

SITE SAMPLING REPORT

August 2014

MI/DU PCB TESTING FOR USCG MAILI EASTERN FENCE LINE, MAILI, OAHU, HAWAII

CONTRACT NO; HSCG86-14-N-PXA011



PREPARED FOR:

U.S. COAST GUARD
CIVIL ENGINEERING UNIT
300 ALA MOANA BLVD., ROOM 8-134
HONOLULU, HI 96850

PREPARED BY:  **ITERASHIMA**
ENVIRONMENTAL SERVICES

1255 NUUANU AVE #310
HONOLULU, HI 96817

www.carrollcox.com 808-782-6627

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Appendix C Analytical Laboratory Reports

List of Acronyms

°C	Degree Celsius
°F	Degree Fahrenheit
COC	chain of custody
DU	decision unit
E2	Element Environmental, LLC
EAL	Environmental Action Level
EPA	United States Environmental Protection Agency
GPS	Global Positioning System
HDOH	State of Hawaii Department of Health
µg/L	microgram per liter
MI	multi-increment [®]
ND	non-detect
NELAC	National Environmental Laboratory Accreditation Conference
PCB	Polychlorinated Biphenyls
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
QC	Quality Control
RPD	Relative Percent Difference
RSL	Regional Screening Level
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
TSCA	Toxic Substances Control Act
U.S.	United States
USCG	United States Coast Guard

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Section 1 Introduction

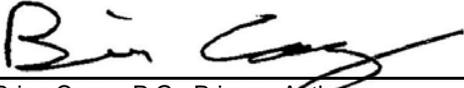
1.1 Project Identification and Approvals

Project Name: PCB Testing for USCG Maili Eastern Fence Line, Maili, Oahu, Hawaii

Company and Address: I Terashima Environmental Services, LLC (ITES)
1255 Nu'uau Ave, Ste 310
Honolulu, HI 96817
Ph: (808) 551-3485; Fax: (808) 524-2052

Date of Issue: August 2014

Approvals:



Brian Carey, P.G., Primary Author

August 18, 2014
Date



Iris Terashima, P.E., Principal

August 18, 2014
Date

1.2 Project Purpose

This report presents the results of soil sampling and polychlorinated biphenyl (PCB) testing conducted along the eastern fence line of the United States Coast Guard's (USCG's) site in Maili, Oahu, Hawaii.

ITES and subcontractor Element Environmental, LLC (E2) conducted surface soil sampling at the site to determine if PCBs are present in soil, as requested by the USCG Honolulu. This report has been prepared by ITES for the USCG. The soil sampling was conducted in accordance with industry standards and United States Environmental Protection Agency (EPA) guidelines for sampling and analysis.

1.3 Report Organization

This report is organized into the following sections:

- Section 1 – Introduction
- Section 2 – Location, Description, and Site Setting
- Section 3 – Site Characterization Field Tasks
- Section 4 – Sample Analysis and Results
- Section 5 – Data Quality Assessment and Quality Control
- Section 6 – Summary and Conclusions

Appendices:

- Appendix A – June 26, 2014 Sampling Event Documentation
- Appendix B – July 23, 2014 Sampling Event Documentation
- Appendix C – Analytical Laboratory Reports

Section 2 Location, Description, and Site Setting

2.1 Site Location and Description

The USCG site is located in Maili on the western side of the island of Oahu, Hawaii (Figure 1). E2 completed soil sampling and analysis at the USCG site on June 26 and July 23, 2014. The site is located northwest of the intersection of Mokia Street and Laia Street. The site is currently vacant and is bounded by vacant field to the west, vacant field to the north and south, and residential housing to the east (Figure 2).

2.2 Site Setting

2.2.1 Climate

The climate in Maili is warm and relatively dry. Data from the University of Hawaii School of Ocean and Earth Science and Technology and the Department of Meteorology shows an average temperature range between 72.1 degrees Fahrenheit (°F) and 79.7°F with temperature extremes ranging between from 45°F and 96°F. The average annual precipitation in the Maili area is approximately 21 inches.

2.2.2 Geology

2.2.2.1 Regional Geology

The project site is located on the western slopes of the Waianae Range. The Waianae Range is one of two shield volcanoes on the island of Oahu. The Waianae Range rises 1.2 kilometers above sea level, making it higher than the younger, adjacent Koolau Range. The Waianae and Koolau volcanic shields were built during the late Pliocene and early Pleistocene Epochs by thinly bedded lava flows. The main shield building activities ceased approximately 3.5 to 2.5 million years ago (Stearns, 1985).

The Waianae Volcanic Series is divided into lower, middle, and upper members. The lower member is made up of the lava flows and pyroclastics that built the main mass of the Waianae shield; the middle member is mainly rocks that accumulated in the caldera, gradually filling it; and the upper member is a thin cap that has covered much of the shield late in its history. The volcano is now extensively eroded, bearing large amphitheater valleys on its western slopes. These valleys (such as Lualualei where the subject parcel is located) are some of the largest in Hawaii, and they are believed to represent the sources for large landslides now seen on the sea floor to the west of the island (Stearns, 1985).

2.2.2.2 Site Geology and Soils

According to the United States (U.S.) Soil Conservation Service, the soil in the area of the project site is classified as Mamala stony silty clay loam, Mokuleia clay, and Keaau stony clay (United States Department of Agriculture [USDA], 2008).

- The Mamala series consists of shallow, well-drained soils on coastal plains on the island of Oahu. These soils formed in recent alluvium deposited over coral limestone and consolidated calcareous sand. Permeability is moderate; runoff is very slow to medium; and the erosion hazard is slight to moderate.

- The Mokuleia series consists of well-drained soils on coastal plains on the island of Oahu. These soils formed in recent alluvium deposited over coral sand. Permeability is slow on the surface layer and rapid in the subsoil; runoff is slow; and the erosion hazard is no more than slight.
- The Keaau series consists of poorly-drained soils on coastal plains on the island of Oahu. These soils developed in alluvium deposited over reef limestone or consolidated coral sand. Permeability is slow; runoff is slow; and the erosion hazard is no more than slight (USDA, 2008).

2.2.3 Hydrogeology

2.2.3.1 Regional Hydrogeology

Groundwater resources beneath the project site are part of the Lualualei aquifer system of the Waianae Aquifer Sector (Mink and Lau, 1990). Two aquifers are present below the area of the subject property.

- The upper aquifer is basal, where fresh water is in contact with sea water and unconfined, where the water table is the upper surface of the saturated aquifer. The aquifer is sedimentary, where the soil has a non-volcanic lithology. The aquifer is listed as having moderate salinity (1,000 to 5,000 milligrams per liter [mg/L] of chloride), with a high vulnerability to contamination, and is considered to be irreplaceable. The aquifer is currently used, but is neither a drinking water source nor ecologically important.
- The lower aquifer is basal, where fresh water is in contact with sea water and confined, where the aquifer is bounded by impermeable or poorly permeable formations. The aquifer is in dike compartments. The aquifer is listed as having moderate salinity (1,000 to 5,000 mg/L of chloride), with a low vulnerability to contamination, and is considered to be replaceable. The aquifer has the potential to be used, but is neither a drinking water source nor ecologically important (Mink and Lau, 1990).

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Section 3 Site Characterization Field Tasks

Soil samples were collected and analyzed from the five investigation areas in order to evaluate the nature and extent of potential PCB contamination at the project site.

3.1 Characterization Activities

The following tasks were completed during this site characterization:

- Sample location layout and site preparation; and
- Soil sample collection and analysis.

Select site photographs taken during the field activities and field notes for each sampling event are included in Appendix A and Appendix B.

3.1.1 Sample Location Layout

3.1.1.1 June 26, 2014 Sampling Event

Decision unit (DU) boundaries were located in the field using a hand-held global positioning system (GPS) device. The boundaries of the five DUs are shown on Figure 2.

3.1.1.2 July 23, 2014 Sampling Event

Within individual decision units DU-3, DU-4, and DU-5 defined in the June sampling event, 10 discrete samples were laid out within each DU. Each discrete sample was approximately 8 feet from the adjacent sample location within each DU.

3.1.2 Sample Collection and Analysis

Prior to the start of each work day, a safety and health meeting was conducted by the Site Safety and Health Officer (SSHO) as required by the Project Site Safety and Health Plan (SSHP). The Site Foreman also conducted a meeting describing the work that was to be performed.

Project personnel were responsible for collecting samples and decontaminating the sampling equipment. To avoid cross-contamination of the samples and to protect worker safety and health, the person performing the sample collection donned a new pair of disposable nitrile gloves while collecting each sample.

Field notes were maintained by ITES personnel recording the location, sample media, number, date and time for each sample collected, as well as any relevant observations. The field notes were recorded in a bound notebook using an indelible marker. Copies of the field notes are included in Appendix A and B for each respective sampling event. Digital color photographs were taken to document the field investigation. Select photographs are also included in Appendix A and B for each sampling event.

3.1.2.1 Collection of Multi Increment[®](MI) Soil Samples

Five MI soil samples were collected from five DUs (DU-1 through DU-5) on June 26, 2014. Two duplicate samples (DU-4b and DU-4b) were collected from DU-4 for quality control purposes.

The MI surface soil samples were collected utilizing a PVC end cap to remove the top 0 to 6 inches of soil. Each increment consisted of approximately 10 grams of soil; and each sample

consisted of 100 increments. Increment samples were located in a stratified-random manner (e.g., even spacing along a serpentine path traversing the area).

Two duplicate MI surface samples were collected from the same DU using the same stratified-random manner, but from a different direction or starting point. Increment samples from the same MI sample were combined in the field and placed directly into resealable bags.

3.1.2.2 Collection of Discrete Soil Samples

Thirty (30) discrete surface soil samples (10 in each DU) and three duplicates (one per decision unit) were collected from DU-3, DU-4, and DU-5 on July 23, 2014, utilizing a stainless steel hand trowel to remove the top two to three inches of soil. Each sample consisted of approximately 10 grams of soil. The first sample was collected (DU-3-01) at the southern end of the site. Each subsequent discrete sample was collected in 8-foot intervals in a northerly direction.

3.1.2.3 Sample Identification and Handling

All soil samples were labeled with the sample identification information described below and placed into insulated coolers filled with ice for preservation. The samples were chilled and maintained at a temperature of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and managed under chain of custody (COC) protocol and documentation until delivery to the analytical laboratory.

Soil samples were packaged and mailed via FedEx® to Curtis & Tompkins, Ltd. Analytical Laboratories in Berkeley, CA. MI subsampling was conducted in the laboratory for the MI sampling conducted in. The samples were analyzed for PCBs (EPA Method 8082).

Section 4 Sample Analysis and Results

Project soil samples were analyzed by Curtis & Tompkins, Ltd. Analytical Laboratories. Analytical methods used by the laboratory are from EPA publication SW-846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA, 1996).

The following subsections summarize the results generated from this investigation. The laboratory analytical reports are included in Appendix C.

4.1 Soil Sample Analysis Results

4.1.1 June 26, 2014 Sampling Event

Five (5) primary MI soil samples and two (2) replicates, each consisting of 100 increments, were collected from the investigation site (Figure 2). Samples were collected from the surface soil as described in Section 3.1.2.1. The soil samples were analyzed for PCBs (EPA Method 8082). Table 1 on the following page summarizes the analytical results.

Analytical results of the soil samples indicated the following:

- PCB Aroclor 1260 was detected above laboratory reporting limits and the EPA residential Regional Screening Level (RSL) in all of the seven (7) samples at concentrations ranging from 680 to 30,000 micrograms per kilogram ($\mu\text{g}/\text{kg}$). Five (5) of the detected concentrations are above both the EPA Residential RSL of 240 $\mu\text{g}/\text{kg}$ and the HDOH Unrestricted Land Use EAL of 1,100 $\mu\text{g}/\text{kg}$. All other PCB Aroclor results were not detected (Note: these RSLs/EALs have been converted from their published milligrams per kilogram values for reporting consistency).

Table 1 presents the soil sample analytical results for the June 26, 2014 sampling event. Figure 2 shows the results of analysis for the samples collected in relation to each DU. The complete analytical laboratory report is presented in Appendix C.

**Table 1: MI/DU PCB Testing for USCG Maili Eastern Fence Line June 26, 2014
 Soil Sample Analytical Results Summary**

Analyte	Sample ID (MI Soil Samples)														State of HI EAL (µg/kg)
	DU-1		DU-2		DU-3		DU-4A		DU-4B		DU-4C		DU-5		
	Sample Result (µg/kg)	Reporting Limit (µg/kg)	Sample Result (µg/kg)	Reporting Limit (µg/kg)	Sample Result (µg/kg)	Reporting Limit (µg/kg)	Sample Result (µg/kg)	Reporting Limit (µg/kg)	Sample Result (µg/kg)	Reporting Limit (µg/kg)	Sample Result (µg/kg)	Reporting Limit (µg/kg)	Sample Result (µg/kg)	Reporting Limit (µg/kg)	
PCBs (EPA 8082)															
PCB - 1016	ND	420	ND	85	ND	83	ND	83	ND	83	ND	84	ND	12	1,100
PCB - 1221	ND	850	ND	170	ND	24	1,100								
PCB - 1232	ND	420	ND	85	ND	83	ND	83	ND	83	ND	84	ND	12	1,100
PCB - 1242	ND	420	ND	85	ND	83	ND	83	ND	83	ND	84	ND	12	1,100
PCB - 1248	ND	420	ND	85	ND	83	ND	83	ND	83	ND	84	ND	12	1,100
PCB - 1254	ND	420	ND	85	ND	83	ND	83	ND	83	ND	84	ND	12	1,100
PCB - 1260	30,000	420	2,000	85	1,100	83	1,700	83	2,100	83	2,000	84	680	12	1,100

Bold values indicates a laboratory detection above reporting limits

PCB = Polychlorinated Biphenyl

MI = Multi-increment®

µg/kg = micrograms per kilograms

EAL = Environmental Action Level

RSL = Regional Screening Level

ND = Not detected



Exceeds EPA Residential RSL (240 µg/kg)

Exceeds EPA Residential RSL and Unrestricted Land Use EAL (1,100 µg/kg)



Legend

- DU Boundaries
- Silt Fence



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DATE: AUG 2014	PROJECT TITLE: M/DU PCB TESTING FOR USCG MAILI EASTERN FENCE LINE MAILI, OAHU, HAWAII
FIGURE TITLE: SITE MAP AND JUNE 2014 SAMPLING RESULTS	FIGURE NO.: 2

References: Google, Imagery Date 1/29/2013.

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4.1.2 July 23, 2014 Sampling Event

Thirty (30) primary discrete soil samples and three (3) duplicates were collected from the investigation site (Figures 3 through 5). Samples were collected from the surface soil as described in Section 3.1.2.2. The soil samples were analyzed for PCBs (EPA Method 8082).

Analytical results of the soil samples indicated the following:

- PCB Aroclor 1260 was detected above the laboratory reporting limits in all of the 30 samples at concentrations ranging from 23 to 95,000 µg/kg. Out of the 30 detections, 18 of the detected sample concentrations are above the EPA Residential RSL of 240 µg/kg and 11 are detected above the HDOH Unrestricted Land Use EAL of 1,100 µg/kg.
- PCB Aroclor 1254 was detected above the laboratory reporting limit in sample DU-5-08 at a concentration of 32 µg/kg, which is below both the EPA Residential RSL of 240 µg/kg and the HDOH Unrestricted Land Use EAL of 1,100 µg/kg
- All other PCB Aroclor results were not detected.

Table 2 summarizes the results of the July 23, 2014 sampling event. Figures 3 through 5 show the July 23, 2014 sample result concentrations in their respective sampling locations. The complete analytical laboratory report is presented in Appendix C.

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**Table 2: MI/DU PCB Testing for USCG Maili Eastern Fence Line July 23, 2014
 Soil Sample Analytical Results Summary**

Sample ID	Analyte														State of HI EAL (ug/kg)
	Polychlorinated Biphenyls (EPA 8082)														
	PCB - 1016		PCB - 1221		PCB - 1232		PCB - 1242		PCB - 1248		PCB - 1254		PCB - 1260		
Sample Result (ug/kg)	Reporting Limit (ug/kg)	Sample Result (ug/kg)	Reporting Limit (ug/kg)	Sample Result (ug/kg)	Reporting Limit (ug/kg)	Sample Result (ug/kg)	Reporting Limit (ug/kg)	Sample Result (ug/kg)	Reporting Limit (ug/kg)	Sample Result (ug/kg)	Reporting Limit (ug/kg)	Sample Result (ug/kg)	Reporting Limit (ug/kg)	Sample Result (ug/kg)	Reporting Limit (ug/kg)
DU-3-01	ND	14	ND	28	ND	14	ND	14	ND	14	ND	14	23	14	1,100
DU-3-02	ND	15	ND	30	ND	15	ND	15	ND	15	ND	15	35	15	1,100
DU-3-03	ND	15	ND	29	ND	15	ND	15	ND	15	ND	15	170	15	1,100
DU-3-04	ND	13	ND	27	ND	13	ND	13	ND	13	ND	13	130	13	1,100
DU-3-05	ND	15	ND	29	ND	15	ND	15	ND	15	ND	15	95	15	1,100
DU-3-06	ND	14	ND	29	ND	14	ND	14	ND	14	ND	14	25	14	1,100
DU-3-07	ND	14	ND	29	ND	14	ND	14	ND	14	ND	14	420	14	1,100
DU-3-08	ND	14	ND	28	ND	14	ND	14	ND	14	ND	14	140	14	1,100
DU-3-09	ND	200	ND	390	ND	200	ND	200	ND	200	ND	200	13,000	200	1,100
DU-3-10A	ND	46	ND	91	ND	46	ND	46	ND	46	ND	46	1,600	46	1,100
DU-3-10B	ND	46	ND	92	ND	46	ND	46	ND	46	ND	46	2,700	46	1,100
DU-4-01	ND	14	ND	28	ND	14	ND	14	ND	14	ND	14	160	14	1,100
DU-4-02	ND	13	ND	27	ND	13	ND	13	ND	13	ND	13	340	13	1,100
DU-4-03	ND	13	ND	28	ND	13	ND	13	ND	13	ND	13	130	13	1,100
DU-4-04	ND	14	ND	28	ND	14	ND	14	ND	14	ND	14	70	14	1,100
DU-4-05	ND	46	ND	92	ND	46	ND	46	ND	46	ND	46	720	46	1,100
DU-4-06	ND	2,000	ND	4,000	ND	2,000	ND	2,000	ND	2,000	ND	2,000	95,000	2,000	1,100
DU-4-07	ND	190	ND	390	ND	190	ND	190	ND	190	ND	190	2,000	190	1,100
DU-4-08	ND	14	ND	28	ND	14	ND	14	ND	14	ND	14	650	14	1,100
DU-4-09	ND	14	ND	29	ND	14	ND	14	ND	14	ND	14	260	14	1,100
DU-4-10A	ND	14	ND	28	ND	14	ND	14	ND	14	ND	14	320	14	1,100
DU-4-10B	ND	14	ND	29	ND	14	ND	14	ND	14	ND	14	460	14	1,100
DU-5-01	ND	14	ND	29	ND	14	ND	14	ND	14	ND	14	65	14	1,100
DU-5-02	ND	14	ND	28	ND	14	ND	14	ND	14	ND	14	58	14	1,100
DU-5-03	ND	48	ND	96	ND	48	ND	48	ND	48	ND	48	2,400	48	1,100
DU-5-04	ND	14	ND	28	ND	14	ND	14	ND	14	ND	14	140	14	1,100
DU-5-05	ND	14	ND	28	ND	14	ND	14	ND	14	ND	14	170	14	1,100
DU-5-06	ND	94	ND	190	ND	94	ND	94	ND	94	ND	94	2,900	94	1,100
DU-5-07	ND	97	ND	190	ND	97	ND	97	ND	97	ND	97	6,000	97	1,100
DU-5-08	ND	13	ND	26	ND	13	ND	13	ND	13	32	13	100	13	1,100
DU-5-09	ND	49	ND	98	ND	49	ND	49	ND	49	ND	49	3,200	49	1,100
DU-5-10A	ND	18	ND	36	ND	18	ND	18	ND	18	ND	18	1,300	18	1,100
DU-5-10B	ND	28	ND	55	ND	28	ND	28	ND	28	ND	28	1,400	28	1,100

Bold values indicates a laboratory detection above reporting limits

PCB = Polychlorinated Biphenyl

MI = Multi-increment®

ug/kg = micrograms per kilograms

EAL = Environmental Action Level

RSL = Regional Screening Level

ND = Not detected

	Exceeds EPA Residential RSL (240 ug/kg)
	Exceeds EPA Residential RSL and Unrestricted Land Use EAL (1,100 ug/kg)

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TRUE NORTH
SCALE: 1" = 30'

SILT FENCE

DU-5

DU-2

DU-1

DU-4

AROCOLOR-1260 Results
DU-03-10A=1,600 ug/kg
DU-03-10B=2,700 ug/kg

AROCOLOR-1260 Results
DU-03-09=13,000 ug/kg

AROCOLOR-1260 Results
DU-03-08=140 ug/kg

AROCOLOR-1260 Results
DU-03-07=420 ug/kg

AROCOLOR-1260 Results
DU-03-06=25 ug/kg

AROCOLOR-1260 Results
DU-03-05=95 ug/kg

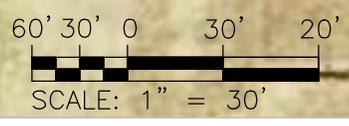
AROCOLOR-1260 Results
DU-03-04=130 ug/kg

AROCOLOR-1260 Results
DU-03-03=170 ug/kg

AROCOLOR-1260 Results
DU-03-02=35 ug/kg

AROCOLOR-1260 Results
DU-03-01=23 ug/kg

DU-3



Legend

- Approximate DU Boundaries
- Approximate DU-3 Boundary
- Sample Location
- Silt Fence

References: Google, Imagery Date 1/29/2013.

DATE: AUG 2014	PROJECT TITLE: MI/DU PCB TESTING FOR USCG MAILI EASTERN FENCE LINE MAILI, OAHU, HAWAII
FIGURE TITLE: DU-3 PCB SAMPLING RESULTS JULY 2014	
FIGURE NO.: 3	

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TRUE NORTH
SCALE: 1" = 30'

SILT FENCE

DU-2

DU-5

AROCOLOR-1260 Results
DU-04-10A=320 ug/kg
DU-04-10B=460 ug/kg

AROCOLOR-1260 Results
DU-04-09=260 ug/kg

AROCOLOR-1260 Results
DU-04-08=650 ug/kg

AROCOLOR-1260 Results
DU-04-07=2,000 ug/kg

DU-4

AROCOLOR-1260 Results
DU-04-06=95,000 ug/kg

AROCOLOR-1260 Results
DU-04-05=720 ug/kg

AROCOLOR-1260 Results
DU-04-04=70 ug/kg

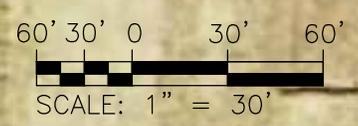
AROCOLOR-1260 Results
DU-04-03=130 ug/kg

AROCOLOR-1260 Results
DU-04-02=340 ug/kg

AROCOLOR-1260 Results
DU-04-01=160 ug/kg

DU-1

DU-3



Legend

- Approximate DU Boundaries
- Approximate DU-4 Boundary
- Sample Location
- Silt Fence

References: Google, Imagery Date 1/29/2013

DATE: AUG 2014	PROJECT TITLE: MI/DU PCB TESTING FOR USCG MAILI EASTERN FENCE LINE MAILI, OAHU, HAWAII
FIGURE TITLE: DU-4 PCB SAMPLING RESULTS JULY 2014	
FIGURE NO.: 4	

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TRUE NORTH
SCALE: 1" = 30'

AROCLOR-1260 Results
DU-05-06=2,900 ug/kg

AROCLOR-1260 Results
DU-05-05=170 ug/kg

AROCLOR-1260 Results
DU-05-04=140 ug/kg

AROCLOR-1260 Results
DU-05-03=2,400 ug/kg

AROCLOR-1260 Results
DU-05-02=58 ug/kg

AROCLOR-1260 Results
DU-05-01=65 ug/kg

AROCLOR-1260 Results
DU-05-10A=1,300 ug/kg
DU-05-10B=1,400 ug/kg

AROCLOR-1260 Results
DU-05-09=3,200 ug/kg

AROCLOR-1260 Results
DU-05-08=100 ug/kg
AROCLOR-1254 Results
DU-05-08=32 ug/kg

AROCLOR-1260 Results
DU-05-07=6,000 ug/kg

DU-5

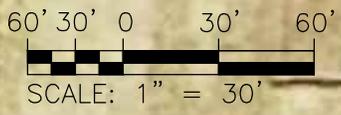
SILT FENCE

DU-2

DU-4

DU-3

DU-1



Legend

- Approximate DU Boundaries
- Approximate DU-5 Boundary
- Sample Location
- Silt Fence

References: Google, Imagery Date 1/29/2013

DATE: AUG 2014	PROJECT TITLE: MI/DU PCB TESTING FOR USCG MAILI EASTERN FENCE LINE MAILI, OAHU, HAWAII
FIGURE TITLE: DU-5 PCB SAMPLING RESULTS JULY 2014	
FIGURE NO.: 5	

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Section 5 Data Quality Assessment and Quality Control

This section presents an assessment of data quality for the sampling events conducted on June 26 and July 23, 2014. The field activities consisted of the collection of soil samples from the project investigation area.

The usability of the data collected during this characterization depends on data quality. A large number of factors in the sample collection and analysis process have the potential to impact the overall project data quality. Adhering to proper sample collection techniques, observing and documenting COC procedures and using certified laboratories and approved analytical methods have ensured that the quality of data generated during the project accurately represents conditions at the subject property.

5.1 Field Sampling Quality Control

Sample representativeness was ensured through the use of trained sampling personnel, industry-standardized procedures (as detailed in the project Work Plan, peer review of field logs and notes and collection of quality control (QC) samples.

Field QC sample collection was conducted in adherence to industry standards and consisted of collection of field duplicates and replicates, which were sent “blind” to the analytical laboratory.

5.1.1 Field Duplicates

5.1.1.1 June 26, 2014 Sampling Event

Two field duplicates (40% of the five DU samples) were collected in order to provide a precision assessment of the sample results as well as an assessment of the sample collection and analytical process. The field duplicate samples were submitted to the laboratory with unique sample identification numbers so as to not indicate the sample location to the laboratory.

5.1.1.2 July 23, 104 Sampling Event

Three field duplicates (one per decision unit, or 10% of samples per DU) were collected in order to provide a precision assessment of the sample results as well as an assessment of the sample collection and analytical process. The field duplicate samples were submitted to the laboratory with unique sample identification numbers indicate the sample location to the laboratory.

5.1.2 Sample Handling and Custody

Industry standard sample handling and COC procedures were adhered to during all sampling and sample handling activities.

All soil samples were kept at approximately $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ in insulated coolers packed with ice. Samples were properly preserved and shipped to Curtis & Tompkins Ltd. in Berkeley, CA with completed COC forms.

5.1.3 Deviations of Field Standard Operating Procedures

There were no deviations from standard operating procedures during field activities for this project.

5.2 Analytical Quality Control/Procedures

Analytical methods utilized during this project included standard laboratory methods.

5.2.1 Laboratory Analytical Procedures

The laboratories selected to perform the soil analyses have Quality Assurance/Quality Control (QA/QC) programs in place and are certified by the National Environmental Laboratory Accreditation Conference (NELAC). All analyses were conducted according to the guidance outlined in EPA SW-846 (EPA, 1996) and the *Department of Defense, Quality Systems Manual for Environmental Laboratories* (Department of Defense Environmental Data Quality Workgroup, 2000).

5.2.2 Deviations from Laboratory Standard Operating Procedures

There were no significant deviations from standard operating procedures during laboratory activities during this project. Any deviations from standard operating procedures are listed in the laboratory report included in Appendix C.

Section 6 Summary and Conclusions

6.1 Summary

ITES subcontractor E2 completed soil sampling and analysis at the USCG site, located in Maili on the island of Oahu, Hawaii. The site is located northwest of the intersection of Mokia Street and Laia Street. The site is currently vacant and is bounded by vacant fields to the west, north, and south, and residential housing to the east.

MI soil sampling strategies (June 26, 2014 sampling event) and discrete soil sampling strategies (July 23, 2014 sampling event) were employed to characterize the project site. The five DUs and 30 discrete sampling locations were selected based on historical use, previous investigation results, and topography. A total of five (5) MI soil samples, 30 discrete soil samples, and five (5) duplicates were collected from the site and were analyzed for PCBs.

6.1.1 Analytical Results

6.1.1.1 June 26, 2014 Sampling Event

Five (5) primary MI soil samples and two (2) duplicates, each consisting of 100 increments, were collected from investigation site. Analytical results of the soil samples showed that PCB Aroclor 1260 was detected above the laboratory reporting limits and the EPA Residential RSL in all of the seven samples at concentrations ranging from 680 to 30,000 µg/kg. Five (5) of the seven analytical results exceed the HDOH Unrestricted Land Use EAL of 1,100 µg/kg. All other PCB Aroclor results were not detected above laboratory reporting limits.

6.1.1.2 July 23, 2014 Sampling Event

Thirty (30) primary discrete soil samples and three (3) duplicates were collected from investigation site. Analytical results of the soil samples indicated that:

- PCB Aroclor 1260 was detected above laboratory reporting limits in 30 of the 30 samples at concentrations ranging from 23 to 95,000 µg/kg;
- Eighteen (18) of the 30 sample results exceed the EPA Residential RSL of 240 µg/kg;
- Eleven (11) of the 30 sample results exceed the HDOH Unrestricted Land Use EAL of 1,100 µg/kg;
- PCB Aroclor 1254 was detected above the laboratory reporting limit in one of the 30 samples (DU-5-08) at a concentration of 32 µg/kg, which is below the EPA Residential RSL of 240 µg/kg and the HDOH Unrestricted Land Use EAL of 1,100 µg/kg; and
- All other PCB Aroclor results were not detected above laboratory reporting limits.

6.2 Conclusions

6.2.1 June 26, 2014 Sampling Event

MI surface soil sampling results indicate that PCB contamination is present in surface soil in the five DUs sampled (DU-1 through DU-5) at concentrations that exceed the EPA Residential RSL of 240 µg/kg and the HDOH Unrestricted Land Use EAL of 1,100 µg/kg.

6.2.2 July 23, 2014 Sampling Event

Discrete soil sampling results indicate that PCB contamination is present in the surface soil throughout each DU at concentrations that exceed the EPA Residential RSL of 240 µg/kg and the HDOH Unrestricted Land Use EAL of 1,100 µg/kg.

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Section 7 References

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- EPA, 1996. *Test Methods for Evaluating Solid Waste, SW-846*. 3rd ed. Final Update III. Washington. GPO. November.
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- EPA, 2009. *Region 9 Regional Screening Levels*. Updated December.
- HDOH, 2008a. *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Volume 1: Summary Tier 1 Lookup Tables*. Prepared by: State of Hawaii, Department of Health, Hazard Evaluation and Emergency Response Office, Environmental Management Division. Interim Final – May 2005 (Updated August 2006-33 chemicals added). Updated October.
- HDOH, 2008b. *Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan*, Prepared by State of Hawaii, Department of Health, Hazard Evaluation and Emergency Response Office. *Interim Final – November*.
- Mink, J.F. and Lau, S., 1990. "Aquifer Identification and Classification for the Island of Oahu Groundwater Protection Strategy for Hawaii". Water Resources Research Center, University of Hawaii. Technical Report 186. February.
- Stearns, H.T., 1985. *Geology of the State of Hawaii*, 335 pp., Pacific Books, Palo Alto, CA.
- USDA, 2008. *Soil Survey of the Island of Oahu, State of Hawaii*. U.S. Department of Agriculture Soil Conservation Service in cooperation with the University of Hawaii Agricultural Experiment Station, U.S. Government Printing Office, 1973. <http://www.ctahr.hawaii.edu/soilsurvey/hawaii/Hawaii.htm>.

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Appendix A

June 26, 2014 Sampling Event Documentation

- Project Photographs
- Field Notes
- Sampling Shipping Documentation

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Photo A-1: Looking east from inside of fenced PCB-impacted area. New housing area in background.



Photo A-2: Looking northeast from inside fenced PCB-impacted area. Construction of retaining wall in progress at the time of soil sample collection.



Photo A-3: Looking southeast from inside fenced PCB-impacted area.



Photo A-4: Looking south from northeastern corner of fence. DU-5 is in the foreground on the eastern side (rock wall side) of the fence.



Photo A-5: Looking north from the southeastern corner of the fence. DU-3 is in the foreground on the eastern side of the fence, while DU-1 is in the foreground on the western side of the fence.



Photo A-6: Fedex shipping label for sample shipment to Curtis and Tompkins Lab, in Berkeley, California.



Photo A-7: Sample packed on gel ice and ready to ship to the laboratory.

Mali USCG
MI Soil Sampling
June 2014



Rite in the Rain
ALL-WEATHER
FIELD
No 351

Element Env.

2
6-26-14

0745 - MN + SS arrive @ Mail
USCG site - proceed w/
surface soil DU layout.

0755 - Begin surface soil sample
collection

0820 - DU-2 MS sample complete
100 increments

0822 - DU-2
100 increments

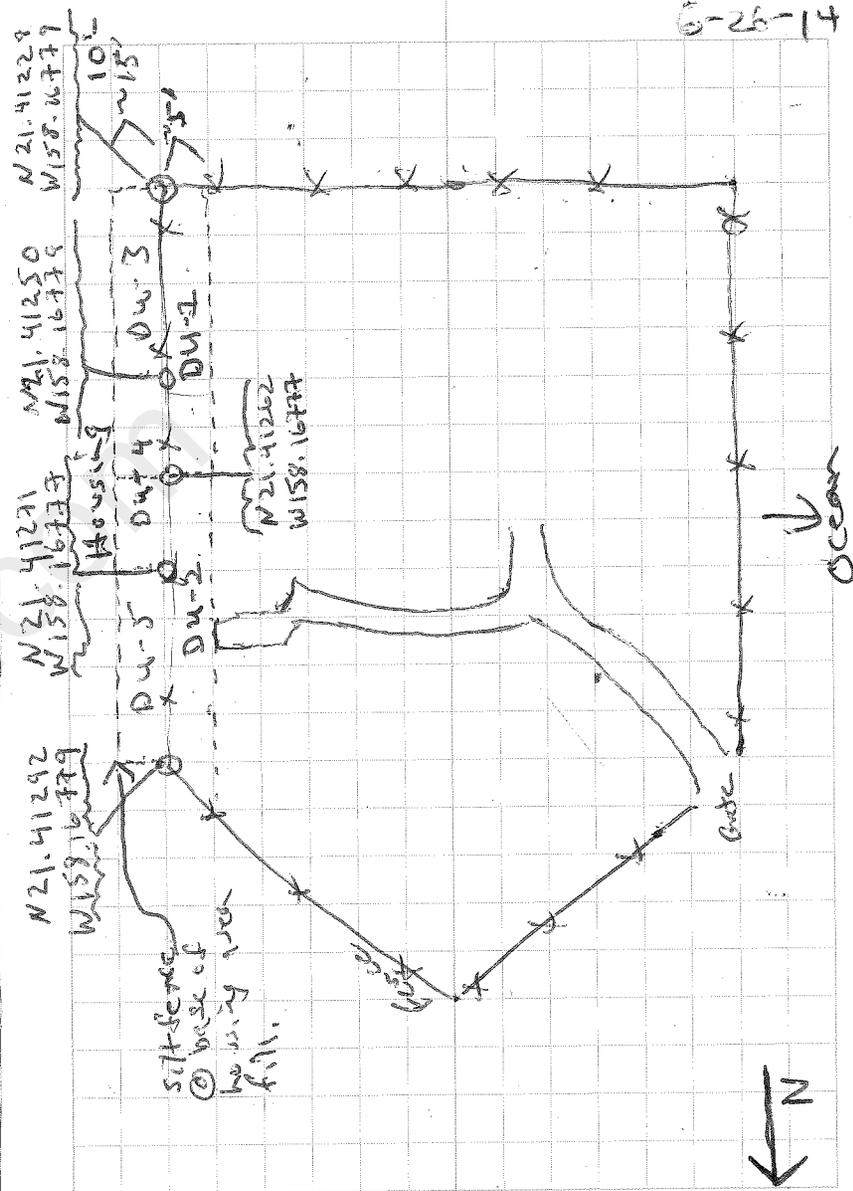
0850 - DU-3
100 inc.

0847 - DU-4a 100 inc
0852 - DU-4b 100 inc
0910 - DU-4c 100 inc
0907 - DU-5 100 inc
0920 - Complete MS sample collection

} Triplicate

*Note: Construction of a rock wall on
eastern end of DU-5 - soil
is disturbed

3
6-26-14



CHAIN OF CUSTODY



2323 Fifth Street
 Berkeley, CA 94710

Phone (510) 486-0900
 Fax (510) 486-0532

C&T LOGIN # _____

Project No: 140033-(E2) Sampler: MN/JS
 Project Name: Mali USCG Report To: Iris Terashima
 Project P. O. No.: _____ Company: ITES
 EDD Format: _____ Report Level II III IV Telephone: (808) 551-3485/2380
 Turnaround Time: RUSH 5-Day Standard Email: iris@terashima.com

ANALYTICAL REQUEST											

Appendix B

July 23, 2014 Sampling Event Documentation

- Project Photographs
- Field Notes
- Sampling Shipping Documentation

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Photo B-1: Soil sample collection at sample location DU-3-05. USCG fence to the right (west) and slope to housing to the left (east).



Photo B-2: Looking south with DU-5 in the foreground and DU-4 and DU-3 in the background. USCG fence to the right (west) and slope to housing to the left (east).

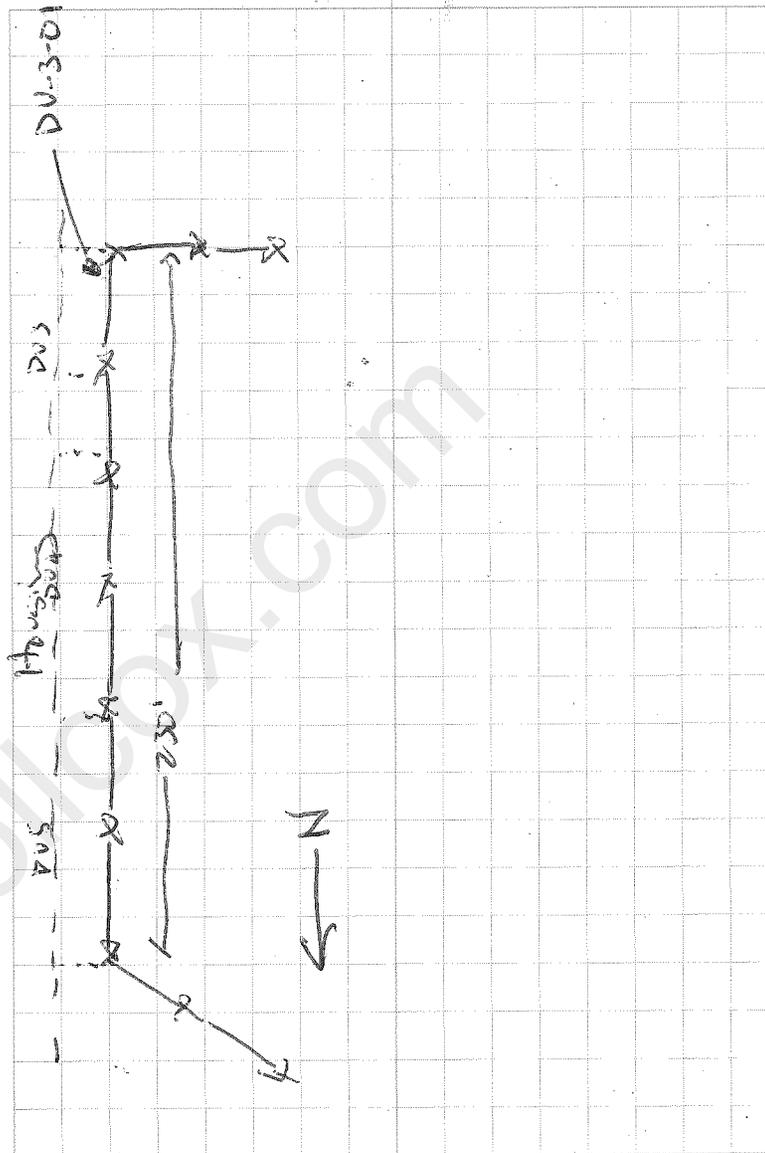
7/23/14

1415 RA, CB Arrive onsite. Proceed with sample layout.

1435 Begin collecting samples. Samples ~8' apart starting from SE corner of fence.

1445 Completed collecting samples at NE corner of fence.

1630 Departed site.



Rite in the Rain

From: (808) 479-3881
Roger Aoki
Element Environmental LLC
98-030 Hekaha St unit 9
AIEA, HI 96701

Origin ID: HNLA



Ship Date: 24JUL14
ActWgt: 55.0 LB
CAD: 2448865/NET3550
Dims: 24 X 14 X 14 IN

Delivery Address Bar Code



SHIP TO: (510) 486-0900
Sample Receiving
Curtis and Tompkins
2323 5th street

BERKELEY, CA 94710

BILL SENDER

Ref # 140033
Invoice #
PO #
Dept #

1 of 2

FRI - 25 JUL 10:30A
PRIORITY OVERNIGHT

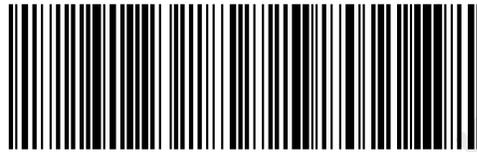
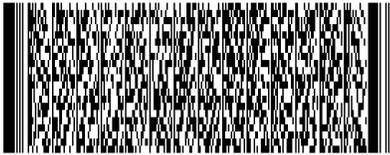
TRK# 7706 8544 3299

0201

MASTER

94710
CA-US
OAK

81 JEMA



522G2ED4FBAC9

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

From: (808) 479-3881
Roger Aoki
Element Environmental LLC
98-030 Hekaha St unit 9
AIEA, HI 96701

Origin ID: HNLA



Ship Date: 24JUL14
ActWgt: 55.0 LB
CAD: 2448865/NET3550
Dims: 24 X 14 X 14 IN

Delivery Address Bar Code



SHIP TO: (510) 486-0900
Sample Receiving
Curtis and Tompkins
2323 5th street

BERKELEY, CA 94710

BILL SENDER

Ref # 140033
Invoice #
PO #
Dept #

2 of 2

FRI - 25 JUL 10:30A
PRIORITY OVERNIGHT

MPS# 7706 8544 4240

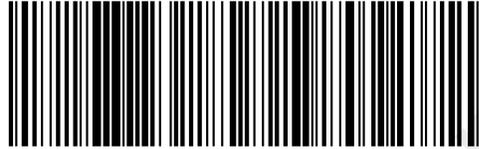
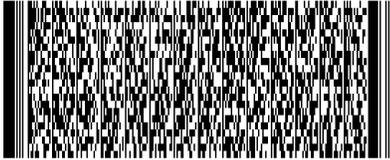
0263

Mstr# 7706 8544 3299

0201

94710
CA-US
OAK

81 JEMA



522G2ED4FBAC9

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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Appendix C

Analytical Laboratory Reports

- June 26, 2014 Sampling Event Laboratory Results
- July 23, 2014 Sampling Event Laboratory Results

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Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

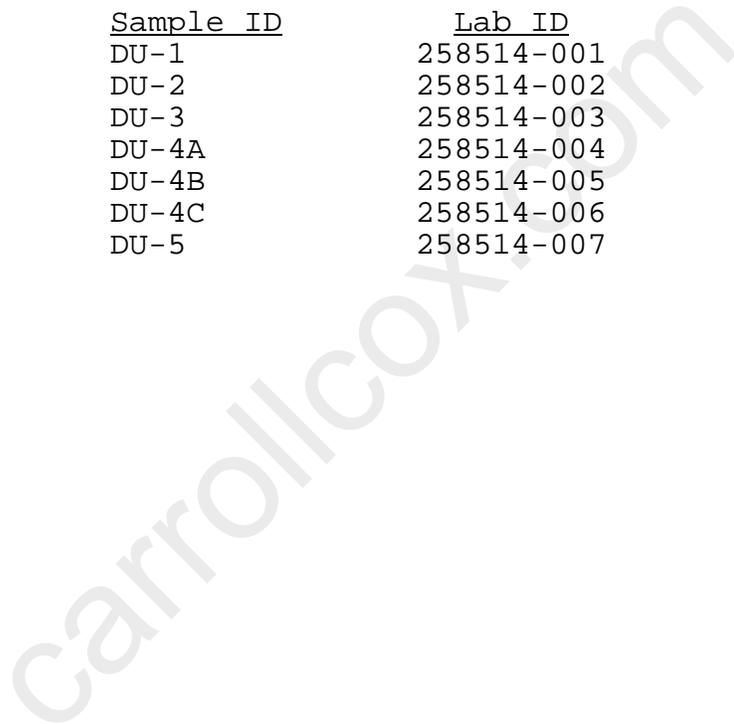
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 258514
ANALYTICAL REPORT

ITerashima Environmental Services
1255 Nuuanu Avenue
Honolulu, HI 96817

Project : 140033
Location : Maili USCG
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
DU-1	258514-001
DU-2	258514-002
DU-3	258514-003
DU-4A	258514-004
DU-4B	258514-005
DU-4C	258514-006
DU-5	258514-007



This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Isabelle Choy
Isabelle Choy
Project Manager
isabelle.choy@ctberk.com

Date: 07/07/2014

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 258514
Client: ITerashima Environmental Services
Project: 140033
Location: Maili USCG
Request Date: 06/27/14
Samples Received: 06/27/14

This data package contains sample and QC results for seven soil samples, requested for the above referenced project on 06/27/14. The samples were received cold and intact.

PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. High surrogate recovery was observed for decachlorobiphenyl in the MS for batch 212902; the corresponding TCMX surrogate recovery was within limits, and the parent sample was not a project sample. No other analytical problems were encountered.

CHAIN OF CUSTODY



2323 Fifth Street
Berkeley, CA 94710

ENVIRONMENTAL ANALYTICAL TESTING LABORATORY
In Business Since 1978

Page 1 of 1
Chain of Custody # _____

C&T LOGIN # 258514

Project No: 140033-(E2)
Project Name: Maili USCG
Project P. O. No.: _____
Report Level: I II III IV
Turnaround Time: RUSH 5-Day Standard
Sampler: MMJ/JS
Report To: Iris Terashima
Company: ETES
Telephone: (808) 551-3485 / 2380
Email: iris@terashima.com

ANALYTICAL REQUEST	
1	Total PCB (808)
2	MES Sample Prep (H3)
3	
4	
5	
6	
7	

Lab No.	Sample ID.	SAMPLING		MATRIX		# of Containers	CHEMICAL PRESERVATIVE								
		Date Collected	Time Collected	Water	Solid		HCl	H2SO4	HNO3	NaOH	None				
1	DU-1	6-26-14	0822	X	X	1									
2	DU-2		0820	X	X	1									
3	DU-3		0850	X	X	1									
4	DU-4a		0847	X	X	1									
5	DU-4b		0852	X	X	1									
6	DU-4c		0910	X	X	1									
7	DU-5		0907	X	X	1									

Matthew Mac 6/26/14

Notes: _____

SAMPLE RECEIPT <input type="checkbox"/> Intact <input type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient	RELINQUISHED BY: <u>Matthew Mac</u> DATE: <u>6/26/14</u> TIME: <u>1130</u>	RECEIVED BY: <u>[Signature]</u> DATE: _____ TIME: _____ DATE: _____ TIME: _____ DATE: _____ TIME: _____
---	--	---

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 258514 Date Received 6/27/14 Number of coolers 1
Client IES Element Project 140033 - (62)

Date Opened 6/27 By (print) MT (sign) [Signature]
Date Logged in 7 By (print) 7 (sign) 7

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info TRK# 7704 3669 8600 FedEx

2A. Were custody seals present? ... [X] YES (circle) on cooler on samples [] NO
How many 2 Name Signature Date 6/26/14

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- [] Bubble Wrap [] Foam blocks [X] Bags [] None
[] Cloth material [] Cardboard [] Styrofoam [] Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: [] Wet [X] Blue/Gel [] None Temp(°C) 47

[] Samples received on ice & cold without a temperature blank; temp taken with IR gun

[] Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Multiple horizontal lines for handwritten comments.

Detections Summary for 258514

Client : I Terashima Environmental Services
 Project : 140033
 Location : Maili USCG

Client Sample ID : DU-1 Laboratory Sample ID : 258514-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	30,000		420	98	ug/Kg	As Recd	50.00	EPA 8082	EPA 3550B

Client Sample ID : DU-2 Laboratory Sample ID : 258514-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	2,000		85	20	ug/Kg	As Recd	10.00	EPA 8082	EPA 3550B

Client Sample ID : DU-3 Laboratory Sample ID : 258514-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	1,100		83	19	ug/Kg	As Recd	10.00	EPA 8082	EPA 3550B

Client Sample ID : DU-4A Laboratory Sample ID : 258514-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	1,700		83	19	ug/Kg	As Recd	10.00	EPA 8082	EPA 3550B

Client Sample ID : DU-4B Laboratory Sample ID : 258514-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	2,100		83	19	ug/Kg	As Recd	10.00	EPA 8082	EPA 3550B

Client Sample ID : DU-4C Laboratory Sample ID : 258514-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	2,000		84	19	ug/Kg	As Recd	10.00	EPA 8082	EPA 3550B

Client Sample ID : DU-5 Laboratory Sample ID : 258514-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	680		12	1.9	ug/Kg	As Recd	1.000	EPA 8082	EPA 3550B

Batch QC Report

Polychlorinated Biphenyls (PCBs)			
Lab #:	258514	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC747670	Batch#:	212902
Matrix:	Soil	Prepared:	07/02/14
Units:	ug/Kg	Analyzed:	07/03/14

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	166.4	150.1	90	58-144
Aroclor-1260	166.4	157.8	95	55-146

Surrogate	%REC	Limits
TCMX	90	60-140
Decachlorobiphenyl	95	36-133

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Batch QC Report

Polychlorinated Biphenyls (PCBs)			
Lab #:	258514	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	212902
MSS Lab ID:	258574-002	Sampled:	06/30/14
Matrix:	Soil	Received:	06/30/14
Units:	ug/Kg	Prepared:	07/02/14
Basis:	as received	Analyzed:	07/03/14
Diln Fac:	1.000		

Type: MS Lab ID: QC747671

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<2.938	166.2	238.9	144	51-155
Aroclor-1260	<1.921	166.2	250.5	151	38-155

Surrogate	%REC	Limits
TCMX	135	60-140
Decachlorobiphenyl	145 *	36-133

Type: MSD Lab ID: QC747672

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	169.0	169.7	100	51-155	36	38
Aroclor-1260	169.0	212.2	126	38-155	18	55

Surrogate	%REC	Limits
TCMX	104	60-140
Decachlorobiphenyl	99	36-133

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

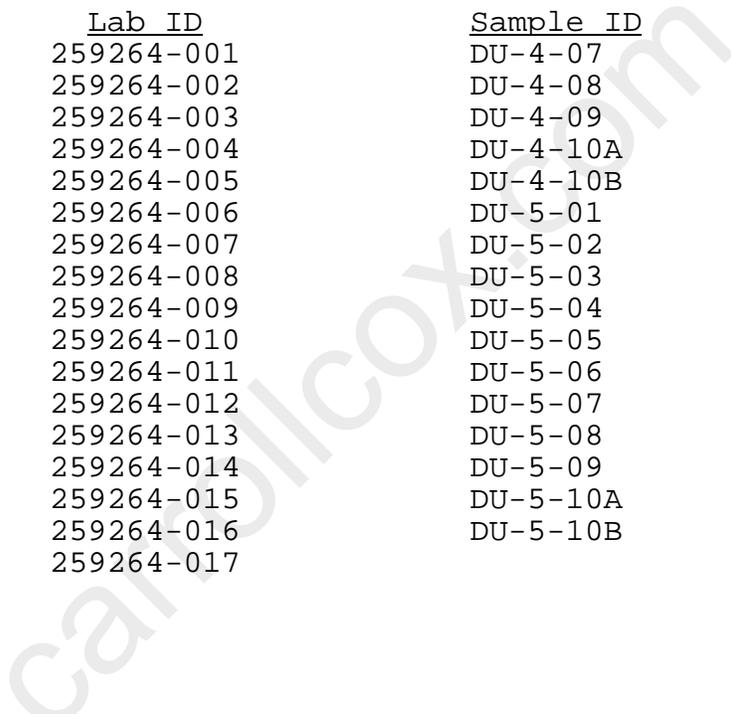
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 259264
ANALYTICAL REPORT

ITerashima Environmental Services
1255 Nuuanu Avenue
Honolulu, HI 96817

Project : 140033
Location : Maili USCG
Level : II

Table with 4 columns: Sample ID, Lab ID, Sample ID, Lab ID. Lists sample and lab identifiers for DU-3, DU-4, and DU-5 series.



This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Isabelle Choy
Isabelle Choy
Project Manager
isabelle.choy@ctberk.com

Date: 08/01/2014

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 259264
Client: I Terashima Environmental Services
Project: 140033
Location: Maili USCG
Request Date: 07/25/14
Samples Received: 07/25/14

This data package contains sample and QC results for thirty three soil samples, requested for the above referenced project on 07/25/14. The samples were received cold and intact.

PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. Matrix spikes QC751555, QC751556 (batch 213885) were not reported because the parent sample required a dilution that would have diluted out the spikes. No other analytical problems were encountered.

Moisture (ASTM D2216/CLP):

No analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 259204 Date Received 7/25/14 Number of coolers II
Client ITES Project 140033 (EZ)

Date Opened 7/25/14 By (print) [Signature] (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info FedEx # 77068544 4240/770685443299

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 2/2 Name CKB Date 7/24/14

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet, Blue/Gel, None Temp(°C) 0.3/2.4

Samples received on ice & cold without a temperature blank; temp taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments

Detections Summary for 259264

Client : I Terashima Environmental Services
 Project : 140033
 Location : Maili USCG

Client Sample ID : DU-3-01 Laboratory Sample ID : 259264-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	23		14	2.2	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-3-02 Laboratory Sample ID : 259264-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	35		15	2.4	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-3-03 Laboratory Sample ID : 259264-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	170		15	2.4	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-3-04 Laboratory Sample ID : 259264-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	130		13	2.2	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-3-05 Laboratory Sample ID : 259264-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	95		15	2.4	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-3-06 Laboratory Sample ID : 259264-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	25		14	2.4	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-3-07 Laboratory Sample ID : 259264-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	420		14	2.4	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-3-08 Laboratory Sample ID : 259264-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	140		14	2.2	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-3-09

Laboratory Sample ID :

259264-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	13,000		200	46	ug/Kg	Dry	20.00	EPA 8082	EPA 3550B

Client Sample ID : DU-3-10A

Laboratory Sample ID :

259264-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	1,600		46	11	ug/Kg	Dry	5.000	EPA 8082	EPA 3550B

Client Sample ID : DU-3-10B

Laboratory Sample ID :

259264-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	2,700		46	11	ug/Kg	Dry	5.000	EPA 8082	EPA 3550B

Client Sample ID : DU-4-01

Laboratory Sample ID :

259264-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	160		14	2.3	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-4-02

Laboratory Sample ID :

259264-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	340		13	2.1	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-4-03

Laboratory Sample ID :

259264-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	130		14	2.3	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-4-04

Laboratory Sample ID :

259264-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	70		14	2.2	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-4-05

Laboratory Sample ID :

259264-016

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	720		46	11	ug/Kg	Dry	5.000	EPA 8082	EPA 3550B

Client Sample ID : DU-4-06

Laboratory Sample ID :

259264-017

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	95,000		2,000	470	ug/Kg	Dry	200.0	EPA 8082	EPA 3550B

Client Sample ID : DU-4-07

Laboratory Sample ID :

259264-018

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	2,000		190	45	ug/Kg	Dry	20.00	EPA 8082	EPA 3550B

Client Sample ID : DU-4-08

Laboratory Sample ID :

259264-019

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	650		14	2.3	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-4-09

Laboratory Sample ID :

259264-020

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	260		14	2.3	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-4-10A

Laboratory Sample ID :

259264-021

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	320		14	2.2	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-4-10B

Laboratory Sample ID :

259264-022

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	460		14	2.3	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-5-01

Laboratory Sample ID :

259264-023

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	65		14	2.3	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-5-02

Laboratory Sample ID :

259264-024

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	58		14	2.3	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-5-03

Laboratory Sample ID :

259264-025

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	2,400		48	11	ug/Kg	Dry	5.000	EPA 8082	EPA 3550B

Client Sample ID : DU-5-04

Laboratory Sample ID :

259264-026

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	140		14	2.2	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-5-05

Laboratory Sample ID :

259264-027

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	170		14	2.2	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-5-06

Laboratory Sample ID :

259264-028

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	2,900		94	22	ug/Kg	Dry	10.00	EPA 8082	EPA 3550B

Client Sample ID : DU-5-07

Laboratory Sample ID :

259264-029

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	6,000		97	22	ug/Kg	Dry	10.00	EPA 8082	EPA 3550B

Client Sample ID : DU-5-08

Laboratory Sample ID :

259264-030

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1254	32		13	3.3	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B
Aroclor-1260	100		13	2.1	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B

Client Sample ID : DU-5-09

Laboratory Sample ID :

259264-031

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	3,200		49	11	ug/Kg	Dry	5.000	EPA 8082	EPA 3550B

Client Sample ID : DU-5-10A

Laboratory Sample ID :

259264-032

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	1,300		18	4.2	ug/Kg	Dry	2.000	EPA 8082	EPA 3550B

Client Sample ID : DU-5-10B

Laboratory Sample ID :

259264-033

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Aroclor-1260	1,400		28	6.4	ug/Kg	Dry	3.000	EPA 8082	EPA 3550B

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-3-01	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-001	Prepared:	07/29/14
Moisture:	13%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	23	14

Surrogate	%REC	Limits
TCMX	94	60-140
Decachlorobiphenyl	71	36-133

Field ID:	DU-3-02	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-002	Prepared:	07/29/14
Moisture:	20%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	15
Aroclor-1221	ND	30
Aroclor-1232	ND	15
Aroclor-1242	ND	15
Aroclor-1248	ND	15
Aroclor-1254	ND	15
Aroclor-1260	35	15

Surrogate	%REC	Limits
TCMX	92	60-140
Decachlorobiphenyl	70	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-3-03	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-003	Prepared:	07/29/14
Moisture:	18%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	15
Aroclor-1221	ND	29
Aroclor-1232	ND	15
Aroclor-1242	ND	15
Aroclor-1248	ND	15
Aroclor-1254	ND	15
Aroclor-1260	170	15

Surrogate	%REC	Limits
TCMX	88	60-140
Decachlorobiphenyl	57	36-133

Field ID:	DU-3-04	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-004	Prepared:	07/29/14
Moisture:	11%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	13
Aroclor-1221	ND	27
Aroclor-1232	ND	13
Aroclor-1242	ND	13
Aroclor-1248	ND	13
Aroclor-1254	ND	13
Aroclor-1260	130	13

Surrogate	%REC	Limits
TCMX	91	60-140
Decachlorobiphenyl	70	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)			
Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-3-05	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-005	Prepared:	07/29/14
Moisture:	18%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	15
Aroclor-1221	ND	29
Aroclor-1232	ND	15
Aroclor-1242	ND	15
Aroclor-1248	ND	15
Aroclor-1254	ND	15
Aroclor-1260	95	15

Surrogate	%REC	Limits
TCMX	83	60-140
Decachlorobiphenyl	52	36-133

Field ID:	DU-3-06	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-006	Prepared:	07/29/14
Moisture:	17%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	29
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	25	14

Surrogate	%REC	Limits
TCMX	86	60-140
Decachlorobiphenyl	66	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-3-07	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-007	Prepared:	07/29/14
Moisture:	17%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	29
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	420	14

Surrogate	%REC	Limits
TCMX	88	60-140
Decachlorobiphenyl	69	36-133

Field ID:	DU-3-08	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-008	Prepared:	07/29/14
Moisture:	13%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	140	14

Surrogate	%REC	Limits
TCMX	81	60-140
Decachlorobiphenyl	49	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-3-09	Diln Fac:	20.00
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-009	Prepared:	07/29/14
Moisture:	14%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	200
Aroclor-1221	ND	390
Aroclor-1232	ND	200
Aroclor-1242	ND	200
Aroclor-1248	ND	200
Aroclor-1254	ND	200
Aroclor-1260	13,000	200

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

Field ID:	DU-3-10A	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-010	Prepared:	07/29/14
Moisture:	9%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	46
Aroclor-1221	ND	91
Aroclor-1232	ND	46
Aroclor-1242	ND	46
Aroclor-1248	ND	46
Aroclor-1254	ND	46
Aroclor-1260	1,600	46

Surrogate	%REC	Limits
TCMX	91	60-140
Decachlorobiphenyl	98	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)			
Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-3-10B	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	213815
Lab ID:	259264-011	Prepared:	07/29/14
Moisture:	11%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	46
Aroclor-1221	ND	92
Aroclor-1232	ND	46
Aroclor-1242	ND	46
Aroclor-1248	ND	46
Aroclor-1254	ND	46
Aroclor-1260	2,700	46

Surrogate	%REC	Limits
TCMX	101	60-140
Decachlorobiphenyl	74	36-133

Field ID:	DU-4-01	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-012	Prepared:	07/30/14
Moisture:	15%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	160	14

Surrogate	%REC	Limits
TCMX	89	60-140
Decachlorobiphenyl	101	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-4-02	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-013	Prepared:	07/30/14
Moisture:	11%	Analyzed:	07/30/14

Analyte	Result	RL
Aroclor-1016	ND	13
Aroclor-1221	ND	27
Aroclor-1232	ND	13
Aroclor-1242	ND	13
Aroclor-1248	ND	13
Aroclor-1254	ND	13
Aroclor-1260	340	13

Surrogate	%REC	Limits
TCMX	88	60-140
Decachlorobiphenyl	97	36-133

Field ID:	DU-4-03	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-014	Prepared:	07/30/14
Moisture:	14%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	130	14

Surrogate	%REC	Limits
TCMX	87	60-140
Decachlorobiphenyl	88	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #: 259264	Location: Maili USCG
Client: I Terashima Environmental Services	Prep: EPA 3550B
Project#: 140033	Analysis: EPA 8082
Matrix: Soil	Sampled: 07/23/14
Units: ug/Kg	Received: 07/25/14
Basis: dry	

Field ID: DU-4-04	Diln Fac: 1.000
Type: SAMPLE	Batch#: 213857
Lab ID: 259264-015	Prepared: 07/30/14
Moisture: 13%	Analyzed: 07/31/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	70	14

Surrogate	%REC	Limits
TCMX	84	60-140
Decachlorobiphenyl	94	36-133

Field ID: DU-4-05	Diln Fac: 5.000
Type: SAMPLE	Batch#: 213857
Lab ID: 259264-016	Prepared: 07/30/14
Moisture: 8%	Analyzed: 07/31/14

Analyte	Result	RL
Aroclor-1016	ND	46
Aroclor-1221	ND	92
Aroclor-1232	ND	46
Aroclor-1242	ND	46
Aroclor-1248	ND	46
Aroclor-1254	ND	46
Aroclor-1260	720	46

Surrogate	%REC	Limits
TCMX	92	60-140
Decachlorobiphenyl	75	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-4-06	Diln Fac:	200.0
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-017	Prepared:	07/30/14
Moisture:	17%	Analyzed:	08/01/14

Analyte	Result	RL
Aroclor-1016	ND	2,000
Aroclor-1221	ND	4,000
Aroclor-1232	ND	2,000
Aroclor-1242	ND	2,000
Aroclor-1248	ND	2,000
Aroclor-1254	ND	2,000
Aroclor-1260	95,000	2,000

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

Field ID:	DU-4-07	Diln Fac:	20.00
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-018	Prepared:	07/30/14
Moisture:	13%	Analyzed:	08/01/14

Analyte	Result	RL
Aroclor-1016	ND	190
Aroclor-1221	ND	390
Aroclor-1232	ND	190
Aroclor-1242	ND	190
Aroclor-1248	ND	190
Aroclor-1254	ND	190
Aroclor-1260	2,000	190

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-4-08	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-019	Prepared:	07/30/14
Moisture:	14%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	650	14

Surrogate	%REC	Limits
TCMX	93	60-140
Decachlorobiphenyl	95	36-133

Field ID:	DU-4-09	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-020	Prepared:	07/30/14
Moisture:	16%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	29
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	260	14

Surrogate	%REC	Limits
TCMX	91	60-140
Decachlorobiphenyl	105	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-4-10A	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-021	Prepared:	07/30/14
Moisture:	14%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	320	14

Surrogate	%REC	Limits
TCMX	74	60-140
Decachlorobiphenyl	76	36-133

Field ID:	DU-4-10B	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-022	Prepared:	07/30/14
Moisture:	15%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	460	14

Surrogate	%REC	Limits
TCMX	88	60-140
Decachlorobiphenyl	93	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-5-01	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-023	Prepared:	07/30/14
Moisture:	16%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	29
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	65	14

Surrogate	%REC	Limits
TCMX	92	60-140
Decachlorobiphenyl	95	36-133

Field ID:	DU-5-02	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-024	Prepared:	07/30/14
Moisture:	14%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	58	14

Surrogate	%REC	Limits
TCMX	86	60-140
Decachlorobiphenyl	98	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-5-03	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-025	Prepared:	07/30/14
Moisture:	14%	Analyzed:	08/01/14

Analyte	Result	RL
Aroclor-1016	ND	48
Aroclor-1221	ND	96
Aroclor-1232	ND	48
Aroclor-1242	ND	48
Aroclor-1248	ND	48
Aroclor-1254	ND	48
Aroclor-1260	2,400	48

Surrogate	%REC	Limits
TCMX	96	60-140
Decachlorobiphenyl	73	36-133

Field ID:	DU-5-04	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-026	Prepared:	07/30/14
Moisture:	13%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	140	14

Surrogate	%REC	Limits
TCMX	93	60-140
Decachlorobiphenyl	94	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-5-05	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-027	Prepared:	07/30/14
Moisture:	13%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	14
Aroclor-1221	ND	28
Aroclor-1232	ND	14
Aroclor-1242	ND	14
Aroclor-1248	ND	14
Aroclor-1254	ND	14
Aroclor-1260	170	14

Surrogate	%REC	Limits
TCMX	105	60-140
Decachlorobiphenyl	118	36-133

Field ID:	DU-5-06	Diln Fac:	10.00
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-028	Prepared:	07/30/14
Moisture:	11%	Analyzed:	08/01/14

Analyte	Result	RL
Aroclor-1016	ND	94
Aroclor-1221	ND	190
Aroclor-1232	ND	94
Aroclor-1242	ND	94
Aroclor-1248	ND	94
Aroclor-1254	ND	94
Aroclor-1260	2,900	94

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)			
Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-5-07	Diln Fac:	10.00
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-029	Prepared:	07/30/14
Moisture:	13%	Analyzed:	08/01/14

Analyte	Result	RL
Aroclor-1016	ND	97
Aroclor-1221	ND	190
Aroclor-1232	ND	97
Aroclor-1242	ND	97
Aroclor-1248	ND	97
Aroclor-1254	ND	97
Aroclor-1260	6,000	97

Surrogate	%REC	Limits
TCMX	DO	60-140
Decachlorobiphenyl	DO	36-133

Field ID:	DU-5-08	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-030	Prepared:	07/30/14
Moisture:	9%	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	13
Aroclor-1221	ND	26
Aroclor-1232	ND	13
Aroclor-1242	ND	13
Aroclor-1248	ND	13
Aroclor-1254	32	13
Aroclor-1260	100	13

Surrogate	%REC	Limits
TCMX	99	60-140
Decachlorobiphenyl	65	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)			
Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Field ID:	DU-5-09	Diln Fac:	5.000
Type:	SAMPLE	Batch#:	213857
Lab ID:	259264-031	Prepared:	07/30/14
Moisture:	14%	Analyzed:	08/01/14

Analyte	Result	RL
Aroclor-1016	ND	49
Aroclor-1221	ND	98
Aroclor-1232	ND	49
Aroclor-1242	ND	49
Aroclor-1248	ND	49
Aroclor-1254	ND	49
Aroclor-1260	3,200	49

Surrogate	%REC	Limits
TCMX	113	60-140
Decachlorobiphenyl	86	36-133

Field ID:	DU-5-10A	Diln Fac:	2.000
Type:	SAMPLE	Batch#:	213885
Lab ID:	259264-032	Prepared:	07/31/14
Moisture:	9%	Analyzed:	08/01/14

Analyte	Result	RL
Aroclor-1016	ND	18
Aroclor-1221	ND	36
Aroclor-1232	ND	18
Aroclor-1242	ND	18
Aroclor-1248	ND	18
Aroclor-1254	ND	18
Aroclor-1260	1,300	18

Surrogate	%REC	Limits
TCMX	125	60-140
Decachlorobiphenyl	77	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #: 259264	Location: Maili USCG
Client: I Terashima Environmental Services	Prep: EPA 3550B
Project#: 140033	Analysis: EPA 8082
Matrix: Soil	Sampled: 07/23/14
Units: ug/Kg	Received: 07/25/14
Basis: dry	

Field ID: DU-5-10B	Diln Fac: 3.000
Type: SAMPLE	Batch#: 213885
Lab ID: 259264-033	Prepared: 07/31/14
Moisture: 10%	Analyzed: 08/01/14

Analyte	Result	RL
Aroclor-1016	ND	28
Aroclor-1221	ND	55
Aroclor-1232	ND	28
Aroclor-1242	ND	28
Aroclor-1248	ND	28
Aroclor-1254	ND	28
Aroclor-1260	1,400	28

Surrogate	%REC	Limits
TCMX	107	60-140
Decachlorobiphenyl	69	36-133

Type: BLANK	Batch#: 213815
Lab ID: QC751299	Prepared: 07/29/14
Diln Fac: 1.000	Analyzed: 07/30/14

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	96	60-140
Decachlorobiphenyl	77	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Polychlorinated Biphenyls (PCBs)

Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	07/23/14
Units:	ug/Kg	Received:	07/25/14
Basis:	dry		

Type:	BLANK	Batch#:	213857
Lab ID:	QC751466	Prepared:	07/30/14
Diln Fac:	1.000	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	99	60-140
Decachlorobiphenyl	70	36-133

Type:	BLANK	Batch#:	213885
Lab ID:	QC751553	Prepared:	07/31/14
Diln Fac:	1.000	Analyzed:	07/31/14

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	122	60-140
Decachlorobiphenyl	85	36-133

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Polychlorinated Biphenyls (PCBs)			
Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC751300	Batch#:	213815
Matrix:	Soil	Prepared:	07/29/14
Units:	ug/Kg	Analyzed:	07/30/14

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	167.2	183.4	110	58-144
Aroclor-1260	167.2	180.4	108	55-146

Surrogate	%REC	Limits
TCMX	100	60-140
Decachlorobiphenyl	84	36-133

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Batch QC Report

Polychlorinated Biphenyls (PCBs)			
Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC751467	Batch#:	213857
Matrix:	Soil	Prepared:	07/30/14
Units:	ug/Kg	Analyzed:	07/31/14

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	167.2	214.4	128	58-144
Aroclor-1260	167.2	210.1	126	55-146

Surrogate	%REC	Limits
TCMX	102	60-140
Decachlorobiphenyl	113	36-133

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Batch QC Report

Polychlorinated Biphenyls (PCBs)			
Lab #:	259264	Location:	Maili USCG
Client:	ITerashima Environmental Services	Prep:	EPA 3550B
Project#:	140033	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC751554	Batch#:	213885
Matrix:	Soil	Prepared:	07/31/14
Units:	ug/Kg	Analyzed:	07/31/14

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	166.3	197.6	119	58-144
Aroclor-1260	166.3	216.1	130	55-146

Surrogate	%REC	Limits
TCMX	127	60-140
Decachlorobiphenyl	86	36-133

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