



## APPENDIX C

### LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY FOR LABORATORY BATCH HTE0074

112778

May 27, 2010

## LABORATORY REPORT

Client:

Bureau Veritas  
Pali Palms Plaza - 970 North Kalaheo Avenue, Suite C-316  
Kailua, Hawaii 96734  
Attn: Michael Kelley

Work Order: HTE0074  
Project Name: Kuhio Park Terrace 2  
Project Number: Kuhio Park Terrace 2, 17010-010009.02  
Date Received: 05/17/10

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica.*

*TestAmerica Analytical Testing Corporation certifies that the analytical results contained herein apply only to the specific sample(s) analyzed.*

*The Chain(s) of Custody, 2 pages, are included and are an integral part of this report. This entire report was reviewed and approved for release.*

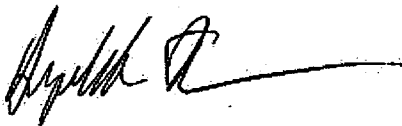
If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-(808)486-5227

### **Samples were received into laboratory at a temperature of 16 °C.**

NELAC states that samples which require thermal preservation shall be considered acceptable if the arrival temperature is within 2 degrees C of the required temperature or the method specified range. For samples with a temperature requirement of 4 degrees C, an arrival temperature from 0 degrees C to 6 degrees C meets specifications. Samples that are delivered to the laboratory on the same day that they are collected may not meet these criteria. In these cases, the samples are considered acceptable if there is evidence that the chilling process has begun, such as arrival on ice.

The reported results were obtained in compliance with the 2003 NELAC standards unless otherwise noted.

Approved By:



Angelique Showman  
Project Manager

NELAC Certification # E87907

Bureau Veritas  
Pali Palms Plaza - 970 North Kalaheo Avenue, Suite C-316  
Kailua, Hawaii 96734  
Michael Kelley

Work Order: HTE0074  
Project: Kuhio Park Terrace 2  
Project Number: Kuhio Park Terrace 2, 17010-010009.02

Received: 05/17/10  
Reported: 05/27/10 16:36

## Sample Summary

Sample Identification	Lab Number	Client Matrix	Date/Time Sampled	Date/Time Received	Sample Qualifiers
10009-MI-FOC	HTE0074-01	Solid/Soil	05/17/10 09:31	05/17/10 09:50	

Bureau Veritas Pali Palms Plaza - 970 North Kalaheo Avenue, Suite C-316 Kailua, Hawaii 96734 Michael Kelley	Work Order: HTE0074 Project: Kuhio Park Terrace 2 Project Number: Kuhio Park Terrace 2, 17010-010009.02	Received: 05/17/10 Reported: 05/27/10 16:36
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## ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dil	Date Analyzed	Prep Date	Seq/ Batch	Method
Sample ID: HTE0074-01 (10009-MI-FOC - Solid/Soil)				Sampled: 05/17/10 09:31			Recvd: 05/17/10 09:50		
Total Metals by EPA Method 6010/7471									
Arsenic	ND		mg/kg	9.07	1	05/26/10 13:58	05/25/10	10E0154	EPA 6010
Lead	43.1		"	18.1	"	"	"	"	"

Bureau Veritas Pali Palms Plaza - 970 North Kalaheo Avenue, Suite C-316 Kailua, Hawaii 96734 Michael Kelley	Work Order: HTE0074 Project: Kuhio Park Terrace 2 Project Number: Kuhio Park Terrace 2, 17010-010009.02	Received: 05/17/10 Reported: 05/27/10 16:36
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### LABORATORY BLANK QC DATA

Analyte	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup % REC	% REC Limits	RPD RPD	RPD Limit	Q
<b>Total Metals by EPA Method 6010/7471</b>													
<b>Batch\Seq: 10E0154 Extracted: 05/25/10</b>													
<b>Blank Analyzed: 05/26/2010 (10E0154-BLK1)</b>													
Arsenic			mg/kg	N/A	10.0	ND							
Lead			mg/kg	N/A	20.0	ND							

Bureau Veritas Pali Palms Plaza - 970 North Kalaheo Avenue, Suite C-316 Kailua, Hawaii 96734 Michael Kelley	Work Order: HTE0074 Project: Kuhio Park Terrace 2 Project Number: Kuhio Park Terrace 2, 17010-010009.02	Received: 05/17/10 Reported: 05/27/10 16:36
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**LCS/LCS DUPLICATE QC DATA**

Analyte	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD RPD	RPD Limit	Q
<b>Total Metals by EPA Method 6010/7471</b>													
<b>Batch\Seq: 10E0154 Extracted: 05/25/10</b>													
<b>LCS Analyzed: 05/26/2010 (10E0154-BS1)</b>													
Arsenic		100	mg/kg	N/A	10.0	111		111		80-120			
Lead		100	mg/kg	N/A	20.0	104		104		80-120			

Bureau Veritas Pali Palms Plaza - 970 North Kalaheo Avenue, Suite C-316 Kailua, Hawaii 96734 Michael Kelley	Work Order: HTE0074 Project: Kuhio Park Terrace 2 Project Number: Kuhio Park Terrace 2, 17010-010009.02	Received: 05/17/10 Reported: 05/27/10 16:36
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### MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
<b>Total Metals by EPA Method 6010/7471</b>													
<b>Batch\Seq: 10E0154 Extracted: 05/25/10</b>													
<b>Matrix Spike Analyzed: 05/26/2010 (10E0154-MS1)</b>													
<b>QC Source Sample: HTD0154-07</b>													
Arsenic	19.7	94.7	mg/kg	N/A	9.47	66.1	80.3	49	61	80-120	19	20	M1
Lead	16.9	94.7	mg/kg	N/A	18.9	97.9	115	86	98	80-120	16	20	

Bureau Veritas Pali Palms Plaza - 970 North Kalaheo Avenue, Suite C-316 Kailua, Hawaii 96734 Michael Kelley	Work Order: HTE0074 Project: Kuhio Park Terrace 2 Project Number: Kuhio Park Terrace 2, 17010-010009.02	Received: 05/17/10 Reported: 05/27/10 16:36
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### CERTIFICATION SUMMARY

#### TestAmerica Honolulu

Method	Matrix	Nelac	Hawaii
EPA 1312	Solid/Soil		
EPA 600/R-03/027	Solid/Soil		
EPA 6010	Solid/Soil	X	
	Solid/Soil		

#### Subcontracted Laboratories

##### TestAmerica Seattle

5755 8th Street East - Tacoma,, WA 98424

Analysis Performed: 8081A Pesticides  
Samples: HTE0074-01

Analysis Performed: 8081A SPLP Pesticides  
Samples: HTE0074-01

*For information concerning certifications of this facility or another TestAmerica facility, please visit our website at [www.TestAmericaInc.com](http://www.TestAmericaInc.com)*

### DATA QUALIFIERS AND DEFINITIONS

- M1** The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- ND** Not detected at the reporting limit (or method detection limit if shown)

### ADDITIONAL COMMENTS

LABORATORY USE ONLY	
LAB JOB NO.	HTE0074
LOCATION	
CONTAINERS	

## Chain of Custody / Analysis Request Form

Report to <b>Mike Kelley</b>	Project identification	
Company name <b>Bureau Veritas</b>	Job name <b>Kuhio Park Terrace</b>	Indicate analyses requested  <i>Organochlorine pesticides #8081 Arsenic EPA #6010</i>
Address <b>970 N Kalanooa Suite 310-C</b>	Job number <b>F010-010609.02</b>	
City <b>Kailua HI 96734</b>	P.O. number	
Phone <b>531-6708</b>	Contact email address <b>michael.kelley@bureauveritas.com</b>	
Sampler <b>NIG</b>	# samples in shipment	Date results needed <b>Standard</b>

Item no.	Client sample ID	COMP	GRAB	Matrix								Sampling		No. of containers	Laboratory ID no.		
				Water	Soil	Mistwater	Drinking water	Sludge	Liquid	Solid	Oil	Other	Preservation method			Date	Time
1	10009-MI-FOC	X	X										5/17	9:31	1	X X	HTE0074-01
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Released by (print / sign)	Date / time released	Delivery method	Received by (print / sign)	Company / Agency affiliation	Date / time received	Condition noted
<i>Meredith Gibe / M</i>	5/17/10 9:50	Hand	<i>Michelle Marie Seich</i>	TA-HI	950 15/17/10	subch 16°C gel ice ole

Comments: \* Multi Increment Methods

Please check one:  
 Dispose by lab  
 Return to client  
 Archive

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories Inc.  
TestAmerica Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

TestAmerica Job ID: 580-19455-1  
Client Project/Site: HTE0074

For:  
TestAmerica Laboratories, Inc  
99-193 Aiea Heights Drive  
Suite 121  
Aiea, Hawaii 96701

Attn: Marvin D Heskett III

*Pamela R. Johnson*

Authorized for release by:  
5/27/2010 10:01 AM

Pam Johnson  
Project Manager I  
pamr.johnson@testamericainc.com

### LINKS

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The  
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## Qualifier Definition/Glossary

Client: TestAmerica Laboratories, Inc  
Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

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### Qualifiers

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#### GC Semi VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
P	The %RPD between the primary and confirmation column/detector is >40%. The higher value has been reported
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

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### Glossary

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Glossary	Glossary Description
⚡	Listed under the "D" column to designate that the result is reported on a dry weight basis.

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**Comments**

No additional comments.

**Receipt**

All samples were received in good condition within temperature requirements.

**GC Semi VOA - Method 8081A**

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 64185 were outside control limits in analytical batch 64265. The associated laboratory control sample (LCS) recovery met acceptance criteria; therefore the analytes outside of the control limits were "F" flagged in the MS and MSD and the results were reported.

The continuing calibration verification (CCV 64265/ 13) for analytical batch 64265 exceeded control criteria for Endrin on Quan 0. Endrin was however within the control limits on Quan 1; therefore the results were "^" flagged and Endrin has been reported from Quan 1.

No other analytical or quality issues were noted.

**General Chemistry**

No analytical or quality issues were noted.

**Organic Prep**

No analytical or quality issues were noted.



## Detection Summary

Client: TestAmerica Laboratories, Inc  
 Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

**Client Sample ID: 10009-MI-FOC-Solid/Soil**

**Lab Sample ID: 580-19455-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
alpha-Chlordane	0.000045		0.000021	0.000025	mg/L	1		8081A	SPLP West
Chlordane (technical)	0.00032	p	0.00021	0.000036	mg/L	1		8081A	SPLP West
4,4'-DDE	2.3		1.8	0.13	ug/Kg	1		8081A	Total/NA
4,4'-DDT	2.5		1.8	0.14	ug/Kg	1		8081A	Total/NA
Dieldrin	2.2		1.8	0.11	ug/Kg	1		8081A	Total/NA
Dieldrin	0.0000050	J	0.000042	0.000025	mg/L	1		8081A	SPLP West
Endosulfan I	0.0000070	J P	0.000042	0.000023	mg/L	1		8081A	SPLP West
Heptachlor	2.2		0.90	0.42	ug/Kg	1		8081A	Total/NA
Endosulfan II	0.000012	J P	0.000042	0.000028	mg/L	1		8081A	SPLP West
Heptachlor epoxide	3.3		0.90	0.0027	ug/Kg	1		8081A	Total/NA
alpha-Chlordane	8.5	p	0.90	0.12	ug/Kg	1		8081A	Total/NA
gamma-Chlordane	10	p	0.90	0.12	ug/Kg	1		8081A	Total/NA
Chlordane (technical)	70		9.0	1.3	ug/Kg	1		8081A	Total/NA
gamma-Chlordane	0.000033		0.000021	0.000024	mg/L	1		8081A	SPLP West
Heptachlor epoxide	0.000035	J p	0.000021	0.000030	mg/L	1		8081A	SPLP West



# Analytical Data

Client: TestAmerica Laboratories, Inc  
Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

**Client Sample ID: 10009-MI-FOC-Solid/Soil**

**Lab Sample ID: 580-19455-1**

Date Collected: 05/17/10 09:31

Matrix: Solid

Date Received: 05/21/10 09:30

Method: 8081A - Organochlorine Pesticides (GC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.90	0.20	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
alpha-BHC	ND		0.90	0.25	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
beta-BHC	ND		0.90	0.29	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
delta-BHC	ND		0.90	0.13	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
gamma-BHC (Lindane)	ND		0.90	0.27	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
4,4'-DDD	ND		1.8	0.13	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
<b>4,4'-DDE</b>	<b>2.3</b>		1.8	0.13	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
<b>4,4'-DDT</b>	<b>2.5</b>		1.8	0.14	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
<b>Dieldrin</b>	<b>2.2</b>		1.8	0.11	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
Endosulfan I	ND		0.90	0.092	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
Endosulfan II	ND		1.8	0.15	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
Endosulfan sulfate	ND		1.8	0.17	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
Endrin	ND		1.8	0.15	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
Endrin aldehyde	ND		1.8	0.18	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
<b>Heptachlor</b>	<b>2.2</b>		0.90	0.42	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
<b>Heptachlor epoxide</b>	<b>3.3</b>		0.90	0.0027	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
Methoxychlor	ND		9.0	0.23	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
Endrin ketone	ND		1.8	0.23	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
Toxaphene	ND		90	9.0	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
<b>alpha-Chlordane</b>	<b>8.5 p</b>		0.90	0.12	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
<b>gamma-Chlordane</b>	<b>10 p</b>		0.90	0.12	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
<b>Chlordane (technical)</b>	<b>70</b>		9.0	1.3	ug/Kg		05/24/10 10:59	05/25/10 08:04	1
<b>Surrogate</b>	<b>%</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Tetrachloro-m-xylene	78		49 - 123				05/24/10 10:59	05/25/10 08:04	1
DCB Decachlorobiphenyl	86		40 - 158				05/24/10 10:59	05/25/10 08:04	1

### Method: 8081A - Organochlorine Pesticides (GC) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.000042	0.0000021	mg/L		05/25/10 13:28	05/26/10 09:37	1
4,4'-DDE	ND		0.000042	0.0000023	mg/L		05/25/10 13:28	05/26/10 09:37	1



# Analytical Data

Client: TestAmerica Laboratories, Inc  
Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

**Client Sample ID: 10009-MI-FOC-Solid/Soil**

**Lab Sample ID: 580-19455-1**

Date Collected: 05/17/10 09:31

Matrix: Solid

Date Received: 05/21/10 09:30

Method: 8081A - Organochlorine Pesticides (GC) - SPLP West (Continued)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
4,4'-DDT	ND		0.000042	0.0000040	mg/L		05/25/10 13:28	05/26/10 09:37	1	
Aldrin	ND		0.000021	0.0000028	mg/L		05/25/10 13:28	05/26/10 09:37	1	
alpha-BHC	ND		0.000021	0.0000026	mg/L		05/25/10 13:28	05/26/10 09:37	1	
<b>alpha-Chlordane</b>	<b>0.000045</b>		0.000021	0.0000025	mg/L		05/25/10 13:28	05/26/10 09:37	1	
beta-BHC	ND		0.000042	0.0000044	mg/L		05/25/10 13:28	05/26/10 09:37	1	
<b>Chlordane (technical)</b>	<b>0.00032</b>	<b>p</b>	0.00021	0.000036	mg/L		05/25/10 13:28	05/26/10 09:37	1	
delta-BHC	ND		0.000042	0.0000020	mg/L		05/25/10 13:28	05/26/10 09:37	1	
<b>Dieldrin</b>	<b>0.0000050</b>	<b>J</b>	0.000042	0.0000025	mg/L		05/25/10 13:28	05/26/10 09:37	1	
<b>Endosulfan I</b>	<b>0.0000070</b>	<b>J P</b>	0.000042	0.0000023	mg/L		05/25/10 13:28	05/26/10 09:37	1	
<b>Endosulfan II</b>	<b>0.000012</b>	<b>J P</b>	0.000042	0.0000028	mg/L		05/25/10 13:28	05/26/10 09:37	1	
Endosulfan sulfate	ND		0.000042	0.0000034	mg/L		05/25/10 13:28	05/26/10 09:37	1	
Endrin	ND		0.000042	0.0000060	mg/L		05/25/10 13:28	05/26/10 09:37	1	
Endrin aldehyde	ND		0.00010	0.000024	mg/L		05/25/10 13:28	05/26/10 09:37	1	
Endrin ketone	ND		0.000042	0.0000025	mg/L		05/25/10 13:28	05/26/10 09:37	1	
gamma-BHC (Lindane)	ND		0.000021	0.0000022	mg/L		05/25/10 13:28	05/26/10 09:37	1	
<b>gamma-Chlordane</b>	<b>0.000033</b>		0.000021	0.0000024	mg/L		05/25/10 13:28	05/26/10 09:37	1	
Heptachlor	ND		0.000021	0.0000060	mg/L		05/25/10 13:28	05/26/10 09:37	1	
<b>Heptachlor epoxide</b>	<b>0.0000035</b>	<b>J p</b>	0.000021	0.0000030	mg/L		05/25/10 13:28	05/26/10 09:37	1	
Methoxychlor	ND		0.00021	0.000028	mg/L		05/25/10 13:28	05/26/10 09:37	1	
Toxaphene	ND		0.0021	0.00019	mg/L		05/25/10 13:28	05/26/10 09:37	1	
<b>Surrogate</b>	<b>%</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>	
<i>DCB Decachlorobiphenyl</i>	113		19 - 157				05/25/10 13:28	05/26/10 09:37	1	
<i>Tetrachloro-m-xylene</i>	103		43 - 129				05/25/10 13:28	05/26/10 09:37	1	



### Quality Control Data

Client: TestAmerica Laboratories, Inc  
Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

#### Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-64185/1-A				Client Sample ID: MB 580-64185/1-A					
Matrix: Solid				Prep Type: Total/NA					
Analysis Batch: 64265				Prep Batch: 64185					
Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin	ND		1.0	0.22	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
alpha-BHC	ND		1.0	0.28	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
beta-BHC	ND		1.0	0.32	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
4,4'-DDD	ND		2.0	0.15	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
4,4'-DDE	ND		2.0	0.14	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
4,4'-DDT	ND		2.0	0.15	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
delta-BHC	ND		1.0	0.15	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Dieldrin	ND		2.0	0.12	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Endosulfan I	ND		1.0	0.10	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Endosulfan II	ND		2.0	0.17	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Endosulfan sulfate	ND		2.0	0.18	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Endrin	ND		2.0	0.16	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Endrin aldehyde	ND		2.0	0.20	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
alpha-Chlordane	ND		1.0	0.13	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Endrin ketone	ND		2.0	0.26	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
gamma-BHC (Lindane)	ND		1.0	0.30	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Chlordane (technical)	ND		10	1.4	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
gamma-Chlordane	ND		1.0	0.13	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Heptachlor	ND		1.0	0.46	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Heptachlor epoxide	ND		1.0	0.0030	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Methoxychlor	ND		10	0.26	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
Toxaphene	ND		100	10	ug/Kg		05/24/10 10:59	05/25/10 07:25	1
<b>MB MB</b>									
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	92		40 - 158				05/24/10 10:59	05/25/10 07:25	1
Tetrachloro-m-xylene	91		49 - 123				05/24/10 10:59	05/25/10 07:25	1



## Quality Control Data

Client: TestAmerica Laboratories, Inc  
Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

### Method: 8081A - Organochlorine Pesticides (GC) (Continued)

**Lab Sample ID:** LCS 580-64185/2-A  
**Matrix:** Solid  
**Analysis Batch:** 64265

**Client Sample ID:** LCS 580-64185/2-A  
**Prep Type:** Total/NA  
**Prep Batch:** 64185

Analyte	Spike Added	LCS		Unit	% Rec.	% Rec. Limits
		Result	Qualifier			
Aldrin	20.0	16.8		ug/Kg	84	53 - 126
alpha-BHC	20.0	17.6		ug/Kg	88	41 - 128
beta-BHC	20.0	16.6		ug/Kg	83	48 - 121
4,4'-DDD	20.0	17.9		ug/Kg	90	44 - 141
4,4'-DDE	20.0	14.4		ug/Kg	72	47 - 140
4,4'-DDT	20.0	15.5		ug/Kg	77	34 - 159
delta-BHC	20.0	18.4		ug/Kg	92	22 - 153
Dieldrin	20.0	17.5		ug/Kg	87	53 - 134
Endosulfan I	20.0	17.5		ug/Kg	88	52 - 122
Endosulfan II	20.0	17.8		ug/Kg	89	53 - 132
Endosulfan sulfate	20.0	18.6		ug/Kg	93	42 - 128
Endrin	20.0	17.7		ug/Kg	89	46 - 138
Endrin aldehyde	20.0	18.6		ug/Kg	93	12 - 179
alpha-Chlordane	20.0	17.5		ug/Kg	87	46 - 118
Endrin ketone	20.0	19.9		ug/Kg	99	45 - 127
gamma-BHC (Lindane)	20.0	17.2		ug/Kg	86	50 - 127
gamma-Chlordane	20.0	17.5		ug/Kg	88	49 - 122
Heptachlor	20.0	16.1		ug/Kg	81	50 - 130
Heptachlor epoxide	20.0	17.4		ug/Kg	87	49 - 123
Methoxychlor	20.0	16.2		ug/Kg	81	46 - 154

Surrogate	LCS %	LCS Qualifier	Limits
DCB Decachlorobiphenyl	94		40 - 158
Tetrachloro-m-xylene	90		49 - 123

**Lab Sample ID:** 580-19455-1 MS  
**Matrix:** Solid  
**Analysis Batch:** 64265

**Client Sample ID:** 10009-MI-FOC-Solid/Soil  
**Prep Type:** Total/NA  
**Prep Batch:** 64185

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	% Rec.	% Rec. Limits
				Result	Qualifier			
Aldrin			19.4	14.3		ug/Kg	74	53 - 126
alpha-BHC			19.4	14.0		ug/Kg	72	41 - 128
beta-BHC			19.4	10.4		ug/Kg	54	48 - 121
4,4'-DDD			19.4	13.2		ug/Kg	68	44 - 141
4,4'-DDE			19.4	14.9		ug/Kg	65	47 - 140
4,4'-DDT			19.4	14.6		ug/Kg	62	34 - 159
delta-BHC			19.4	7.89		ug/Kg	41	22 - 153
Dieldrin			19.4	14.6		ug/Kg	64	53 - 134
Endosulfan I			19.4	12.7		ug/Kg	65	52 - 122
Endosulfan II			19.4	8.79	F	ug/Kg	45	53 - 132
Endosulfan sulfate			19.4	4.07	F	ug/Kg	21	42 - 128
Endrin	ND		19.4	12.2		ug/Kg	63	46 - 138
Endrin aldehyde			19.4	2.36		ug/Kg	12	12 - 179
alpha-Chlordane			19.4	22.9	F	ug/Kg	21	46 - 118
Endrin ketone			19.4	5.54	F	ug/Kg	29	45 - 127
gamma-BHC (Lindane)			19.4	12.9		ug/Kg	67	50 - 127
gamma-Chlordane			19.4	23.0		ug/Kg	67	49 - 122
Heptachlor			19.4	17.0		ug/Kg	76	50 - 130
Heptachlor epoxide			19.4	17.9		ug/Kg	75	49 - 123



### Quality Control Data

Client: TestAmerica Laboratories, Inc  
Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

#### Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 580-19455-1 MS				Client Sample ID: 10009-MI-FOC-Solid/Soil						
Matrix: Solid				Prep Type: Total/NA						
Analysis Batch: 64265				Prep Batch: 64185						
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	% Rec.	% Rec. Limits		
Methoxychlor			19.4	8.90	J	ug/Kg	46	46 - 154		
<b>Surrogate</b>		<b>MS %</b>	<b>MS Qualifier</b>	<b>Limits</b>						
DCB Decachlorobiphenyl	77			40 - 158						
Tetrachloro-m-xylene	78			49 - 123						

Lab Sample ID: 580-19455-1 MSD				Client Sample ID: 10009-MI-FOC-Solid/Soil							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 64265				Prep Batch: 64185							
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	% Rec.	% Rec. Limits		RPD	RPD Limit
Aldrin			17.6	12.5		ug/Kg	71	53 - 126		13	30
alpha-BHC			17.6	12.8		ug/Kg	73	41 - 128		9	30
beta-BHC			17.6	9.31		ug/Kg	53	48 - 121		11	30
4,4'-DDD			17.6	12.2		ug/Kg	69	44 - 141		8	30
4,4'-DDE			17.6	15.4		ug/Kg	74	47 - 140		3	30
4,4'-DDT			17.6	14.7		ug/Kg	69	34 - 159		1	30
delta-BHC			17.6	6.79		ug/Kg	39	22 - 153		15	30
Dieldrin			17.6	14.2		ug/Kg	68	53 - 134		3	30
Endosulfan I			17.6	12.2		ug/Kg	69	52 - 122		4	30
Endosulfan II			17.6	7.60	F	ug/Kg	43	53 - 132		14	30
Endosulfan sulfate			17.6	3.77	F	ug/Kg	21	42 - 128		8	30
Endrin		ND	17.6	11.0		ug/Kg	62	46 - 138		11	30
Endrin aldehyde			17.6	2.23		ug/Kg	13	12 - 179		5	30
alpha-Chlordane			17.6	20.8		ug/Kg	70	46 - 118		NC	30
Endrin ketone			17.6	5.08	F	ug/Kg	29	45 - 127		9	30
gamma-BHC (Lindane)			17.6	11.5		ug/Kg	65	50 - 127		12	30
gamma-Chlordane			17.6	20.1		ug/Kg	57	49 - 122		13	30
Heptachlor			17.6	14.8		ug/Kg	72	50 - 130		14	30
Heptachlor epoxide			17.6	15.3		ug/Kg	68	49 - 123		16	30
Methoxychlor			17.6	8.20	J	ug/Kg	47	46 - 154		8	30
<b>Surrogate</b>		<b>MSD %</b>	<b>MSD Qualifier</b>	<b>Limits</b>							
DCB Decachlorobiphenyl	78			40 - 158							
Tetrachloro-m-xylene	75			49 - 123							

Lab Sample ID: MB 580-64328/1-A				Client Sample ID: MB 580-64328/1-A					
Matrix: Water				Prep Type: Total/NA					
Analysis Batch: 64374				Prep Batch: 64328					
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.000020	0.0000027	mg/L		05/25/10 13:28	05/26/10 08:58	1
alpha-BHC	ND		0.000020	0.0000026	mg/L		05/25/10 13:28	05/26/10 08:58	1
beta-BHC	ND		0.000041	0.0000043	mg/L		05/25/10 13:28	05/26/10 08:58	1
4,4'-DDD	ND		0.000041	0.0000021	mg/L		05/25/10 13:28	05/26/10 08:58	1
4,4'-DDE	ND		0.000041	0.0000023	mg/L		05/25/10 13:28	05/26/10 08:58	1



## Quality Control Data

Client: TestAmerica Laboratories, Inc  
Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1



### Method: 8081A - Organochlorine Pesticides (GC) (Continued)

**Lab Sample ID: MB 580-64328/1-A**  
**Matrix: Water**  
**Analysis Batch: 64374**

**Client Sample ID: MB 580-64328/1-A**  
**Prep Type: Total/NA**  
**Prep Batch: 64328**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4,4'-DDT	ND		0.000041	0.0000039	mg/L		05/25/10 13:28	05/26/10 08:58	1
delta-BHC	ND		0.000041	0.0000019	mg/L		05/25/10 13:28	05/26/10 08:58	1
Dieldrin	ND		0.000041	0.0000025	mg/L		05/25/10 13:28	05/26/10 08:58	1
Endosulfan I	ND		0.000041	0.0000022	mg/L		05/25/10 13:28	05/26/10 08:58	1
Endosulfan II	ND		0.000041	0.0000027	mg/L		05/25/10 13:28	05/26/10 08:58	1
Endosulfan sulfate	ND		0.000041	0.0000034	mg/L		05/25/10 13:28	05/26/10 08:58	1
Endrin	ND		0.000041	0.0000058	mg/L		05/25/10 13:28	05/26/10 08:58	1
Endrin aldehyde	ND		0.00010	0.0000023	mg/L		05/25/10 13:28	05/26/10 08:58	1
alpha-Chlordane	ND		0.000020	0.0000024	mg/L		05/25/10 13:28	05/26/10 08:58	1
Endrin ketone	ND		0.000041	0.0000025	mg/L		05/25/10 13:28	05/26/10 08:58	1
gamma-BHC (Lindane)	ND		0.000020	0.0000022	mg/L		05/25/10 13:28	05/26/10 08:58	1
Chlordane (technical)	ND		0.000020	0.0000035	mg/L		05/25/10 13:28	05/26/10 08:58	1
gamma-Chlordane	ND		0.000020	0.0000023	mg/L		05/25/10 13:28	05/26/10 08:58	1
Heptachlor	ND		0.000020	0.0000058	mg/L		05/25/10 13:28	05/26/10 08:58	1
Heptachlor epoxide	ND		0.000020	0.0000029	mg/L		05/25/10 13:28	05/26/10 08:58	1
Methoxychlor	ND		0.000020	0.0000027	mg/L		05/25/10 13:28	05/26/10 08:58	1
Toxaphene	ND		0.0020	0.00019	mg/L		05/25/10 13:28	05/26/10 08:58	1
		<b>MB MB</b>							
<b>Surrogate</b>		<b>% Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl		86		19 - 157			05/25/10 13:28	05/26/10 08:58	1
Tetrachloro-m-xylene		90		43 - 129			05/25/10 13:28	05/26/10 08:58	1

**Lab Sample ID: LCS 580-64328/2-A**  
**Matrix: Water**  
**Analysis Batch: 64374**

**Client Sample ID: LCS 580-64328/2-A**  
**Prep Type: Total/NA**  
**Prep Batch: 64328**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	% Rec.	% Rec. Limits
alpha-BHC	0.000400	0.000370	mg/L	93	41 - 133	
beta-BHC	0.000400	0.000352	mg/L	88	54 - 130	
4,4'-DDD	0.000400	0.000391	mg/L	98	40 - 152	
4,4'-DDE	0.000400	0.000375	mg/L	94	43 - 148	
4,4'-DDT	0.000400	0.000387	mg/L	97	37 - 162	
delta-BHC	0.000400	0.000389	mg/L	97	7 - 169	
Dieldrin	0.000400	0.000365	mg/L	91	46 - 145	

## Quality Control Data

Client: TestAmerica Laboratories, Inc  
 Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

### Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 580-64328/2-A		Client Sample ID: LCS 580-64328/2-A					
Matrix: Water		Prep Type: Total/NA					
Analysis Batch: 64374		Prep Batch: 64328					
Analyte	Spike	LCS	LCS	Unit	% Rec.	% Rec.	
	Added	Result	Qualifier				Limits
Endosulfan I	0.000400	0.000365		mg/L	91	49 - 132	
Endosulfan II	0.000400	0.000389		mg/L	97	54 - 138	
Endosulfan sulfate	0.000400	0.000433		mg/L	108	48 - 130	
Endrin	0.000400	0.000347		mg/L	87	80 - 102	
Endrin aldehyde	0.000400	0.000417		mg/L	104	27 - 183	
alpha-Chlordane	0.000400	0.000365		mg/L	91	40 - 131	
Endrin ketone	0.000400	0.000445		mg/L	111	48 - 134	
gamma-BHC (Lindane)	0.000400	0.000364		mg/L	91	71 - 113	
gamma-Chlordane	0.000400	0.000362		mg/L	91	46 - 131	
Heptachlor	0.000400	0.000349		mg/L	87	69 - 106	
Heptachlor epoxide	0.000400	0.000363		mg/L	91	71 - 109	
Methoxychlor	0.000400	0.000372		mg/L	93	68 - 131	
		LCS	LCS				
Surrogate	%	Qualifier	Limits				
DCB Decachlorobiphenyl	91		19 - 157				
Tetrachloro-m-xylene	90		43 - 129				



# Lab Chronicle

Client: TestAmerica Laboratories, Inc  
 Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

**Client Sample ID: 10009-MI-FOC-Solid/Soil**

**Lab Sample ID: 580-19455-1**

**Date Collected: 05/17/10 09:31**

**Matrix: Solid**

**Date Received: 05/21/10 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
SPLP West	Leach	1312			64234	05/20/10 12:00	PAB	TestAmerica Seattle
SPLP West	Prep	3510C			64328	05/25/10 13:28	SP	TestAmerica Seattle
SPLP West	Analysis	8081A		1	64374	05/26/10 09:37	SLC	TestAmerica Seattle
Total/NA	Prep	3550B			64185	05/24/10 10:59	KKJ	TestAmerica Seattle
Total/NA	Analysis	8081A		1	64265	05/25/10 08:04	SLC	TestAmerica Seattle

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

# Certification Summary

Client: TestAmerica Laboratories, Inc  
Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

Laboratory	Program	Authority	EPA Region	Certification ID	Expiration Date
TestAmerica Seattle	DoD ELAP	L-A-B	0	L2236	01/19/13
TestAmerica Seattle	ISO/IEC 17025	L-A-B	0	L2236	01/19/13
TestAmerica Seattle	NELAC Primary AB	Oregon	10	WA100007	11/06/10
TestAmerica Seattle	NELAC Secondary AB	California	9	1115CA	01/31/11
TestAmerica Seattle	State Program	Alaska	10	UST-022	03/04/11
TestAmerica Seattle	State Program	Washington	10	C1226	02/17/11
TestAmerica Seattle	USDA			P330-08-00099	05/22/11

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.



# Method Summary

Client: TestAmerica Laboratories, Inc  
Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

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Method	Method Description	Protocol	Laboratory
8081A	Organochlorine Pesticides (GC)	SW846	TAL TAC

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**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL TAC = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310



# Sample Summary

Client: TestAmerica Laboratories, Inc  
Project/Site: HTE0074

TestAmerica Job ID: 580-19455-1

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Lab Sample ID	Client Sample ID	Matrix	Sampled	Received
580-19455-1	10009-MI-FOC-Solid/Soil	Solid	05/17/10 09:31	05/21/10 09:30

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

**SUBCONTRACT ORDER**  
**TestAmerica Honolulu**

HTE0074

19455

**SENDING LABORATORY:**

TestAmerica Honolulu  
 99-193 Aiea Heights Drive, Suite 121  
 Aiea, HI 96701  
 Phone: 808-486-5227  
 Fax: 808-486-2456  
 Project Manager: Angelique Showman  
 Client: Bureau Veritas

**RECEIVING LABORATORY:**

TestAmerica Seattle  
 5755 8th Street East  
 Tacoma, WA 98424  
 Phone: (253) 922-2310  
 Fax: 253  
 Project Location: HI - HAWAII  
 Receipt Temperature: 3.7°C Ice: Y / N

*Med Blue/WT*

*ERISIC*

*SPLP Method Blank included for batch QC as needed*

Analysis	Units	Due	Expires	Interlab Price Surch	Comments
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Sample ID: HTE0074-01 (10009-MI-FOC - Solid/Soil) Sampled: 05/17/10 09:31 INLCUDE BENCH SHEETS W/SUB OUT

8081A Pesticides	mg/kg	05/26/10	05/31/10 09:31	\$135.00	15%	
8081A SPLP Pesticides	ug/L	05/26/10	05/24/10 09:31	\$135.00	15%	-1
<b>Containers Supplied:</b>						
Incremental	500ml Amber Glass		2 oz. Glass Jar (F)	/	2 oz. Glass Jar (G)	/
Sub-sample (analyze entire content) (C)	Unpreserved (D)					2 oz. Glass Jar (H)
	SPLP leachate					

*Angelique Showman*  
 Released By \_\_\_\_\_ Date/Time *05/20/10 @ 11:30*

*Shesley*  
 Received By \_\_\_\_\_ Date/Time *5/21/10 09:30*

Released By \_\_\_\_\_ Date/Time

Received By \_\_\_\_\_ Date/Time

## Login Sample Receipt Check List

Client: TestAmerica Laboratories, Inc

Job Number: 580-19455-1

Login Number: 19455

Creator: Presley, Kim

List Number: 1

List Source: TestAmerica Tacoma

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	N/A	
Sample Preservation Verified	N/A	





## **APPENDIX D**

# **REPLICATE ANALYTICAL RESULTS AND STATISTICAL SUMMARIES**



**Table Notes**  
**Michaels Development Company**  
**Kuhio Park Terrace Redevelopment Project**  
**Honolulu, Oahu, Hawaii**

**Project No: 17010-010009.02**

Each multi-increment soil sample consisted of 50 increments combined into bulk multi-increment samples for analysis.

Final Tier 1 EAL

State of Hawaii Department of Health (HDOH) Tier 1 Environmental Action Levels (EALs) at sites where groundwater IS a current or potential source of drinking water and LESS THAN 150 meters to a surface water body (HDOH, 2009b; Table A).

mg/kg

Milligrams per kilogram

mg/L

Milligrams per liter

NS

No Standard available for comparison.

ND<

Analyte not detected. The number following the "less than" symbol is the laboratory reporting limit.

\*ND<

Analyte not detected. The number following the "less than" symbol is the laboratory method detection limit.

NA

Not Analyzed

%

Percent

Text

Indicates a detectable concentration.

**BOLD**

Indicates a detectable concentration greater than or equal to the Final Tier 1 EAL.



**Table D-1**  
**Analytical Results and Statistical Summaries for First Replicate Sample**  
**Michaels Development Company**  
**Kuhio Park Terrace Redevelopment Project**  
**Honolulu, Oahu, Hawaii**

Analyte	Sample ID:	10009-MI-FTA	10009-MI-DUP1	10009-MI-TRIP1	95% UCL %	Final Tier 1 EAL (mg/kg)
	Area:	Tower A Foundation Area DU				
	Description:	Primary (mg/kg)	Duplicate (mg/kg)	Triplicate (mg/kg)		
<b>Metals - EPA Method 6010B</b>						
Arsenic		ND< 9.76	ND< 9.85	ND< 9.71	NC	20
Lead		86.0	70.1	48.8	99.8	200
<b>Organochlorine Pesticides - EPA Method 8081A</b>						
4,4'-DDD		ND< 0.0020	ND< 0.0019	ND< 0.0020	NC	2.0
4,4'-DDE		0.0055	0.0031	0.0029	0.0063	1.4
4,4'-DDT		0.0081	0.0068	0.0053	0.0091	1.7
Aldrin		ND< 0.0010	0.0054	ND< 0.00098	NC	0.029
alpha-BHC		ND< 0.0010	ND< 0.00097	ND< 0.00098	NC	NS
alpha-Chlordane		0.010	0.0093	0.0091	0.010	NS
beta-BHC		ND< 0.0010	ND< 0.00097	ND< 0.00098	NC	NS
Chlordane (technical)		0.11	0.11	0.084	0.13	16
delta-BHC		ND< 0.0010	ND< 0.00097	ND< 0.00098	NC	NS
Dieldrin		<b>0.0093</b>	<b>0.023</b>	<b>0.011</b>	<b>0.027</b>	0.0033
Endosulfan I		ND< 0.0010	ND< 0.00097	ND< 0.00098	NC	0.032
Endosulfan II		ND< 0.0020	ND< 0.0019	ND< 0.0020	NC	0.032
Endosulfan sulfate		ND< 0.0020	ND< 0.0019	ND< 0.0020	NC	0.032
Endrin		ND< 0.0020	ND< 0.0019	ND< 0.0020	NC	0.0040
Endrin aldehyde		ND< 0.0020	ND< 0.0019	ND< 0.0020	NC	NS
Endrin ketone		ND< 0.0020	ND< 0.0019	ND< 0.0020	NC	NS
gamma-BHC (Lindane)		ND< 0.0010	ND< 0.00097	ND< 0.00098	NC	0.045
gamma-Chlordane		0.011	0.0088	0.0070	0.012	NS
Heptachlor		0.0017	0.0014	ND< 0.00098	NC	0.11
Heptachlor epoxide		0.0020	0.0022	ND< 0.00098	NC	0.0031
Methoxychlor		ND< 0.010	ND< 0.0097	ND< 0.0098	NC	26
Toxaphene		ND< 0.10	ND< 0.097	ND< 0.098	NC	0.44

Notes on Table Notes Page



Table D-1  
(continued)

Sample ID:	10009-MI-FTA	10009-MI-DUP1	10009-MI-TRIP1
Notes:	Primary	Duplicate	Triplicate
Analyte	(mg/kg)	(mg/kg)	(mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>4,4'-DDE</b>	<b>0.0055</b>	<b>0.0031</b>	<b>0.0029</b>
	Relative Percent Difference	55.8%	61.9%
	Mean	0.0038	
	Standard Deviation	0.0014	
	Relative Standard Deviation	37.7%	
	<u>95% Upper Confidence Level (UCL) Calculations</u>		
	Number of samples	3	
	t value	2.92	
	95% UCL	0.0024	
	Mean + UCL	0.0063	
	<b>We are 95% confident that the true mean for 4,4'-DDE is equal to or less than 0.0063 mg/kg</b>		

Sample ID:	10009-MI-FTA	10009-MI-DUP1	10009-MI-TRIP1
Notes:	Primary	Duplicate	Triplicate
Analyte	(mg/kg)	(mg/kg)	(mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>4,4'-DDT</b>	<b>0.0081</b>	<b>0.0068</b>	<b>0.0053</b>
	Relative Percent Difference	17.4%	41.8%
	Mean	0.0067	
	Standard Deviation	0.0014	
	Relative Standard Deviation	20.8%	
	<u>95% Upper Confidence Level (UCL) Calculations</u>		
	Number of samples	3	
	t value	2.92	
	95% UCL	0.0024	
	Mean + UCL	0.0091	
	<b>We are 95% confident that the true mean for 4,4'-DDT is equal to or less than 0.0091 mg/kg</b>		



Table D-1  
(continued)

Sample ID:	10009-MI-FTA	10009-MI-DUP1	10009-MI-TRIP1
Notes:	Primary	Duplicate	Triplicate
Analyte	(mg/kg)	(mg/kg)	(mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>alpha-Chlordane</b>	<b>0.0100</b>	<b>0.0093</b>	<b>0.0091</b>
Relative Percent Difference		7.3%	9.4%
Mean		0.0095	
Standard Deviation		0.00047	
Relative Standard		5.0%	
<u>95% Upper Confidence Level (UCL) Calculations</u>			
Number of samples		3	
t value		2.92	
95% UCL		0.00080	
Mean + UCL		0.010	
<b>We are 95% confident that the true mean for alpha-Chlordane is equal to or less than 0.010 mg/kg</b>			

Sample ID:	10009-MI-FTA	10009-MI-DUP1	10009-MI-TRIP1
Notes:	Primary	Duplicate	Triplicate
Analyte	(mg/kg)	(mg/kg)	(mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>Chlordane (technical)</b>	<b>0.11</b>	<b>0.11</b>	<b>0.084</b>
Relative Percent Difference		0.0%	26.8%
Mean		0.10	
Standard Deviation		0.015	
Relative Standard		14.8%	
<u>95% Upper Confidence Level (UCL) Calculations</u>			
Number of samples		3	
t value		2.92	
95% UCL		0.025	
Mean + UCL		0.13	
<b>We are 95% confident that the true mean for Chlordane (technical) is equal to or less than 0.13 mg/kg</b>			



**Table D-1**  
**Analytical Results and Statistical Summaries for First Replicate Sample**  
**(continued)**

Sample ID:	10009-MI-FTA	10009-MI-DUP1	10009-MI-TRIP1
Notes:	Primary	Duplicate	Triplicate
Analyte	(mg/kg)	(mg/kg)	(mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>Dieldrin</b>	<b>0.0093</b>	<b>0.023</b>	<b>0.011</b>
	Relative Percent Difference	84.8%	16.7%
	Mean	0.014	
	Standard Deviation	0.0075	
	Relative Standard	51.7%	
	<u>95% Upper Confidence Level (UCL) Calculations</u>		
	Number of samples	3	
	t value	2.92	
	95% UCL	0.013	
	Mean + UCL	0.027	
	<b>We are 95% confident that the true mean for Dieldrin is equal to or less than 0.027 mg/kg</b>		

Sample ID:	10009-MI-FTA	10009-MI-DUP1	10009-MI-TRIP1
Notes:	Primary	Duplicate	Triplicate
Analyte	(mg/kg)	(mg/kg)	(mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>gamma-Chlordane</b>	<b>0.011</b>	<b>0.0088</b>	<b>0.0070</b>
	Relative Percent Difference	22.2%	44.4%
	Mean	0.0089	
	Standard Deviation	0.0020	
	Relative Standard	22.4%	
	<u>95% Upper Confidence Level (UCL) Calculations</u>		
	Number of samples	3	
	t value	2.92	
	95% UCL	0.0034	
	Mean + UCL	0.012	
	<b>We are 95% confident that the true mean for gamma-Chlordane is equal to or less than 0.012 mg/kg</b>		



**Table D-2**  
**Analytical Results and Statistical Summaries for Second Replicate Sample**  
**Michaels Development Company**  
**Kuhio Park Terrace Redevelopment Project**  
**Honolulu, Oahu, Hawaii**

Analyte	Sample ID:	10009-MI-OTB	10009-MI-DUP2	10009-MI-TRIP2	95% UCL %	Final Tier 1 EAL (mg/kg)
	Area:	Tower B Open Area DU				
	Description:	Primary (mg/kg)	Duplicate (mg/kg)	Triplicate (mg/kg)		
<b>Metals - EPA Method 6010B</b>						
Arsenic		ND< 9.89	ND< 9.78	ND< 9.64	NC	20
Lead		<b>408</b>	<b>328</b>	<b>235</b>	<b>470</b>	200
<b>Organochlorine Pesticides - EPA Method 8081A</b>						
4,4'-DDD		ND< 0.0020	ND< 0.0019	ND< 0.0019	NC	2.0
4,4'-DDE		ND< 0.0020	ND< 0.0019	0.0022	NC	1.4
4,4'-DDT		0.0044	0.0038	0.0049	0.0053	1.7
Aldrin		ND< 0.0010	ND< 0.00097	ND< 0.00095	NC	0.029
alpha-BHC		ND< 0.0010	ND< 0.00097	ND< 0.00095	NC	NS
alpha-Chlordane		0.0028	0.0035	0.0029	0.0037	NS
beta-BHC		ND< 0.0010	ND< 0.00097	ND< 0.00095	NC	NS
Chlordane (technical)		0.031	0.038	0.030	0.040	16
delta-BHC		ND< 0.0010	ND< 0.00097	ND< 0.00095	NC	NS
Dieldrin		<b>0.0044</b>	0.0029	<b>0.0045</b>	<b>0.0054</b>	0.0033
Endosulfan I		ND< 0.0010	ND< 0.00097	ND< 0.00095	NC	0.032
Endosulfan II		ND< 0.0020	ND< 0.0019	ND< 0.0019	NC	0.032
Endosulfan sulfate		ND< 0.0020	ND< 0.0019	ND< 0.0019	NC	0.032
Endrin		ND< 0.0020	ND< 0.0019	ND< 0.0019	NC	0.0040
Endrin aldehyde		ND< 0.0020	ND< 0.0019	ND< 0.0019	NC	NS
Endrin ketone		ND< 0.0020	ND< 0.0019	ND< 0.0019	NC	NS
gamma-BHC (Lindane)		ND< 0.0010	ND< 0.00097	ND< 0.00095	NC	0.045
gamma-Chlordane		0.0029	0.0032	0.0025	0.0035	NS
Heptachlor		ND< 0.0010	ND< 0.00097	ND< 0.00095	NC	0.11
Heptachlor epoxide		ND< 0.0010	ND< 0.00097	ND< 0.00095	NC	0.0031
Methoxychlor		ND< 0.010	ND< 0.0097	ND< 0.0095	NC	26
Toxaphene		ND< 0.10	ND< 0.097	ND< 0.095	NC	0.44

Notes on Table Notes Page



Table D-2  
(continued)

Sample ID:	10009-MI-OTB	10009-MI-DUP2	10009-MI-TRIP2
Notes:	Primary	Duplicate	Triplicate
Analyte	(mg/kg)	(mg/kg)	(mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>4,4'-DDT</b>	<b>0.0044</b>	<b>0.0038</b>	<b>0.0049</b>
	Relative Percent Difference	14.6%	10.8%
	Mean	0.0044	
	Standard Deviation	0.00055	
	Relative Standard Deviation	12.6%	
	<u>95% Upper Confidence Level (UCL) Calculations</u>		
	Number of samples	3	
	t value	2.92	
	95% UCL	0.00093	
	Mean + UCL	0.0053	
	<b>We are 95% confident that the true mean for 4,4'-DDT is equal to or less than 0.0053 mg/kg</b>		

Sample ID:	10009-MI-OTB	10009-MI-DUP2	10009-MI-TRIP2
Notes:	Primary	Duplicate	Triplicate
Analyte	(mg/kg)	(mg/kg)	(mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>alpha-Chlordane</b>	<b>0.0028</b>	<b>0.0035</b>	<b>0.0029</b>
	Relative Percent Difference	22.2%	3.5%
	Mean	0.0031	
	Standard Deviation	0.00038	
	Relative Standard Deviation	12.3%	
	<u>95% Upper Confidence Level (UCL) Calculations</u>		
	Number of samples	3	
	t value	2.92	
	95% UCL	0.00064	
	Mean + UCL	0.0037	
	<b>We are 95% confident that the true mean for alpha-Chlordane is equal to or less than 0.0037 mg/kg</b>		



Table D-2  
(continued)

Sample ID: Notes: Analyte	10009-MI-OTB Primary (mg/kg)	10009-MI-DUP2 Duplicate (mg/kg)	10009-MI-TRIP2 Triplicate (mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>Chlordane (technical)</b>	<b>0.031</b>	<b>0.038</b>	<b>0.030</b>
Relative Percent Difference		20.3%	3.3%
Mean		0.033	
Standard Deviation		0.0044	
Relative Standard Deviation		13.2%	
<u>95% Upper Confidence Level (UCL) Calculations</u>			
Number of samples		3	
t value		2.92	
95% UCL		0.0073	
Mean + UCL		0.040	
<b>We are 95% confident that the true mean for Chlordane (technical) is equal to or less than 0.040 mg/kg</b>			

Sample ID: Notes: Analyte	10009-MI-OTB Primary (mg/kg)	10009-MI-DUP2 Duplicate (mg/kg)	10009-MI-TRIP2 Triplicate (mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>Dieldrin</b>	<b>0.0044</b>	<b>0.0029</b>	<b>0.0045</b>
Relative Percent Difference		41.1%	2.2%
Mean		0.0039	
Standard Deviation		0.00090	
Relative Standard Deviation		22.8%	
<u>95% Upper Confidence Level (UCL) Calculations</u>			
Number of samples		3	
t value		2.92	
95% UCL		0.0015	
Mean + UCL		0.0054	
<b>We are 95% confident that the true mean for Dieldrin is equal to or less than 0.0054 mg/kg</b>			



**Table D-2  
(continued)**

Sample ID:	10009-MI-OTB	10009-MI-DUP2	10009-MI-TRIP2
Notes:	Primary	Duplicate	Triplicate
Analyte	(mg/kg)	(mg/kg)	(mg/kg)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
<b>gamma-Chlordane</b>	<b>0.0029</b>	<b>0.0032</b>	<b>0.0025</b>
	Relative Percent Difference	9.8%	14.8%
	Mean	0.0029	
	Standard Deviation	0.00035	
	Relative Standard Deviation	12.3%	
	<u>95% Upper Confidence Level (UCL) Calculations</u>		
	Number of samples	3	
	t value	2.92	
	95% UCL	0.00059	
	Mean + UCL	0.0035	
	<b>We are 95% confident that the true mean for gamma-Chlordane is equal to or less than 0.0035 mg/kg</b>		

Sample ID:	10009-MI-OTB	10009-MI-DUP2	10009-MI-TRIP2
Notes:	Primary	Duplicate	Triplicate
Analyte	(mg/kg)	(mg/kg)	(mg/kg)
<b>Metals - EPA Method 6010B</b>			
<b>Lead</b>	<b>408</b>	<b>328</b>	<b>235</b>
	Relative Percent Difference	21.7%	53.8%
	Mean	324	
	Standard Deviation	86.6	
	Relative Standard Deviation	26.8%	
	<u>95% Upper Confidence Level (UCL) Calculations</u>		
	Number of samples	3	
	t value	2.92	
	95% UCL	146	
	Mean + UCL	470	
	<b>We are 95% confident that the true mean for Lead is equal to or less than 470 mg/kg</b>		



**Table D-3**  
**Analytical Results for Synthetic Precipitation Leaching Procedure**  
**Michaels Development Company**  
**Kuhio Park Terrace Redevelopment Project**  
**Honolulu, Oahu, Hawaii**

Sample ID:	10009-MI-FTA	10009-MI-DUP1	10009-MI-TRIP1
DU:	Tower A Foundation Area DU		
Description:	Primary	Duplicate	Triplicate
Analyte	(mg/L)	(mg/L)	(mg/L)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
4,4'-DDD	*ND< 0.0000021	0.0000060 <sup>^</sup>	0.0000052 <sup>^</sup>
4,4'-DDE	*ND< 0.0000023	*ND< 0.0000023	*ND< 0.0000024
4,4'-DDT	*ND< 0.0000039	*ND< 0.0000040	*ND< 0.0000041
Aldrin	*ND< 0.0000027	*ND< 0.0000028	*ND< 0.0000029
alpha-BHC	*ND< 0.0000026	*ND< 0.0000026	*ND< 0.0000027
alpha-Chlordane	0.000011 <sup>^</sup>	0.000014 <sup>^</sup>	0.000017 <sup>^</sup>
beta-BHC	*ND< 0.0000043	*ND< 0.0000044	*ND< 0.0000045
Chlordane (technical)	0.00040	0.00062	0.00026
delta-BHC	*ND< 0.0000019	*ND< 0.0000020	*ND< 0.0000020
Dieldrin	*ND< 0.0000025	0.000043	0.000023 <sup>^</sup>
Endosulfan I	0.000016 <sup>^</sup>	*ND< 0.0000023	*ND< 0.0000023
Endosulfan II	*ND< 0.0000027	*ND< 0.0000028	*ND< 0.0000029
Endosulfan sulfate	*ND< 0.0000034	*ND< 0.0000034	*ND< 0.0000035
Endrin	*ND< 0.0000058	*ND< 0.0000060	*ND< 0.0000061
Endrin aldehyde	*ND< 0.000023	*ND< 0.000024	*ND< 0.000024
Endrin ketone	*ND< 0.0000025	*ND< 0.0000025	*ND< 0.0000026
gamma-BHC (Lindane)	*ND< 0.0000022	*ND< 0.0000022	*ND< 0.0000023
gamma-Chlordane	0.0000069 <sup>^</sup>	0.0000095 <sup>^</sup>	0.0000075 <sup>^</sup>
Heptachlor	*ND< 0.0000058	*ND< 0.0000060	*ND< 0.0000061
Heptachlor epoxide	0.0000049 <sup>^</sup>	*ND< 0.0000030	*ND< 0.0000030
Methoxychlor	*ND< 0.000027	*ND< 0.000028	*ND< 0.000028
Toxaphene	*ND< 0.00019	*ND< 0.00019	*ND< 0.00020

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Table D-3  
(continued)

Sample ID:	10009-MI-OTB	10009-MI-DUP2	10009-MI-TRIP2
DU:	Tower B Open Area DU		
Description:	Primary	Duplicate	Triplicate
Analyte	(mg/L)	(mg/L)	(mg/L)
<b>Organochlorine Pesticides - EPA Method 8081A</b>			
4,4'-DDD	*ND< 0.0000021	*ND< 0.0000021	*ND< 0.0000021
4,4'-DDE	*ND< 0.0000023	*ND< 0.0000023	*ND< 0.0000024
4,4'-DDT	*ND< 0.0000040	*ND< 0.0000040	*ND< 0.0000041
Aldrin	*ND< 0.0000028	*ND< 0.0000028	*ND< 0.0000029
alpha-BHC	*ND< 0.0000026	*ND< 0.0000026	*ND< 0.0000027
alpha-Chlordane	0.0000066 <sup>^</sup>	0.000010 <sup>^</sup>	0.000010 <sup>^</sup>
beta-BHC	*ND< 0.0000044	*ND< 0.0000044	*ND< 0.0000045
Chlordane (technical)	0.00013 <sup>^</sup>	0.00010 <sup>^</sup>	0.000079 <sup>^</sup>
delta-BHC	*ND< 0.0000020	*ND< 0.0000020	*ND< 0.0000020
Dieldrin	0.000028 <sup>^</sup>	0.000013 <sup>^</sup>	0.000013 <sup>^</sup>
Endosulfan I	*ND< 0.0000023	*ND< 0.0000023	*ND< 0.0000023
Endosulfan II	*ND< 0.0000028	*ND< 0.0000028	*ND< 0.0000029
Endosulfan sulfate	*ND< 0.0000034	*ND< 0.0000034	*ND< 0.0000035
Endrin	*ND< 0.0000060	*ND< 0.0000060	*ND< 0.0000061
Endrin aldehyde	*ND< 0.000024	*ND< 0.000024	*ND< 0.000024
Endrin ketone	*ND< 0.0000025	*ND< 0.0000025	*ND< 0.0000026
gamma-BHC (Lindane)	*ND< 0.0000022	*ND< 0.0000022	*ND< 0.0000023
gamma-Chlordane	0.0000042 <sup>^</sup>	0.0000029 <sup>^</sup>	*ND< 0.0000024
Heptachlor	*ND< 0.0000060	*ND< 0.0000060	*ND< 0.0000061
Heptachlor epoxide	*ND< 0.0000030	*ND< 0.0000030	*ND< 0.0000030
Methoxychlor	*ND< 0.000028	*ND< 0.000028	*ND< 0.000028
Toxaphene	*ND< 0.00019	*ND< 0.00019	*ND< 0.00020

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