a), HRS, Respondents are liable for the costs of any such response actions undertaken by the Director of Health.

Notice of Possible Civil and Punitive Penalties

Pursuant to sections 128D-8(a) and (b), HRS, any person who is liable for a release, or threat of a release, of hazardous substances, and who fails, without sufficient cause, to properly provide removal or remedial action pursuant to an administrative order issued by the Director, may be liable to the department for punitive damages up to three times the amount of any costs incurred by the environmental response revolving fund pursuant to section 128D-8, HRS, as a result of the failure to perform the actions specified in the order. The Director is authorized to commence a civil action against any such person to recover the punitive damages, which shall be in addition to any costs recovered from such a person pursuant to section 128D-5, HRS.

In addition to liability for costs incurred by the State for the investigation, assessment, containment, and removal of a release or a threat of a release of hazardous substances, any person who willfully, knowingly, or recklessly violates or fails or refuses to comply with any provision of Chapter 128D, HRS, or any order issued, or rule adopted under this chapter, shall be subject to a civil penalty not to exceed $50,000 for each separate violation. Each day a violation continues shall constitute a separate violation. The Director is authorized to commence a civil action in the appropriate circuit court to recover such penalties.

Notice of Intent to Comply

No later than twenty-four (24) hours of receipt of this Order the Respondent shall orally inform the OSC of their intent to comply with the terms of this Order. The oral notice shall be confirmed within two (2) days by written notice to the OSC. Failure of the respondent to notify the OSC of their intent to fully comply with this Order will be construed as a refusal to comply. Notice of the issuance of this Order has been forwarded to the U.S. Environmental Protection Agency. Notwithstanding any conference requested pursuant to the provisions of this Order, this Order is effective immediately on the date of signature by the Director of Health.

DATED: Honolulu, Hawaii, AUG 2 4 1993

STATE OF HAWAII
DEPARTMENT OF HEALTH

JOHN C. LEWIN, M.D.
Director of Health

 Reference 12

MERTON S. C. LAU
1164 Bishop Street, Suite 1111
Honolulu, Hawaii 96813
Telephone (808) 648-5190
FAX (808) 524-4455

August 10, 1993

ATTN: William C. Perry **FAX 586-4370**
State on Scene Coordinator
Office of Hazard Evaluation
& Emergency Response
Hawaii Department of Health
5 Waterfront Plaza, Suite 250
500 Ala Moana Blvd.
Honolulu, HI 96813

RE: Proposed Scope of Work for Mitigating Lead Contaminated Soil - 2003 North King Street Honolulu, Hawaii

Gentlemen:

This is in response to your "Notice of Interest in a Release of Threatened Release of Hazardous Substance" dated July 23, 1993. With reference to the Notice of Interest, following are details for proposed activities associated with mitigating lead contaminated soil at 2003 North King Street, Honolulu, Hawaii.

1. Delineate the four (4) areas identified to have lead contaminated soils. (Please note that the greater portion of the contaminated areas including the area with the highest reading are outside of my property boundary).

2. Excavate to remove lead contaminated soils to a depth of 6" to 12" until total lead levels do not exceed 400 ppm. During excavation, the soils will be wetted to prevent the generation and migration of dusts and debris. Upon reaching the 400 ppm level, representative soil samples will be collected and sent to an environmental laboratory for verification analyses.

3. Excavated soils will be contained in DOT-approved containers and stockpiled on-site prior to disposal.

4. Excavated soils will be tested for hazardous waste characteristics and disposed of accordingly.

5. To minimize potential exposure to contaminants at the work area, the excavation will be backfilled with crushed gravel, compacted to standards, and covered with asphaltic concrete.

Also, we propose to re-paint the building wall where you detected concentrations of lead.

Kindly review the above proposed scope of work and provide me with your comments.

We hope to hear from you in the near future and look forward to working with the Department of Health in addressing the situation.

Very truly yours,

Merton S. C. Lau

MSCL:js

Reference 13
REC'D SEP 0 2 1993 AD

MERTON S. C. LAU
1164 BISHOP STREET, SUITE 1111
HONOLULU, HAWAII 96813-2810
TELEPHONE (808) 548-5190
FAX (808) 524-4455

TRANSMITTAL MEMORANDUM

August 31, 1993

T O: Mr. William C. Perry (OSC)
HEER Office
Hawaii Department of Health
5 Waterfront Plaza, Suite 250C
500 Ala Moana Blvd.
Honolulu, HI 96813

F R O M: Merton S. C. Lau

R E: 2003 No. King Street
Site Safety Plan
Emergency Removal Plan

****

Pursuant to the Order issued on August 24, 1993 for property at 2003 No. King Street, we submit herewith the following:

1. Site Safety Plan

2. Emergency Removal Plan

Thank you for your cooperation.

SITE SAFETY PLAN
FOR
HAZARDOUS SUBSTANCES RESPONSE AND FIELD INVESTIGATIONS

I. DESCRIPTION OF FIELD ACTIVITY:

Site: 2003 No. King Street Site Phone: (___)____-_____

Location: Diamond Head side Superfund : Yes ___ No x

SSP Prepared By: Merton Lau Mail Code (- -) Phone 4-_____

Proposed Date of Response/Investigation: August 27, 1993

Purpose/Objective: To determine extent of lead contamination in soils/site characterization

Background Review: Complete _____ Preliminary x

Background Material Attached: Yes _____ No x

Indicate which of the following information source(s) were consulted: State and/or Local Agency, State and/or Federal OSHA, NIOSH, EPA files, Site Operator and Local Fire Department.

Department of Health

Overall Hazard Summary: Low _____ High Children 6 months to 9 years

Medium x Unknown _____

Route of Exposure: Inhalation x Skin Contact ___ Ingestion x

Map or Sketch Attached: Yes x No ___

II. SITE CHARACTERISTICS:

A. Facility Description: 23 unit apartment complex

B. Hazardous Substance(s) Description: Elemental lead

C. Disposal/Storage Methods: Drum and contain

D. Status: Active x Inactive _____ Unknown _____

E. History: (Include accidents or injuries on-site, complaints from public, previous releases and agency reports):
Non applicable; Letter of Interest; Letter of Intent; Access consent letter, pending emergency removal, soil

F. Is personal protective equipment required by Facility/Site Management? List equipment and specific areas where required:
Yes. Maximum protection Level C.

G. Are employees working at the facility/site monitored for exposure to airborne contaminants? If so, describe situation:
Yes. Will bring air monitoring equipment on scene/PID

H. Do employees working at the facility/site participate in an occupational medical monitoring program? If so, are special biological tests performed or Biologic Limit Values (BLVs) used?
Yes. Blood lead test.

I. Describe medical monitoring procedures for evidence of personnel exposure: Go to physician to sample blood, level not to exceed 20 ug/dl

J. Is there an on-site emergency alarm system? If so, describe alarm:
Yes. Vehicle horn, cellular telephone to dial 911.

K. Is there an eyewash/safety shower available on site? If not, explain alternate procedures (where applicable): Yes. Outside faucet at Apt. 101.

III. HEALTH AND SAFETY CONSIDERATIONS:

Hazard Assessment[1] (Toxic effects, TLV, odor threshold, reactivity, stability, flammability, and operational hazards with sampling, decontamination, etc.): Refer to NIOSH Guidance Manual

Areas of Concern[2]	Hazard Potential[3]	Precautions
Explosion:	No	Ingestion and inhalation of lead contaminated dust/soil
Oxygen Deficiency: (e.g. Confined Spaces)	None	None
Radiation:	None	None
Toxic Gases: a. General (HNU meter)	None	None
b. Specific: (e.g., Sorbent or Detector Tube)	N/A	N/A
Skin/Eye Contact:	Yes	Wash thoroughly/prevent ingestion
Heat Stress:	Yes	Move to shaded area and plenty of fluids
Falling Objects: (e.g. stacked barrels, etc.)	None	None
Falls: (e.g. pits, ponds, elevated work places, etc.)	None (traffic)	Banner guard
Confined Spaces: (e.g. manholes, vaults, closed rooms, trenches, etc.)	None	None

Note 1: Attach copy of Hazardous Substance Information Form (Appendix C), Material Safety Data Sheet (MSDS), OHMTADS, Hazardline printouts, etc..
Note 2: See Chapter 2, FHSM, "Atmospheric Hazard Action Guides"
Note 3: Subjective evaluation (e.g., (low) moderate, high, unknown or not applicable.

IV. WORK PLAN INSTRUCTIONS:

Hazardous Substance Sampling and Field Investigations

A. Level of Protection: A ___ B ___ C x D ___

Modifications: None

Surveillance Equipment and Materials: PID and Level C dress

B. Entry Procedures: 2 man entry team/pre-brief

C. Field Investigation and Decontamination Procedures:
Perimeter Establishment: Zones of Contamination Identified? Yes

Public Perimeter Identified? Yes Map/Sketch Attached? Yes

Notes: ___

Team Make-Up: EPA ___ FIT ___ TAT ___ CG ___ STATE x OTHER ___

Station Designation (Name/responsibility):
1. Bill Perry/SOSC Overall-In-Charge
2. Rusty Nall/Site safety supervisor/Contractor
3. Frank Knight/Entry team
4. Ray Koubek/Entry team
5. Vance Fong/Project Manager & Decon
6. ___

Work Schedule/Limitations: Heat (require cool time 6:30 a.m. - 10:30 a.m. 2:30 p.m. to 6:30 p.m.

Hot Line Location (initial): Factory Street border

Command Post
- Location (initial): HEER Office
- Radio Call Sign: N/A. Cell #226-3799, HEER 586-4249
- Frequency/Channel: N/A. PENCO Cell #226-5195, 545-5195

Equipment and Materials/Special Facilities: N/A. Shovels, picks, drums, Level C.

Decontamination Procedures (contaminated protective clothing, instruments, equipment, etc.): Dry decon

Disposal Procedures (contaminated equipment, supplies, disposal items, wash water, etc.): Contaminated clothing to be double bagged, tied and disposed in local rubbish.

V. EMERGENCY PRECAUTIONS:

Acute Exposure Symptoms

Agent	Symptom	First Aid
Lead	Dizzy, nauseous, headache, weakness to wrist and ankles	911/remove to medical facility

A. Nearest Hospital Emergency Room. Note: for remote locations, give directions to hospital and attach map.

Name: Kuakini Medical Center
Address: 347 No. Kuakini Street, Honolulu, HI 96817
Telephone: 536-2236

B. Emergency Services (Telephone Numbers)

1. Fire: 911
2. Police: 911
3. Ambulance 911

C. Poison Control Center

D. Regional Health and Safety Office: HEER Office - DOH

E. Regional Radiation Representative: Russell Takata, N & R/DOH

F. Office of Radiation Programs, N/A or Civil Defense/NRC

APPROVALS: Date:

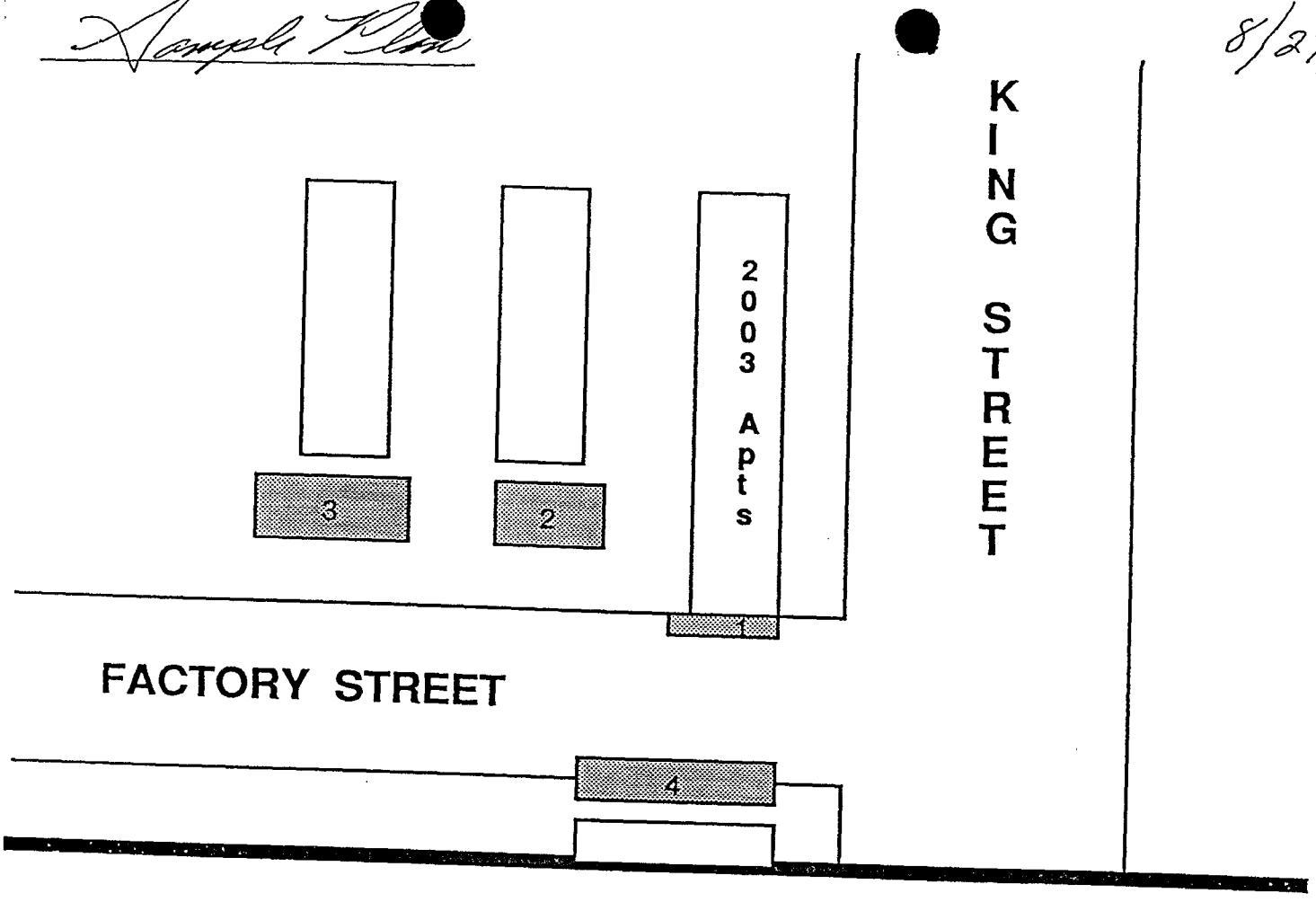
Project Team Leader: _____ _____

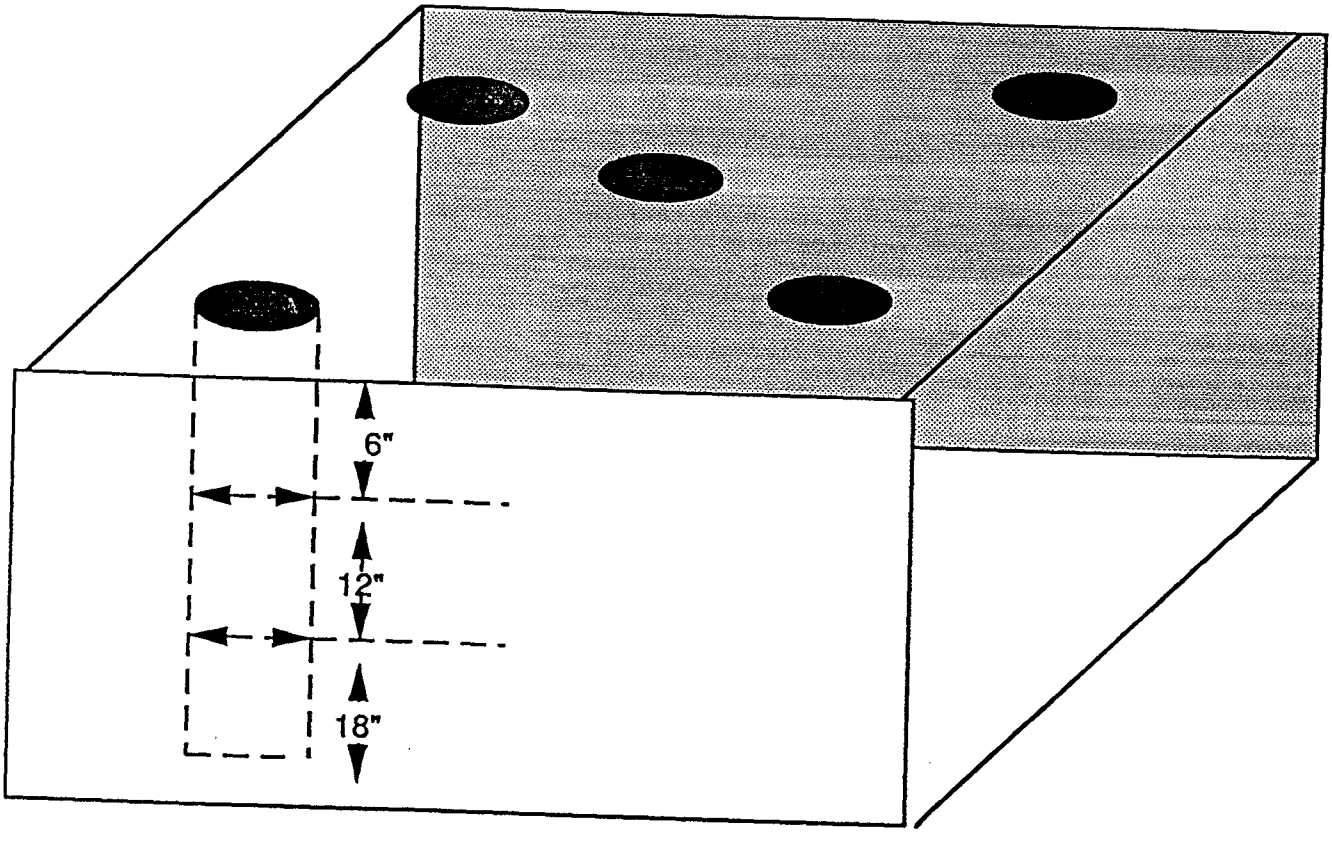
Supervisor: _____ _____

Health and Safety Office: _____ _____

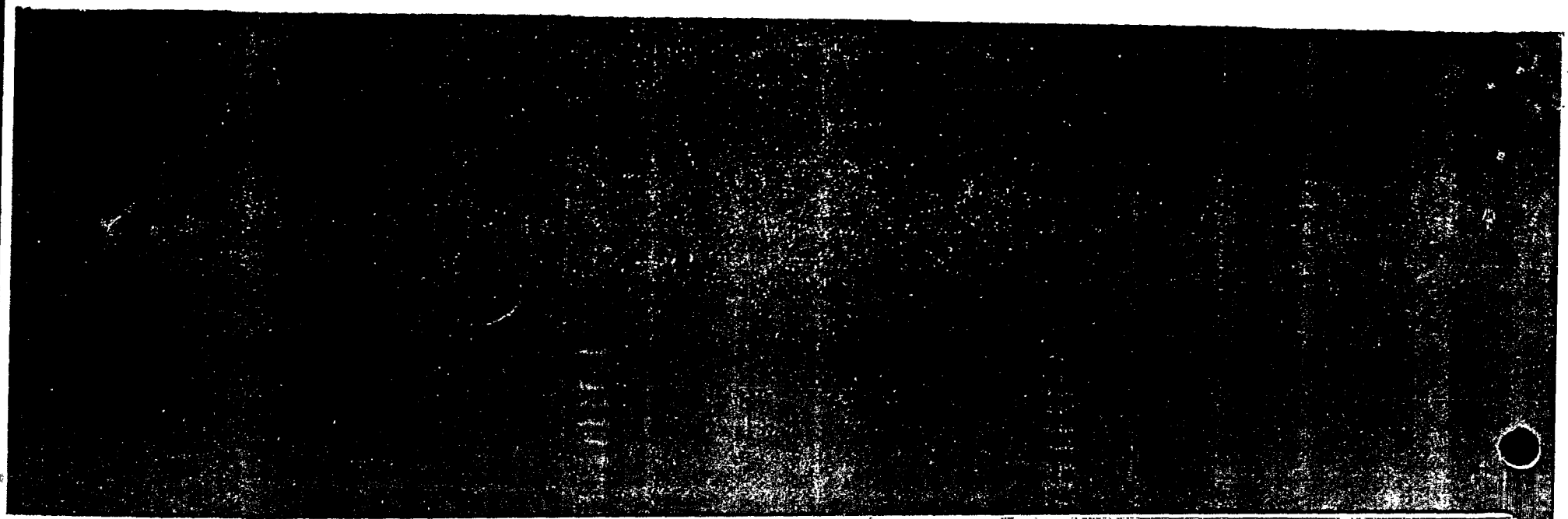
Sample Plan

8/27/93

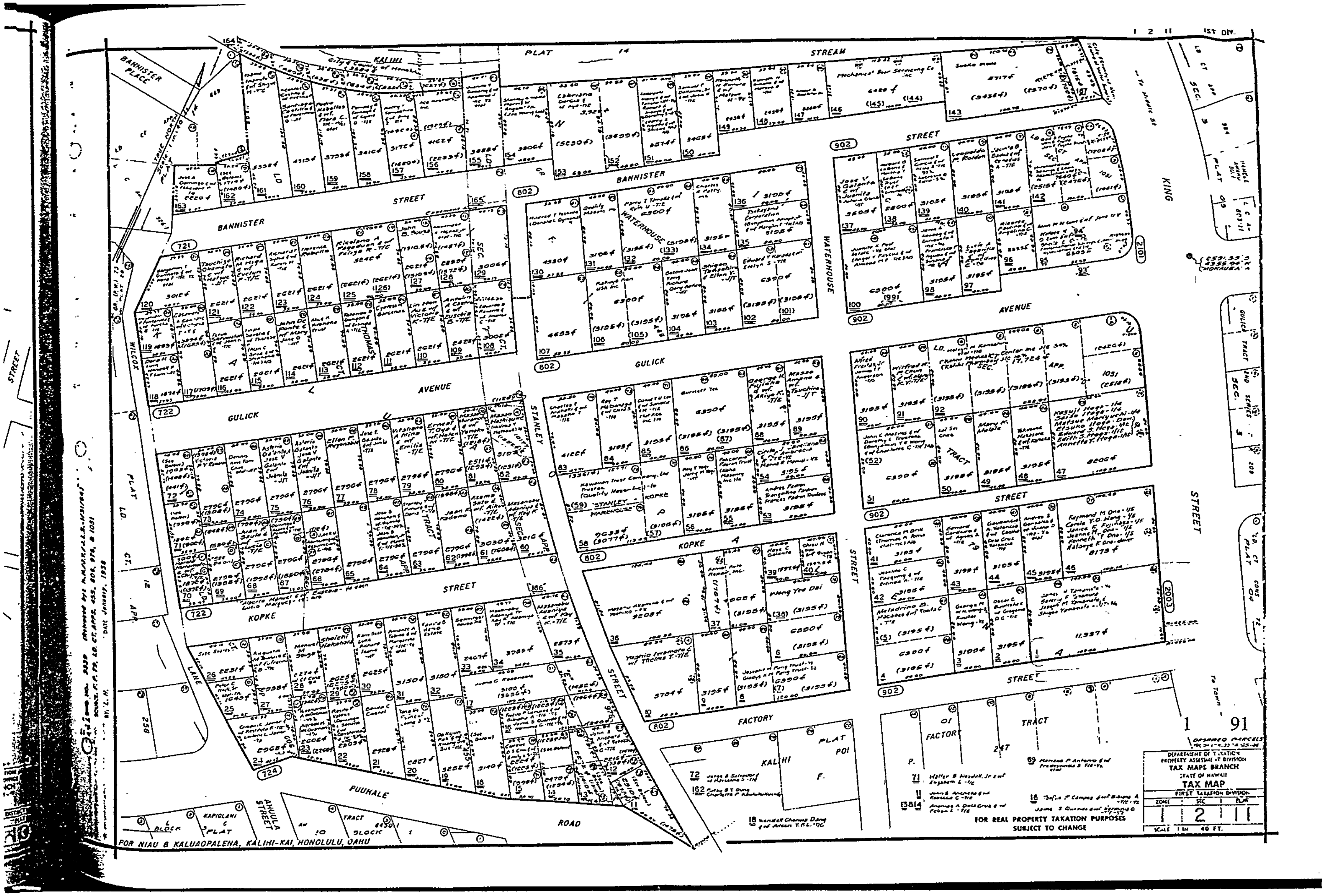


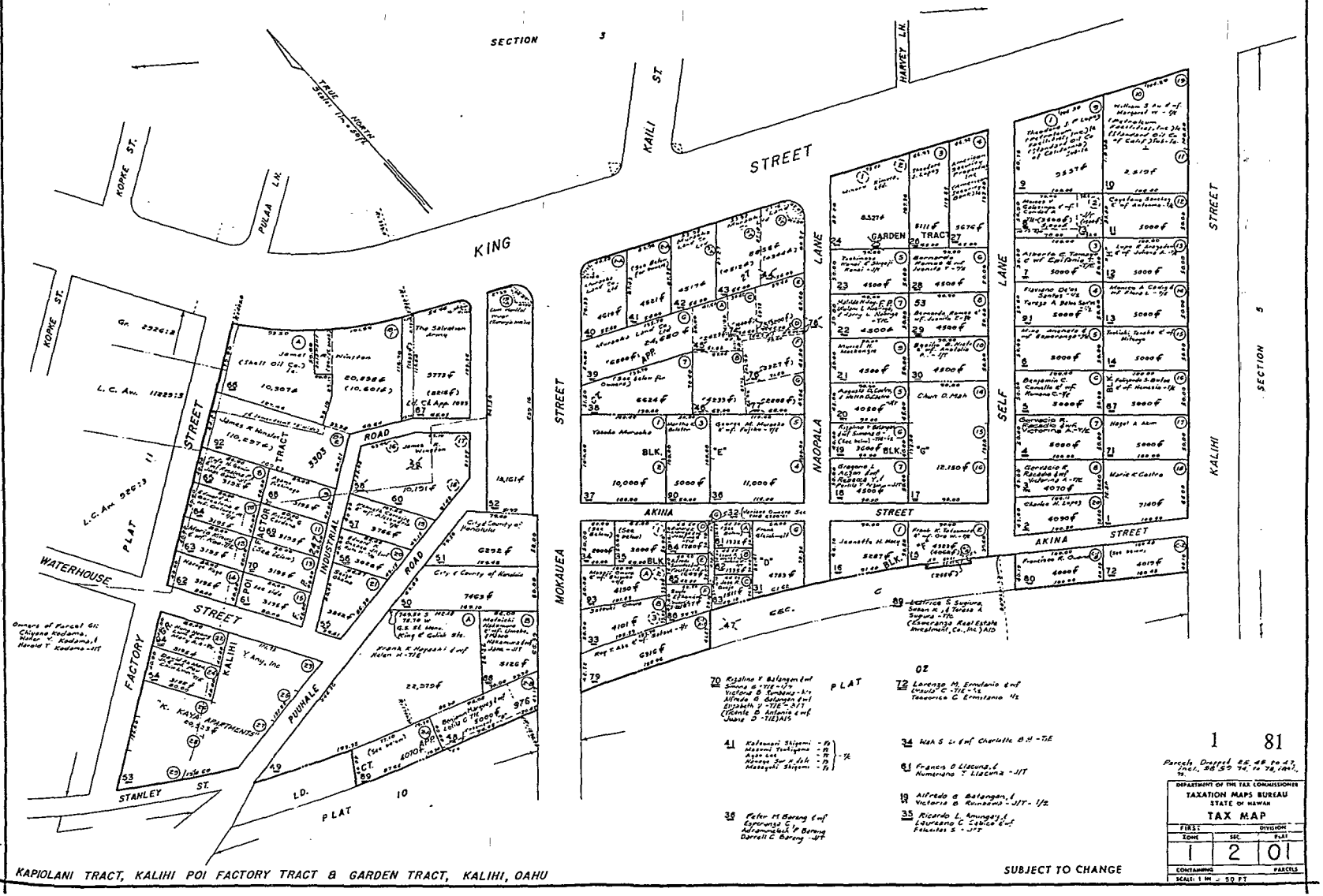


Chemical name, structure/formula, CAS and RTECS Nos., and DOT ID and guide Nos.	Synonyms, trade names, and conversion factors	Exposure limits (TWA unless noted otherwise)	IDLH	Physical description	Chemical and physical properties: MW, BP, SOL, Fl.P, IP, Sp.Gr, flammability	Chemical and physical properties: VP, FRZ, UEL, LEL	Incompatibilities and reactivities	Measurement method (See Table 1)	Personal protection and sanitation (See Table 3)
Lead (as Pb) Pb 7439-92-1 (Metal) OF7525000 (Metal) 2291 53(soluble cmpds)	Metal: Lead metal, Plumbum [Note: OSHA considers "Lead" to mean metallic Pb, all inorganic Pb cmpds (Pb oxides and Pb salts), and a class of organic Pb cmpds called soaps. All other organic Pb cmpds are excluded from this definition.]	NIOSH 0.100 mg/m³ [Air concentration to be maintained so that worker blood lead remains <0.060 mg/100 g of whole blood.] OSHA [1910.1025] 0.050 mg/m³	700 mg/m³	Metal: A heavy, ductile, soft gray solid.	MW: 207.2 BP: 3164°F Sol: Insoluble Fl.P: NA IP: NA Sp.Gr: 11.34 (Metal) Metal: Noncombustible Solid in bulk form.	VP: 0 mm (approx) MLT: 621°F UEL: NA LEL: NA	Strong oxidizers, hydrogen peroxide, acids	Filter, HNO_3/H_2O_2; AA; III [#7082]	Clothing: Repeat Goggles: Reason prob Wash: Daily Change: N.R. Remove: Prompt non-im contam
Lindane $C_6H_6Cl_6$ 58-89-9 GV4900000 2761 55	BHC; gamma-Hexachlorocyclohexane; HCH; 1,2,3,4,5,6-Hexachlorocyclohexane	NIOSH/OSHA 0.5 mg/m³ [skin]	1000 mg/m³	White to yellow, crystalline powder with a slight musty odor. [pesticide]	MW: 290.8 BP: 614°F Sol: 0.001% Fl.P: NA IP: ? Sp.Gr: 1.85 Noncombustible Solid, but may be dissolved in flammable liquids.	VP: 0.00001 mm MLT: 235°F UEL: NA LEL: NA	Corrosive to metals	Filter/Bub; Isooctane; GC/EConD; III [#5502]	Clothing: Reason prob Goggles: N.R. Wash: Immed contam Change: After work if re prob contam Remove: Immed non-imp liq Provide: Quick drench
Lithium hydride LiH 7580-67-8 OJ6300000 1414 40 2805 40 (fused solid)	Lithium monohydride	NIOSH/OSHA 0.025 mg/m³	55 mg/m³	Odorless, off-white to gray translucent, crystalline mass or white powder. Sp.Gr: 0.78 Combustible Solid, but can form airborne dust clouds which may explode on contact with flame, heat, or oxidizers.	MW: 7.95 BP: Decomposes Sol: Reacts Fl.P: ? IP: NA	VP: 0 mm (approx) MLT: 1256°F UEL: ? LEL: ?	Strong oxidizers, halogenated hydrocarbons, acids, water [Note: May ignite SPONTANEOUSLY in air and may reignite after fire is extinguished. Reacts with water to form hydrogen & lithium hydroxide.]	None available	Clothing: Any poss sol/R air >0.[illegible]/m³ Goggles: Any [illegible] Wash: Brush[illegible]d c Change: After work if ar contam Remove: Immed contam Provide: Eyewash/>0.5 quick drench
L.P.G. $C_3H_8/C_3H_6/C_4H_{10}/C_4H_8$ 68476-85-7 SE7545000 1075 22	Bottled gas, Compressed petroleum gas, Liquefied hydrocarbon gas, Liquefied petroleum gas, LPG	NIOSH/OSHA 1000 ppm (1800 mg/m³)	19,000 ppm [LEL]	Colorless, noncorrosive, odorless gas when pure. [Note: A foul-smelling odorant is usually added. A fuel mixture of propane, propylene, butanes & butylenes. Shipped as a liquefied compressed gas.] Flammable Gas	MW: 42 to 58 BP: >-44°F Sol: ? Fl.P: NA (Gas) IP: 10.95 eV	VP: >1 atm FRZ: ? UEL: 9.5% (Propane) 8.4% (Butane) LEL: 2.1% (Propane) 1.6% (Butane)	Strong oxidizers, chlorine dioxide	Combustible gas meter; none; none; II(2) [#S93]	Clothing: Prevent skin fr Goggles: Reason prob Wash: N.R. Change: N.R. Remove: Immed wet (fla L.P.G.



bilities / ities	Measurement method (See Table 1)	Personal protection and sanitation (See Table 3)	Recommendations for respirator selection — maximum concentration for use (MUC) (See Table 4)	Health hazards: Route	Symptoms (See Table 5)	First aid (See Table 6)		Target organs (See Table 5)
zers, roxide,	Filter; HNO_3/H_2O_2; AA; III [#7082]	Clothing: Repeat Goggles: Reason prob Wash: Daily Change: N.R. Remove: Prompt non-Imperv contam	OSHA 0.5 mg/m³: SA/HIE/SCBA 1.25 mg/m³: PAPRHIE/SA:CF 2.5 mg/m³: HIEF/PAPRTHIE/SCBAF/SAF/SAT:CF 50 mg/m³: SA:PD,PP 100 mg/m³: SAF:PD,PP §: SCBAF:PD,PP/SAF:PD,PP:ASCBA Escape: HIEF/SCBAE	Inh Ing Con	Weak, lass, insom; facial pallor; pal eye, anor, low-wgt, malnut; constip, abdom pain, colic; anemia; gingival lead line; tremor; para wrist, ankles; encephalopathy; nephropathy; irrit eyes; hypotension	Eye: Skin: Breath: Swallow:	Irr immed Soap flush prompt Resp support Medical attention immed	GI tract, CNS, kidneys, blood, gingival tissue
metals	Filter/Bub; Isooctane; GC/EConD; III [#5502]	Clothing: Reason prob Goggles: N.R. Wash: Immed contam Change: After work if reason prob contam Remove: Immed non-Imperv contam liq Provide: Quick drench	NIOSH/OSHA 5 mg/m³: CCROVDMFu/SA/SCBA 12.5 mg/m³: PAPROVDMFu*/SA:CF* 25 mg/m³: CCRFOVHIE/SCBAF/SAF/GMFOVHIE/PAPRTOVHIE* 1000 mg/m³: SAF:PD,PP §: SCBAF:PD,PP/SAF:PD,PP:ASCBA Escape: GMFOVHIE/SCBAE	Inh Abs Ing Con	Irrit eyes, nose, throat; head; nau; clonic convuls; resp difficulty; cyan; aplastic anemia; skin irrit; musc spasm; in animals: liver, kidney damage	Eye: Skin: Breath: Swallow:	Irr immed Soap wash prompt Resp support Medical attention immed	Eyes, CNS, blood, liver, kidneys, skin
zers, hydro- ds, water gnite EOUSLY may ter fire is ed. Reacts to form hydrogen ydroxide.)	None available	Clothing: Any poss sol/Repeat air >0.1 mg/m³ Goggles: Any poss Wash: Brush/Immed contam Change: After work if any poss contam Remove: Immed contam Provide: Eyewash/>0.5 mg/m³: quick drench	NIOSH/OSHA 0.25 mg/m³: SA/SCBA/HIE 0.625 mg/m³: SA:CF*/PAPRHIE* 1.25 mg/m³: HIEF/SCBAF/SAF/PAPRTHIE* 50 mg/m³: SAF:PD,PP §: SCBAF:PD,PP/SAF:PD,PP:ASCBA Escape: HIEF/SCBAE	Inh Ing Con	Burns eyes, skin; burns mouth, esophagus (if ingested); nau; musc twitches; mental conf; blurred vision	Eye: Skin: Breath: Swallow:	Irr immed Water flush immed Resp support Medical attention immed	Resp sys, skin, eyes
zers, ide	Combustible gas meter; none; none; II(2) [#S93]	Clothing: Prevent skin freezing Goggles: Reason prob Wash: N.R. Change: N.R. Remove: Immed wet (flamm)	NIOSH/OSHA 10,000 ppm: SA/SCBA 19,000 ppm: SA:CF/SCBAF/SAF/SAT:CF §: SCBAF:PD,PP/SAF:PD,PP:ASCBA Escape: SCBAE	Inh Con	LI-head, drow	Eye: Skin: Breath:	Irr immed Water flush immed Resp support	Resp sys, CNS
			L.P.G.					


1 2 11 1ST DIV.
BANNISTER PLACE
KALIHI STREAM
PLAT 14
BANNISTER STREET
WATERHOUSE
GULICK AVENUE
KOPKE STREET
STANLEY STREET
FACTORY STREET
KING STREET
PUUHALE ROAD
AHUULA STREET
WILCOX LANE
THOMAS CT.
KALIHI POI F. PLAT
FACTORY TRACT
KAPIOLANI TRACT
STANLEY WAREHOUSE
Hawaiian Trust Company, Ltd Trustee (Quality Mason Inc) - fe
Mechanics' Bar Servicing Co Inc
Wong Yee Dai
Burnett Tea
To Town
POR NIAU & KALUAOPALENA, KALIHI-KAI, HONOLULU, OAHU
FOR REAL PROPERTY TAXATION PURPOSES
SUBJECT TO CHANGE
1 91
DROPPED PARCELS
DEPARTMENT OF TAXATION
PROPERTY ASSESSMENT DIVISION
TAX MAPS BRANCH
STATE OF HAWAII
TAX MAP
FIRST TAXATION DIVISION
ZONE SEC PLAT
1 2 11
SCALE 1 IN = 40 FT.



KAPIOLANI TRACT, KALIHI POI FACTORY TRACT & GARDEN TRACT, KALIHI, OAHU

MERTON S. C. LAU
1164 Bishop Street, Suite 1111
Honolulu, Hawaii 96813
Telephone (808) 548-5190
FAX (808) 524-4455

August 30, 1993

William C. Perry (OSC) **FAX 586-4370**
Hazard Evaluation
& Emergency Response Office
Hawaii Department of Health
5 Waterfront Plaza, Suite 250C
500 Ala Moana Blvd.
Honolulu, HI 96813

RE: 2003 No. King Street/Lead Contaminated Soil
Emergency Removal Plan

Dear Mr. Perry:

Pursuant to the Order issued by the Director of Health on August 24, 1993, we submit herewith our Emergency Removal Plan.

1. Contractor or workers to convene at job site at 8:30 a.m.

2. Perform lead removal and containment and control on ewa side of the 2003 No. King Street property and on the adjacent parcel of dirt on kokohead side of Factory Street.

3. I have contracted 2 individuals to be dressed in Level C and outfitted with the following equipment:

   TYVEK suits, gloves, over boots, and air purifying respirators.

4. After dressing and wearing the proper equipment, we intend to work the soil by applying a small quantity of water (damping) in order to hinder the possibility of dust exposure.

5. Work schedule:

   8:30 a.m. to 9:30 a.m.

   Proceed with work at Area 1. Excavate down to 6" to 12" below surface and place excavated soil into containers on site, obtain verification sample (composite) at base of excavation, and from the can, cover excavated area with the existing plastic sheet.

6. Move makai to Area 2 and repeat the procedure used for Area 1.

   Move makai to Area 3 and repeat the procedure used for Area 1.

   Move across Factory Street to Area 4 on kokohead side of Factory Street and repeat the procedure used for Area 1.

7. Proceed to Area 1, backfill with new material, compact, and pave with 2 1/2" of asphalt concrete.

   Proceed to Area 2, and repeat asphalt concrete paving activities as in Area 1.

   Proceed to Area 3 and repeat asphalt concrete paving activities as in Area 1.

   Move across Factory street to Area 4 and repeat the asphalt concrete paving activities as in Area 1.

8. In the event the test results show that the contamination levels are significantly high, we will then be willing to re-excavate if upon review of verification analytical sampling information, the HEER office deems it to be a danger to the environment.

9. Disposal plan - Build a screen, place soil in screen and wash it so that the lead would go to the bottom of the screen. Then consolidate the contaminated material to be used in a concrete mixture for cement blocks.

10. Final Report: Submit a Final Report containing all response, disposal or removal action data, analytical data and, any as-built designs, complimented by finalized drawings.

I am willing to enter into a monitoring program by taking water samples from the drain pipe during rainfall and having the sample analyzed for lead.

I will be willing to go down gradient and obtain one soil sample for analysis to show that lead is not migrating offsite.

Very truly yours,

Merton S. C. Lau

MSCL:js

Day File
Reference 14

JOHN WAIHEE
GOVERNOR OF HAWAII

JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:
HEER OFFICE

October 12, 1993

Merton S. C. Lau
1184 Bishop Street, Suite 1111
Honolulu, Hawaii 906813-5190

MCNFA/WP

Subject: COMPLIANCE WITH DIRECTORS ORDER, HAWAII STATE DEPARTMENT OF HEALTH

Dear Mr. Lau:

On September 12, 1993, the Office of Hazard Evaluation and Emergency Response confirmed your full compliance with Director of Health Order to Protect Public Health, Docket No. SF 93-2, signed August 24, 1993.

Your interim response actions (soil removal and capping) to abate lead contaminated soils located at 2003 Factory Street, Honolulu, Hawaii, is acceptable. As such, we concur with the recommendation that no further action is required at this time with exception of soil treatment and final disposal. However, you should realize that the capping operation only mitigated present exposures and that future developmental plans in this area must take into account the residual contamination.

Should you have any questions please contact Mr. William Perry at (808) 586-4249.

Sincerely,

STEVEN ARMANN, Acting Manager
Hazard Evaluation and
Emergency Response Office

cc: Bruce Anderson, Ph.D., Deputy Director
Kathy Ho, Deputy Attorney General

Reference 15

Technical Report No. 179

AQUIFER IDENTIFICATION AND CLASSIFICATION FOR O'AHU: GROUNDWATER PROTECTION STRATEGY FOR HAWAI'I

John F. Mink
L. Stephen Lau

February 1990
Revised

Water Resources Research Center

University of Hawaii at Manoa
Honolulu, Hawaii 96822

Reference 18
CN:0038

DRAFT

ECOLOGICALLY SENSITIVE WETLANDS ON O'AHU:

Groundwater Protection Strategy for Hawai'i

Jacquelin N. Miller
Steven S. Armann
Sonia S.C. Chan-Hui
Roseanne Sakamoto
Joanna Chiang

Technical Report No. 184

December 1989

Project Completion Report
for
Identification of Class I: Special Groundwaters
Highly Vulnerable to Contamination, O'ahu (Part 2)

Project No.: T-763

Principal Investigator: L. Stephen Lau

Project Period: 1 June 1986 to 30 November 1987

Funding Agency: Department of Health, State of Hawaii

ENVIRONMENTAL CENTER
Water Resources Research Center
University of Hawaii at Manoa
Honolulu, Hawaii 96822