March 15, 1991

18891,003.06 1264MI

Hawaii Community Development Authority 677 Ala Moana Blvd., Suite 1001 Honolulu, Hawaii 96813

Attention: Mr. Steven Miyamoto

Gentlemen:

Subsurface Contaminants Kakaako ID-3 Honolulu, Hawaii HAWAII COMMUNITY
DEVELOPMENT
AUTHORITY

This letter presents a summary of observations and chemistry data for samples of subsurface contaminants that we collected at three locations during the ongoing sewer construction in Kakaako. The sample bottles were placed in coolers with blue ice and taken to Brewer Analytical Laboratories (BAL) for analysis. The samples were tested for benzene, toluene, ethylbenzene, and xylenes (BTEX), total petroleum hydrocarbons (TPH)-gasoline, and TPH-diesel. The laboratory was instructed to extend the retention time for the diesel chromatograms to also detect heavier hydrocarbons. The laboratory was also instructed to sample the floating product in the sample bottles from all three sites (if possible).

## SITE 1 - KAWAIAHAO AND COOKE STREETS

One sample (9117W001) was collected by our geologist from an open sewer line excavation at the intersection of Kawaiahao and Cooke Streets on February 15, 1991. The geologist observed a thin, discontinuous layer of fuel product floating on the groundwater. An attempt was made to skim as much of this "product" as possible.

# SITE 2 - COOKE STREET (STATION 24 + 45)

A second sample (9109W002) was collected by our geologist from an open excavation on Cooke Street on March 1, 1991. The geologist observed á thick, oily product floating on the groundwater. Again, an attempt was made to collect as much of the product as possible. The samples were sent to BAL to be analyzed for organic lead in addition to BTEX, TPH-gasoline, and TPH-diesel.

4248

March 15, 1991 18891,003.06 1264MI Mr. Steven Miyamoto Hawaii Community Development Authority Page 2

#### SITE 3 - HALEKAUWILA STREET NEAR KEAWE STREET

A third sample (9109W003) was collected from an open excavation on Halekauwila Street near the intersection with Keawe Street on March 1, 1991. The geologist observed only a very slight and discontinuous sheen on the groundwater; therefore, only a small amount of "product" could be collected. The samples were sent to BAL to be analyzed for organic lead and polychlorinated biphenyls (PCBs), in addition to BTEX, TPH-gasoline, and TPH-diesel.

#### DISCUSSION

The laboratory reports of the analyses are enclosed. Petroleum hydrocarbons were not detected in the sample from Site 1. At our request, BAL analyzed Sample 9117W001 twice. The results were negative both times. Apparently, there was not enough actual "product" collected to detect hydrocarbon compounds. Small amounts of BTEX were detected in Sample 9109W002 from Site 2, as well as 455 milligrams/liter (mg/l) TPH-gasoline and 42,950 mg/l TPH-diesel. These relative concentrations are consistent with our observations of a thick, oily floating product at Site 2. Petroleum hydrocarbons were not detected in Sample 9109W003 from Site 3, except for a small amount of toluene (0.002 mg/l). Organic lead and PCBs were not detected.

### **CONCLUSIONS**

There were not enough contaminants in the samples from Sites 1 and 3 for the analytical laboratory to detect and identify, even though the contaminants could be seen in the samples and in the excavations.

The contaminants in the sample from Site 2 were identified as predominantly hydrocarbon compounds in the range common to diesel fuel. Because of the nature of the samples, the concentrations measured in the samples are meaningless, except as identification of the probable source product -- diesel fuel in the case of Site 2.

PCBs were not found in the sample from Site 3. PCBs were analyzed at the request of Hawaii Community Development Authority because we understand Site 3 is adjacent to a construction site where subsurface contamination by PCBs was identified.

Organic lead was not detected in the samples from Sites 2 and 3.

March 15, 1991 18891,003.06 1264MI Mr. Steven Miyamoto Hawaii Community Development Authority Page 3

If you have any questions or comments, or require additional information regarding our conclusions, please do not hesitate to call.

Sincerely yours,

# HARDING LAWSON ASSOCIATES

Bruce S. Wedge worth Project Geologist

Ronald L. Soroos

Engineering Geologist - 1056 (California)

RLS/rmc

Enclosures: Laboratory Reports (11 pages)

cc: E.E. Black, Ltd./Mr. Jack Lewis



# HARDING LAWSON ASSOCIATES HONOLULU, HAWAII

- Environmental Services Division

ANALYSIS REPORT

Job Number 3349
Date MAR. 01, 1991
Page 1 of 1

To:

HARDING LAWSON & ASSOCIATES

803 KAMEHAMEHA HIGHWAY, ROOM 404

PEARL CITY, HAWAII 96872

Attn:

R. SOROOS

Phone: 455-6551

Samples of: Water

Client's Job Number:

91-556-06-KAKAAKO SEWER

Sampling Date/Time:

021591/0830

Sampled by:

BRUCE WEDGEWORTH

Date/Time Received:

021691/0730

Received by:

JN

Sample Description:

9117W001

Parameter	Units	Results	Date Analyzed	Limits of Quantitation	Method*	Analyst
Benzene	mg/L	ND	02/22/91	0.001	EPA 602	JMB
Toluene	mg/L	ND	02/22/91	0.001	EPA 602	JMB
Ethylbenzene	mg/L	ND	02/22/91	0.001	EPA 602	JMB
Xylenes	mg/L	ND	02/22/91	0.002	EPA 602	JMB
TPH as GASOLINE	mg/L	ND	02/22/91.	0.5	EPA 8015	JMB
Extraction Date			02/21/91			
TPH as DIESEL **	mg/L	ND	02/27/91	0.5	EPA 8015	JMB

<sup>\*</sup> These methods have been modified to allow the use of serially paired PID-FID detectors for vlatile components [BTEX & TPH (G)]. A purge and trap device is used for extraction and sample introduction for volatile components (EPA 5030). Semi-volatile components [TPH (D)] are extracted with carbon disulfide.

Limits of Quantitation based on typical levels of interference.

ND = Not Detected

NA = Not Analyzed

\*\*No "heavier components" observed.

BREWER ENVIRONMENTAL INDUSTRIES, INC. PO. BOX 552 PAPAIKOU, HI 96781 PHONE (808) 964-5522 FAX (808) 964-5309 Honglas Boot



311 Pacific set Honolulu, Ha .1, 96810 Ph 808-533-4411, Fax 808-531-9078

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Harding Lawson Associates			ALIÔTA
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803 Kamehameha Highway, Room 404		• •	
Pearl City, Hawaii 96782		•	

Lab: Brewer

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-Environmental Services Division

ANALYSIS REPORT

Job Number: Date: MAR. 05, 1991

1 of 2 Page:

HARDING LAWSON ASSOCIATES

HONOLULU, HAWAII

To: HARDING LAWSON & ASSOCIATES

803 KAMEHAMEHA HIGHWAY, ROOM 404

PEARL CITY, HAWAII 96782

Attn: R. SOROOS Phone: 455-6551

Fax:

Samples of: WATER/TAR

Client's Job Number: 18891,003.06 - KAKAAKO ID-3

Sampling Date/Time:

030191/0930

Sampled by:

BRUCE WEDGEWORTH

Date/Time Received:

030291/0730

Received by:

JN

Sample Description:

9109W0U2

Parameter	Units	Results	Date Analyzed	Limits of Quantitation	Method*	Analyst
Benzene	mg/kg	0.30	03/04/91	0.005	EPA 8020	JMB
Toluene	mg/kg	0.80	03/04/91	0.005	EPA 8020	JMB
Ethylbenzene	mg/kg	1.9	03/04/91	0.005	EPA 8020	JMB
Xylenes	mg/kg	1.9	03/04/91	0.010	EPA 8020	JMB
TPH as GASOLINE	mg/kg	455	03/04/91	5.0	EPA 8015	JMB
Date Extracted		·	03/04/91			
TPH as DIESEL	mg/kg	42,950	03/04/91	10.0	EPA 8015	ЈМВ

These methods have been modified to allow the use of serially paired PID-FID detectors for volatile components [BTEX & TPH (3)]. A purge and trap device is used for extraction and sample introduction for volatile components (EPA 5030). volatile components [TPH (D)] are extracted with carbon disulfide.

Limits of Quantitation taken from the California LUFT field manual.

ND = Not Detected

NA = Not Analyzed

Louglas Cool

# BREWER ENVIRONMENTAL SEPTICES

a Department of Brewer Environmental Industries
P.O. BOX 552 PAPAIKOU, HAWAII 96781 PHONE: 964-522 FAX: 964-5309

# **LABORATORY ANALYSIS REPORT (1)**

JOB NO. 3459

DATE MAR. 05, 1991

PAGE 2 OF 2

HARDING LAWSON & DRESS: 803 KAMEHAMEHA H	WY, ROOM 404	AIIN:	PHONI	E:	
PEARL CITY, HAWA	II 96782				
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MPLED BY: BRUCE WEDGEW	ORTH SAMPLI	NG DATE:U3	/01/91	TIME:	0930
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S. Environmental Protection Agency,					4



311 Pacific 7 9t Honolulu, Haw, , 96810

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21-01			n	

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# **Harding Lawson Associates**

Pearl City Business Plaza

# CHAIN OF CUSTODY FORM

Lab: Brewer

803 Kamehameha Highway, Room 404, Pean City, Hawaii 98/82 Telephone: 808/455-6551 Telecopy: 808/455-15078950000000000000000000000000000000000	0 1	B. Wodgeworth went brie e	ball estanalysis Requested
Code Data Manual Page	Samplers:	labiation and the con-	
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or mark setapmin 62 Glass Slides			46 Studge (Drum/Tenk)
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**Environmental Services Division** 

ANALYSIS REPORT

Job Number 3460 Date MAR. 05, 1991

Page 1 of 2

To:

HARDING LAWSON & ASSOCIATES

803 KAMEHAMEHA HIGHWAY, ROOM 404

PEARL CITY, HAWAII 96872

Attn:

R. SOROOS

Phone: 455-6551

Samples of: Water

Client's Job Number: 18891,003.06 - KAKAAKO ID-3

Sampling Date/Time: 030191/1030

Sampled by: BRUCE WEDGEWORTH

Date/Time Received: 030291/0730 Received by: JN

Sample Description: 9109W003

Parameter	Units	Results	Date Analyzed	Limits of Quantitation	Method*	Analyst
Benzene	mg/L	ND	03/04/91	0.001	EPA 602	JMB
Toluene	mg/L	0.002	03/04/91	0.001	EPA 602	JMB
Ethylbenzene	mg/L	ND	03/04/91	0.001	EPA 602	JMB
Xylenes	mg/L	ND	03/04/91	0.002	EPA 602	JMB
TPH as	mg/L	ND	03/04/91	0.5	EPA 8015	JMB
Extraction Date			03/04/91		The second	
TPH as DIESEL	mg/L	NĐ 🐧	03/05/91	0.5	EPA 8015	JMB

<sup>\*</sup> These methods have been modified to allow the use of serially paired PID-FID detectors for vlatile components [BTEX & TPH (G)]. A purge and trap device is used for extraction and sample introduction for volatile components (EPA 5030). Semi-volatile components [TPH (D)] are extracted with carbon disulfide.

Limits of Quantitation based on typical levels of interference.

ND = Not Detected

NA = Not Analyzed

Lougles Root

# BREWER ENVIRONMENTAL SE CES

a Department of Brewer Environmental Industries
P.O. BOX 552 PAPAIKOU, HAWAII 96781 PHONE: 964-5522 FAX: 964-5309

# LABORATORY ANALYSIS REPORT (1)

JOB NO	3460				
DATE	MAR.	05,	1991		
DACE	_	0E	2		

TO: HARDING LAY	NSON & AS	SOCIATES	ATTN:	R. SOROOS		
ADDRESS: 803 KAMEHAI	MEHA HWY,	ROOM 404			PHONE:	<del></del>
PEARL CITY	, HAWAII	96782				
WA MED		LTC	B #18891,00	03.06 - KA	KAAKO ID-3)	1000
SAMPLED BY. BRUCE WI	EDGEWORTH	SAMPLIN	G DATE:0	3/01/91	TIME: _	1030
RECEIPT DATE: 03/02/9	1		TIME:	0730		
DATE SAMPLE ANALYZED			3/02-04/91			
			03/02-04/01			
TIME SAMPLE ANALYZED			•			
SAMPLE TYPE		- <del></del>				
					- 1	
SAMPLE DESCRIPTION			9109W003			
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1 	UNITS				<u> </u>	
ORGANIC LEAD	mg/L		<0.1			
DCD	mg/L		<0.001			
PCB	шд/п		70.002			
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LABORATORY REMARKS:					is of Water and Was	ies , U.S.
Environmental Protection Agen	cy, March, 197	79 and/or "Micro	biological Method	s for Monitoring	the Environment",	
U.S. Environmental Protection	Agency, Augus	st, 1978.				01-
					Loughso (	2001
			9			

Chain of Custody 311 Pacific Street Honolulu, Hawaii, 96810 Date 3-1-91 PAGE Ph 808-533-4411, Fax 808-531-9078 Chain of Custody Yes 003.00 Date 3-1-9 Lab use Only: BAL Job No RED log in No 1-44-28
Date/Time Received 3/1/91 160 By 1/8 Samplers Signature ASSOC. Hane/company Hardin a Name/Company\_ Rm 404 Street/Box Kam Hur City/State/Zip\_ Fax No 455-6551 Pax No 455-150 Phone No\_ ANALYSIS ( ) Yes ( ) No CLIENT (X) Yes ( ) No CLIRNT ) Yes ( ) No Results Results ( ) Yes ( ) No ( ) Yes ( ) No Invoice Invoice ( ) Yes ( ) No REMARKS/INSTRUCTIONS: se attached No. of Sample Container Time Date Sample Matrix" Desc.\* Cont. Collected Collected Desc/Notes Time Date Received by:

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Relinquished By:

Sample Matrix" = soil, water, tissue, other

Container Desc.\* = 40 ml VOA, 1 liter, Jar, tube, bag, other

### Harding Lawson Associates

CHAIN OF CUSTODY FORM

B03 Karnehameha Highway, Room 404, Pearl City, Hawaii 98782 Telephone: 808/456-8551		2 //		
Telecopy: 808/455-1507ggboO bodhs M aroiste IIbO >	Samplers:t	3. Wedgeworthness to 18 8	DOLI BOTANALYSIS REQUEST	
Job Number: <u>(8891, 083:06::::08::08::</u>		Jight see 3 3	EPA:601/8010 82 CELL III EPA:602/8020 CELL III EPA:602/8020 CELL III EPA:622/8240 GGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	
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Project Manager: 2: Sexual Similar Si	Recorder: 🔟	Marion, Wolginsus (100)	The State of the S	<b>*</b>       <b>*</b>
74 PVC Kafallorac	(Sig.	nature Required)		<u> </u>
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